

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

## INSTALLATION MANUAL

FOR

**ROCK KRAWLER SUSPENSION, INC.**

**JT X FACTOR SERIES MID ARM SYSTEMS**

2020 3rd EDITION

07/23/2020



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**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 (518-270-9822) and we will be happy to help you.

## Welcome to TEAM RK

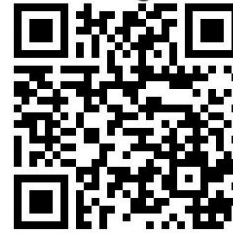
Share your before & after pictures, install photos & wheeling images.

facebook



@RKSuspension

Instagram



@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 possible damage from over extending 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^**



## 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

### Front Track Bar (RK06187)

3.0" lift – 34 5/16"

4.5" lift – 34 1/2"

### Front Lower Control Arms (RK06184)

3.0" lift heights – 24 5/8"

4.5" lift heights – 24 11/16"

### Rear Lower Control Arms (RK07380)

3.5" lift heights – 23 3/4"

4.5" lift heights – 23 7/8"

### Rear Track Bar (Optional on 3") (RK07384)

3.0" lift (w/ bracket) – 33 9/16"

4.5" lift (w/ bracket) – 33 11/16"

### Front Upper Control Arms (RK06697)

3.0" lift heights – 20 9/16"

4.5" lift heights – 20 5/8"

### Rear Upper Control Arms (RK07386)

3.0" lift heights – 16 11/16"

4.5" lift heights – 16 13/16"

***\*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...**



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## 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) 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.
- 4) 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.
- 5) Remove the front rims and tires with axle supported by a floor jack.
- 6) Remove the front shocks. Save the OEM hardware to install the new shocks.
- 7) Remove the front sway bar links and discard them.
- 8) 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.

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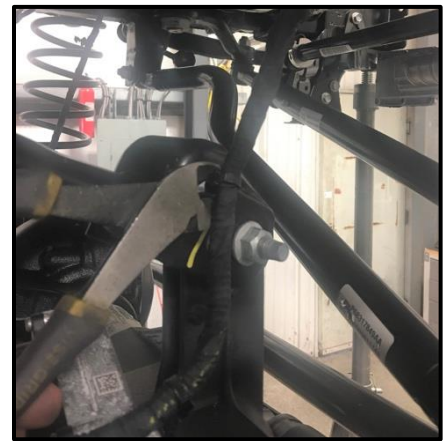
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**Remove Brake Lines from Arms**



**Clip for Breather Line Slack**



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

- 9) Lower the front axle assembly onto jack stands.
- 10) Remove the front track bar from the vehicle and save the OEM hardware for reuse.
- 11) Remove the front springs.

**\*Please Note:** 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.

- 12) Remove the front lower control arms and save the OEM hardware for reuse.
- 13) **X-FACTOR** Remove the front upper control arms 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.**

- 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 Zirc fitting facing upward at the axle; we recommend you cut a little relief in the upper control arm mount as shown. A 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 with a 1/2” drill bit to make installation of the stackable bump stops easy. We recommend

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2 or 3 pads for 3.0" of lift, 4 or 5 pads for 5.0" of lift based on tire size/wheel/fender/shock options. Choose the proper 1/2" bolt from the bump stop kits.



- 17) Remove the OEM spring isolators or spring seats on the axle and replace them with 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) **X-FACTOR** Install the supplied front upper control arms set to the specified length for your kit according to our measurements. Secure using the OEM hardware. The bend in the upper arms are designed for frame clearance and go away from the frame. Be sure to rewrap the OEM heat shielding products after installation is supplied on your vehicle.



**Driver Side Front Upper Arm Showing Proper Bend Orientation (Away from the frame)**

- 19) **All Systems;** Install the front lower control arms set to the specified length for your kit according to our measurements using the OEM hardware.

**\*Please Note:** The bend in the arm is for improved ground clearance and goes up. The Krawler Joint (Zinc Plated Spherical Joint) goes to the axle and the Pro Flex Joint (Bushing Joint) goes to the frame.



**Frame Side**



**Axle Side**

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20) Install the supplied front coil springs. 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.

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.*

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.

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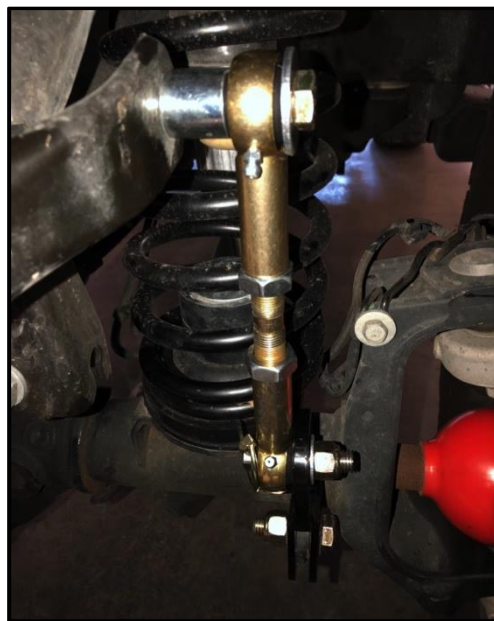
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24) Choose your front sway bar link package (Either Gen 1 Disconnects or Gen 2 Disconnects or No Limits Links (Rubicon Models)). For Gen1 Disconnects follow steps A and B. For Gen 2 Disconnects follow steps C and D. For No Limits Links follow step E.

**A.** For **Gen 1** Sway Bar Disconnects (No Limits Rubicon Applications Proceed to No Limits Section) Install the newly supplied Sway Bar End Link Relocation Brackets, Pro Disconnects and Sway Bar Straps. Set the center to center length of the assemblies as noted below. Please note: There is a specific Driver Side and Passenger Side Sway Bar Link Relocation Bracket. The Driver Side is thicker and has a wider gap.



Pass. Side



Driver's Side

The driver side sway bar link relocation bracket has the wider gap of the two brackets. Attach it to the OEM sway bar link tab on the axle. Push it down until it rests on the stock mount and secure it with the supplied  $\frac{1}{2}$ " x 1.5" bolt, two  $\frac{1}{2}$ " washers, and  $\frac{1}{2}$ " nylok nut as shown.



The pass. side sway bar link relocation bracket has a narrower gap than the driver side. Attach the relocation bracket with the supplied 1" long aluminum spacer between the supplied bracket and the OEM track bar mount as shown using the supplied  $\frac{1}{2}$ " x 3.0" bolt, washers and nylok nut as shown.



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## Recommended Starting Lengths

3.0" Systems 8.25" / 4.5" Systems 9.00"

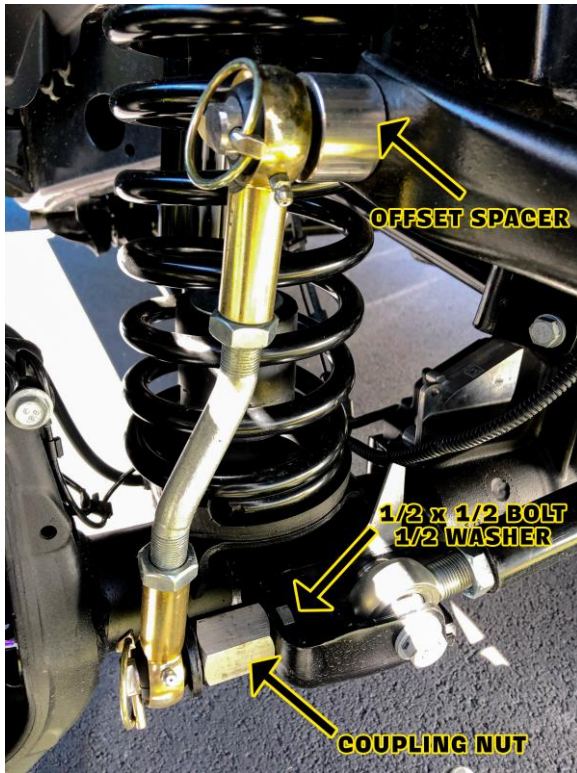
**B.** To install your sway bar link straps use the supplied 5/16" Bolt, Washers and Nut to attach them as shown to the coil spring bucket. Or you can drill a hole in a more preferred place of your liking.



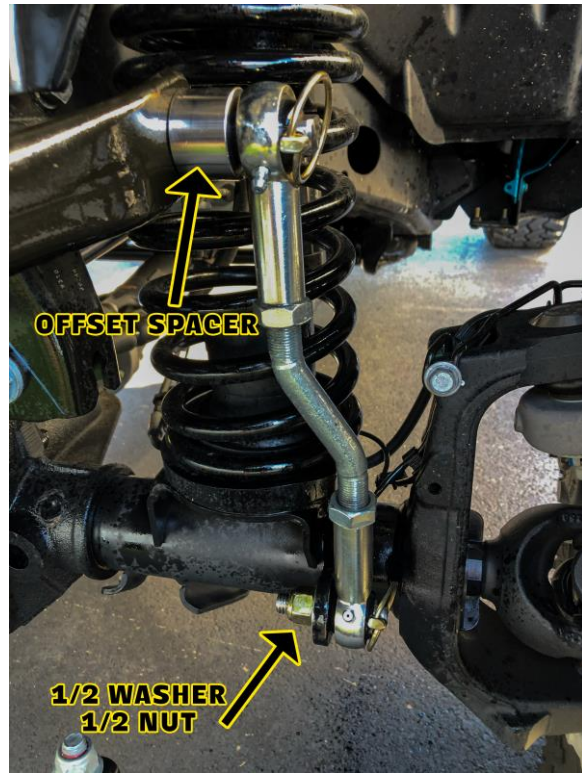
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## C. For Gen 2 Sway Bar Disconnects.



Pass. Side



Driver Side

**Recommended Starting Lengths**      3.0" Systems 9 1/4" – 9 1/2" / 4.5" Systems 9.3/4" – 9 7/8"

For the Driver Side, the Offset Spacer with Disconnect Pin goes against the sway bar and is secured with a 1/2" washer and 1/2" nylok nut. The bottom disconnect pin gets secured to the outside of stock sway bar link mounting tab as shown with a 1/2" washer and 1/2" Nylok Nut.

For the Passenger Side, 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. The bottom disconnect pin threads into the stainless steel coupling nut as shown. From the inside of the track bar mount, tighten into the coupling nut the 1/2" bolt with 1/2" washer. **Helpful Hint:** Do not tighten to spec until all the hardware is installed. **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.

Slide the sway bar links on the disconnect pins top and bottom. **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 as shown. 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.

Secure the removable sway bar links with the supplied Lynch Pins top and bottom.

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**D.** 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.





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## E. 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**      **3.5" Systems – 11.25" / 4.5" Systems - 12"**



**Passenger's side connection shown**

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 below 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.

- 25) Tighten all connections per the recommended torque specs above.
- 26) Put the tires and wheels back on the front end and carefully lower the vehicle to the ground.

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

- 1) Make sure vehicle is on a level, hard, working surface if you are using a floor jack and jack stands
- 2) Block the front wheels so the vehicle cannot move.
- 3) Raise and support the rear of vehicle with safety jack stands. Locate jack stands on the frame behind the rear axle.
- 4) 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.
- 5) Remove the rear rims and tires with axle supported by a floor jack.
- 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.
- 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) Lower the rear axle assembly onto jack stands.
- 10) Remove the rear coil springs.

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11) For 3.0" systems 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.

**\*Please Note:** 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.

12) **MAX. TRAVEL / X-FACTOR** Remove the rear upper control arms and save the OEM hardware for reuse.

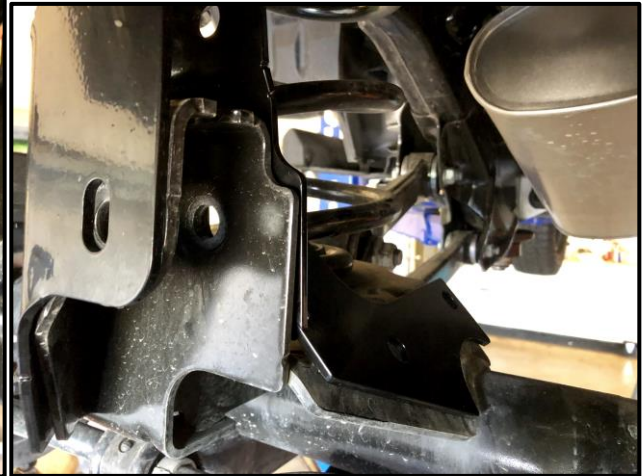
13) **X-FACTOR** Remove the rear lower control arms and discard them, save the OEM hardware for reuse.

14) Install the rear track bar relocation bracket using the supplied 1/2 x 1.5" bolts, washers, nylok nut, the 7/8" O.D. x 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. Please note: 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**

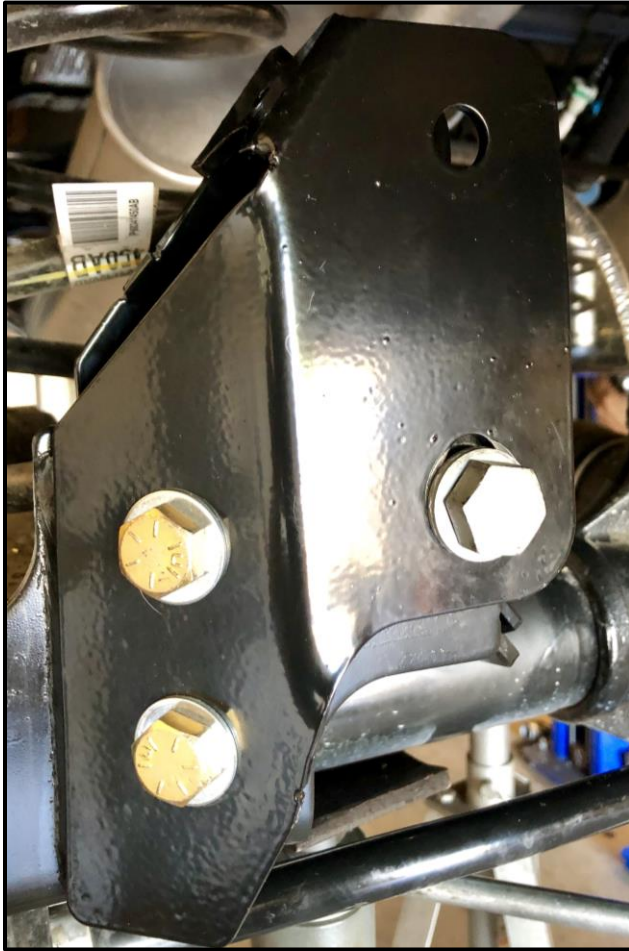
B) Center Punch the (4) holes and drill them with a 1/2" drill bit.

C) Secure the new raised rear track bar bracket with the (4) supplied 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 1/2" bolts first, then tighten the OEM flag nut last.



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- 15) **MAX. TRAVEL / X-FACTOR KITS** Install the rear upper control arms set to the specified length for your kit according to our measurements and secure using the OEM hardware.

*\*Please Note:* 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.

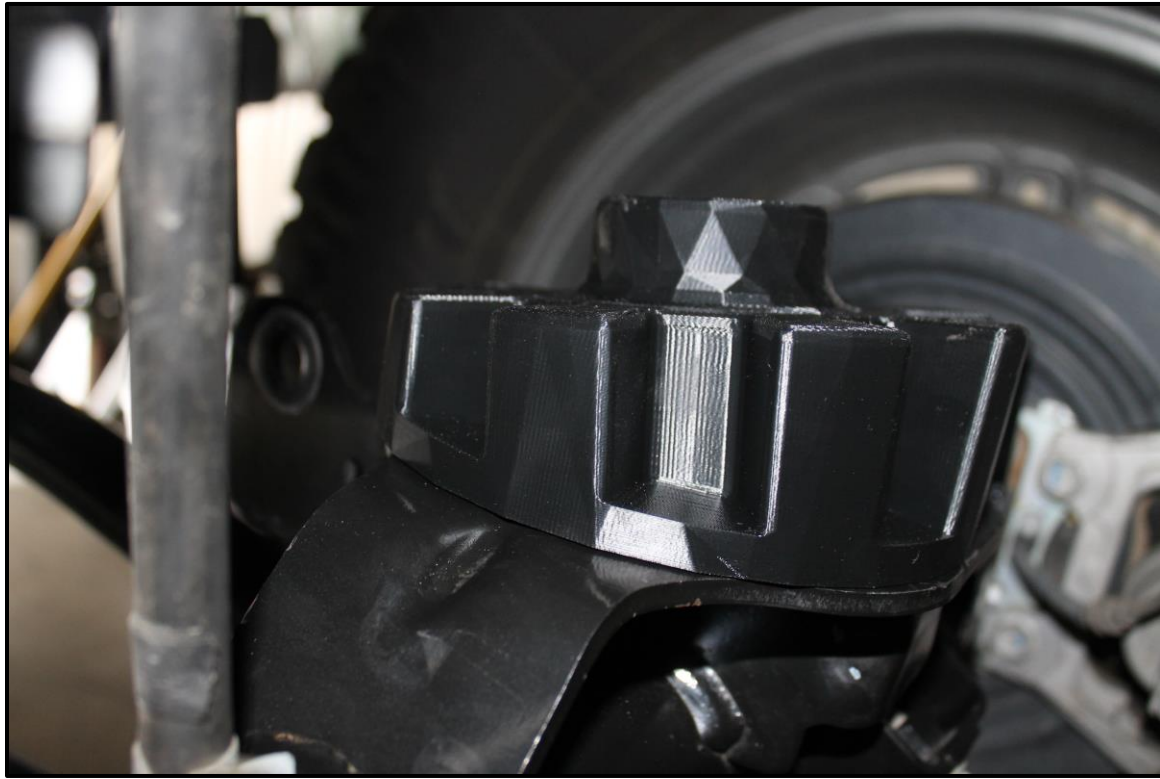
- 16) **X-FACTOR** Install the rear lower control arms set to the specified length for your kit according to our measurements using OEM hardware.

*\*Please Note:* The bend in the arms is for improved ground clearance and goes up. The Krawler Joint (Zinc Plated Spherical Joint) goes to the axle and the Pro Flex Joint (Bushing Joint) goes to the frame. Do not allow more than 3/4" of thread to show past any jam nut for proper thread engagement. Same as the front lower control arms.

- 17) 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.

For **gas** model JT's with the fuel tank on the passenger side;

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.



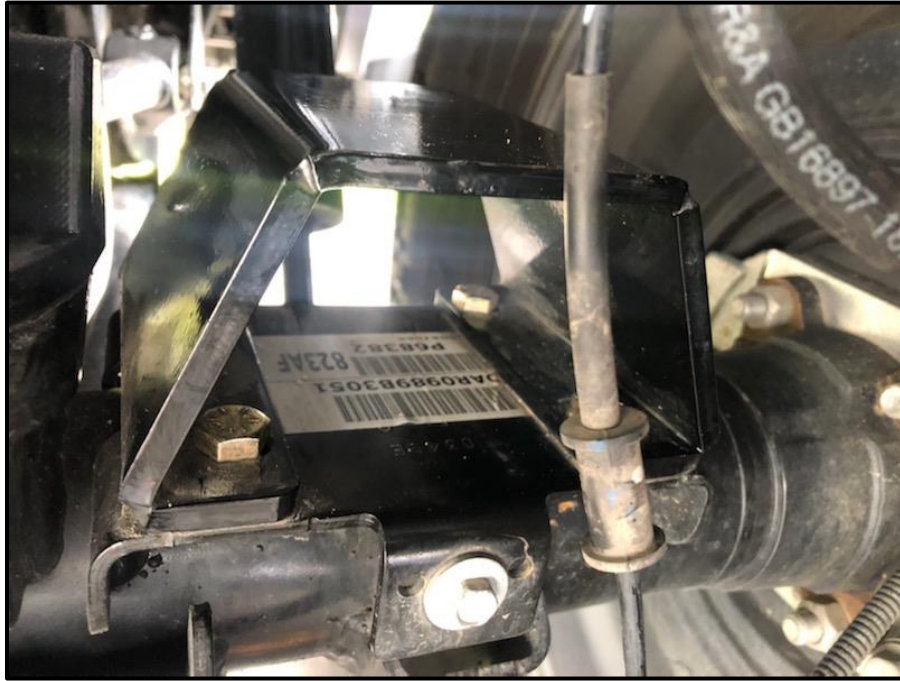
**Pass. Side Rear Spring Seat Shown Installed**

***\*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.*

- 18) 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.
- 19) 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.**

**For those that opted to go with the aftermarket RK rear track bar on the 3.0"** the Rock Krawler rear track bar at the frame connection using the OEM hardware and to the newly supplied rear track bar bracket using the supplied 14mm x 80mm bolt, washers and nylok nut. *Be sure to set the length of the track bar per the instructions for your lift height out of the tables at the beginning of the instructions.* The new rear track bar adjusts in the vehicle making centering the axle a snap.

- 20) Install the rear shocks using the OEM hardware.
- 21) If purchased ~~separately~~ or included in your system, install the RK fabbed 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**

## 22) Install the Supplied Pro Rear Sway Bar Links

- A) The Bottom Mount gets secured with the supplied 12mm Bolt, Large Washer and Nylok Nut. The Large Washer goes on the outside of the ball as shown to retain the ball and socket joint. Set the assembled length to 13”.



**Rear Sway Bar Link Bottom Connection**



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- B) The top connection reuses the factory rear upper sway bar link bolt and again, the large washer goes against the ball to retain the ball and socket joint.



**Rear Sway Bar Link Top Mount**

- 23) Install the rear wheels and tires and lower the vehicle to the ground.
- 24) Tighten all mounting bolts at this time!

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## 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 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 a stock 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.**

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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.**



# ROCK KRAWLER

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## 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 Lower Control Arms:

**Pro Flex Bushings (Frame End) – RK04708 – Requires Large Joint Tool – RK04484**

**Front Lower Control Arm Full Replacement Krawler Joint (Axle End) – RK05067**

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

## Rear Lower Control Arms:

**Pro Flex Bushings (Frame End) – RK04838 – Requires Large Joint Tool – RK04484**

**Front Lower Control Arm Full Replacement Krawler Joint (Axle End) – RK05067**

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

## Front Track Bar:

**Anti-Wobble Joint Bushings (Frame End) – RK00221K – Requires Small Joint Tool – RK04487**

**Replacement Heim Joints (Axle End) – RK03426 – Optional New Misalignment Spacers – RK03428**

## Rear Track Bar:

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

**Full Replacement Joints – RK07485 – Right Hand Threaded End. RK07485L – Left Hand Threaded End.**

## Front Upper Control Arms:

**Replacement Krawler Joint – RK03524**

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

## Rear Upper Control Arms:

**Replacement Krawler Joint – RK02256 – Right Hand Threaded End. RK02256L – Left Hand Threaded End.**

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

Sway Bar End Links:    **Ball Center – RK04573**

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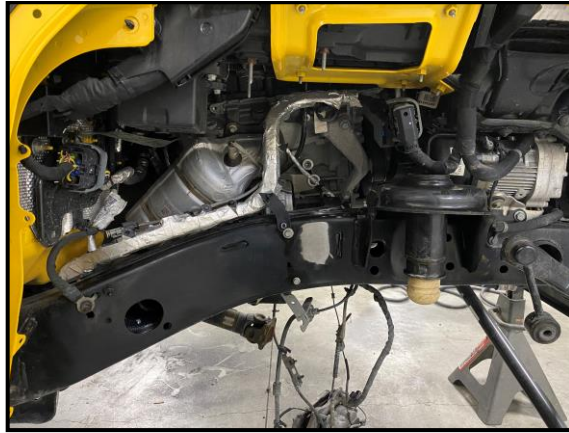
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**For the Optional Coil Over Systems and or Upgrades and Rear Big Boy Shocks Please Do The Following!**

- 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.



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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 in order 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.



- 7) Grind the powder coat off the new mounts in all applicable weld surfaces. Measure  $\frac{3}{4}$ " away from the inner C



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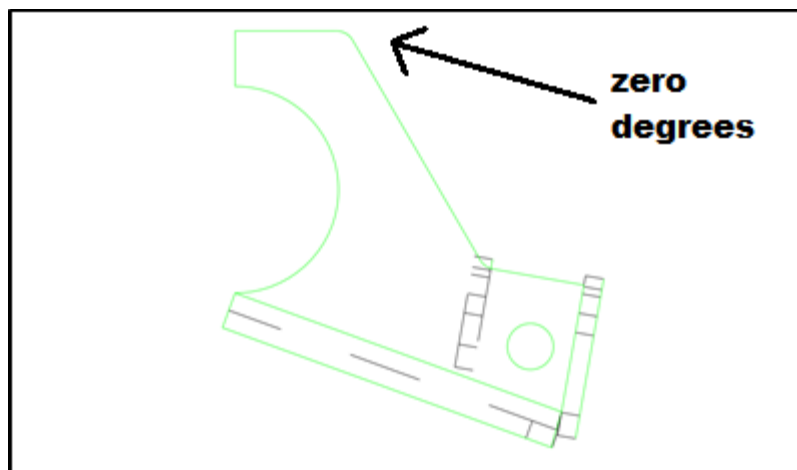
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for Rubicon models as shown below. For Non-Rubi models, bring the new mount as close to the axle C as possible. This is because JL Rubi Axle WMS is 68.00"/ JL Sport/Sahara WMS is 66.50".



**\*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. With the front coil overs, ensure the coil over with more preload attached to the passenger's side. (to account for added weight from the gas tank).
- 10) Place the supplied spacer on the top coil over connection on the inside of the bearing. Then secure the top connection with a 1/2" x 3.25" bolt with a washer on each side and locknut on the backside. Then place the 1/2'

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x 2.75" bolt through the bottom connection with a washer on each side, locknut on the back.

These mounts are designed as large shock mounts as well as coilover mounts. The spacer simply make this coilover compatible.

**Please Note:** For Big Boy Rear Shocks the Ressy will strap to the body of the shock and face toward the axle.