

ROCK KRAWLER S U S P E N S I O N

INSTALLATION MANUAL

FOR

ROCK KRAWLER SUSPENSION, INC.

JT X-FACTOR SERIES, X-FACTOR PRO and PRO-X MID ARM

2023 1st EDITION
3/21/2023



ROCK KRAWLER S U S P E N S I O N

Dear customer: Thank you for purchasing the best system on the market for your Jeep Vehicle. We are sure you will be happy with this system after your installation is complete. Please take your time during the installation and be sure to do it correctly. Completely read the directions before starting your installation so you know what to expect. Remember, your personal safety depends on it. Should you have any questions during this installation feel free to give our tech line a call and we will be happy to help you. (518-270-9822)

Welcome to TEAM RK

Share your before & after pictures, install photos & wheeling images.

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@RKSuspension

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@rock_krawler

Note: BE SURE TO CHECK ALL FASTENERS FOR PROPER TORQUE BEFORE TEST DRIVE. RECHECK AFTER 500 MILES AND BE SURE TO CHECK PERIODICALLY.

WARNING

- Properly block and secure vehicle prior to installation.
- Always wear safety glasses when using power tools.
- Rock Krawler Suspension recommends the use of Loctite on all hardware, unless noted otherwise.
- The use of limiting straps is recommended to avoid damage from overextending the suspension of your vehicle.
- Read and understand all instructions, warnings and safety precautions in these instructions and your owner's manual before attempting to install these components.
- Proper installation of Rock Krawler Suspension products requires knowledge of recommended procedures for disassembly/assembly of OE vehicles and components. Access to OE shop manuals and special tools are required. Attempting to install this kit without knowledge of these procedures may affect the safety of your vehicle and or the performance of these components. Rock Krawler Suspension, Inc. strongly recommends that this system be installed by a certified mechanic with off road experience.
- Rock Krawler Suspension does not recommend combined use of suspension lifts, body lifts or other lift devices. Combined use of lifts may result in unsafe and unexpected handling characteristics. Also, many states now have laws restricting Vehicle lift, bumper heights, and other alterations. Consult local laws to determine if your proposed alterations (including installation of this system) comply with your state laws.
- Rock Krawler Suspension does not condone or authorize the use of any other suspension components with its products. Should Rock Krawler Systems or components be installed in junction with other products or not per the provided instructions Rock Krawler Suspension warranty is void and is not to be held accountable for any resulting actions.

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Driving and Handling Tips

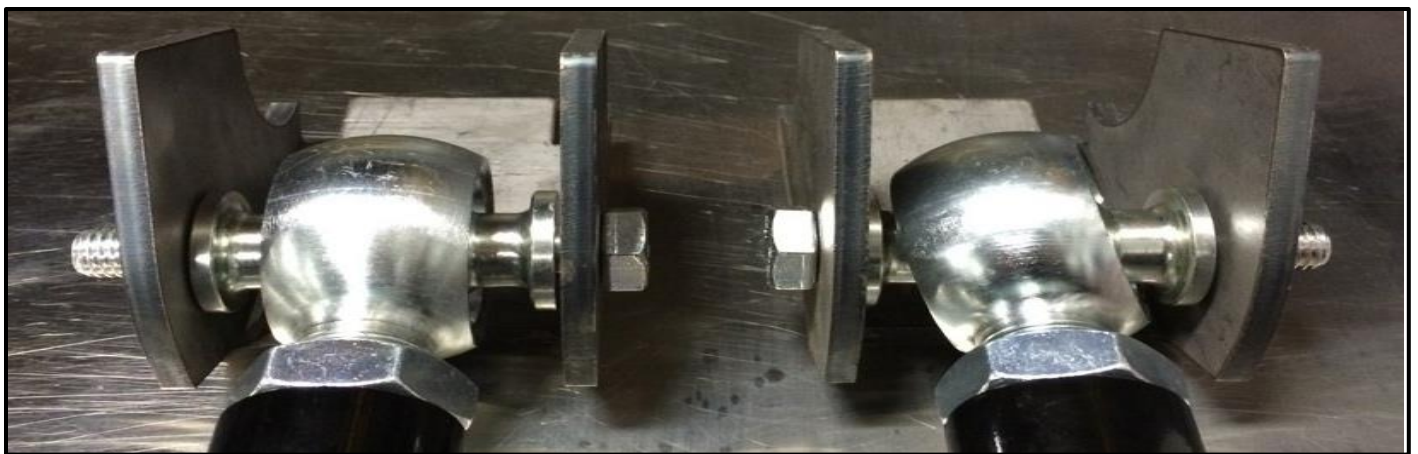
- For Highway driving it is best to have the front sway bar connected. This will give you the on-highway ride and handling characteristics you expect. **If you choose otherwise, you do so at your own risk.**
- The ride quality and handling that Rock Krawler is known for is based on using OEM sway bars front and rear with approved shocks. Using any components other than directed can result in adverse handling characteristics and poor ride quality.
- For Off-Road use it is best to have the front sway bar disconnected and the rear sway bar connected. This will allow your suspension to do its intended function. Our suspension will give your vehicle unmatched articulation which will provide traction and feedback to keep your vehicle moving in almost all conditions. Let the suspension do the work! Even if you are a Rubicon Owner for most situations, we recommend manually disconnecting the front sway bar.

IMPORTANCE OF JAM NUTS

This is a note about jam nuts and the consumer's responsibility. The installer is the person or persons initially responsible for the proper setup of the suspension system and/or components and the initial tightening of the jam nuts. The jam nuts not only hold the orientation of the joint it is on, but it is the single component that puts the necessary pre-load on the joints threads. The consumer or vehicle owner is the person or persons responsible for maintaining the jam nuts tightness. Failure to do so will result in the rapid deterioration of the threads in the control arm and will impose a "cause for concern" for the occupants of the vehicle. Failure to comply with the warnings heeded in the directions regarding the amount of threads showing past the jam nut will also result in the same "cause for concern" for the occupants of the vehicle. All of the above items are the responsibility of the vehicle owner and or installer. If a threaded section of a component is bad it will show itself defective immediately. Threads that fail over time are due to improper maintenance of jam nuts and can be proven very easily. Thread sections and jam nuts not properly maintained or setup, are not covered under warranty. This is the end user and installer's responsibility.

ORIENTATION OF JOINTS

Orient the Krawler Joint for maximum amount of movement with the head of joint perpendicular to bolt / head of the joint vertical in the mounting bracket. This same rule for orientation needs to be followed for all heim joints. The photo below shows the right way (LEFT SIDE) and the wrong way (RIGHT SIDE) to orient a joint.



^RIGHT WAY^

^WRONG WAY^

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MAINTAINING JOINTS

Krawler Joints/Pro Flex Joints, Anti-Wobble Joints, and Pro Disconnect Joints

Before Jan 1, 2020, The Pro Series Krawler Joints, Pro Flex Joints, Anti-Wobble Joints and Pro Disconnect Joints are greaseable. They come pre-greased from the factory. The grease valley is machined into the housings. We require Triple Zero (000) grade grease for lubrication of all our joints. They will not take a lot of grease, nor do they need a lot of grease. Approximately every 4 to 6 months under normal operating conditions they should be greased. This is condition and use dependent so please use common sense. Over lubrication or using the incorrect grade of grease can do damage to the joints and hydraulically displace the race way material causing a sloppy joint condition. Never ever use red and tacky.

After Jan 1, 2020, The Pro Series Krawler Joints, Pro Flex Joints, Anti-Wobble Joints and Pro Disconnect Joints are greaseable. They come pre-lubed from the factory. The grease valley is machined into the housings. Grade 1 grease can be used in all joints. They will not take a lot of grease, nor do they need a lot of grease. Approximately every 4 to 6 months under normal operating conditions they should be greased. This is condition and use dependent so please use common sense. Over lubrication or using the incorrect grade of grease can do damage to the joints and hydraulically displace the race way material causing a sloppy joint condition. Never ever use red and tacky.

HEIM JOINTS (Non- rebuildable spherical joints)

All Rock Krawler Heim Joints use Teflon Liners and thus are self-lubricating. They too can also benefit from spraying down the outside of them liberally with WD-40 or Liquid Fluid Film. Grease should never be applied to them! Take caution when using cleaners and detergents on your vehicle as it can ruin the adhesives used on the Teflon liners yielding a bad heim joint!



SUGGESTED STARTING LENGTHS

Measured from Bolt hole to Bolt hole in a straight line not along bar

Front Track Bar (XF-RK06187HD)

3.0" lift – 34 5/16"
4.5" lift – 34 1/2"

Front Lower Control Arms (XF-RK06184) (XFP-RK08304)

3.0" lift heights – 24 5/8"
4.5" lift heights – 24 11/16"

Rear Lower Control Arms (XF-RK07380) (XFP-RK08304)

3.0" lift heights – 23 3/4"
4.5" lift heights – 23 7/8"

Rear Track Bar (Optional) (XF-RK07384)

3.0" lift (w/ bracket) – 33 9/16"
4.5" lift (w/ bracket) – 33 11/16"

Front Upper Control Arms (XF-RK06697) (XFP-RK8306)

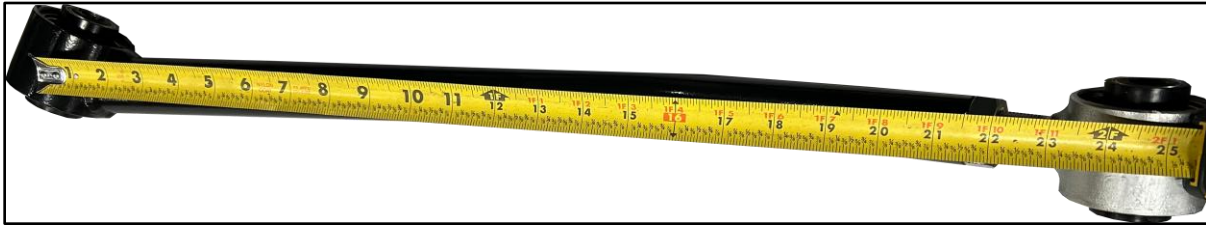
3.0" lift heights – 20 9/16"
4.5" lift heights – 20 5/8"

Rear Upper Control Arms (XF-RK07386) (XFP-RK08308)

3.0" lift heights – 16 11/16"
4.5" lift heights – 16 13/16"

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JT PRO-X Triangulated Rear Upper Control Arms (RK07507 A/B)

Measured from Joint center to Joint Center

3.0" lift heights – 24 5/16" 4.5" lift heights – 24 1/2"

****Please Note:*** All Control Arms, Track Bars, and Sway Bar Links come preassembled, but require adjustment to the above recommended starting dimensions. These measurements are taken from the center of one bolt hole to center of the other bolt hole. **Please check out our Rock Krawler YouTube Channel if need be, for how to set the control arms properly and the importance of Jam Nuts...**

TORQUE VALUES FOR HARDWARE AND JAM NUTS

- All 10mm and 3/8 bolts are torqued to 30-35 ft-lbs.
- All 12mm and 1/2" bolts are torqued to 75-80 ft-lbs.
- All 14mm and 9/16" bolts are torqued to 90-100 ft-lbs.
- All 16mm and 5/8" bolts are torqued to 120-140 ft-lbs.
- All 7/8" Jam Nuts are to be torqued 200-220 ft-lbs. Up to 5/8" of threads showing past the jam nut is safe for final adjustment. These specifications are critical for the overall longevity of the threaded section.
- All 1" Jam Nuts are to be torqued to 250-300 ft-lbs. GET YOUR BIG BOY PANTS ON! Up to 3/4" of threads showing past the jam nut is safe for final adjustment. These specifications are critical for the overall longevity of the threaded section.
- All 1 1/4" Jam Nuts are to be torqued to 275-325 ft-lbs. GET YOUR BIG BOY PANTS ON! Up to 7/8" of threads showing past the jam nut is safe for final adjustment. These specifications are critical for the overall longevity of the threaded section.

FRONT OF VEHICLE (Perform all Steps for the System You Are Installing)

- 1) If you are using a floor jack and jack stands, make sure vehicle is on a hard, level, working surface, then, block the rear wheels so the vehicle cannot move and make sure the emergency brake is applied.
- 2) Raise the front of vehicle. Support with safety jack stands. Locate jack stands on the frame in front of the axle. If you are using a vehicle lift, place the lift arms according to those specific vehicles lifting procedures. Ensure that the lift arms will not interfere with the components that are being replaced.
- 3) Lower the front axle assembly onto jack stands.
- 4) Do not overextend the front drive shaft. Disconnect front driveshaft from axle and mark holes to reassemble is same orientation if needed. Secure out of the way.
- 5) For all OEM components being reused, loosen the mounting hardware at all connections so you do not overstress the OEM vulcanized rubber bushings. Failure to do so can result in a rougher than expected ride, adverse handling, and premature wear of the OEM components.
- 6) Remove the front wheels and tires.
- 7) Remove the front shocks. Save the OEM hardware to install the new shocks.

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- 8) Remove the front sway bar links and discard them.
- 9) Remove the nut holding the factory brake line to the OEM lower control arms. Clip the ties holding the pass. side disconnect motor cable from the passenger side front upper control arm and disconnect motor housing. Be sure to add slack to the breather tube. Remove the metal bracket that held the factory brake line to the control arm from the brake line itself by prying it off the line or gently cutting it off. This will provide you with more than enough extra brake line slack. All are shown below. *Helpful hint: use 2 pair of vice grips, one pair to hold the bracket and one pair to peel the bracket back off the line.*



Remove Brake Lines from Arms



Clip for Breather Line Slack



Remove the plastic clips holding the pass. disconnect motor cable from the upper arm and motor housing as shown.

- 10) Remove the front track bar from the vehicle and save the OEM hardware for reuse.
- 11) Remove the front springs as well as the OEM bottom Spring seats and discard all.
- 12) Remove the front lower control arms, discard, and save the OEM hardware for reuse.
- 13) Remove the front upper control arms, discard, and save the OEM hardware for reuse.

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NOTE: CUSTOMERS WITH COIL OVER KITS – PLEASE SEE THE COIL OVER SUPPLEMENT AT THE END OF THE INSTRUCTIONS ON PAGE 22.

- 14) For the 3.0" and **Taller Systems**, the drag link end will be your limiting factor without shocks to allow the axle to droop. For these systems, we recommend you separate the drag link from the knuckle connection to allow for ease of axle movement.



- 15) To make servicing your control arms easier and to have the Krawler Joint Zerk fitting facing upward at the axle; we recommend you cut a little relief in the upper control arm mount as shown. A 2.5" hole saw is a simple way to make a nice, clean cut. Then add some paint of your choice to minimize rust later on.



- 16) If you received or purchased separately the Rock Krawler front stackable bump stops, now is a great time to drill the lower bump stop pad in the center with a 1/2" drill bit to make installation of the stackable bump stops easy. We recommend 2 or 3 pads for 3.0" of lift, 4 or 5 pads for 4.5" of lift based on tire size/wheel/fender/shock options. Choose the proper 1/2" bolt from the bump stop kits. Picture on following page.

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- 17) Install the supplied Rock Krawler spring seats. They are not side specific and use the locating pin on the axle to set their orientation. Please see below.



New Bottom Spring Seats Shown with Bump Stop Stack in Place

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- 18) Install the supplied front upper control arms set to the specified length for your kit according to our measurements. Secure using the OEM hardware. Be sure to rewrap the OEM heat shielding products after installation is supplied on your vehicle. **X- Factor:** The bend in the upper arms are designed for frame clearance and go away from the frame.

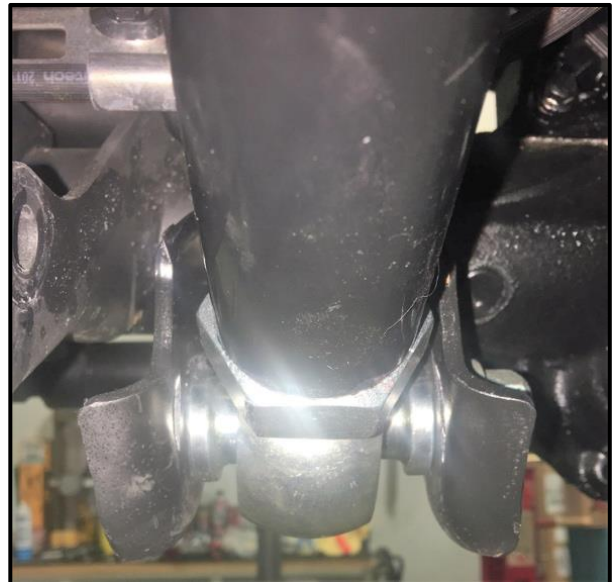


X Factor Driver Side Front Upper Arm Showing Proper Bend Orientation (Away from the frame)
X Factor Pro: Is a straight double adjustable Aluminum arm (Not Shown)

- 19) Install the front lower control arms set to the specified length for your kit according to our measurements using the OEM hardware. The Krawler Joint (Zinc Plated Spherical Joint) goes to the axle and the Adventure Joint (semi-spherical rubber joint) goes to the frame for ride comfort. **X- Factor:** The bend in the arm is for improved ground clearance and goes up.



Frame Side



Axle Side

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- 20) Install the supplied front coil springs with OEM upper isolators and Rock Krawler front spring correction pad. (RK06705K) Make sure the bottom winding of the coil butts up against the stop in the new bottom spring seat and the top winding is properly centered using the OEM spring pad on the frame. If the coil is not seated properly, it will bow more than it should and can damage your coil. If the coil is still bowing, you may have to rotate upper isolator. Call our office for directive. 518-270-9822
- 21) Install the front shocks using OEM hardware.
- **Note: If your OEM shock bolt runs into the control arms flip the lower shock hardware around.*
- **Note: Mojave Specific: If you order the Stage 1 RRD Shocks, the upper and lower shock mount will need to be swapped for larger diameter sleeves. Please contact Rock Krawler for proper sleeves.*
- 22) As you are compressing the suspension, install the front track bar reusing the OEM hardware. Be sure to set it to the starting dimensions for your system as specified above. The rebuildable Anti-Wobble joint goes to the frame connection and the heim joint with high misalignment spacers go to the axle connection as shown below. Helpful hint. Be sure to have the steering column unlocked so the axle will swing side to side freely.



Frame Side



Axle Side

- 23) Reattach the drag link to the passenger side knuckle.
- 24) Choose your front sway bar link package ((Gen 2 Disconnects or No Limits Links (Rubicon Models)). For Gen 2 Disconnects follow steps A and B. For No Limits Links follow step C.

A) For **Gen 2** Sway Bar Disconnects. Recommended Starting Lengths: 3.0 Systems 9 1/4" / 4.5" Systems 9 3/4"-9 7/8"

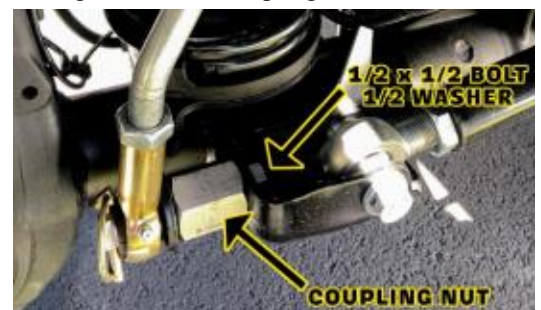
A.1) For the **Driver** and **Passenger** Side **Top**: The Offset Spacer with the Disconnect Pin goes against the sway bar and is secured with a 1/2" washer and 1/2" nylok nut. Orient the Disconnect Pin so the lynch pin goes in vertically.

A.2) For the **Driver** side **Lower**: The bottom disconnect pin gets secured to the outside of stock sway bar link mounting tab with a 1/2" washer and 1/2" Nylok Nut. The bottom can be oriented in any direction you find easiest to remove the lynch pin.

A.3) For the **Passenger** side **Lower**: Starting from the inside of the track bar mount, tighten into the coupling nut the 1/2" bolt with 1/2" washer. You may elect to use locktite at this time.

A.4) Continuing on the **Passenger** side **Lower**: The bottom disconnect pin threads into the stainless-steel coupling nut. While holding the coupling nut tighten the disconnect pin. You may elect to use locktite at this time.

Please note: An extra 1/2 washer and nylok nut is included for the passenger side lower mount for aftermarket axle housings that will not support the coupling nut like the OEM housings do.



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A.5) Slide the sway bar links on the disconnect pins top and bottom and insert lynch pins.

Helpful Hint: lubricate the pins with WD40 or Liquid Fluid Film to make them easier to slide on and off the stainless steel disconnect pins.

Please Note: When locking the jam nuts, the offset in the sway bar link pin is to the outside of the vehicle. Some aftermarket axle housings may not line up exactly like the OEM housings so you can rotate the center link to a front and back offset on those housings as needed.

B. To install your sway bar link straps, use the supplied 5/16" Bolt, Washers, and Nut to attach them as shown to the coil spring bucket. Or you can drill a hole in a more preferred place of your liking.



Sway bar strap retainer installed

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C.1) For No Limits Links: Set your sway bar links to the lengths below based on lift height. Torque the jam nuts to 60-75 ft-lbs. with the joints in line with one another. This can be done in the vehicle.

Recommended Starting Lengths

3.0" Systems – 11" / 4.5" Systems - 12"



Passenger's side connection shown

C.2) Start with the side of your choice – Use the supplied 12mm x 70mm bolts, four washers and locknut for each side. Refer to the images above for the orientation of hardware. One washer connects the head of the bolt, that bolt goes through the sway bar link and through the sway bar hole. Then attach another washer followed by a locknut. Torque the two 12mm bolts to a value of 75-80 ft-lbs.

- 25) If disconnected, reinstall front driveshaft in the same position it was originally for balance.
- 26) Tighten all connections per the recommended torque specs above.
- 27) Put the tires and wheels back on the front end and carefully lower the vehicle to the ground.

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REAR OF VEHICLE (Perform all Steps for the System You Are Installing)

- 1) If you are using a floor jack and jack stands, make sure vehicle is on a hard, level, working surface, then, block the rear wheels so the vehicle cannot move and make sure the emergency brake is applied.
- 2) Raise the rear of vehicle. Support with safety jack stands. Locate jack stands on the frame behind the rear of the axle. If you are using a vehicle lift, place the lift arms according to those specific vehicles lifting procedures. Ensure that the lift arms will not interfere with the components that are being replaced.
- 3) Lower the rear axle assembly onto jack stands.
- 4) For all OEM components being reused; loosen the mounting hardware at all connections so you do not overstress the OEM vulcanized rubber bushings. Failure to do so can result in a rougher than expected ride, adverse handling, and premature wear of the OEM components.
- 5) Remove the rear wheels and tires.
- 6) Remove the rear shocks. Save the OEM hardware for reuse.
- 7) Remove the OEM rear sway bar links and discard them for they will not be reused. Save upper hardware for reuse.
- 8) Remove the wire form retainer from the back of the axle on the ABS lines to add slack to the lines as shown below.



Brake Line Wire Form to be Removed

- 9) Add slack to the breather hose and lower the rear axle assembly onto jack stands.
- 10) Remove the rear coil springs and bottom spring seats and discard.
- 11) Unbolt the axle end of the rear track bar, save it and the OEM hardware for reuse. For 4.5" Systems or if you purchased the optional rear adjustable track bar for the 3.0" systems remove the OEM rear track bar and save the OEM hardware for reuse.
- 12) Remove the rear upper control arms, discard but save the OEM hardware for reuse.
- 13) Remove the rear lower control arms, discard but save the OEM hardware for reuse.

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14) **For X-FACTOR KITS (PRO-X SKIP THIS STEP)** Install the rear track bar relocation bracket using the supplied $\frac{1}{2}$ x 1.5" bolts, washers, nylok nut, the $\frac{7}{8}$ " O.D. x $\frac{9}{16}$ I.D. x 1.625" long crush sleeve on the inside of the OEM lower track bar mount, as shown below.

A) Loosely place the new bracket over the OEM bracket as shown below lining up the OEM hole location. If it is helpful to you, put the OEM bolt and flag nut through the bracket to ensure proper alignment. You may have to slightly spread the bracket for it to slide over as it is a snug fit as it should be.



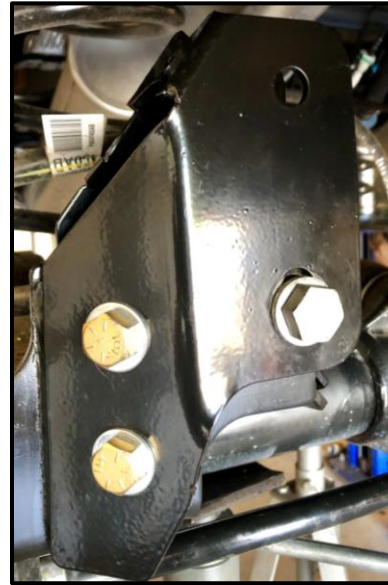
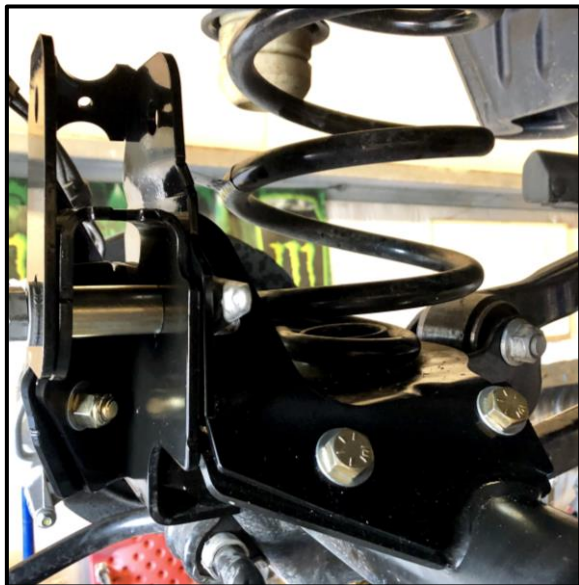
Driver Side Holes to Be Drilled



Pass. Side Holes to Be Drilled

B) Center Punch the (4) holes and drill them with a $\frac{1}{2}$ " drill bit.

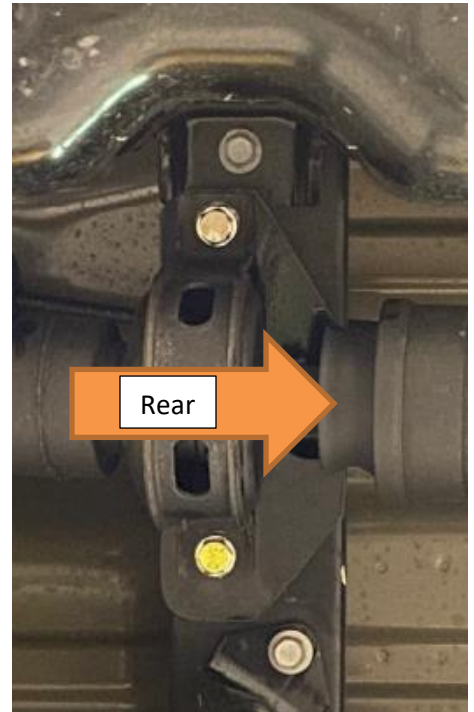
C) Secure the new raised rear track bar bracket with the (4) supplied $\frac{1}{2}$ " by 1.5" bolts, washers and nylok nuts. Slide the supplied crush sleeve inside the OEM mounting bracket and place the OEM bolt with flag nut through the OEM hole. Tighten the $\frac{1}{2}$ " bolts first, then tighten the OEM flag nut last.



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- 15) **FOR 4.5" lift only:** Install the Carrier Bearing Drop Bracket if needed. (2.25" drop)
- While supporting the drive shaft, unbolt factory carrier bearing from vehicle. Save hardware for reuse.
 - Using the factory hardware install new carrier drop bracket. Pictures attached for proper orientation.
 - Using the supplied 10mm hardware attached factory carrier bearing to new drop bracket.



***Please note: We center the driveshaft to remove the compound bend on the carrier bearing.

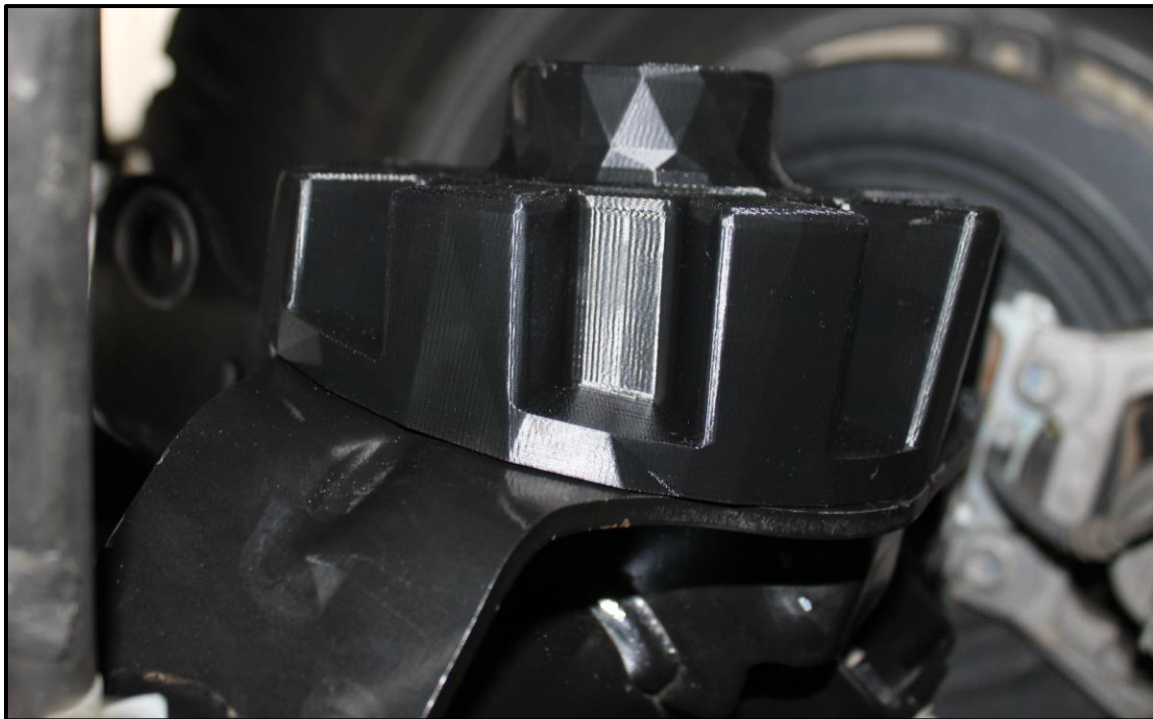
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- 16) **For X-FACTOR KITS (PRO-X SKIP THIS STEP)** Install the rear upper control arms set to the specified length for your lift height according to our measurements and secure using the OEM hardware. The Krawler Joint (Zinc Plated Spherical Joint) goes to the axle and the Adventure Joint (semi-spherical rubber joint) goes to the frame for ride comfort. When setting length, balance the amount of thread showing past the jam nuts. The rear upper arms adjust in the vehicle to make setting the pinion angle a snap.
- 17) Install the rear lower control arms set to the specified length for your kit according to our measurements using the OEM hardware. The Krawler Joint (Zinc Plated Spherical Joint) goes to the axle and the Adventure Joint (semi-spherical rubber joint) goes to the frame for ride comfort. **X-Factor:** The bend in the arm is for improved ground clearance and goes up.
- 18) Install the spring seats on the axle. The thick part of the spring seats goes toward the rear of the vehicle and is marked **R**. The thin part is marked **F** for front. There is a specific driver and passenger side marked by a **1** and **2** on the bottom of the spring seats.

The thicker spring seat marked **2** on the bottom goes on the passenger side axle mount. The thinner spring seat marked **1** on the bottom goes on the driver side axle mount.

****This remains true for Diesel or Gas Engines.**



Pass. Side Rear Spring Seat Shown Installed

***Please note:** *When Installed with the coil springs at ride height with the pinion angle set properly, these spring seats return the lower coil seat to a neutral or level position. This is their primary function which minimizes rear spring bow. The difference in thickness accounts for most common asymmetrical loading conditions or compensates for vehicle lean while maintaining the same coil spring side to side for optimal performance.*

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For PRO-X Systems only: All others skip this step.

- 19) Install the rear cradle.
- A. Drill out the OEM holes in the axle housing with the supplied drill bit. Then tap the holes with the supplied ½-13 hand tap.
 - B. Bolt the rear cradle to the top of the axle housing using the supplied ½ - 13 x 1.5" long bolts and spiral lock washer. Be sure to put the front brake line bracket on top of the rear truss using the holes it was installed in prior. Tighten these bolts first. This will suck the rear truss down, so it sits flush prior to tightening the U-bolts.
 - C. Using the supplied U-Bolts, spiral lock washers and nylok nuts, tighten the u bolts securing the rear cradle to the axle tubes.

***Please note:** Per Dana recommendations, if you are running larger than 37" tall tires or are going to be using your JT hard core off road, they are requesting the rear cradle be fully welded to the axle tubes as well prior to any hard-core off-road use.



Rear Cradle Top View



Rear Cradle Back View

- 20) Set the rear upper to length. Measure from the center of the joints on each end while the welded end is flat on a table and the adjustable end is pointed up. A good trick is to mark the center of the joints with a marker.
- 21) Install the rear upper arms using the OEM rear upper control arm hardware. Please note: There is a driver side and passenger side rear upper arm assembly. The Adventure Bushing goes to the frame connection and the adjustable Krawler Joint end goes to the rear cradle. The bend in the arm goes down on each side. One side to clear the exhaust and the other side to clear the charcoal canister. Use the starting dimensions from above and adjust each arm symmetrically to maintain the rear axle perfectly centered. Do not allow more than 7/8" of thread to show past any jam nut for proper thread engagement. Be sure the Adventure Joint at the frame is neutral when tightening the Jam nut on the axle joint to final torque.
- 22) Install the Rock Krawler rear coil springs. Make sure to put the closer wound coils go up and the end coil winding is sitting in the top spring seat properly. Please note: the top spring seats are indexed as well with a pin to set their orientation. This too must be correct.
- 23) **Pro-X- Skip this Step:**

If you opted to go with the aftermarket RK rear track bar (Or got the 4.5" X Factor or X Factor Pro): Set the track bar to length based on recommended length in beginning of instructions. Slowly start to compress the suspension and attach the rear track bar to the supplied track bar relocation bracket with the supplied 14mm x 80mm bolt, washers and nylok nut. The new rear track bar adjusts in the vehicle making centering the axle a snap.

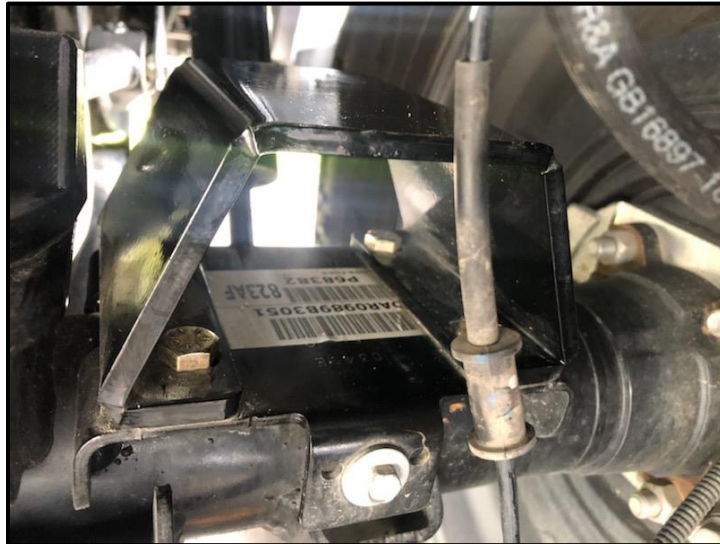
- 24) Install the rear shocks using the OEM hardware. ***Please Note: For Big Boy Rear Shocks (2.265" body) the Ressay will strap to the body of the shock and face toward the axle.**



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- 25) If purchased separately or if you bought RK shocks and they were included in your system, install the RK fabricated rear bump stops. Our rear fabricated bump stops mount to the factory bump stop pad using the supplied 3/8 x 3/4 bolts, washers, and nylok nuts. Bolt up two of the holes, mark two of the holes and drill them with a 3/8 drill bit.

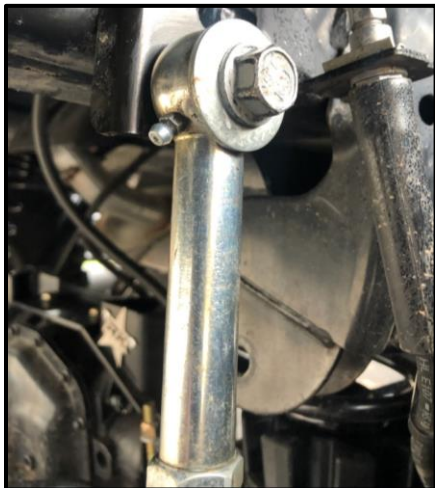


Pass. Side Rear Bump Stop Pad Installed

- 26) **Install the Supplied Pro Rear Sway Bar Links--- RK05185**

Set the assembled length to 12.5" for the 3.0" systems and 14.0" for the 4.5" Systems.

- A) The Bottom Mount gets secured with the supplied 12mm Bolt, Small Washer, Large Washer, and Nylok Nut. Put the bolt through the big washer, then put through the link, followed by 2 small washers. Install assembly onto axle tab, secure with washer and nylock nut. Tighten to 80 ft.-lbs. Tech tip: install links so the right-hand threaded end is on the top on both links, so you'll know which is which down the road if maintenance is needed.
- B) The top connection reuses the factory rear upper sway bar link bolt. The large washer goes against the ball to retain the ball and socket joint.



Rear Sway Bar Link Top Connection



Rear Sway bar Link Bottom Mount

- 27) For all 4.5" Systems, install the supplied stainless steel brake lines. Follow the Service Manual for your Gladiator for installation and or bleeding the brake system and ABS brake module.
- 28) Install the rear wheels and tires and lower the vehicle to the ground.
- 29) Tighten all mounting bolts at this time!

ROCK KRAWLER

S U S P E N S I O N

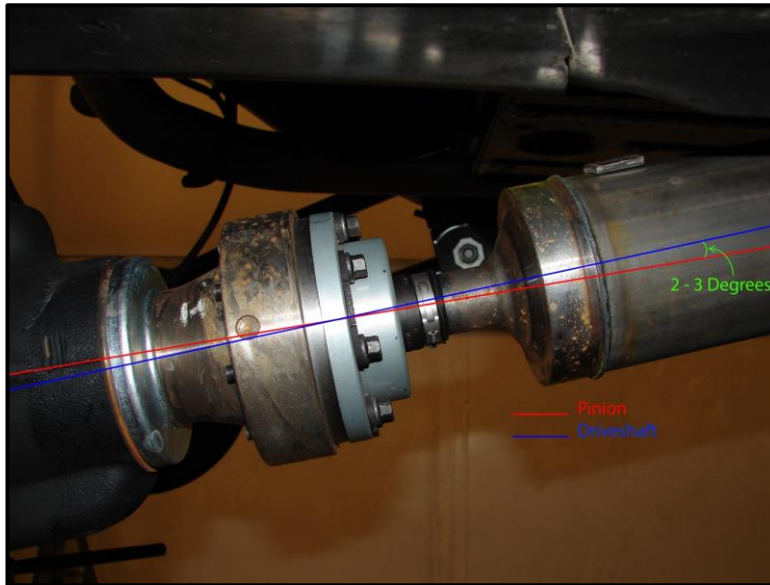
Recommended Alignment Specs are as follows:

3.0" Lift Height: 5.0 to 6.25 degrees of Caster with a .2 to .4 Cross Caster Split (.2 to .4 degrees more caster on the pass. side than the driver's side.)

4.5" Lift Height: 5.0 to 6.0 degrees of Caster with a .2 to .4 Cross Caster Split (.2 to .4 degrees more caster on the pass. side than the driver's side.)

Tow: Factory specifications

The rear pinion angle should be down 2 – 3 degrees from the driveshaft as shown below.



***Please Note:** If you do not have adjustable components, you will not be able to dial in the alignment or pinion angle settings so what you get is what you get...

A note about tires, wheels, tire pressure and how it effects ride quality:

Tire and Wheel combinations at a given tire pressure have their own spring and dampening rates associated with them. This plays a major part in ride quality and off-road performance. The stock tire pressure settings on your Gladiator are based on stock C rated light duty tires on 17" wheels. Larger aftermarket tires typically have a much firmer side wall than the stock ones, thus increasing the spring rate and decreasing the dampening rate associated with the tires themselves. Going from a C to a D or E rated tire also amplifies this effect. Increasing wheel diameters cuts down on the sidewall size of the tire; for example, going from a 17" wheel to a 20" to 22" wheels will increase the spring rate and decrease the dampening rate of the tire and wheel combination. As you increase tire strength and wheel size it is common to have to reduce the tire pressures in order to make your aftermarket tire and wheel combination feel like a stock and wheel combination. **Choose pressures wisely and safely! This is one part of your suspension tuning you can do on your own.**

Before hitting the pavement or the trails be sure to make sure the control arms are oriented properly, all spherical joints (heim joints and Krawler Joints) are oriented correctly to allow for maximum movement without bind, and all jam nuts have Loctite on them and are tight. Make sure the axles are properly centered, pinion angles are correct, there is proper slack in ABS lines, and all lines are properly routed. Go back over all your hardware and make sure each connection is tightened to its proper torque spec. Check your vehicles articulation and ensure that no moving parts contact or interfere with any other components throughout the travel (brake lines, shocks, coils, sway bar links). Also check to see if at full flex your coil spring losses tension, if so, you may want to look into a limit straps. You may need to look at bump stops depending on what shocks you choose to run.



Congratulations, you have just finished installing your Rock Krawler Suspension System! Your Jeep is now free to roam about the country.

Common Service Parts Listings:

Rock Krawler 000 Grade Grease – 3 oz tube – RK05494 For Systems Before Jan 1, 2020

Grade 1 Grease such as Mobil Grease – Mobilux EP1 [NLGI 1] or equivalent can be used for Systems After Jan 1, 2020.

Front and Rear Lower Control Arms Prior to 3/1/2021 Part Numbers RK06184 and RK07380

Pro Flex Bushings (Frame End) – RK04838K – Requires Large Joint Tool – RK04484

**Lower Control Arm Full Replacement Krawler Joint (Axle End) – RK02256 (If 1")
RK05067 (If 1.25")**

Lower Control Arm Krawler Joint Rebuild Bushings – RK04034K – Requires Large Joint Tool – RK04484

Front and Rear Lower Control Arms After to 3/1/2021 Part Numbers RK06184B and RK07380B

Lower Control Arm Adventure Series Joint (Frame End) – RK07404K

**Lower Control Arm Full Replacement Krawler Joint (Axle End) – RK02256 (If 1")
RK05067 (If 1.25")**

Lower Control Arm Krawler Joint Rebuild Bushings – RK04034K – Requires Large Joint Tool – RK04484

Front Track Bar Prior to 1/1/2021 (RK06187)

Anti-Wobble Joint Bushings (Frame End) – RK07836K – Requires Small Joint Tool – RK04487

Replacement Heim Joints (Axle End) – RK03426 (7/8 Shank) – Optional New Misalignment Spacers – RK03428

Front Track Bar After to 1/1/2021 (RK06187HD)

Anti-Wobble Joint Bushings (Frame End) – RK07836K – Requires Small Joint Tool – RK04487

Front Track Bar Replacement Heim Joint (Axle End) – RK07535 (1" Shank) – Optional New Misalignment Spacers – RK03428

Front Upper Control Arms:

Replacement Krawler Joint – RK03524

Replacement Krawler Joint Bushings – RK00221K – Requires Small Joint Tool – RK04487



Rear Upper Control Arms Standard or Pro-X Prior to 3/1/2021 (RK07386 and RK07507A/B)

Pro Flex Bushings (Frame End) – RK04838K – Requires Large Joint Tool – RK04484

Upper Control Arm Full Replacement Krawler Joint (Axle End) – RK02256 (RK02256L will be needed if you have straight double adjustable uppers)

Upper Control Arm Krawler Joint Rebuild Bushings–RK04034K –Large Joint Tool –RK04484

Rear Upper Control Arms Standard or Pro-X After to 3/1/2021 (RK07386B and RK07507AB/BB)

Upper Control Arm Adventure Series Joint (Frame End) – RK07404K

Upper Control Arm Full Replacement Krawler Joint (Axle End) – RK02256 (RK02256L will be needed if you have straight double adjustable uppers)

Upper Control Arm Krawler Joint Rebuild Bushings – RK04034K – Requires Large Joint Tool – RK04484

Rear Track Bar (RK07384)

Krawler Joint Rebuild Parts (Frame End) – RK00221K – Requires Small Joint Tool – RK04487

Replacement Krawler Joints – RK07485 and RK07485L (Left Hand Threaded Joint)

Gen2 disconnects or Pro Rear Sway Bar End Links: Ball Center – RK04573

THE USE OF ANTI SEIZE

If you are in a corrosive environment and would like to prevent rusting and or seizing of joints, Rock Krawler recommends the installer removes all thread in joints before installation to apply anti-seize inside the threaded connections. This will make future adjustments much easier if needed years down the road.

THE USE OF LIQUID FLUID FILM OR WD-40

If you are in a corrosive environment and would like to protect the finish of the underside of your vehicle, suspension components etc., Rock Krawler recommends cleaning thoroughly a few times during the winter months and applying Liquid Fluid Film or WD-40 to the underside of your vehicle. This will help minimize corrosion due to Rock Salt, Liquid Salt, Mag. Chloride and combination with sand and salt.

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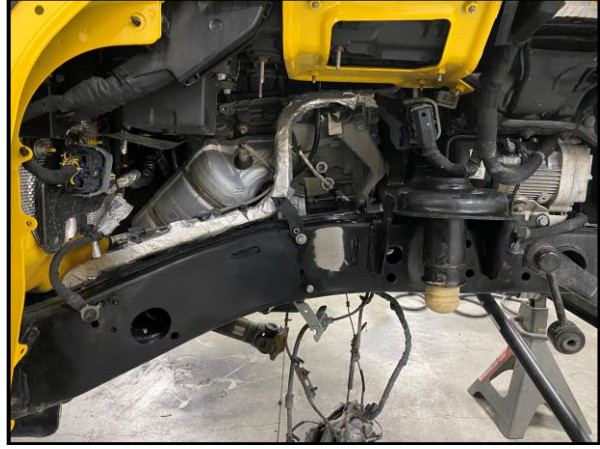
S U S P E N S I O N

For the Optional Coil Over Systems and or Upgrades and Rear Big Boy Shocks Please Do The Following!

- 1) Remove the stock shock brackets from your Jeep. It's easiest to score the weld marks and cut the OEM shock tower into pieces. Be sure not to cut any important hoses or wires behind the shock tower. Re-paint any exposed areas with a durable coating after the towers have been removed.

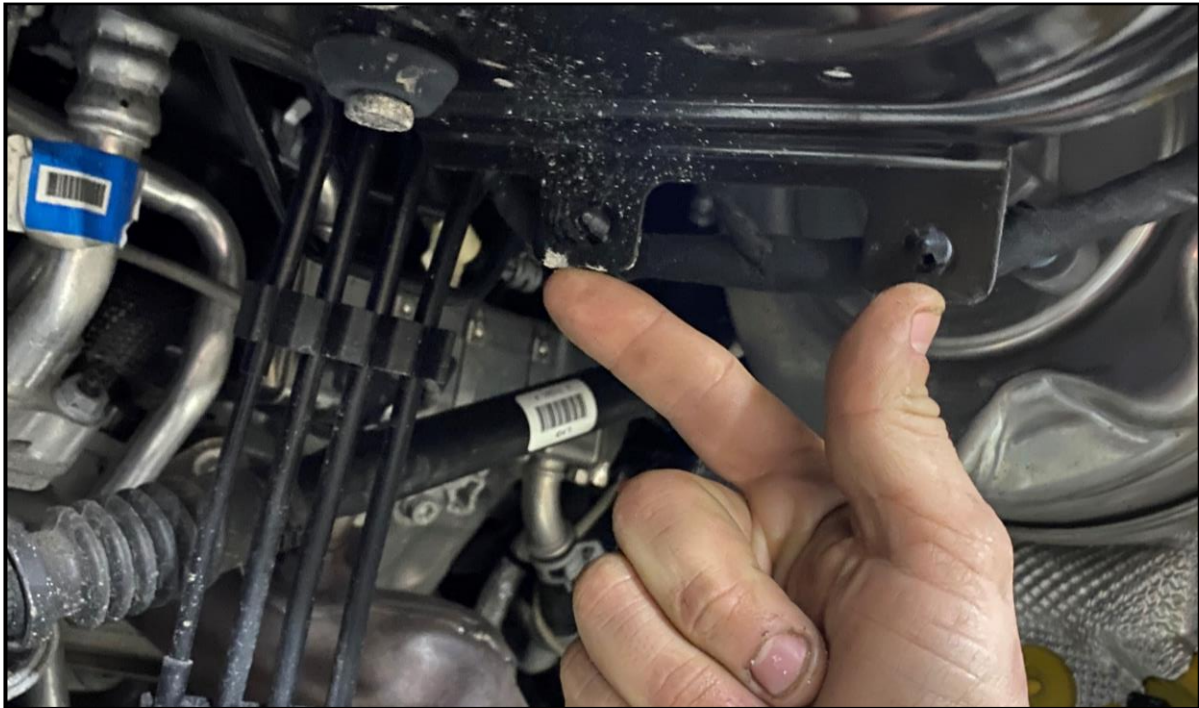


Passengers Side Bracket Removed



Drivers Side Bracket Removed

- 2) Make sure to bend the driver's side bracket upwards before test fitting your coil over towers. This will stop the new towers from hitting.



- 3) Test-fit your coil over brackets as shown below. Clamp the mount about the oval frame side hole and center punch one of the 1/2" holes. Remove the tower and drill out one 1/2" hole on the side of the frame. After that, center the coil over mount on the spring tower and drill three 7/16" holes in the spring tower. **Note: On the passenger side, the auxiliary battery may need to be relocated to a location of your choice.**

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- 4) Bolt the tower down. The two frame connections get $\frac{1}{2}$ " x 1.25" bolts, two washers and a locknut each. The three spring tower connections get $\frac{7}{16}$ " screws, two washers and one locknut each.
- 5) Next, remove the OEM bottom shock mount from the frame. You may need to use a Dremel to get the last of the mount off the axle cleanly.
- 6) Set the caster on the axle to 5 degrees as shown below before welding on the new lower coil over mounts. Keep the axle at that angle for the proceeding steps. Measure from the top ball joint surface.



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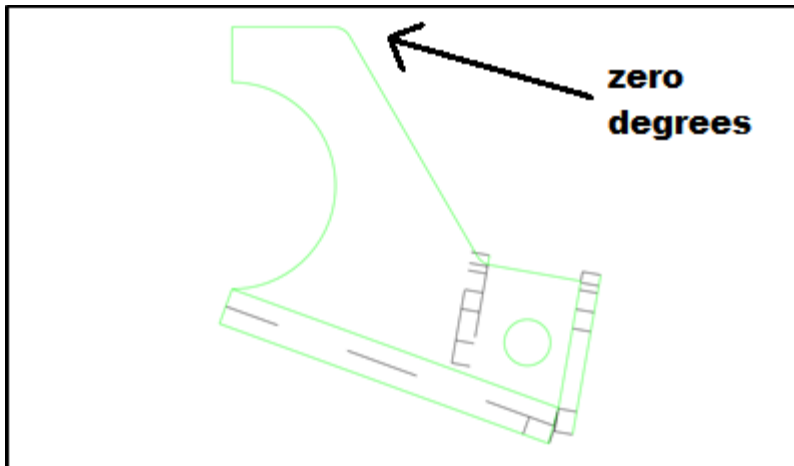
S U S P E N S I O N

- 7) Grind the powder coat off the new mounts in all applicable weld surfaces. Measure $\frac{3}{4}$ " away from the inner C for Rubicon models as shown below. For Non-Rubi models, bring the new mount as close to the axle C as possible. This is because JL Rubi Axle WMS is 68.00"/ JL Sport/Sahara WMS is 66.50." For 73" WMS Dynatrac 60's measure 1" away from the inner C.



***Please Note:** For some axle housings you may have to trim the OEM spring bucket at the axle for proper coil over shock clearance.

- 8) While the axle caster is set to **5 Degrees**, set the top surface of the lower coil over mounts to **0 Degrees**. Make sure the outward spacing from the "C" and angle of zero are correct before you weld these mounts. After, apply a durable finish of your choice to the bracket to prevent corrosion.

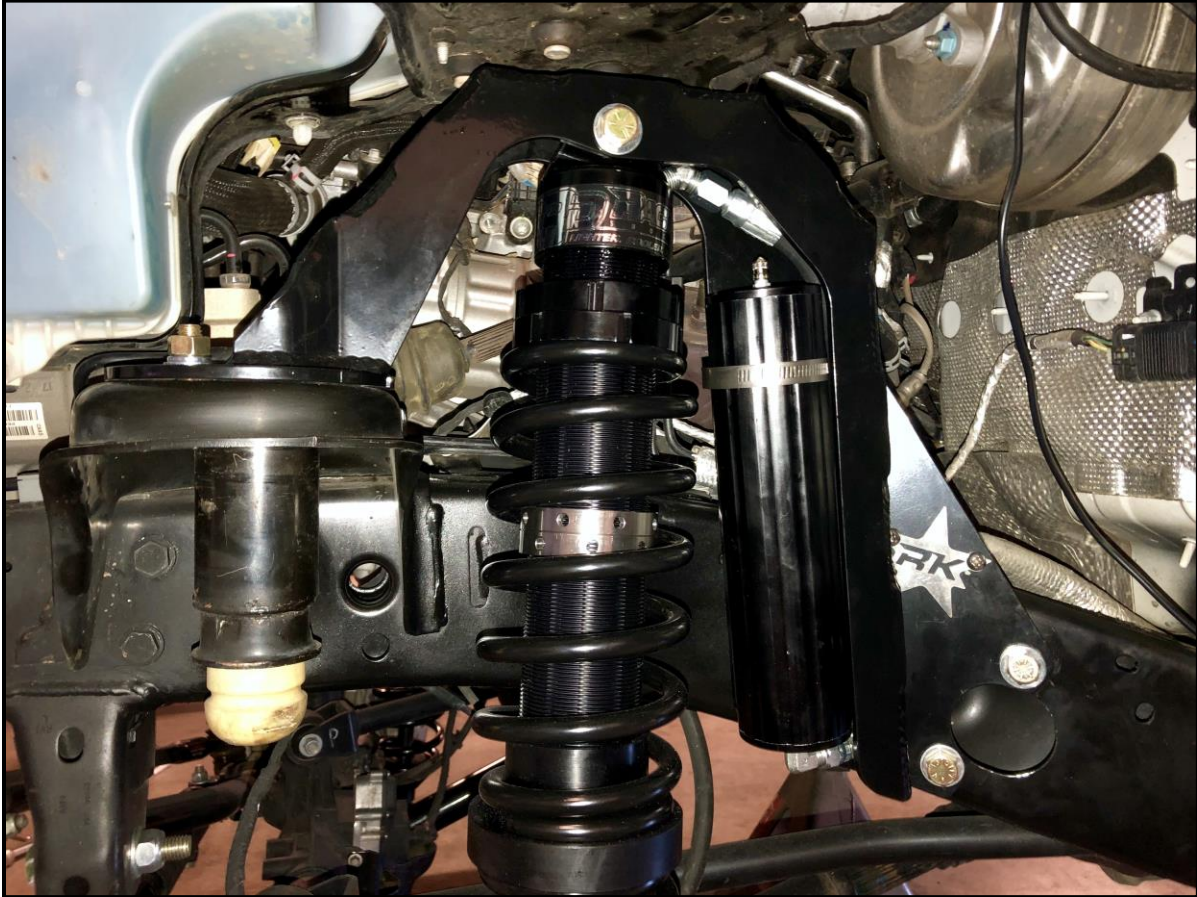


- 9) Test fit the coil over into the vehicle and confirm clearance and fitment.

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- 10) Install coil over with minimal preload and transition rings in a spot where the slider won't contact. Place the supplied spacer on the top coil over connection on the inside of the bearing. Then secure the top connection with a ½" x 3.25" bolt with a washer on each side and locknut on the backside. Then place the ½" x 2.75" bolt through the bottom connection with a washer on each side, locknut on the back. ***Please Note:** These mounts are designed as large shock mounts as well as coilover mounts. The spacer simply makes this coilover compatible.



- 11) Adjust coil overs after a 50-mile mild break in period.
 - a. Unload the vehicle weight from shock
 - b. Bring down Preload adjuster to desired ride height. Approximately 3" from the bottom of the top cap to the top of the ring for 4.5" of lift
 - c. Drive another 50 miles
 - d. Using a screwdriver or tool of your choice adjust the transition rings to 1" above the black nylon slider
 - e. Drive another 50 miles
 - f. Make final adjustments based on driver preferences. Moving the transition rings closer to the nylon slider will make the coil over get into the stiffer rate quicker and more often.

***As Noted previously: For Big Boy Rear Shocks the Ressay will strap to the body of the shock and face toward the axle.**