



**S**teering has always been a bit of an evolving issue for the Wrangler JL. The original JJs came equipped with an aluminum steering box that caused the off-road industry and customers fits before it was eventually upgraded to a more heavy-duty cast-iron box. Many JJs still come with aluminum knuckles, and while they haven't proven to be a liability for most users, there are instances of wallowed-out ball joint and tie rod tapers, or even outright failures, by those doing more moderate to hardcore wheeling. Even Jeep has recognized these problems that can result in sloppy steering and equips certain models, such as the Gladiator Mojave and Wrangler Rubicon 392, with factory cast-iron knuckles.

Regardless of which version of the stock steering setup that your Wrangler or Gladiator

is equipped with, there is always room for improvement. When off-roading, a major area of vulnerability for the Jeep Wrangler and Gladiator is the steering linkage and stabilizer. The stock setup hangs down below the axle centerline, leaving it exposed to damage from rocks and terrain. We've replaced countless stabilizers over years, and more than a few factory tie rods.

To combat this, there are many heavy-duty tie rod options on the market, and these tie rods are designed to take a hit and are less susceptible to damage. Additionally, there are companies offering high-clearance steering kits, or flip kits, that drill out factory knuckles and re-locate or "flip" the factory tie rod on top of the knuckle mount, improving clearance. These kits can work well, but they are not compatible with stock suspensions, aren't always reversible, don't always come

complete, and can cause other component interference issues upstream of the tie rod.

RockJock 4x4 by John Currie, the new name for a familiar company and product line, tried to solve as many of these issues as possible with its new High Steer Knuckle Kit. Unlike some of the other offerings in the market, RockJock 4x4 provides a fully engineered solution with everything needed to transform your Jeep's steering without having to piece everything together from multiple sources.

The specially developed high-steer knuckles are designed to exceed the strength of the factory units and are offered for use on any Jeep Wrangler (JL) or Gladiator (JT), regardless of whether it is equipped with the standard or the wide-track factory axles. Made from high-quality cast iron, RockJock's knuckles incorporate adjustable

# KNUCKLE UP!

## ROCKJOCK 4X4'S HIGH STEER KNUCKLE KIT FOR JEEP IS A CONFIDENCE-CHANGER

TEXT & IMAGES BY SEAN P. HOLMAN

The steering stabilizer is also repositioned out of harm's way with a relocation bracket on the axle side that it shares with the trac bar. RockJock 4x4 also offers all the necessary provisions for anyone looking to run ram assist with this kit.

For those interested in upgrading to an adjustable trac bar, RockJock has an excellent choice in their optional forged chromoly and organically shaped Johnny Joint Adjustable Length Front Trac Bar. This bar will allow the user to center the front axle, and, like the drag link, is shaped for maximum stiffness and clearance. It features a greaseable Johnny Joint rod end on the frame side and a Flex Axis rod end on the axle side. There is enough adjustability in the part to be used on stock-height rigs.

One of the challenges with developing a high-steer kit, especially on the JL platform, is the limited amount of clearance between components, especially at full compression. At the heart of this kit, RockJock includes their Correctlync forged chromoly drag link. Utilizing an innovative design, the drag link's organic shape allows for increased up-travel by "nesting" with the tie rod at full bump.

After learning everything we could about the RockJock high-steer kit, we were excited to get some first-hand experience to see if it lived up to the claims. For this install at RockJock 4x4's Corona, California, facility, we offered up our '23 Jeep Wrangler 392 with the full American Expedition Vehicles JL370 package, which is equipped AEV's exceptional 2.5-inch suspension. While this kit works

incredibly well, the Bilstein/AEV steering stabilizer is definitely in a location susceptible to damage, and we are always open to improving our steering performance. The RockJock kit also had the advantage of allowing us to center our front axle, and because the 392 XR package already uses extended bump stops, we didn't have to limit our up-travel.

The one caveat worth noting is that the RockJock setup was designed to work with a factory stamped diff and not our iron AEV cover. Because we wanted to keep the protection of our front AEV diff cover intact, it had to be milled slightly to allow the steering stabilizer end to recess at full lock to the driver's side. Thanks to the RockJock adjustable steering stops, we dialed back our steering lock by a practically unnoticeable 1/8-inch, which we felt was a good compromise to make everything work together.

We also took the opportunity to upgrade our factory ball joints. Initially we used Spicer's upgraded Performance Ball Joint Kit, but because our 392 has the CV axles there was not enough clearance to grease the bottom joint. Spicer's grease fitting sits atop the ball joint, where it is a tight fit with the CV's housing. After trying multiple needles and tools, our ultimate solution was to invest in a set of Dynatrac HD ball joints, which have a grease fitting on the side of the ball joint, curing any access issues.

After the install was complete, we immediately noticed an improvement in steering that only improved further as the ball joints broke

steering stops and are completely bolt-on. To simplify installation, the high-steer knuckles reuse all of the stock wheel end components, including ball joints, unit bearings, brakes, dust shields and axles.

The RockJock High Steer Knuckle Kit is designed to be used with lifted Jeeps and raises the tie rod position by 2.75 inches and the drag link by 2.5 inches, restoring factory steering geometry to vehicles with mild lifts and improving it greatly for vehicles with moderate lifts. The RockJock-provided tie rod checks in at 42mm (1.625-inch), which is slightly larger than the 40mm stock tie rod and is constructed of chromoly tube with 1-ton-sized forged steering ends. Repositioning the tie rod higher means it no longer hangs below the bottom of the axle tube where it is vulnerable to rock hits.





**STEP 1**  
With the Jeep up on the lift and the wheels and tires removed, disassembly began. Note the position of the factory tie rod below the centerline of the axle and how the steering stabilizer hangs down below the tie rod.

**STEP 2**  
Here you can see the factory knuckle being removed, giving us access to the ball joints, which we pressed out in preparation for our new joints.

**STEP 3**  
With this setup, the The greaseable Spicer Performance heavy-duty ball joint is on the left, while the factory non-serviceable ball joint is on the right.

**STEP 4**  
Before we could get to installing our RockJock parts, we pressed the new heavy-duty Spicer ball joints into place.

**STEP 5**  
Here are the main parts included with our RockJock upgrade. From top to bottom is the trac bar, tie rod, drag link, knuckles and steering brackets.

**STEP 6**  
RockJock 4x4 developed their own premium cast-iron knuckles for this kit. These should be a no-brainer upgrade for anyone with aluminum knuckles, and they are designed to exceed the strength of even the OEM cast-iron knuckles.

**STEP 7**  
The RockJock Currectlync drag link features an organic shape for maximum clearance on low-steer or high-steer applications and allows the bar to nest with the tie rod at full compression. The drag link is made from forged chromoly for strength and resists deflection under extreme loads. Features include greaseable rod ends and a premium double adjuster setup so that it can be adjusted on the vehicle, and it can be used with lifts up to six inches, requiring no modification to the vehicle.



**STEP 8**  
Another organically forged piece of the RockJock component universe is the Johnny Joint Adjustable Length Front Trac Bar. The unique shape ensures clearance where you need it for maximum articulation while maintaining strength and rigidity that translates into near elimination of front differential feedback through the steering wheel. The frame end uses a serviceable Johnny Joint and the axle end features a Flex Axis rod end that is replaceable.

**STEP 9**

The RockJock 42mm tie rod is made from strong tubular chromoly and is the perfect match for bigger tires. Like the other bars that RockJock 4x4 offers, this one is designed to resist bending and deflection under load. The rod ends are greaseable, there is a double adjuster for on-vehicle adjustments, and it can be used with Jeeps that have been lifted up to six inches.

**STEP 10**

The first part of reassembly was to install the RockJock knuckles to the factory axle that had been modified with Spicer heavy-duty performance ball joints. In this photo, note the position of the grease fitting on the lower ball joint.

**STEP 11**

Next, the factory CV axle shaft is reinstalled into the axle, through the RockJock knuckle.

**STEP 12**

Here you can see just how much strength was designed into the RockJock knuckle and the machining that goes into manufacturing it.

**STEP 13**

With the axle shaft in place, we reinstalled the factory unit bearing.

**STEP 14**

We wrapped up the knuckle installation by bolting on the brake rotors, calipers, brake lines, wiring, and torquing the axle nut to spec. These knuckles are completely bolt-on and accept all of the factory wheel end components for ease of servicing and repair.

**STEP 15**

RockJock 4x4 provides this trac bar relocation bracket that also doubles as a new steering stabilizer mount.



in. We've found the Jeep to be more directionally stable, with less wander, and just overall more pleasurable to drive, especially on the highway. The addition of the stiffer drag link tightens up the feel of the front end and allows the suspension and stabilizer to do their job of soaking up movement. All of it works together to make the steering feel more precise.

Off-road, there is less kickback in the wheel and we are no longer stressing about errant rocks just waiting to take out our steering components. In both everyday on-road driving and in taking on more technical trails, our Jeep is less susceptible to trail damage and our confidence in traversing rugged terrain has improved. After a couple thousand miles, including over 250 of them off-road, we have zero hesitation in recommending this setup for any Jeep owner. Read on as we walk you through an overview of how to upgrade your Jeep's steering to RockJock 4x4's high-clearance setup. **OVR**

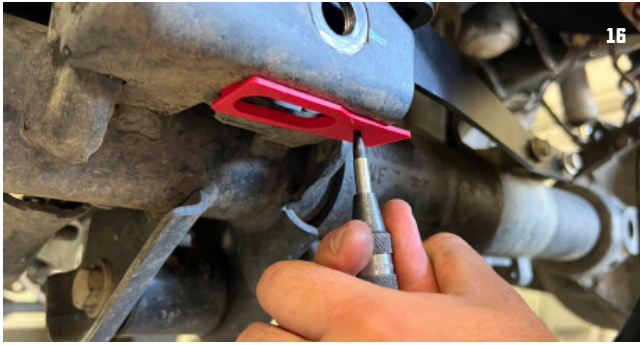
**SOURCES**

**ADVENTURE OFFROAD**  
adventureoffroad.com

**DYNATRAC**  
dynatrac.com

**ROCKJOCK 4X4**  
BY JOHN CURRIE  
rockjock4x4.com

**SPICER**  
spicerparts.com



**STEP 16**

In this entire install, RockJock 4x4 only requires one hole to be drilled, and that is on the underside of the original steering stabilizer mount. The company provides this trick 3D-printed guide that snaps into an existing hole, ensuring the new hole can be precisely marked with a punch.

**STEP 17**

With the required hole's location marked, we drilled it per the provided instructions.

**STEP 18**

Once the bracket was bolted in place, we turned our attention to installing the Johnny Joint Adjustable Length Front Trac Bar.

**STEP 19**

Next, we reinstalled the AEV steering stabilizer to the new bracket, utilizing the new hole that we previously drilled.



**STEP 20**

Moving to the next step, the Correctync drag link was installed. Its innovative and unique shape allows the drag link and tie rod to "nest" at full compression.

**STEP 21**

The RockJock 42mm tie rod was then installed to the new knuckles, followed by the mounting clamp for the steering stabilizer. With the steering stabilizer mocked up, it was clear that the thick AEV iron cover had too much material for compatibility. At this point we had two choices: swap to a stock cover or modify the AEV cover.

**STEP 22**

Wanting to preserve our diff protection, off-road icon John Currie himself went to work milling the AEV cover, creating a relief area for the steering stabilizer end at full driver's lock.

**STEP 23**

After reinstalling the diff cover and checking for clearance, we refilled the axle with gear oil and buttoned up the install, torquing bolts and adding cotter pins.

**STEP 24**

Finally, the wheels and tires were reinstalled and the Jeep was put on the ground, allowing us to admire our newfound ground clearance for the first time. With the Jeep on the floor, we adjusted the tie rod and torqued the trac bar to spec.

**STEP 25**

Before we headed out on our first test drive, the RockJock 4x4 crew grabbed the company forklift and allowed us to fully articulate the Jeep and check for any clearance issues, of which we found none.





### STEP 26

After we finished the install, we unfortunately realized that it would be impossible to grease the upgraded Spicer lower ball joints in our CV-axle application. Those with traditional U-joint axles won't have this concern.

### STEP 27

To solve the above issue, we decided to swap out our Spicer Performance ball joints and headed to Adventure Offroad in Huntington Beach, California, with a set of Dynatrac HD ball joints in hand. Dynatrac HD ball joints were the preferred solution because they have a side-mounted grease fitting, which can easily be accessed no matter which axle shaft type your Jeep has.

### STEP 28

Here you can see the Dynatrac lower ball joint, after being installed by our friends at Adventure Offroad, and how the grease fitting position will allow us to easily keep the lower ball joints lubed.

### STEP 29

Having the tie rod and steering stabilizer tucked up above the axle centerline gives us noticeably increased ground clearance off-road and much less worry about damaging steering components on technical terrain.

### STEP 30

After putting more than 2,000 miles on the Jeep, including over 250 miles off-road, we couldn't be happier with this modification. The results are clear: more ground clearance, better steering feel and precision, less wander and steering feedback, and reduced driver fatigue on long highway trips. If you are looking for us to deliver a drawback, we haven't found one yet.

