TRAIL FORTRESS

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Rough Country 90944 Installation Instructions

3.5-Inch Lift Kit with M1R Shocks for 2019–2023 Jeep Wrangler JL 4WD

Part number: 90944

trailfortress.com/rough-country-3-5-inch-lift-kit-90944

Scan for fitment, price and install help

921655300

ROUGH COUNTRY SUSPENSION SYSTEMS®

65530BAG1

JEEP JL 3.5” Adj. Lower Control Arm Kit

Thank you for choosing Rough Country for your suspension needs.

Rough Country recommends a certified technician install this system. In addition to these instructions, professional knowledge of disassemble/reassembly procedures as well as post installation checks must be known. Attempts to install this system without this knowledge and expertise may jeopardize the integrity and/or operating safety of the vehicle.

Please read instructions before beginning installation. Check the kit hardware against the parts list. Be sure you have all needed parts and know where they go. Also please review tools needed list and make sure you have needed tools.

PRODUCT USE INFORMATION

⚠WARNING As a general rule, the taller a vehicle is, the easier it will roll. Seat belts and shoulder harnesses should be worn at all times. Avoid situations where a side rollover may occur.

Generally, braking performance and capability are decreased when larger/heavier tires and wheels are used. Take this into consideration while driving. Do not add, alter, or fabricate any factory or after-market parts to increase vehicle height over the intended height of the Rough Country product purchased. Mixing component brands is not recommended.

Rough Country makes no claims regarding lifting devices and excludes any and all implied claims. We will not be responsible for any product that is altered.

This suspension system was developed using a 35x12.50x20 tire on a 20x10 wheel with -18 offset. Different wheel and tire combinations my be used but different tire manufactures designs may result in a tire width that could result in contact with the lower control arm and/or front sway bar link in a sharp turn. Please consult with your tire and wheel expert before purchasing. Also note that if wider tires are desired, offset wheels will be required. If question exist we will be happy to answer any questions concerning the design, function, and correct use of our products by calling 1-800-222-7023.

⚠NOTICE NOTICE TO DEALER AND VEHICLE OWNER

Any vehicle equipped with any Rough Country product should have a “Warning to Driver” decal installed on the inside of the windshield or on the vehicle’s dash. The decal should act as a constant reminder for whoever is operating the vehicle of its unique handling characteristics.

Tools Needed:

6mm Allen
8mm Socket & Wrench
10mm Socket & Wrench
15mm Socket & Wrench
18mm Socket & Wrench
21mm Socket & Wrench
22mm Deep Well Socket
24mm Socket & Wrench
Pliers
7/16” Socket & Wrench
9/16” Socket & Wrench
5/8” Socket & Wrench
3/4” Socket & Wrench
13/16” Socket & Wrench
Jack
15/32” Drill
Drill Motor
Jack Stands
Torque Wrench

Torque Specs:

Size	Grade 5	Grade 8
5/16”	15 ft/lbs	20 ft/lbs
3/8”	30 ft/lbs	35 ft/lbs
7/16”	45 ft/lbs	60 ft/lbs
1/2”	65 ft/lbs	90 ft/lbs
9/16”	95 ft/lbs	130 ft/lbs
5/8”	135 ft/lbs	175 ft/lbs
3/4”	185 ft/lbs	280 ft/lbs

	Class 8.8	Class 10.9
6MM	5 ft/lbs	9 ft/lbs
8MM	18ft/lbs	23 ft/lbs
10MM	32ft/lbs	45ft/lbs
12MM	55ft/lbs	75ft/lbs
14MM	85ft/lbs	120ft/lbs
16MM	130ft/lbs	165ft/lbs
18MM	170ft/lbs	240ft/lbs

KIT CONTENTS



KIT CONTENTS

Kit Box 65530BOX1		
Qty	**Part #**	**Description**
2	658923	Front Shock
2	658694	Rear Shock
2	BP04	Front Bump Stop Spacers
2	94004223	Rear Bump Stop Spacers
2	94004234	Adj. Lower Control Arms
2	94004145	Flex Joints
1	65430BAG4	Hardware Bag
1	65530BAG1	Instruction Bag
1	1609BAG6	Rear Bump Stop Bag
1	1609BAG7	Front Bump Stop Bag

Kit Box 65430BOX2		
Qty	**Part #**	**Description**
2	94004225	Front Coil Spacers
2	94004226	Rear Coil Spacers
2	94506400A-2	Straight Sway Bar Links
2	94004227-2	Offset Sway Bar Links
1	94004239	Rear Track Bar Relo Bracket
2	94004235	Rear Sway Bar Spacers
1	65430BAG2	Hardware Bag

11061 Front Forged Adj. Track Bar		
Qty	**Part #**	**Description**
1	94003986-2	Front Forged Adj. Track Bar

Front Driveshaft		
Qty	**Part #**	**Description**
1	5090.1	Front Driveshaft

65430BAG2		
Qty	**Part #**	**Description**
2	90500416	1/2” x 2.75” Bolts
4	970-0686	1/2” Flat Washers
2	90500254	1/2” Nylock Nuts
2	90500316	3/8” x 1” Bolts
2	90504840	12mm x 65mm Bolt
2	90504750	12mm Flange Locknut
2	81078	3/8” Flange Locknuts
4	90500260	10mm x 55mm Bolts
4	90500288	10mm Lock Washers
4	90500262	10mm Flat Washers
1	90506105	9/16” x 3.5” Bolt
1	90508001	9/16” Flat Washer
1	90500386	9/16” Nylock Nut
1	90607941	Rear Track Bar 15mm od Sleeve
3	90500366	7/16” x 1.25” Bolts
6	81046	7/16” Flat Washers
3	90506004	7/16” Nylock Nuts

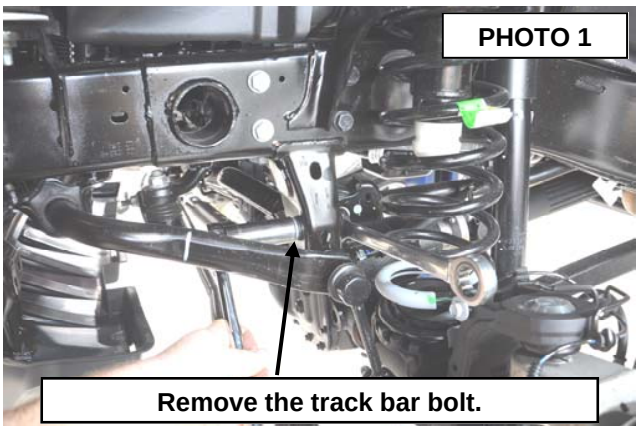
1609BAG6		
Qty	**Part #**	**Description**
4	90500304	3/8” Flat Washer
4	90500263	3/8” x .75” Bolt
4	81078	3/8” Flange Lock Nut

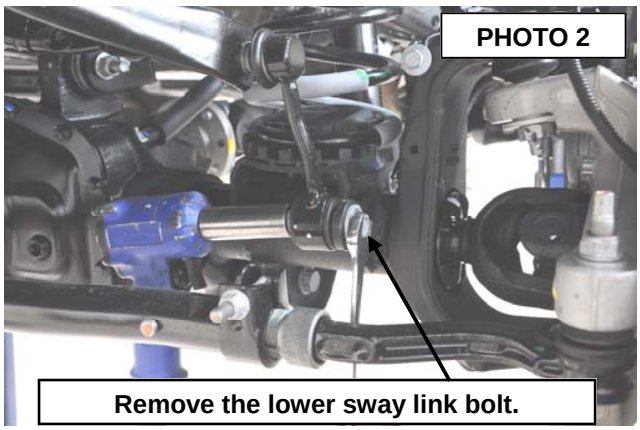
1609BAG7		
Qty	**Part #**	**Description**
2	90500304	3/8” Flat Washer
2	90500306	3/8” x 3” Bolt
2	90505100	3/8” Flange Lock Nut

65430BAG4– Shock Hardware		
Qty	**Part #**	**Description**
1	94004236	Dr Brake Line Bracket
1	94004237	Pass Brake Line Bracket
4	90606407	Upper Shock Sleeves
2	90509940	12mm Flat Washers
2	90504750	12mm Flange Lock Nuts
2	90504840	12mm x 65mm Bolts
2	90500418	1/4” x 1” Bolts
2	90500420	1/4” Nylock Nuts
4	90500404	1/4” Flat Washers

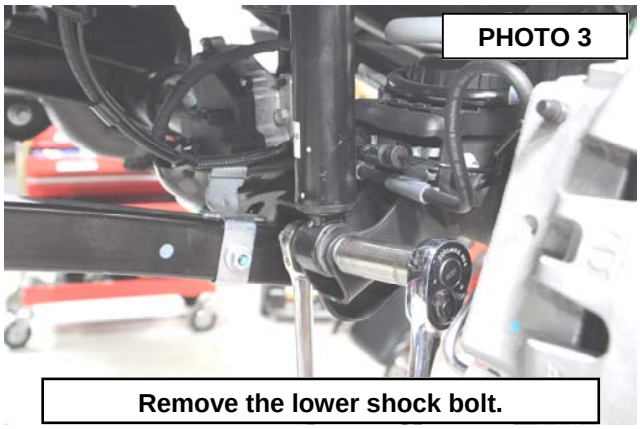
FRONT INSTALLATION INSTRUCTIONS

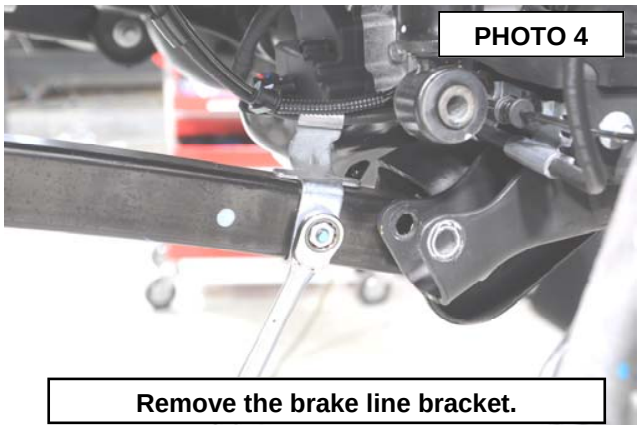
1. Place vehicle in park and chock the rear wheels. Raise the front of the vehicle with a jack and secure a jack stand beneath each frame rail behind the front control arms. Ease the frame down onto the stands. Place the jack under the front axle for support when removing the coil springs.
2. Remove the front tires/wheels, using a 22mm deep well socket.
3. Remove front driveshaft using a 15mm socket.
4. Using a 21mm socket and wrench, remove the front track bar from the frame and axle. **See Photo 1.** Retain hardware for reuse.
5. Using an 18mm socket and wrench remove the bottom sway bar link bolts. Retain hardware for reuse. **See Photo 2**.



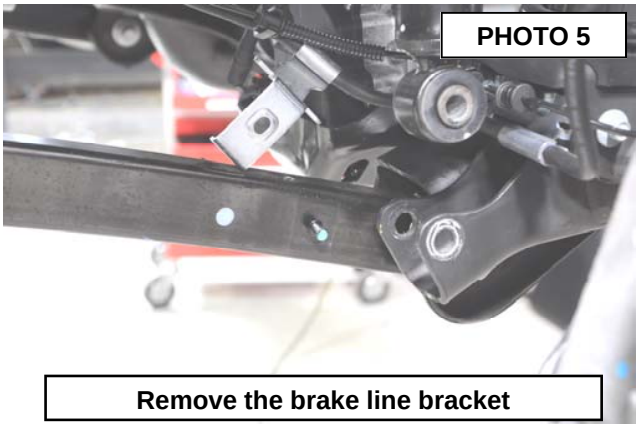


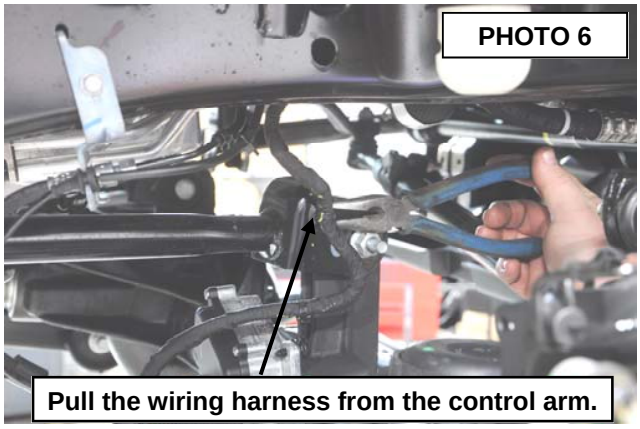
6. Remove the upper and lower shock bolts using a 18mm socket and wrench. You may have to raise the axle with the jack and pull down on the shock to remove the lower bolt. **See Photo 3.** Retain stock hardware.
7. Using a 15mm wrench, remove the brake line bracket from the lower control arm. **See Photos 4 & 5.** Retain hardware for reuse.



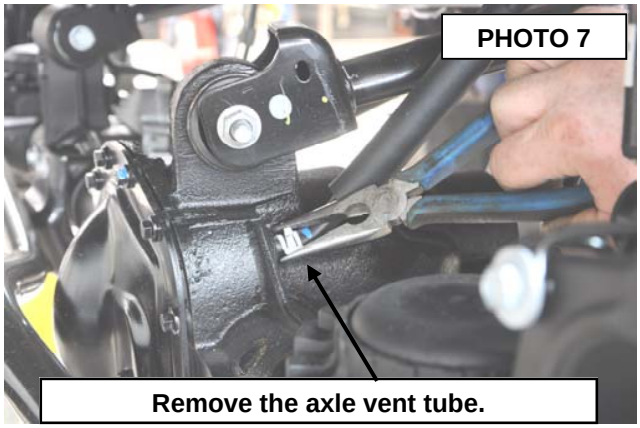


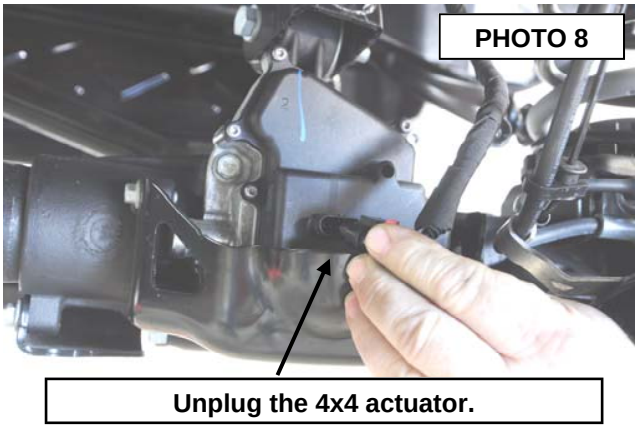
8. Using pliers, remove the wiring harness from the upper control arm. **See Photo 6.**



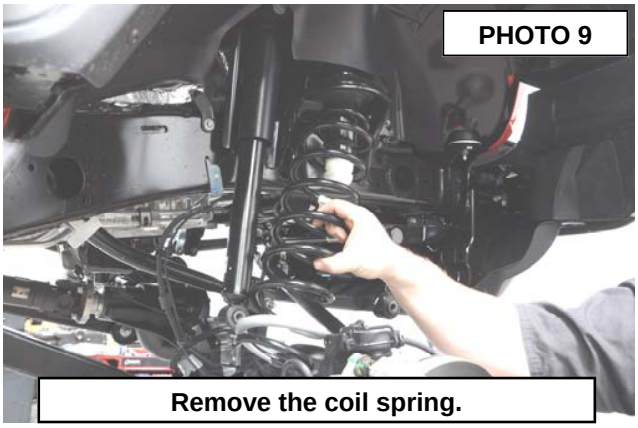


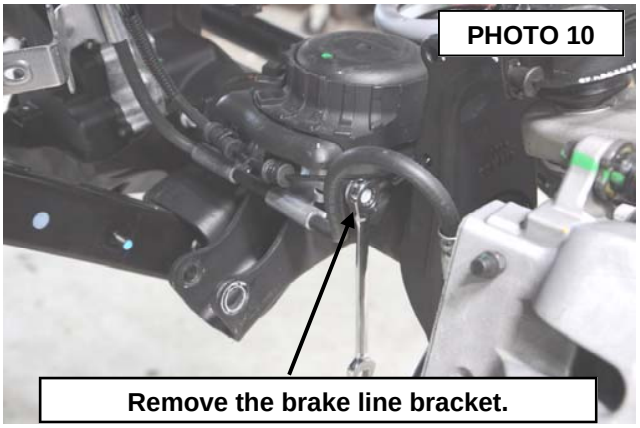
9. Using pliers, remove the axle vent tube from the differential housing. **See Photo 7**.
10. Unplug the 4x4 actuator for slack. **See Photo 8.**



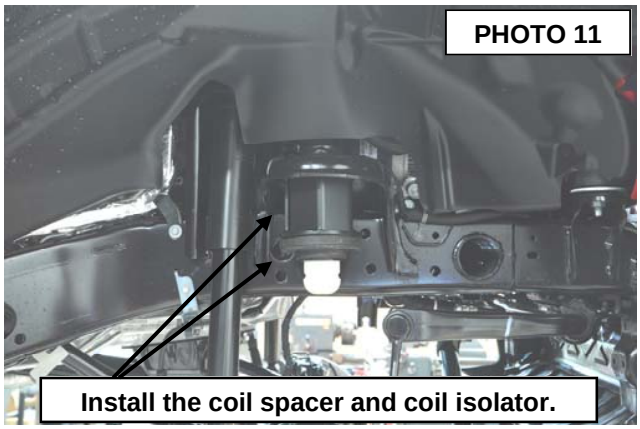


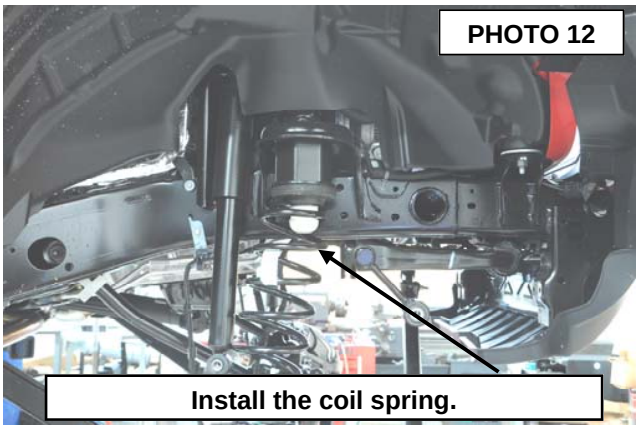
11. Lower the jack slowly and remove the coil spring and spring isolator. **See Photo 9.**
12. Using a 10mm wrench, remove the brake line bracket from the mount. Retain hardware for reuse. **See Photo 10.**



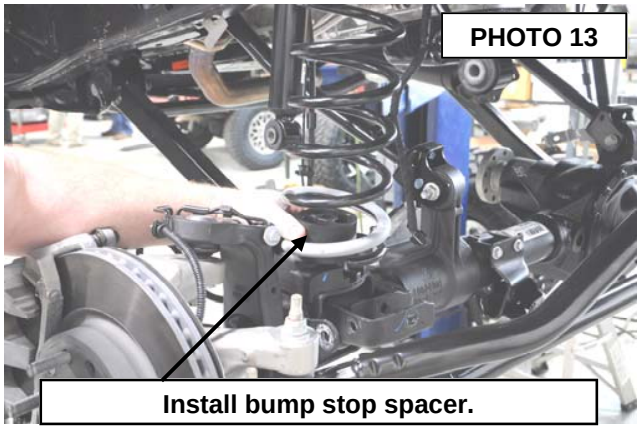


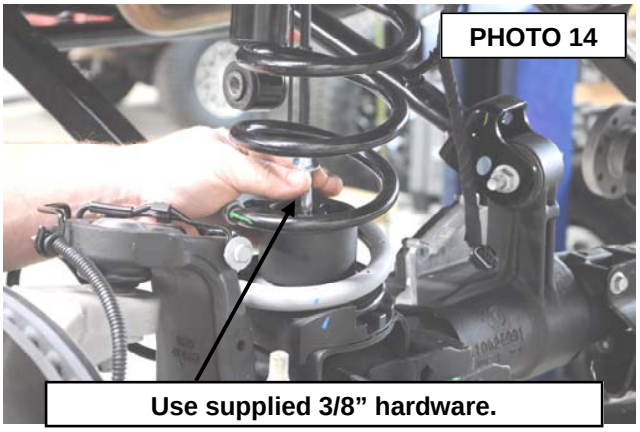
13. Install the supplied spring spacer with coil spring isolator under the spacer. **See Photo 11.**
14. Install the factory coil spring. **See Photo 12.**



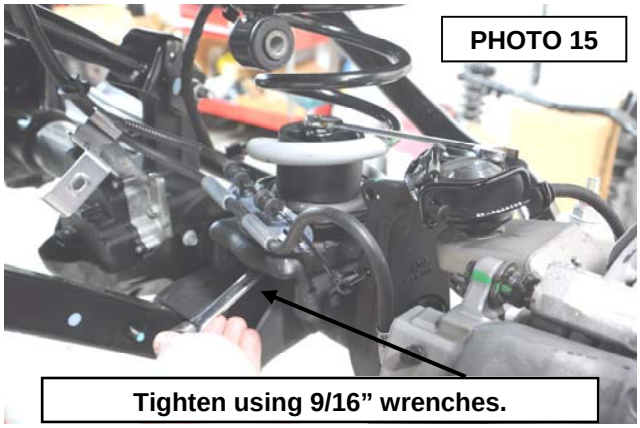


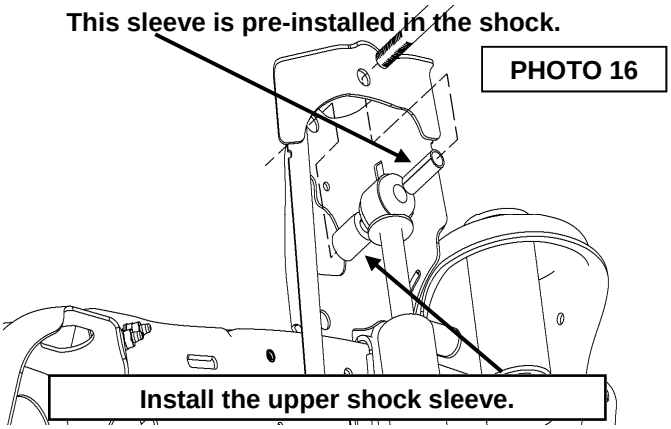
15. Install the bump stop spacer into the lower coil mount. **See Photo 13.**
16. Place the supplied 3/8" x 3" bolt, washers, and nut (1609BAG7) through the spacer and coil mount. **See Photo 14.**



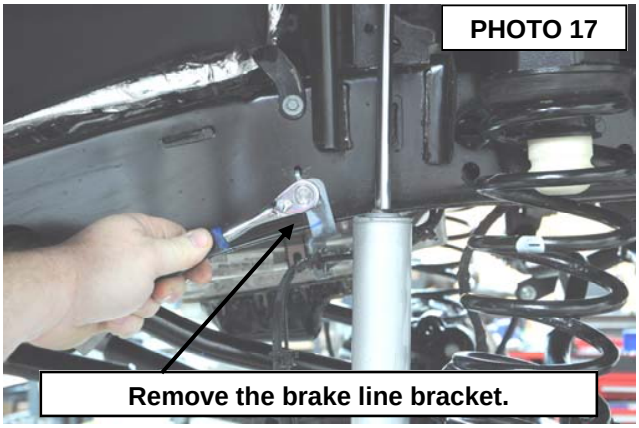


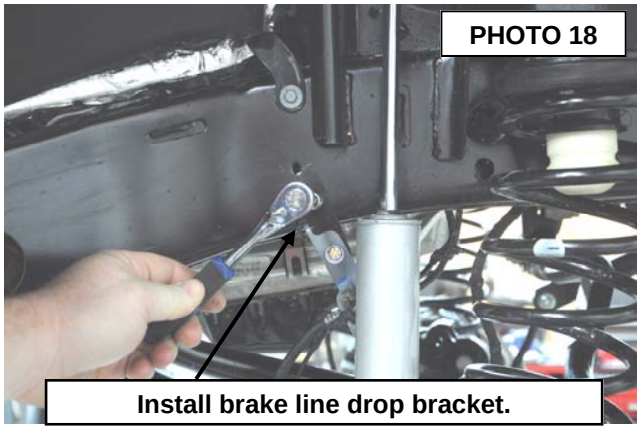
17. Tighten using 9/16" wrenches. **See Photo 15.**
18. Install the supplied 658923 shock using the factory bolts and the supplied sleeve behind the upper shock eye and the supplied 12mm x 65mm bolt, washer and flange nut (65430BAG4). Torque the upper bolt to factory specs and the lower to 75ft/lbs using an 18mm socket and wrench. **See Photo 16.**



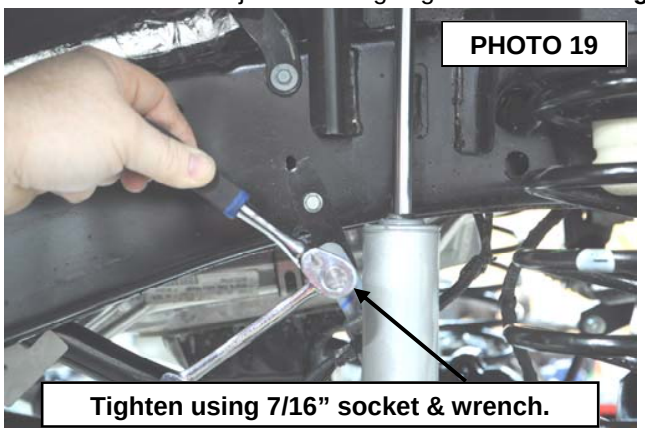


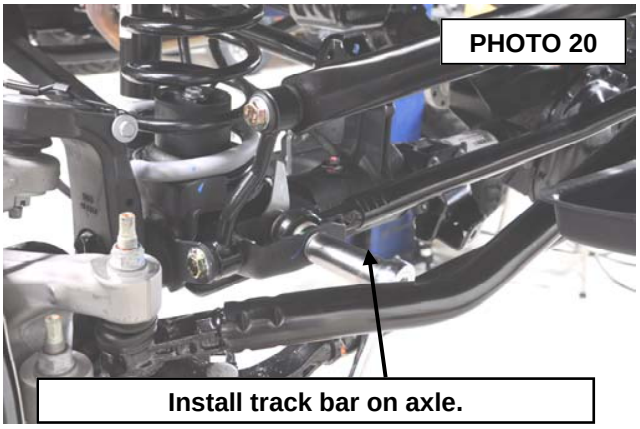
19. Remove the brake line bracket from the frame using a 10mm wrench. Retain hardware for reuse. **See Photo 17.**
20. Install the supplied brake line bracket using the factory bolt for the frame and the supplied 1/4" x 1" bolt, washer, and nylock nut (65430BAG4). Tighten using a 10mm wrench for the frame bolt. **See Photo 18.**



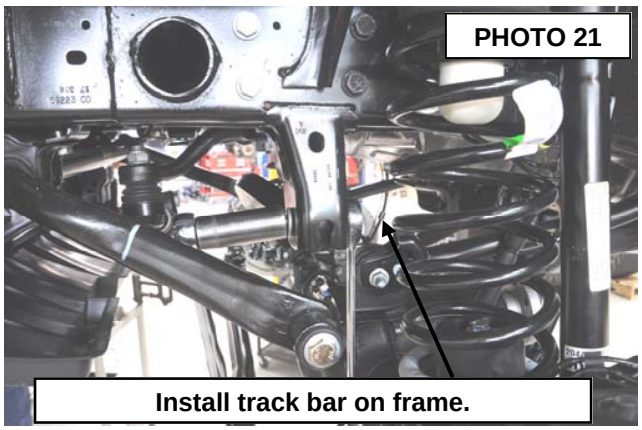


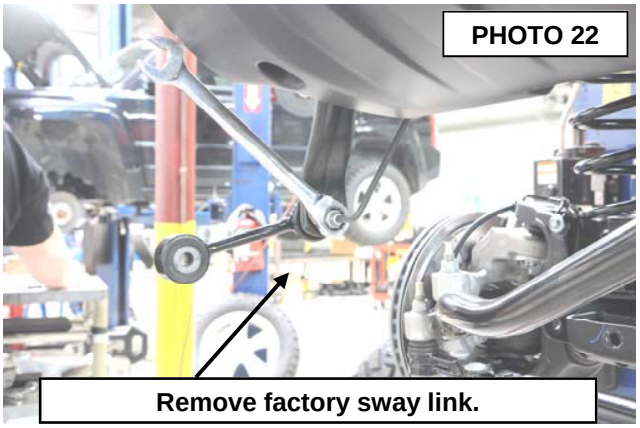
21. Torque the brake line bracket bolt to 12ft/lbs using a 7/16” wrench and socket. **See Photo 19.**
22. Install the brake line bracket on the coil mount using the factory hardware and a 10mm wrench.
23. Adjust the supplied track bar to a length of 33.75 from center of eyelets and install using the factory hardware. The track bar will be adjusted during alignment. **Do not tighten at this time**. **See Photos 20 & 21.**



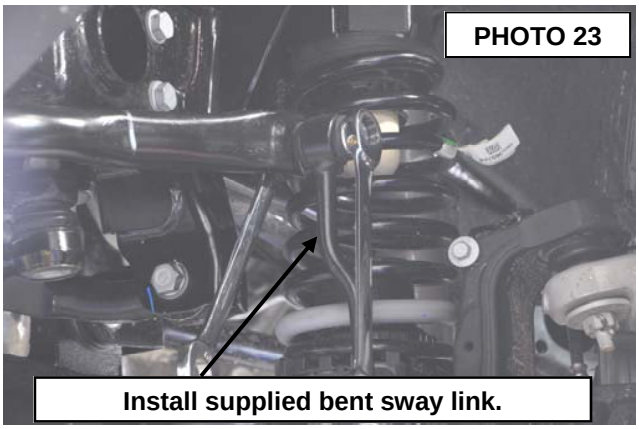


24. Remove the sway link from the sway bar using a 6mm Allen and an 18mm wrench. **See Photo 22.**

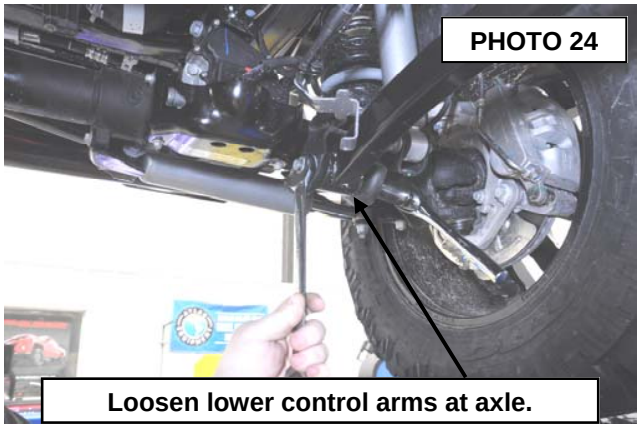


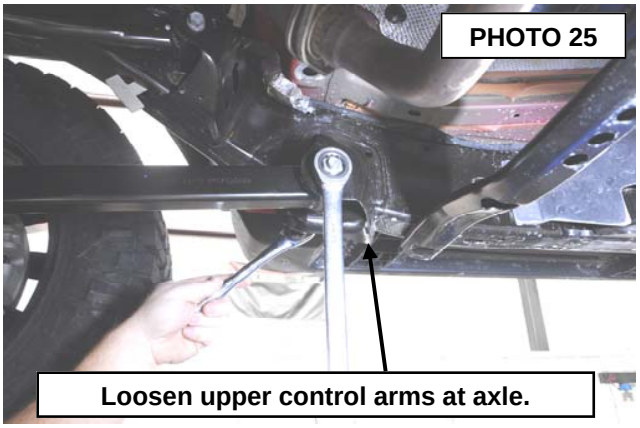


25. Install the new supplied offset sway link on the sway bar using the supplied 1/2” x 2.75” bolt, washers, and lock nut (65430BAG2). Torque to 65ft/lbs. **See Photo 23.**

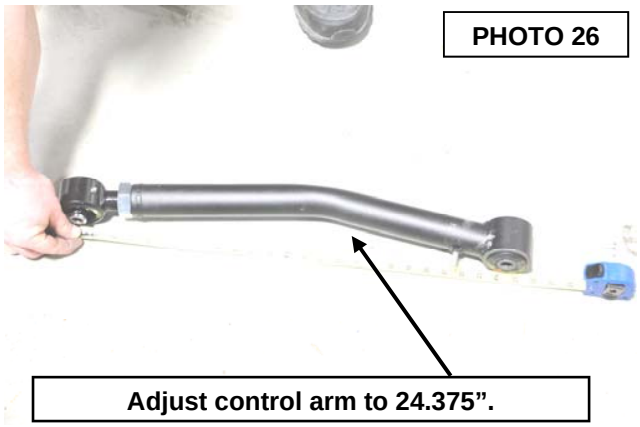


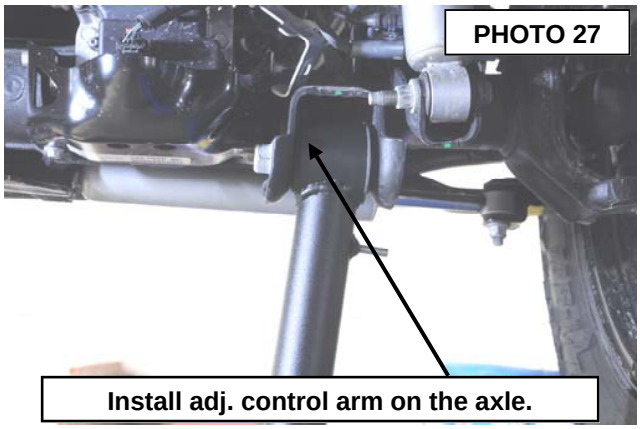
26. Remove the lower control arms using 21mm and 24mm wrenches. Retain hardware for reuse. **See Photos 24 & 25.**



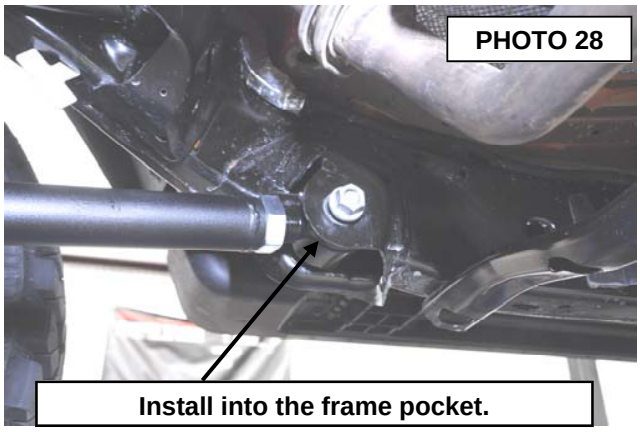


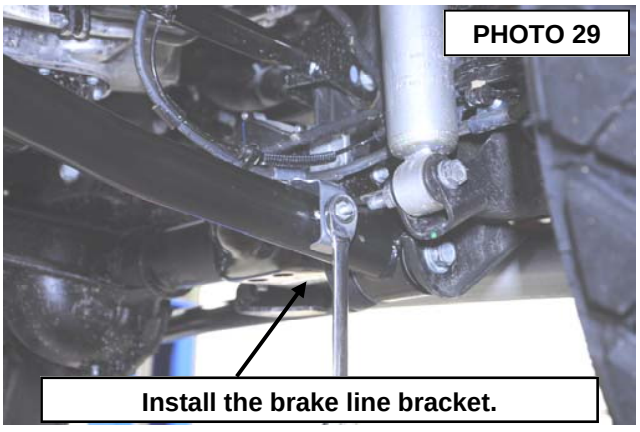
27. Adjust the supplied adjustable lower control arms to a length of 24.375" center of eye to center of eye. **See Photo 26.**
28. Install the adjustable lower control arm on the axle using the factory hardware. **Do not tighten at this time. See Photo 27.**





29. Install the flex joint end in the control arm pocket on the frame, using the factory hardware. **Do not tighten at this time. See Photo 28.**
30. Install the brake line bracket on the lower control arm using the factory hardware. Tighten using a 15mm wrench. **See Photo 29.**





31. Clip the wiring harness into the upper control arm.
32. Attach the axle vent tube to the differential using a pair of pliers.
33. Plug-in the 4x4 actuator. **See Photo 30.**
34. Attach the sway bar links, to the axle, using the factory hardware and an 18mm socket and wrench. Torque to 55ft/lbs.
35. Install the front tires/wheels, using a 22mm deep well socket.
36. Lower the vehicle to the floor.
37. Tighten the control arm frame mount using a 24mm socket and 21mm wrench.. Torque to factory specs. **See Photo 31.**

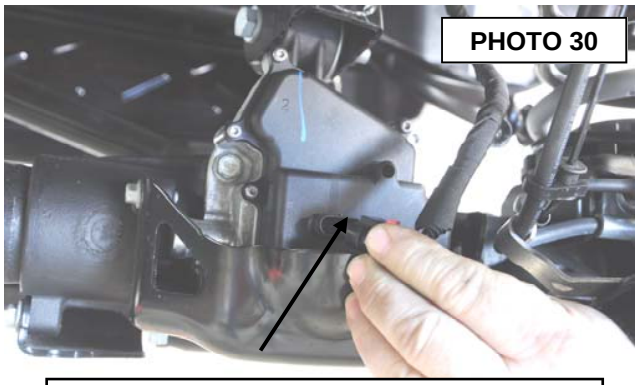


PHOTO 30

Plug in the 4x4 actuator.

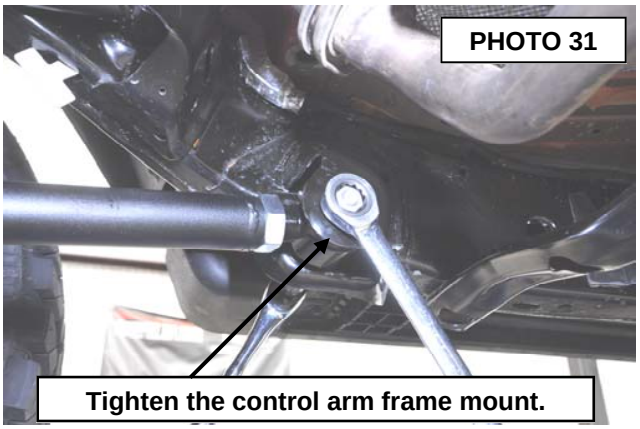


PHOTO 31

Tighten the control arm frame mount.

38. Tighten the control arm axle mount using a 24mm socket and 21mm wrench. Torque to factory specs. **See Photo 32.**
39. Adjust the front track bar to center the front axle. **Make sure the clamps are positioned to maintain clearance from all obstructions.**
40. Torque the track bar mounting bolts to factory specs using a 21mm socket.
41. Tighten the collar pinch bolts using a 17mm wrench and socket. **See Photo 33.**

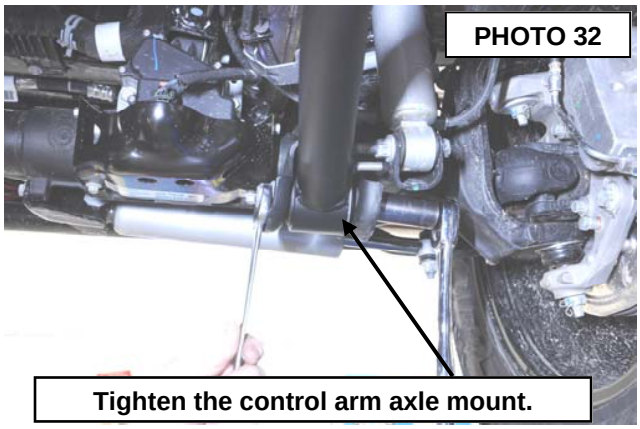


PHOTO 32

Tighten the control arm axle mount.

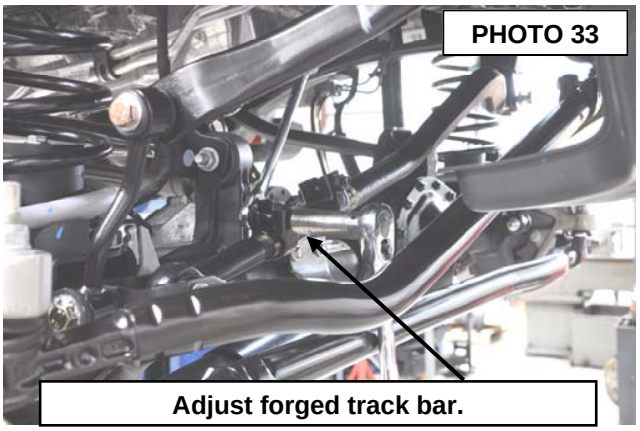


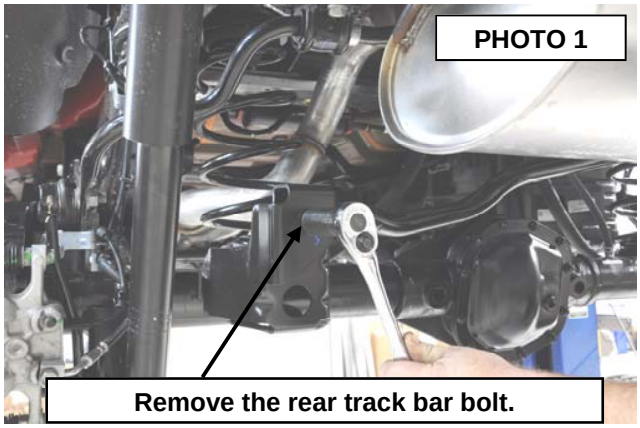
PHOTO 33

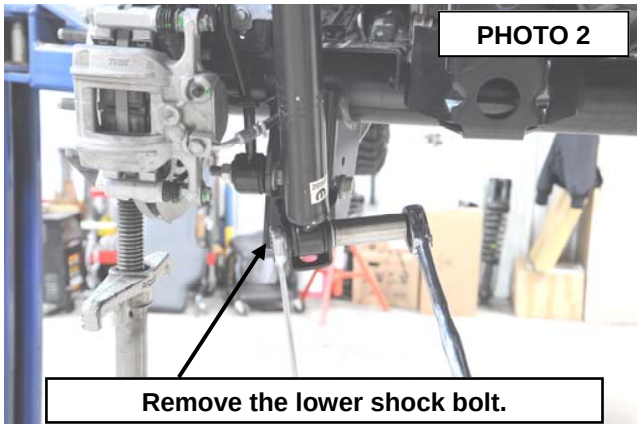
Adjust forged track bar.

42. Install the supplied 5090.1 driveshaft using the instructions included with the driveshaft.

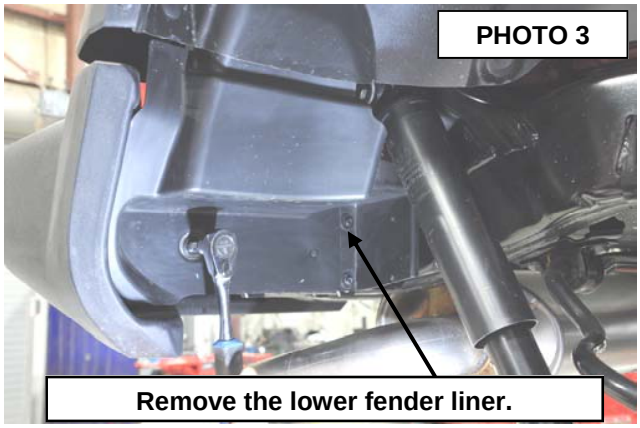
REAR INSTALLATION INSTRUCTIONS

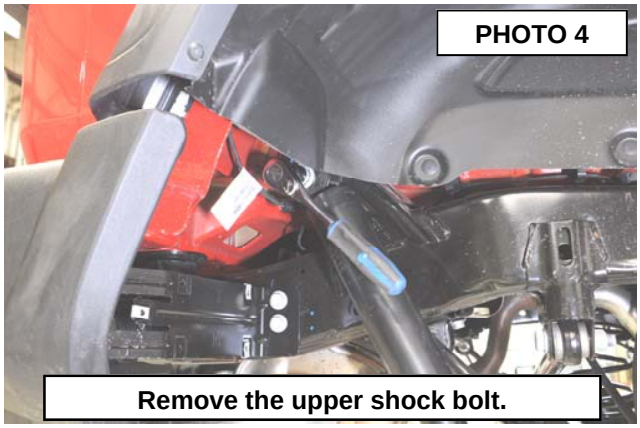
1. Jack up the rear of the vehicle and support the vehicle with jack stands, so that the rear wheels are off the ground. Chock front wheels. Position a jack so it supports, but does not raise the rear axle.
2. Remove the rear tires/wheels, using a 22mm deep well socket.
3. Using a 21mm socket remove the track bar bolt at the axle. Retain the stock hardware for reuse. **See Photo 1.**
4. Using an 18mm socket and wrench, remove the lower shock mounting hardware. Save for reuse. **See Photo 2.**



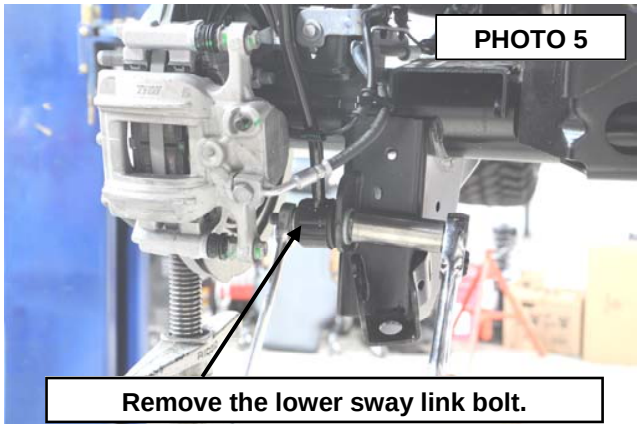


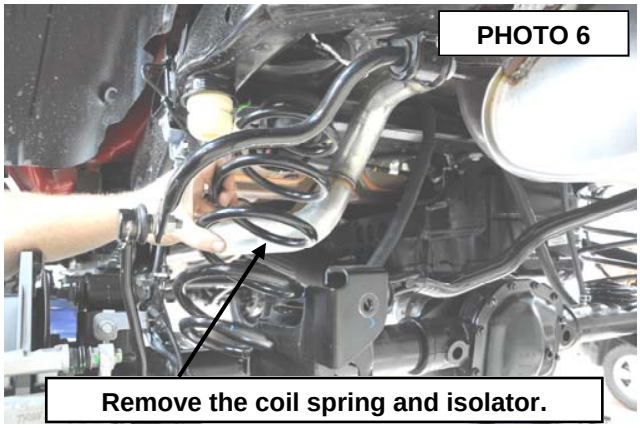
5. Using an 8mm socket, remove the 3 bolts holding the lower fender liner, remove the liner. Retain hardware for re-use. **See Photo 3.**
6. Using an 18mm socket, remove the upper shock bolt and remove the shock. **See Photo 4.**



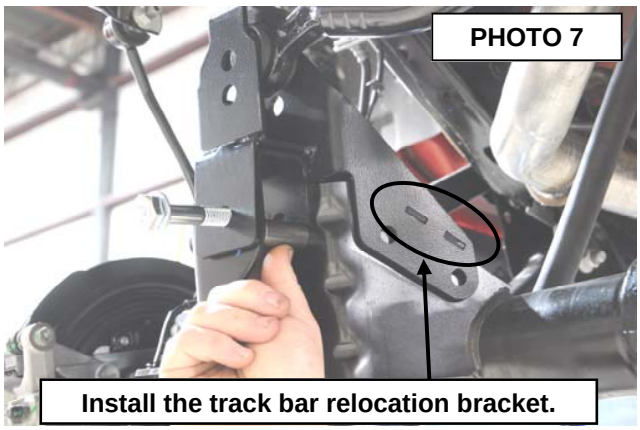


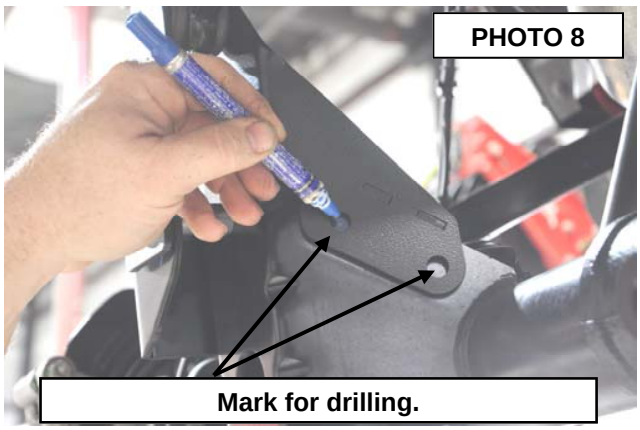
7. Using an 18mm socket and wrench, remove the lower sway bar link hardware. **See Photo 5.**
8. Lower the axle and remove the coil spring and coil spring isolator. **See Photo 6**.



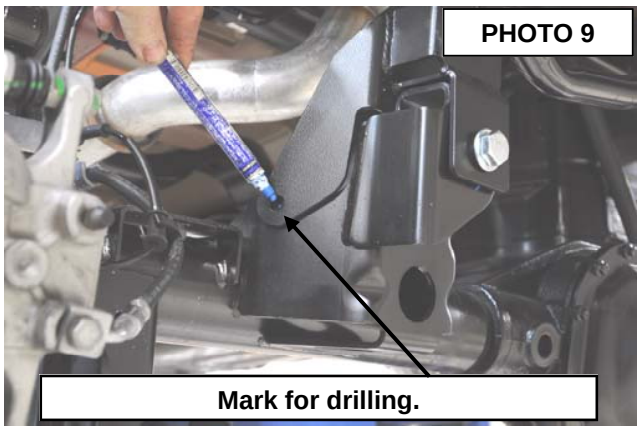


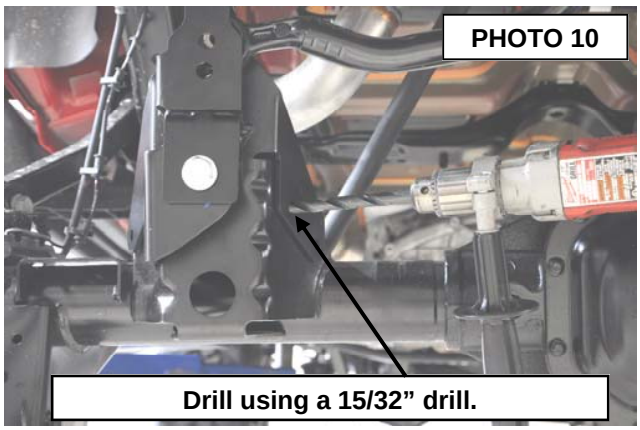
9. Place the supplied track bar relocation bracket over the factory track bar bracket. Install the supplied 9/16” x3.5” bolt, washers, nut and the supplied sleeve (65430BAG2). Tighten using a 21mm socket. Make sure the track bar relocation bracket tab is against the edge of the factory bracket. **See Photo 7.**



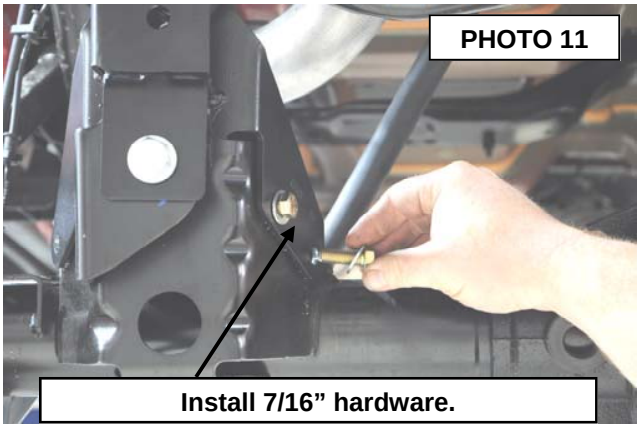


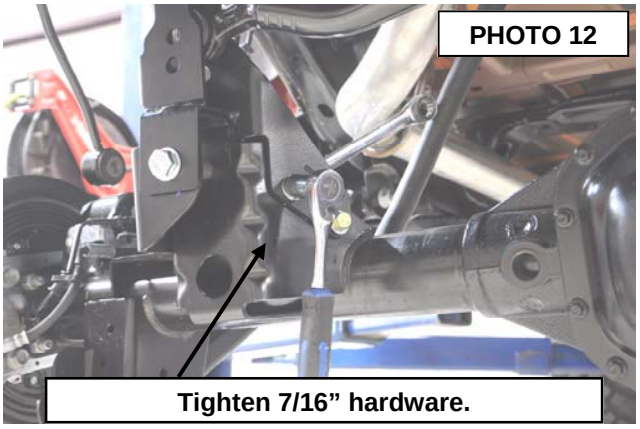
10. Use the supplied bracket as a drill guide. **See Photos 8 & 9.**
11. Drill the 3 holes from **photos 8 & 9** using a 15/32” drill. **See Photo 10.**



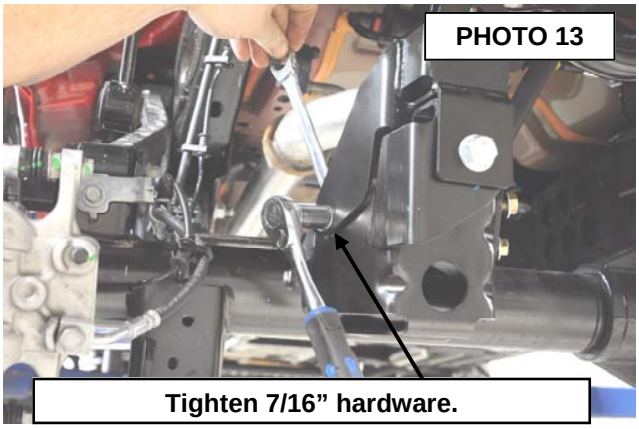


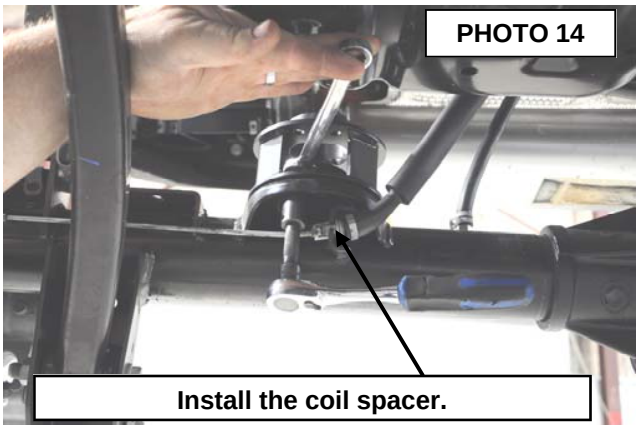
12. Secure the supplied bracket to the factory bracket using the supplied 7/16” x 1.25” bolts, washers, and nylock nuts (65430BAG2). **See Photo 11.**
13. Torque to 60ft/lbs using a 5/8” socket and wrench. **See Photo 12**.



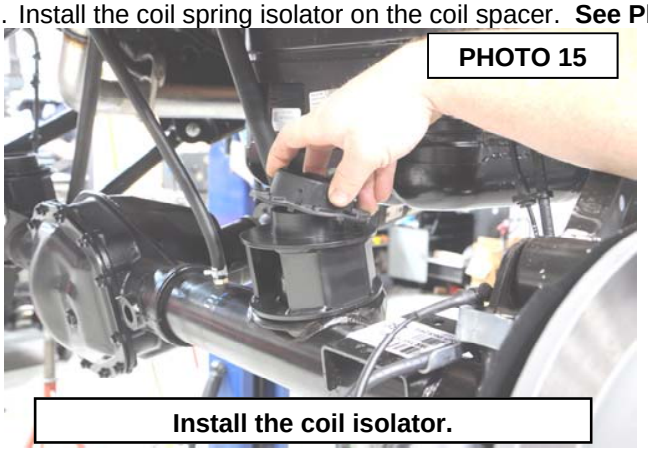


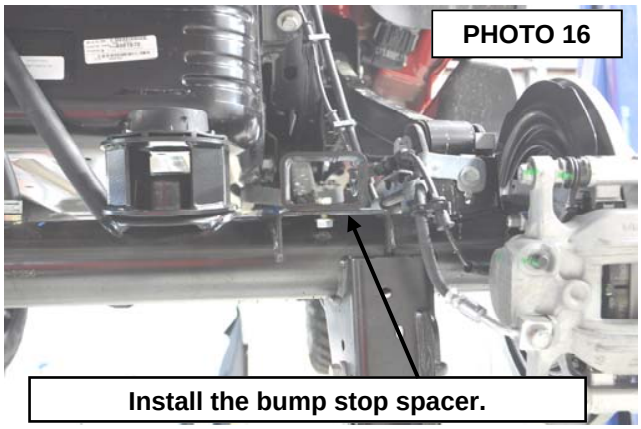
15. Torque to 60ft/lbs using a 5/8” socket and wrench. **See Photo 13.**
16. Lower the axle and remove the coil spring and the lower coil spring isolator. **See Photo 14.**



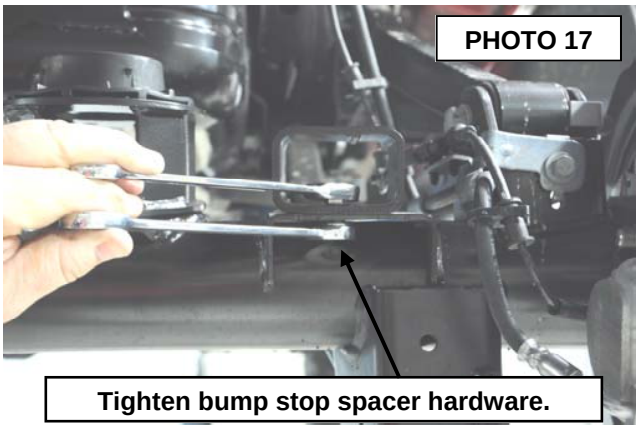


17. Install the coil spring spacer on the axle using the supplied 3/8” x 1” bolt and flange lock nut (65430BAG2). Torque to 30ft/lbs using a 9/16” wrench and socket. **See Photo 14.**
18. Install the coil spring isolator on the coil spacer. **See Photo 15.**

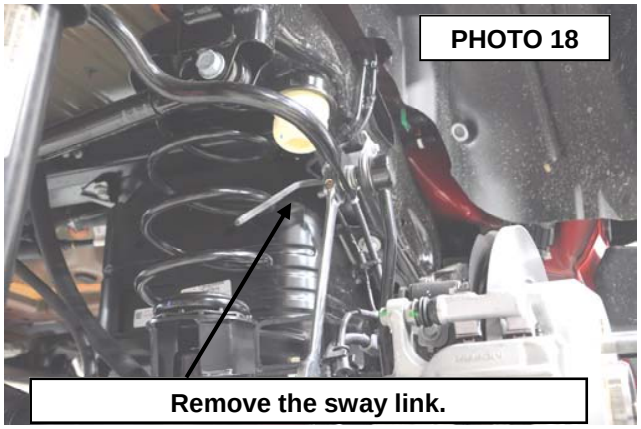


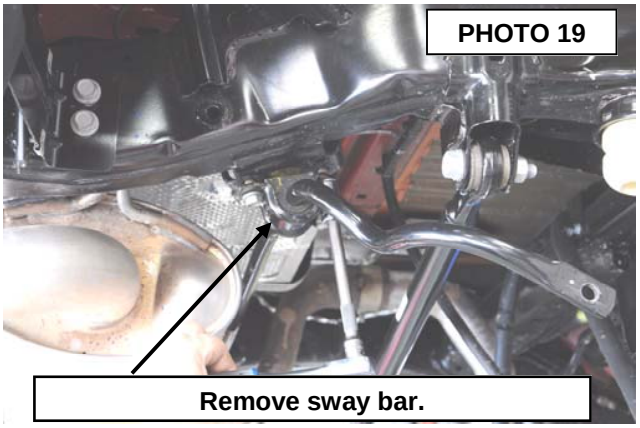


19. Install the supplied bump stop spacer on the axle using the supplied 3/8” x .75” bolts, washers, and flange lock nuts. (You will use 2 bolts, 2 washers, and 2 nuts per side). Using a 9/16” wrench and socket, torque the hardware to 30ft/lbs. **See Photos 16 & 17.**
20. Install the coil spring.

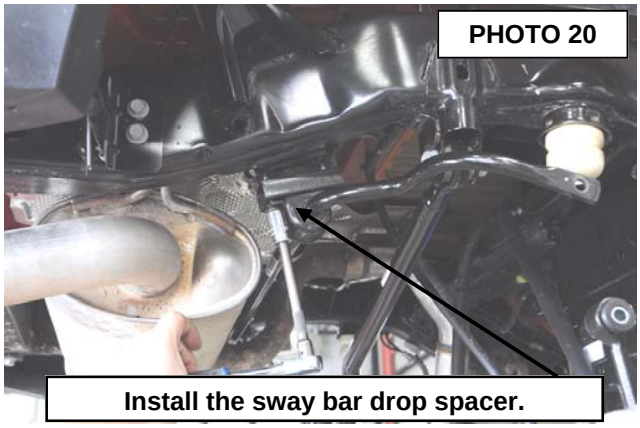


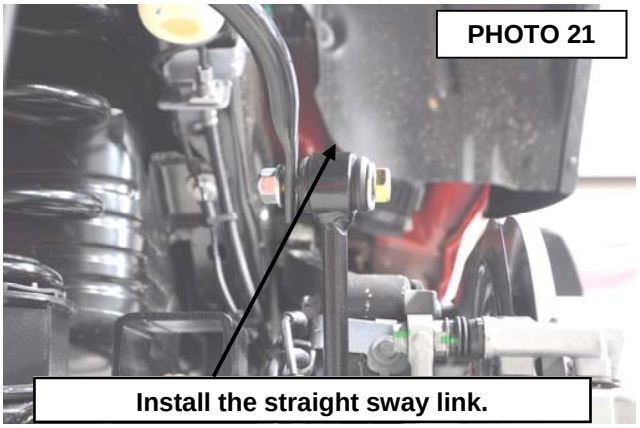
21. Using a 6mm Allen and an 18mm wrench remove the sway link from the sway bar. **See Photo 18.**
22. Using a 15mm socket, remove the factory sway bar from the frame. **See Photo 19.**



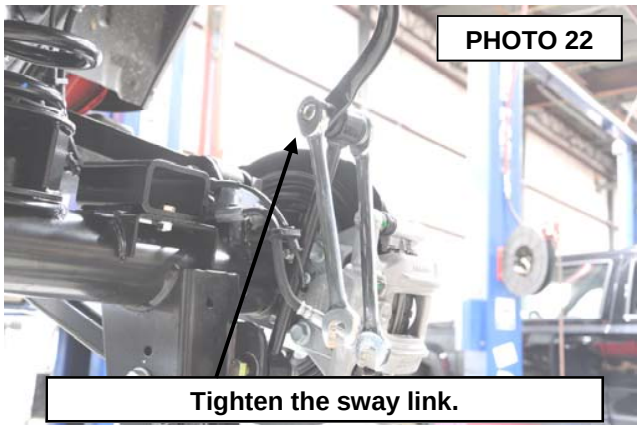


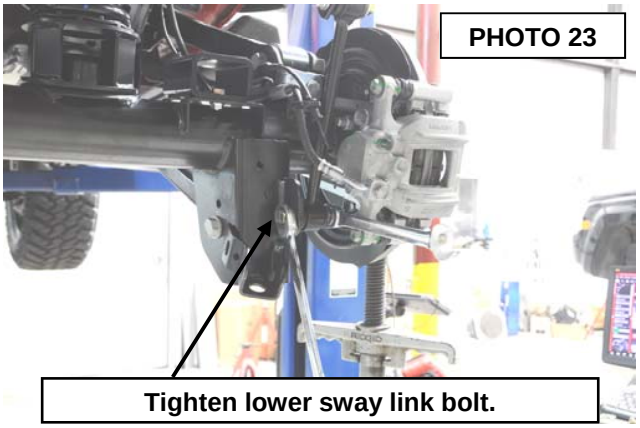
23. NOTICE Flip the sway bar from passenger side to driver side.
24. Install the sway bar drop brackets between the sway bar and the frame, using the supplied 10mm x 55mm bolts, lock washers, and flat washers (65430BAG2). Torque to 32ft/lbs using a 16mm socket. **See Photo 20.**
25. Attach the supplied straight sway link to the sway bar using the supplied 12mm x 65mm bolt, 12mm washers (bolt head side only), and 12mm flange nut (65430BAG2). **See Photo 21.**





26. Using 18mm wrenches, tighten the upper sway link bolt. Torque to 75ft/lbs. **See Photo 22.**
27. Install the sway bar links, in the lower mount using the factory bolts and an 18mm socket and wrench. Torque to 55ft/lbs. **See Photo 23.**





28. Install the supplied rear shock, 658694, using the factory bolts and the supplied sleeve (65430BAG4) behind the upper shock eye. Torque the upper and lower bolts to factory specs using an 18mm socket and wrench. **See Photo 24**.
29. Install the lower fender liner using the stock hardware, tighten using an 8mm socket. **See Photo 25**.

This sleeve is pre-installed in the shock.

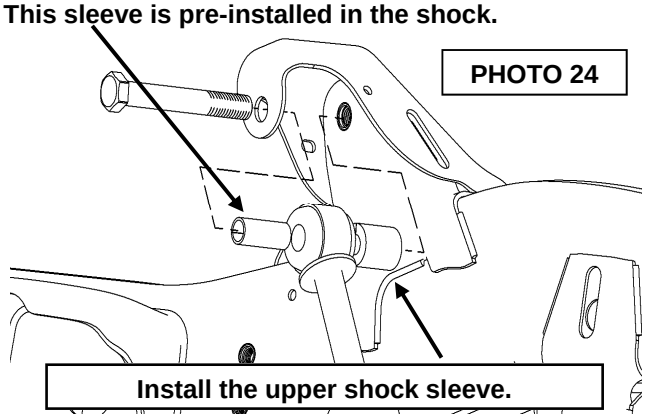


PHOTO 24

Install the upper shock sleeve.

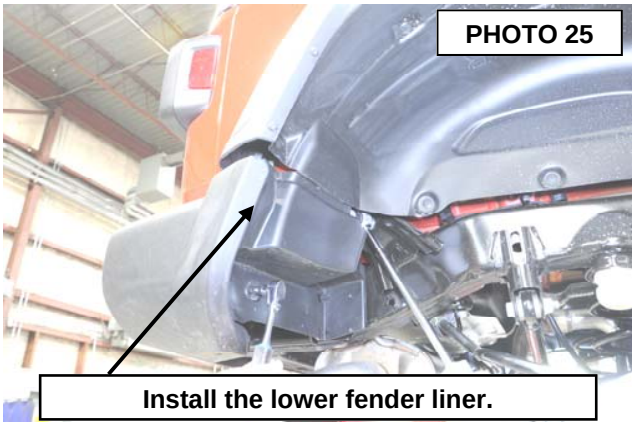


PHOTO 25

Install the lower fender liner.

30. Install the track bar into the lower hole, on the track bar relocation bracket, using the factory hardware. **See Photo 26**.
31. Torque the track bar bolt to 130ft/lbs. using a 13/16" socket and wrench. **See Photo 27.**
32. Reinstall the rear tires/wheels, using a 22mm deep well socket
33. Lower the vehicle to the ground.

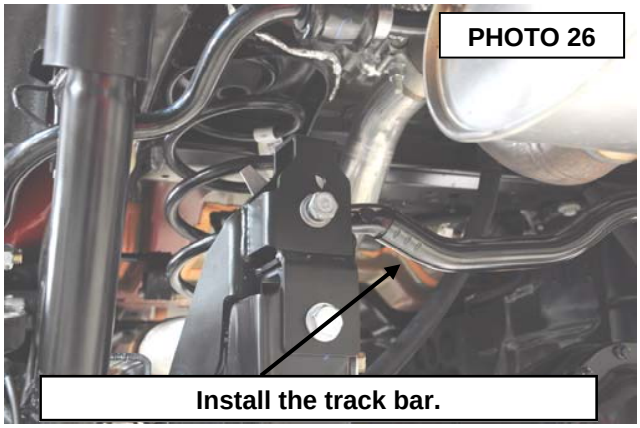


PHOTO 26

Install the track bar.

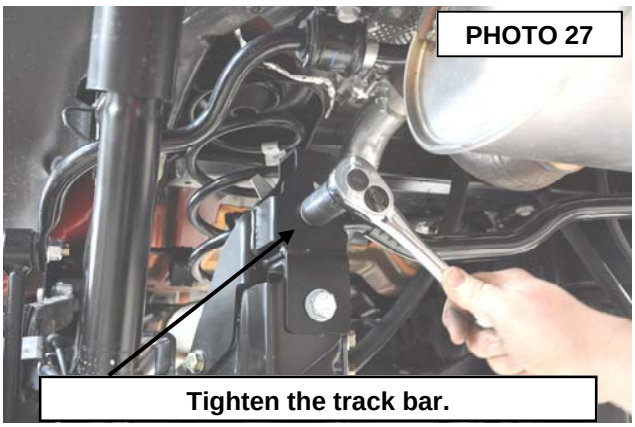


PHOTO 27

Tighten the track bar.

POST INSTALLATION

1. Confirm that the draglink was adjusted to the center steering wheel **BEFORE** the vehicle is driven. Failure to do so will cause a computer error, odd handling, and poor performance.
2. Check all fasteners for proper torque. Check to ensure there is adequate clearance between all rotating, mobile, fixed and heated members. Check steering for interference and proper working order. Test brake system.
3. Perform steering sweep. The distance between the tire sidewall and the brake hose must be checked closely. Cycle the steering from full turn to full turn to check for clearance. Failure to perform inspections may result in component failure.
4. Re-torque all fasteners after 500 miles and recheck after 1000 miles. Alignment must be checked by a qualified mechanic. Visually inspect components and re-torque fasteners during routine vehicle service.
5. Readjust headlights to proper settings.
6. Have a qualified alignment center realign the front end, to the factory specifications immediately.

MAINTENANCE INFORMATION

It is the ultimate buyers responsibility to have all bolts/nuts checked for tightness after the first 500 miles and then every 1000 miles. Wheel alignment, steering system, suspension and driveline systems must be inspected by a qualified professional mechanic at least every 3000 miles.

Thank you for purchasing a Rough Country Suspension System.

By purchasing any item sold by Rough Country, LLC, the buyer expressly warrants that he/she is in compliance with all applicable , State, and Local laws and regulations regarding the purchase, ownership, and use of the item. It shall be the buyers responsibility to comply with all Federal, State and Local laws governing the sales of any items listed, illustrated or sold. The buyer expressly agrees to indemnify and hold harmless Rough Country, LLC for all claims resulting directly or indirectly from the purchase, ownership, or use of the items.