

ESTABLISHED
1991



INSTALLATION INSTRUCTIONS



**2.5" FORTEC® DUAL RATE SUSPENSION KIT BY JKS®
FOR 07-18 JEEP WRANGLER JK & JK UNLIMITED**

4-Door Part N0: JKS 102K-RE
2-Door Part N0: JKS 103K-RE

INSTALLATION TIME: 6 Hours



Quality ★ Expertise ★ Performance

Legal

Thank you for purchasing the 2.5" FORTEC® Dual Rate Kit for your 2007-2018 Jeep® Wrangler. Installing a 2.5" suspension kit is not rocket science, however your knowledge should go beyond house hold tools. We recommend that you read through this instruction manual in its entirety before proceeding with the installation. If you are uncomfortable with any of the steps in this manual please bring your Jeep® to your nearest FORTEC® installation center. FORTEC® is not responsible for damage or failure resulting from an improper or modified installation.

Before you start:

- Read all Instructions carefully and pay attention to all Warnings, Cautions and Notes
- Have your OE service manual handy and wear safety glasses
- Each hardware kit in this system contains fasteners of high strength and specific size. Do not mix hardware kits or substitute fasteners of lesser strength
- Apply a drop of thread locking compound to all bolts during installation
- Loosen but do not remove all 8 control arm bolts
- Unless otherwise specified, tighten all nuts and bolts to the standard torque specifications shown on page 13
- Use a Torque Wrench for accurate measurements

If any parts are missing do not proceed with the installation, but call FORTEC® at 1 866-679-5337 for assistance. **WARNING:** This suspension system will enhance the off- road performance of your vehicle. It will handle differently, both on and off-road, from a factory equipped Wrangler JK or any other passenger car or truck. Extreme care must be used to prevent loss of control or rollover during abrupt maneuvers. Failure to drive this vehicle safely may result in serious injury or death to the driver and passengers.

CAUTION: Owner's choice of larger tire and wheel combinations may require additional braking force or increased stopping distances. Always wear your seat belts and reduce your speed during turns.

NOTE: Check your state law before undertaking these modifications or using your modified suspension vehicle on road. A summary of current regulations affecting modified suspension vehicles is available from www.SEMA.org.

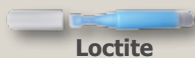
Parts List



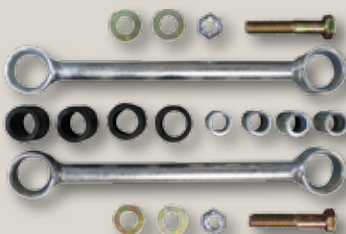
Dual Rate Front Springs



Rear Trackbar Drop Bracket with Hardware



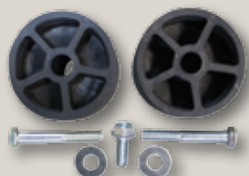
Loctite



Rear Sway Bar End Links with Hardware



Dual Rate Rear Springs



Front Bump Stops and Self Tapper with Hardware



Front Brakeline Relocation Brackets with Hardware

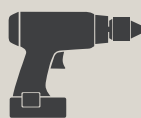


Rear Brakeline Relocation Brackets with Hardware



Rear Bump Stops with Hardware

Tools Required



Power Drill



Wrench Kit



Ratchet



1/2



5/8



9/16



10mm



11mm



13mm



15mm



16mm



18mm



19mm



21mm



5/16



1/2

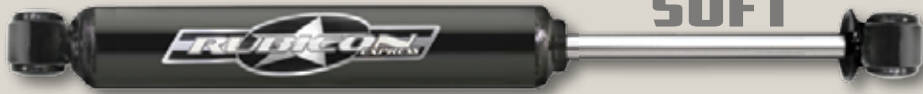


Drill Bit



Drill Bit

Shock Options



SOFT

Rubicon Express® Twin-Tube

Twin-tube shocks will help your Jeep® reach its full potential without emptying your wallet! These oversized shock bodies with 1.625 in. diameter pistons for maximum control and 11/16" chrome shafts for maximum strength. They also include rebound stops, multi-lip seals, black urethane bushings, and double welded rings for durability, making them anything but your typical shocks! Twin-tubes are tuned application specific, so you will have no worries about ride quality when they're paired with your new suspension system.

FRONT: RE RXT2421B
REAR: RE RXT2420B



MEDIUM

Bilstein® 5100 Series

Tube strength, heat dissipation and superior craftsmanship makes this mono tube shock increasingly the choice for the educated Jeep®er. These durable Bilsteins are used in AEV and FORTEC® tuned suspension kits.

FRONT: BIL 24-146708
REAR: BIL 24-146715



FIRM

2.0 FOX® Adventure Mono Tube

The 2.0 Adventure Mono Tube Shocks. The large 5/8 inch alloy steel shock shaft adds increased strength and rigidity. The shafts are NitroSteel® hard-coated to resist pitting and scratches that can damage shaft seals. The Internal Floating Piston (IFP) separates the shock oil from the high-pressure, nitrogen charged gas chamber. The IFP eliminates oil aeration allowing maximum performance from the factory-tuned precision valving.

FRONT: FOX 983-50-022
REAR: FOX 983-50-024

Upgrades

Below products do not come with the FORTEC 2.5" Suspension kit but can enhance on and off road drivability.



0.75" Spring Spacer Kit

These 3/4" polyurethane spacers level the front of the Jeep® with the rear or the other way around. You can also use these as a mini lift should you run 33" tires on your JK. They will give you a bit more room and improve the looks without sacrificing your ride.

FRONT & REAR PAIR: DS KJ09138BK
FRONT PAIR: DS KJ09139BK
REAR PAIR: DS KJ09140BK



AEV ProCal Programmer

The AEV ProCal module can reprogram your JK's computer, adjusting for gear ratio and tire size changes after lift kit installation. Many other additional features. PART NUMBER: AEV 30406007AG



FORTEC® Exclusive Dual Stabilizer Kit for 07-18 Jeep® Wrangler JK

Any Jeep® with oversized tires deserves a better than factory steering stabilizer. Reduce tire wear, improve vehicle control and reduce shimmy steering. EXCLUSIVELY FROM FORTEC®. PART NUMBER: FT 24-158428-2



FOX® ATS Steering Stabilizer

The Fox® Performance Series Adjustable Through Shaft (ATS) steering stabilizer offers unrivaled steering control and a striking high tech appearance. The technologically advanced design cancels unwanted steering forces in both directions, taking the place of two conventional opposing stabilizers. It will also respond to your input with 24 clicks of external adjustment to fine tune the feel. The integrated reservoir allows for additional fluid capacity and improves cooling during extreme use. Also included is FOX's relocating hardware that moves the steering stabilizer up and out of the way using the existing track bar mounting hole. The ATS represents a revolutionary breakthrough in stabilizer design. PART NUMBER: FOX 983-02-070



Old Man Emu Steering Stabilizer

Developed with increased compression and extension damping performance. Provides clearance from other factory suspension components Old Man Emu have utilized a rubber dust boot instead of the traditional steel guard. The OMESD48 steering stabilizer comes with a relocation bracket to suit left hand drive applications. PART NUMBER: OME SD48

REAR

Begin rear suspension teardown by removing the following items:

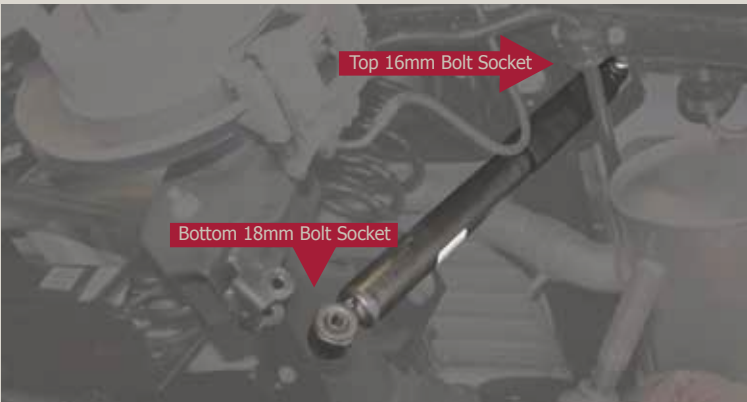
Note: If you do not have a lift, raise Jeep with Floor Jack and support frame with 3 Ton Jack Stands.



1 Disconnect Battery Cables



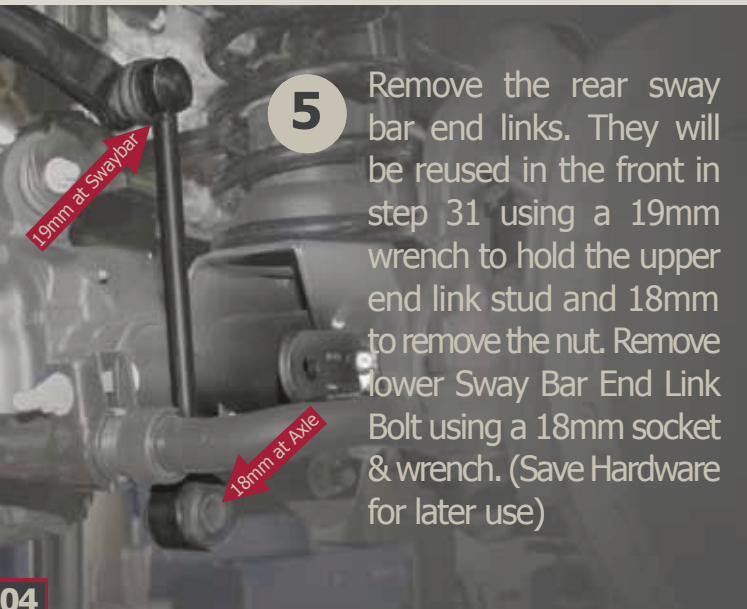
2 Remove the 2 parking brake retainer nuts with a 10mm socket. (Discard Hardware & Brake Line Retainer Bracket)



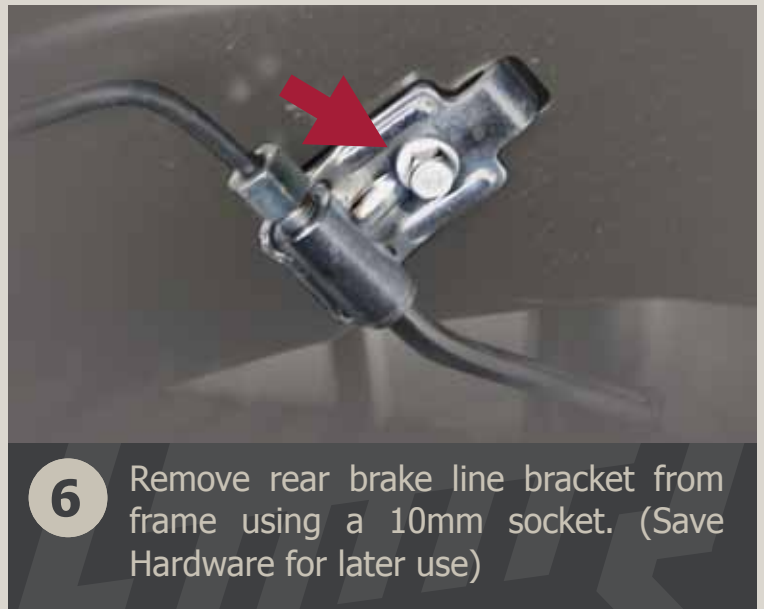
3 Remove the factory shocks by using a 16mm and 18mm socket. (Re-use hardware when installing new shocks)



4 Unbolt the rear track bar at the upper frame side mounting location using a 21 mm socket and loosen the axle side track bar bolt. (Save Hardware for later use)



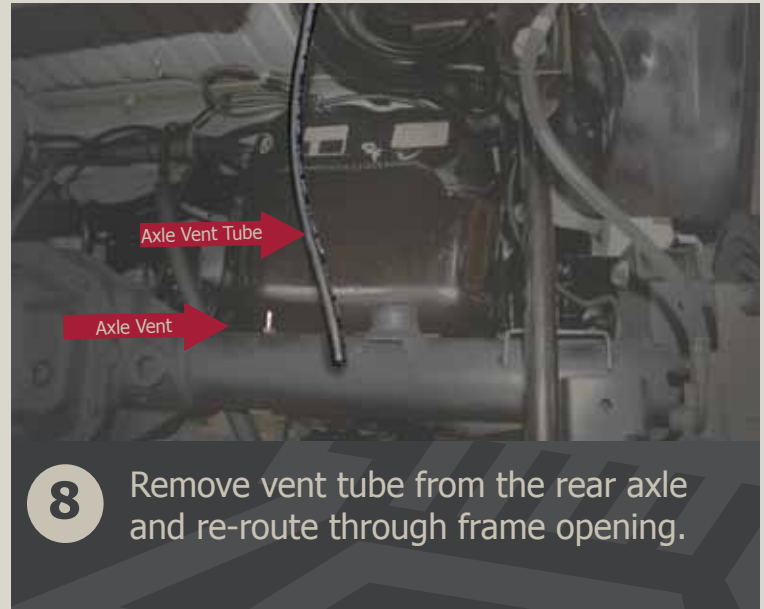
5 Remove the rear sway bar end links. They will be reused in the front in step 31 using a 19mm wrench to hold the upper end link stud and 18mm to remove the nut. Remove lower Sway Bar End Link Bolt using a 18mm socket & wrench. (Save Hardware for later use)



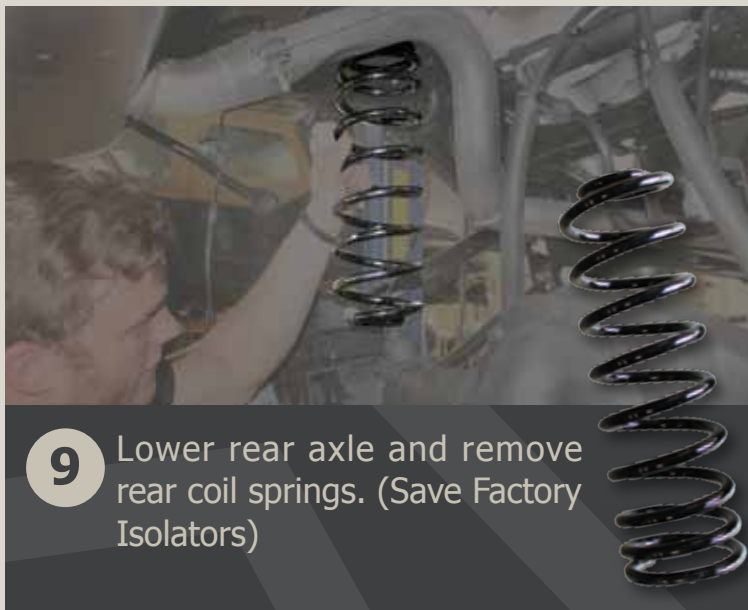
6 Remove rear brake line bracket from frame using a 10mm socket. (Save Hardware for later use)



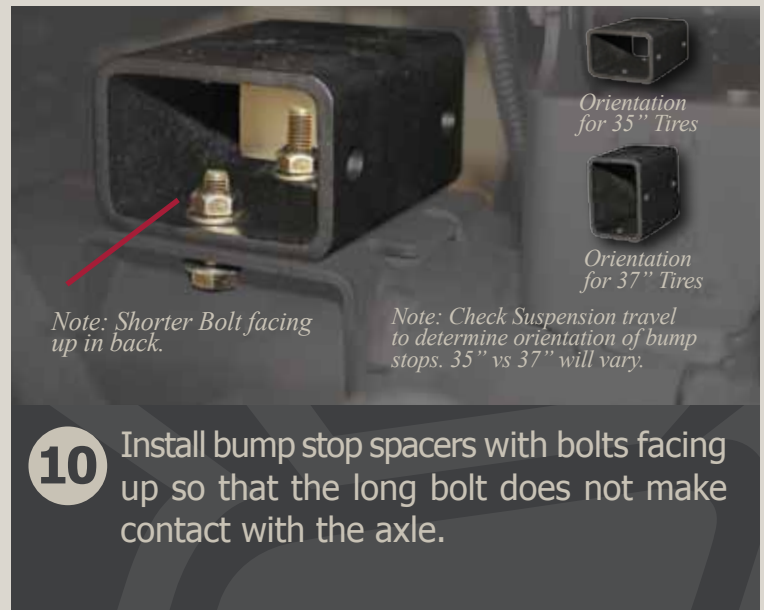
7 Carefully remove speed sensor retainers at upper control arm mount on axle. Discard only front retainer.



8 Remove vent tube from the rear axle and re-route through frame opening.



9 Lower rear axle and remove rear coil springs. (Save Factory Isolators)



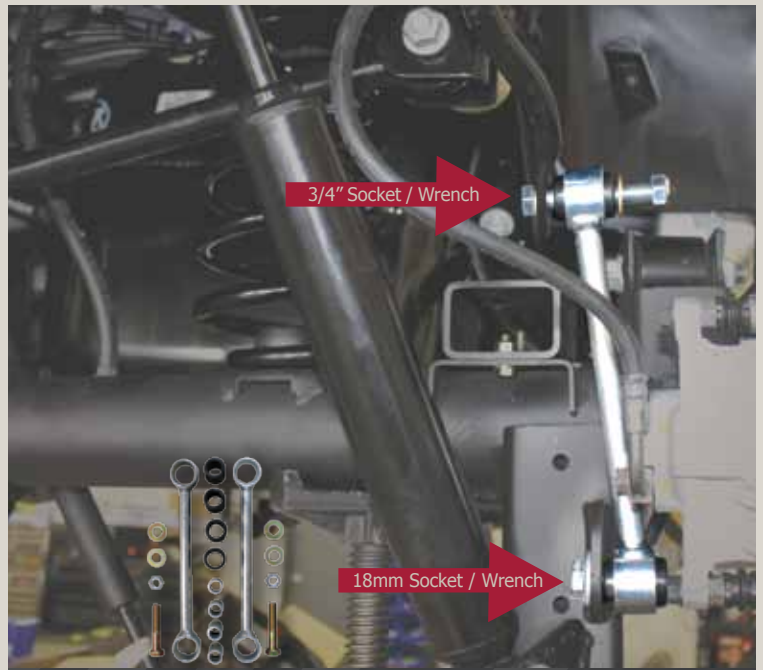
10 Install bump stop spacers with bolts facing up so that the long bolt does not make contact with the axle.



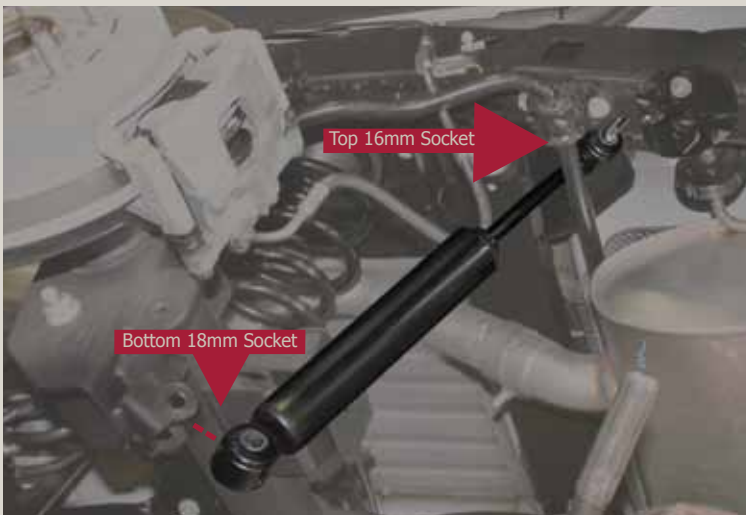
11 Temporarily install the new track bar bracket into the OE frame bracket with the new provided 9/16" hardware. The bracket mounts to the back and outside faces of the OE mount and against the front inside surface on left hand drive models. On right hand drive models, the bracket mounts to the front and outside faces of the OE mount and against the inside rear surface. Using the bracket as a template, mark the outside upper hole to be drilled. Remove the bracket and drill a 1/2" hole at the mark. Install sleeve with provided 9/16" bolt with washers in the upper hole on the track bar drop bracket mounting it to the upper frame mount. Fasten the new bracket to the frame through the outer holes using the provided 7/16" hardware. The bottom hole uses the larger diameter USS washer on the inside to go against the slot in the frame. Torque 7/16" hardware to 40 lbs./ ft.



12 Place factory isolator on top of new 2.5" coil spring and face the lower pig tail of the coil spring towards the rear. (If you are installing 3/4" coil spacers, place them on top of the factory isolators.)



13 Install rear sway bar end links as shown in the illustration (Top facing inward). Use the provided 1/2" bolt at the top and the factory link bolt at the bottom, both facing out. Do not tighten yet.



14 Raise rear axle enough to install shocks, re-use the factory hardware using a 16mm and 18mm socket. Tighten upper shock bolts and leave lower shock bolts hand tight.

Install upper end of shock first. Then start bolts for lower shock mount.



15 Install brake line drop brackets using the previously removed factory bolts from step 6 at the frame. Use provided 1/4" bolts in lower hole of brake line bracket. The factory brake line bracket will be installed inside the drop bracket.

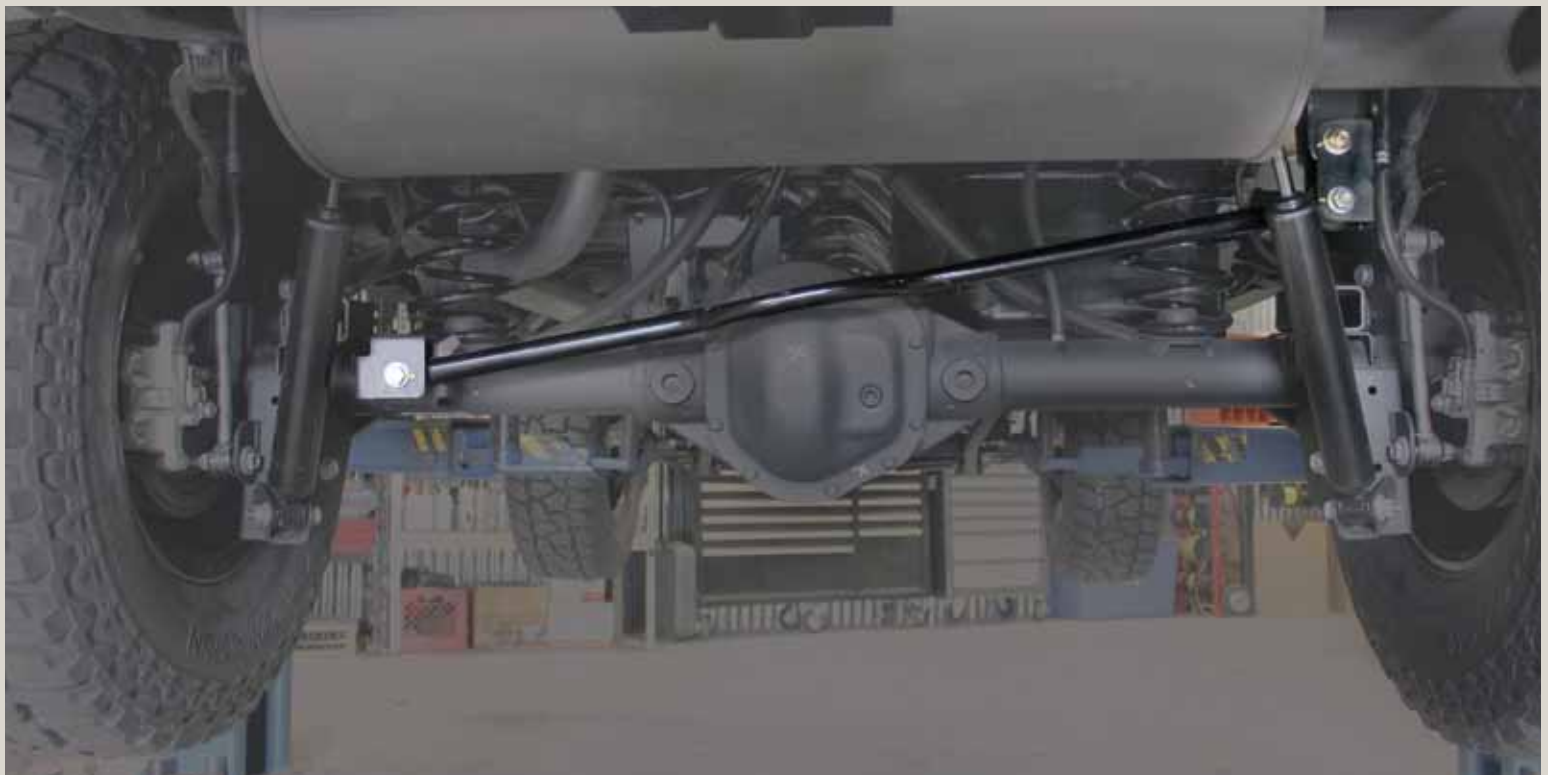




- 16** Hook up the vent tube at the axle side. (There should be minimal slack at full droop).



- 17** Re-install the speed sensor retainer in the rear hole on upper control arm bracket.



- 18** Install rear track bar, using the factory hardware. Frame side bolt is to be installed facing the rear of Jeep as shown in the illustration.

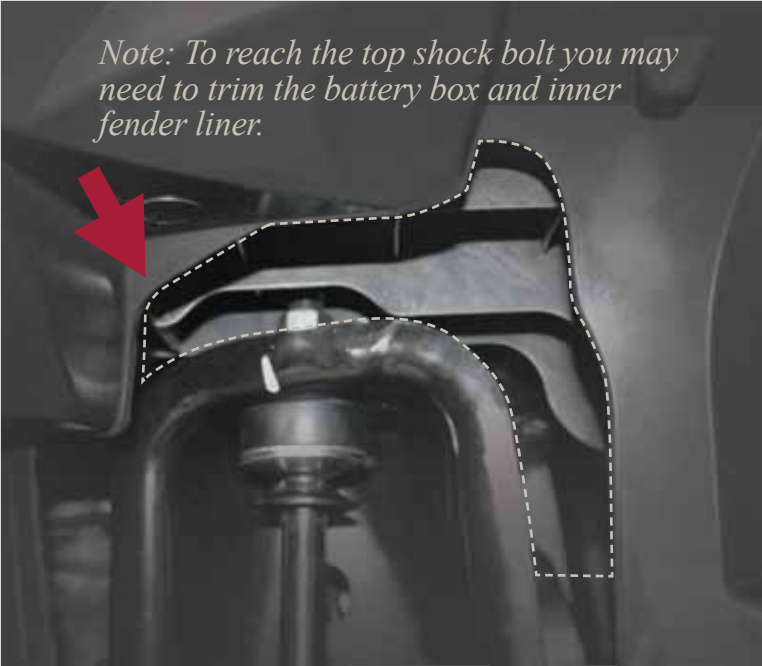
FRONT

Begin front suspension teardown by removing the following items:

Note: If you do not have a lift, raise Jeep with Floor Jack and support frame with 3 Ton Jack Stands.



Note: To reach the top shock bolt you may need to trim the battery box and inner fender liner.



19

If you have a 2011 or older Jeep, continue to step 20. 2012-2018 Jeeps: Trimming of the battery tray may be necessary to remove and install the upper shock mount.



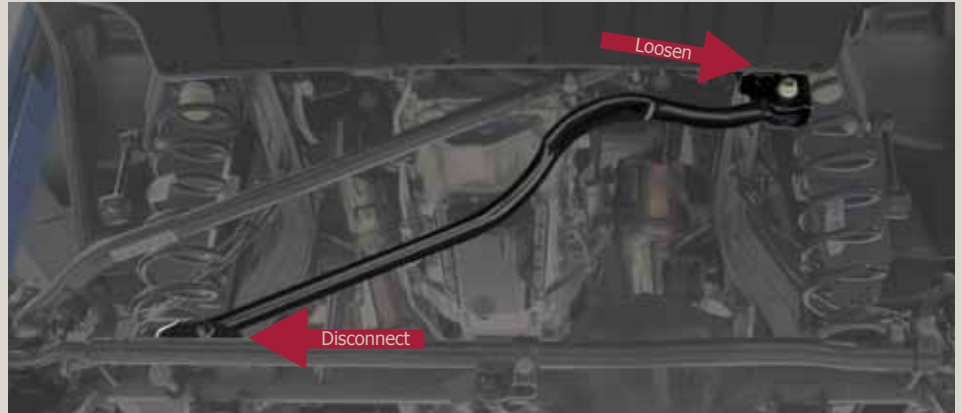
20

Remove Shocks using a 5/8" open end wrench to hold the upper stud and a 16mm wrench to loosen the upper nut. Use 18mm socket & wrench to remove lower shock hardware. (Save lower shock hardware).



21

Remove Sway Bar End Links using a 19mm wrench to hold the upper end link stud and 18mm to remove the nut. Remove lower Sway Bar End Link Bolt using a 18mm socket & wrench. (Save Hardware for later use)



22

Disconnect Track Bar at the Axle End using a 21mm socket and loosen frame side track bar bolt. (Save Hardware for later use)





23

2012 - 2018 Jeep, pry open the brake line retainer bracket using locking pliers. Once, the brake line is free from the bracket, remove the retainer bracket using a 10mm socket or wrench. (Discard the Brake Line Retainer Bracket)



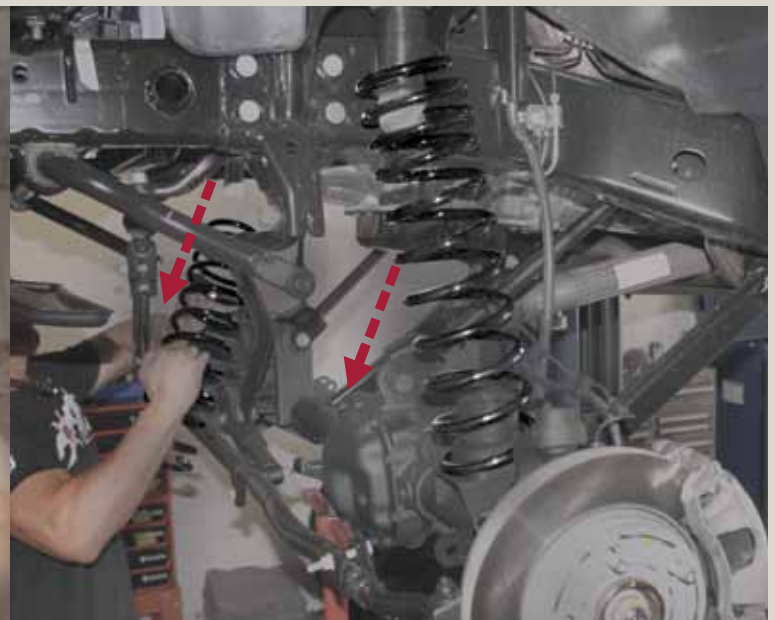
24

Remove brake line bolt from frame using a 10mm socket or wrench. (Save Hardware for later use)



25

Remove Axle Vent tube from axle. Remove the metal retainers from the hose and relocate about an inch and a half up and remount to the shock tower.



26

Lower axle and remove coils.



27

Optional - Disconnect Drive Shaft

If you need additional droop to remove coil springs, you can disconnect the front drive shaft at the axle side using a 15mm socket. Be sure to mark the orientation of the drive shaft so it gets installed in the same position it came off.



28

Mark the center of the coil perch. Drill a 5/16" hole, deburr, and use the provided self taper bolt to create thread for the 3/8" bump stop bolts. Install bump stop spacer with bolt facing down.



29

Install coils and properly seat them, raise axle to install shocks.





30 Install shocks, leave lower bolt loose for now. Re-use factory hardware at Axle Side.



31 Install factory sway bar links that you removed from the rear of the Jeep in step 5. Torque upper link to 59 lbs./ft. and then install lower bolt leaving bolt loose for now.



32 Raise axle and install track bar (a ratchet strap may be helpful). Leave bolts loose for now.



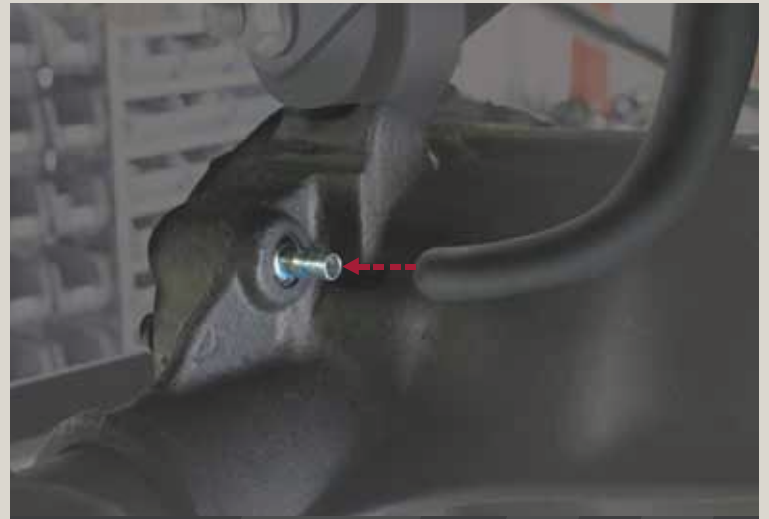
33 Optional - If you disconnected the Front Driveshaft in step 27, re-install driveshaft bolts with Loctite and torque to 81 lbs./ft.



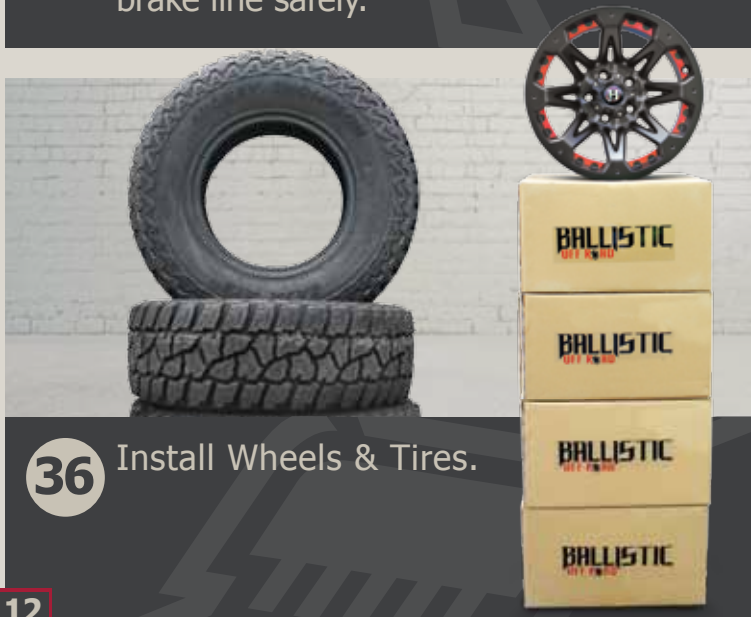
Loctite



34 With axle at full droop, fasten brake line to provided brake line re-location bracket (allowing for full steering sweep without stress or over extension of brake lines). Alternatively, this process can be simplified with the use of a zip tie to secure the brake line safely.



35 Hook up the Axle vent tube at axle side.



36 Install Wheels & Tires.



37 Remove Jack Stands & lower Jeep onto Ground. With full weight of Jeep on the ground, torque all fasteners to specification. CONGRATULATIONS you are done!

FRONT Torque Specs:

Track Bar at Axle	125 lbs./ ft.
Track Bar at Frame	125 lbs./ ft.
Sway Bar Links (Lower)	75 lbs./ ft.
Sway Bar Links (Upper)	65 lbs./ ft.
Front Drive Shaft.....	81 lbs./ ft.
Lower Shock Bolt	56 lbs./ ft.
Upper Control Arms	75 lbs./ ft.
Lower Control Arms	125 lbs./ ft.

Sway Bar Links & Shocks:

Sway bar links and shocks are to be tightened, but not Hulk tight, this will crush sleeves and lead to premature failure of bushing and noises. A torque spec is not available due to infinite possibilities of shock setups on the market today. Be sure to use Loctite on all bolts!



Loctite

Be sure to use Loctite on all bolts!

REAR Torque Specs:

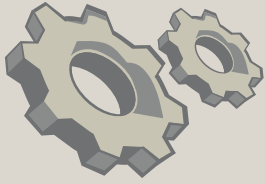
Track Bar at Axle	125 lbs./ ft.
Track Bar at Frame	125 lbs./ ft.
Drop Bracket 9/16" Bolt.....	100 lbs./ ft.
Drop Bracket 7/16" Bolt.....	40 lbs./ ft.
Lower Shock Bolt	56 lbs./ ft.
Lower & Upper Control Arms	125 lbs./ ft.

Sway Bar Links & Shocks:

Sway bar links and shocks are to be tightened, but not Hulk tight, this will crush sleeves and lead to premature failure of bushing and noises. A torque spec is not available due to infinite possibilities of shock setups on the market today. Be sure to use Loctite on all bolts!

- See us for a re-torque
- Send us your image
- Get your Jeep professionally aligned





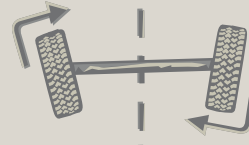
**10%
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PARTS**

Valid for any 1 Item in stock.
Excludes special order
items or promotions.



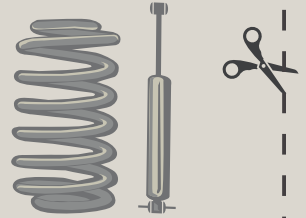
**15%
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Valid for any 1 Installation.
Can't be combined with
other installation specials.



**\$65^{.00}
ALIGNMENTS**

Valid for any
1 Standard Alignment.
Georgia locations only.



**FREE
SUSPENSION
DIAGNOSIS**

Valid for 76-18 Jeep
CJ & Wrangler.



EXPERT ALIGNMENTS

An alignment helps maximize the life expectancy of your off-road Jeep® tires. Over time, rough road conditions as well as wear and tear on suspension components, can contribute to uneven tread life and improper front-end tracking. If your Jeep® isn't offering you the same comfort that it used to, and you're struggling to maintain a smooth ride, then it may be time for an alignment. These issues can be diagnosed and solved by our team of Jeep® specialists. Give us a call at 1-866-579-5337, or stop by any of our three shops seen below.



FORTEC MARIETTA

1750 Enterprise Way SE, STE 101 ★ Marietta, GA 30067
Phone: 678-935-2024



FORTEC ROSWELL

830 Ellis Street ★ Roswell, GA 30075
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FORTEC POMPANO BEACH

702 W. McNab Road ★ Pompano Beach, FL 33060
Phone: 954-785-3131



FORTECJEEP

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