

VERKLINE WAS-016 FRONT LCA INSTALL

Front Camber Adjustment

Ball Joint Inner to Outer Position = 1.4° (15mm track width increase each side)

1- revolution = 0.14° adjustment (1.5mm = 1- revolution)

Minimum thread engagement = 18mm (12-revolutions of the rod-end)

10.6-revolutions of adjustment available (16mm): $10.6 \times 0.14 = 1.5^{\circ}$ of additional camber

Approximately 3° of total camber adjustment using the Verklane LCA

Front Caster Adjustment

1- revolution = 0.32° adjustment (1.5mm = 1- revolution)

Minimum thread engagement = 18mm (12-revolutions of the rod-end)

10-revolutions of adjustment available (15mm): $10 \times 0.32 = 3.2^{\circ}$ of additional caster

Approximately 3.2° of total caster adjustment using the Verklane LCA

Replace One-time use Hardware

FWD – Steel Sub-Frame

Front Position Bolt - horizontal	N10640501	M12x1.5x80	Qty 2	70 Nm (52 ftlbs) + 180°
Rear Position Bolt- vertical	N10640501	M12x1.5x80	Qty 2	70 Nm (52 ftlbs) + 180°
Rear Position - Nuts	N10106402	M12x1.5	Qty 2	

R/AWD Aluminum Sub-Frame

Rear Position Bolt- vertical	N10640501	M12x1.5x80	Qty 2	70 Nm (52 ftlbs) + 180°
Rear Position Bolt- vertical	N90939201	M12x1.5x110	Qty 2	70 Nm (52 ftlbs) + 180°
Rear Position - Nuts	N10106402	M12x1.5	Qty 2	

Replacing rubber bushings with rod-ends is not for everyone. My car is a daily driver/track car. These are quality fabricated LCA's made from aerospace quality tubing from England. The rod-ends are heavy duty motorsport quality. For me, being able to dial in camber and caster exactly the same on each side is a big deal. Removing the flex of the rubber bushings to maintain alignment settings when the car is loaded through a corner is also important for the track.

Vorshlag camber plates & CSS swivels got me to -3.3° & with a potential move to slicks, I would like to dial in -3.8° to 4.0° with 9° to 9.5° of caster.

My plan is to set everything up for street at -2.4° camber & 9.5° caster and then move the lower ball joint to the outer position to gain the additional 1.4° camber to get me to -3.8° up front.

Installation is straight forward. Be aware that the steel FWD GTi sub-frame has a slotted hole for the vertical bolt for the caster arm. Set the arm fully forward for additional caster. Make sure that you do this on both sides.

***Note: The aluminum sub-frame has a different hardware.

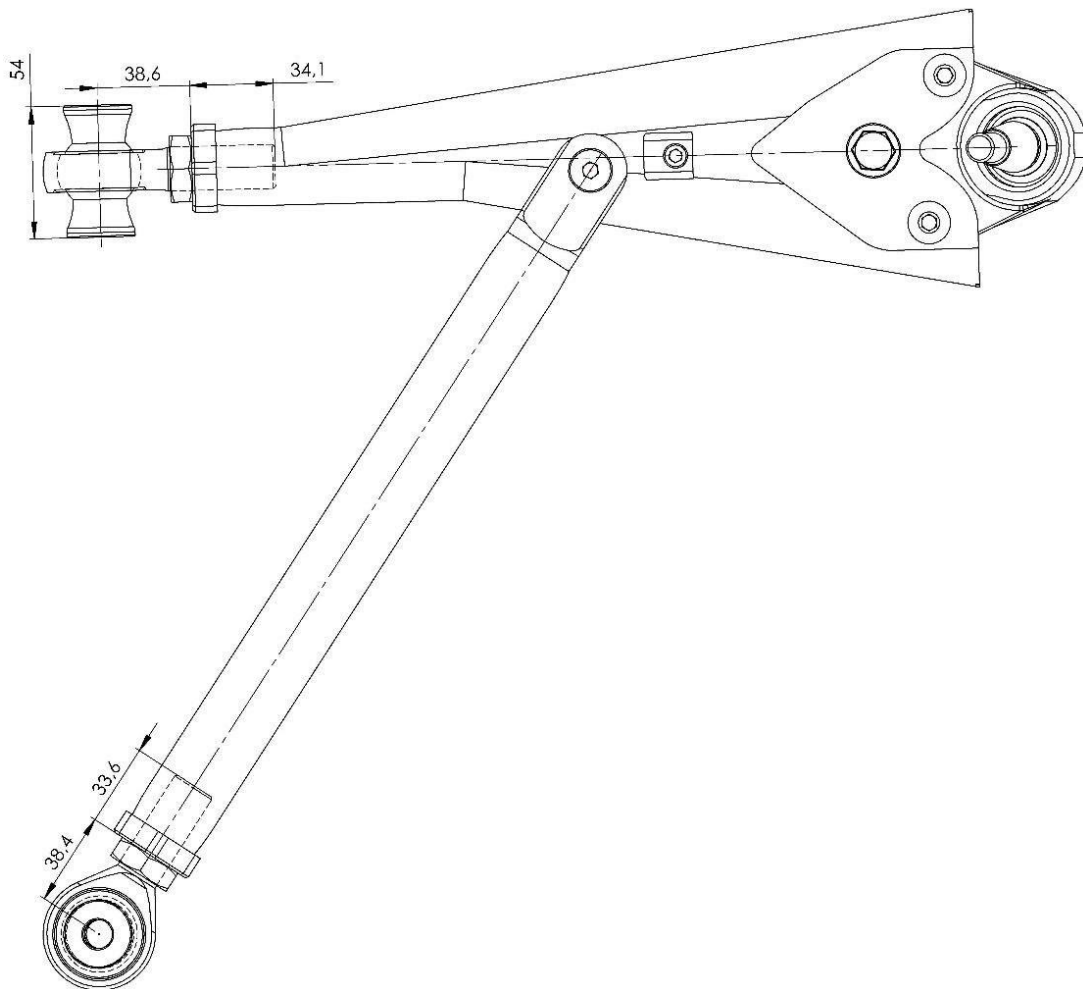
For my first event at Barber Motorsports Park, I dialed in -3.0° of camber. On the street there is a noticeable increase in NVH, especially on poor road surfaces. On smooth asphalt, much less so. Removing the rubber bushings made steering inputs much more direct with the Verklane LCA. Steering feel is better as is the front-end bite. This is what I have been looking for from my car.

For the initial adjustments: Camber rod end was extended 3-turns or 4mm. The caster arm 4-turns or 6mm from the stock dimensions shown in the Verklane instructions.

Stock Adjustment per Verklane - **** See Diagram below

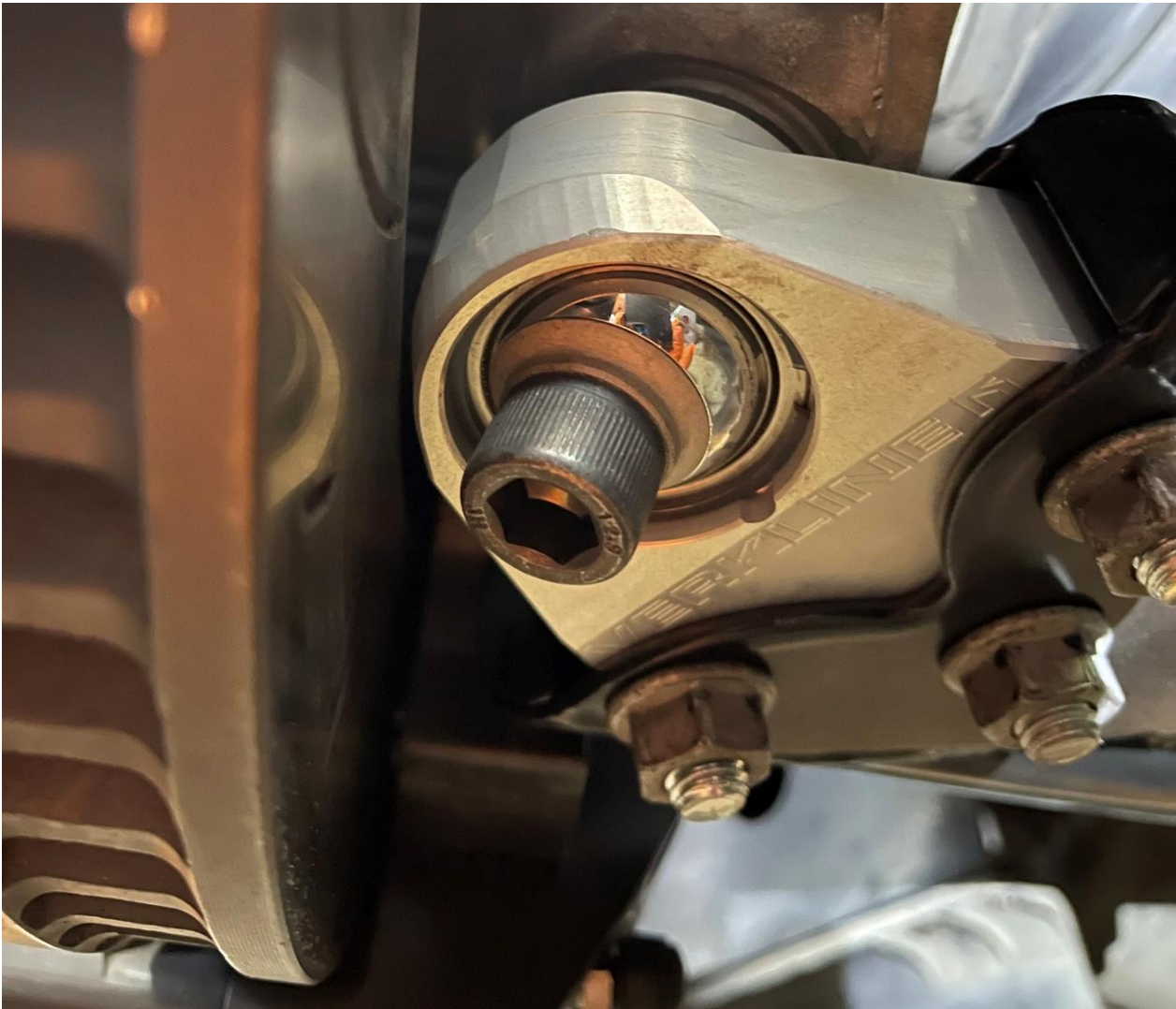
I set the camber link at 43.1mm/29.6mm or 3-turns out. This gave me -3° camber

The Caster link was set at 43.4mm/28.6mm or 3.5 turns out. I did not measure Caster due to time constraints





Clearance to my 370x34mm rotor is tight: 1-2mm. So, something to be aware of.



Front Toe Adjustment & Front Track Width

Tie Rod = M16x1.5 (has 27mm track adjustment/18turns)

Tie Rod 23mm wrench

Locknut = 24mm wrench

Tie Rod Bar = 15mm wrench

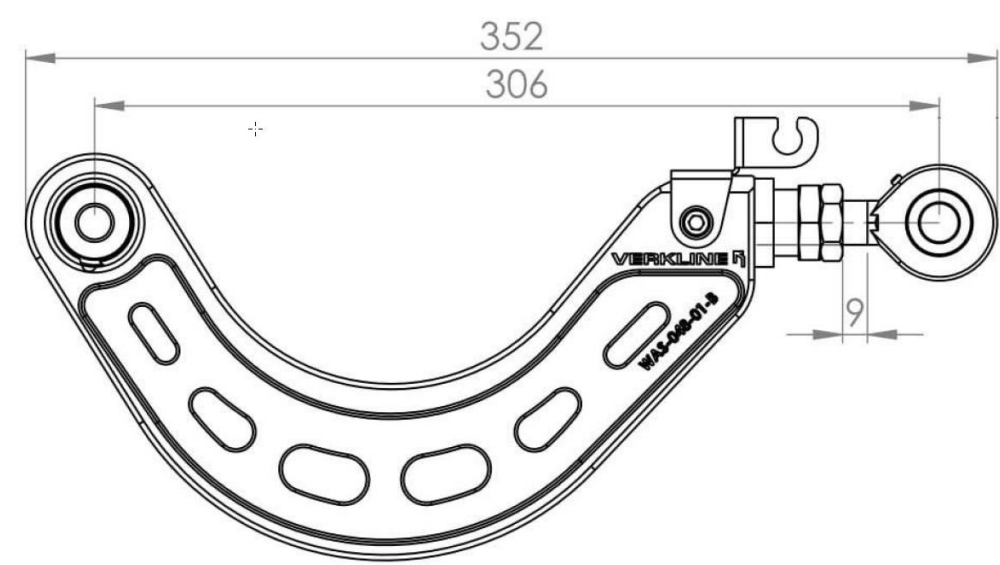


The Vercline front LCA gives you the ability to increase the front track by 30mm (15mm each side). By moving the lower ball joint to the outer position increase negative camber by -1.4°

There appears to be enough adjustment in the tie rod to safely increase the front track. Make sure that you have at least 16mm of thread engagement on the inner tie rod.

I increased the rear track by 10mm when installing the +5mm Vercline eccentric lock-out washers on both sides. Increasing the front track will help restore balance and improve turn-in.

VERKLINE WAS-048 REAR CAMBER ARM INSTALL



Replace One-time use Hardware (Mk7 FWD GTi – PP Sport)

Inner mount: Eccentric Bolt	WHT000227	M12x82.5	Qty 2	95 Nm (70 Ft-lbs)
Inner mount: Nut	N10640501	M12x1.5x80	Qty 2	95 Nm (70 Ft-lbs)
Inner mount: Lock Out Washers #0 off-set to lock in the central position				
Inner mount: Lock Out Washers #3 off-set to create some room to the fuel fill tube				
Inner mount: Lock Out Washers #5 off-set to maximize room to the fuel fill tube				
Outer mount: Bolt	N91197801	M14x1.5x100	Qty 2	130 Nm (96 Ftlbs) +180°
Outer mount: Nut	N10401801	M14x1.5	Qty 2	130 Nm (96 Ftlbs) +180°
Outer mount: Washer	1K0505193	M14		

Note: R & AWD models will have a longer M14x1.5x120 Bolt. Please check for the correct P/N#

Rear Camber Adjustment

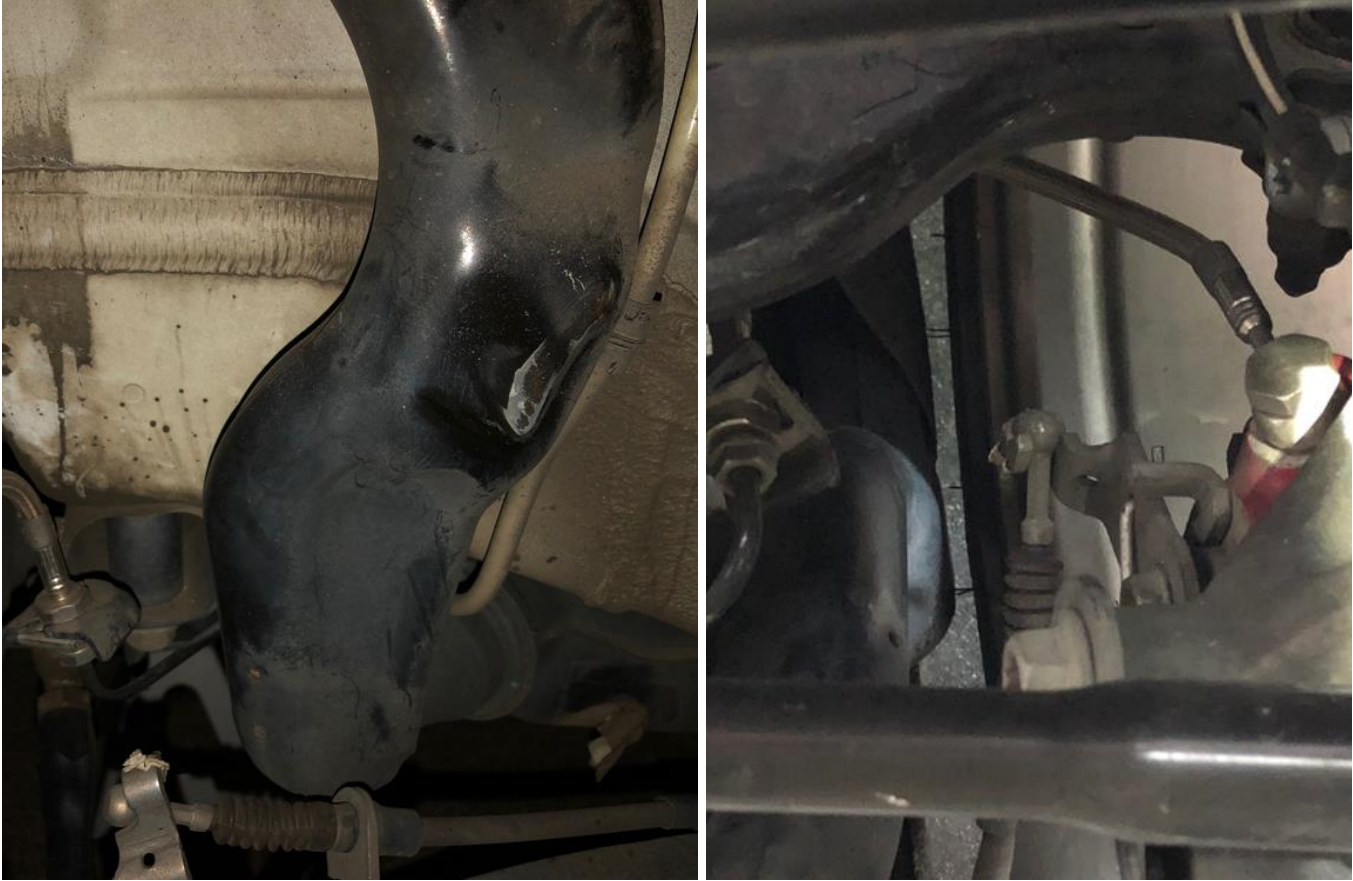
M24x1.5 Adjuster sleeve

1- revolution of the adjuster = 0.9 degrees adjustment

FWD GTi Owners - Right Rear Tire Clearance

Fuel filler guard

Static tire clearance 255-40-17 NT01

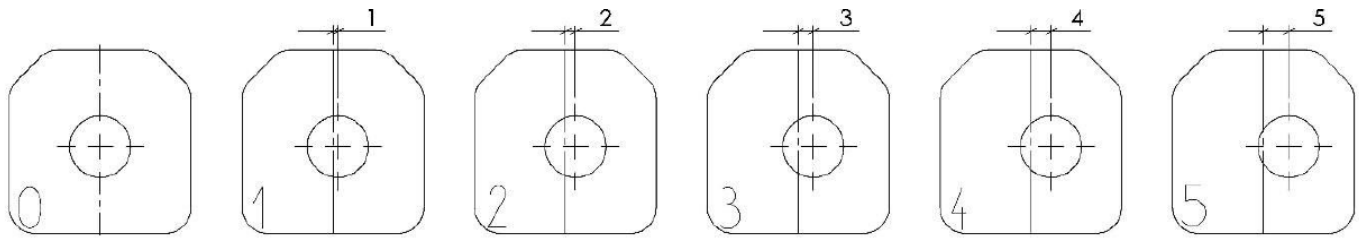


The rear tire clearance to the fuel fill tube, limits installing aggressive tire/wheel fitments for the track. I'm currently running 255-40-17 Nitto NT01's on 17x8.5 et45 wheels and I am getting a very slight tire rub on the protective guard for the fill tube. I'm moving to 18x9 et42 Apex SM-10's with Toyo RR's in 255-35-18. Both tires have a similar footprint of 10.2" section width and 9.3" tread width.

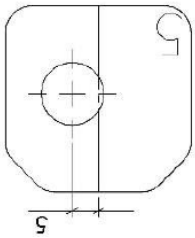
One of the benefits of installing an adjustable Camber Arm, is the option of installing off-set lock out washers. By increasing the length of the rear LCA and fixing that inner pivot point, you will need adjustable toe links to adjust rear toe. Then using another off-set (#3 or #5) lock-out washer on the inner camber arm mount, you can create a little more room to the fuel fill tube and still have the ability to adjust rear camber using the Verklene Camber Arm. The et42 off-set moves the wheel outboard by 3mm+5mm from the lock out washer gains a total of 8mm if you use #5. Creating sufficient room for the 12.7mm wider wheel – 6.35mm to the inside & 6.35mm to the outside. Had no clearance issues with Toyo RR's in 255-35-18 running -2.8 of rear camber. I will likely reduce rear camber to -2.2 degrees which will give a little additional clearance.

The fact that the Verklene Camber arm uses rod-ends will mean that there is no rubber to deflect under load.

Verkline lock-out washers o fine tune clearance



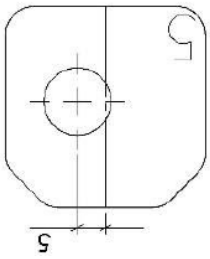
Replace the Inner eccentric washer for the upper Camber Link with lockout washer off-set #5



LHS Camber Link (+5mm off-set)



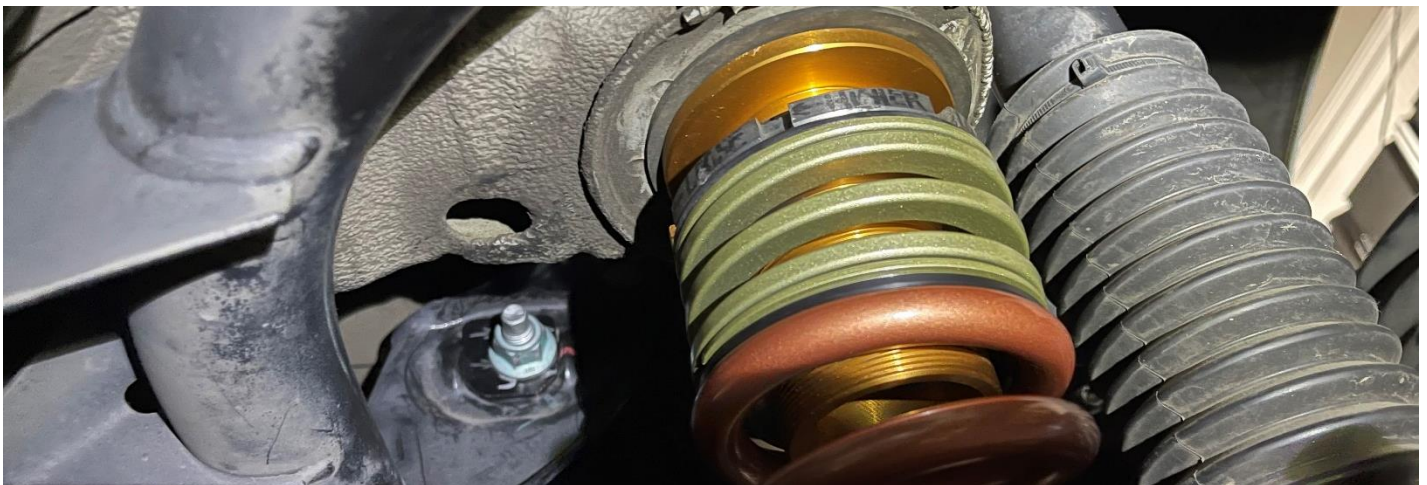
Replaced the Inner eccentric washer for rear LCA with lockout washer off-set #5



LHS Rear LCA (+5mm off-set)



RHS Camber Link (+5mm off-set)



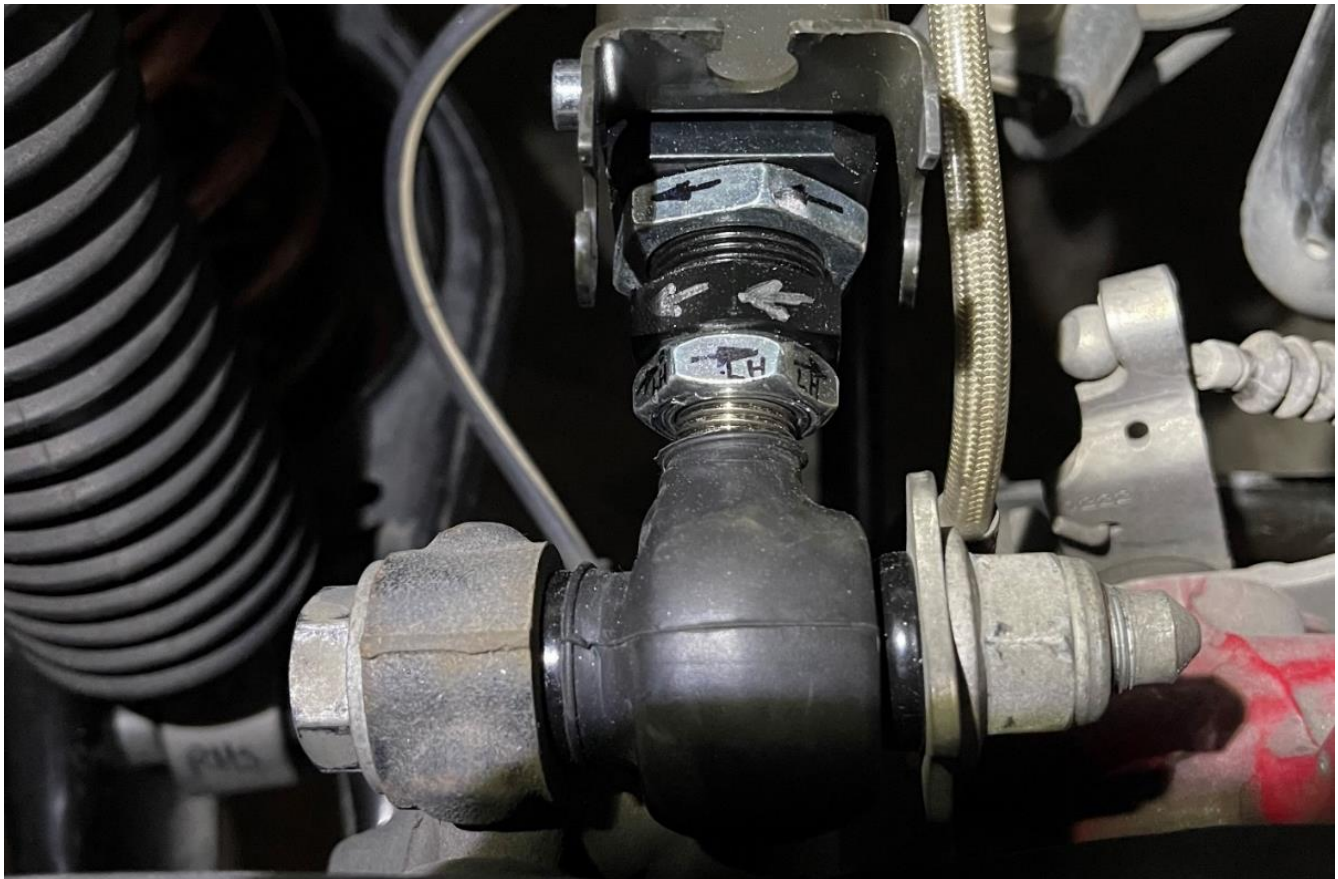
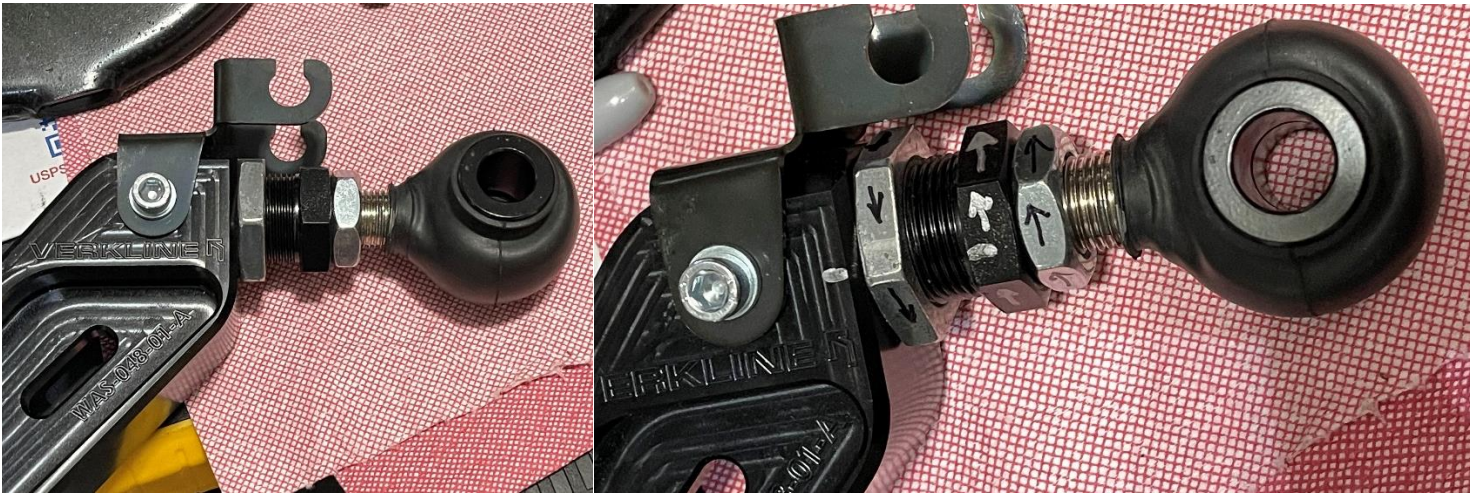
Alignment

My alignment tech liked the adjustability of the Verkliner rear camber arms. I removed the bracket for the ABS sensor. He was able to adjust rear camber easily and quickly. I purchased a set of thin wrenches off Amazon. You will need these to make adjustments and to tighten the locknuts.

Lock Nut = 32mm

Adjuster = 26mm

Installation is straight forward but access is awkward when doing this on the ground with the car on axel stands. Getting the lockout washers to stay in the correct orientation is tricky. You may want to consider dropping the rear sub-frame to make this easier.



VERKLINE WAS-041 REAR TRAILING ARM INSTALL

This is a quality piece of engineering. Race quality spherical bearings. With rubber and poly bushings there is some bind in the rear suspension. With this RTA, a lot of that is eliminated. By adding the spherical bearings in the upright and the inner joint on the rear LCA, this bind is mostly eliminated. The only other things I'd change is the upper and lower shock mount, as there is some side load on the shaft of the shock. Spherical bearings here would eliminate that.





I opted to keep the stock OEM setting for the anti-squat.

