INSTALLATION MANUAL

FOR

ROCK KRAWLER SUSPENSION, INC.

TJ/LJ X FACTOR X2 FLAT BELLY LONG ARM SYSTEMS

FIRST EDITION

1/01/2024

Dear customer: Thank you for purchasing the best system on the market for your TJ/LJ. 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.

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

Warning

Read and understand all instructions, warnings and safety precautions in these instructions and your owner's manual before attempting to install these components.

Warning

Rock Krawler Suspension Inc. 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 Inc.'s warranty is void and is not to be held accountable for any resulting actions.

Caution

Proper installation of Rock Krawler Suspension, Inc. Products requires knowledge of recommended procedures for disassembly/assembly of OE vehicles and components. Access to OE shop manuals and special tools may be 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.

Warning

Rock Krawler Suspension, Inc. 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.

Caution

Rock Krawler Suspension Inc. recommends the use of Loctite on all hardware, unless noted otherwise.

Warning

Properly block and secure vehicle prior to installation.

Warning

Always wear safety glasses when using power tools

Warning

The use of limiting straps is recommended to avoid possible damage from over extending the suspension of your vehicle.

Helpful hint:

Do not tighten connections until assemblies are installed in entirety.

Reference Lengths for Standard Systems (Rockzilla are Completely Customized):

TJ/LJ 2.0" Front Track Bar Assembled Length = 32 7/16"
TJ/LJ 3.5" Front Track Bar Assembled Length = 32 3/4"
TJ/LJ 4.5" Front Track Bar Assembled Length = 33"
TJ/LJ Front Lower Control Arm Assembled Length = 38 15/16"
TJ/LJ Front Upper Arm Assembled Length = 41"
TJ Rear Lower Control Arm Assembled Length = 29 3/16"
TJ Rear Upper Control Arm Assembled Length = 33 3/4"
TJ 5" STRETCH Rear Lower Control Arm Assembled Length= 32 13/16"
TJ 5" STRETCH Triangulated 4 Link Assembled Length = 38"
TJ 8" STRETCH Rear Lower Control Arm Assembled Length= 38 15/16"
TJ 8" STRETCH Triangulated 4 Link Assembled Length = 43 3/8"
LJ Rear Lower Control Arm Assembled Length = 38 15/16"
LJ Rear Upper Control Arm Assembled Length = 43 3/8"
LJ 4" STRETCH Rear Lower Control Arm Assembled Length= 42 15/16"
LJ 4" STRETCH Triangulated 4 Link Assembled Length = 47 1/2"

Please Note: All Control Arms, Torque Arms, Track Bars and Triangulated 4 -Link Assemblies come pre-assembled, but they require final adjustment as specified above in the directions above.

Driving Tips:

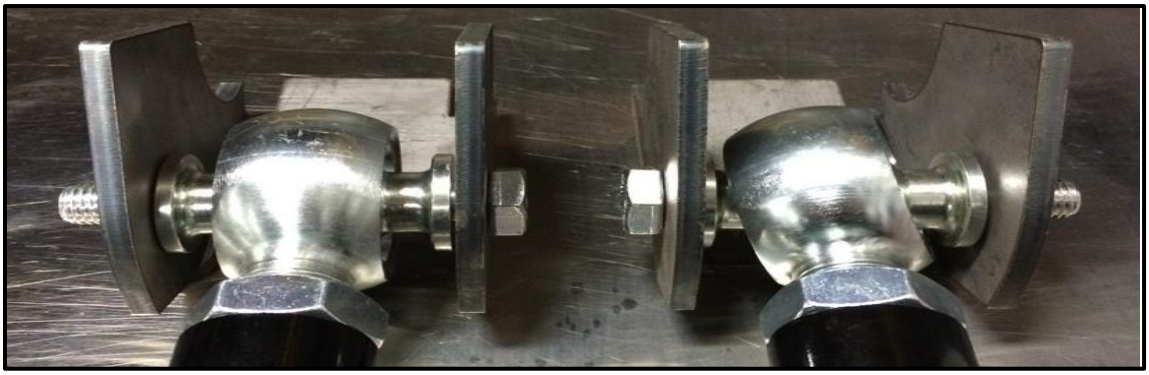
- For Highway driving it is best to have the front sway bar connected. This will give you the on highway ride and handling characteristics you expect. **If you choose otherwise, you do so at your own risk.**
- The ride quality and handling that Rock Krawler is known for is based on using OEM sway bars 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 proved traction and feed back 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.

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

Pro X Krawler Joints, Anti-Wobble Joints and Pro Disconnect Joints

The Pro X Series Krawler Joints, Pro Flex Joints, Anti-Wobble Joints and Pro Disconnect Joints are greaseable. They come pre-greased from the factory. We require NLGI#1 or thinner 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. Using the incorrect grade of grease can do damage to the joints and hydraulically displace the race way material causing a sloppy joint condition. Mobilux EP1 is a standard off the shelf grease that works very well.

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 Pro X Krawler 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" bolts are torqued to 90-100 ft-lbs.
- All 12mm and ½" bolts are torqued to 75-80 ft-lbs.
- All 10mm and 3/8 bolts are torqued to 30-35 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 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.

Before Getting Started: The Rock Krawler X Factor X2 Flat Belly Long Arm Systems and Rockzilla Flat Belly Systems require a 1.5" Body Lift and Motor Mount Lift Minimum. Or you can install the Artec or Motobilt boat side body mounts which include a 1.25" body lift when used in conjunction with OEM body mount bushings and a 1.5" Motor Mount Lift. It is required that these items be installed prior to starting the suspension system installation.

Starting with the middle of the Vehicle:

1. Park vehicle on a level hard working surface and block the front wheels so the vehicle cannot move.

2. If you have a 2003 or newer Wrangler with the automatic skid plate, please remove it. It will simply be in the way for the movement of the front driveshaft at your new lift height.

3. You do not need to jack up the vehicle for the first part. We will be putting in your new skid plate center section and control arm mounts.

4. Support the transmission and transfer case so the OEM skid plate / belly pan can be completely removed. Remove the skid plate and discard it. Save the OEM hardware for alignment purposes and reuse. For Rubicon models also disconnect your air pump from the skid plate and tie it up. It will be reattached to the new center skid plate member. Be sure to retain the mount on the OEM to use on the RK skid plate.

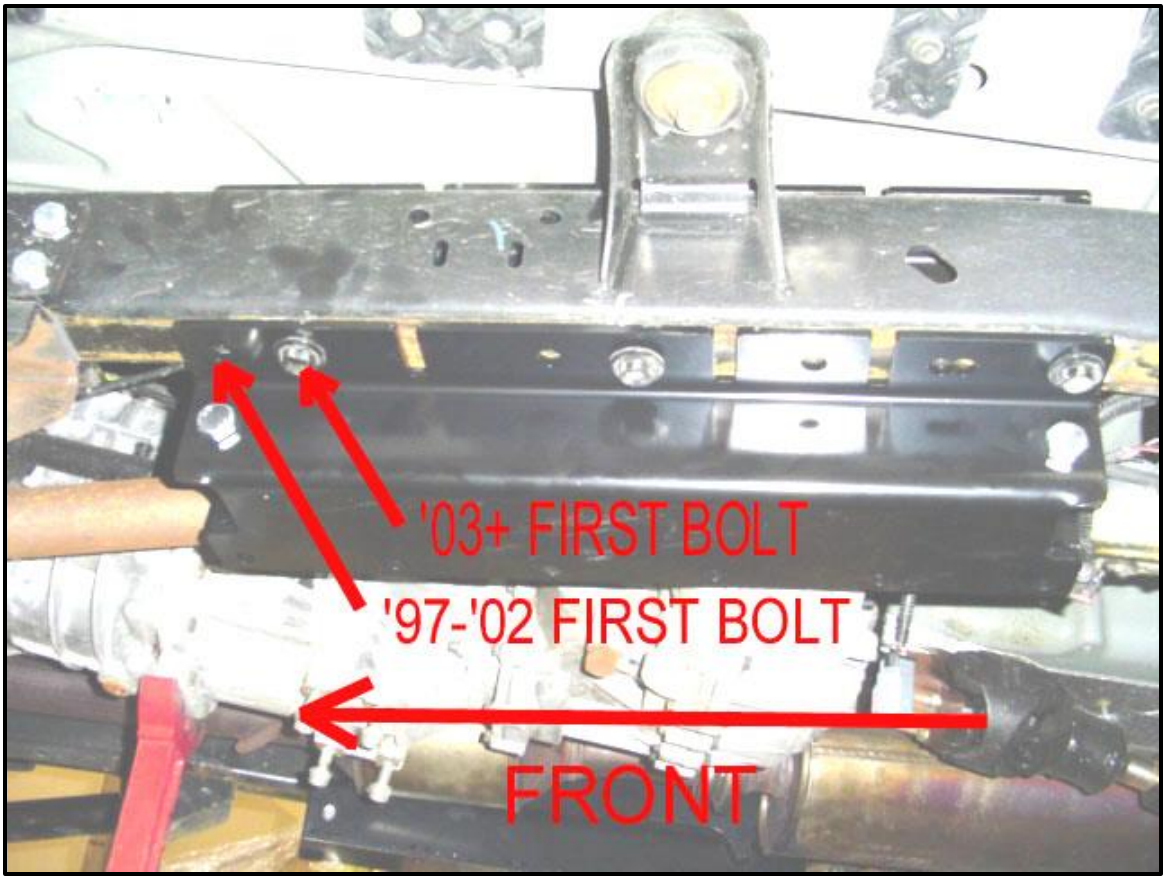
5. Grind down the weld bungs in the frame so they are almost flush with the frame. This is required since our skid plates grab the frame by the top and the bottom which adds a tremendous amount of structure to your frame. See the picture below for further details.

Skid Plate Weld Bungs

6. Install the frame rails as outlined below:

Grab the driver's side frame rail section and get ready to put it in place. The driver's side bracket contains the front upper control arm mount and rear upper control arm mount welded to it. The passenger side mount only has the rear upper control arm mount welded to it. Install the bracket as shown below. Please note; on the 97-02 model year TJ's the most forward hole in the new bracket lines up with the front OEM skid plate bolt hole, on the -03 and newer models the first OEM skid plate bolt goes in the second hole in the new bracket. Please see picture below. Perform the same operation with the passenger side. All the brake lines and fuel lines will stay attached to the frame. On Rubicon models, please reroute the front locker lines on the inside of new frame rail brackets.

Prep the frame and frame rails for welding. Secure the frame rails in place using the OEM skid plate mounting bolts with all surfaces prepped for welding. It is recommended that you C Clamp the top side of the mount to ensure the top side of the mount stays flush with the top side of the frame. Fully weld them in place along the front and rear leading edges and then down the side of brackets. Be sure to weld both on top and on the bottom of the frame. This will give you the most amount of structure.



Skid Plate Side Bracket (Driver's Side Shown)

Please note: you will have to heat up the support bracket for the catalytic converter to move it as close to the T-Case as possible so it does not contact the new bracket.

7. Remove the Cat Back Exhaust since it will certainly be in the way of the rear upper triangulated control arms.

8. Install the floating cross member to the newly supplied skid plate. Make sure the cross member is located on the top side of the skid plate. This cross member ads structure and proper mating angle for all power train mounts. Secure the floating cross member using the supplied 3/8 x 1 carriage bolts, washers and nylok nuts. The forward mounting position is for the 03-06 models and the rearward mounting position is for the 97-02 models.

9. Now that the floating cross member is installed, we can now locate the center skid plate. Grab the center skid plate. Bring it up into position and attach it to the frame rails using the supplied (12) ½" x 1.25" carriage bolts (smooth head) and the (12) supplied spiral lock washers and (12) ½-13 jam nuts. Then lower your t-case and transmission into place and attach it to the center skid using the OEM supplied hardware.

**For Rubicon Models only, perform the following*; Reattach the air pump assembly to the center skid using 3 of the four holes provided. See picture below for visual aids. Attach the air pump with the supplied (2) 5/16 x 1 bolts and nylok nuts, then on the offset side, attach with the 5/16 x 2.5 bolt, nylok nut and 5/8" O.D. by 10mm I.D. x 1.625 Tubular Spacer.

Rubicon Air Pump

9. Now that your center section is complete, we can begin performing the disassembly and reassembly of your vehicle.

Moving to the Front End:

1. Make sure the vehicle is still on a level hard working surface and block the rear wheels so the vehicle cannot move. Make sure the emergency brake is applied. Raise the front of vehicle and support with safety jack stands. Locate jack stands on the frame as far forward as possible.

2. Remove front rims and tires.

3. Support the front axle housing using a hydraulic floor jack.

4. Remove front shocks using 15mm box wrench for the top and 13mm socket with ratchet in combination with 13mm box wrench on the lower bolts. Keep original hardware to install new shocks.

5. Remove front sway bar links form upper location using 15mm box wrench. It may be helpful to use a hammer to push up against then end of the sway bar while pulling down on the old links to release.

6. Remove and replace front brake lines; following provided instructions in brake line kit.

7. Remove front track bar by using a T-55 torx bit on the lower axle mount then pull the cotter pin from the top castle nut and remove castle nut. It will be necessary to use a pickle fork (ball joint separator) to remove the top rod end from its mount. Discard the OEM track bar and castle nut for they will not be reused.

8. Remove front spring retainer clip(s). Discard them, they will not be reused.

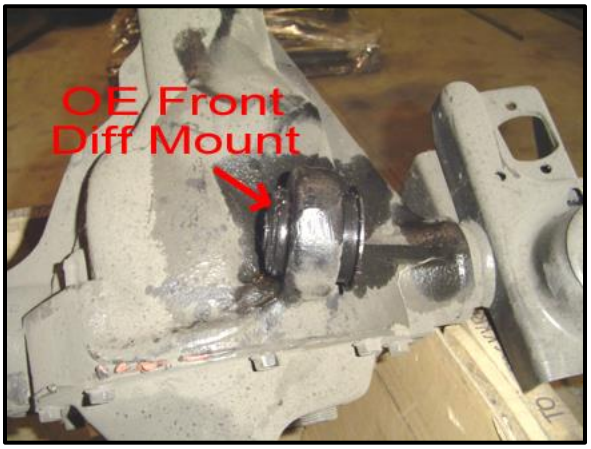
9. Remove the OEM front upper control arms and discard them.

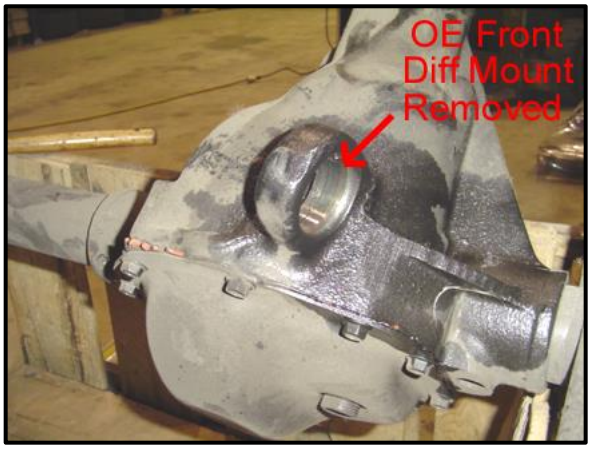
10. Lower the front axle assembly and remove front springs.

11. Remove the OEM front lower control arms and save the hardware for reuse. Discard the OEM lower control arms. You must remove your OEM lower control arm mounts from the frame to allow for proper suspension travel. You can also remove the front upper control arm mount off the axle on the passenger's side if you so desire. This will make your vehicle look cleaner.

12. **For Standard X2 Long Arm Systems Only (If you opted for a straight – double Krawler Jointed front upper arm skip this step).** Now it is time to make the stock front upper control arm mount on the driver's side into a re-build-able, flexible joint.

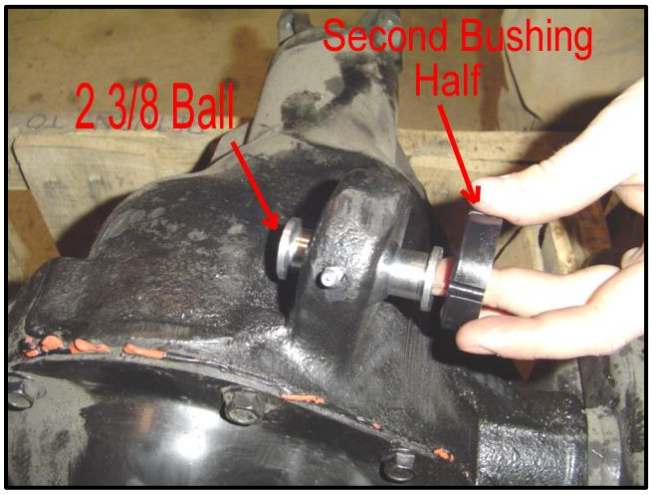
12a) Pound out the driver's side OEM front upper control arm bushing and sleeve. Note: It is easier if you hit on the steel sleeve. If you run into trouble drill out the rubber bushing material and then remove the entire assembly.



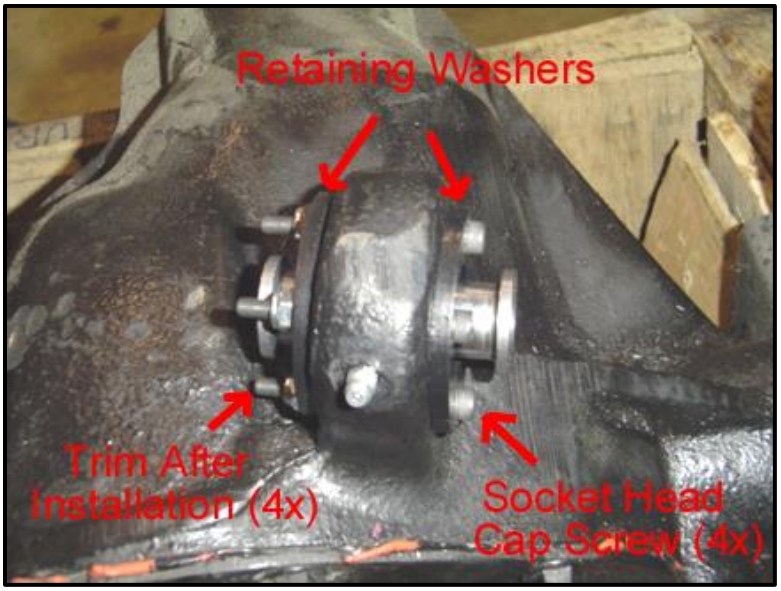


12b) Take one of the supplied ball joint bushings and push it in one side. Note: make sure the slots for the fasteners are on top and bottom for correct orientation. If you want to pack it with marine grade grease, now is the time to do so!

12c) Place the supplied chrome plated ball inside the bushing and retain it in place with the other supplied Ball Joint bushings on the other side and push it in. Make sure the ball is oriented so that a bolt can pass through it before going to the next step.



12d) Place the supplied ball joint washers on either both sides of the ball joint bushings. Using the supplied #10-32 x 2.00" bolts and #10-32 nylok nuts clamp the entire assembly in place. Torque the #10-32 bolts to 25 to 30 inch pounds. Cut off any extra bolt length that extends past the nut. If you want to you should be able to tighten the flanges to a point where they come in contact with the housing. This is the most secure method. Just be sure to torque down the bolts evenly.



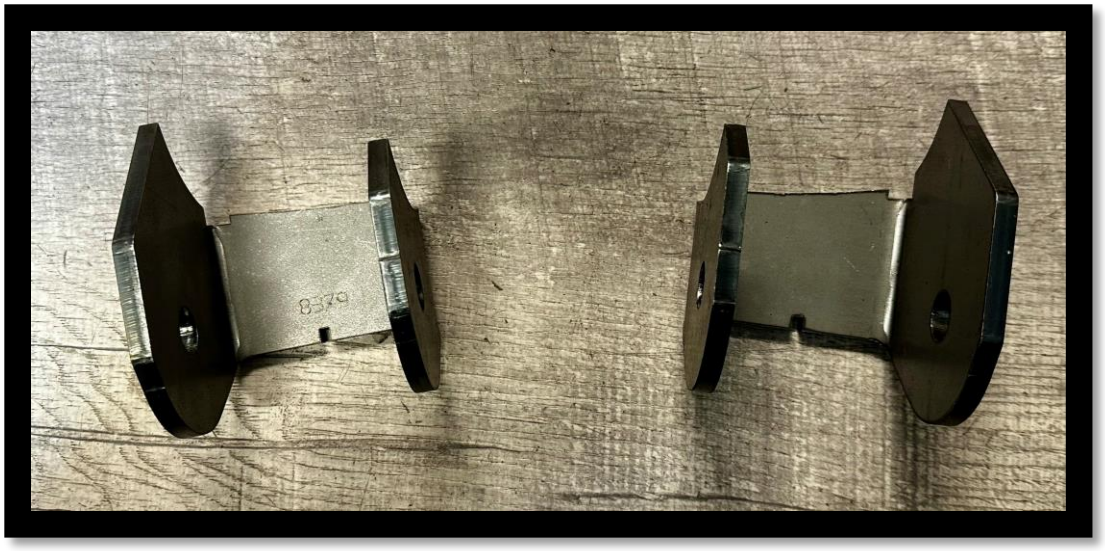
14. **Install the track bar bracket as shown below**. Bolt the bracket to the stock cast iron bracket with the supplied ½" x 1.75" long bolt and nylok nut and tighten it to draw the bracket up tight. Once the bracket is tight, drill through the frame by center punching the holes and drilling through the frame with a ½" drill bit and mounting the bracket with the (2) supplied ½" x 4.0" long bolts and nylok nuts.

Track Bar Bracket Installed

15. Mark the orientation of the stock pitman arm with a marker. Disconnect the drag link from the pitman arm. Remove the OEM Drop Pitman Arm and install the newly supplied drop pitman arm. Then reconnect the stock drag link to the newly supplied component. Note that the drag link will need adjusting in order for the steering wheel to sit properly, DO NOT MAKE ADJUSTMENT UNTIL THE KIT IS FULLY INSTALLED AND VEHICLE IS AT RIDE HEIGHT

16. Remove the OEM front Lower Control Arm mounts from the frame. Please note; some sort of metal removing tool will be required to perform this operation.

17. Mark the center and orientation of the OEM lower control arm mounts on the axle. This is very important so take your time. You must match the location side to side and rotation of the oem mounts with the newly supplied mounts or the control arms can possibly contact the frame through the suspension cycle. Now, remove the OEM lower control arm mounts from the axle. Weld on the new angled heavy duty lower control arm mounts. The notch in the brackets indicates the center of the joint. Match the notch to the centerline of the OEM mount to the notch in the brackets. Match the orientation noted of the old mount with the new mount and weld them in place. The front lower control arm replacement mounts for the front are RK08377-A and RK08377-B (2.625” Tube) and RK08379-A and RK08379-B (3.5” Tube). Please note, when they are welded on they each angle inboard.



18. Install the front upper arm. Use the supplied 14 mm x 100mm bolt, washers and nut to secure the Krawler Joint into the skid plate mount on the frame. Use the supplied 14mm x 100mm bolt and 14mm nylok nut to attach the clevis end of the front upper arm to the new diff. mount. Make sure the torque arm is installed in the proper orientation. The angle in the clevis brackets will allow the arm to point straight back.

19. Install the front lower control arms set to the specified length for your application. The Pro-X Krawler Joint (Zinc Plated Spherical Joint) goes to the axle and the Adventure Series Joint (Bushing Joint) goes to the frame. **Do not allow more than 1" of thread to show past any jam nut for proper thread engagement.** Install the skid plate mount end first with the OEM hardware, then do the axle end. Attach the Pro-X Krawler Joints using the original hardware at the axle. From the frame end (bushing end), the arm bends out towards the axle mount. Once the arm is in place, orient the joint to have maximum misalignment. Then lock the jam nuts. You may want to tighten the jam nut at the axle connection prior to installing the arm since it is hard to get to because of the factory brackets. ***Please note:*** On some power trains it may make it easier to push the power train to the drive side slightly to get the front lower control arm bolt in at the frame connection on the passenger side.

19. Install the front track bar.

Axle Connection

Set the dimension to that prior specified center to center for your given application. Use the supplied 14mm x 70mm bolt and nylok nut for the lower axle connection. Use the supplied 14mm x 70mm bolt and nylok nut to connect the track bar to the track bar bracket. **Do not allow more than 5/8" of threads to show past the jam nut for final adjustment.**

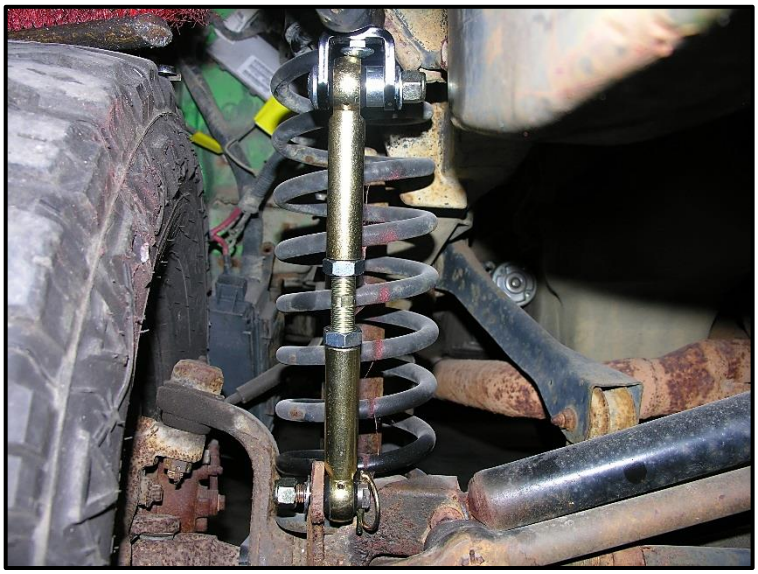
22. Install the Rock Krawler front springs and reattach retaining clips. Please note: If your vehicle does not have spring retainer clips or they are damaged please purchase them from your local Jeep Dealer. This will ensure you that the front coils do not fall out prematurely.

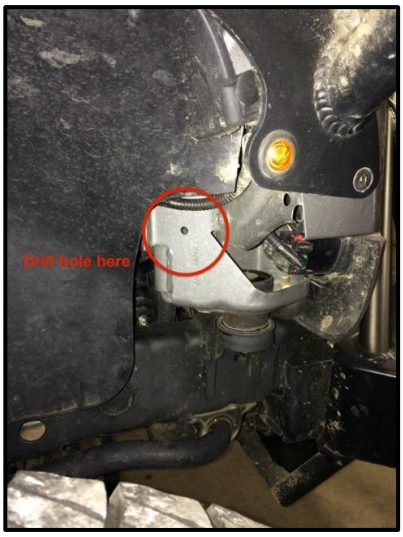
22. Install the front shocks using original hardware.

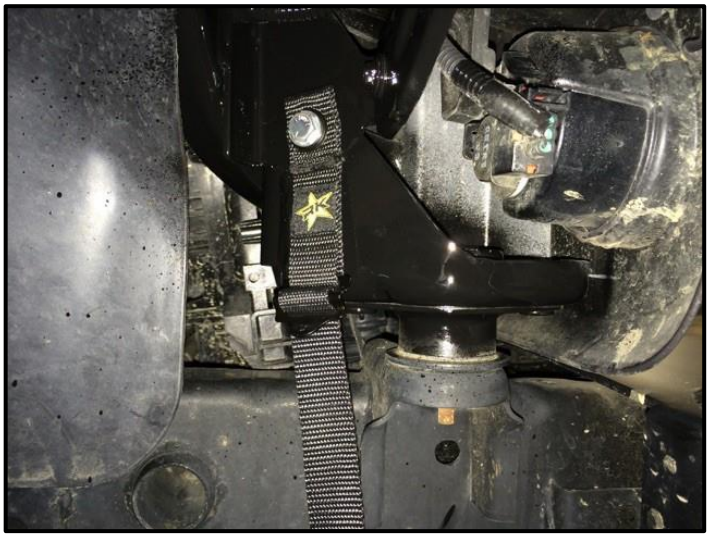
23. Install the front sway bar disconnects and sway bar straps as shown below.

On the top, connect the sway bar link assembly to the sway bar using the supplied 3/8-16UNCx 1.50 long bolt, 3/8-16UNC lock nut and 3/8"washer.

On the bottom, tighten the supplied bolt to the OEM mounting bracket with the supplied special bolt with the jam nut and spiral lock washer as shown. Then connect the sway bar link assembly to the special bolt with a supplied ½ nylon washer on each side of the Rod End and then secure it with the hair pin as shown. **Make sure you have 5/8" of thread engagement at a minimum for your rod ends.**







To install your sway bar retaining straps:

Drill a 5/16” hole in the sheet metal as shown in the picture below to the left and secure the fixed end of the sway bar link strap with the supplied 5/16” x 1” bolt, washers and nylok nut as shown below to the right.

When disconnecting, wrap the sway bar link strap around the sway bar and link. Then secure them up and out of the way. When not using the sway bar straps it is recommended the bottom end of the straps be removed and stored in a safe storage place.

24. Install front wheels and tires and lower front of the vehicle to the ground.

25. The front end of your installation is complete.

Please note: If you have one of the Wranglers where the ball joint will hit the passenger side sway bar link mount you can do the following;

Drill a half inch hole as shown below. Then install the sway bar link mounting bolts to the outside of the vehicle as shown and remove the remaining material with a metal cutting device. You may have to bend the sheet metal clevis brackets to make sure everything lines up well and the disconnects are easy to remove.

Moving to the rear assembly:

1. Park vehicle on a level, hard working surface. Raise rear of vehicle and support with safety jack stands. Locate jack stands on the frame as far back as possible.

2. Remove rear Rims and Tires.

3. Support rear axle using a hydraulic floor jack.

4. Remove rear shock bolts using 18mm box wrench and a 15mm socket with ratchet. Keep shock bolts for new shock installation.

5. Remove upper shock retaining bolts using 13mm socket with ratchet; keep stock bolts for new shock installation.

6. Remove rear sway bar link, upper bolts use 18mm socket. Lower nuts and bolts use 15mm socket with ratchet and 18mm wrench. Retain hardware for new rear sway bay link installation.

7. Remove OEM rear lower control arms using 13/16 socket with ratchet and a 13/16 box wrench and save the hardware for reuse. You must remove your OEM lower control arm mounts from the frame to allow for proper suspension travel.

8. Disconnect rear brake lines from rear upper control arms.

9. Remove upper control arms using 15mm socket with ratchet. Retain hardware for installation of Rock Krawler Triangulated 4 -Link Assembly.

10. Remove rear track bar using the T-55 torx bit for the lower mount and 18mm wrench and 18mm socket with ratchet. This can be discarded since it is not going to be reused.

11. Lower rear axle using a hydraulic jack until rear springs can be easily removed.

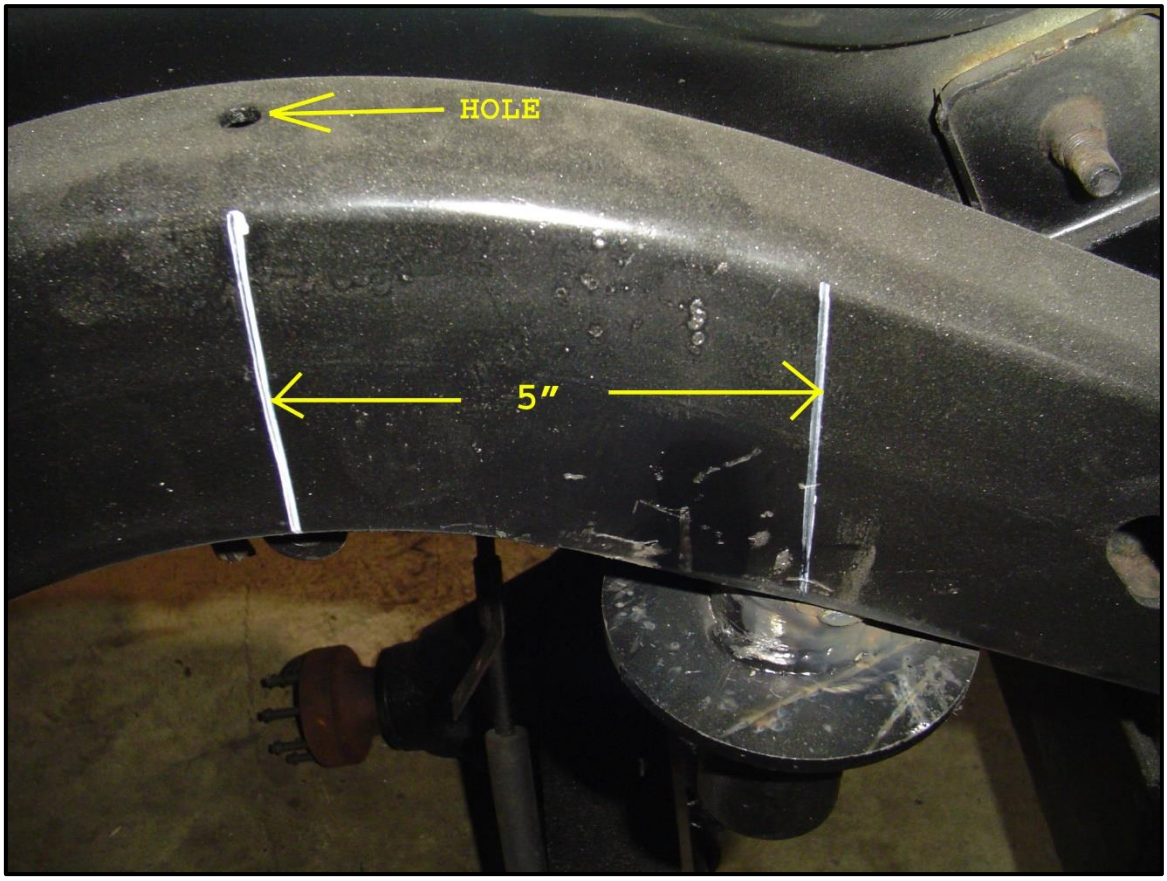
12. Remove rear springs.

13. **FOR STRETCH KITS ONLY;**

TJ 5”/8” or LJ 4” STRETCH SYSTEM

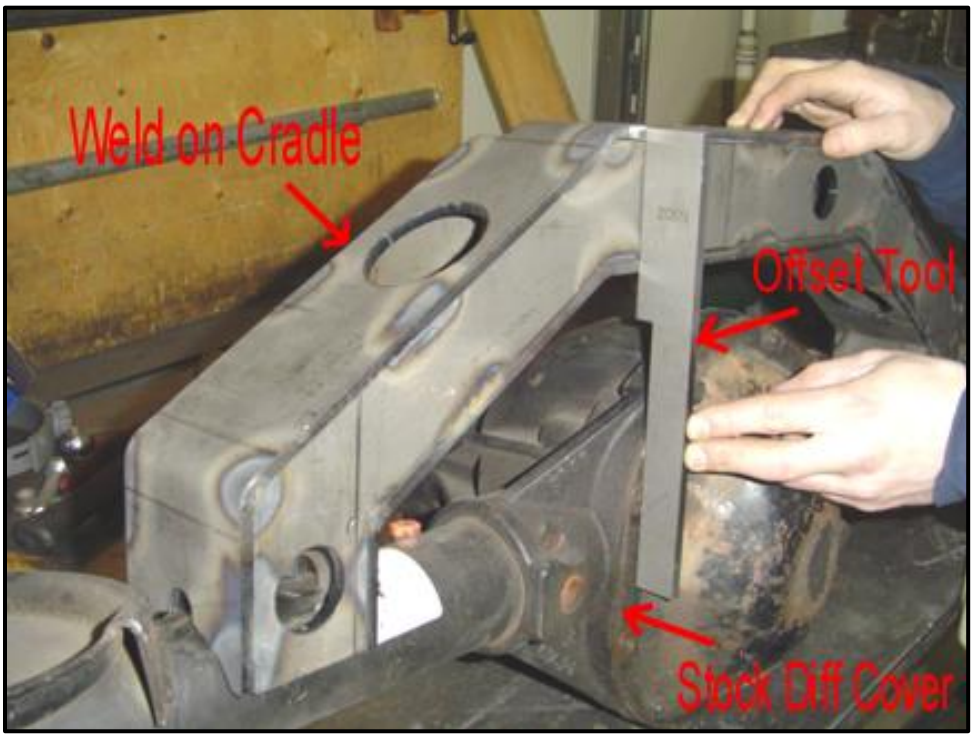
Mount the new spring pad and bump stop as shown below. First you need to remove the following from the frame; track bar bracket and the OEM rear upper spring mounts. This is a bit tricky so be careful.

a) Locate the new spring pad stud/bump stop holder either 5.0” or 8” back from the center of the arc as shown above for TJ applications or 4” back from the center of the arc for LJ applications. Then fully fillet weld the spring pad stud/bump stop holder in place.
b) Then weld the spring pad plate to the spring pad stud and the frame as shown above. This is where the spring will rest.
c) Once it is all cooled, apply a durable finish of your choice. Then you can thread in the adjustable bump stop. Now is also a good time to install the new spring isolators. They are 3/4” thick poly spring pads that will sit on top of the coil to ensure a nice quiet ride.
d) If you are intending to keep the rear sway bar, we have provided tabs that can be welded to the bottom of the frame as shown above to mount the upper end of the sway bar link. The tab locates at the center of the arc of the frame as shown above.



TJ 5” Stretch Shown Above

14. Remove the OEM rear upper control arm mounts and the OEM rear track bar mount flush from the rear axle. Install the new weld on cradle to axle. For Dana 35/44/60, Chrysler 8.25 and Ford 8.8 rear axles with the OEM differential cover only, center the cradle side to side on the rear axle housing. Using the supplied offset tool, place the thinner edge of the offset tool flat against the differential cover with the two of the diff. cover bolts removed. Rotate the cradle back until the back flat surface of the cradle contacts the thicker portion of the offset tool as shown below. Now the cradle is in position. Fully seam weld the cradle to the axle tubes. Once completed the offset tool is no longer needed. Replace the two bolts in your differential cover and apply a durable finish to the rear cradle of your choice. **Please note: Stock differential cover thicknesses range from 1/8 to 3/16 in thickness. If you have a heavy duty cover or something other than stock you will need to account for the thickness variation when positioning the rear cradle.**



Weld In Rear Cradle

15. Install the weld in cradle tie in plate. This plate makes sure the cradle can not bend and on some applications (Dana 60's) will allow you to join the tie in plate to the cradle and the axle housing itself. You may need to trim a little off the tie in plate for it to fit properly depending on axle. The tie in plate sits ¼" inside the back surface of the cradle and gets welded to the cradle and the axle, thus calling it a tie in plate. Using a stitch weld technique is acceptable for joining the cradle to the tie in plate, just be sure to cover the corners well. This gives the cradle a nice finished look as well as add strength. Once cooled, apply a durable finish of your choice.

Cradle Tie in Plate Installed

16. Mark the center and orientation of the OEM lower control arm mounts on the axle. This is very important so take your time. You must match the location side to side and rotation of the oem mounts with the newly supplied mounts or the control arms can possibly contact the frame through the suspension cycle. Now, remove the OEM lower control arm mounts from the axle. Weld on the new angled heavy duty lower control arm mounts. The notch in the brackets indicates the center of the joint. Match the notch to the centerline of the OEM mount to the notch in the brackets. Match the orientation noted of the old mount with the new mount and weld them in place. The front lower control arm replacement mounts for the front are RK08378-A and RK08378-B (2.625" Tube) and RK08380-A and RK08380-B (3.5" Tube). Please note, when they are welded on they each angle inboard.

16. Remove the OEM Lower Control Arm mounts from the frame. Please note; some sort of metal removing tool will be required to perform this operation.

17. Install the rear upper control arms.

Please note: If you have not already done so you will have to disconnect and remove the rear cat back exhaust prior to installing the rear uppers. A custom cat back exhaust will be required for the long rear uppers.

Install the Pro-X Krawler Joint end of the rear upper control arm into the new mount into the skid plate with the supplied 14mm x 100 mm bolt, washers, and nylok nut. Install the other end of the rear upper arm into the truss using the holes specified below with the supplied 14mm x 100mm bolt, washers and nylok nut.

18. Install Rock Krawler Rear Lower Control Arms set to the specified length for your application. The Pro-X Krawler Joint (Zinc Plated Spherical Joint) goes to the axle and the Adventure Series Joint (Bushing Joint) goes to the frame. **Do not allow more than 1" of thread to show past any jam nut for proper thread engagement.** Install the skid plate mount end first with the OEM hardware, then do the axle end. Attach the Pro-X Krawler Joints using the original hardware at the axle. From the frame end (bushing end), the arm bends out towards the axle mount. Once the arm is in place, orient the joint to have maximum misalignment. Then lock the jam nuts. You may want to tighten the jam nut at the axle connection prior to installing the arm since it is hard to get to because of the factory brackets.

19. Trimming of the rear spring perches for shock body clearance is required unless you use rear shock relocation brackets or shock shifters. Here is a picture of what it should look like.

20. Install Rock Krawler rear coil springs.

21. Install the rear shocks of your choice.

For Stretch Kits only: We have provided you with new upper shock mounts for stem loop shocks for the rear. Depending on what type of fuel delivery system you are using will determine the overall placement of these mounts. However, the preferred mounting location is as shown below. Putting the shocks out the back side of the axle and up at a slight angle gives you the maximum amount of control. If you have full width axles you can do even better by out-boarding the rear shocks.

22. Install the Rock Krawler rear sway bar links. Use the original bolts, nuts, and torque to 25 ft-lbs.

23. Install rear brake line and follow instructions contained in brake line package. Be sure to properly bleed your brake system.

24. Install rear rims and tires, raise vehicle off jack stands and lower vehicle to the ground.

25. When the vehicle is settled out and on a level surface tighten all the hardware to the specifications mentioned above. Secure all brake lines, abs lines and breather tubes to the frame. Be sure to have plenty of operating length in them.

Recommended Alignment Specs are as follows;

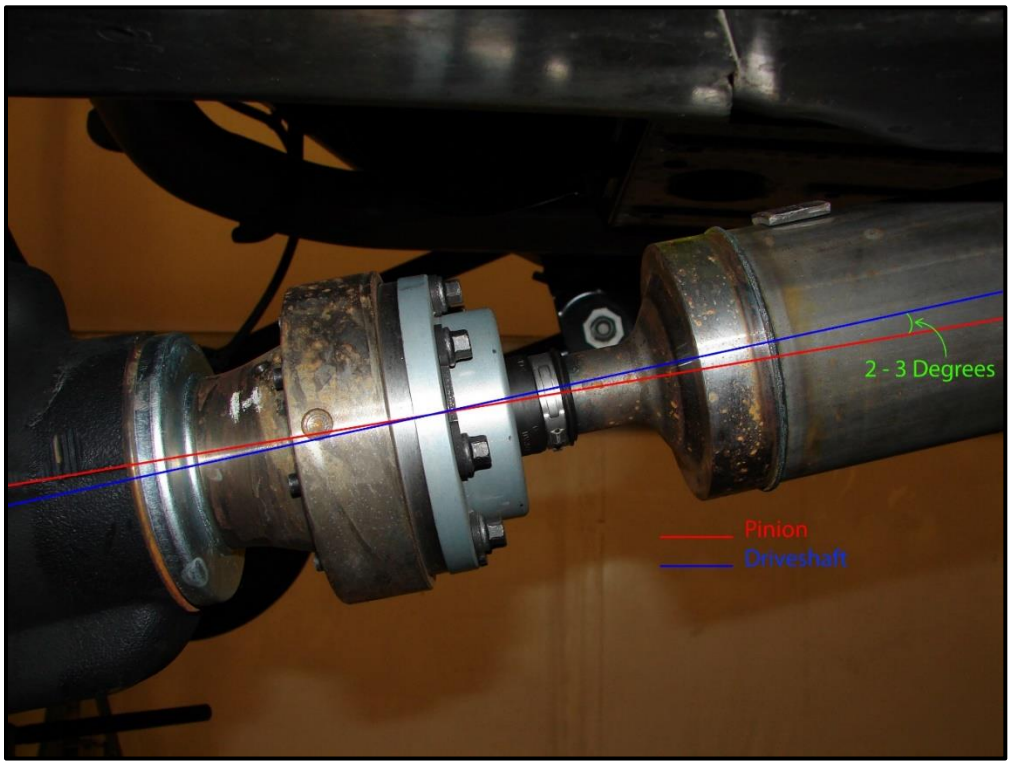
2.0" Lift Height: 7.0 to 9.0 degrees of Caster with a .2 to .4 Cross Caster Split (.2 to .4 degrees more caster on the pass. side than the driver's side.)

3.5" Lift Height: 6.5 to 8.5 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: 6.0 to 8.0 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: 0 to slightly towed in but within factory specifications

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



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 Part Numbers

Adventure Joint (Frame End) – RK07403K

X2 Full Replacement Krawler Joint (Axle End) – RK04821

Krawler Joint Rebuild Bushings – RK04034K – Requires Large Joint Tool – RK04484

Front and Rear Track Bars Prior to 1/1/2021

Please contact the office for proper service parts. There were two product updates over the 14-year run.

Front Track Bar

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

Replacement Heim Joint (Axle End) – RK03426 (7/8" Shank)

Front Upper Control Arms:

Build a Ball Joint – RK05070

X2 Full Replacement Krawler Joint (Frame End)– RK04153

Krawler Joint Bushings – RK04034K – Requires Large Joint Tool – RK04484

Rear Upper Control Arms:

X2 Full Replacement Joint– RK03499 or RK03499L

Krawler Joint Bushing – RK00221K – Requires Small Joint Tool – RK04487

Sway Bar End Links:

Ball Center – RK04573

Coil Over Installation Supplement

Please note: For Rock Krawler Suspension Coil Overs, we require JK width or wider axles with minimum driver side tube length matching that of a JKU front axle.

Front Coil Over Mounts

1. Position and weld on the newly supplied front upper coil over mounts.

Please note: There are many fender options and variables. We offer a high line version and a standard version of this tower. The high line version has much fewer alignment aids than does the standard version due to the number of high line options from various manufacturers.

The most rearward leg of the coil over tower should be placed 5" to the front of the furthest forward edge of the hole in your frame for the standard units (as shown in the picture below). High line owners use your discretion.

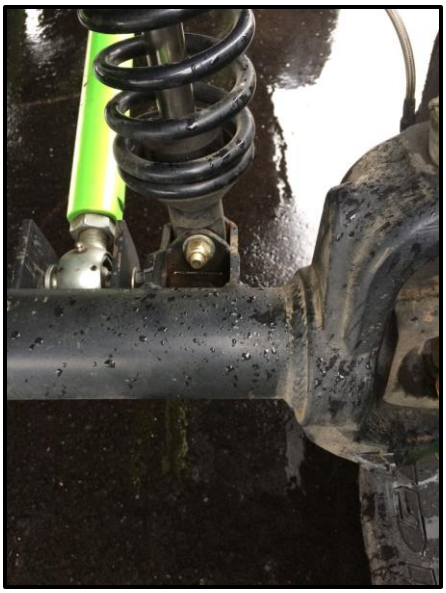
- To determine the height the front coil over tower should be at is easy for standard fender options, but tougher on high line options. (The measurement shown is merely for reference. Actual measurements will vary based on your order. For example, if you have high line fenders or standard fenders etc.) For standard applications, there is a spline on the back of the shock tower. Lower it down until the spline contacts the top of the frame. For standard fender applications there is an additional alignment aid in the mount. The hole in the top of the mount should line up roughly with the OEM hole on the inside of the fenders that allowed access to the top of the stock shock nut. For highline guys, we recommend at the very least roughing in the fenders and tacking the coil over mounts on the frame until you can verify proper up travel and down travel in the shocks. You want to shoot for 5-5.5" of total up travel in the coil over assembly at ride height.

- Weld the front upper shock tower to the frame as show. Weld both sides of each leg down the frame using a ¼" fillet weld. Trim any excess that hangs down from the frame. Make sure to weld the bottom of the back of the spline to the top of the frame as well if so equipped…

Note: *It is always a good idea to tack weld the brackets on and mock up the coil over at ride height before welding on the brackets completely.*

1. Position the front lower coil over mounting brackets as shown below.

- Weld the new lower coil over mount to the axle using a 1/4" fillet weld technique down the sides and across the bottom. Apply a finish of your choice.



Note: *The new mount should be placed ¾" away from the C on the axle. The distance between the two lower coil over mounts will be about 42.375" (center of bolt hole to center of bolt hole) and equal distance from the axle C's. To orient the brackets on your axle, set your caster to the axle manufactures specs, and make sure the top edge of the coil over mount on the axle is horizontal or set to 0 degrees with an angle finder when the caster is set per the axle recommendations.*

Rear Coil Over Mounts

1. Install the newly supplied rear coil over mounts as shown and follow the guide lines below.

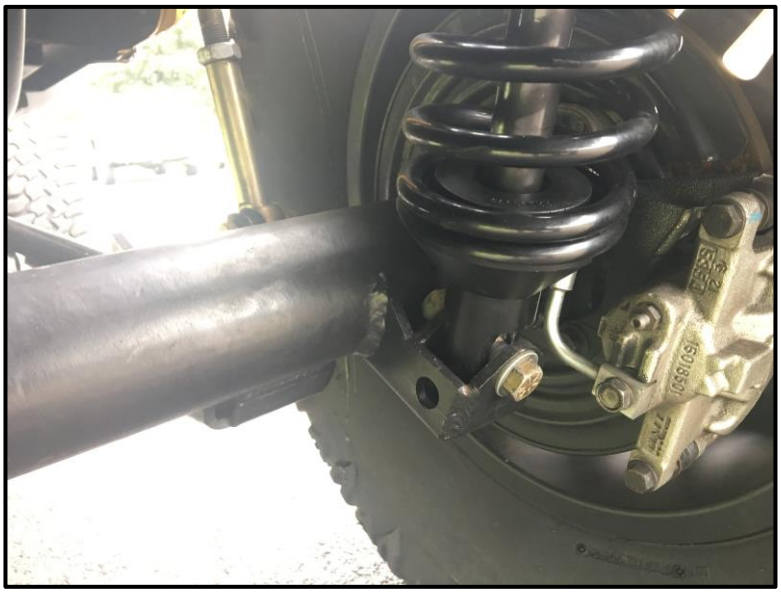
French in the mount deep enough so the edges stick out only 3/8 so you can get a nice ¼" fillet weld all the way around the mount. The front leading edge of the mount should be placed 5" back for LJ and 5.5-6.0" for a TJ from the centerline of the arch of the wheel well as shown. The mount should be perpendicular to the frame and the lower legs should stick down from the frame 3/8-1/2".

Here is what the final assembly will look like for reference.

2. **Let's install the rear lower coil over mounts.**

Please Note: *The distance between these two mounts will need to be 52.375" (center of one mount to center of the other mount). The wider the better as long as there is no interference.*

- Weld the lower coil over mounts onto the axle tube in this position using a ¼" fillet weld everywhere the mount touches the axle tube. It is a good idea to mock up these mounts with tack welds before finish welding them and verifying proper coil over fitment.



Install your rear coil overs.

Note: *Using the supplied ½" x 2.75" bolts, washers and nyloc nuts attach the coil over to the upper coil over mounts. Using the supplied ½" x 2.5" bolts and washers attach the coil over to the lower coil over mounts. You want to have a minimum of 5.0" of compression. Use the spanners on the coil overs to adjust the height of the vehicle until your desired stance and lift is achieved. If you got remote reservoir shocks, attach the supplied Ressy mount using the ¼-20 self tapping bolts into the side of the frame as shown above and attach the ressy to the mount with the supplied hose clamps.*

Adjusting and Dialing in your Coil Overs

- Set the Pre Load of your front and rear coil over assemblies to achieve your desired ride heights. We recommend 4.5- 5.0" of usable up travel at ride height starters. We like to see 1" – 2" of preload for your front coil overs with a maximum of 3" of pre load up front. We like to see 2"- 3" of preload for your rear coil overs with a maximum of 4" of pre load out back. If you find you are setting up your coil overs and you have no pre load or exceed the maximum recommended numbers above, you will be required to do a spring change.
- Now that you have established your ride height and pre load you can now set your transition rings/ cross over rings/ lock out rings (whatever term you are familiar with) for the coil overs. For the front end, we recommend the cross over ring be placed 1" above the plastic slider (1" gap between the slider and the slider contacting the transition rings). For the rear end, we recommend the cross over ring be placed 2" above the plastic slider (2" gap between the slider and he slider contacting the transition rings).
- If you are experiencing the coil-over bottoming out you can adjust the transition rings to compensate for this. Spin the transition rings further down the body of the coil over to lock out the softer spring rate sooner. We recommend moving them in ¼" increments until the desired effect is achieved! The top coil is often called the tender coil and the bottom coil is called the "catch" coil. They work together when the transition rings are not contacting the slider. When the slider is contacting the transition ring the "catch" coil is the only coil functioning. If you need any further help tuning or making adjustments please give us a call.

TJ/LJ Rockzilla Arm Work Sheet

Front Lower Control Arm Operating Length (Average)	
Front Control Arm Axle Bracket Mounting Width from Center of Notch to Center of Notch	
Front Upper Control Arm Operating Length (Average if Double Triangulated)	
If Double Triangulated Front and Bends in the Arms Are Required - Center of Bend Distance From Frame Side Mounting Bolt (Average)	
If Double Triangulated Front and Bends in the Arms Are Required - Approximate Arm Bend Angle	
Rear Lower Control Arm Operating Length from Center of Bolt to Center of Bolt (Average)	
Rear Lower Control Arm Bracket Axle Mounting Width from Center of Notch to Center of Notch	
Rear Upper Control Arm Operating Length from Center of Bolt to Center of Bolt (Average)	