



JEEP JT GLADIATOR SUSPENSION SYSTEMS INSTALLATION INSTRUCTIONS & TECHNICAL MANUAL



Please note that modifying the suspension of your Jeep Gladiator will affect the vehicle handling and stability characteristics!

You have purchased a RockJock® Off Road Suspension System for the 2020 & Up Jeep JT Gladiator; the finest suspension system on the market. This suspension system will provide ample lift to accommodate up to 35" tall tires on a Sport or Sahara model with no modifications and up to 37" tall tires on a Rubicon model with no modifications. On all JT models, tires larger than 37" will fit and can be used, but would require the modification or replacement of stock fenders, modification or replacement of bumpers and/or sheetmetal trimming. When running 38" tires or larger, additional bump stop height may be necessary. This suspension system was designed around a 17" x 9" wheel with a 4½" back spacing. Other wheel & tire configurations can be used but interference may be an issue.

Lets Begin!

Start by opening all of the packages for the lift kit and lay out all components and hardware in preparation for installation.

Many kit components have their own instruction manuals, specific to that product that can all be accessed via the [instruction manuals tab](#) on our website.

NOTE: this instruction manual covers all drivetrain platforms of JL, and the Parts List below reflects all the variants of parts you may find in your kit! No one kit includes of the below all parts!

Parts List

- | | |
|------------------|-------------------------------------|
| 1) CE-9818FUA | Front Upper Control Arms |
| 1) CE-9818FLA | Front Lower Control Arms |
| 1) RJ-154100-105 | Front Coil Springs |
| 1) CE-9818FBSK | Front Bump Stop Kit (3.6L) |
| 1) RJ-107102-101 | Front Bump Stop Kit (EcoDiesel) |
| 1) RJ-9120FJLF | Front Trac Bar |
| 1) RJ-141300-101 | Front Brake Line Relocator Kit |
| 1) RJ-243100-103 | Front Adjustable Sway Bar Links |
| 1) RJ-151402-101 | Driveshaft Carrier Bearing Drop Kit |
| 1) RJ-150400-103 | Rear Upper Control Arms |
| 1) RJ-150400-101 | Rear Lower Control Arms |
| 1) RJ-154400-105 | Rear Coil Springs |
| 1) RJ-151401-101 | Rear Bump Stop Kit |
| 1) RJ-150400-105 | Rear Trac Bar |
| 1) RJ-151403-101 | Rear Trac Bar Relocation Bracket |
| 1) RJ-156400-101 | Rear Brake Hose Kit |
| 1) RJ-253204-101 | Rear Adjustable Sway Bar Links |



Required Tools

- | | |
|----------------------------------|---|
| Set of Hand Tools (Metric & SAE) | 29/64" Drill Bit |
| Metric & SAE Allen Wrench Sets | 3/8" Drill Bit |
| Torque Wrench | 12mm Drill Bit |
| Wheel Lock Key (if equipped) | 1/2"-13 Tap & Tap Handle |
| Trim Removal Fork Tool | Ratchet Strap |
| Needle Nose Pliers | Tape Measure |
| Diagonal Cutters | Grease Gun |
| Mallet | Hi-Moly Chassis Grease (CE-9013G) |
| Hammer | Scissors |
| Transfer Punch | Scotch Tape |
| Drill | Jack & Jack Stands |
| Pilot Drill Bit | |



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Torque Specs.

F lower control arm @ differential	190 ft. lbs.	R lower control arm @ differential	185 ft. lbs.
F lower control arm @ frame	190 ft. lbs.	R lower control arm @ frame	185 ft. lbs.
F upper control arm @ differential	80 ft. lbs.	R upper control arm @ differential	185 ft. lbs.
F upper control arm @ frame	80 ft. lbs.	R upper control arm @ frame	200 ft. lbs.
F upper control arm heat shield	40 in. lbs.	R sway bar link nuts (4)	85 ft. lbs.
F brake hose relocation brkt. to arm	15 ft. lbs.	R trac bar @ frame	90 ft. lbs.
F brake hose brkt. to relocation. brkt	18 ft. lbs.	R trac bar @ differential	100 ft. lbs.
F shock bolt, upper	80 ft. lbs.	R upper shock bolt	80 ft. lbs.
F shock bolt, lower	75 ft. lbs.	R lower shock bolt	75 ft. lbs.
F sway bar link nuts (3)	85 ft. lbs.	R sway bar link to frame	60 ft. lbs.
F sway bar pass. side end link at diff.	85 ft. lbs.	R caliper intermediate bracket bolts	92 ft. lbs.
F trac bar @ frame	110 ft. lbs.	R brake line banjo bolts	26 ft. lbs.
F trac bar @ differential	110 ft. lbs.	R vehicle speed sensor bolt	8 ft. lbs.
F bump stop to differential	30 ft. lbs.	Lug Nuts (factory)	130 ft. lbs.
F driveshaft to differential yoke	90 ft. lbs.		

Notes

- 1:** Please read the entire instruction manual before proceeding.
- 2:** All factory hardware is retained unless otherwise noted.
- 3:** During this entire process always remain mindful of the stability of the vehicle for your own safety. Be very careful to never lift the vehicle without first checking your brake lines and wiring. You can literally rip the brake lines off and the wires out by not constantly monitoring them!



Step 1

Now, let's start by getting your JT in the air! Park your vehicle on level ground, jack it up and place it on jackstands under the frame. Remove the wheels and tires using a 22mm socket.

Step 2

Depending on your model of vehicle, you'll need to either remove the plastic or the steel under (front) bumper valance panel.

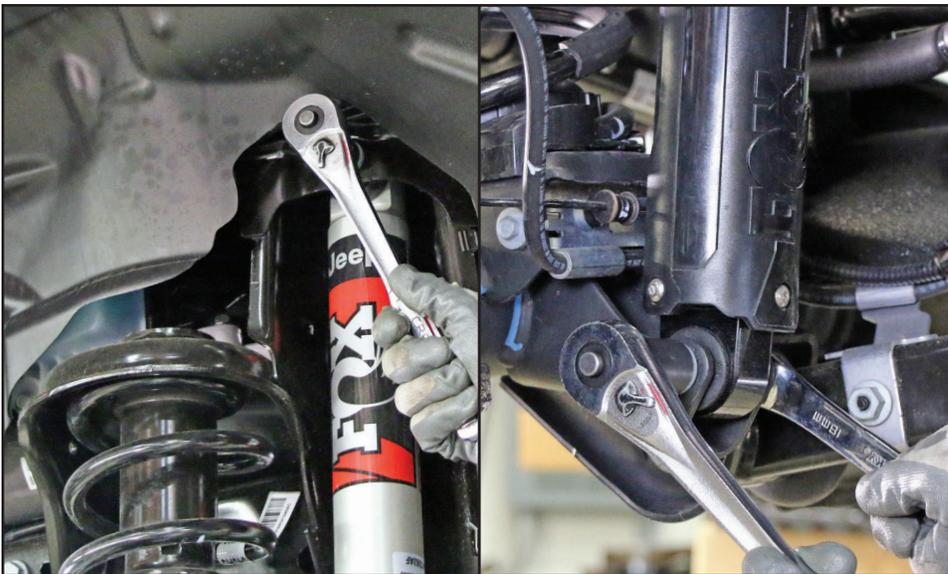
In preparation for removing the plastic valance panel from under the front bumper, pop out the plastic rivets and remove the two 8mm head screws from the bores on the face of the panel. The steel valance panel easily removes with a ratchet or impact wrench.

In either case, retain all hardware for reuse.



Step 3

Remove the plastic or steel panel and set it aside. It will be reinstalled later.



Step 4

Jack the front axle assembly up enough to remove the load on the hardware and then remove the front shocks using an 18mm wrench & socket. Discard the shocks, but retain the hardware for reuse.

Step 5

Using a 6mm allen wrench and an 18mm wrench, remove the tops of the front sway bar links from the sway bar.

With an 18mm wrench and socket, remove the bottoms of the front sway bar links from the differential housing.

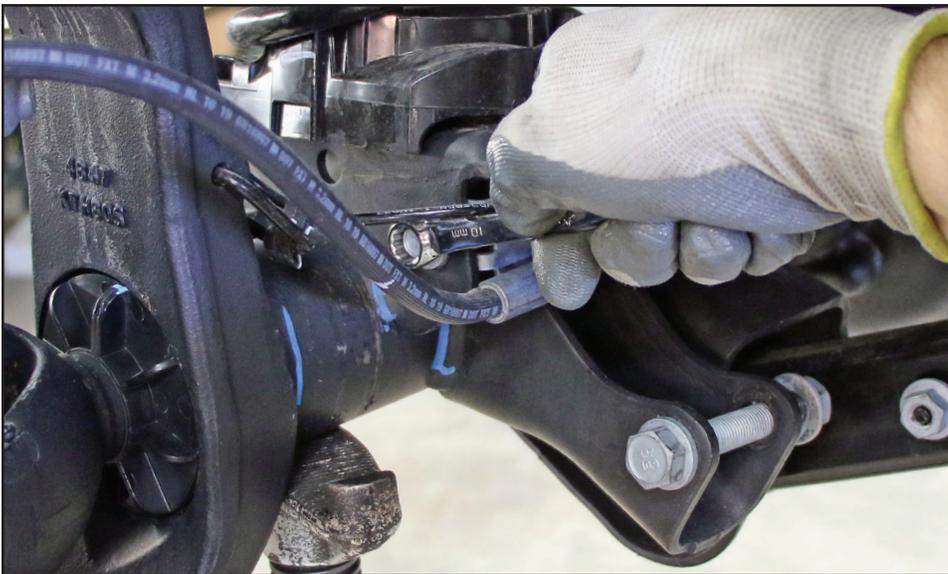
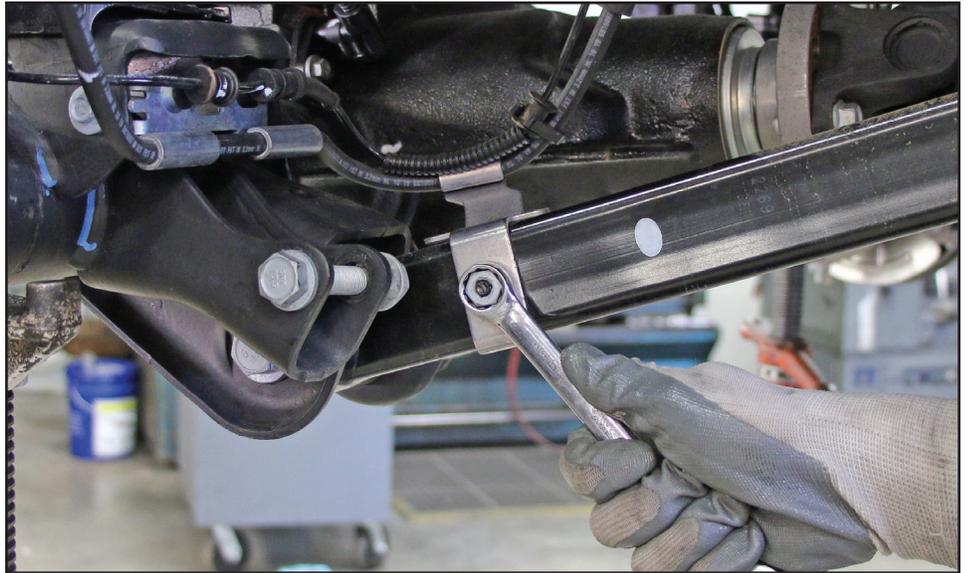
You may discard the links and their hardware.

NOTE: the bottom of the passenger's side link features a bolt and flag nut and the driver's side features a bolt and nut.



Step 6

Remove the brake line bracket retaining nuts from the front lower control arms with a 15mm wrench or socket and free the brackets from the arms. Retain the nuts for reuse.

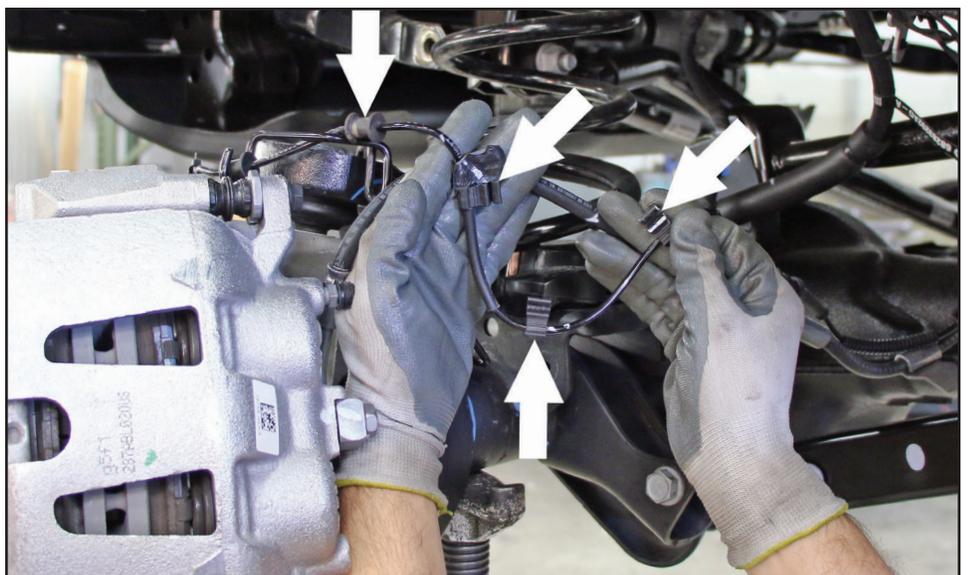


Step 7

With a 10mm wrench, remove the bolts on the back sides of the front coil spring buckets that retain the brake line brackets to the differential housing.

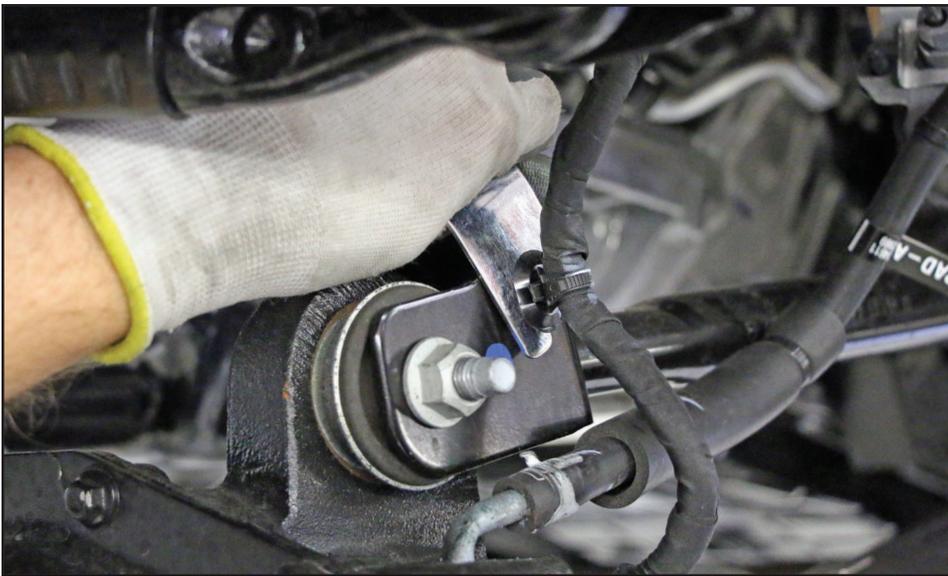
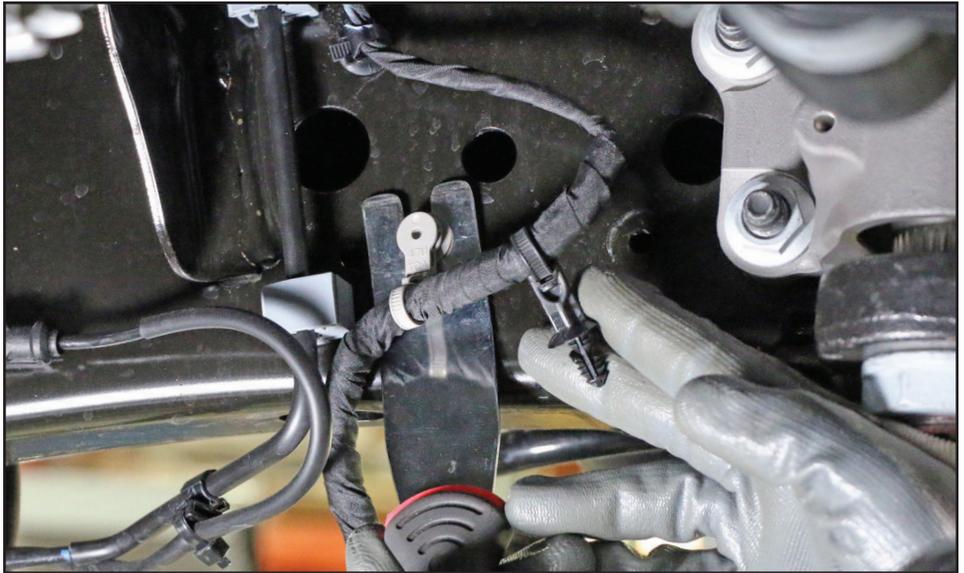
Step 8

Next, you'll need to pop the 3 plastic clips per side loose that attach the wheel speed sensor wires to the wire bails on the backs of the steering knuckles. You'll need to pop the first rubber barrel out of the wire bail as well.



Step 9

On the inside of the driver's side frame rail, behind the steering box, you'll find one gray plastic push-in clip and one black plastic push-in clip attaching the Rubicon differential locker wires to the frame rail (where equipped). Pop these clips loose with a fork tool.



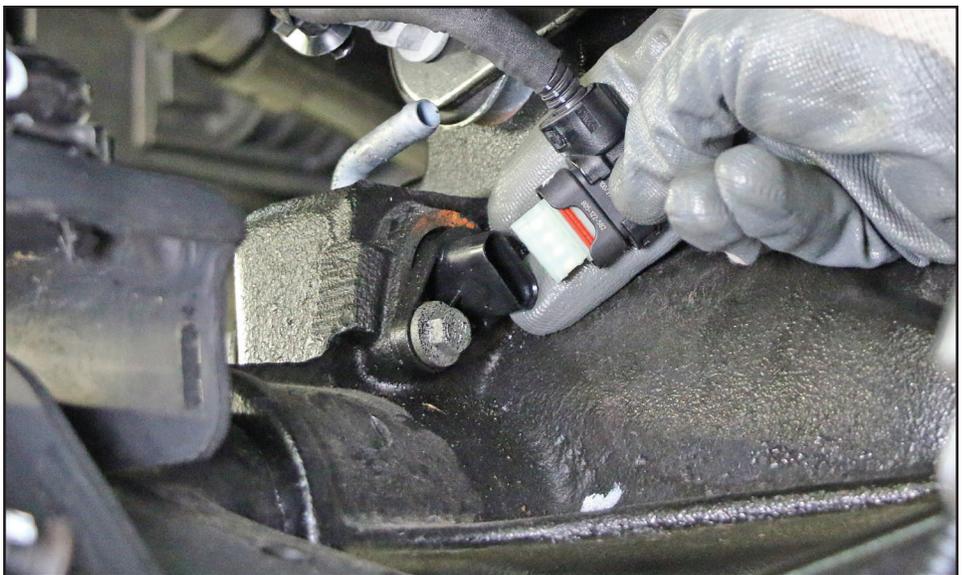
Step 10

Moving down the same wire loom, and using the fork tool, pop the black plastic push-in clip out of the front upper control arm fork at the differential housing.

Step 11

Next you will have to CAREFULLY unplug the Rubicon locker plug from the differential (where equipped). You will need to gently slide back the white latch on the top of the plug (you will hear it click) and then wiggle the plug until it comes out of the differential.

If your vehicle is equipped with a different type of electric locker, carefully unplug using whatever means necessary.



Step 12

With a pair of needle nose pliers, pinch the clamp on the vent hose on the front differential housing and free the hose from the metal nipple on the differential housing.



Step 13

Next, on the back side of the passenger's side of the differential, you will find the axle activation motor with a wire loom that leads up to the inside of the frame rail. Following this wire loom up, you will find a zip tie, tying the loom in a loop - clip this zip tie with diagonal cutters.

Step 14

Next you will pop loose 2 black plastic push-in clips with your fork tool from holes in the frame and pop one clip loose from one of the hardlines, as shown in the picture.



Step 15

Now with the fork tool, pop the same wire loom's black plastic push-in clip out of the outboard side of the passenger's side upper control arm at the differential.



Step 16

Again with the fork tool, find and remove the black plastic push-in clip on the frontward facing side of the front axle activation motor it's self.

Step 17

Now CAREFULLY unplug the axle activation motor's plug from the motor. You will need to gently slide back the white latch on the top of the plug (you will hear it click) and then wiggle the plug until it comes out of the motor.



Step 18

With a 15mm socket, remove the 4 bolts that attach the front driveshaft to the front differential yoke.



Step 19

Push the drive shaft up and out of the way and tie it off to one of the hardlines using a large zip tie.

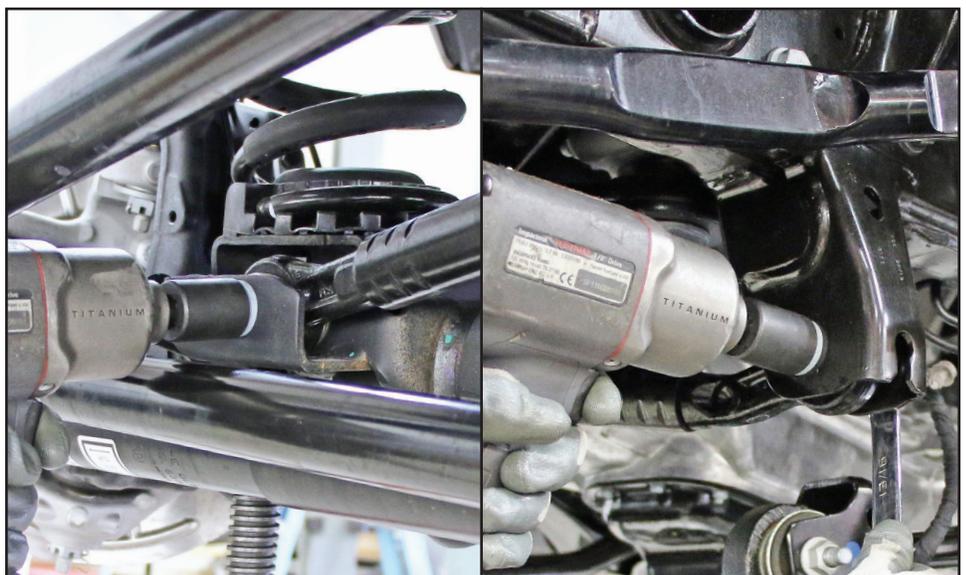
Step 20

Using a 21mm socket, remove the trac bar differential bolt and flag nut from the front differential housing and retain them for reuse.

Be careful when pulling the trac bar bolt out as the vehicle will most likely shift!

With a 21mm socket and wrench, remove the front trac bar frame bolt and nut and retain them for reuse.

Remove the trac bar and discard it.



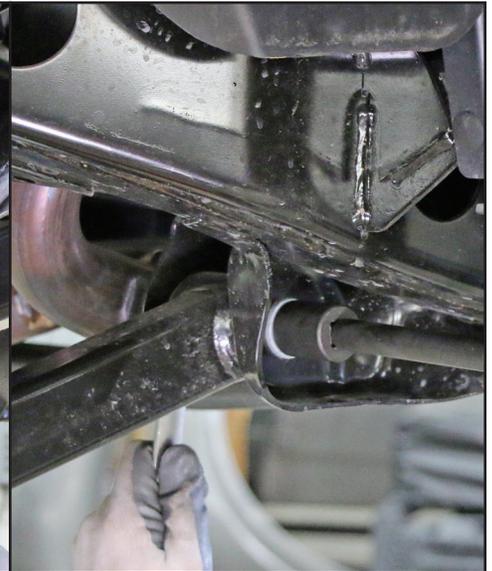
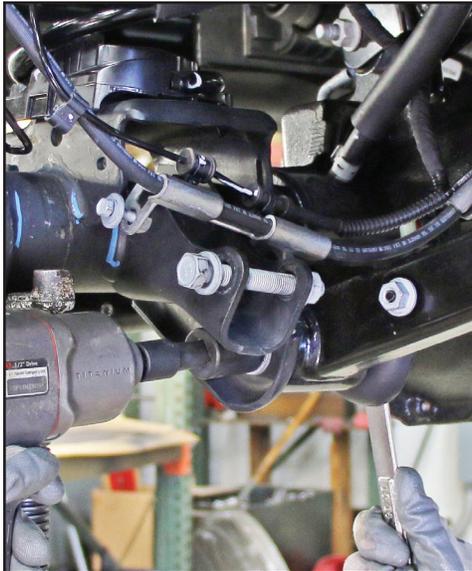
Step 21

Moving on, if the kit you've purchased includes lower control arms, continue on. If not, skip to Step 24.

Swap out the lower control arms ONE AT A TIME, adhering to the steps that follow.

With a 21mm socket and a 24mm wrench, remove the differential housing ends of the control arms and retain the hardware.

With the same 21mm socket and a 24mm wrench, remove the lower control arm frame bolts. Retain this hardware for reuse as well.



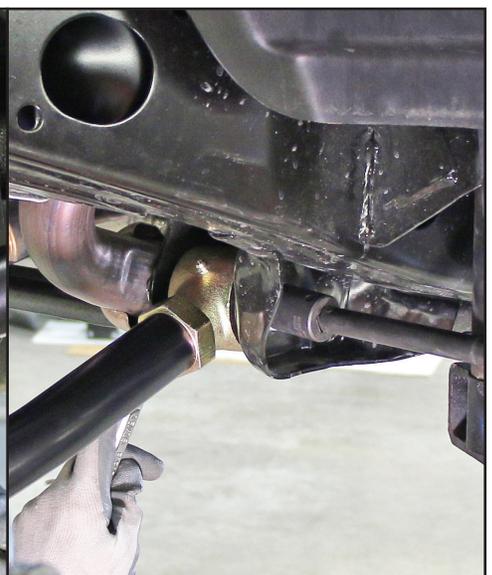
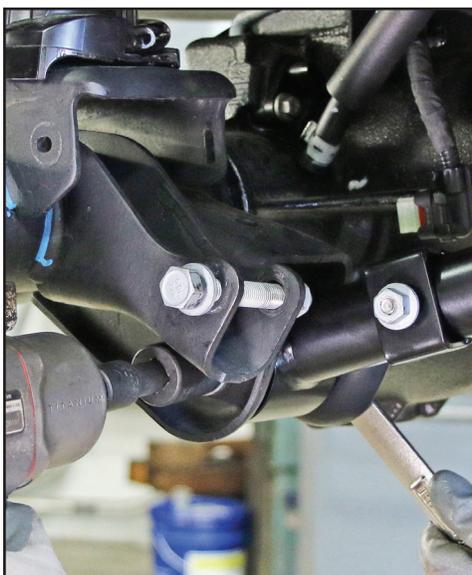
Step 22

Before installing the new lower control arms, match their length to that of the factory control arms.

After this is done, you may discard the factory control arms.

Step 23

Then, reusing the stock hardware, install the new control arms with the zerk fittings pointing up and the brake line brackets facing out. Torque all hardware to spec.

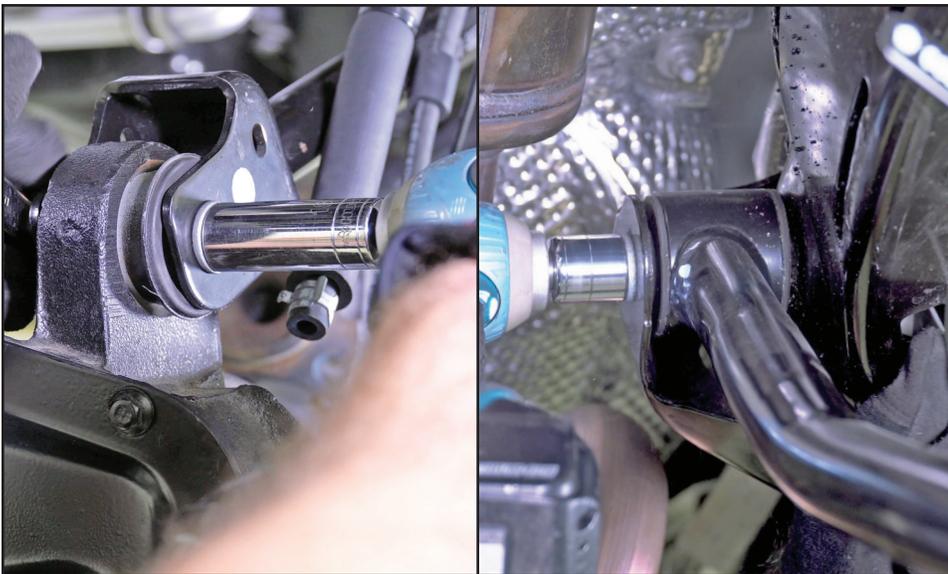


Step 24

Moving on to the upper control arms, again, swap them out ONE AT A TIME, adhering to the steps that follow.

Start by removing the 2 heat shield bolts per side with a 10mm wrench. There is one bolt visible on the bottom and one on the top.

Retain the heat shields and their hardware for reuse.



Step 25

With an 18mm wrench or socket, remove the differential housing ends of the control arms and retain the hardware.

With the same 18mm wrench or socket, remove the upper control arm frame bolts and catch the factory flag nuts so that they do not fall. Retain this hardware for reuse as well.

Step 26

Adjust the new front upper control arms to match the length of the factory arms.

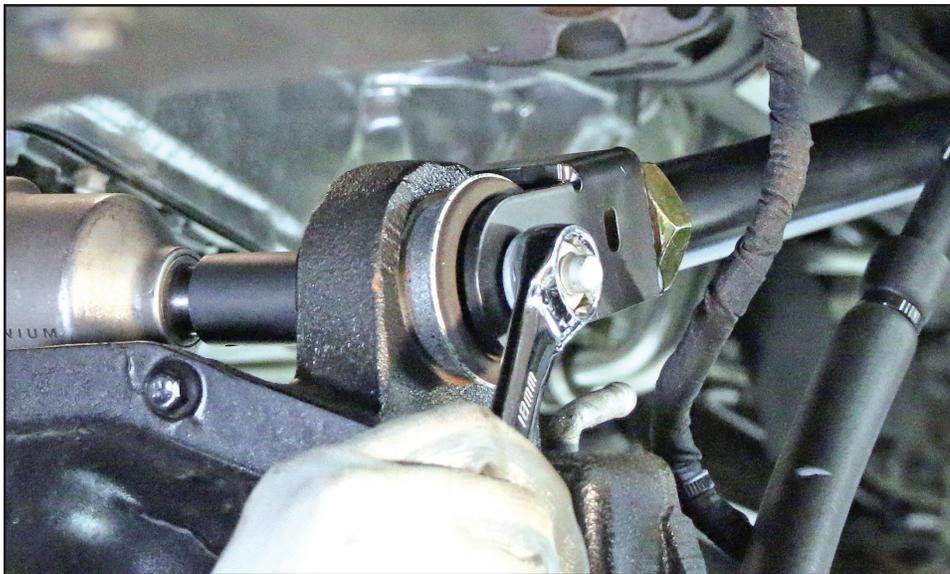
After this is done, you may discard the factory control arms.



Step 27

TIP: it is advised that you grease the zerk on the frame end of the new Johnny Joint upper control arms before installing them!

You may now install the frame ends of the new arms (zerk fitting pointing down). with the factory bolts and flag nuts, and an 18mm wrench or socket. Torque these bolts to spec. Then, reinstall the heat shields with their original bolts and a 10mm wrench.



Step 28

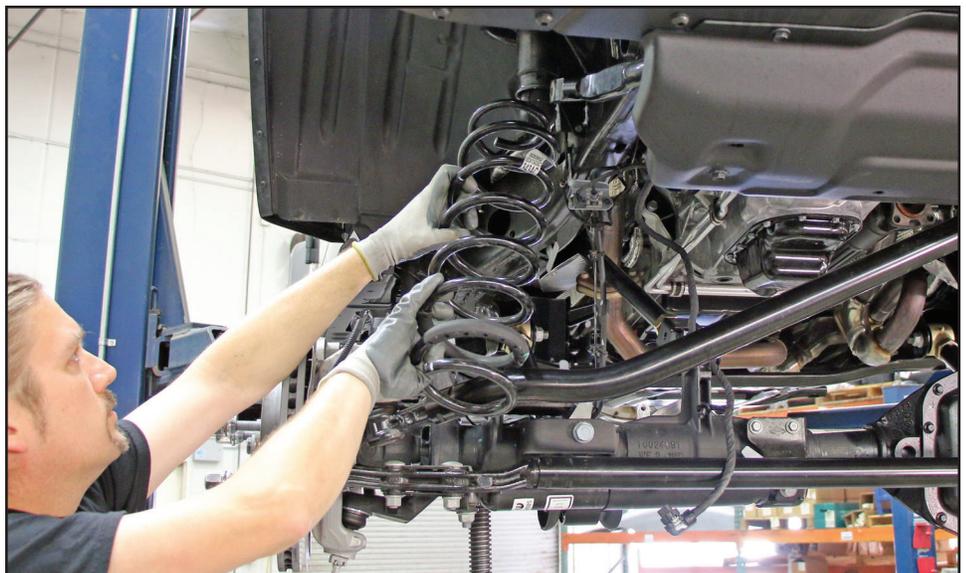
NOTE: now would be the time to install our [RJ-301000-103](#) Axle Housing Johnny Joint kit - if you so desire (refer to that kit's [instruction manual](#) for installation).

Otherwise, go ahead and install the fork ends of the new control arms onto the differential housing and bolt them back up with the factory bolts and nuts and an 18mm wrench and socket. Tighten just enough that they won't come loose, because they'll be coming out again before this job is done!

Step 29

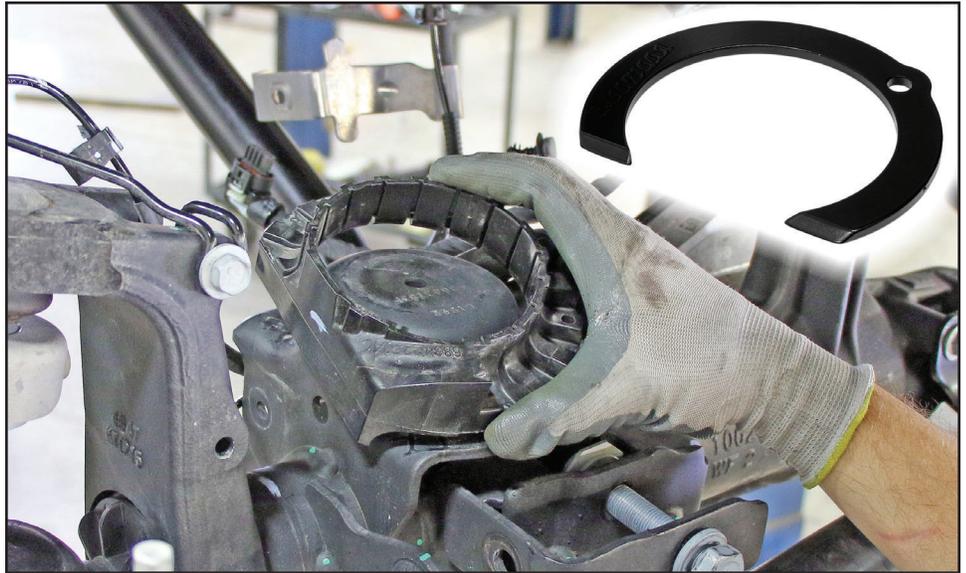
Go around and give all of the wires and hoses a shake to absolutely confirm that everything is freed up and has plenty of slack.

Once this is confirmed, go ahead and lower the differential farther out of the vehicle to allow the front coil springs to be removed. Be careful when lowering the differential that the springs don't fall out and hit you!



Step 30

Some kits come with a front coil spring shim. These shims will always install on the passenger's side - under the factory isolator. If your kit includes this shim, simply pop the stock, passenger's side isolator off, install the shim and pop the isolator back into position.



Step 31

One of the primary differences in our various suspension kits for different drivetrain vehicles are the coil springs and bump stops. Your kit will have included one of the options to the left.

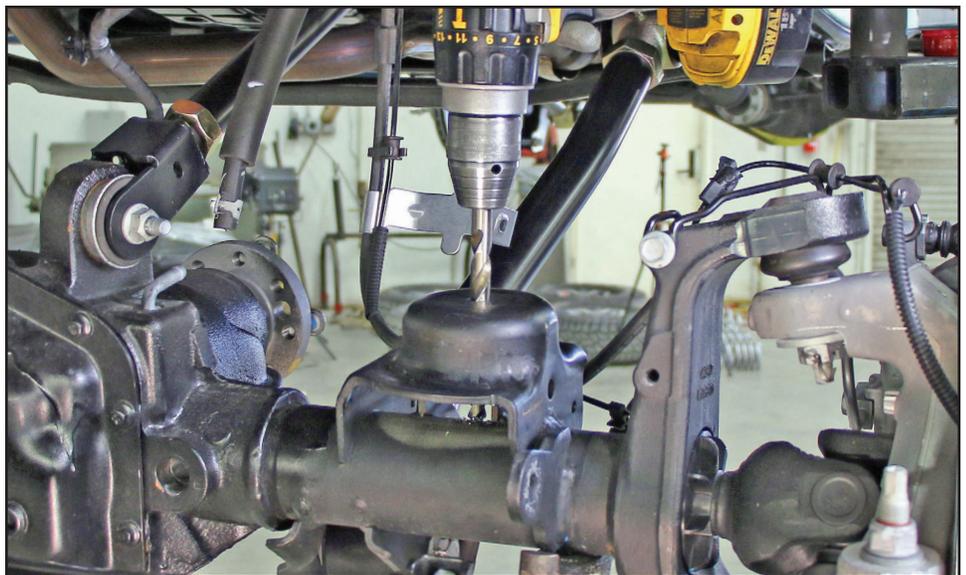
We also offer our [RJ-107101-101](#) Adjustable front bump stop kit as well, for use on any JT model. Each of these bump stop kits has its own instruction manual accessible by clicking the link next to the style of bump stop in the photo to the left.

Step 32

If the kit you purchased includes axle mounted bump stops, the bump stop kit's instructions will have you drill and tap a hole in the coil spring buckets on the axle housing.

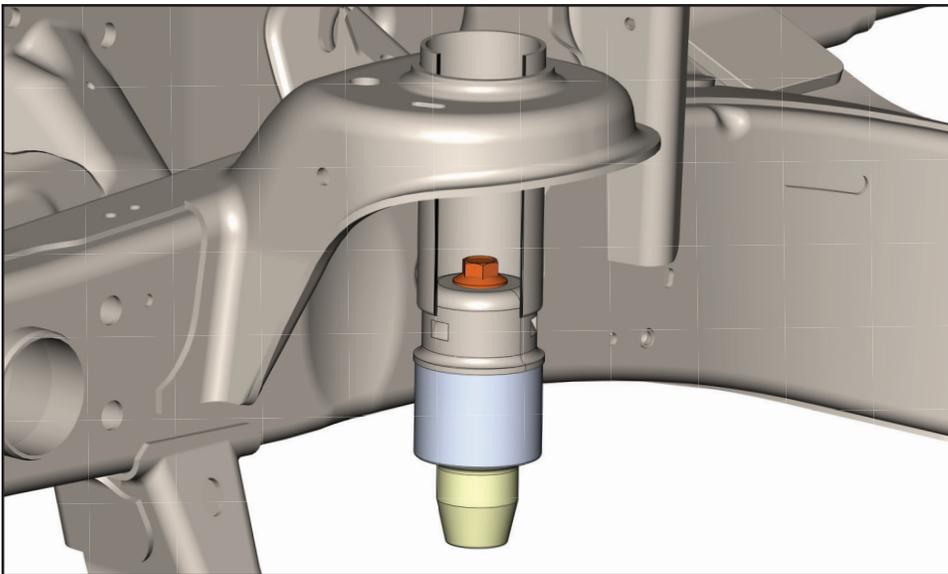
Using the existing small holes in the centers of the coil spring buckets as a pilot hole, drill the holes out larger with a 29/64" drill bit.

Frame mounted bump stop installation is addressed in Step 34.



Step 33

Next tap the holes with a 1/2"-13 tap.



Step 34

If you're installing this kit into an EcoDiesel vehicle, that kit includes frame mounted bump stops. You'll want to install them now, per that kit's [instruction manual](#).

Additionally, with any drivetrain vehicle, you may opt for our Adjustable Bump Stop Kit. If you have opted to go this way, you'll want to install that kit now per its [instruction manual](#).

Step 35

As stated previously, each drivetrain platform of vehicle has its own drivetrain specific coil springs. All coil springs (front and rear) fit either side of the vehicle (not side specific).



Step 36

Test that you are able to fit the new front springs into the vehicle. If they will not fit, you will need to, once again, give all of your hoses and wires a shake, and then carefully lower the differential farther down out of the vehicle.

NOTE: the stock upper coil spring isolators on the frame must be retained! Make sure they didn't fall out and make sure their pins remain indexed into the frame!

Once you've achieved a differential height that will allow it, insert the axle mounted bump stops (where equipped), bolts pointing down, into the bottom of the new springs and install the springs and bump stops as units onto the frame and then drop the springs onto the coil spring isolators on the differential housing.



Step 37

Rotate the springs so that the ends of the pigtails at the bottoms of the springs stop against the stops in the isolators on the axle housing.

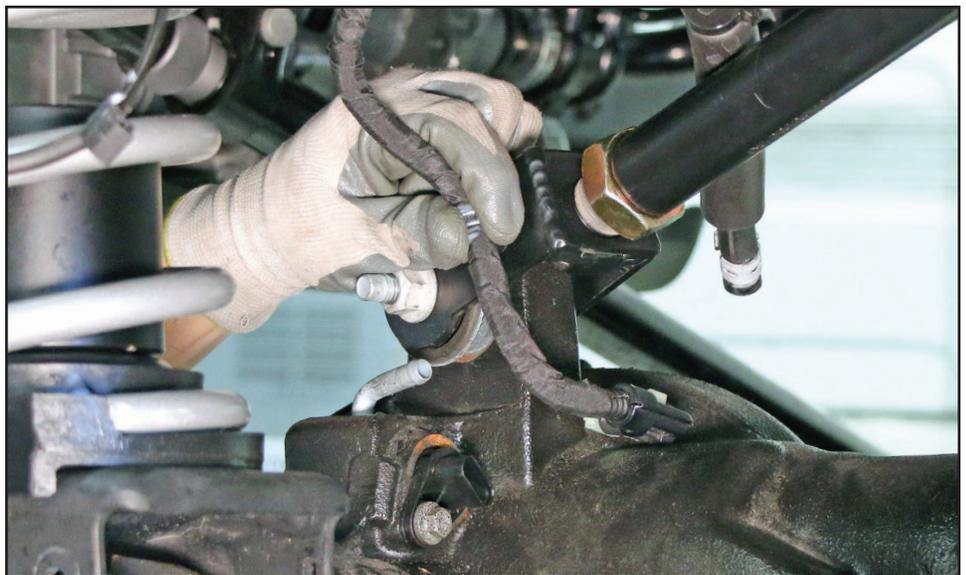
Follow the instruction manual for the bump stop kit that your kit includes to finish the bump stop installation.

Do not overtighten the bump stop bolts as these are only tightening up into sheetmetal!

Step 38

You may now raise the differential back up into the vehicle to its new, lifted ride height.

Once this is done, find your Rubicon locker wire loom (where equipped) and pop its black plastic push-in clip into the hole in the upper control arm fork.



Step 39

Now go ahead and carefully plug the locker plug back in to the differential. After the plug is firmly inserted, make sure to push the white lock back in.

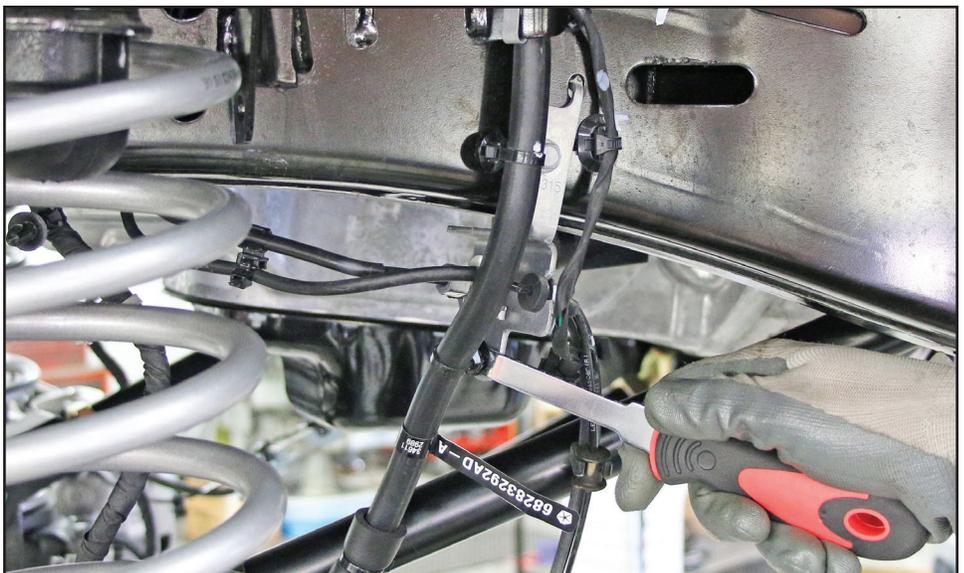


Step 40

While still on the driver's side, with your fork tool, pop the black plastic push-in clip out that attaches the differential vent hose to the side of the frame rail.

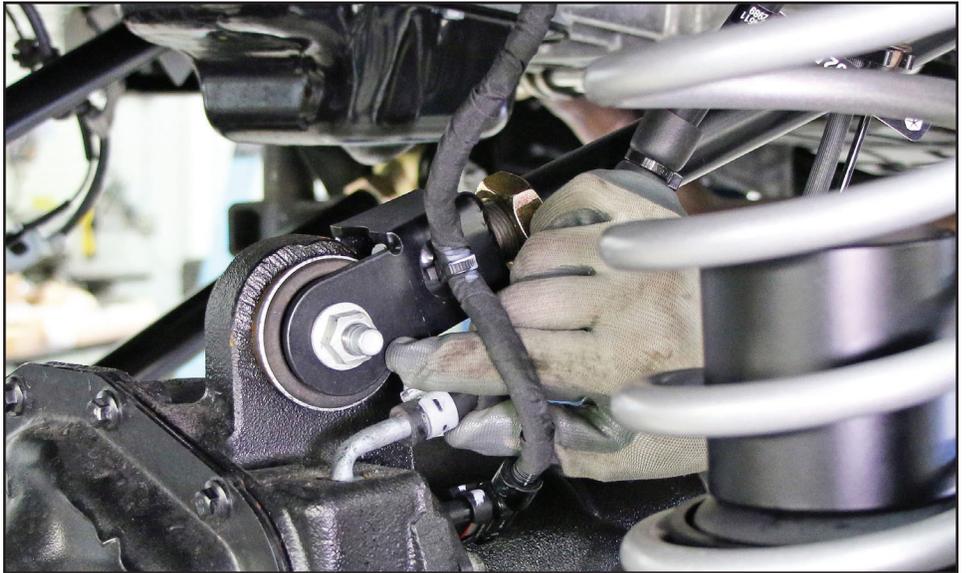
Step 41

Next, pop the other black plastic push-in vent hose clip off of the brake line bracket. The disconnection of the 2 black clips should allow enough slack in the vent hose for it to reconnect to the differential with no problem. Should you encounter a need for more hose length, the hose can be pulled down from above, where it enters the vertical metal channel above the frame rail.



Step 42

Once you are satisfied with the hose length, re-connect the vent hose to the differential housing. You will most likely have to use your needle nose pliers again to squeeze the clamp and get the hose all the way on.

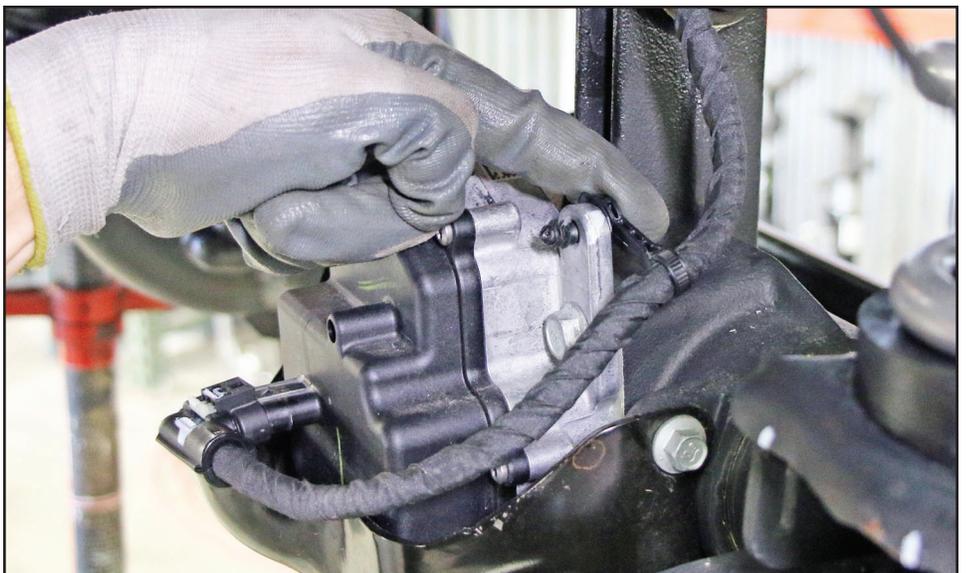


Step 43

Now over to the passenger's side, locate your axle activation motor wire loom. Reattaching it's black plastic push-in clip to the hole in the outboard side of the new upper control arm fork.

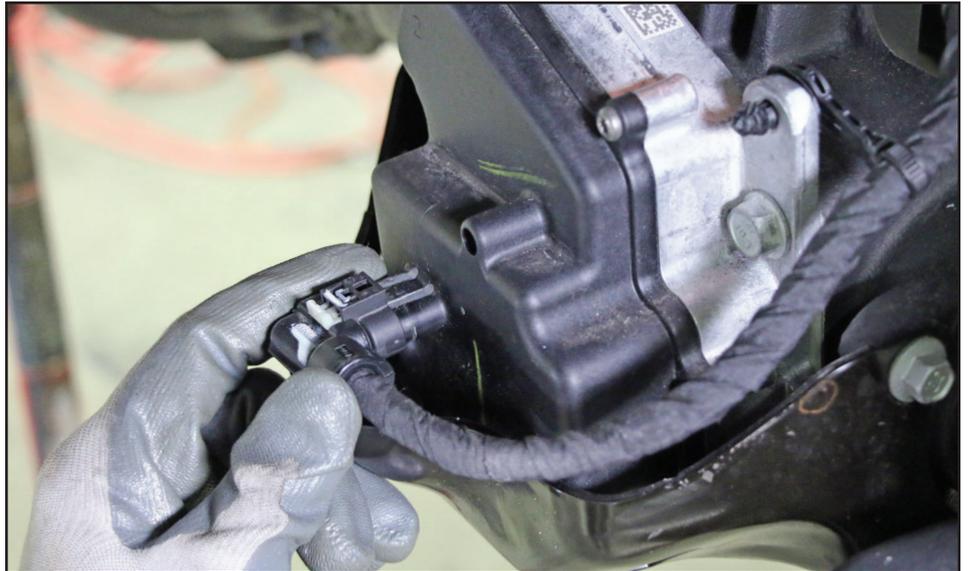
Step 44

Next, insert the other black plastic clip back into the back of the motor body.



Step 45

Now carefully plug the plug back into the motor. After the plug is firmly seated, make sure to push the white lock back in.

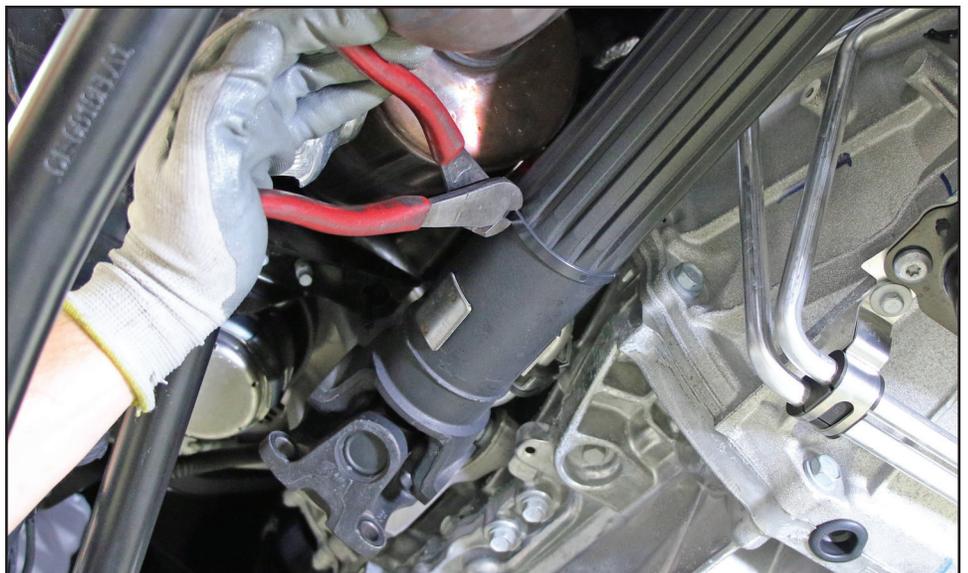


Step 46

Starting at the control arm fork, follow the wire loom up toward the frame rail. The first black plastic push-in clip you come to, insert it in the hole, illustrated in the photo.

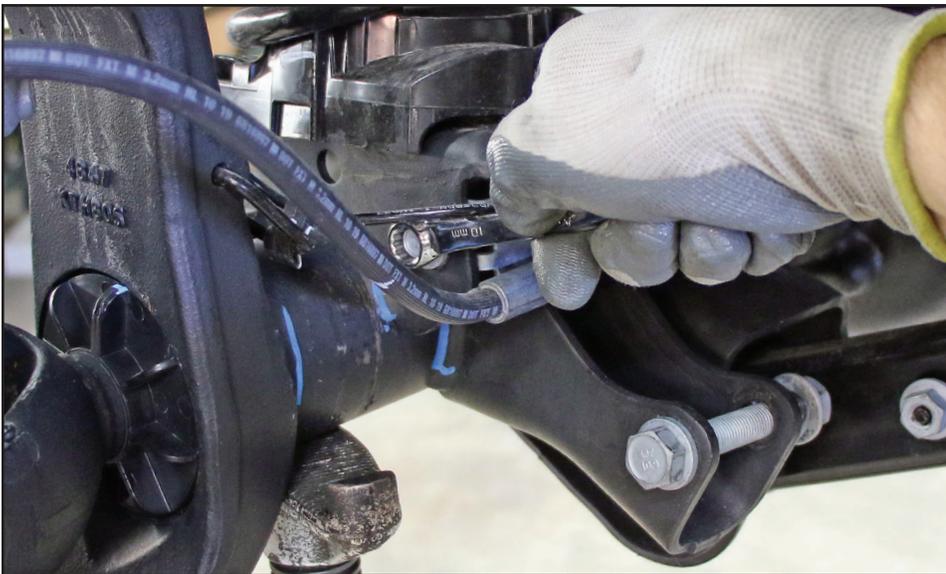
Step 47

With a pair of diagonal cutters, cut the zip tie that is holding the driveshaft up.



Step 48

Reinstall the driveshaft to the differential yoke using a 15mm wrench or socket. Torque to spec.



Step 49

Reinstall the brake line brackets back into the back sides of the coil spring buckets on the differential housing using the factory hardware and a 10mm wrench.

Step 50

With an 18mm wrench or socket and the factory hardware, install your choice of new front shocks in the same fashion that the original shocks came out. Torque to spec.

You can see options and specs. for the correct shocks on our website, [here](#).



Step 51

Locate the front brake line relocation bracket kit. These brackets are not right and left specific - they are both the same. Install them so the upper part of the bracket jogs toward the back of the vehicle as shown. Use the original nut and a 15mm wrench and tighten them up! Torque to spec.

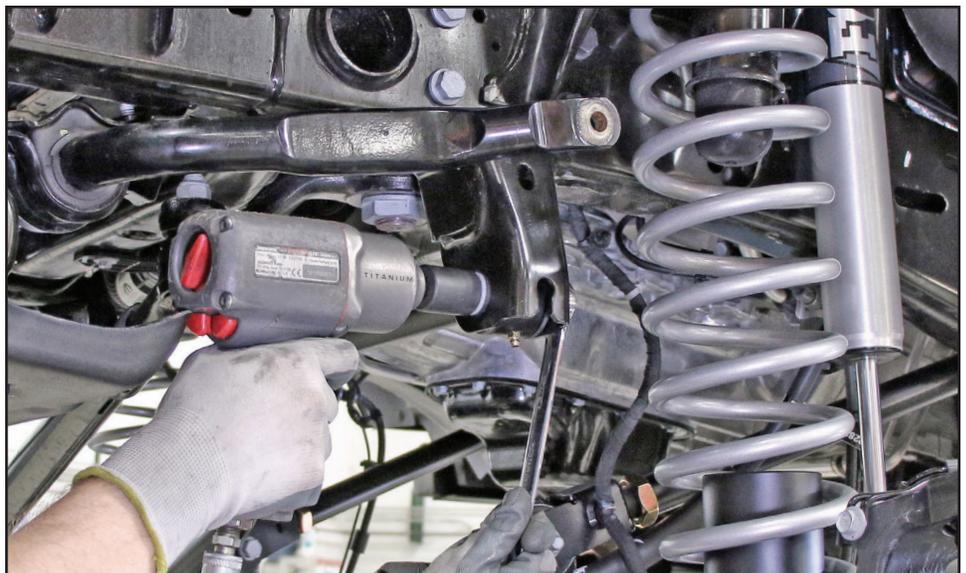


Step 52

Bolt the factory brake line bracket to the relocation bracket as shown. Use the supplied 5/16" - 18 x 7/8" bolts with a washer under their heads and a flanged nyloc nut on each. Tighten with a 1/2" wrench and socket. Torque to spec. You may refer to this component's [instruction manual](#) if necessary.

Step 53

Install the fixed end of the new Johnny Joint adjustable trac bar into the frame bracket with the zerk fitting pointing down. Use the factory hardware and a 21mm socket and wrench. Torque to spec. Leave the opposite, adjustable end of the trac bar, loose for now.



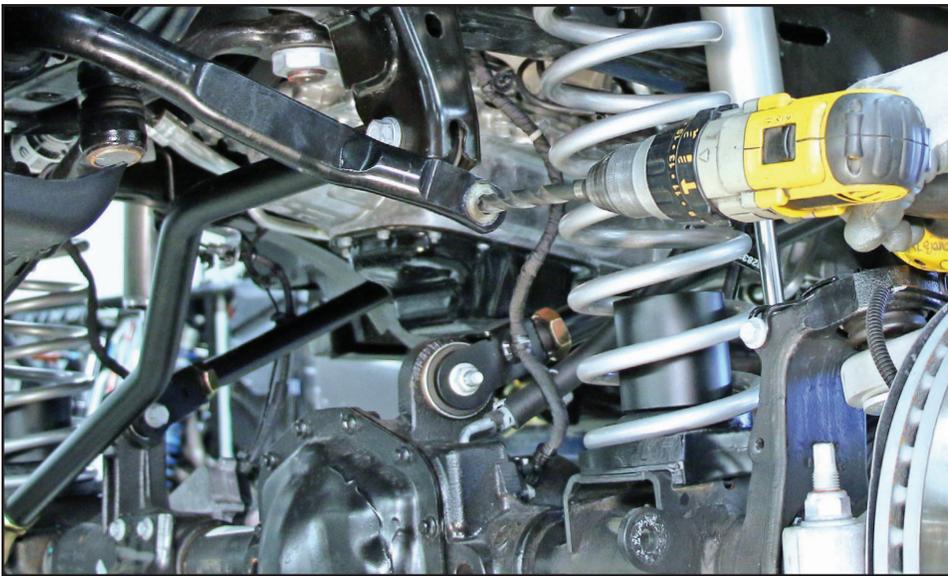
Step 54

If you will be installing a front Antirock Sway Bar Kit, do so at this time, per it's [instruction manual](#) and disregard Steps 54-57 of this instruction manual and skip ahead to Step 58.

If you are not installing and Antirock, you'll now be assembling your new extended, adjustable front sway bar links as shown, using the 8 1/2" long gold rods.

The link with the thru bolt heim joint and the .427" thick high mis-alignment spacers is the bottom end of the passenger's side link.

You can just thread the studded joints all the way down until they stop for a starting point.



Step 55

The holes in the ends of the factory sway bar are very rough stamped and may or may not allow easy insertion of the studded joint.

If the studded joints do not easily install, you'll have to ream the holes in the ends of the sway bar with a 12mm drill bit.

The sway bar is hardened steel, so lube your drill bit and take your time!

Installation of sway bar link ends requires a thru-hole ratchet, and a 6mm allen wrench, as shown to the right.

The thru-hole ratchet & socket kit that we used in this install was purchased at Harbor Freight under their item number [62305](#).



Step 56

The top of both driver and passenger's side links install with the studded joints going in from the outside and the lock nuts on the inside.

Tighten with the 18mm thru-hole ratchet & socket and the 6mm allen wrench mentioned above.

NOTE: tightening of all 4 jam nuts will be done when the vehicle is back on the ground.



Step 57

On the passenger's side, at the differential, you will want to install the components as shown in the picture. You'll notice that the smaller diameter of the .427" thick misalignment spacers goes against the heim joint. An additional washer and 1/2" nyloc nut are used on the end of the bolt. Tighten with a 3/4" wrench and socket.

The differential end of the driver's side link installs basically the same as the tops of the links. The studded joint goes on the inside of the axle tab pointing out, and the lock nut installs on the outboard side of the tab. **Again, tighten with the thru-hole ratchet and allen wrench.**

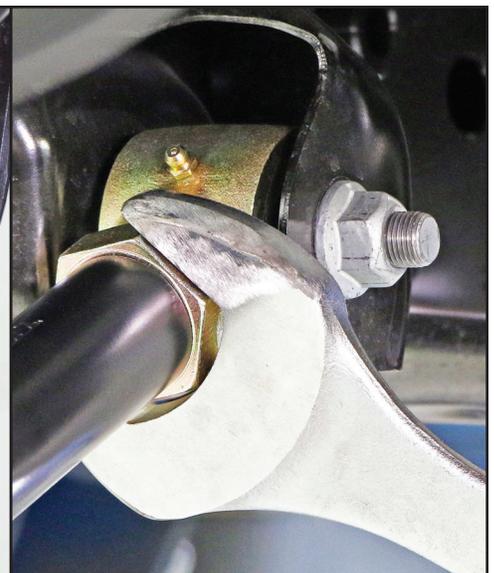
Step 58

At this point, front component installation is completed.

Finish up by going back to the control arms and, with a large flat screwdriver or small pry bar, neutralize all of the control arm Johnny Joints in their brackets, meaning - center them evenly so they are not pre-articulated in any direction.

Now go back and tighten all of the control arm jam nuts using a 1 1/2" wrench on the upper arms and a 1 7/8" wrench on the lowers (where equipped) - or a big Crescent wrench.

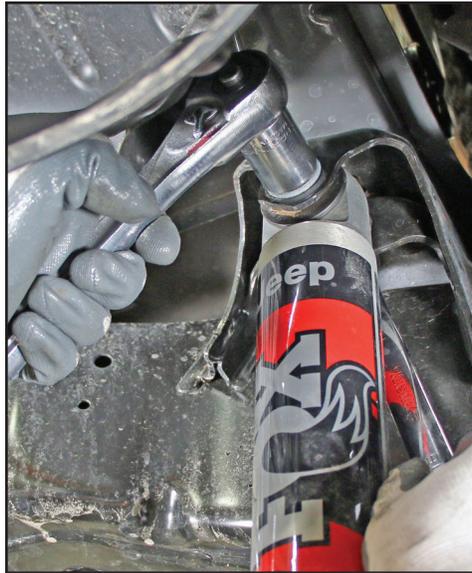
After tightening, go back and ensure all of the Johnny Joints have remained neutral. Reset them if necessary.



Step 59

Moving on to the rear, jack the rear axle assembly up enough to remove the load on the hardware and then remove the rear shocks using a 21mm wrench & socket.

Discard the shocks, but retain the hardware for reuse.



Step 60

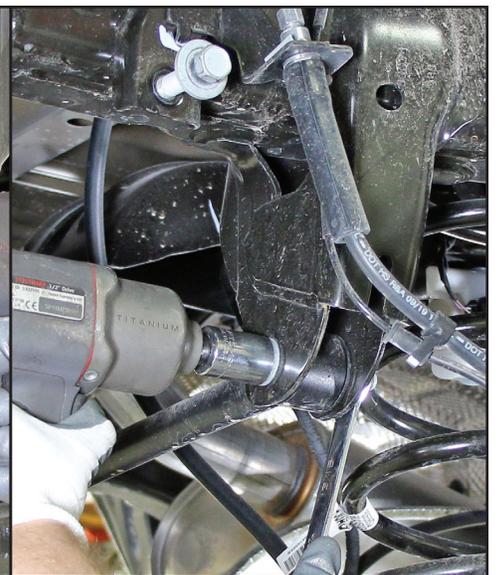
Using a 6mm allen wrench and an 18mm wrench, remove the bottom of the rear sway bar links from the sway bar.

Remove the bolts that attach the tops of the rear sway bar links to the frame with an 18mm socket. Discard the links, but retain the frame bolts for reuse.

Step 61

Regardless of whether or not you are upgrading your rear trac bar, we find it makes this entire job a lot less of a fight with the rear trac bar removed from the vehicle entirely. So, with a 21mm socket, remove the rear trac bar differential bolt. Upon removing the bolt, be aware that the rear differential will shift. Retain the bolt and flag nut for reuse.

With the same 21mm socket and a 21mm wrench, remove the rear trac bar frame bolt and then remove the rear trac bar. Retain the bolt and nut for reuse. Retain the bar if you'll be reusing it.



Step 62

Using a 21mm socket and a 24mm wrench, remove and replace the rear control arms ONE AT A TIME....



Step 63

...and replace with the corresponding new arm, reusing the factory hardware.

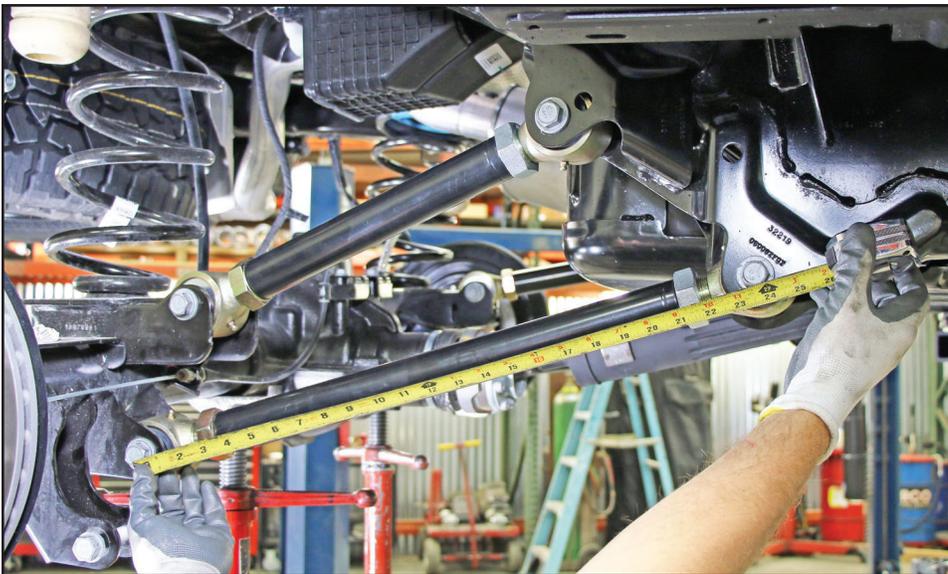
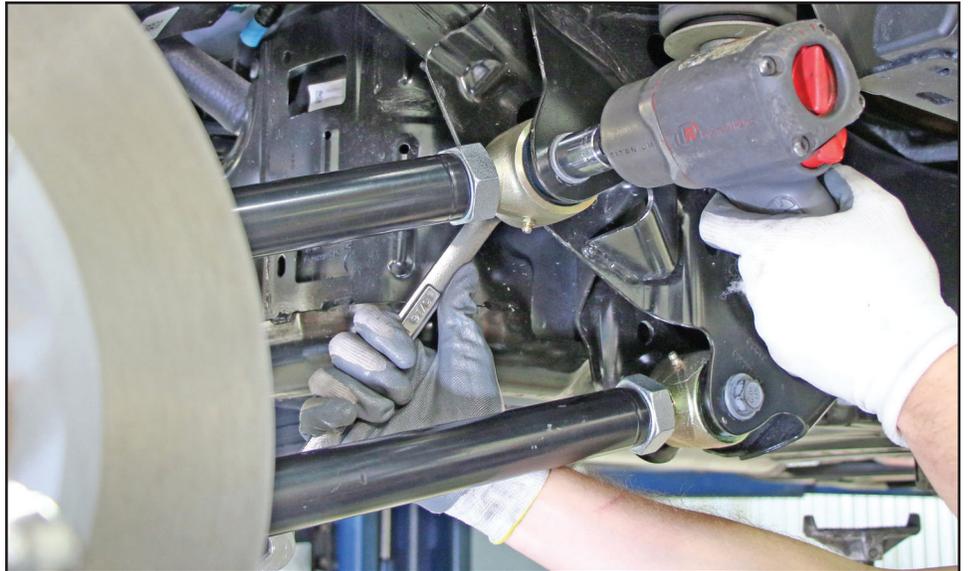
Step 64

Using the same 21mm socket and 24mm wrench, you will repeat this process for all 4 rear control arms.



Step 65

Tighten all of the bolts and then torque to spec.
- WITH THE EXEPTION OF the upper control arm frame bolts. Tighten **those 2** bolts just enough that they won't come loose, because they'll be coming out again before this is job is done!

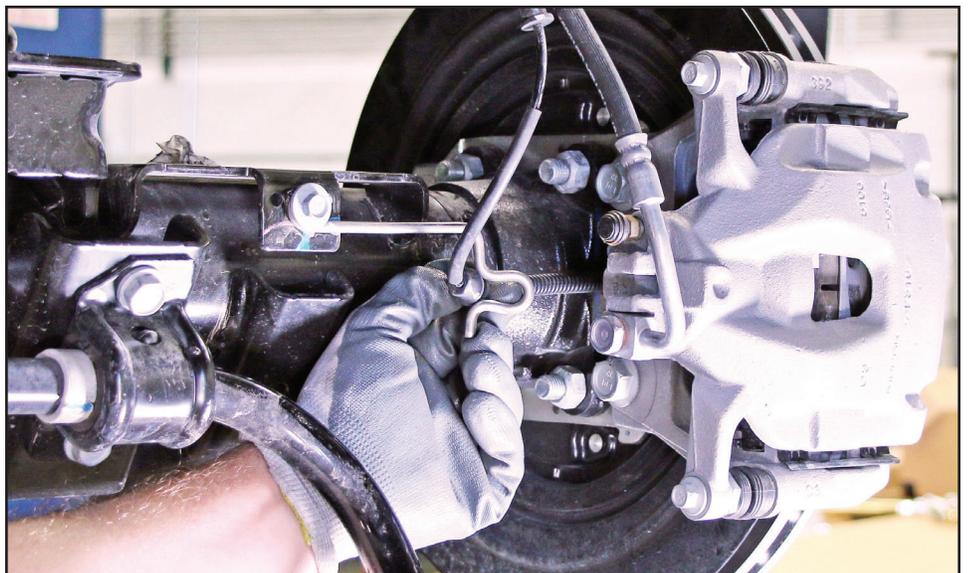


Step 66

For initial settings, match the center to center dimension of the new control arms to that of the corresponding factory arms that you just removed.

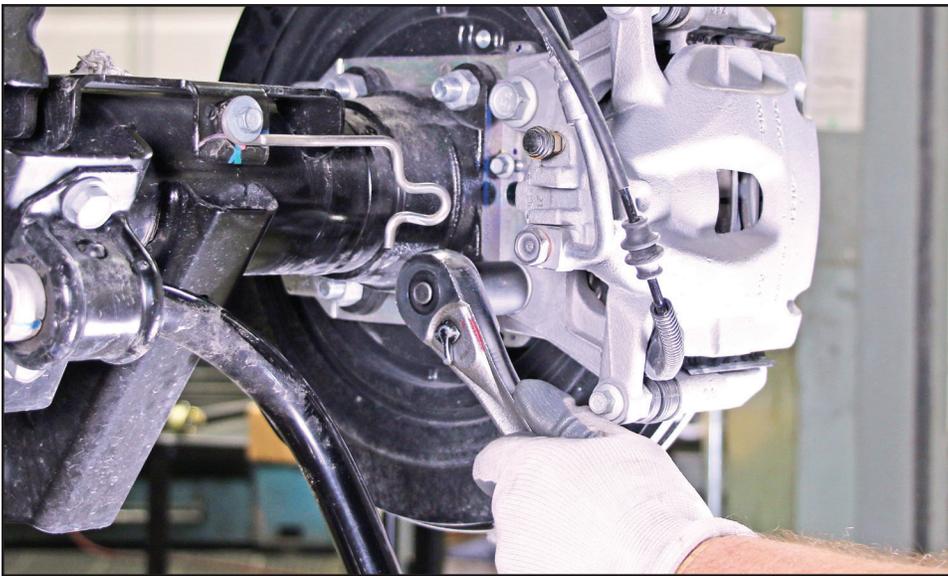
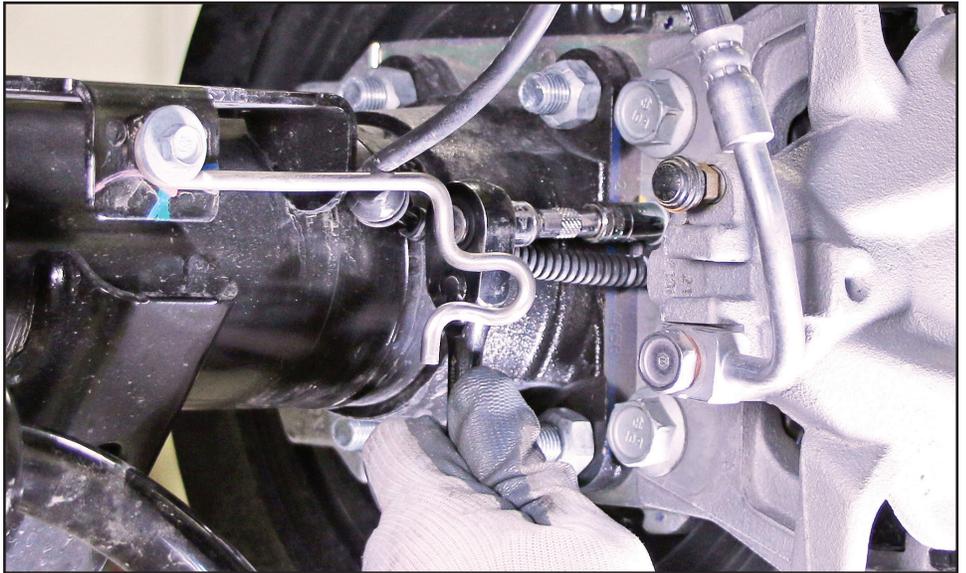
Step 67

Next, pop the wheel speed sensor wires out of the wire bails on the back side of the differential housing. Pull the wires out and around the bail, so they end up on the caliper side of the wire bail.



Step 68

With an 8mm socket, remove the bolts that hold the wheel speed sensors to the brake backing plates and then CAREFULLY pull the sensors out of the backing plates.



Step 69

Remove the 2 caliper mounting bolts per side, using a 18mm socket.

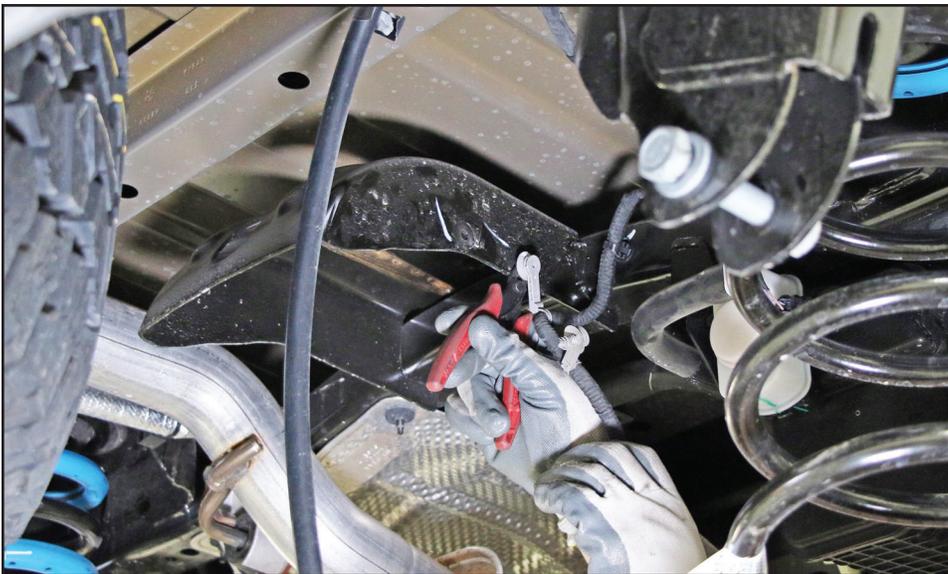
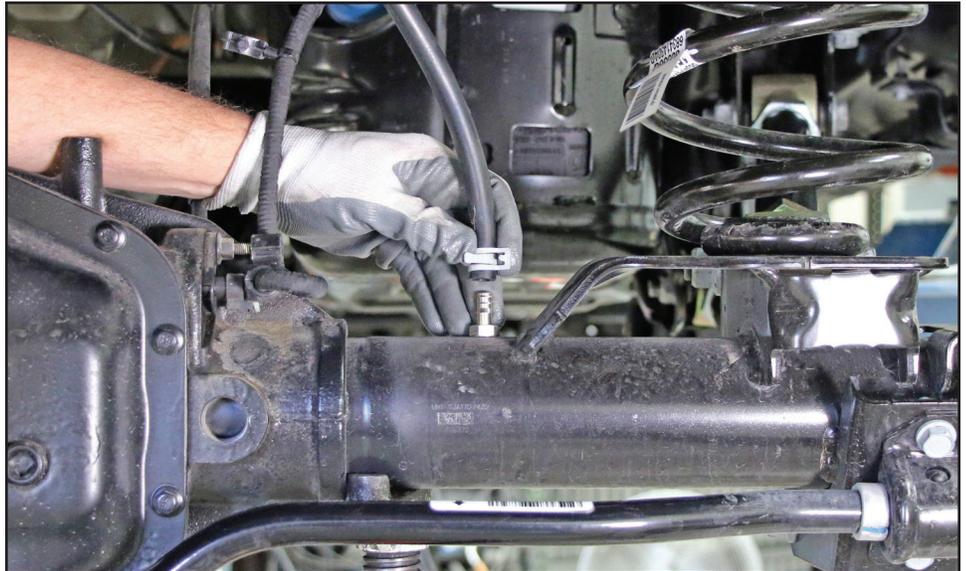
Step 70

Lift the calipers up and out of the way and zip tie them to the frame. Be mindful of the brake lines, the wheel speed sensors and sensor wires at all times to make sure they safely follow the calipers up to the frame.



Step 71

By squeezing the tabs on the differential vent hose clamp, you can remove the hose by hand.

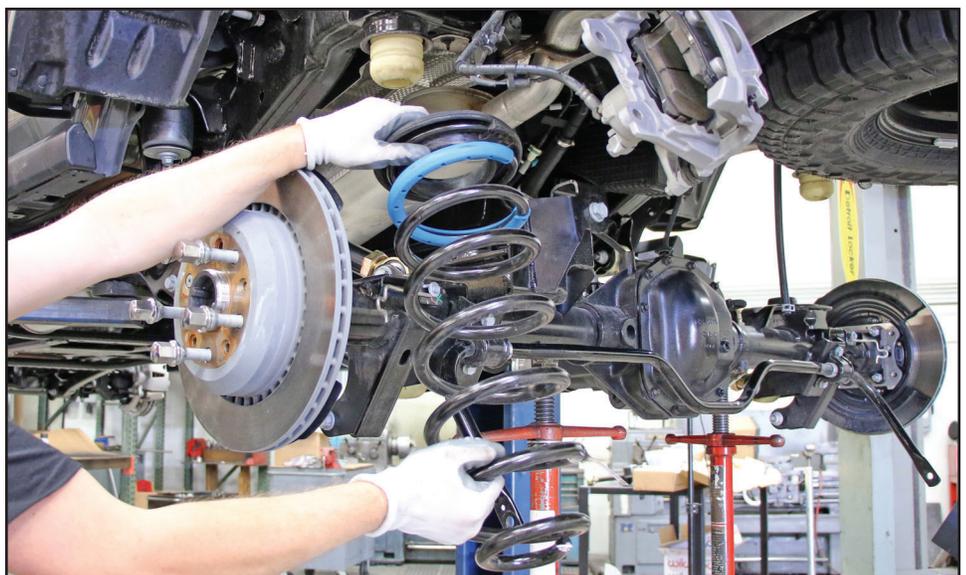


Step 72

Next, if your vehicle is a Rubicon, you will need to follow the differential locker wires from the differential up to their frame attachment point. There you will find 2 gray plastic push in clips anchoring the wires to the frame. With the proper fork tool, you will need to pop these out of the frame to allow the wires to have some slack, so that you can drop the differential further out of the vehicle.

Step 73

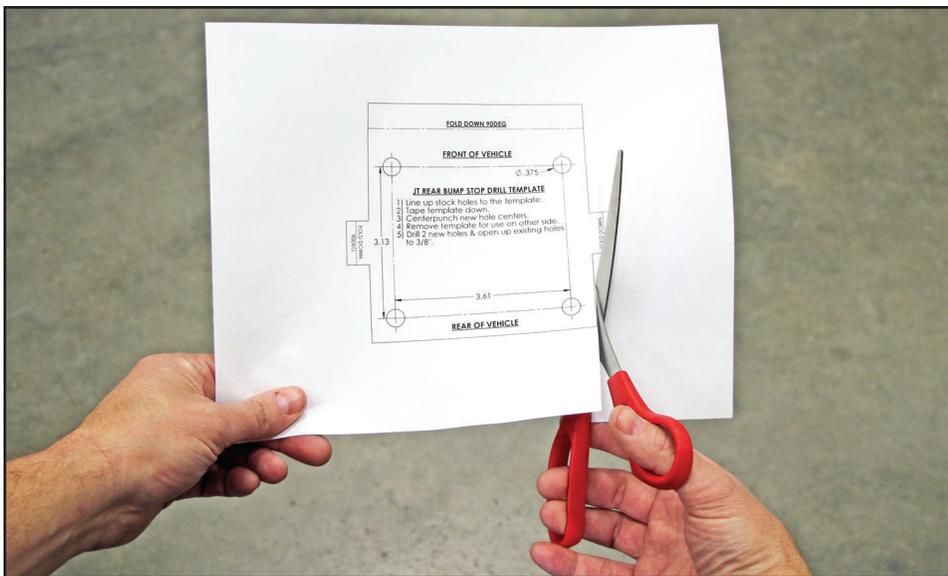
Proceed with dropping the differential farther down out of the chassis, just enough that you are able to safely remove the coil springs from the vehicle. If they will not come out easily, you can lower the differential down further in small increments, just enough to allow ease of removal. Be careful as the springs may fall out! Retain the rubber spring isolators from the tops of the springs for reuse.



Step 74

Go back and ensure that your differential locker wires, your vent hose and your e-brake cables all still have some slack in them.

After you have confirmed this, go ahead and lower the the differential all the way down out of the vehicle until it stops to give yourself some working room.

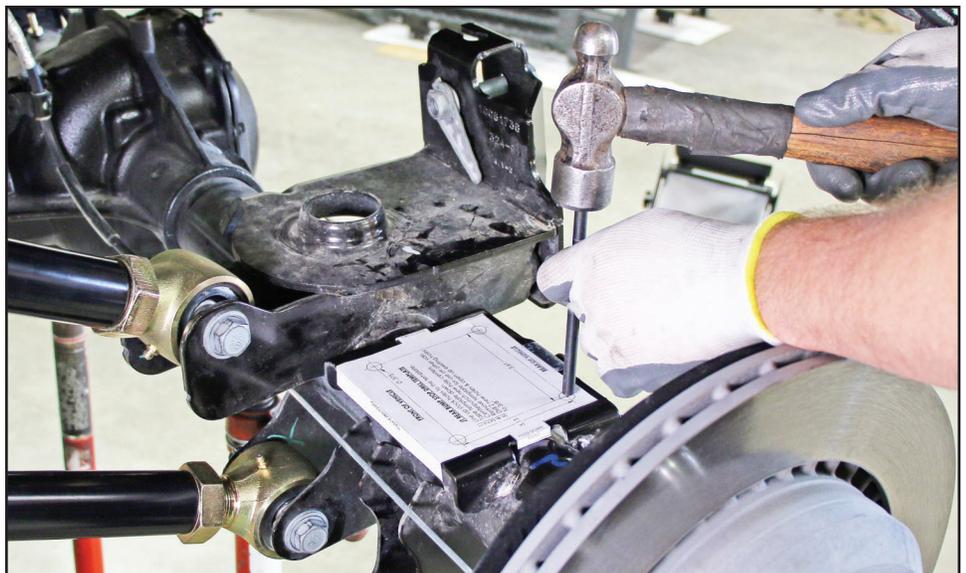


Step 75

On the last page of this instruction manual, we have provided a template that you must print out, cut out with scissors, and then follow the instructions printed on it.

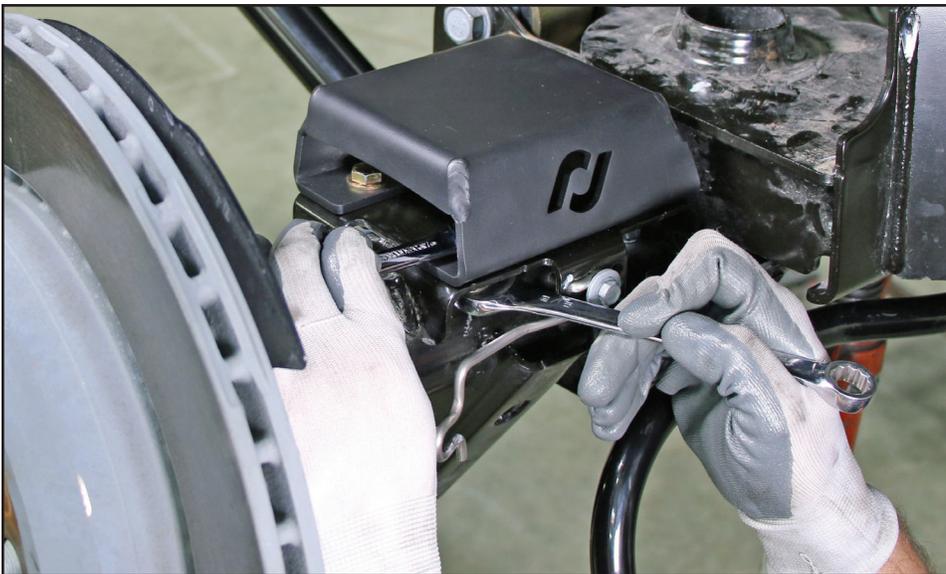
Step 76

After folding the template tabs, as it instructs, fit the template to the factory bump stop pads on the differential housing, align it with the 2 existing holes in the bump stop pads by feeling the holes thru the paper, and then tape the template to the bumpstop pad to secure it. Now center punch the 2 additional holes, noted on the template, into the bumpstop pad.



Step 77

Now you will pilot hole drill the 2 new holes, and then go back and drill all 4 holes out to 3/8". Repeat this process on both sides.



Step 78

Pre-assemble the new rear bump stops by locating 8 of each of a 3/8"-16 x 7/8" socket head allen bolts, 3/8" flat washer and 3/8"-16 serrated flange nuts. Install a bolt and washer into all 4 holes in the bump stops. This will allow you to simply drop the bump stop into place thru the drilled holes.

NOTE: This component has been updated since these photos were taken! It now features holes thru the top, allowing you to insert a 5/16" allen wrench to tighten the bolts. A 9/16" wrench is used on the bottom. MUCH easier than what is pictured!

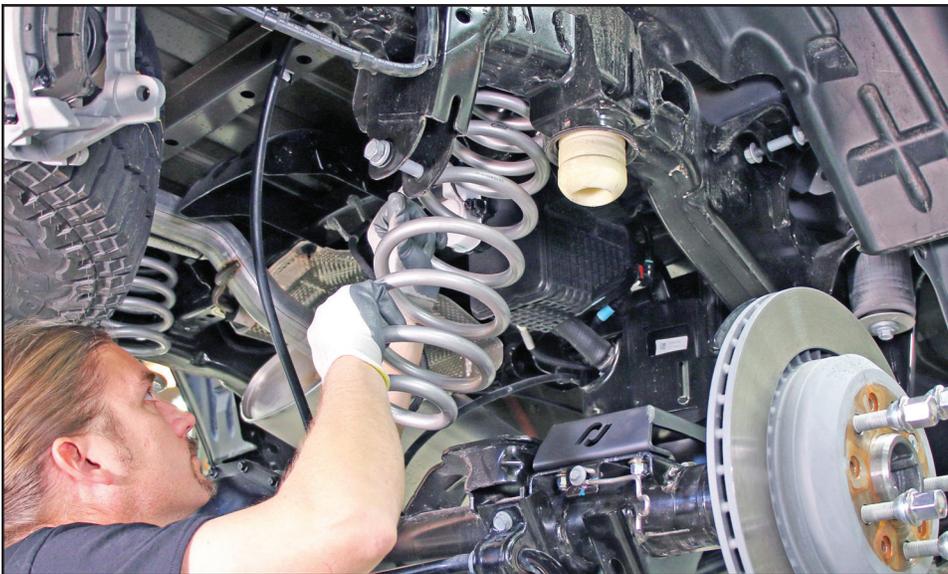
Step 79

Fit the factory rear spring isolators on to the tops of the new rear coil springs. Note that you have to rotate the isolators until the ends of the springs stop into the stop in the isolators.



Step 80

When reinstalling the rear springs and isolator assemblies, be mindful to align the pin on the top of the isolators into their holes in the frame.



Step 81

Install the springs and isolators into the vehicle as a unit.

Step 82

Make sure the bottom of the spring solidly seats onto its hub on the differential housing.



Step 83

Install the rear trac bar geometry correction bracket onto the rear differential housing and complete it's installation entirely, per it's [instruction manual](#).



Step 84

Install the the [new rear trac bar](#) into the frame bracket, and into the new axle bracket, with the zerk fittings pointing down.

NOTE: the end of the adjustable trac bar with the long gold forging Johnny Joint goes to the axle! The short gold forging goes to the frame, as shown.

If you are reinstalling the factory trac bar, simply reinstall both ends as it was stock.

Install using the factory hardware and a 21mm and a 22mm wrench and socket. Torque to spec.

Step 85

Reinstall the rear brake calipers with an 18mm wrench or socket, and torque to spec.



Step 86

If you will be installing a rear Antirock Sway Bar Kit, do so at this time, per it's [instruction manual](#) and disregard Steps 86-89 of this instruction manual and skip ahead to Step 90.

If you are not installing an Antirock, you'll now be assembling your new extended, adjustable rear sway bar links as shown, using the 12 1/2" long gold rods.

You can just thread the studed joints all the way down until they stop for a starting point.



Step 87

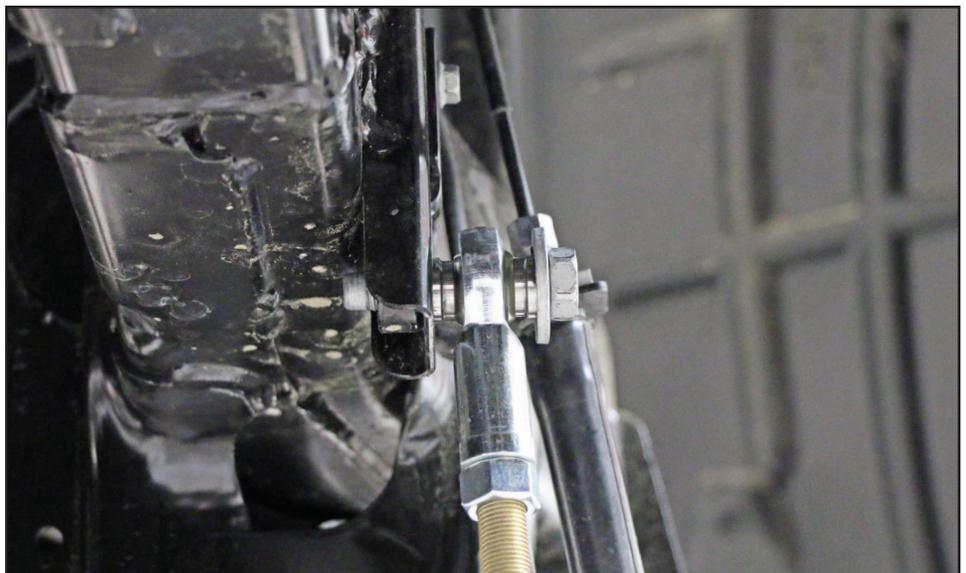
In most cases, the new studed joints will not fit thru the stamped, metric hole in the factory sway bar.

If you find this to be the case on your sway bar, you will need to ream the hole in the sway bar with a 12mm drill bit.

Step 88

Install the tops of the new rear sway bar links back into the stock holes, using the stock bolts and an 18mm wrench or socket.

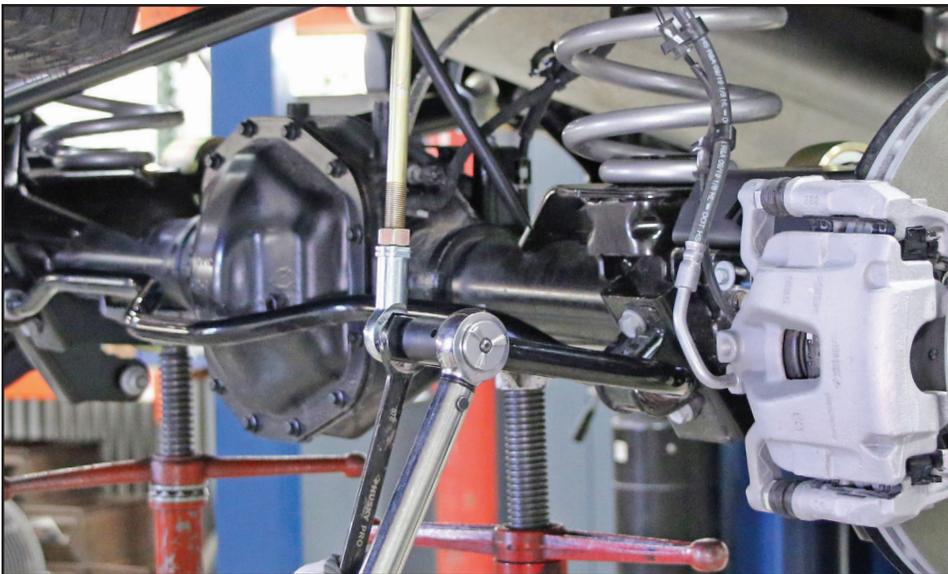
NOTE: you will use a .238" thick high misalignment spacer on each side of the heim joint, with the smaller diameter side of the spacer pointed inward to the heim joint. Torque the bolts to spec.



NOTICE: Special Tools Required

Installation of sway bar link ends requires a thru-hole ratchet, and a 6mm allen wrench, as shown to the right.

The thru-hole ratchet & socket kit that we used in this install was purchased at Harbor Freight under their item number [62305](#).



Step 89

Finish the rear sway bar link installation by inserting the studded joint into the factory tab on the differential housing from the inboard side of the tab, putting the lock nut on the outboard side of the tab, toward the tire. **Tighten with the 18mm thru-hole ratchet & socket and the 6mm allen wrench mentioned above.**

Step 90

You will now need to compress the differential back up into the vehicle to it's new, lifted ride height.

After doing so, install your choice of new rear shocks. The shocks install just as the stock ones came off, with the factory hardware. Torque the bolts to spec.

You can see options and specs. for the correct shocks on our website, [here](#).



Step 91

Reattach the front-most gray plastic push-in clip that holds the Rubicon locker wire loom to the frame (if equipped). Leave the rear clip loose to allow for slack in the wire loom now that the vehicle is lifted.



Step 92

Reconnect the differential vent hose in the same fashion in which you removed it - just squeeze the clamp.

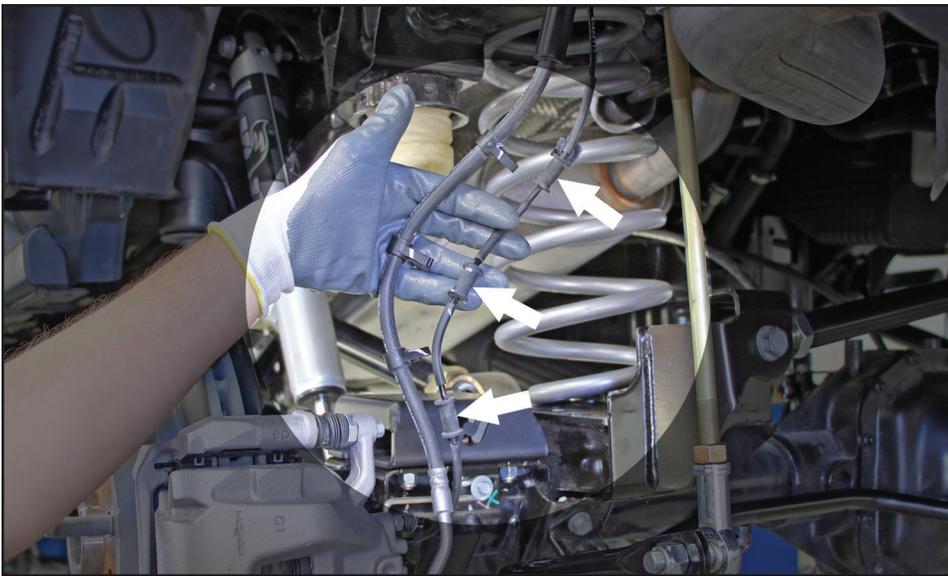
Step 93

CAREFULLY reinstall the wheel speed sensors, tighten their bolts with an 8mm socket, then torque to spec.



Step 94

Next we'll move on to installing the new, extended rear brake lines. Start by popping the wheel speed sensor wires out of the brake hose frame brackets.

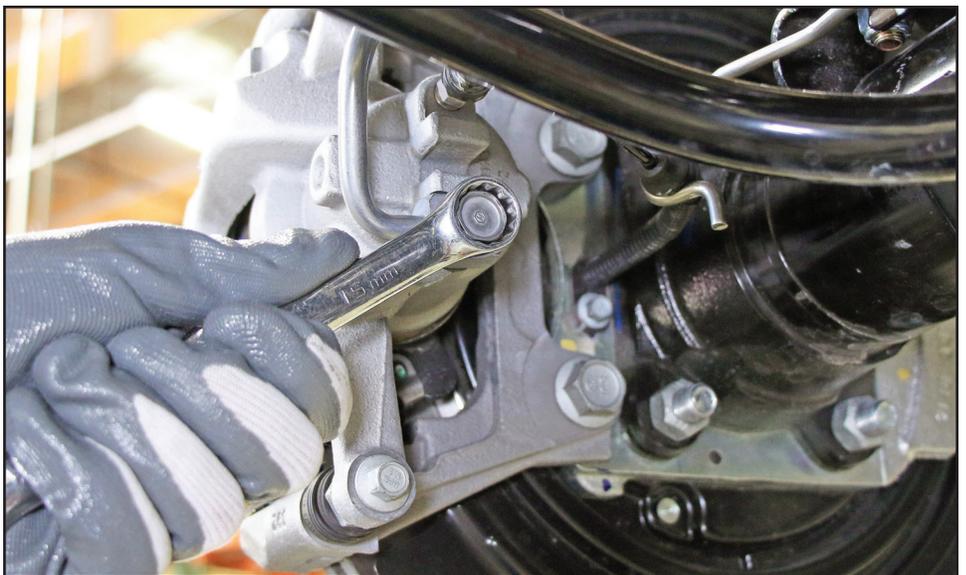


Step 95

Following the wires down, you will find 3 rubber barrels that mount into plastic clips on the brake hoses. Pop all of these rubber barrels free of the clips.

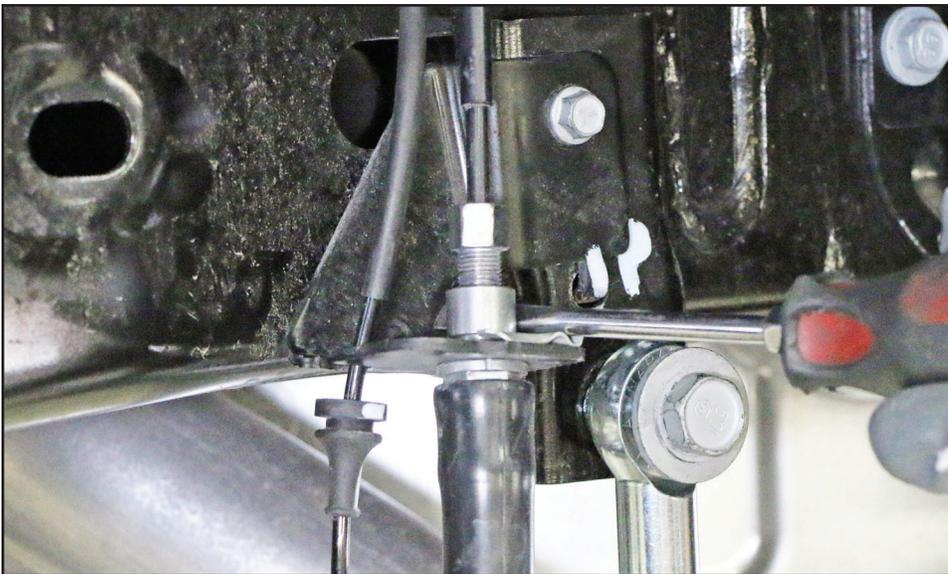
Step 96

Put a proper container under the calipers to catch the brake fluid and then remove the brake hose banjo bolts from the back of the calipers with a 15mm wrench. Retain the banjo bolts for reuse.



Step 97

With the proper 10mm line wrench, free the hard brake line fittings from bulkhead fittings at the tops of the brake hoses.



Step 98

Now pop the square brake hose bulkhead fitting clips off of the tops of the hoses and remove the brake hoses and discard them. Retain the clips for reuse.

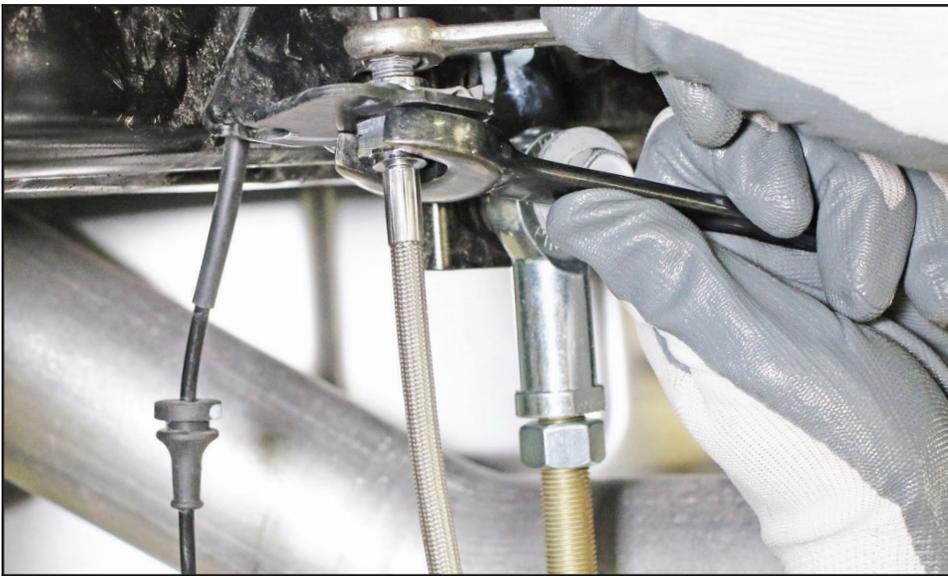
Step 99

Test fit the bulkhead fitting ends of the new brake hoses into the bulkhead fitting brackets. In most cases, you will need to ream the holes in the brackets with a 5/8" drill bit to allow the new lines to insert and seat properly.



Step 100

Once the bulkhead fittings are seated properly in the brackets, reinstall the square bulkhead fitting clips.



Step 101

Using a 3/4" wrench and your 10mm line wrench again, install the hard line fittings into the new brake hoses.

Step 102

In the new extended rear brake hose kit, you will find 4 new copper washers. Upon close examination of the washers, you will notice a flat side and a rounded side.

Using your factory banjo bolts, assemble the banjo bolts and copper washers on to the banjo fittings of the brake hoses as shown, with the round sides of the washers inward, touching the banjo fitting.

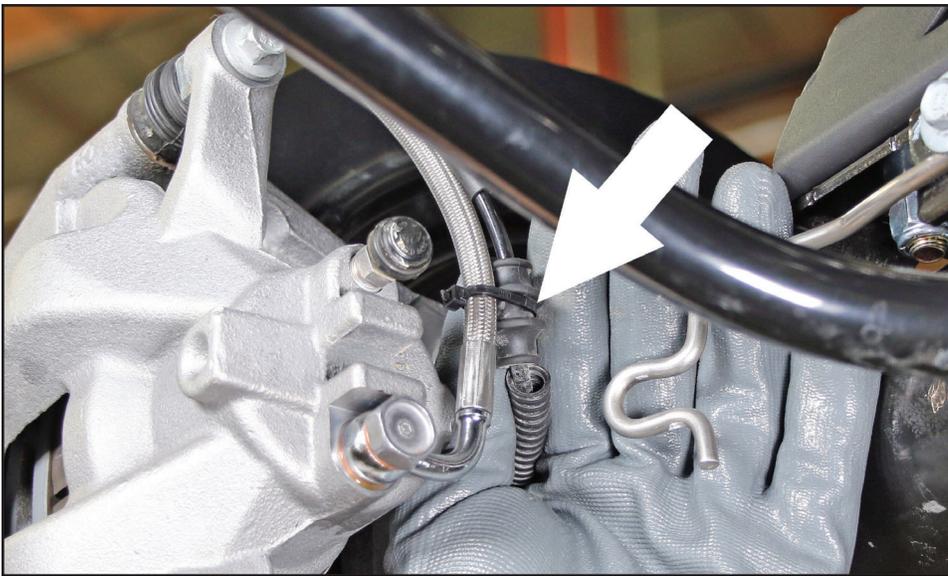
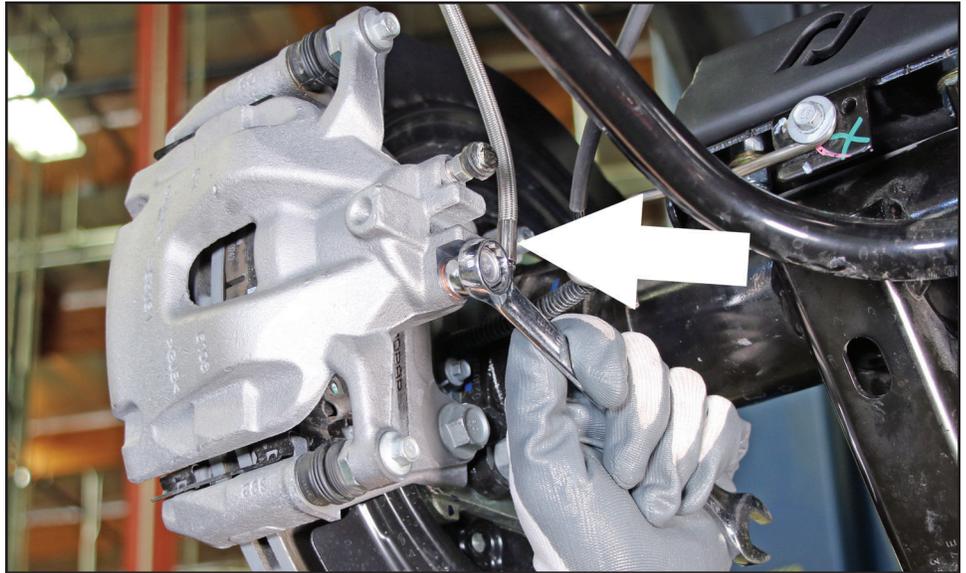


Step 103

Install the banjo fittings back into the calipers using a 15mm wrench.

NOTE: Be mindful of the clocking of the hard steel ends of the brake hoses.

Torque the banjo bolt to spec.



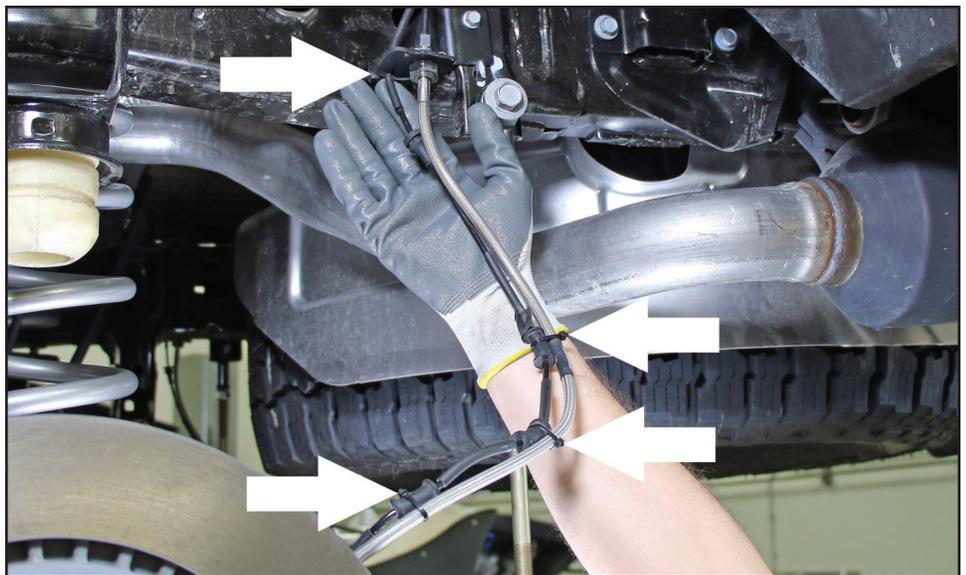
Step 104

Now find the rubber barrels that attached the speed sensor wires to the wire bails on the differential housing. You will want to zip tie the barrels to the new brake hoses, as shown.

Make sure you give the wire between the zip ties and the sensors some slack so that no load or stress is applied to the sensor.

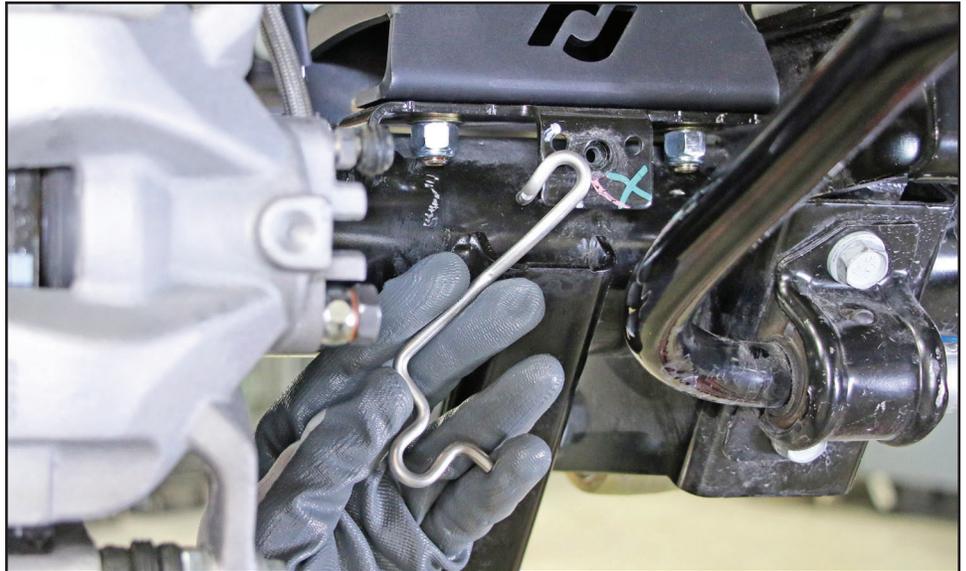
Step 105

Following the wires upward, find 3 additional rubber barrels on each side and zip tie them to the brake lines as well. At the very top, you can insert the wires into the notches in the brake line brackets where they were formerly affixed.



Step 106

Not a mandatory step, but just to clean things up, with a 10mm wrench, you can go ahead and remove the wire bails from the differential housing and discard them and their hardware.



Step 107

Lastly, you'll need to locate the driveshaft carrier bearing under the vehicle. You'll need to support the front and back half of the driveshaft so that you can unbolt the carrier bearing. Using a 16mm wrench, unbolt the carrier bearing, discard the factory hardware, drop the bearing down down, install the RockLock carrier bearing spacer, and then bolt the carrier bearing and spacer back up with the new, supplied bolts, lock washers and a 15mm wrench.

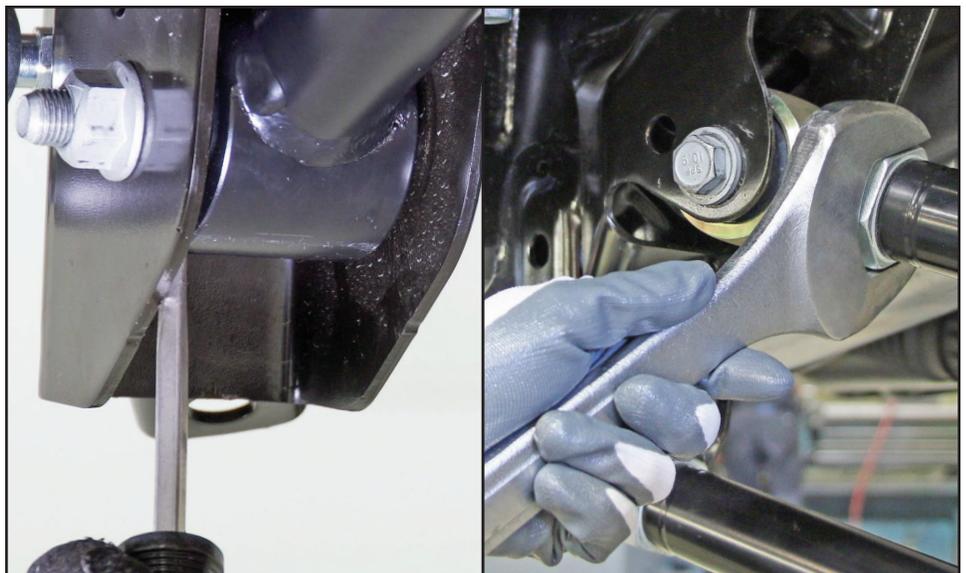
Step 108

At this point, rear component installation is completed.

Finish up by going back to the control arms and, with a large flat screwdriver or small pry bar, neutralize all of the control arm Johnny Joints in their brackets, meaning - center them evenly so they are not pre-articulated in any direction.

Now go back and tighten all of the control arm jam nuts using a 1 7/8" wrench (where equipped) - or a big Crescent wrench.

After tightening, go back and ensure all of the Johnny Joints have remained neutral. Reset them if necessary.

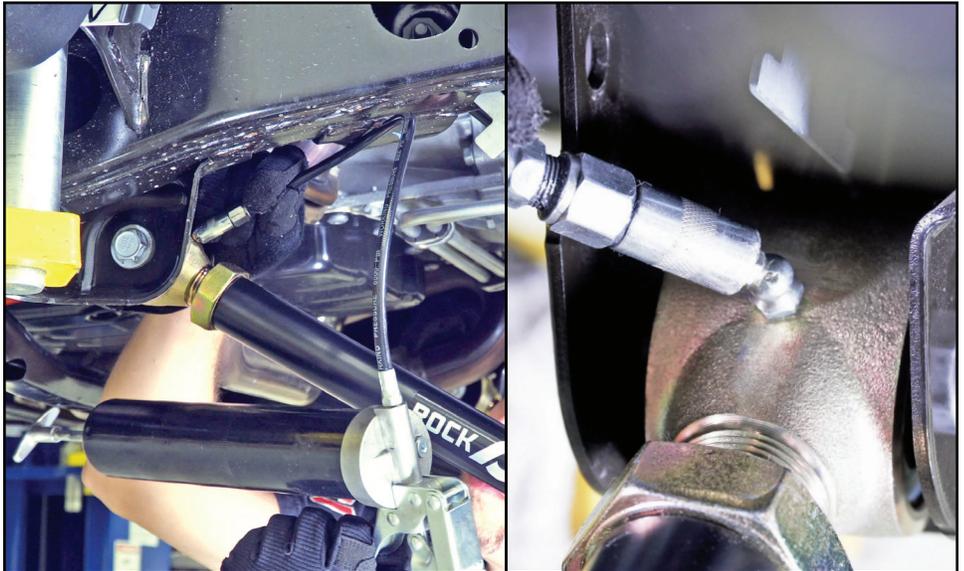


Step 109

Now seek out every Johnny Joint grease zerk fitting front to back and grease it with a grease gun.

Keep in mind, there is not a lot of room inside a Johnny Joint for grease - so don't expect them to take a ton of grease.

NOTE: only use hi-moly, petroleum based, non-synthetic grease. If you cannot find this grease in your area, we offer it on our website under part number [CE-9013G](#).



Step 110

Install your choice of wheels and tires.

After installing the wheels and tires, safely set the vehicle back on the ground.

Torque the lug nuts to the wheel manufacturer's specs.

Step 111

With the vehicle on the ground we will finish up the trac bars.

With the front trac bar disconnected from the differential (which it should still be anyway), measure from the side of the frame to a replicatable point on the tire, or you can get underneath and go from the frame to a wheel lip, etc. Take this measurement on both sides. You will more than likely find that the measurements are not equal.



Step 112

Repeat the measurement, to the same points on the other side. Your vehicle's frame could be shifted off center in either direction from the differential.



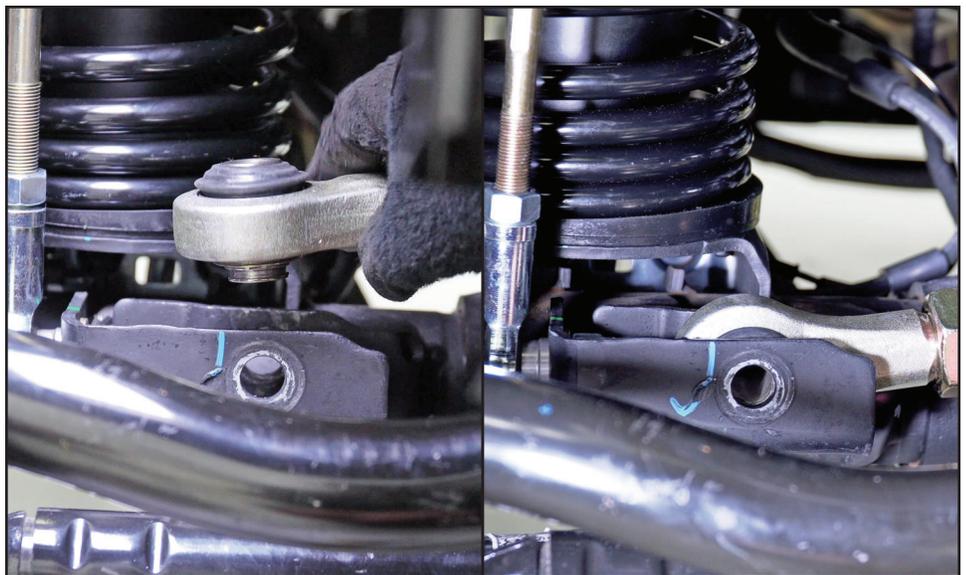
Step 113

We've found the easiest way to center the chassis over the axle is with a ratchet strap. This illustrates pulling the frame in one direction - but keep in mind, you vehicle may need to be pulled the other direction.

Ratchet the frame over and then go back and repeat the frame to tire measurements again, until it is centered.

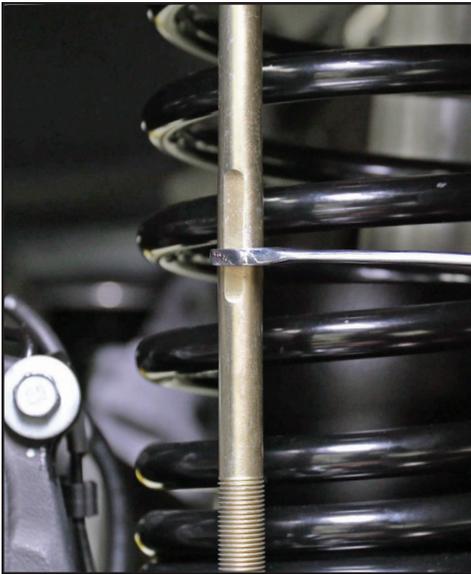
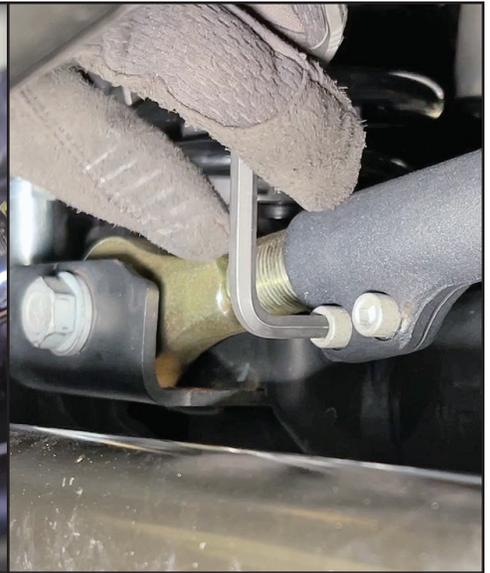
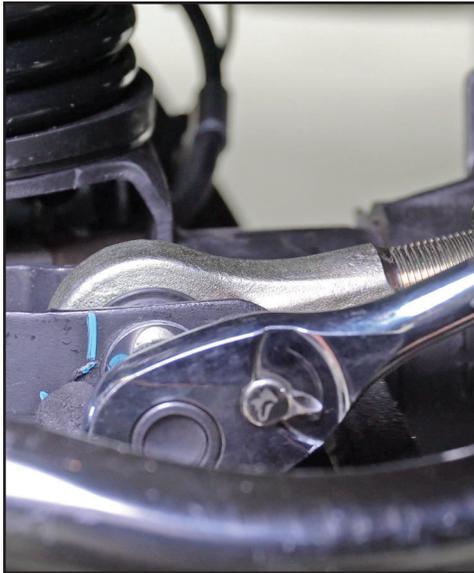
Step 114

Once you have pulled the frame into position and you have remeasured to ensure that the frame is centered over the differentials, then go back and adjust the trac bar. Simply adjust the trac bar's length until you can drop them into their brackets and slide their bolts right thru easily.



Step 115

Finish by installing and torquing the front trac bar attaching bolt to spec., and then tighten the front trac bar adjustment pinch bolts.



Step 116

With an 11mm wrench, neutralize any load that has been applied to the adjustable front sway bar links. You don't want to change their length necessarily, just rotate them back and forth until you can see that they are not experiencing any applied load from the weight of the vehicle. If you do find load, simply adjust the length one of the rods to release that load. Once you are satisfied with this process, go ahead and lock down your sway bar link jam nuts with a 3/4" and an 18mm wrench.

Step 117

If you've installed the Johnny Joint adjustable rear trac bar, you'll need to repeat the measuring process in the rear.

NOTE: if the kit you purchased did not include the adjustable rear trac bar, you may disregard this adjustment process **in the rear**.



Step 118

Just like the front, measure both sides to see how far off you are and in which direction you need to pull.

Additionally, if you did not upgrade your rear trac bar, this will show you how far off you are and possibly prompt you to want to upgrade!



Step 119

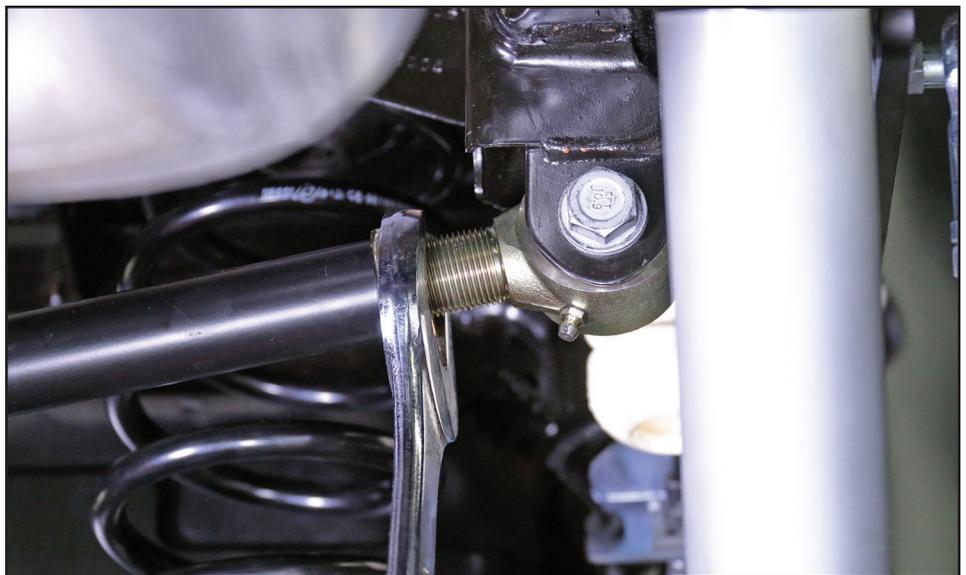
The rear trac bar is double adjustable, meaning it has right hand and left hand threads and should be able to be adjusted on the vehicle.

If it puts up a fight, you'll just have to use the ratchet strap.

Once you get it centered and adjusted, tighten the jam nuts on the Johnny Joint trac bar with a 1 1/2" wrench.

Step 120

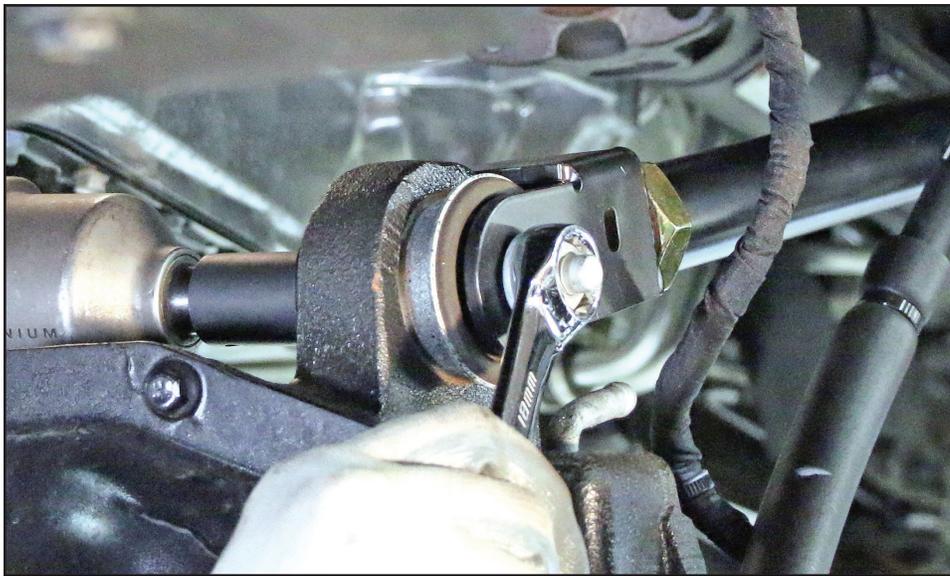
Once you get it centered and adjusted, tighten the jam nuts on the Johnny Joint trac bar with a 1 1/2" wrench.



Step 121

With an 11mm wrench, neutralize any load that has been applied to the adjustable rear sway bar links. You don't want to change their length necessarily, just rotate them back and forth until you can see that they are not experiencing any applied load from the weight of the vehicle.

If you do find load, simply adjust the length one of the rods to release that load. Once you are satisfied with this process, go ahead and lock down your sway bar link jam nuts with a 3/4" and an 18mm wrench.



Step 122

Lastly, we'll address adjusting your front and rear upper control arms to neutralize your suspension and eliminate any suspension bind. Right now, your vehicle should be on the ground with the trac bars properly adjusted.

Disconnect the passenger's side front upper control arm from the axle and the driver's side rear upper control arm from the frame.

Starting with the front, check your caster angle and make sure it is set where you want it. We HIGHLY recommend 4.9 degrees of caster (between 4.5 and 5.5 degrees is fine, but we shoot for 4.9 specifically). If your caster needs to be adjusted, put a jack under the pinion yoke on

the front axle and adjust the driver's side upper control arm's length as necessary to get your caster to 4.9 degrees. With that adjustment done, you may now tighten and torque the driver's side upper control arm's bolt to spec.

At this point, your passenger's side upper control arm's fork should drop right onto the differential housing bushing and you should be able to easily slide its bolt thru. If you cannot, this means you have suspension bind. Simply adjust the passenger's side upper control arm until the bolt installs easily. Slide the bolt in and torque it to spec.

Follow this same entire procedure with the rear differential. Only differences will be - you'll be using the arms on the opposite sides of the vehicle for the outlined purposes, you'll be doing your



adjustments with the frame ends of the arms, and the critical factor you are shooting for on the rear is 2 to 3 degrees of "down" pinion angle, in relation to the driveshaft's angle. So, essentially, disconnect the driver's side upper control arm from the frame, adjust your pinion angle with the passenger's side upper control arm and then torque it to spec., adjust the driver's side upper control arm until the bolt will slide right thru and then torque that bolt to spec. as well.



Step 123

Lastly, reinstall the plastic or steel valance panel under the front bumper.

Step 124

Reinstallation of the plastic valance panel requires reinstallation of its 2 original 8mm head screws that install thru the bores in the valance panel, as well the plastic rivets that pop back into their holes.

The steel valance panel reinstalls using its original bolts with a ratchet or impact wrench.



Concluding Notes: BEFORE DRIVING YOUR VEHICLE

At this point the kit component installation is completed! A few more things left to do:

- You will need to check your brake fluid level - because you lost some when you replaced the brake hoses. Bleed your brakes if necessary!
- For safety's sake, go back over the entire vehicle, bumper to bumper, and double check that every brake line is free, every wire is back in its place and every nut and bolt is tight. Double check all 8 of the control arm jam nuts and the 3 trac bar jam nuts to make sure they are tight
- Repeat the greasing of all of the zerk fittings after 500 miles, and then after every 3,000 miles.
- Test drive the vehicle at moderate speed for 1-2 miles to ensure everything is seated and safe and that you don't hear any noises.

Congratulations! You have just installed the finest suspension system available on the market! Enjoy and we hope to see you on the trail!

