INSTALLATION MANUAL

FOR

ROCK KRAWLER SUSPENSION, INC.

JK LONG ARM SYSTEMS

SIXTH EDITION

06/01/09

ROCK KRAWLER
SUSPENSION

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.

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.

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 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.

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 locktite 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

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.

Warning

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

Items you will also need other than standard tools:

Red locktite, grease, jack, and jack stands.

Helpful hint:

Do not tighten connections until assemblies are installed in entirety.

Driving Tips:

1) For Rock Crawling it is best to have the front sway bar disconnected. This will allow your suspension to do its intended function. Our suspension will give your vehicle unmatched articulation which will give you traction to keep your vehicle moving. Let the system do the work. This will save on vehicle abuse.

2) For Mud, especially sloppy mud, it is best to have the front sway bar connected. This will limit the suspension travel which is better for mud.

3) 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.**

Reference Lengths:

If you got a 3.5" System

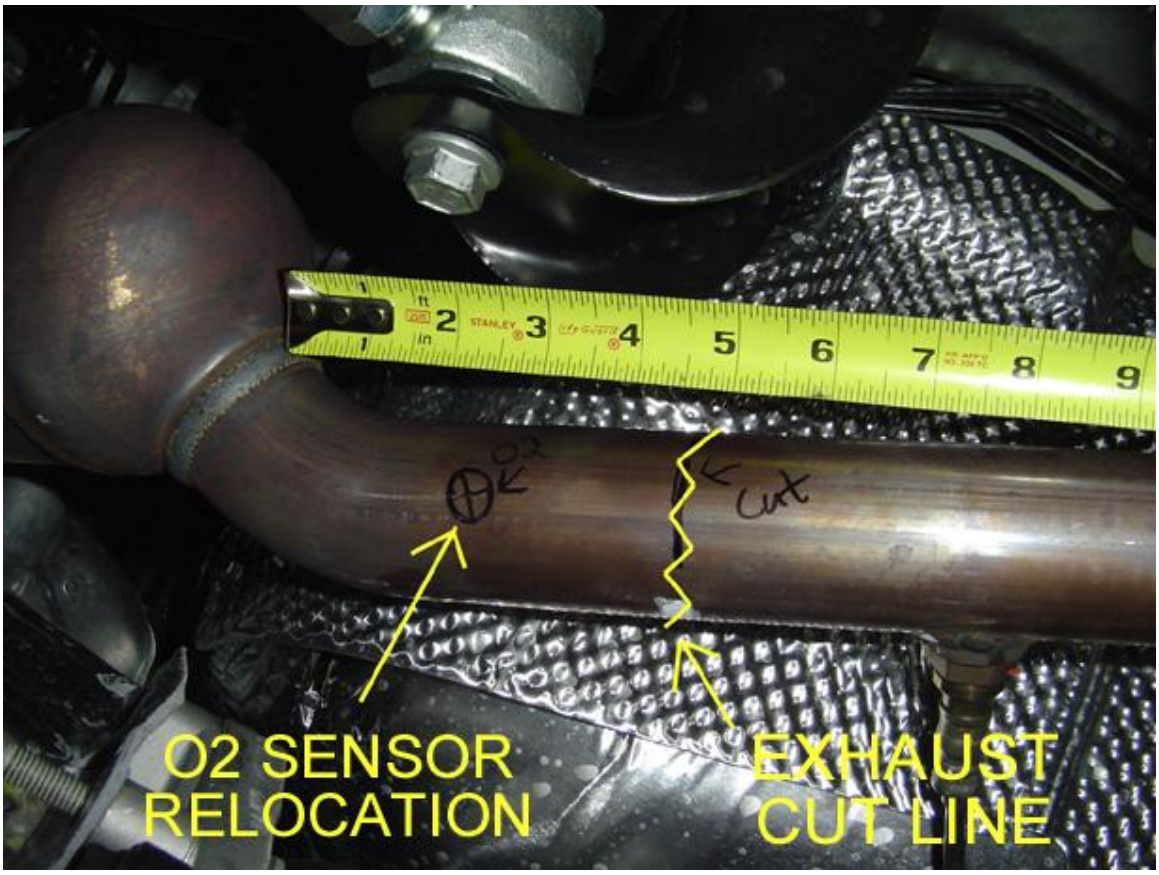
3.5" Front Track Bar Assembled Length = 32.625"
3.5" Rear Track Bar Assembled Length = 39.75"
3.5" Front Lower Control Arm Assembled Length = 34.125"
3.5" Front Upper Control Arm Assembled Length = 36.25"
3.5" Rear Lower Control Arm (*2 Door*) = 33.625"
3.5" Rear Lower Control Arm (*4 Door*) = 34.500"
3.5" Rear Upper Control Arm (*2 Door*) = 27.250"
3.5" Rear Upper Control Arm (*4 Door*) = 26.750"

If you got a 5.5" System

5.5" Front Track Bar Assembled Length = 32.625"
5.5" Rear Track Bar Assembled Length = 40.00"
5.5" Front Lower Control Arm Assembled Length = 34.250"
5.5" Front Upper Control Arm Assembled Length = 36.313"
5.5" Rear Lower Control Arm (*2 Door*) = 33.750"
5.5" Rear Lower Control Arm (*4 Door*) = 34.625"
5.5" Rear Upper Control Arm (*2 Door*) = 27.375"
5.5" Rear Upper Control Arm (*4 Door*) = 26.875"
5.5" Rear Lower Control Arm (*2 Door STRETCH*) = 40.4375"
5.5" Rear Upper Control Arm (*2 Door STRETCH)* = 33.625"

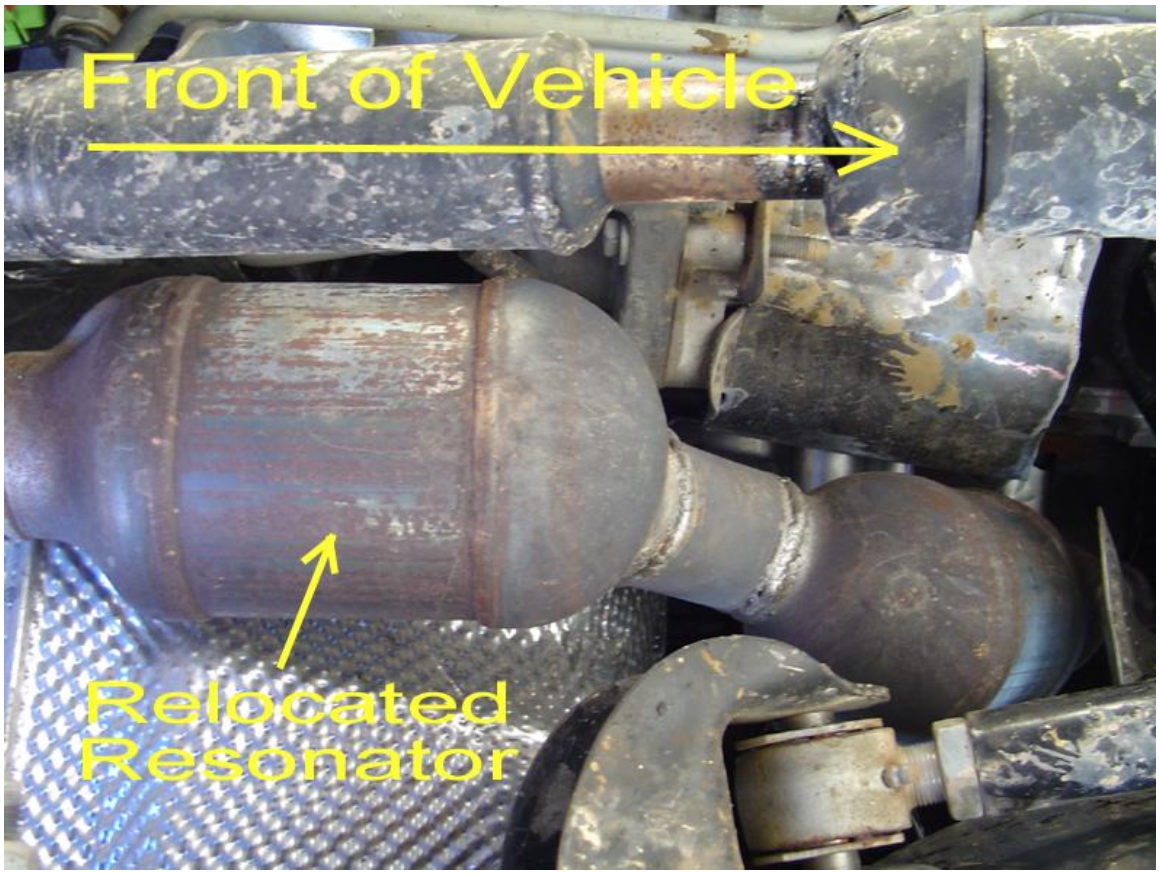
Please Note: All Control Arms, Torque Arms, and Track Bars come pre-assembled, but they require final adjustment as specified in the directions above.

Please note: Before you start this procedure it is recommended that you have your front exhaust modifications completed prior to installation of the system so when your installation is completed you can drive your JK away safely. The recommended exhaust modification is shown below.



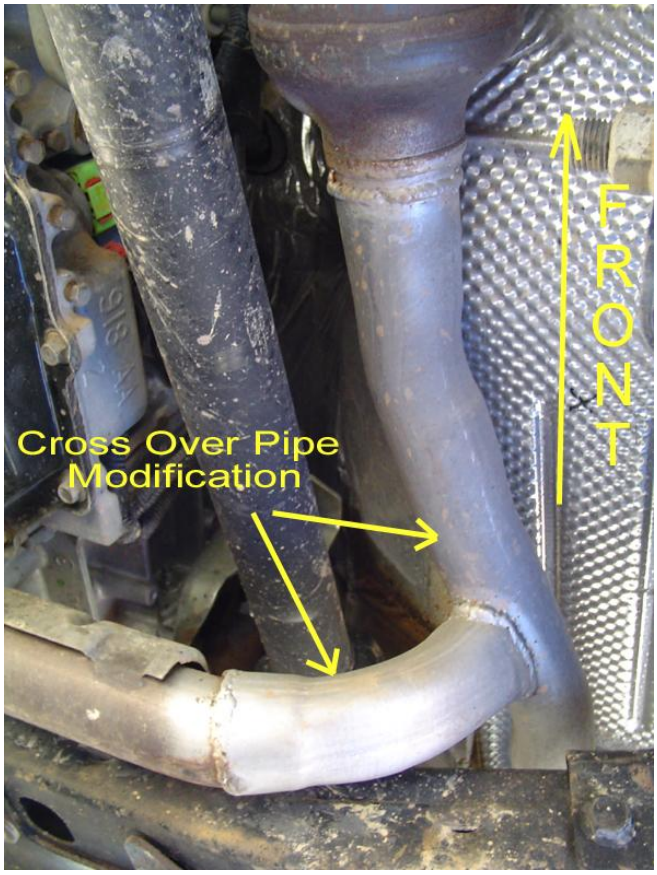
Exhaust Cut and O2 Sensor Relocation

A) Remove the O2 Sensor and then cut the exhaust 4.5" back from the catalytic converter. Relocate the O2 Sensor 2.5" from the end of the first cat. **Please note: the O2 Sensor will actually function better the hotter it is so moving it closer to the manifold will certainly not hurt its operation.**



Relocated Resonator after the Cat on the Driver's Side

B) After Relocating the O2 Sensor forward (it must be relocated between the cat and the resonator) flip the resonator over 180 degrees and weld it back in place as shown above.



Cross Over Pipe Modification

C) Modify the cross over pipe and tie the driver's side resonator into the exhaust connection and then bring the entire exhaust system back together. Make sure your modifications allow for clearance for the new mounts and mounting hardware for the arms. All set. Time to knock out the rest of the kit.

Start with the Front End

1. Make sure vehicle is still on a level hard, working surface. Block the rear wheels so the vehicle cannot move and make sure the emergency brake is applied. Raise the front of vehicle and support with safety jack stands. Locate jack stands on the frame in front of the axle.

2. Remove the front rims and tires.

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

4. Remove the front shocks. Keep the original hardware to install the new shocks.

5. Remove the front sway bar links.

6. Lower the front axle assembly.

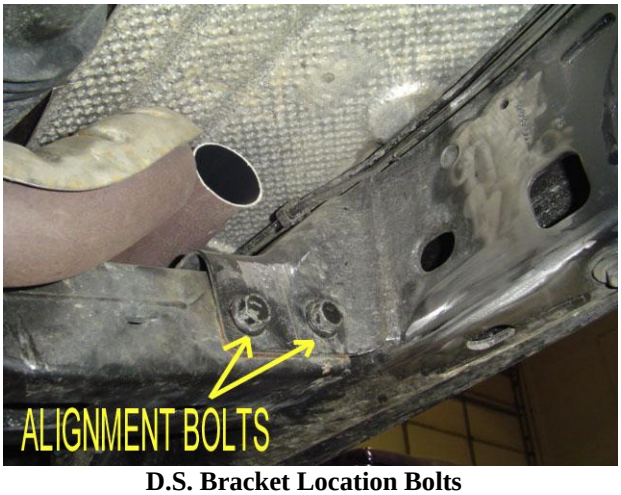
7. Remove the front track bar from the vehicle and save the OEM hardware for reuse.

8. Remove the front springs.

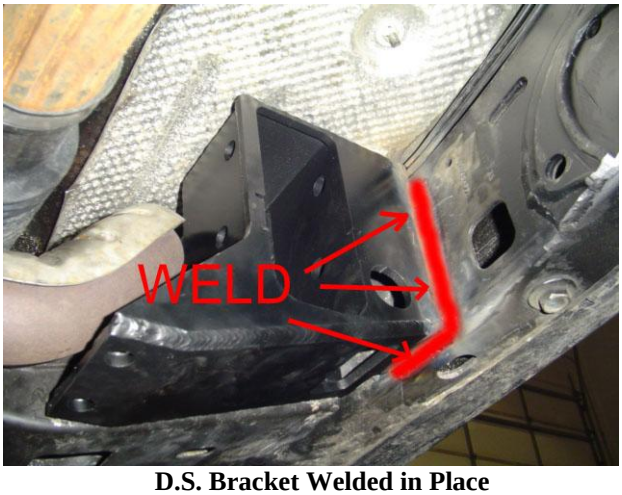
9. Remove the front lower control arms. Discard the arms, but save the hardware for reuse.

10. Remove the front upper control arms and discard the arms and hardware for they will no longer be used.

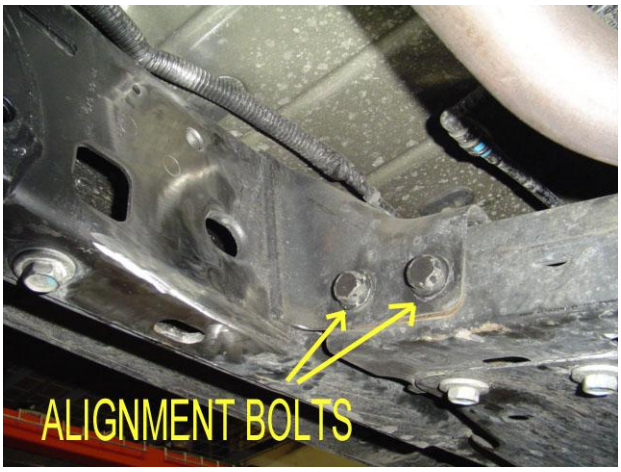
11. Install the front long arm mounts. The mounts bolt into position using the OEM cross member bolts and then weld in place. Use a full ¼" fillet weld. Be sure to prep the surfaces properly and after the welds cool apply a durable finish of your choice.



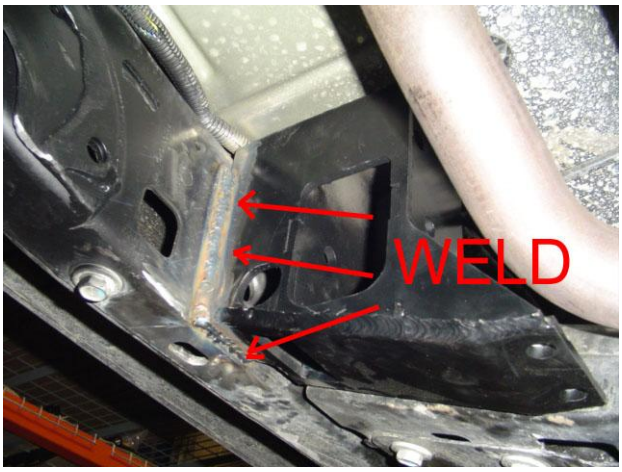
D.S. Bracket Location Bolts



D.S. Bracket Welded in Place



P.S. Bracket Location Bolts

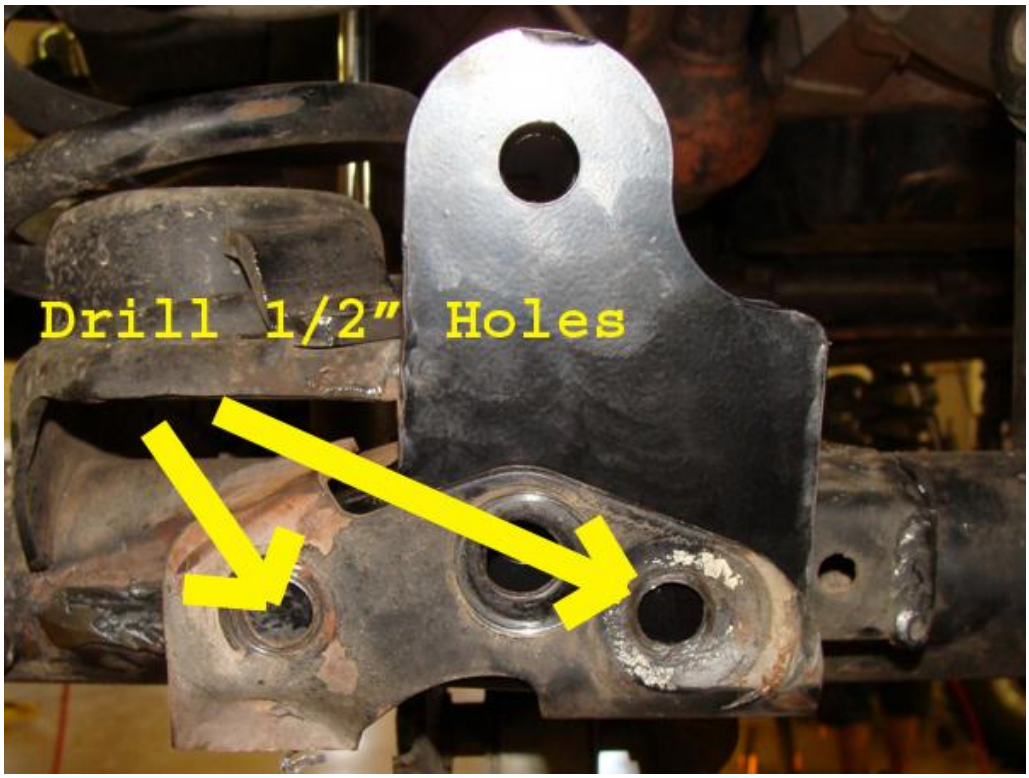


P.S. Bracket Welded in Place

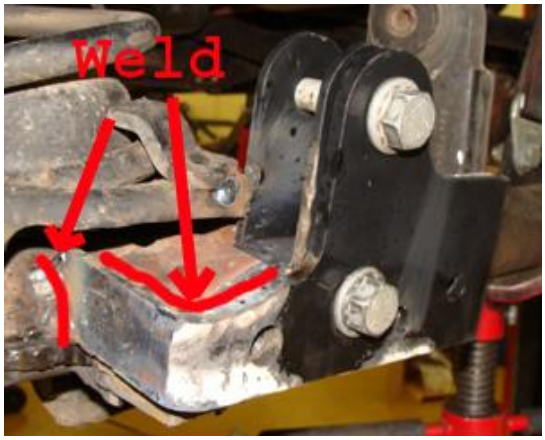
12. Install the new cross member using the (4) supplied ½" x 1.25" long black oxide coated carriage bolts, ½" lock washers, and ½" free running nuts.

13. Now is a good time to remove all the OEM front lower control arm mounts from the frame. Be sure to grind them smooth. You are also required to remove the driver's side OEM front upper control arm mount from the frame and grind it smooth. It will interfere with the new front upper control arm. You may also remove the passenger side OEM front upper control arm mount from the frame and the passenger side front upper arm mount on the axle. This will make your JK look it's best when the system is installed and completed. Remember, it may take a few minutes longer, but in the long run your attention to detail will pay off in looks, performance and durability.

14. **For all 5.5" Systems** ***(3.5" Systems omit this step)***; Install the front track bar bracket. Grab the front track bar bracket and secure it in position as shown below using the OEM lower track bar hardware. Then drill out the other two holes in the OEM bracket through the supplied bracket with a ½" drill bit as shown below. Then, finish securing the new bracket with the supplied ½" x 3" bolts, ½" washers, and ½" nylok nuts.

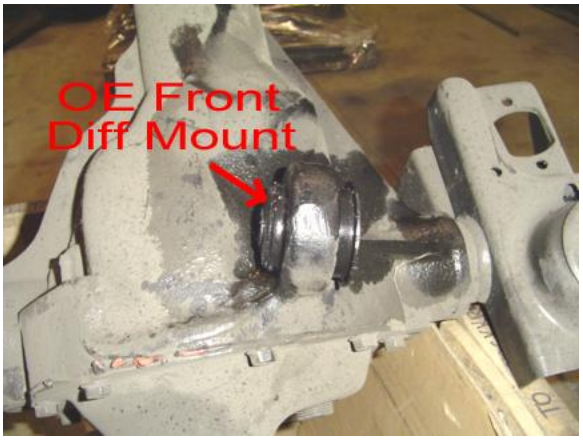


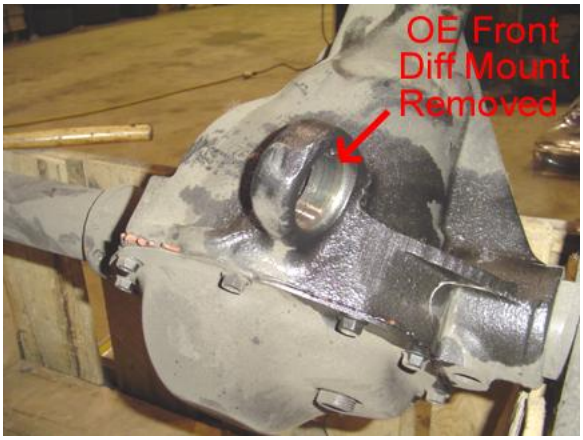
15. **For all 5.5" Systems** ***(3.5" Systems omit this step)***; Install the supplied front track bar gusset bracket as shown below. Please note they require welding. It is not critical that they be done immediately for street use, but for off-road use this is required. A ¼ inch fillet weld is preferred for this bracket. This will make your OEM track bar mount much more rigid for off-road abuse! Please note, the extra hole is there just in case you would like to relocate your steering stabilizer on top of the tie rod instead of letting it hang down below.



16. 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.

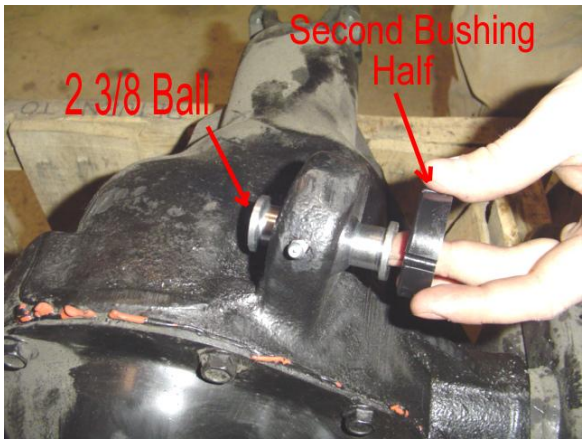
First, pound out the driver's side OEM front upper control arm bushing and sleeve. Note: It is easier if you hit on the steel sleeve. If you run into trouble drill out the rubber bushing material and then remove the entire assembly.



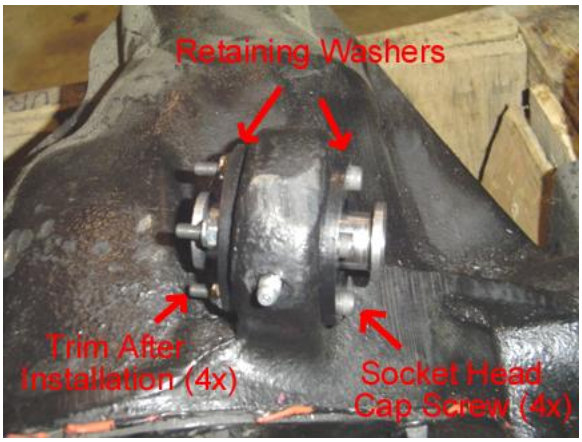


Second, take one of the supplied ball joint bushings and push it in one side. Note: make sure the slots for the fasteners are on top and bottom for correct orientation. If you want to pack it with marine grade grease, now is the time to do so!

Third, 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.



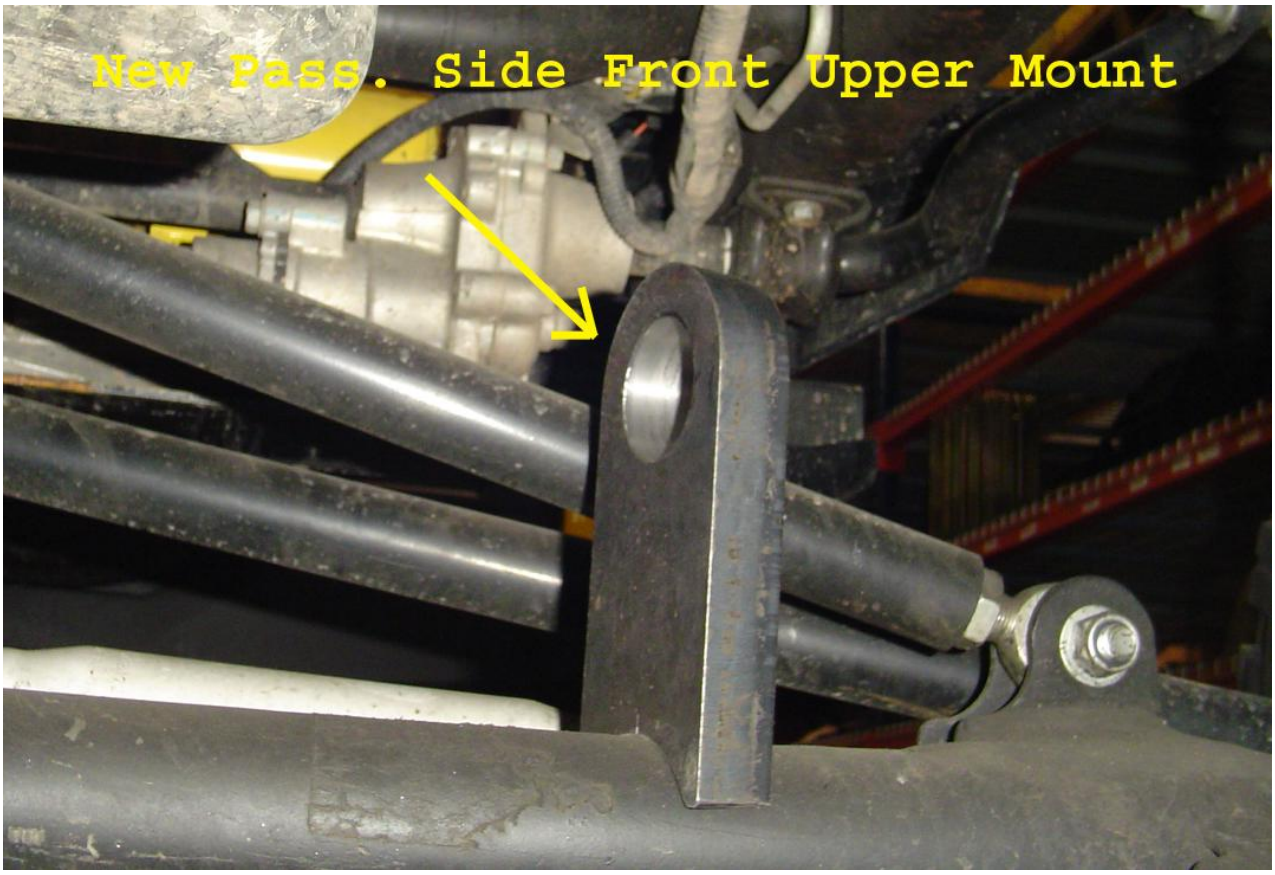
Fourth, place the supplied ball joint washers on either both sides of the ball joint bushings. Using the supplied #10-32 x 2.00" bolts and #10-32 nylok nuts clamp the entire assembly in place. Torque the #10-32 bolts to 25 to 30 inch pounds. Cut off any extra bolt length that extends past the nut. If 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.



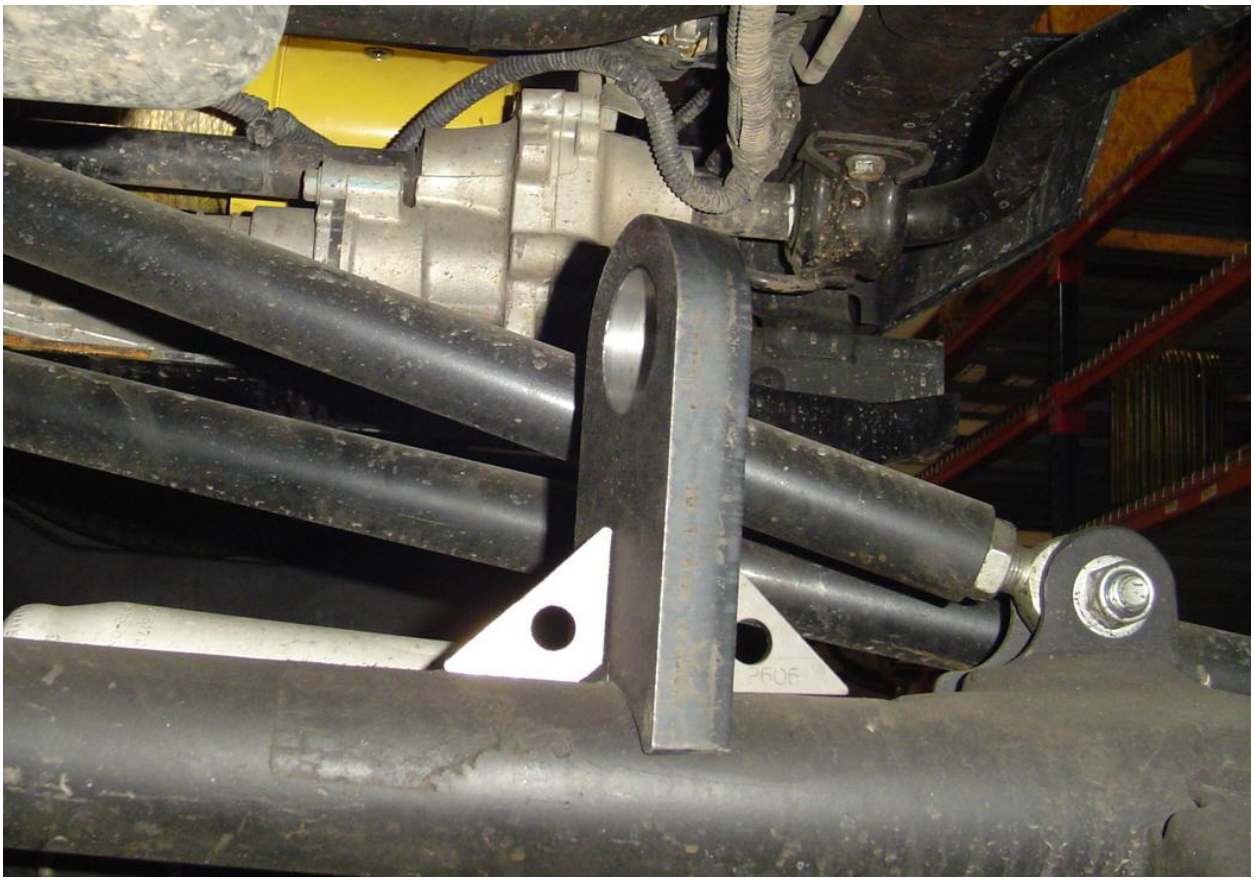
17. Remove the OEM front upper mount off the passenger side of the front axle for it will not be removed. Please note; for Triple Threat Systems you will want to mark its location and orientation to put on the new heavy duty front upper mount!

18. For Triple Threat Systems only (All X Factor Systems Please Omit this Step).

Place the new Heavy Duty Axle Mount on the passenger side of the axle tube in the exact location and orientation as was the OEM passenger side front upper mount as shown below. Then weld it in place using a ¼" fillet weld all the way around its contact points with the axle tube as shown below.



After the mount is welded in place, then add on the two gussets to give it lateral support as shown below.



Notes: If you do not feel comfident marking the location and welding it in place here is an alternate method!

Simply complete the installation of the entire suspension system as if it was an X Factor System using only the three link front end. Make sure your caster is set properly and the front axle is square in the vehicle! The put in the passenger side front upper arm set to length as specified in the tables at the beginning of the directions. Put the Build A Ball Assembly in the new front upper mount softly (i.e. do not fully tighten everything down for you will want to take the bushing back out prior to welding it in place). Then, bolt the upper control arm in place and attach the new mount with the Build A Ball assembly to the upper control arm. Make sure the Build A Ball joint is as neutral as possible and place the mount on the axle. Then tack weld it in place. Remove the Build A Ball Joint and complete the welding sequence from above.

Apply a finish of your choice, like paint!

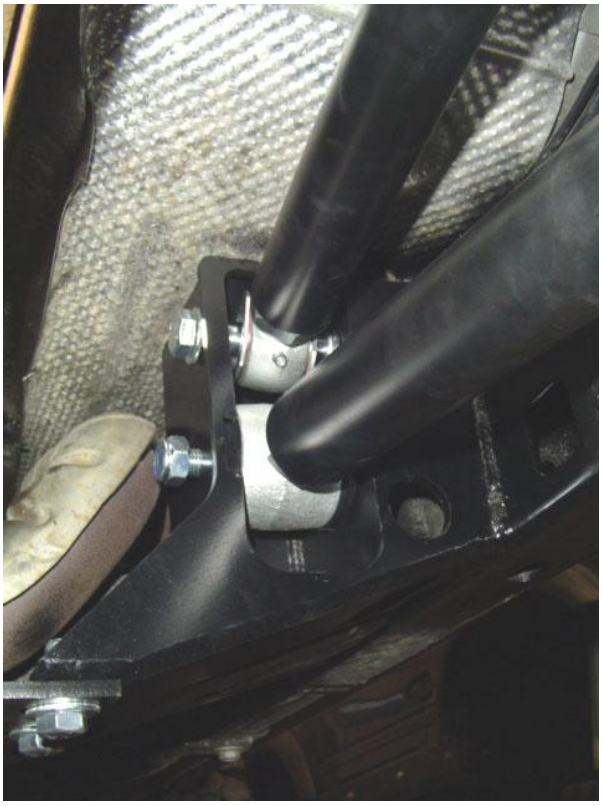
Then follow the steps in Step 16 for the Build A Ball joint in the passenger side of the axle mount. Now you have the beefiest passenger side axle mount available anywhere.

19. Install the supplied front upper control arm. Set the control arm to the specified length for your given lift height from the tables on page 4 or page 5. The Krawler Joint end (spherical joints) goes into the upper position in the driver's side long arm mounts and gets secured using the supplied 14mm x 100mm bolt and nylok nut. The clevis

end gets mounted at the axle and is secured with the supplied 14mm x 100mm bolt, washers and nylok nuts. **Do not allow more than ½" of threads to show past the jam nut for final adjustment. Please note; if you have a Rubicon Model please make sure the clevis bracket has clearance between the mount and your electric locker connection.**

20. Install the front lower control arms with Krawler Joint (Spherical Joint) at the axle mount and the Monster Bushing at the new frame mounts. Set the front lowers to the specified length in the control arm table on page 4 or 5 for your given application. **Do not allow more than 5/8" of threads to show past the jam nut for final adjustment.** ***Helpful Hit:*** Orient the Krawler Joint for maximum amount of movement, then add red loctite and tighten down the jam nut on the joint prior to installing the arm since it is difficult to get at the jam nut when it is in the vehicle. Remember it is a 1"-14 Jam nut so do not be afraid to over tighten it (In other words put something behind it for God Sakes). Use the OEM hardware for installation at the axle end and the supplied 14mm x 100mm bolts and nylok nuts for the new frame connection. At the frame the new hardware can be passed through the hole outside the frame right into the arm mounting location so exhaust interference is minimized and disassembly on the trail is a snap if the need were to ever arise.

Also note: The bend in the arms is for improved ground clearance so be sure to put the bend up!



D.S. Frame Connections

P.S. Frame Connection

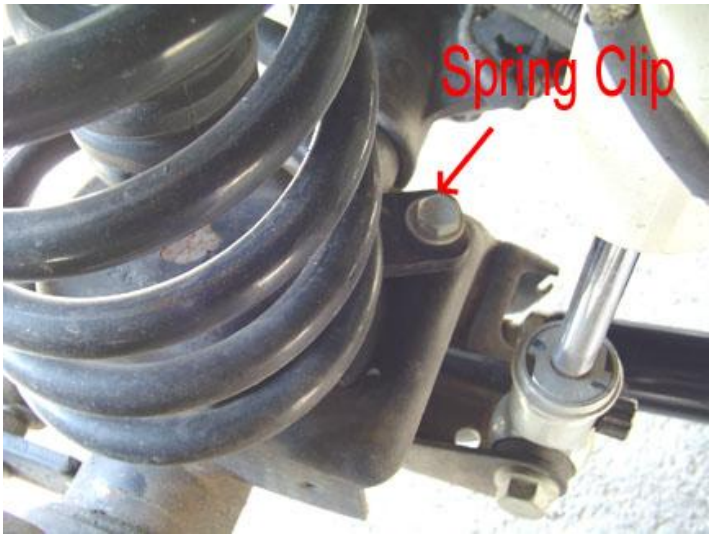
21a**. For the 3.5" Systems Only** ***(5.5" Systems skip this step)***. Install the supplied front track bar. Set the track bar

to the specified length from the tables on page 4 or 5 for your given application. Balance the amount of thread showing past the jam nuts. Then install the track bar. The bushing end goes at the frame and the heim joint end goes to the axle end. Secure the frame and axle connections with the OEM hardware. Please note the bend in the track bar is for clearance for the differential and the orientation of the track bar is controlled by locking the jam nut of the flex joint at the frame connection. Once the orientation of the bar is set, then orient the heim joint at the axle connection to have maximum amount of movement at the axle and lock the jam nut in place. Using loctite on the jam nuts should prevent them coming loose and damaging the thread integrity of the track bar. **Do not allow more than ½" of threads to show past the jam nut for final adjustment.**

21b. **For the 5.5" Systems Only *(3.5" Systems skip this step)***. Install the supplied front track bar. Set the track bar to the specified length from the tables on page 4 or 5 for your given application. Balance the amount of thread showing past the jam nuts. Then install the track bar. The bushing end goes at the frame and the heim joint end goes to the new mounting hole in the track bar bracket at the axle. Secure the frame connection with the OEM hardware and the axle connection with the supplied 14mm x 90mm bolt, 14mm washers, and 14mm nylok nuts. Please note the bend in the track bar is for clearance for the differential and the orientation of the track bar is controlled by locking the jam nut of the flex joint at the frame connection. Once the orientation of the bar is set, then orient the heim joint at the axle connection to have maximum amount of movement at the axle and lock the jam nut in place. Using loctite on the jam nuts should prevent them coming loose and damaging the thread integrity of the track bar. **Do not allow more than ½" of threads to show past the jam nut for final adjustment.**

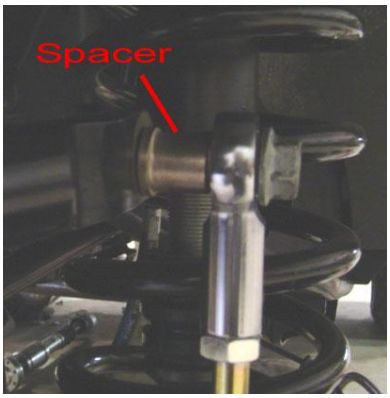
22. Install the Rock Krawler front springs making sure the end of the spring sits properly in the spring buckets on the axle. **[Omit this step for coil over kits and see the coil over instructions that follow].**

23. Install the supplied front spring retainer clips by placing the clip on the bottom coil, mark the hole in the spring pad and then drill a 10mm hole. Then secure the spring clip with the supplied 10mm x 35 mm bolt and nylok nut. This should prevent your springs from rotating out of the spring pockets on the axle should they experience a no load condition off-road. The Driver's Side is shown below and the spring clip sits behind the axle as shown. On the Passenger Side it is just the opposite. The spring clip sits on the front side of the axle. **[Omit this step for coil over kits and see the coil over instructions that follow].**

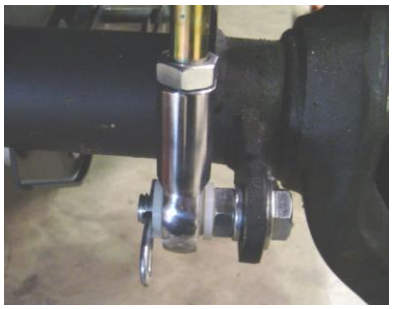


24. Install the front shocks using original hardware. **[Omit this step for coil over kits and see the coil over instructions that follow].**

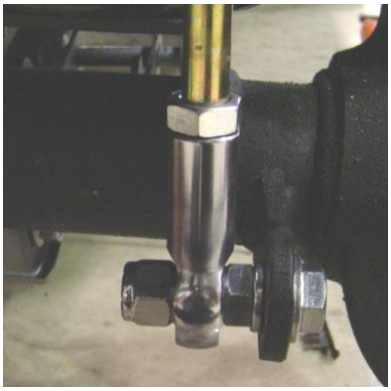
25. Install the front sway bar disconnects as shown below. For the top mount use the supplied ½" x 2.5" bolt, .595" long spacer, and nylok nut to make the connection. Please note the shoulder of the spacer goes against the sway bar itself. For the bottom connection attach the ½" x 2.0" long bolt with cross drilled hole to the factory sway bar link bracket. Secure the bolt with the supplied ½" jam nut. For connecting the bottom end of the sway bar link to the bottom bolt there are two options supplied with each kit. If you do not have the automatic sway bar disconnect feature you can secure the bottom end of the sway bar link with the 2 nylon washers on either side of the rod end and secure it with the pin. If you do have the automatic sway bar disconnect feature you can simply secure the bottom rod end with the supplied ½" nylok nut. Please note: on some sway bars you may have to reem out the hole to ½" with a ½" drill bit.



Top Sway Bar Connection



Bottom Sway Bar w/o Auto Disco

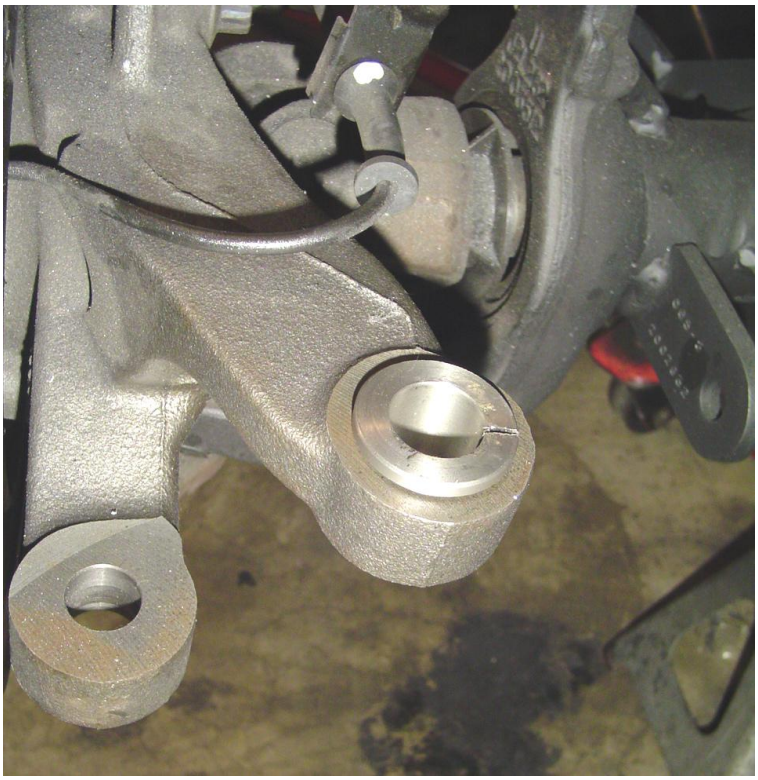


Bottom Sway Bar w/ Auto Disco

26. Disconnect the drag link from the OEM pitman arm and the passenger side knuckle. Save it for it will be reused unless you are purchasing the new Rock Krawler Heavy Duty Drag Link.

a) Drill out the passenger drag link knuckle mounting position to 7/8 of an inch as shown below.

b) Insert the split steel tapered sleeve into the knuckle as shown below. Please note for the drag link flip the spacer goes on top of the knuckle. To go back to the OEM geometry simply put the spacer on the bottom as it was before.



c) Insert the OEM drag link inverted into the new positions. Please note; the original pitman arm tie rod end will now be on top of the knuckle and the adjuster will be at the knuckle side as shown below. If you are using the Rock Krawler heavy duty drag link then simply follow the directions in our steering kits! Please note: the Rock Krawler heavy duty Tie Rod is a great upgrade as well.

C) **PrePare to Install the New Rock Krawler H.D. Drag Link**

** Please note: in order to complete the new RK H.D. Drag Link Asm, you will need to have purchased an Inner Tie Rod End from the OEM JK Drag Link at the pitman arm. That TRE will be used at both ends of the new H.D. Drag Link Assembly with a quick adjuster in the middle.*

C1) Remove the cotter pins (if applicable) from the ends of the OEM ball joints on the OEM drag link.

C2) Remove the nuts from the OEM ball joints at the knuckle and pitman arm connections on the OEM drag link.

C3) Using a ball joint separator or dead blow technique, remove the ball joints from the knuckle and pitman arm. Remove the OEM drag link for it will not be reused. If you choose you can reuse the tie rod end that was at the pitman arm if it is still in good condition.

C4) Grab the jam nut supplied with the new drag link kit from Rock Krawler and thread it all the way up

one of the tie rod ends. Insert it into the new drag link and show approximately ½" of thread past the jam nut when inserted! Please note, this tie rod end will be going to the knuckle connection as shown below.

P.S. Knuckle Connections

C5) Measure the OEM drag link operating length from center of ball joint to center of ball joint. Mark the length for that is where you are going to start with your new assembly.

C6) Attach the quick adjuster to the newly supplied tie rod and thread it on all the way. Put the other OEM tie rod end into the other end of the quick adjuster and thread it in all the way as well.

C7) Set the newly supplied drag link to the measured length of the original one by adjusting the quick adjuster only. Do not adjust the other tie rod end that will be at the axle connection unless it is absolutely necessary.

C8) Insert the ball joint ends of the tie rods into the knuckle connection and pitman arm connection in the same orientation as the OEM units. Place the supplied 5/8 flat washer on top prior to threading on the nut.

C9) Torque the nuts down 90 to 100 ft-lbs.

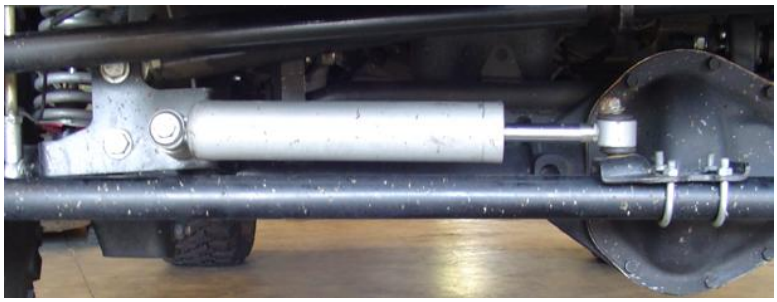
C10) Be sure to do your best to center the steering wheel using the turn buckle style quick adjuster in the drag link, then lock the jam nut using the wrench flat sections of the drag link for the tie rod end at the knuckle and secure the quick adjuster by clamping down the slits on the quick adjuster as shown below. Be sure to orient the tie rod ends so the ball joints are free to move without bind. Please note to follow the SAE rules of thread engagement so you do not put yourself into a bad position!

Pitman Arm Ball Joint Connections

Quick Adjuster with Shaft Collars Installed

C11) Make sure to take your JK to the local Jeep Dealer to get aligned so the steering wheel is properly centered. This way you will not run into issues with ESP controls! Be sure to lock the jam nuts in place with thread locker like loctite when all is said and done.

Please note: There is an extra hole in the front track bar bracket support bracket to allow for relocation of the OEM steering stabilizer as shown below. All you need is a spacer and the hardware.



Steering Stabilizer Relocated

27. Remove the factory front rubber brake lines and install the new stainless steel brake lines. Do not worry about bleeding the brake system at this time since you are going to have to install the new rear lines in a little while. Be sure to add slack to your ABS lines and route them with your new stainless steel lines using two of the supplied zip ties to secure them together.

28. Install front rims and tires and lower front of the vehicle to the ground, check that the front axle is centered under the vehicle. If the axle is not centered, adjust rod end/krawler joints to center the axle. If the axle is centered, tighten all hardware to proper torque spec. **Do not allow more than ½" of threads to show past the jam nut for final adjustment.**

Coil Over Front Conversion with Comp Kits or Stand Alone Option

1) Remove the factory coil spring mount and shock mount from the frame as shown below. Prep the frame surface for welding.

Driver's Side Frame Rail Showing Removal of OEM Spring and Shock Mount

2). Grab a front upper coil over shock mount and position it on the frame as shown below. It tucks nicely inside the pocket in the fender where the OEM shock tower used to go. Position the back edge as shown below 2.5" off the frame. Make sure all surfaces are prepped for welding and all brake lines are clear so they will not get harmed.

Front Upper Coil Over Mount Positioned on the Frame

3) Using a fillet weld technique; weld the legs to the frame using a ¼" fillet weld on each side as shown below. This must be done by a certified welder.

Front Upper Coil Over Shock Mount Welded to the Frame

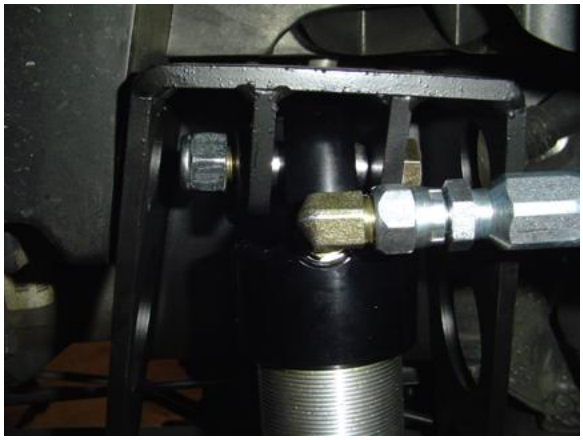
4) Remove the front lower shock mounts from the axle. Prep the axle for welding on the new lower coil over shock mounts.

5) Grab the new lower coil over shock mount and weld it to the axle again, using a 1/4" fillet weld technique. It is positioned exactly where the OEM lower shock mount was. A good frame of reference is the bottom of the bracket should be horizontal. A certified welder is required. Weld both sides and across the bottom.

Front Lower Coil Over Mount Installed

6) Apply a durable finish of your choice to the brackets, axle, and frame prior to installing the coil over shock assemblies.

7) Grab the coil over shock assembly. If the front shock is equipped with misalignment spacers be sure to have them on each side of the spherical joint when installing the coil over. If the spacers are integrated into the spherical joint do not worry about it. Simply bolt the coil over into placing using the supplied ½" x 2.75" bolt, washers and nylok nut on both top and bottom as shown below.



Upper Coil Over Mount

Lower Coil Over Mount

8) **Adjusting the Coil Overs!**

a) For the 5.5” lift the coil overs should be adjusted to have an operating measurement of 24.25” +/- 1” from mounting bolt to mounting bolt. This is with all of the weight on the front coil over assembly. Adjust the spanners on the coil overs until your desired vehicle stance and lift is achieved.

b) For the 3.5” lift the coil overs should be adjusted to have an operating measurement of 22.50 +/- 1” from mounting bolt to mounting bolt. This is with all of the weight on the front coil over assembly. Adjust the spanners on the coil overs until your desired vehicle stance and lift is achieved.

Now Lets Start 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 behind the rear axle.

2. Remove the rear rims and tires.

3. Support the rear axle using a hydraulic floor jack.

4. Remove the rear shocks and save the hardware for reuse.

5. Remove the rear sway bar links.

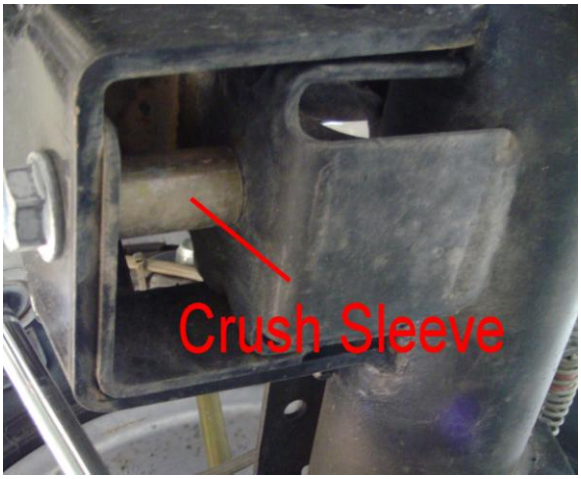
6. Lower the rear axle and remove the rear coil springs.

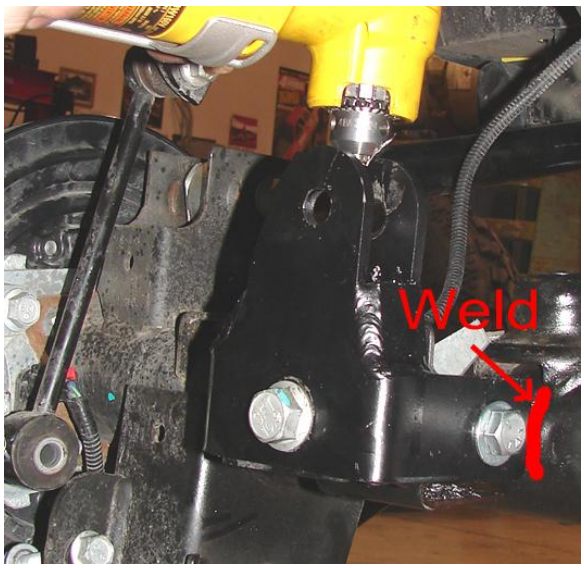
7. Remove the rear track bar and discard it, save the hardware for reuse.

8. Remove the rear lower control arms using and save the hardware for reuse.

9. Remove the factory rear upper control arms and discard them, save the hardware for reuse.

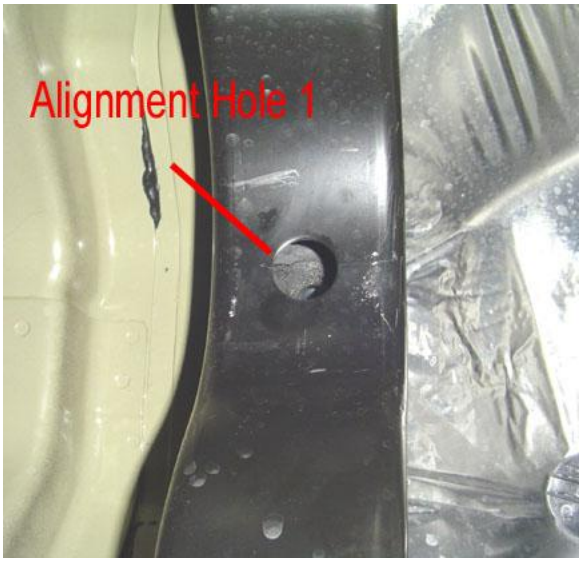
10. Install the rear track bar relocation bracket as shown below. Attach the bracket using the OEM bolt with the supplied 7/8" O.D. x 9/16 I.D. x 1.625" Long crush sleeve on the inside of the OEM lower track bar mount as shown below. Drill a ½" hole through the inside of the factory bracket where the supplied hole in our bracket is and secure that position with the supplied ½" x 1.25" long bolt, washers and nylok nut. Drill a second 10mm hole through the top of the OEM bracket where the existing hole is in out new bracket and secure it with the supplied 10mmx35mm bolt and 10mm nylok nut**. Please note: Our bracket wings cup the OEM rear axle tubes. This is due to the fact that the OEM factory rear track bracket is so weak. It is required before your first off-road adventure with your JK that these wings be welded to the axle tubes. This will prevent any failures of the rear track bracket assembly.**

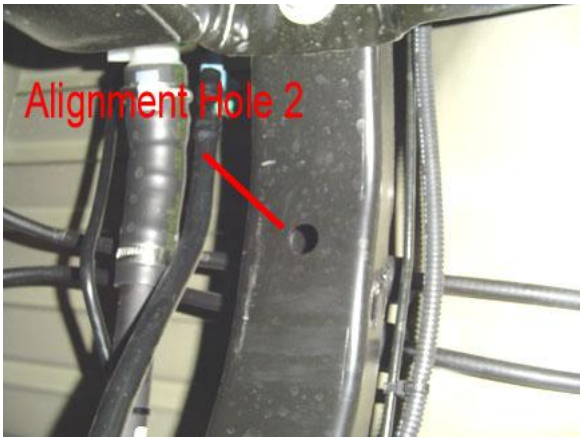


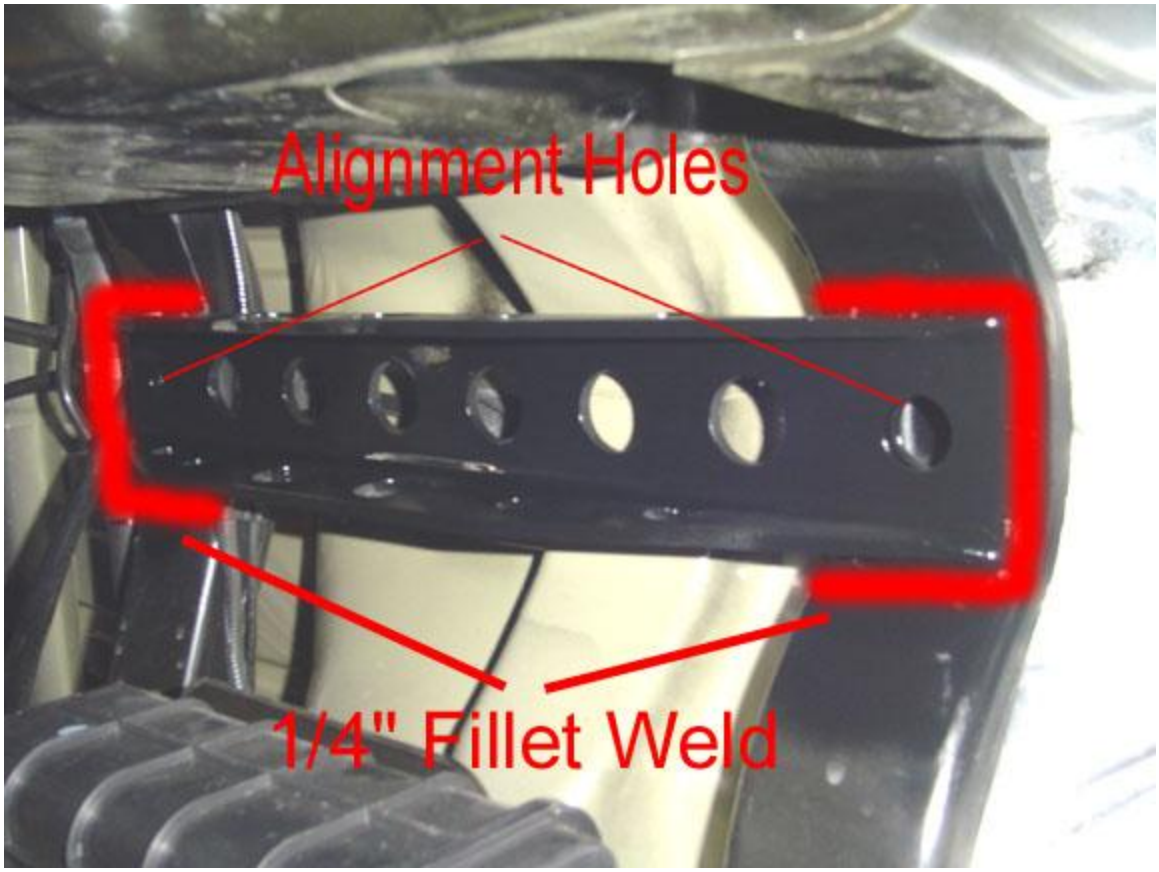


11. Perform the following weld on operations;

11a) Install the independent third link upper control arm mount. The bracket spans the two rear upper frame cross members and aligns off the holes in each cross member as shown below. Then clamp the bracket with the holes aligned to the cross members and weld it in place. Be sure to properly prep the surfaces and apply a durable finish after the weld operation is completed.

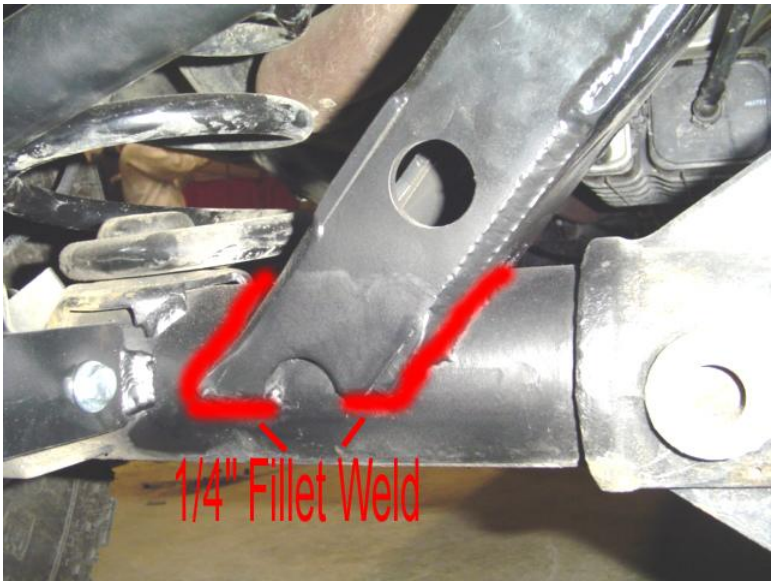






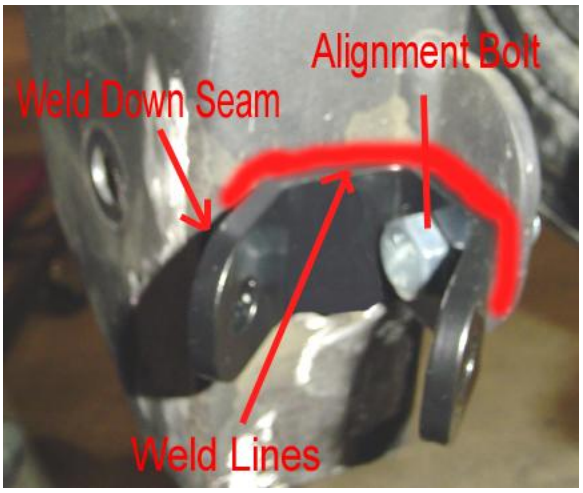
11b) Install the weld on rear cradle. Center the cradle left to right on the axle. Make sure the third link mount on the top is open to the front so the cradle is oriented properly. Then, hold the offset tool as shown below up against the differential cover and rotate the cradle back until it contacts the offset tool. Then weld it in place on front and back as shown below.

Aligning the rear cradle



Welding the rear cradle

11c) Install the rear shock relocation brackets. The brackets have a hole that aligns them off the rear sway bar link mount as shown below then weld them in place as shown below. Be sure to prep the surfaces properly prior to weld and after the weld operation is completed be sure to apply a durable finish of your choice. Now you can trim off the remaining of the lower control arm mounts that hand below the rear shock relocation bracket.

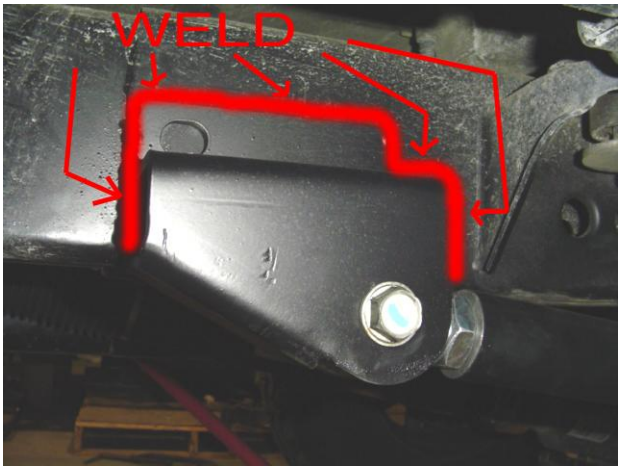


Installing the Bracket

Final Ground Clearance Improvement

11d) Weld on the rear lower control arm long arm mounts. The mounts locate off the sloted hole in the side of the frame as shown below and require being welded in completely using a ¼" fillet weld as also shown below. Keep the top edge of the mount horizontal when welding in place. Please note there is a driver's side mount and a passenger's side mount. The open end of the mount faces reward as shown below. The pictures below are showing the driver's side only.

Alignment Hole in Side of Frame



Weld on Lower Control Arm Mount

11e) Now is a good time to cut off the OEM lower control arm mounts at the frame. You can also remove the OEM upper mounts from the frame and from the axle to make your installation and vehicle look perfect.

12. Install the rear upper control arm. Set the rear upper control arm to the specified length for the appropriate lift height from the tables on pages 4 and 5. Bolt the rear upper control arm in place using the supplied 14mm x 90mm bolts, washers, and nylok nuts. The rear cradle has adjustable anti-squat holes built into it. For all long arm kits it is recommended that you start out on the middle hole in the cradle, then adjust to your liking and driving style. Please note: Tightening the jam nut for the frame connection is difficult when the arm is in the vehicle. It is recommended that this jam nut be loctited and tightened outside the vehicle. Please note: the arm has a bend in it. The bend is to go down to allow for greater up travel of the suspension before interference issues can occur.

13. Install the rear lower control arms with Krawler Joint at the axle mount using the OEM hardware and the Monster Bushing in the new long arm mounts using the supplied 14mm x 100mm bolts and nylok nuts. Set the rear

lowers to the specified length in the control arm table on page 4 or 5 for your given application. **Do not allow more than 5/8"threads to show past the jam nut for final adjustment.** ***Helpful Hit:*** Orient the Krawler Joint for maximum amount of movement, then add red loctite and tighten down the jam nut on the joint prior to installing the arm since it is difficult to get at the jam nut when it is in the vehicle. Remember it is a 1"-14 Jam nut so do not be afraid to over tighten it (In other words put something behind it for God Sakes).

Also note: The bend in the arms is for improved ground clearance so be sure to put the bend up!

15. Install the supplied rear track bar. Set the track bar to the specified length from the tables on page 4 or 5 for your given application. Balance the amount of thread showing past the jam nuts. Then install the track bar. The bushing end goes at the frame and the heim joint end goes to the new mounting hole in the track bar bracket at the axle. Secure the frame connection with the OEM hardware and the axle connection with the supplied 14mm x 90mm bolt, 14mm washers, and 14mm nylok nuts. Please note the bend in the track bar is for clearance for the differential and the orientation of the track bar is controlled by locking the jam nut of the flex joint at the frame connection. Once the orientation of the bar is set, then orient the heim joint at the axle connection to have maximum amount of movement at the axle and lock the jam nut in place. Using loctite on the jam nuts should prevent them coming loose and damaging the thread integrity of the track bar. **Do not allow more than ½" of threads to show past the jam nut for final adjustment.**

16. Install the spring correction degree shims under the rear coils. The thick part of the shim goes towards the rear of the vehicle as shown below.

Please Note: A nice simple way to retain the rear coils to the axle is to use a hose clamp up through the center hole of the spring pad and clamp it around the bottom winding of the coil spring. This is simple and cost effective!

17. Install the Rock Krawler rear coil springs.

18. Using the (4) supplied 3/8 thread former screw and 3/8 washers we will now be relocating the rear sway bar mounting brackets one inch. Simply unbolt the rear sway bar mounting brackets from the frame, measure one inch back from each mounting hole, mark the new holes locations and drill them out to 5/16. Then put some WD 40 or lubricant on the newly supplied thread former bolts and screw them in the holes. Please be sure to make sure to start them straight. This will make the process easier! Torque them down to 25 to 30 ft-lbs.

19. Install the supplied Rock Krawler rear sway bar links.

Install the supplied rear sway bar links using the supplied ½" x 2.0" bolts, .330" long shoulder spacers and ½" nylok nuts as shown below. Please note the shoulder of the spacer goes towards the sway bar and the bottom mounting bracket (away from the rod end).

20. Remove the factory rear brake lines and install the supplied stainless steel brake lines. Now you can go ahead and blead the brake system per the JK service manual.

21. Remove the wire hanger for the rear emergency brake cable and route them to have as much slack as possible.

22. Install the rear shocks. Shocks should be non-expanded can shocks with a shock body of no more than 2" in diameter or there is a risk of the rear shock contacting the rear track bar relocation bracket.

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

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 are Tight. Make sure the axles are properly centered, pinion angles are correct, there is proper slack in ABS lines, all lines are properly routed so you never run into an issue on or off the road. Go back over all your hardware and make sure each connection is tight and follow the following torque specs;

Torque all 14mm and 9/16 bolts to 90-100 ft-lbs. Torque all 12mm and ½ bolts to 75-80 ft-lbs. Torque all 10mm and 3/8 bolts to 30-35 ft-lbs.

Please note: If your steering wheel is off at all the ESP will be activated. This will be corrected once the vehicle is aligned by a certified Jeep dealership.

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 consumer or vehicle owner is the person or persons responsible for maintaining the jam nuts tight. 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 headed in the directions regarding the amount of threads showing past the jam nut will also cause 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 not properly maintained or setup are not covered under warranty. This is the end user and installer's responsibility.

It is a requirement that your vehicle be taken to a Jeep Dealership for an alignment. The Jeep Dealer should align

the vehicle and also verify all ESP/ABS connections are in good working order or trouble may arise. The routing of ABS/ESP and Brake Lines is your responsibility. Do so carefully.

Servicing of the Rock Krawler Rebuild able Joints is unique from the rest of the industry. We supply our joints with a plug or socket head cap screw in them. Simply remove the plug and put in some 3 in 1 oil which is preferred or WD-40 the reinstall the plug. We do this for many reasons. The first is our joints are extremely tight and will not take grease very easily. Second, in the off-road environment grease attracts much more dirt and debris than it is worth causing joints to wear quickly. Grease would take forever to lubricate our joints since they are so tight. 3 in 1 or WD-40 is clean, simple and lubricates quickly. If worse comes to worse, simply spray down the outside of our joints liberally with WD-40 or MPL and call it a day.

Good Job. Your installation is complete. Now go out and enjoy your vehicle.

Rear Stretch Additional Requirements

First off, if you are willing to go this far as to stretch your JK 2 Door, Rock Krawler Suspension is proud of you. You are about to experience one of the best things you could ever do to improve the off road ability of your JK.

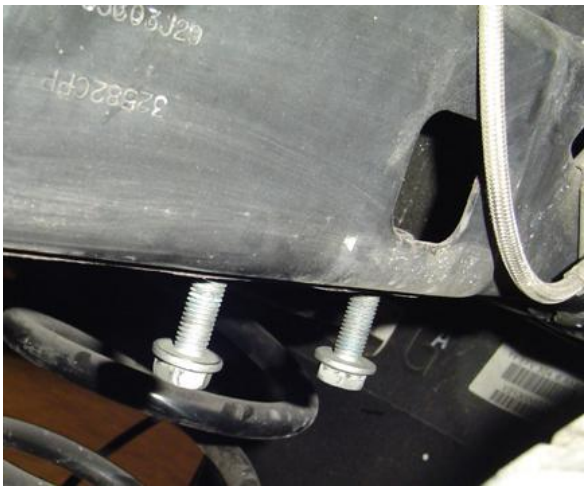
Here you go! Other than the above mentioned items, here is what you need to do with the 5.5" stretch kits.

1) First you will need to comp cut the corners to allow for room for the rear tires when they get pushed back!

2) Trim the OEM track bar mount at the frame in the rear to allow for the new spring mounts to be bolted in place as shown below.

3) Remove the OEM rear body mount bolt and bolt up the newly supplied rear coil spring mounts using the OEM rear body mount bolt. They attach right to the bottom of the OEM body mounts. How convienient! See the image below.

4) Weld on the newly supplied rear track bar mount on the frame. The new mount centers itself between the OEM rear sway bar link mounting bolts as shown below. Then weld it in place using a ¼" fillet weld all the way around. Once it is cooled apply a durable finish of your choice.



5) Using the (4) supplied 3/8 thread former screw and 3/8 washers we will now be relocating the rear sway bar mounting brackets 8 inches. Simply unbolt the rear sway bar mounting brackets from the frame, measure 8 inches back from each mounting hole, mark the new holes locations and drill them out to 5/16. Then put some WD 40 or lubricant on the newly supplied thread former bolts and screw them in the holes. Please be sure to make sure to start them straight. This will make the process easier! Torque them down to 25 to 30 ft-lbs.

6) Weld on the newly supplied shock mounts. The locate between the OEM rear shock mounts and the back body mount as shown below. Orient them with a slight angle as shown below so the shock will be positioned properly to use the shock mounts on the axle.

Once welded in place with a ¼" fillet weld simply apply a durable finish of your choice.

7) Be sure to use an OEM rear JK coil spring for the 5.5" Stretch System. This will provide the proper lift height! Please note: There will be no rear degree shim needed since the pinion rotation with the stretch is not enough to require the use of one.