ROUGH COUNTRY SUSPENSION SYSTEMS®

27530BAG3

GM 2019 4WD AT4/TRAILBOSS 1500 4” Lift 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 on the rear cover of these instructions. 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. If question exist we will be happy to answer any questions concerning the design, function, and correct use of our products.

⚠NOTICE The electric power steering must be unplugged before any of the steering components are removed. Failure to do so may cause damage to the electric power steering.

⚠NOTICE Trucks equipped with a mass damper on the front diff, the damper will have to be removed.

This kit is packaged as a leveling kit—raising the front 4” and the back 3.5”. If you desire a different look or if the vehicle has a tool box or added weight in the rear, please consult with your sales representative about other block and u-bolt options.

This suspension system was developed using a 35” x 12.5” tire with 20” x 9” wheel and a offset of –12mm or –6mm offset with a 1/4” wheel spacer. 20x10 wheels require –24mm offset or –18mm offset with a 1/4” wheel spacer. **Max backspacing of 4.5”.** If wider tires are used trimming may be required.

⚠NOTICE **Fits crew cab short bed models only. Wil not fit models with adaptive ride control.**

⚠NOTICE **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.

Tools Needed:

Floor Jack /Jack Stands	36mm socket
10mm socket /wrench	1/2” socket/wrench
13 mm socket/wrench	9/16” socket /wrench
15mm socket / wrench	3/4” socket/wrench
17mm socket/wrench	#30 Torx bit
18mm socket /wrench	Reciprocating Saw
21mm socket /wrench	Hammer
22mm socket /wrench	Locking Pliers
24mm socket /wrench	
27mm socket /wrench	

Torque Specs:

Size	Grade 5	Grade 8	Size	Class 8.8	Class 10.9
5/16”	15 ft/lbs	20 ft/lbs	6MM	5 ft/lbs	9 ft/lbs
3/8”	30 ft/lbs	35 ft/lbs	8MM	18ft/lbs	23 ft/lbs
7/16”	45 ft/lbs	60 ft/lbs	10MM	32ft/lbs	45ft/lbs
1/2”	65 ft/lbs	90 ft/lbs	12MM	55ft/lbs	75ft/lbs
9/16”	95 ft/lbs	130 ft/lbs	14MM	85ft/lbs	120ft/lbs
5/8”	135 ft/lbs	175 ft/lbs	16MM	130ft/lbs	165ft/lbs
3/4”	185 ft/lbs	280 ft/lbs	18MM	170ft/lbs	240ft/lbs

Box Kit

21730BOX5
- Driver Knuckle-1

21730BOX6
- Passenger Knuckle-1

21730BOX2
- Front Cross Member-1
- Rear Cross Member-1
- Strut Covers-2

21730BOX3
- Rear Blocks-2
- Dr Rr Brake Line Bracket-1
- Skid Plate-1
- Rr Axle Brake Line Brackets-3
- 660748 Shocks-2
- 9/16Bag-1
- 1263Bag2-1
- Ubolts-4
- 21730Bag4-1

27530BOX1
- 27530Bag3-1
- 1253Bag2-1
- 27530Bag2-1
- 21730Bag5-1
- 10mmstudbag-1
- Dr Diff Drop Bracket-1
- Pass Diff Drop Bracket-1
- Rr Diff Mount-1
- Upper Strut Spacers-2
- Lower Strut Spacers-4
- Dr Sway Bar Drop Bracket-1
- Pass Sway Bar Drop Bracket-1
- Tie Rod Ends-2

Kit Bags

21730Bag3
- Instruction Sheet-1
- Warning to Driver Sticker-1

1253Bag2
- 18mm x 140mm Bolts-2
- 18mm x 120mm Bolts-2
- Flat Washers-8
- 18mm Nylock Nuts-4

27530Bag2
- 10mm x 35mm Bolts-4
- 10mm x 80mm Bolts-4
- 10mm Nylock Nuts-8
- 14mm x 10mm Bolt-1
- 14mm Flat Washers-4
- 14mm Nylock Nuts-2
- 14mm x 110mm Bolt-1
- 1/2” x 1.25” Bolts-2
- 1/2” Flat Washers-4
- 1/2” Nylock Nuts-2
- 3/8” Flat Washers-20
- 3/8” x 1” Bolts-4
- 3/16” Vent Tube 4.5” Long-1
- 3/16 Vent Tube Coupler-1

21730Bag4
- 5/16” x 1” Bolts-5
- 5/16” Flat Washers-5
- 5/16” Flange Lock Nuts-5

21730BAG5
- Cam Bolts-4
- 18mm Nuts-8

1263Bag2
- 7/16” x 3 1/8” x 3 1/4” Square U-bolt-4
- 7/16” Washer-8
- 7/16 Nylock-8

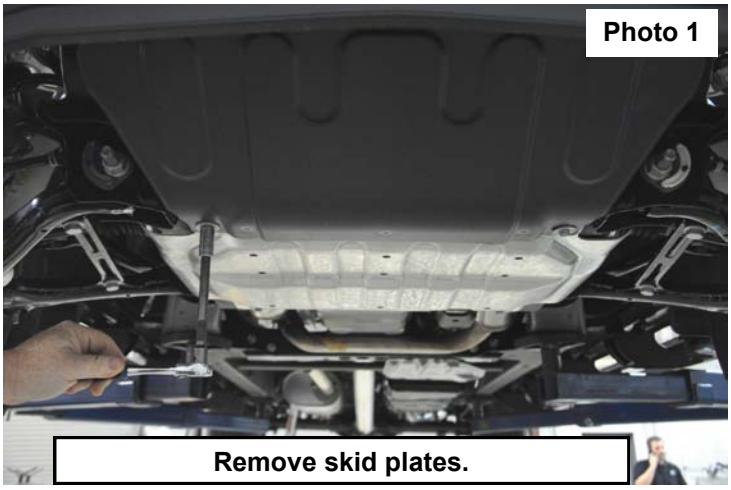
10mmstudbag
- 10mm Stud-6
- 10mm Lock Washer-6
- 10mm Nut-7
- 1/2” Jam Nut-1

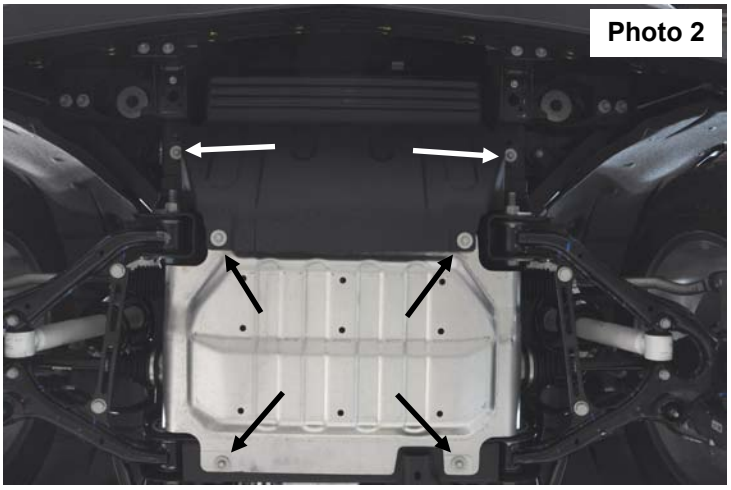
9/16Bag
- 9/16” Washers-8
- 9/16” Nuts-8

KIT CONTENT

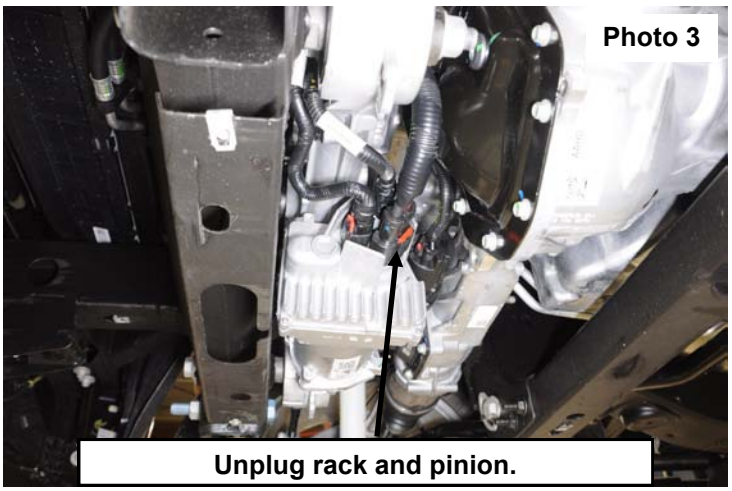
FRONT INSTALLATION

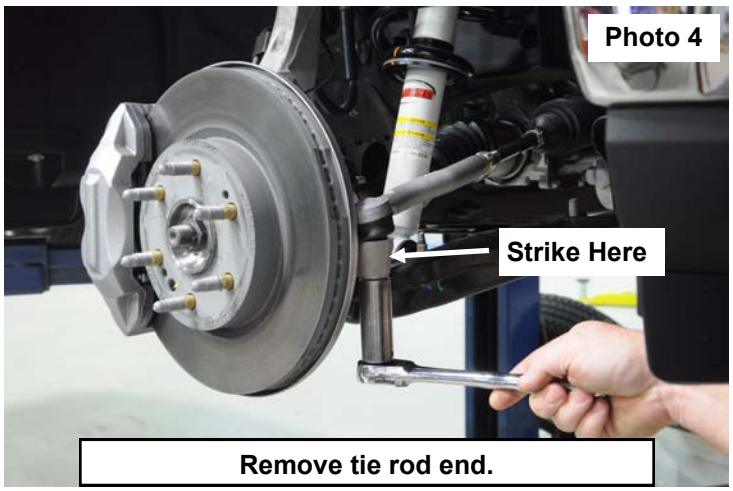
1. Park the vehicle on a level surface and chock the rear wheels. Lock the steering wheel in the straight position.
2. Jack up the front of the vehicle. Place jack stands under the frame rails and lower onto jack stands letting the front suspension hang.
3. Raise the hood and disconnect the battery using a 10mm socket.
4. Remove the tires and wheels.
5. Remove the 6 bolts holding the factory skid plates, using a 13mm socket. **See Photos 1 & 2.**



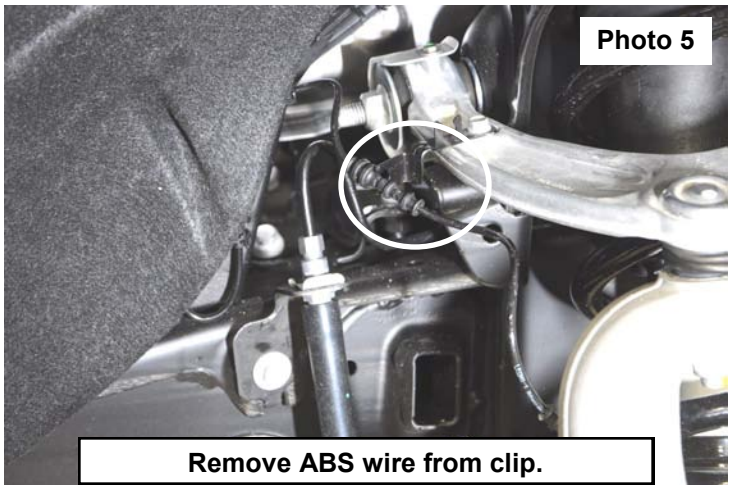


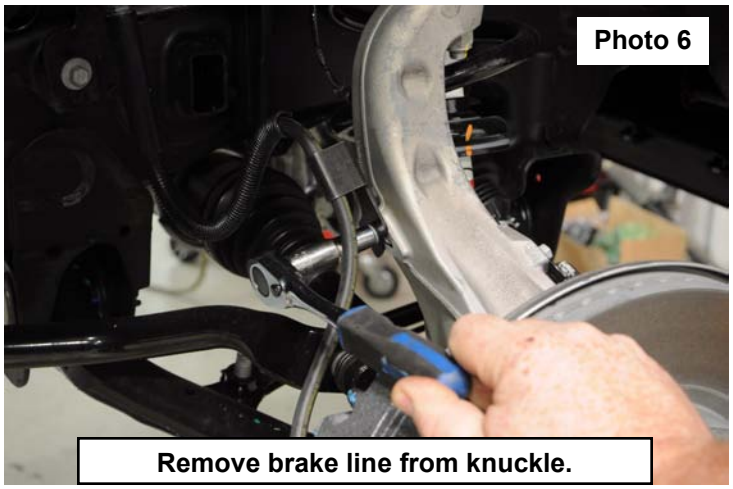
6. Unplug the three connectors going to the rack and pinion. **See Photo 3**.
7. Using a 21mm socket, remove the tie-rod nut as shown in **Photo 4**. Using a hammer, strike the front of the mount to dislodge the tie rod end. Remove from the knuckle.



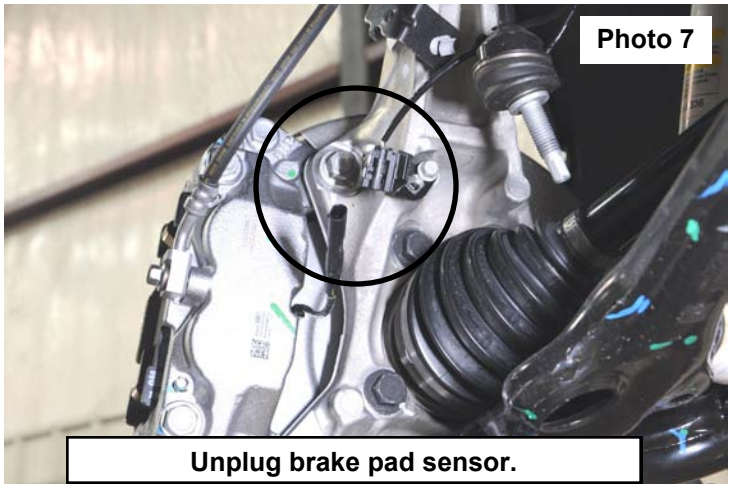


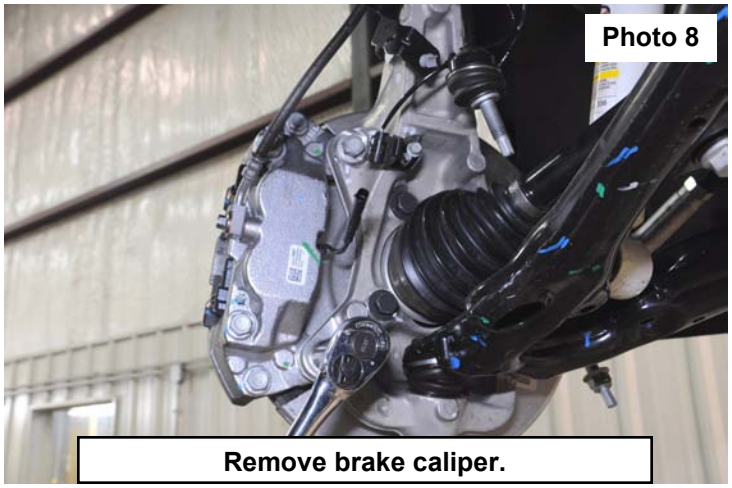
8. Remove the ABS wire from the clip on the upper control arm mount. **See Photo 5.**
9. Using a 10mm socket, remove the brake line and brake pad sensor wires from the knuckle. Retain hardware. **See Photo 6.**



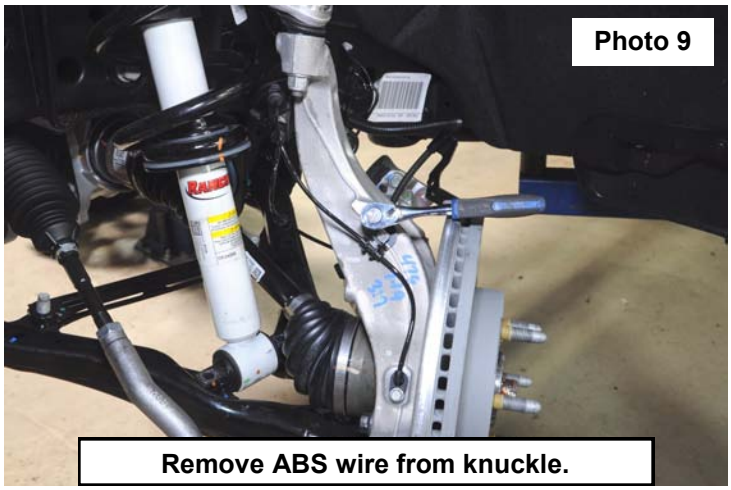


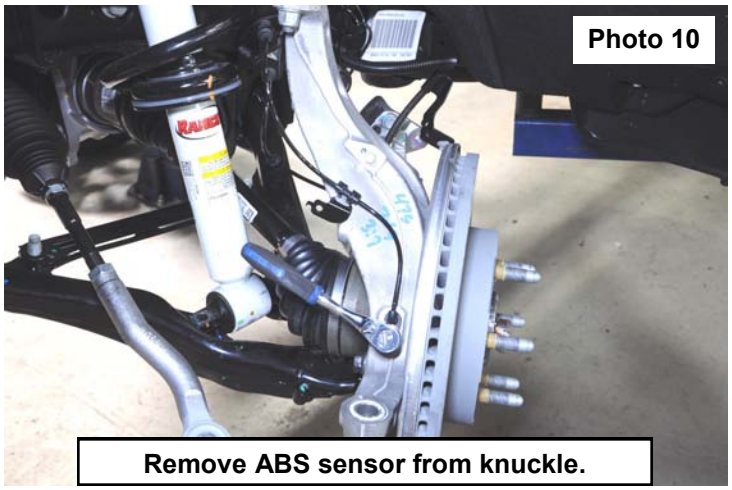
10. Unplug the brake pad sensor wire. **See Photo 7.**
11. Using an 18mm socket, remove the brake caliper. Hang caliper out of the way. **Do not hang the caliper by the brake line**. Retain hardware. **See Photo 8.**



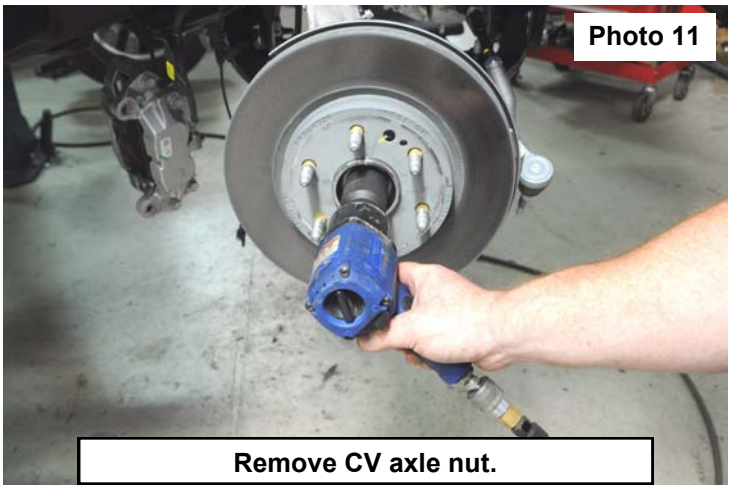


12. Using a 10mm socket, remove the ABS wire bracket from the knuckle. Retain hardware. **See Photo 9.**
13. Using a 10mm socket, remove the ABS sensor from the knuckle. Retain hardware and hang ABS wire out of the way. **See Photo 10.**

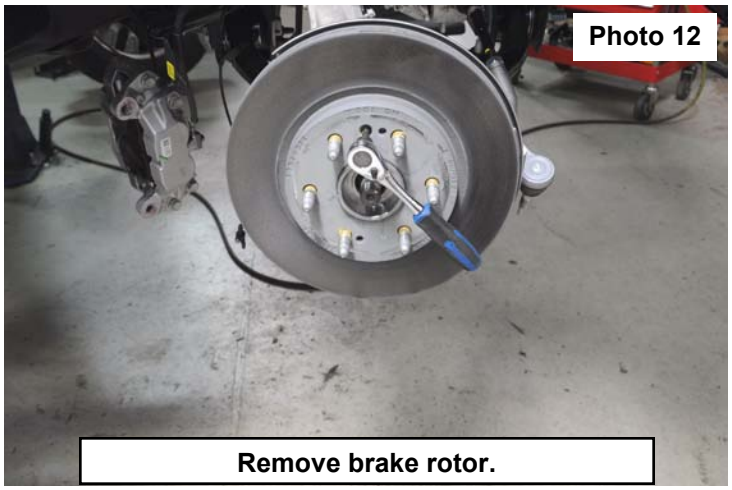




14. Remove the CV axle nut using a 36mm socket. Retain hardware. **See Photo 11.**
15. Using a 30T torx, remove the brake rotor. Retain hardware. **See Photo 12.**

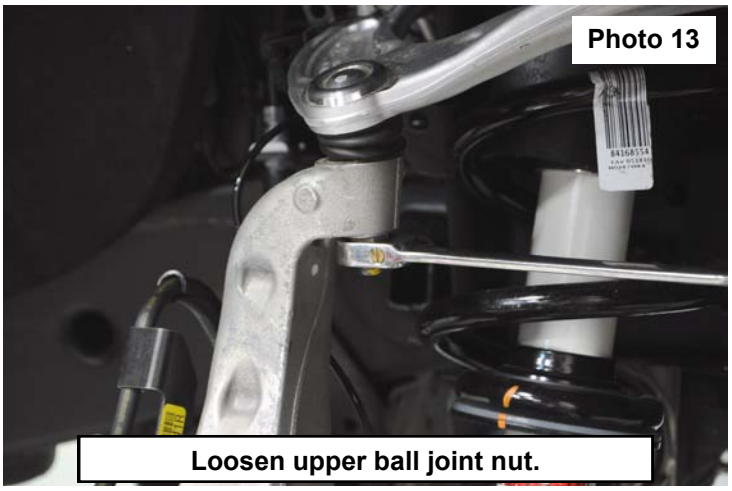


Remove CV axle nut.

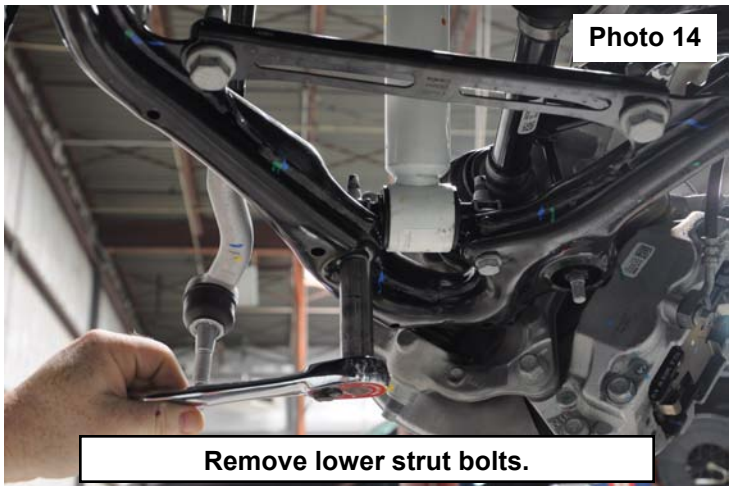


Remove brake rotor.

16. Using an 18mm wrench, loosen the upper ball joint nut. Do not completely remove the nut. Strike the knuckle with a hammer to release the ball joint taper. **See Photo 13.**
17. Support the lower control arm.
18. Using a 15mm socket, remove the lower strut mounting bolts. **See Photo 14.**

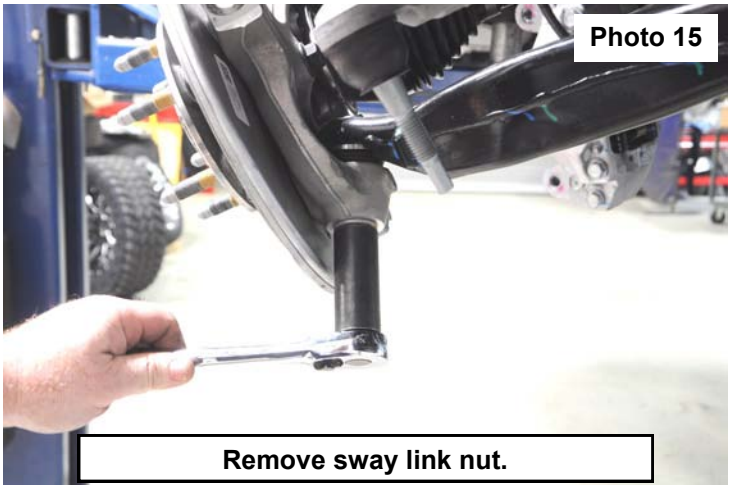


Loosen upper ball joint nut.

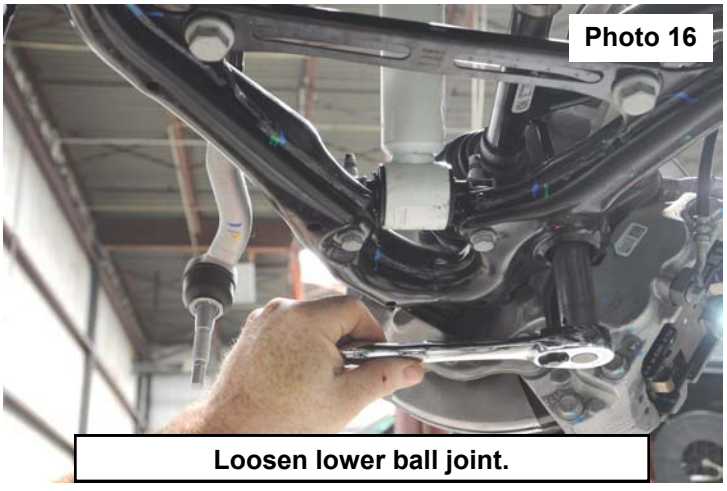


Remove lower strut bolts.

19. Using a 24mm socket, loosen the lower ball joint nut. Do not completely remove the nut. Strike the knuckle with a hammer to release the ball joint taper, remove the upper and lower ball joint nuts and remove the knuckle from the truck. Retain hardware. **See Photo 15.**
20. Remove the lower sway link nut using an 18mm socket. Retain hardware. **See Photo 16.**

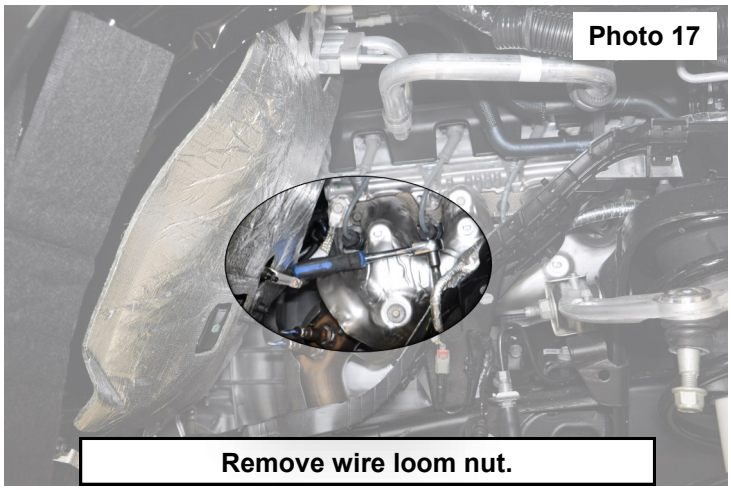


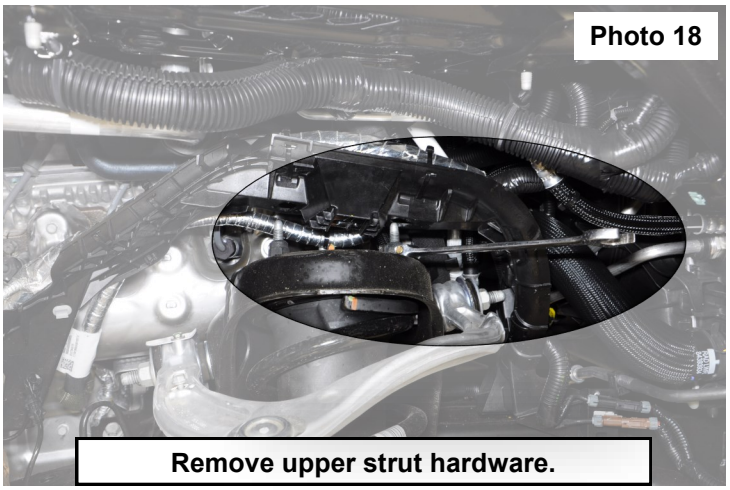
Remove sway link nut.



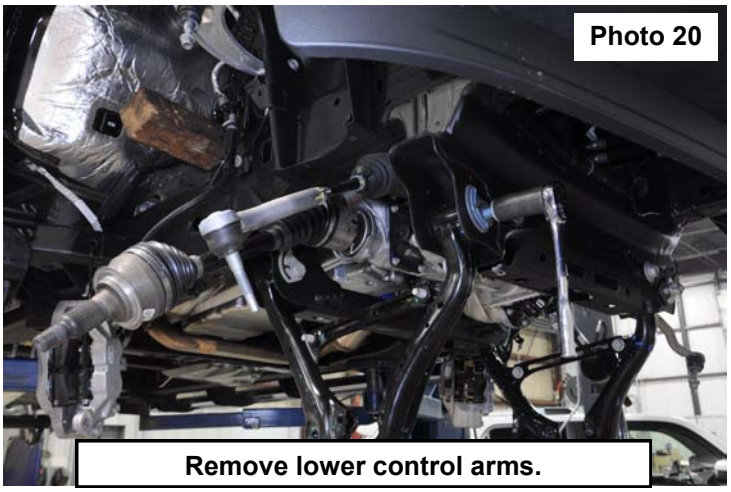
Loosen lower ball joint.

21. On the passenger side, use a 13mm socket to remove the bolt holding the plastic wire loom that is attached to the frame and the upper strut tower. Retain hardware. (Inner fender was removed for pictures) **See Photo 17.**
22. Using an 18mm wrench, remove the upper strut nuts. Retain hardware. **See Photo 18.**

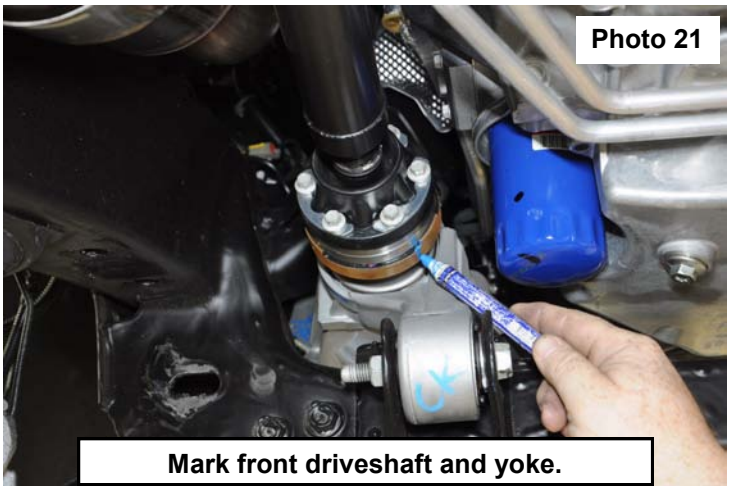


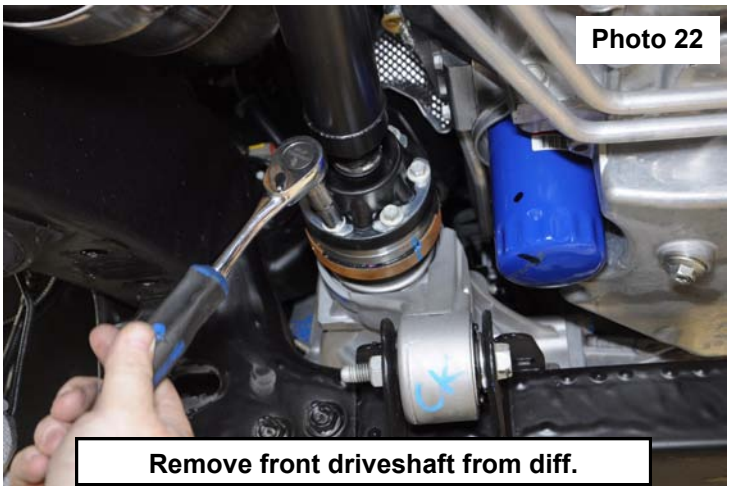


23. Using a 10mm socket, remove the sway bar from the frame. Retain hardware. **See Photo 19.**
24. Using a 27mm socket, remove the lower control arms. Retain hardware. **See Photo 20.**

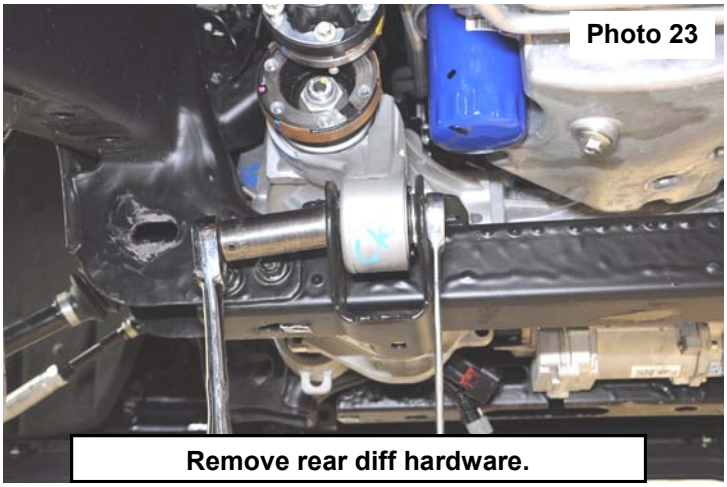


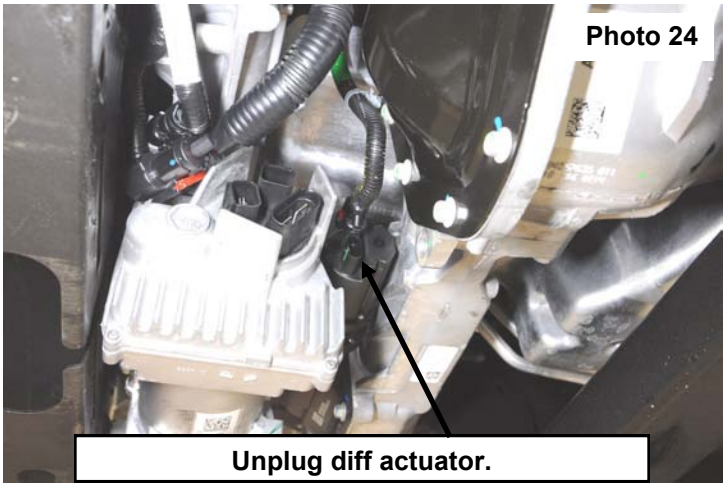
25. Mark the front driveshaft and the front yoke. **See Photo 21.**
26. Remove the front driveshaft using a 10mm socket. Retain hardware. Do not allow driveshaft to hang from the rear joint, this could damage the boot. Support the driveshaft with a jack stand. **See Photo 22.**



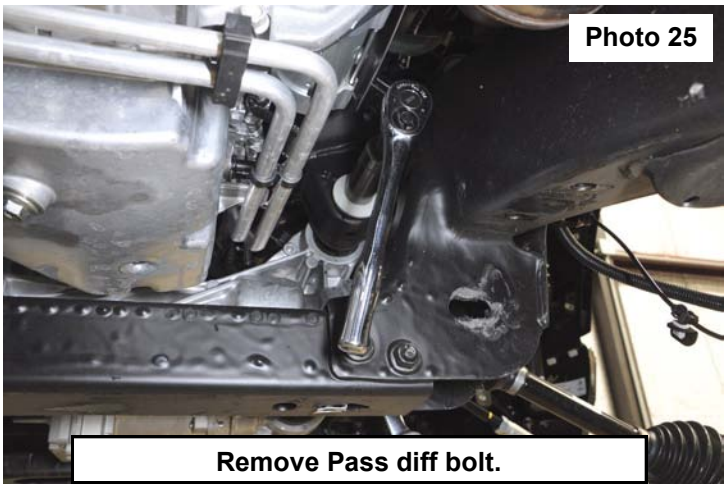


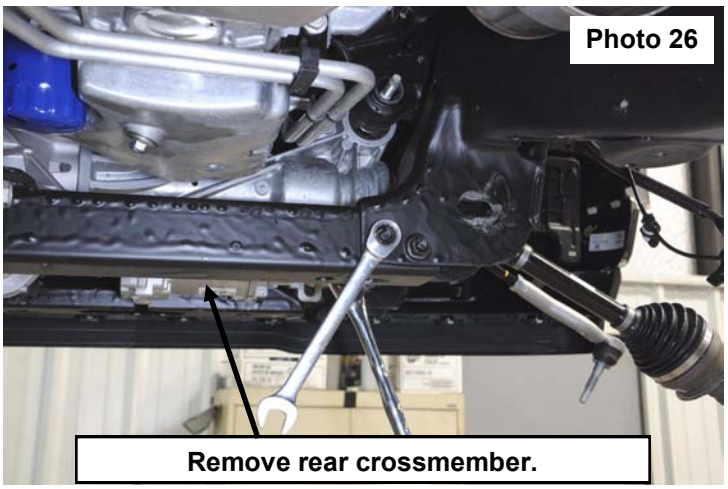
27. Using a 21mm wrench and socket, remove the rear diff bolt from the crossmember. Retain hardware. **See Photo 23.**
28. Unplug the diff actuator and remove the wire loom clips from the diff and vent hose. **See Photo 24.**



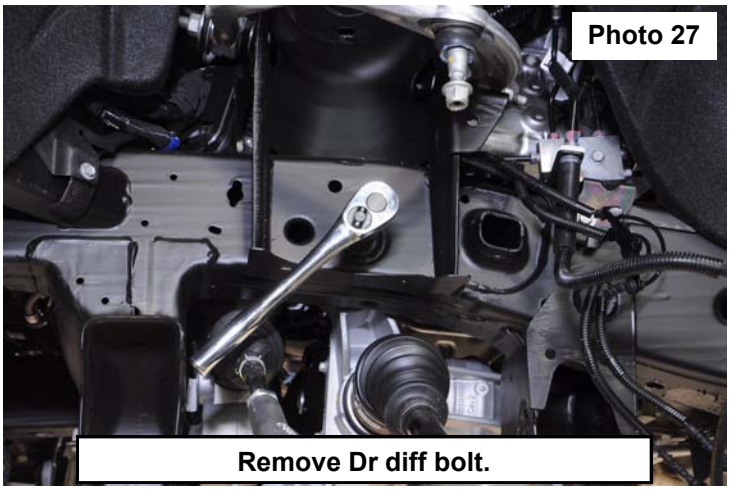


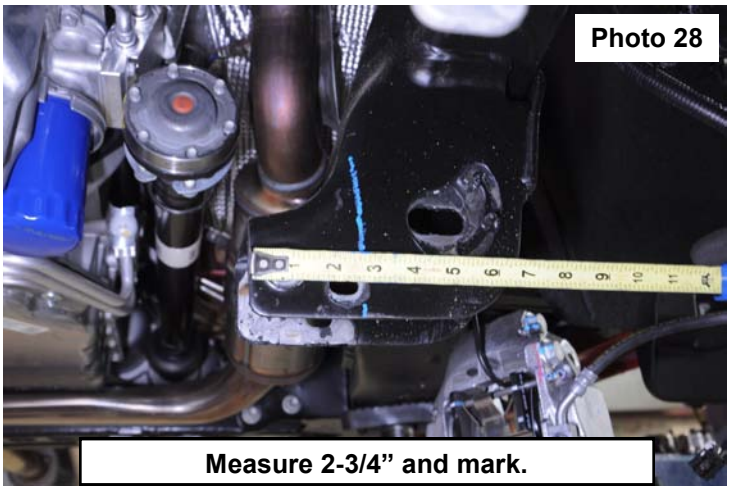
29. Support the differential using a jack.
30. Using a 21mm socket and wrench, remove the nut from the passenger side diff bolt. Retain hardware. **See Photo 25.**
31. Remove the rear crossmember using an 18mm wrench and socket. **See Photo 26.**





32. Using a 21mm socket and 22mm wrench, remove the driver and passenger diff bolts. To remove the pass side bolt, you will need to push the diff to the pass side and roll the back of the diff upward. Lower the differential. Retain hardware. **See Photo 27.**
33. On the rear driver side crossmember mount, measure 2-3/4" and mark. **See Photo 28.**





34. Cut along the mark made in step 33 using a reciprocating saw. Sand and paint the cut edge to prevent rust. **See Photo 29.**
35. Install the supplied driver side diff drop bracket using the factory bolt. Do not tighten at this time. **See Photo 30.**


Photo 29
Trim the Dr rear crossmember mount.

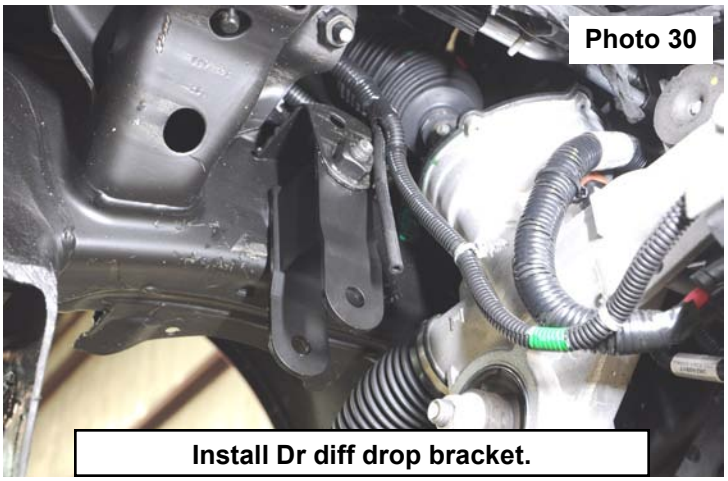


Photo 30
Install Dr diff drop bracket.

36. Install the supplied passenger side diff drop using the supplied 14mm x 110mm bolt, washers, and nylock nut (27530BAG2). Do not tighten at this time. **See Photo 31.**
37. Install the diff using the factory hardware on the pass side and the supplied 14mm x 100m bolt, washers, and nylock nut (27530BAG2) on the driver side. Do not tighten at this time. **See Photos 32 & 33.**

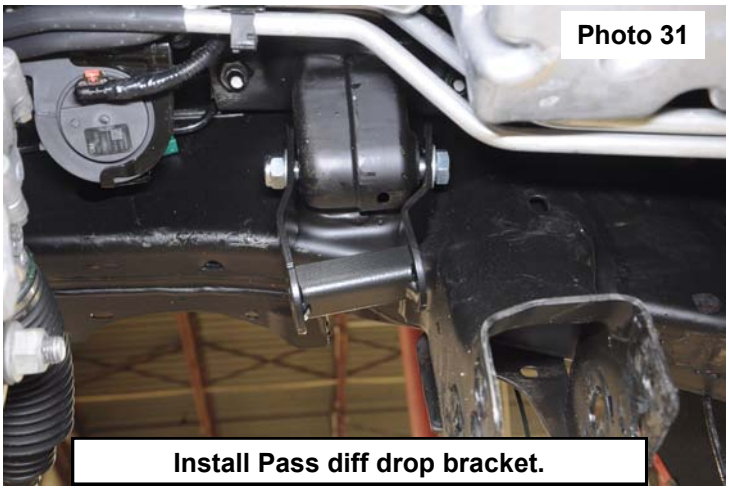


Photo 31
Install Pass diff drop bracket.

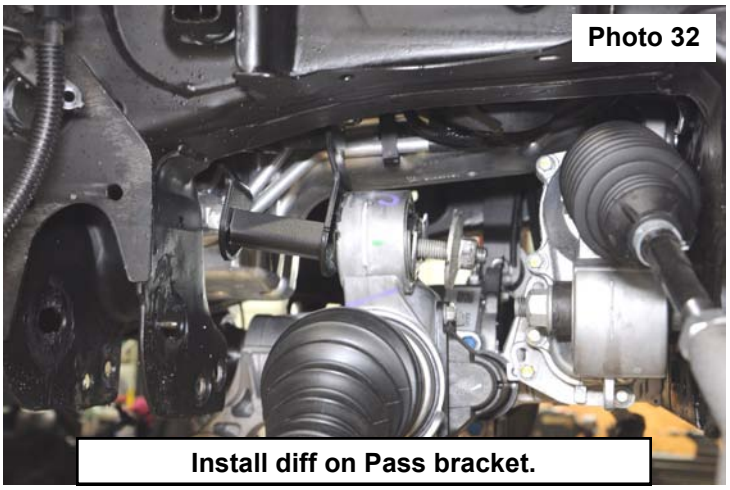


Photo 32
Install diff on Pass bracket.

38. Cut the supplied 3/16” vent tube (27530BAG2) in half, install the supplied 3/16” vent tube coupler (27530BAG2) and one half of the 3/16” vent tube on the diff and in the factory vent tube. **See Photo 34.**

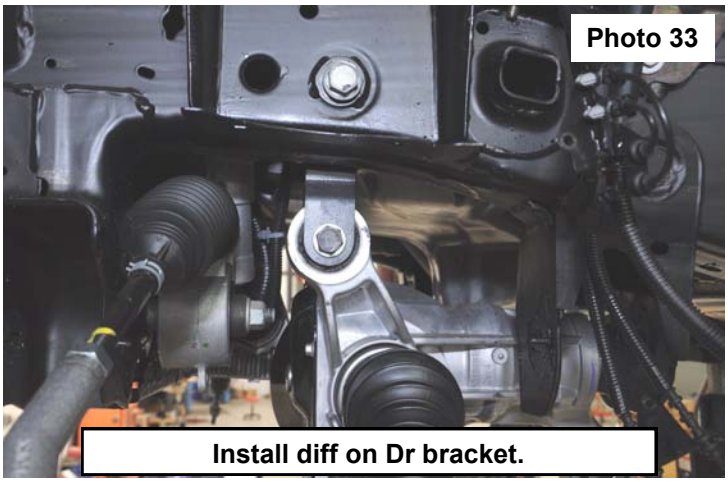


Photo 33
Install diff on Dr bracket.

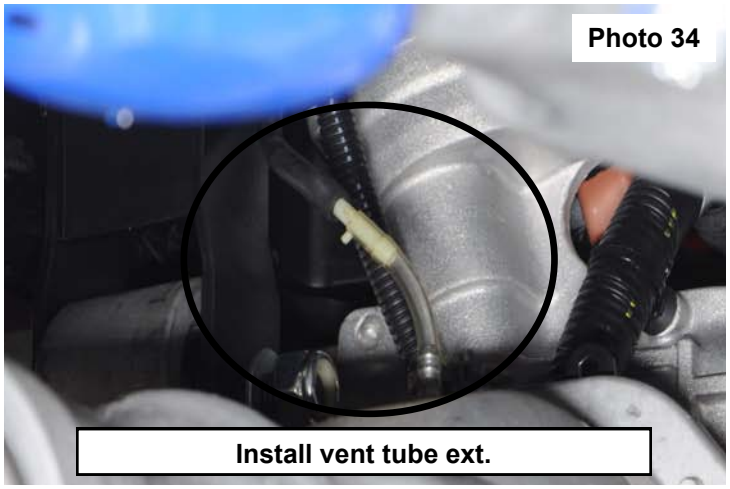


Photo 34
Install vent tube ext.

39. Install the supplied sway bar drops using the factory hardware. Do not tighten at this time. **See Photo 35.**
40. Install the supplied rear crossmember using the supplied 18mm x 140mm bolts, washers, and 18mm nylock nuts (1253BAG2). The bolts will go through the sway bar drop brackets. Do not tighten. **See Photo 36.**

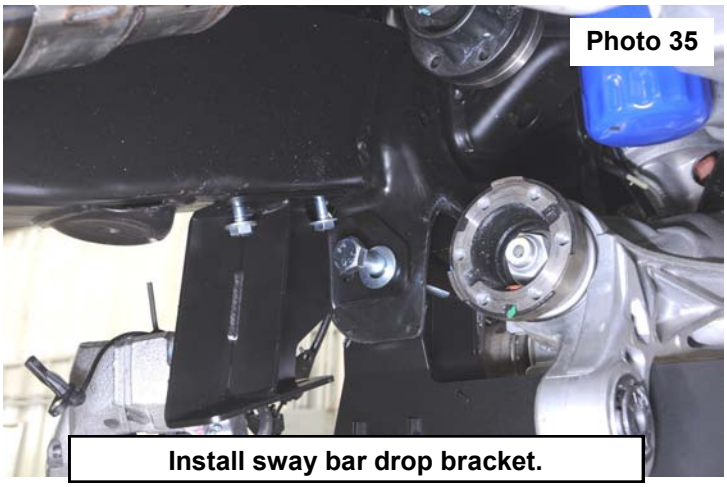


Photo 35
Install sway bar drop bracket.

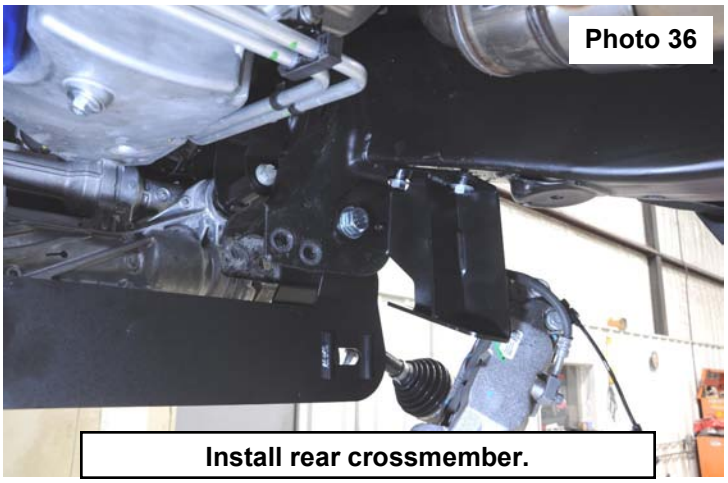


Photo 36
Install rear crossmember.

41. Install the supplied rear diff mount onto the rear crossmember using the supplied 1/2" x 1.25" bolts, flat washers, and nylock nuts (27530BAG2). Install the factory hardware through the diff and diff mount. Do not tighten at this time. **See Photo 37.**
42. Install the supplied front crossmember using the supplied 18mm x 120mm bolts, flat washers, and nylock nuts (1253BAG2). Do not tighten at this time. **See Photo 38.**

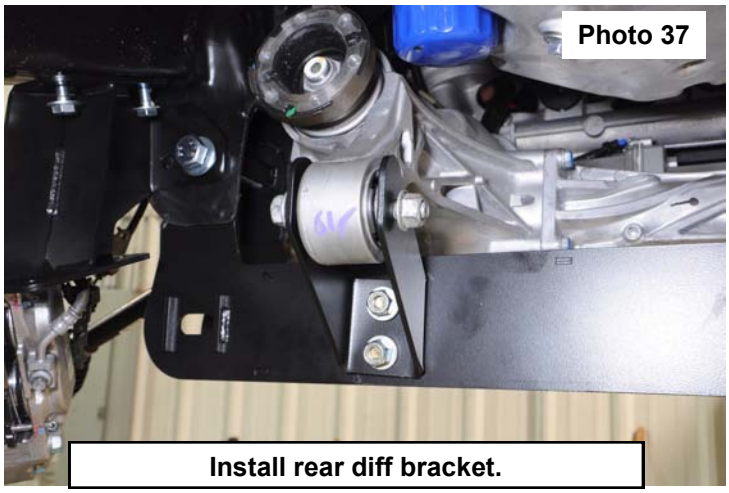


Photo 37
Install rear diff bracket.

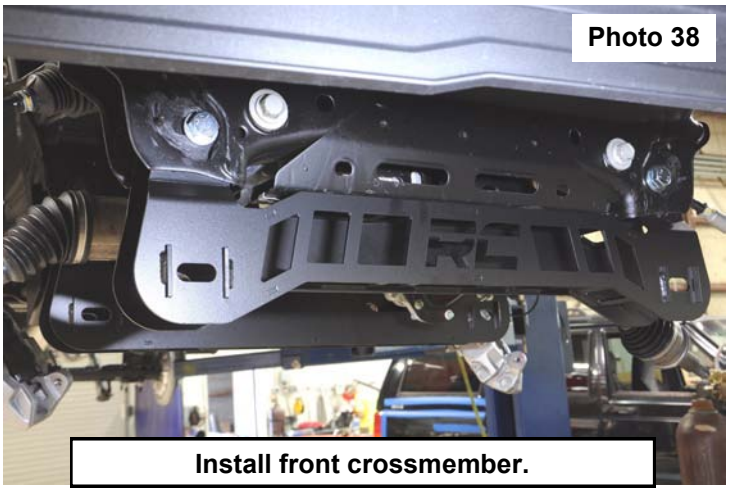


Photo 38
Install front crossmember.

43. Install the lower control arms using the supplied cam bolts and hardware (21730BAG5). Do not tighten at this time. **See Photo 39.**
44. Using a 21mm socket and 22mm wrench, torque the upper driver diff mount bolt to factory specs. **See Photo 40.**

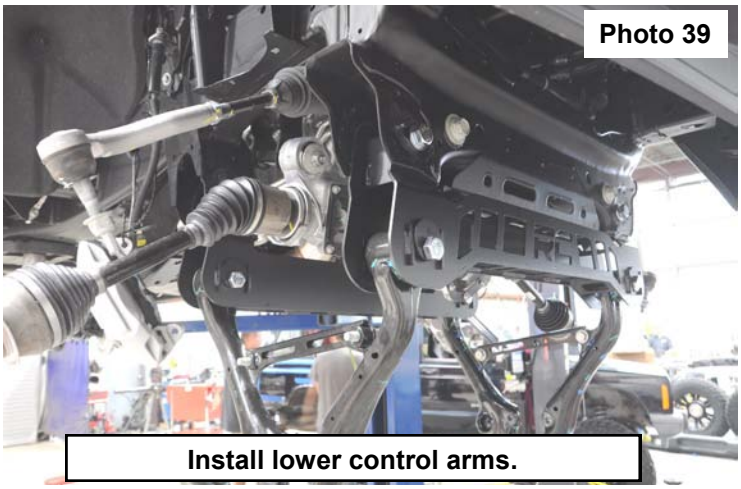


Photo 39
Install lower control arms.

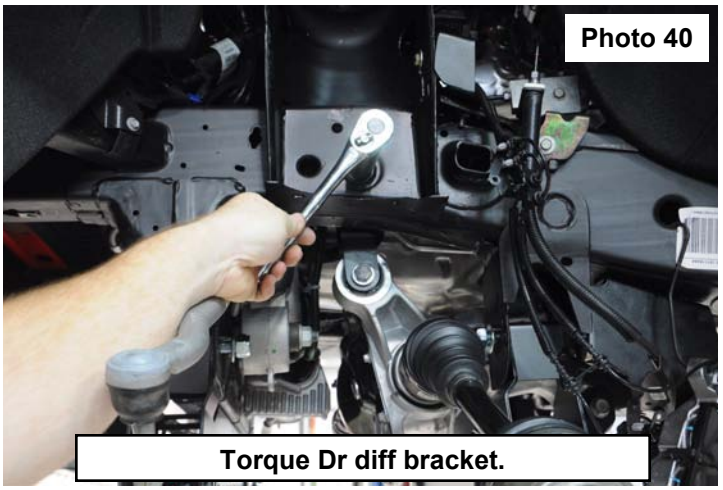
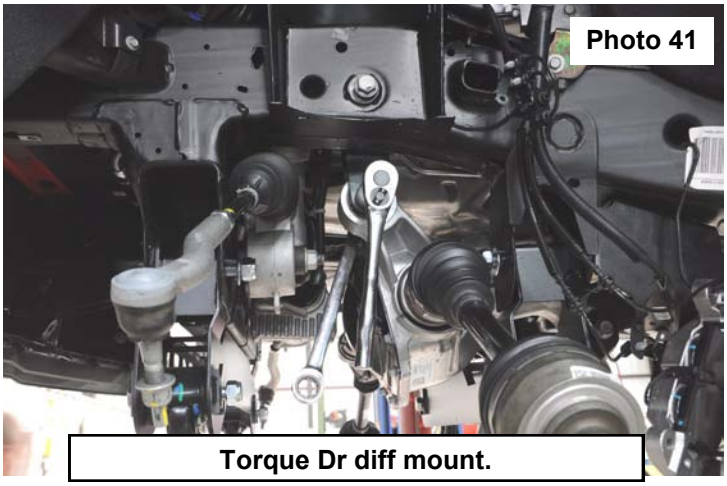
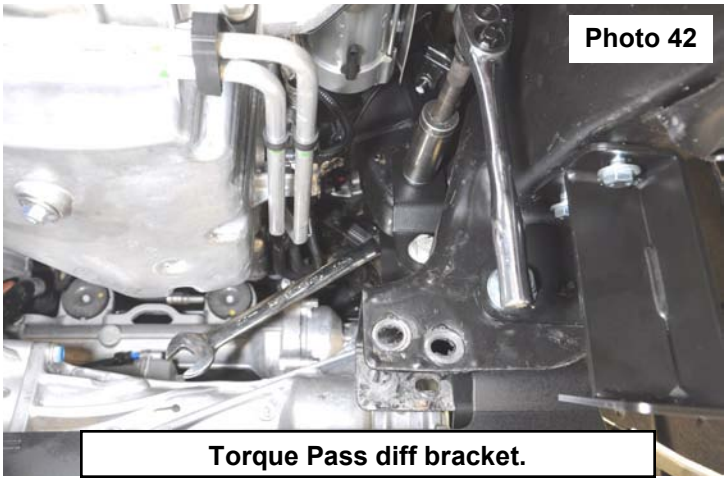


Photo 40
Torque Dr diff bracket.

45. Using a 21mm wrench and 22mm socket, torque the dr diff bolt to 85ft/lbs. **See Photo 41.**
46. Using a 21mm wrench and 22mm socket, torque the pass diff drop bolt to 85ft/lbs. **See Photo 42.**

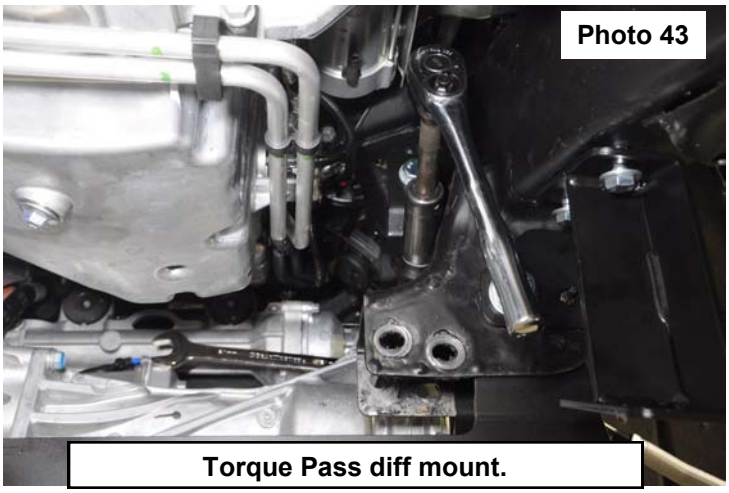


Torque Dr diff mount.

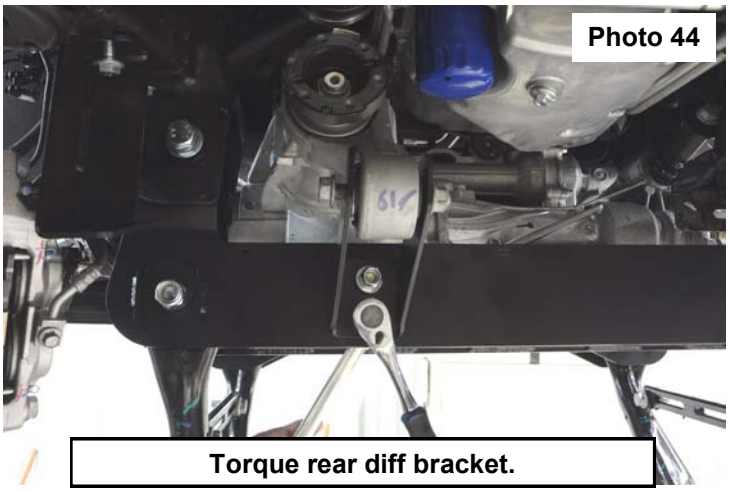


Torque Pass diff bracket.

47. Using a 21mm wrench and 22mm socket, torque the pass diff bolt to factory specs. **See Photo 43.**
48. Using a 3/4" wrench and socket, torque the rear diff bracket hardware to 65ft/lbs. **See Photo 44.**

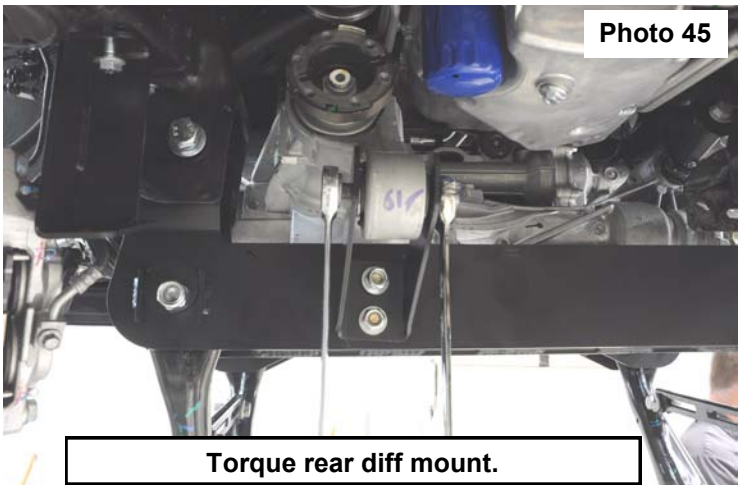


Torque Pass diff mount.

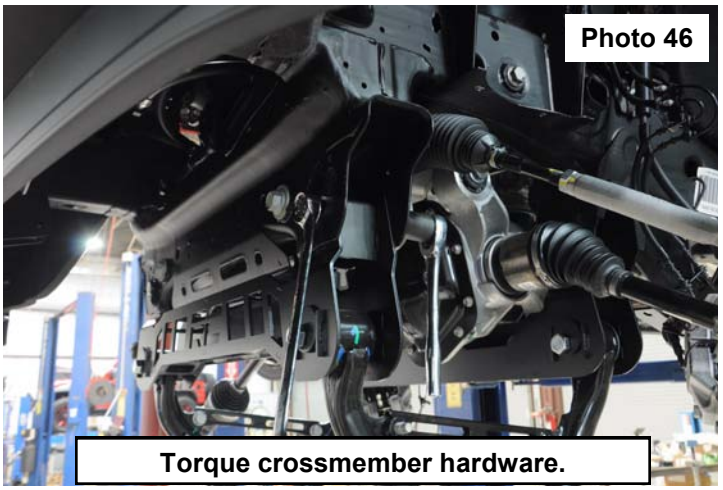


Torque rear diff bracket.

49. Using a 21mm wrench and 22mm socket, torque the rear diff bolt to factory specs. **See Photo 45.**
50. Using a 27mm wrench and socket, torque the crossmember bolts to 170ft/lbs. **See Photo 46.**

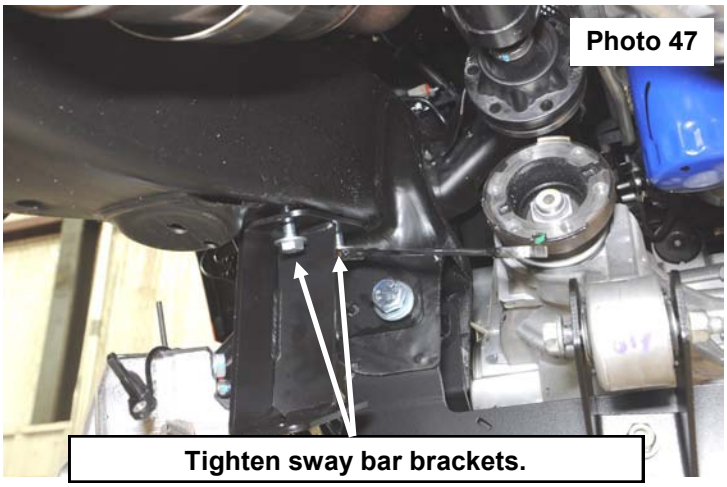


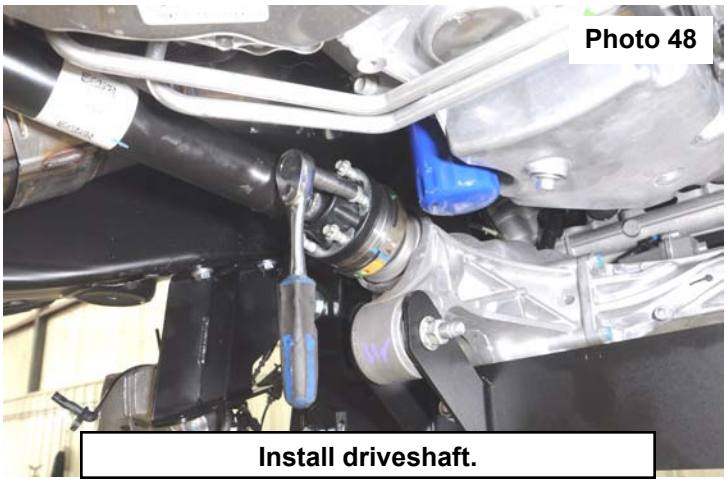
Torque rear diff mount.



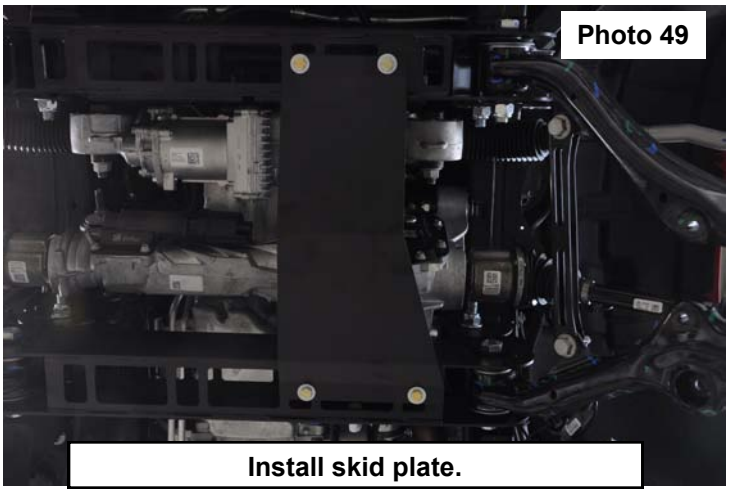
Torque crossmember hardware.

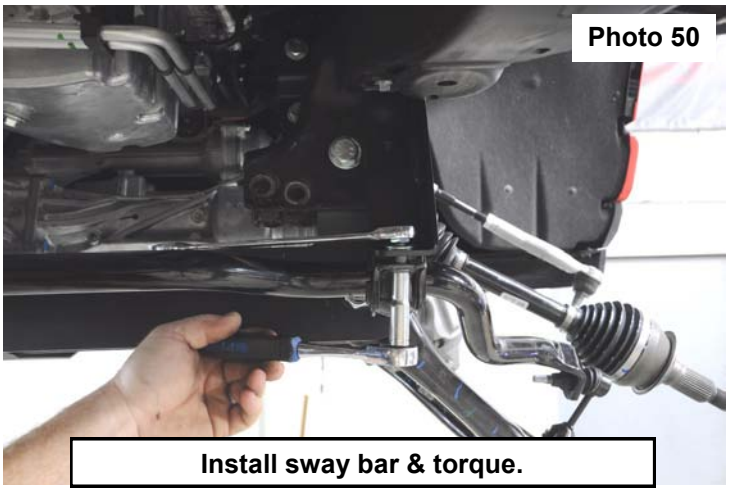
51. Using a 10mm wrench, tighten the sway bar drop hardware. **See Photo 47.**
52. Install the front drive shaft on the differential using the factory hardware. Torque to factory specs using a 10mm socket. **See Photo 48.**



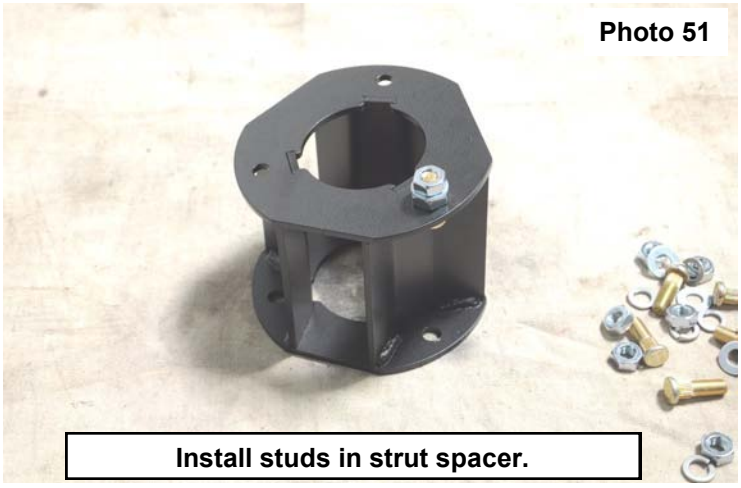


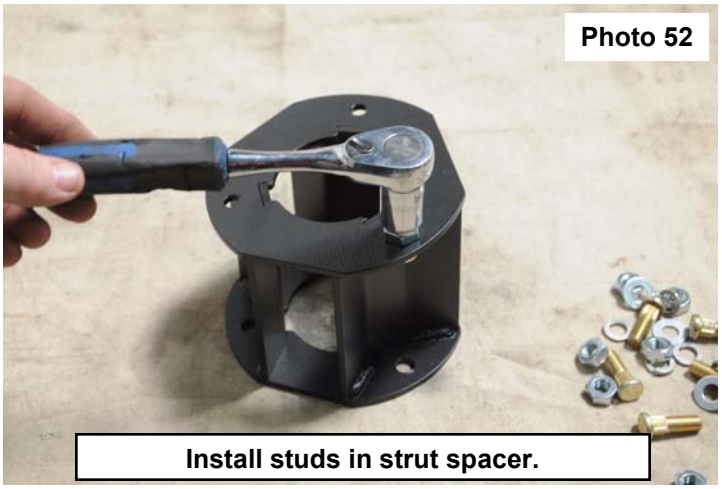
53. Install the supplied skid plate using the supplied 3/8" x 1" bolts and washers (27530BAG2). Torque to 30ft/lbs using a 9/16" socket. **See Photo 49.**
54. Install the sway bar on the drop brackets using the supplied 10mm x 35mm bolts, washers, and nylock nuts (27530BAG2). Torque to 32ft/lbs using a 17mm wrench and socket. **See Photo 50.**



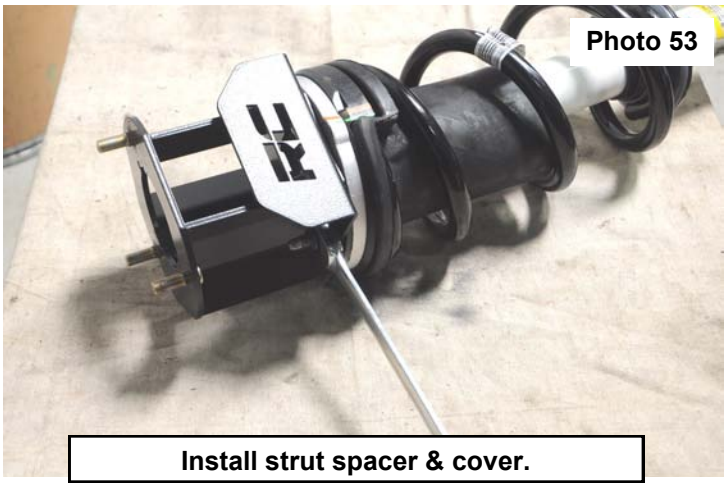


55. Install the supplied 10mm studs (10mmstudbag-1) into the strut spacer using the supplied 1/2" jam nut (10mmstudbag-1) between the spacer and the 10mm nut (10mmstudbag-1). Tighten the 10mm nut using a 17mm socket, pulling the stud into the spacer. **Do not using an impact. See Photos 51 & 52.**

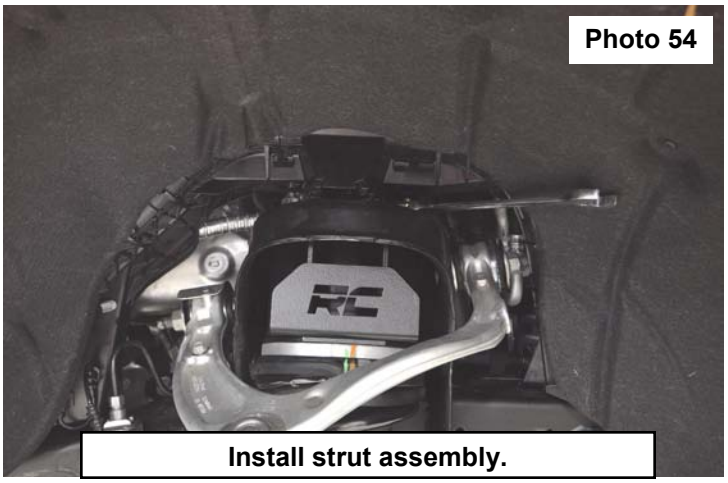




56. Install the strut spacer and the supplied strut cover on the factory strut using the factory hardware. Tighten using an 18mm wrench. **See Photo 53.**
57. Install the strut into the upper mount using the supplied 10mm hardware (10mmstudbag-1). Tighten using a 17mm wrench. **See Photo 54.**

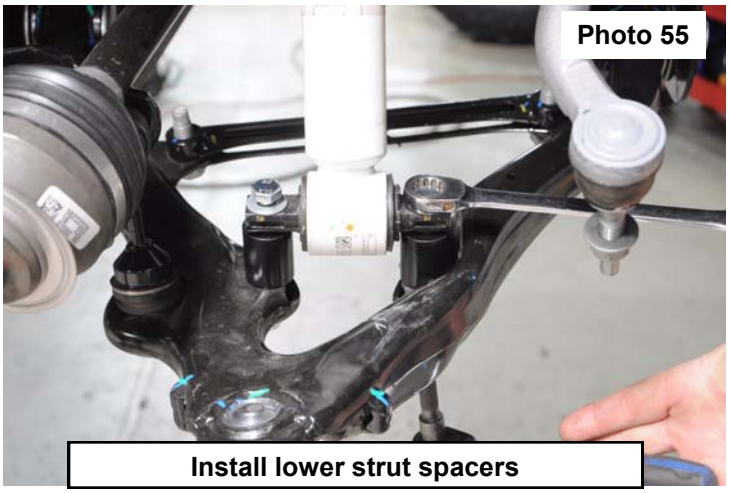


Install strut spacer & cover.

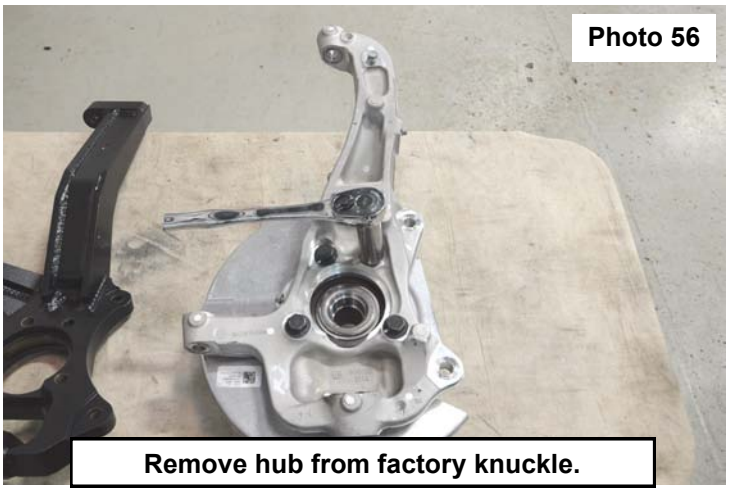


Install strut assembly.

58. Install the supplied lower strut spacers between the lower strut barpin and the lower control arm, using the supplied 10mm x 80mm bolts, washers, and nylock nuts (27530BAG2). Torque to 32ft/lbs using a 17mm wrench and socket. **See Photo 55. You may have to push the lower control arm down to install the spacers.**
59. Install the plastic wiring loom using the factory hardware, tighten using a 13mm socket.
60. Using an 18mm socket, remove the hub bearing from the factory knuckle. **See Photos 56 & 57.**

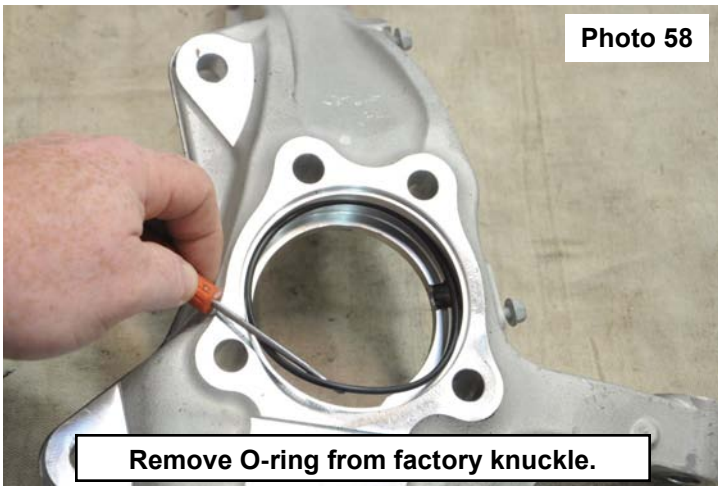


Install lower strut spacers



Remove hub from factory knuckle.

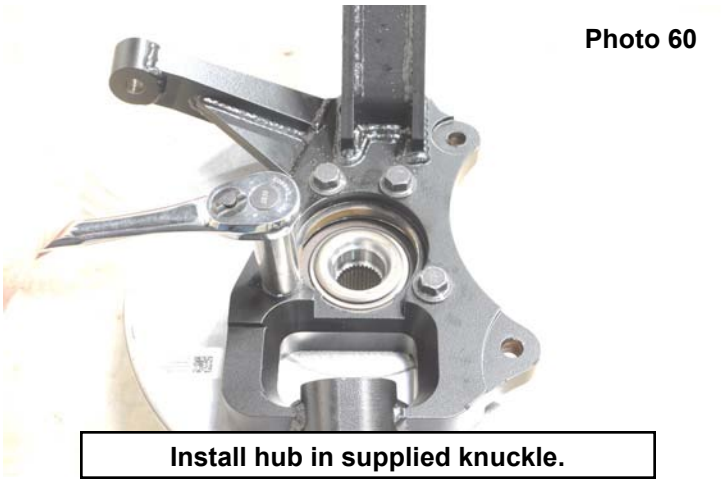
61. Carefully remove the hub bearing O-ring from the factory knuckle. Inspect and replace if damaged. **See Photo 58.**



Remove O-ring from factory knuckle.

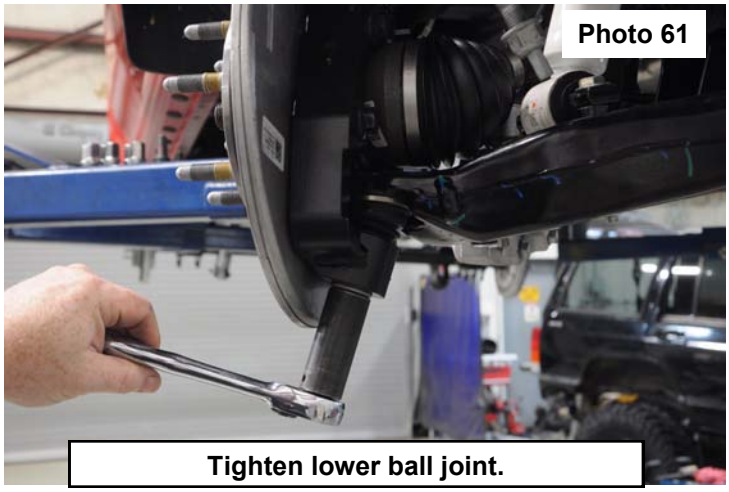
62. Carefully, install the O-ring in the supplied lifted knuckle. **See Photo 59.**
63. Install the hub bearing in the new knuckle using the factory hardware. Torque to factory specs using an 18mm socket. **See Photo 60.**

Install O-ring in supplied knuckle.

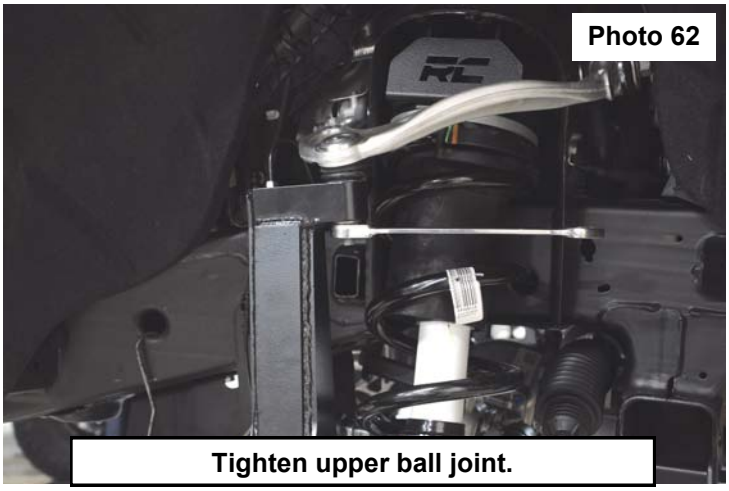


Install hub in supplied knuckle.

64. Install the knuckle assembly on the lower ball joint, using factory hardware, while installing the CV axle through the hub bearing. Tighten using a 24mm socket. **See Photo 61.**
65. Attach the upper ball joint using the factory hardware. Tighten using an 18mm wrench. **See Photo 62.**

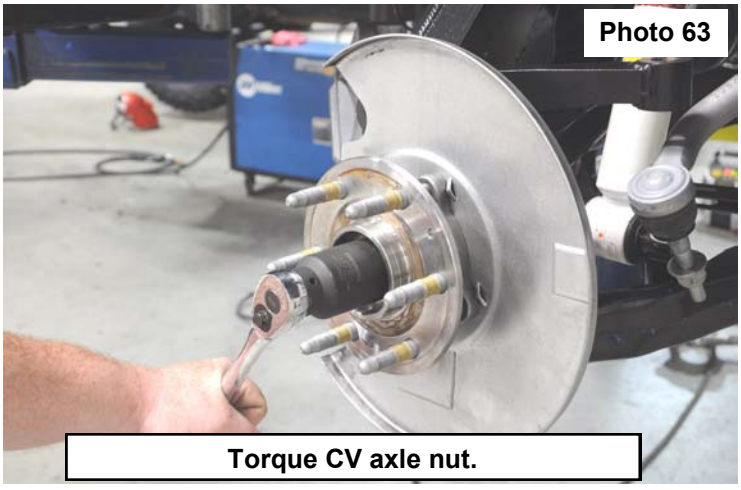


Tighten lower ball joint.

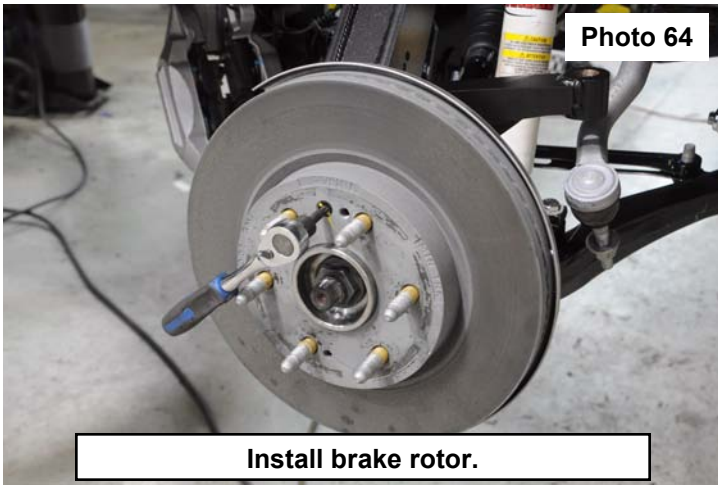


Tighten upper ball joint.

66. Attach the sway link to the lower control arm using the factory hardware. Tighten using an 18mm socket.
67. Install the CV axle nut and torque to factory specs using a 36mm socket. **See Photo 63.**
68. Install the rotor using the factory hardware, tighten using a T30 torx. **See Photo 64.**



Torque CV axle nut.



Install brake rotor.

69. Install the brake caliper using the factory hardware. Plug in brake pad wear sensor. Torque to factory specs using an 18mm socket. **See Photo 65.**
70. Attach brake line to the knuckle using the factory hardware. Tighten using a 10mm socket. **See Photo 66.**

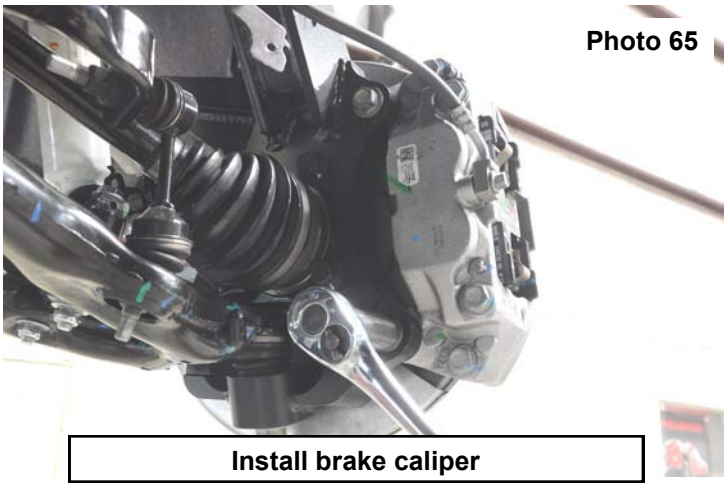


Photo 65

Install brake caliper

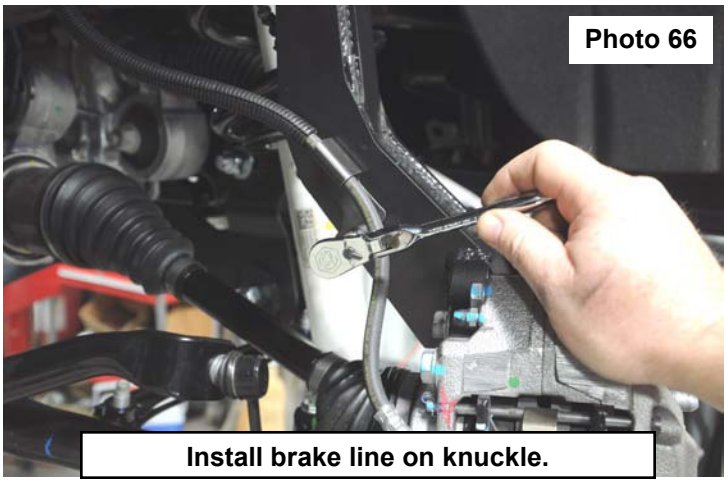


Photo 66

Install brake line on knuckle.

71. Attach the ABS sensor to the knuckle using the factory hardware. Tighten using a 10mm socket. **See Photo 67.**
72. Place the tie rod end into the knuckle to hold it, using a 24mm wrench, remove the tie rod end. **See Photo 68.**

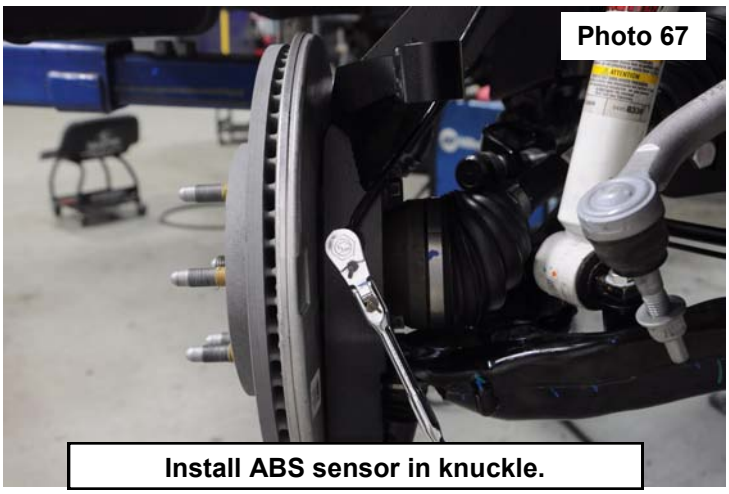


Photo 67

Install ABS sensor in knuckle.

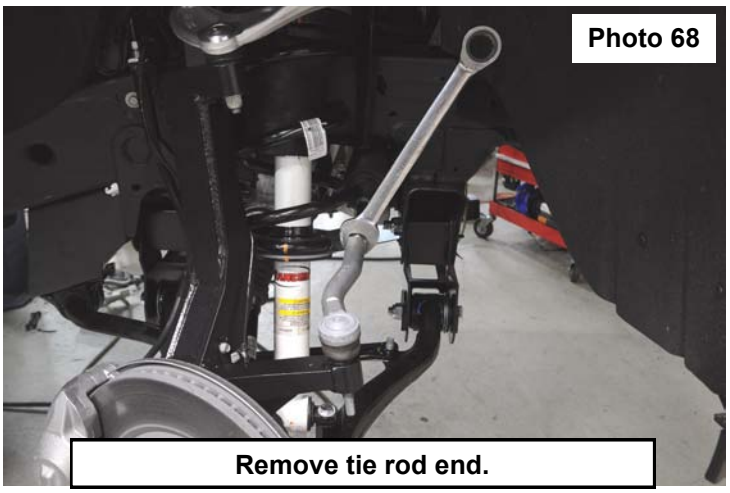


Photo 68

Remove tie rod end.

73. **Photo 69** shows the factory tie rod end and the new supplied tie rod end.
74. Install the supplied tie rod end using the supplied hardware. Tighten using a 21mm and 10mm wrenches. Tighten the jam nut using a 24mm wrench. **See Photo 70**

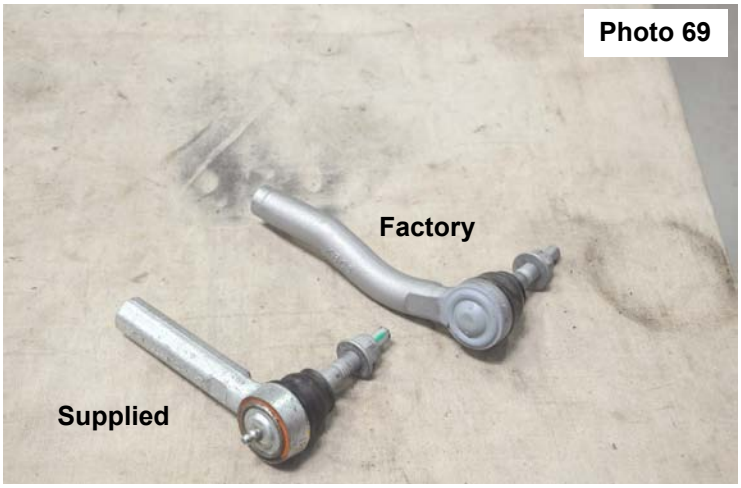


Photo 69

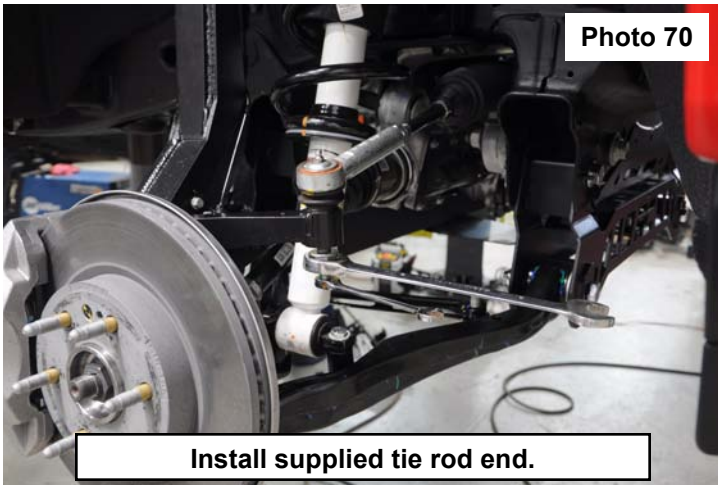


Photo 70

Install supplied tie rod end.

75. Repeat steps 55-74 on the opposite side of the vehicle.
76. Reconnect the plugs to the rack and pinion and the differential actuator. **See Photo 71.**
77. Install the wheels and tires.

⚠WARNING Take caution when installing the wheels, making sure they completely clear the brake caliper. Any pressure on the brake caliper from the wheel will cause an error in the brake system. The braking system will not function properly. The vehicle will have to be reset by a GM dealership.

78. Jack up the truck and remove the jack stands. Lower the truck to the ground.
79. Using a 27mm wrench and socket, tighten the cam bolts on the lower control arms. Torque to 240ft/lbs.
80. Connect the battery cables to the battery.

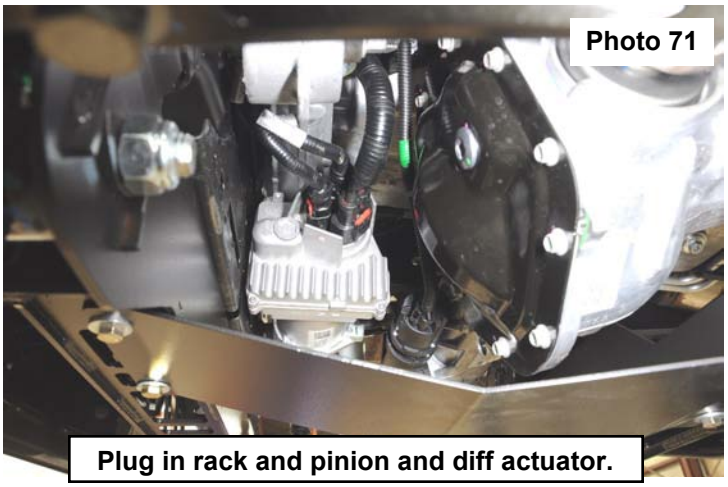


Photo 71

Plug in rack and pinion and diff actuator.

REAR INSTALLATION

1. Chock the front tires.
2. Jack up the rear of the truck and place jack stands under the frame rails, lower the truck onto the jack stands allowing the rear suspension to hang. Place a jack under the rear differential.
3. Using a 21mm socket and wrench, remove the rear shocks. Retain hardware.
4. Using a 13mm wrench, remove the brake line bracket from the frame. **See Photo 1.**
5. Install the supplied brake line bracket using the stock hardware at the frame and the supplied 5/16" x 1" bolts, washers, and nuts (21730BAG4) to secure the supplied bracket to the factory bracket. Tighten the factory hardware using a 13mm wrench. **See Photo 2.**

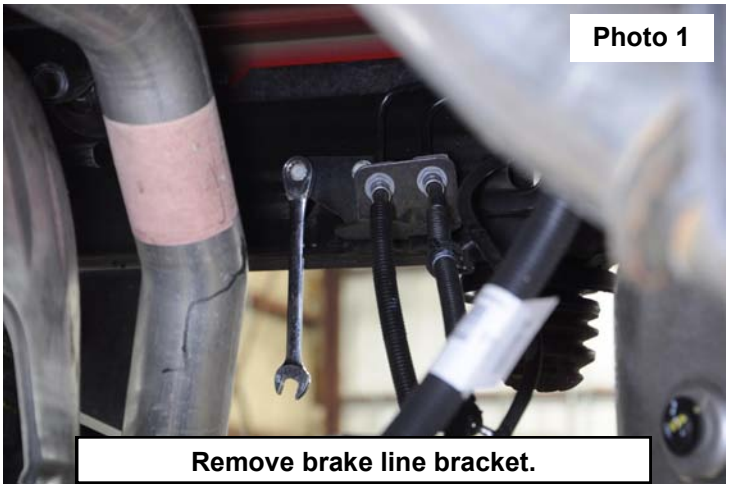


Photo 1

Remove brake line bracket.

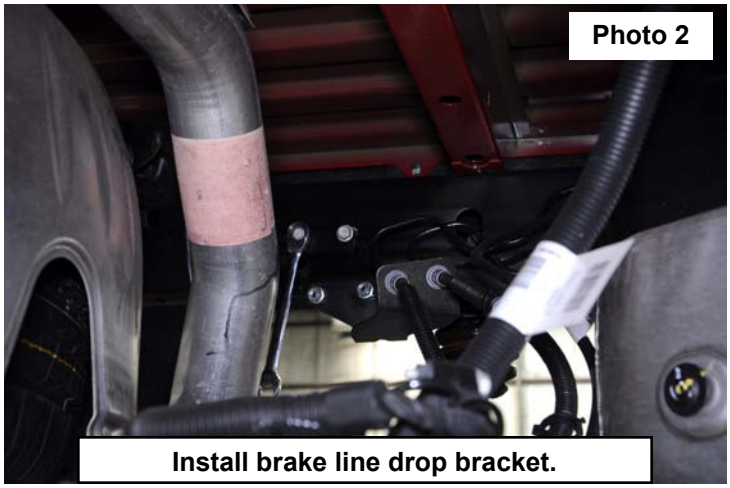


Photo 2

Install brake line drop bracket.

6. Tighten the 5/16" hardware using a 1/2" wrench and socket. **See Photo 3.**
7. Using a 13mm socket, remove the 3 bolts that attach the ABS and brake line bracket to the rear differential. **See Photo 4.**

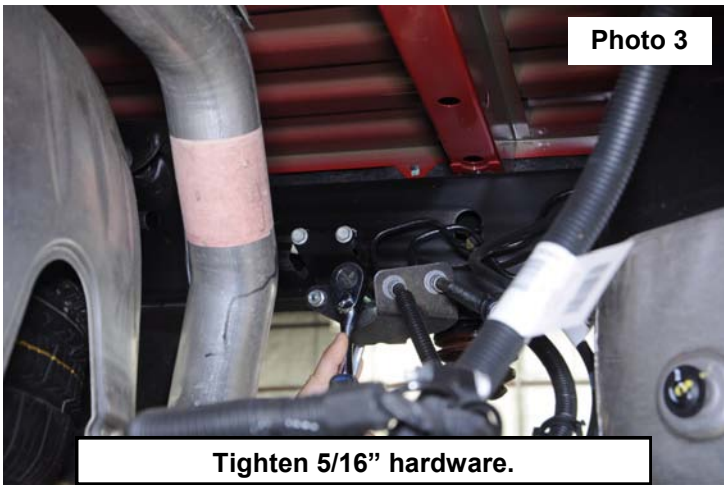


Photo 3

Tighten 5/16" hardware.

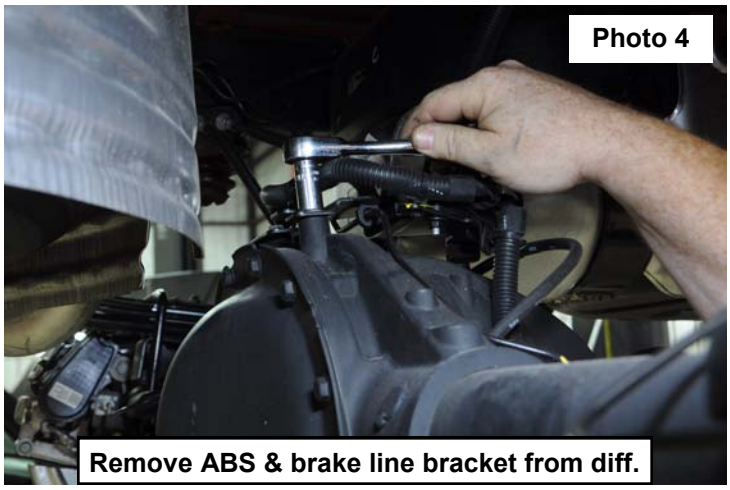
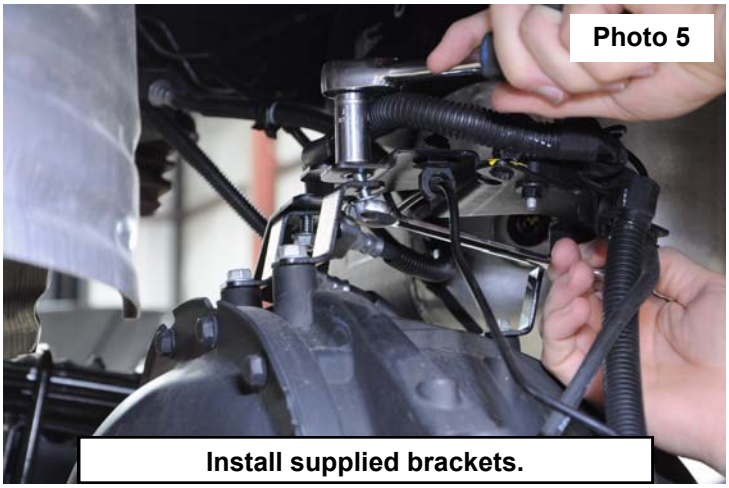
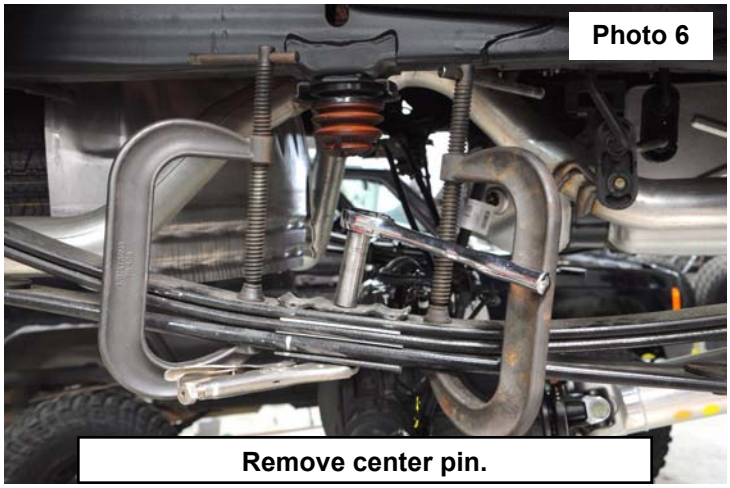


Photo 4

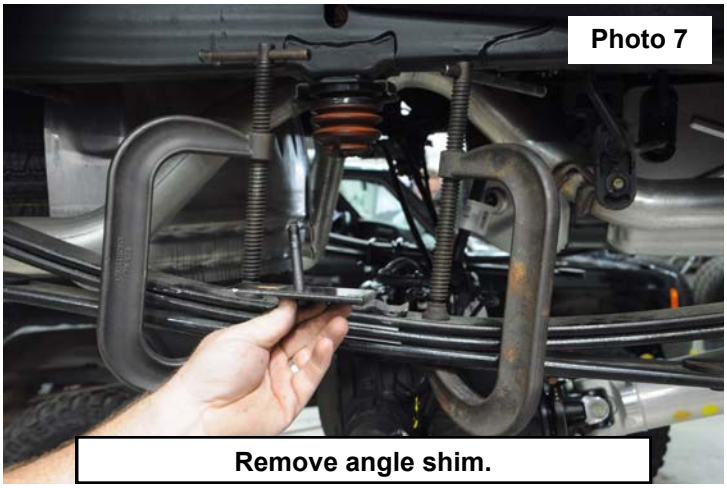
Remove ABS & brake line bracket from diff.

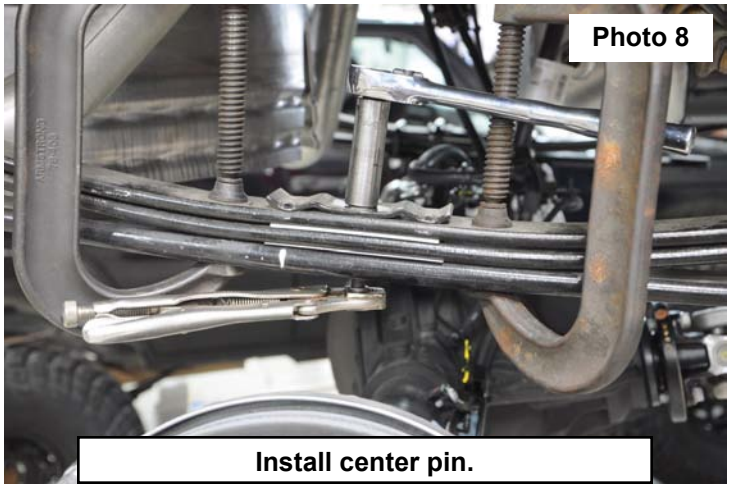
8. Attach the supplied brackets onto the differential, facing forward, using the factory hardware.
9. Attach the brake line and ABS bracket to the supplied brackets using the supplied 5/16" hardware (21730BAG4). Tighten the factory hardware using a 13mm socket and the 5/16" hardware using a 1/2" socket and wrench. **See Photo 5.**
10. Lightly support the differential with a floor jack .
11. Using a 21mm socket, remove the stock u-bolts and lower the axle.
12. Using a C-clamp on each side of the center pin, use a 15mm socket to remove the center pin. Retain hardware. **See Photo 6.**



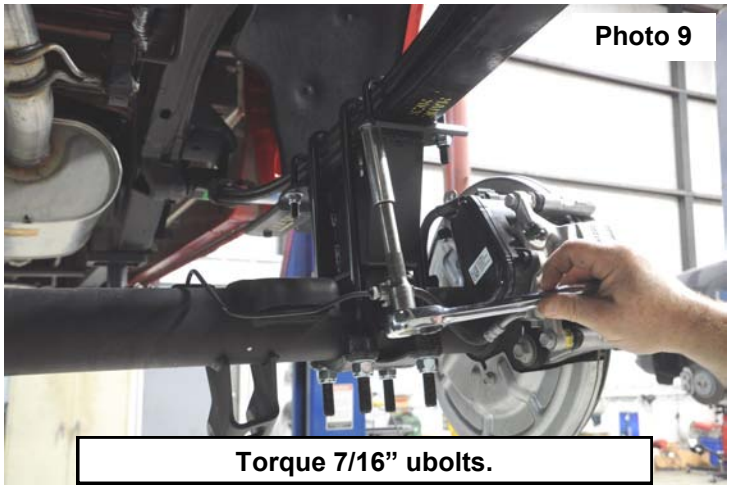


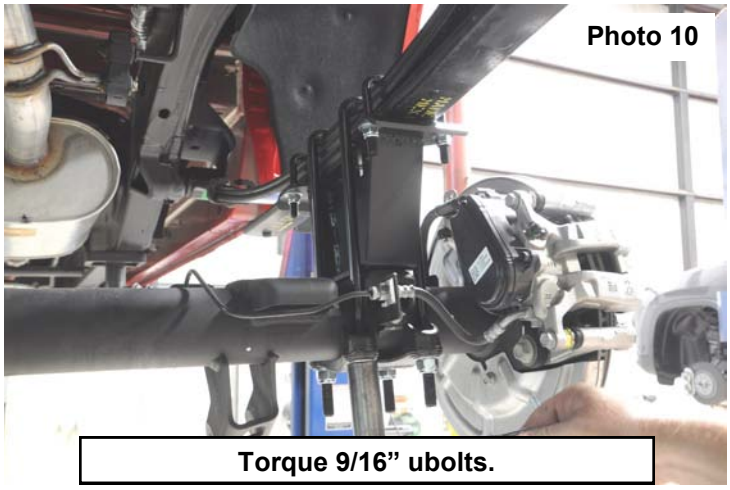
13. Remove the angle shim from the leaf pack. **See Photo 7.**
14. Install the factory center pin using a 15mm socket and locking pliers. Remove C-clamps. **See Photo 8.**

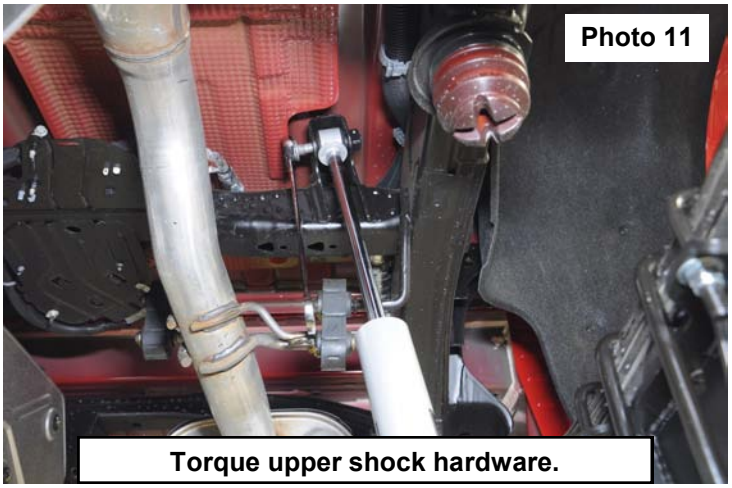




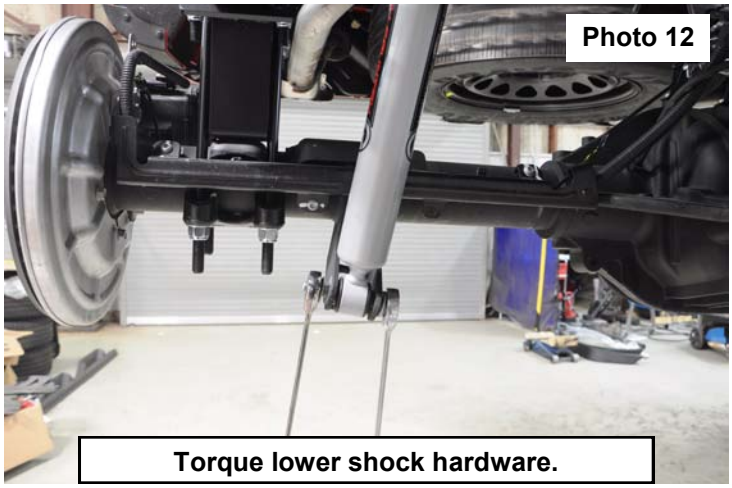
15. Install the new block with the supplied 7/16" X 3" u-bolts on the leaf spring. Do not tighten at this time. Jack up the axle to meet the new block and make sure the center pin is in the axle. Tighten 7/16" u-bolts. **Torque to 45ft-lbs. See Photo 9. Note short side of block goes towards front of vehicle.**
16. Install the supplied u-bolts and tighten using a 22mm wrench and a crossing pattern. **See Photo 10. Torque to 90ft-lbs.**







Torque upper shock hardware.



Torque lower shock hardware.

17. Install shock absorbers #660748 in the factory location tighten using a 21mm wrench and socket. **See Photos 11 & 12. Torque to factory specs.**
18. Re-install tires and wheels.

WARNING Take caution when installing the wheels, making sure they completely clear the brake caliper. Any pressure on the brake caliper from the wheel will cause an error in the brake system. The braking system will not function properly. The vehicle will have to be reset by a GM dealership.

19. Remove jack stands and lower vehicle to ground.
20. Place shock decals on shock absorbers and window decal on vehicle.

POST INSTALLATION INSTRUCTIONS

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.
2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure.
3. On some vehicles the front lower skirting will need to be trimmed if using certain wheel /tire combinations and with heavy offset wheels. Trim only as needed.
4. Activate four wheel drive system and check front hubs for engagement.
5. Have a qualified alignment center align the vehicle immediately. Realign to factory specifications. The following are the recommended specifications:

Caster in degrees	4.0 +-1.0
Camber in degrees	-.4 +-.8
Toe In in degrees	0.1 +-.2

6. Perform head light check and adjustment to proper settings.
7. Check and retighten wheels at 50 miles and again at 500 miles.
8. All kit components must be retightened at 500 miles and then every three thousand miles after installation. Periodically check all hardware for tightness.
9. Install “Warning to Driver” decal on sun visor

Note: Installation of larger tires will require speedometer recalibration.

Thank you for choosing Rough Country for all of your suspension needs.

By purchasing any item sold by Rough Country, LLC, the buyer expressly warrants that he/she is in compliance with all applicable Federal, 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.