INSTALLATION MANUAL

FOR

ROCK KRAWLER SUSPENSION, INC.

2013/14-2018 Ram 2500/3500 HD 4x4

& 2019+ Ram 2500/3500

1.5″/ 2″ Adventure Leveling System

2022 1st EDITION

06/3/2022

Dear customer: Thank you for purchasing the best leveling system on the market for your Ram 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 **(518-270-9822)** and we will be happy to help you.

Welcome to TEAM RK

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

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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 possible 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.

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!

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 joint's 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 number of threads showing past the jam nut will also result in the same "cause for concern" for the occupants of the vehicle. All 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.

MAINTAINING JOINTS

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

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.

If the joint is not loose, it is not bad. Only if the ball is sloppy in the joint housing is it a bad joint and should be rebuilt. Krawler Joint Raceways, Pro Flex Joint Raceway, or Anti-Wobble Joint Raceways are available through Rock Krawler Suspension or an authorized dealer.

Please note: If you are not using the full range of motion of the Krawler Joint, Pro Flex Joint or Anti-Wobble Joint very often, the lubrication will not be moving inside the joint. In such cases we recommend spraying down the outside of the Joint with WD-40 or Liquid Fluid Film to ensure the race ways do not dry up. In highly corrosive environments it is also recommended to spray down the suspension components with WD-40 or Liquid Fluid Film. This will minimize corrosion of the components due to exposure to the elements.

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.

TORQUE VALUES FOR HARDWARE AND JAM NUTS

- All 14mm and 9/16" are torqued to 90 to 100 ft-lbs.
- All 18mm and 5/8" bolts are torqued to 120-140 ft-lbs.
- All 20mm bolts are torqued to 20-220 ft-lbs.
- All 1" Jam Nuts are to be torqued 250-300 ft-lbs. 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.

SUGGESTED STARTING LENGTHS

Front Track Bar 2013-2019 (RK4532HD)

2.0" lift – 39 1/8"

Optional Rear Track Bar (RK04507)

2.0" lift – 39 1/8"

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 for lots of great informational videos.

FRONT SUSPENSION LEVELING INSTRUCTIONS

1) Make sure vehicle is on a level, hard, working surface if you are using a floor jack and jack stands**.**

2) Block the rear wheels so the vehicle cannot move and make sure the emergency brake is applied.

3) Raise and support the front of vehicle with safety jack stands. Locate jack stands on the frame in front of the axle.
   a. If you are using a vehicle lift, place the lift arms according to the specific vehicles lifting procedures. Ensure that the lift arms will not interfere with the components that are being replaced.

4) Remove the front wheels and tires while the axle is supported by a floor jack.

5) Remove the OEM shocks. Save the bottom mounting hardware for reuse. (We recommend either aftermarket shocks or 2" shoch extension for the front end. Rock Krawler offers this leveling kit with our TT shocks.)

6) Loosen, but do not remove the radius arms mounting hardware and track bar hardware at all locations. This will allow the stock suspension to move freely.

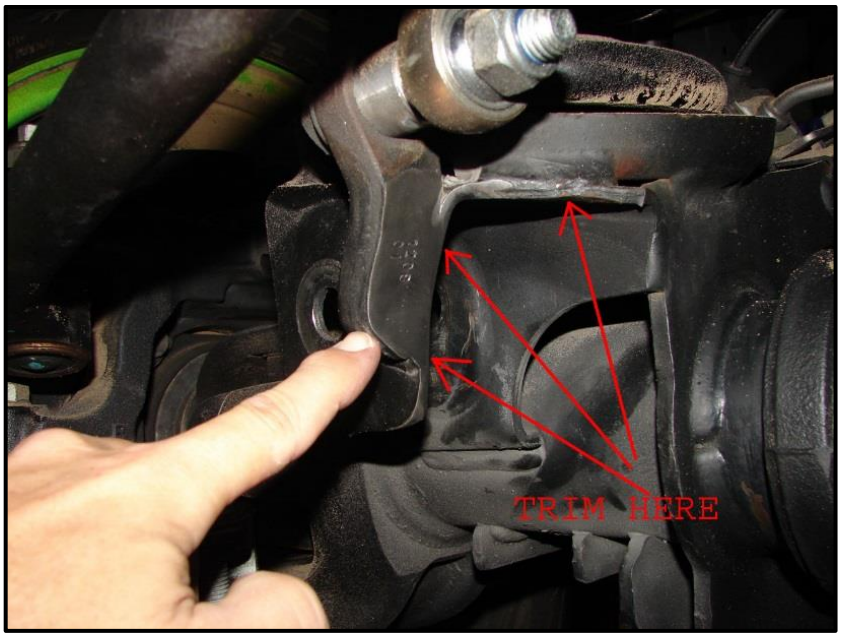
7) Remove the OEM sway bar link assemblies, save everything for reuse.

8) Remove the OEM coil springs and discard. Retain the OEM spring isolators on the top and bottom for reuse.

9) **FOR 2019 OR NEW: SKIP TO STEP 19**

10) Make sure the frame and axle are stabilized and remove and discard the front trackbar from vehicle.

11) Trim the front track bar mounting bracket area on the axle flush with the sway bar end link mounting bracket and across the top horizontally as shown below. This will ensure the new bar and jam nut have ample clearance in that area. Depending on configuration, this may or may not be required. It is up to your discretion whether there is clearance / interference at the axle.



OEM Front Track Bar Mounting Bracket Required Clearance on the Axle

Note: In rare cases, this may also be required at the driver's side frame connection as well. The downward swing of the axle may cause the new trackbar to rub against the bracket. It is worth mentioning so there are no issues with trackbar finish down the road.

12) While the axle is drooped down, install your new Rock Kralwer springs into the vehicle with the OEM spring isolators. Make sure the springs are seated correctly in the top isolator as you raise the axle until the springs are under a slight tension.

13) Set your front trackbar to the recommended starting length of 39 1/8th" by measuring center to center of the bolt holes. Orient the heim joint so it is parallel with the flex end. Use a dab of red lock tight on the joint shank where the jam nut tightens, but do not get the lock tight in the bar. Use a 1-1/2" box wrench to torque that jam nut between 250-300 ft-lbs. This is critical for the overall longevity of the track bar assembly.

14) Install the newly supplied track bar with the heim joint end at the axle connection, then swing it up to the frame connection. Ensure the bend orientation of the bar goes away from the diff cover to avoid interaction. Can be tightened now.

15) Raise the front axle assembly to a point where you can install the front shocks completely. Again, we recommend aftermarket shocks or a set of 2" extensions for the front shocks. Torque the shock bolts to OEM specifications.

16) Lift the vehicle off the jack stands and place it on the ground. Tighten all hardware to proper Torque Spec.

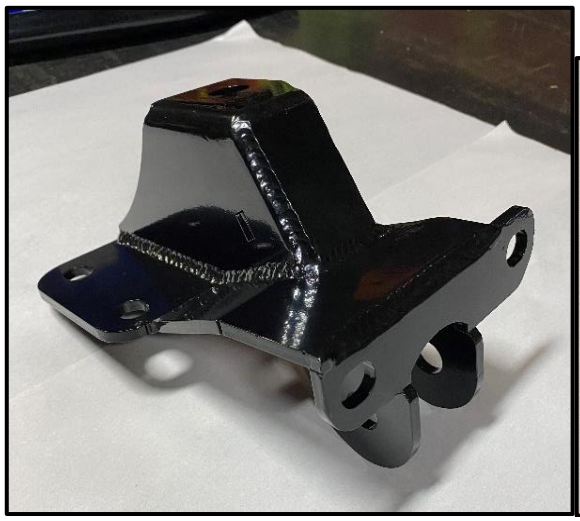
17) Drive the vehicle forwards and backwards to "roll it out" to ride height. Then adjust the drag link to center the wheel by loosening the collar and extending the drag link until the steering wheel is straight. The vehicle can be aligned professionally by adjusting the radius arm cam bolts.

18) Your vehicle should now sit level with our 1.5"/ 2" leveling kit. Head to an alignment shop and have vehicle professionally aligned.

19) **FOR 2019 OR NEWER ONLY FOLLOW STEPS 19-24:** Loosen the axle side connection of the track bar so the vulcanized rubber bushing can move more freely and avoid damaging. Completely remove from frame side hardware.

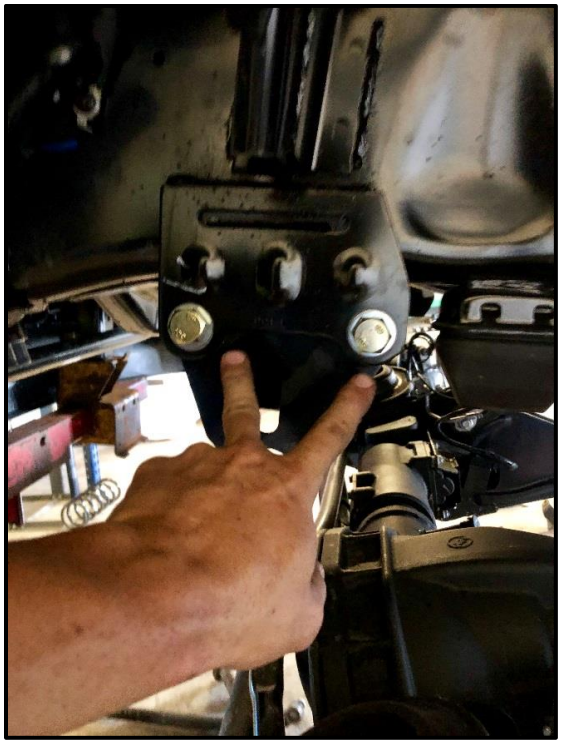
20) Remove the OEM front track bar bracket by removing all five bolts. Save the three that come out of the topside (not horizontal) connection.

TRACK BAR RELOCATION BRACKET



21) Now install the front track bar bracket. Secure the newly supplied 14mm x 50mm hardware for the two outer connections. Torque to 90 to 100 ft-lbs. Re-use the three bolts for the inside connections.

TRACK BAR RELOCATION BRACKET INSTALLED



22) As the axle is drooped down, install your new Rock Krawler springs into the vehicle with the OEM spring isolators. Make sure the springs are seated correctly in the frame side isolator as you raise the axle until the springs are under a slight tension.

23) Re-attach the track bar connection to the new track bar bracket with the OEM hardware.

24) Return to step 15-18 to complete lift installation.

Center the Steering Wheel (This is critical for ESP/ESC equipped Ram HD's and must be done with the steering wheel position sensors at Zero as well.)

Typical alignment specs for the Rock Krawler 2.0" Adventure Leveling Kit

Caster 3.0 to 4.5 degrees with .2 degrees caster on the passenger side than the driver's side to account for road crown. Please note: some tire treads and steering stabilizers may cause a pull or push that needs to be accounting for.

2. Suspension tuning, ride quality and handling were developed on 35 and 37-inch-tall tires on 17- or 18-inch diameter wheels. Here are some recommended no load tire pressures for heavy walled aftermarket tires based on zero payload or tongue weight. 50 psi front and 40 psi rear. Tuning tire pressure to achieve what is optimum to you is up to you and your discretion.

3. Remember to retorque all hardware after 500 miles and check for proper alignments to ensure everything has settled in properly and is functioning correctly!

***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 Wrangler 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 stock 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 Ram is now free to roam about the country.

Common Service Parts Listings:

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

Front Track Bars

Anti-Wobble Joint Bushings (Frame End of Front Track Bar) – RK07836K – Requires Small Joint Tool – RK04487

Front Track Bar Replacement Heim Joint (Axle End) – RK07535 (1" Shank) – Optional New Misalignment Spacers – RK04531