TRAIL FORTRESS

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Rough Country 46830 Installation Instructions

6-Inch Lift Kit with N3 Shocks for 2024–2025 Ford Ranger 4WD

Part number: 46830

trailfortress.com/rough-country-6-inch-lift-kit-46830

Scan for fitment, price and install help

921468300

ROUGH COUNTRY
SUSPENSION SYSTEMS®

FORD 24 RANGER 4WD 6IN 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. Be sure you have all needed parts and know where they go.

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. We will be happy to answer any questions concerning the design, function, and correct use of our products.

This kit is packaged as a leveling kit—raising the front 6” and the rear 5”.

Due to differences in manufacturing, dimension and inflated measurements, tire and wheel combinations should be test fit prior to installation.

This suspension system was developed using a 35” x 12.5” tire with 18” x 8.5” wheel and a offset of 0mm.

⚠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.

INSTALLING DEALER - it is your responsibility to install the warning decal and forward these installation instructions on to the vehicle owner for review. These instructions should be kept in the vehicle for its service life.

Tools Needed:

T10 Torx Bit	9/16” socket/wrench
T30 Torx Bit	5/8” socket/wrench
8mm Allen Socket	11/16” socket/wrench
10mm socket/wrench	3/4” socket/wrench
11mm socket/wrench	13/16” socket/wrench
13mm socket/wrench	15/16” socket/wrench
15mm socket/ wrench	1 1/16” socket/wrench
17mm socket/wrench	Floor Jack /Jack Stands
18mm socket/wrench	Torsion bar Tool
19mm socket/wrench	Reciprocating Saw
21mm socket/wrench	Drill
22mm socket/wrench	11/16” Drill Bit
24mm socket/wrench	Hand Grinder
36mm socket	Thread Locker

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 PIC



Kit Components

1-41100BOX2
- *1-Front crossmember*
- *1-Rear crossmember*

1-46800991
- *1-DR knuckle*
- *1-PASS knuckle*

1-46800992
- *1-10mmSTUDBAG-2*
- *4-Lower 1” Strut Spacer*
- *1-DR 5” Strut Spacer*
- *1-PASS 5” Strut Spacer*

1-46800993
- *1-1263 BAG2*
- *1-41100BAG3*
- *1-46800BAG1*
- *1-505 BAG 3*
- *1-9/16BAG1*
- *4-9/16 x 2 3/4 x 13.5 Round*
- *1-DR Sway Bar Drop Bracket*
- *1-Pass Sway Bar Drop Bracket*
- *1-DR Front Brake Line Bracket*
- *1-PASS Brake Line Bracket*
- *1-Rear Brake Line Bracket*
- *1-Carrier Bearing Bracket*
- *2-Anti-wrap Block*
- *1-Skid Plate*
- *1-RR Diff Bracket*
- *1-Diff Bracket*
- *1-Diff Brace*

1-23209 - N3 Rr Shock Pair

Tools Needed

Jack and Jack Stands
10mm wrench or socket
13mm wrench or socket
15mm wrench or socket
18mm wrench or socket
19mm wrench or socket
21mm wrench or socket
36mm wrench or socket
Cut tool
Hammer
Paint Pen
Punch

Supplied Hardware

10mmSTUDBAG-2

1263BAG2
- **4-7/16 x 3 1/8 x 3 1/4 U-bolts**
- **8-7/16 Flat Washer**
- **8 -7/16 Nylock Nuts**

41100 BAG3
- *5-10mm-1.5 Nylock Nut*
- *6-.375 Lock Washer*
- *12-10mm Flat Washer*
- *7-.375-16 x 1.25 Hex Bolt*
- *6-.375 Flat Washer*
- *1-.375-16 Nylock Nut*
- *4-M16-2.0 x 120mm Bolt*
- *10-M16 Flat Washer*
- *6-M16-2.0 Nylock Nut*
- *2-.562-12 Nylock Nut*
- *2-.562-12 x 2 Hex Bolt*
- *2-.562 Flat Washer*
- *4-10mm-1.5 x 25mm Hex Bolt*
- *8-12mm-1.75 Flat Washer*
- *4-12mm-1.75 Nylock Nut*
- *4-12mm1.75 x 85mm Hex Bolt*
- *4-Upper Arm Spacer*

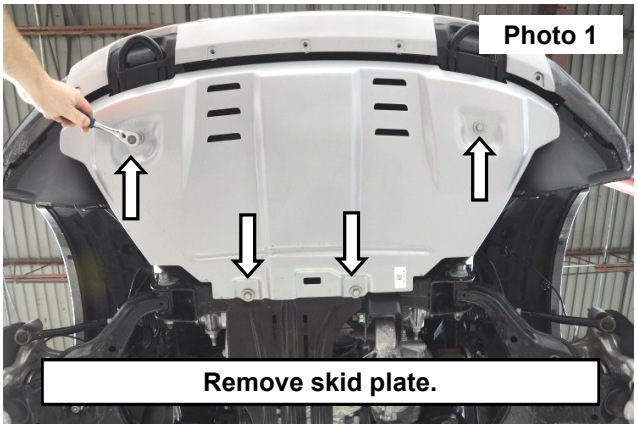
46800BAG1
- *2-.4375 Lock Washer*
- *6-6mm-1.0 x 20mm Hex Bolt*
- *2-10mm-1.5 x 70mm Hex Bolt*
- *2-6mm-1.0 Nylock Nut*
- *8-6mm Flat Washer*
- *8-8mm Flat Washer*
- *4-8mm-1.25 x 20mm Hex Bolt*
- *4-8mm-1.25 Flange Nut*
- *6-Cam Block Off Plate*
- *2-RR Brake Line Bracket*
- *2-.500 Flat Washer*

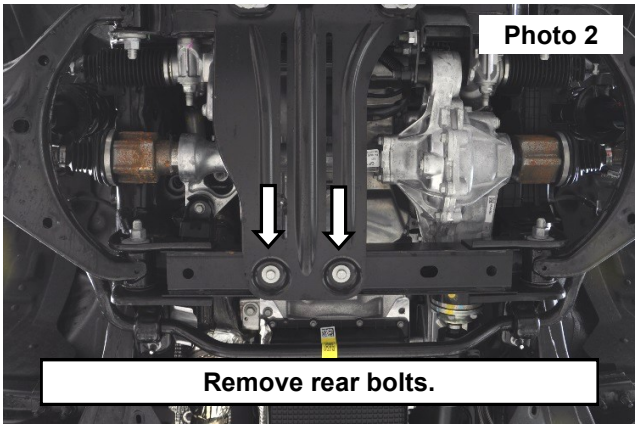
505BAG3
- *4-Cam Bolt*
- *8-Cam Washer*
- *4-M16-2.0 Nylock Nut*

9/16BAG1
- *8-.562 Flat Washer*
- *8-.562-18 Nylock Nut*

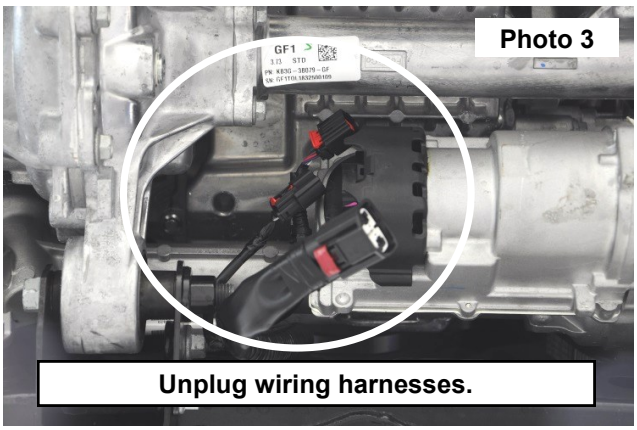
INSTALLATION INSTRUCTIONS

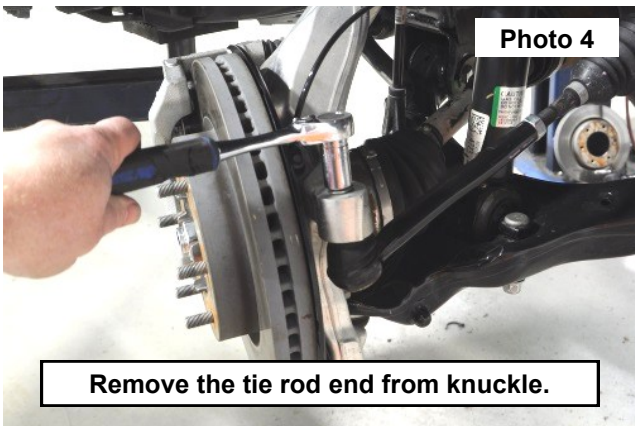
1. Chock the rear wheels and jack up the front of the vehicle.
2. Place jack stands under the frame rails and lower onto jack stands.
3. Remove the wheels/tires using a 19mm socket.
4. Remove the 4 bolts from the front skid plate. Retain hardware for later use. Remove the 2 bolts in the rear skid plate, use a 15mm socket. **See Photos 1 and 2.**



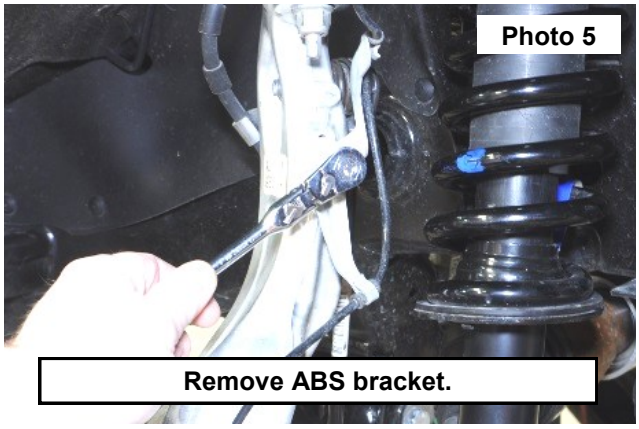


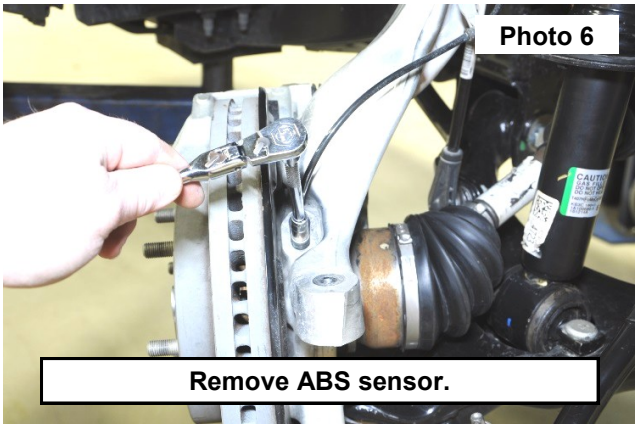
5. Remove the (3) EPAS (Electronic Power Assist Steering) Plugs as shown located on the steering assembly by the front differential. **See Photos 3.**
6. Loosen the nut on the tie rod end, using a 15mm socket. Use a hammer to unseat the taper by striking the end of the knuckle, finish removing the nut. **See Photo 4.**



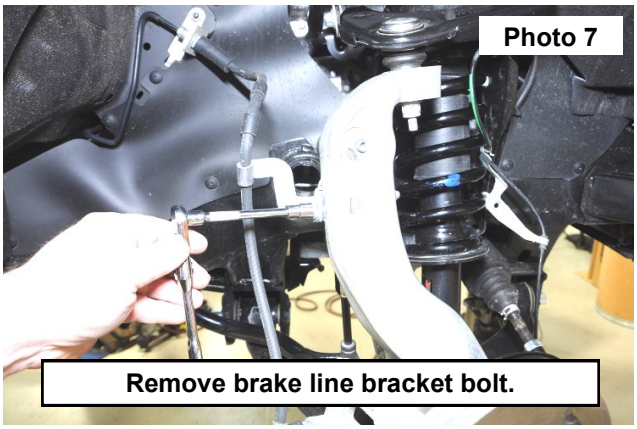


7. Remove the ABS wire bracket from the front side of the knuckle, using an 8mm socket. Retain hardware for later use. **See Photo 5.**
8. Remove the bolt attaching the ABS line to the knuckle, use an 8mm socket, then remove the sensor from the knuckle. Retain hardware for later use. **See Photo 6.**



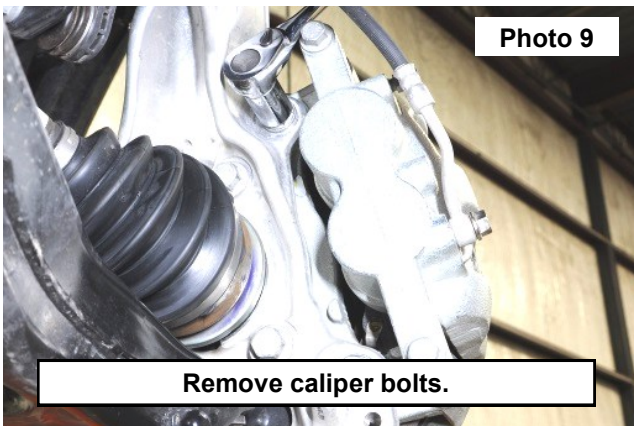


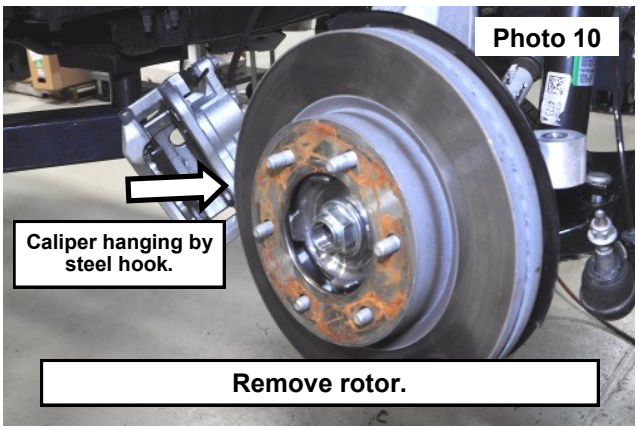
9. Remove the bolt attaching the brake line bracket to the knuckle, using a 10mm socket, retain hardware for later use. **See Photo 7.**
10. Remove the sway link nut from the knuckle, using a 18mm socket. Retain hardware for later use. Remove sway link from knuckle. **See Photo 8.**



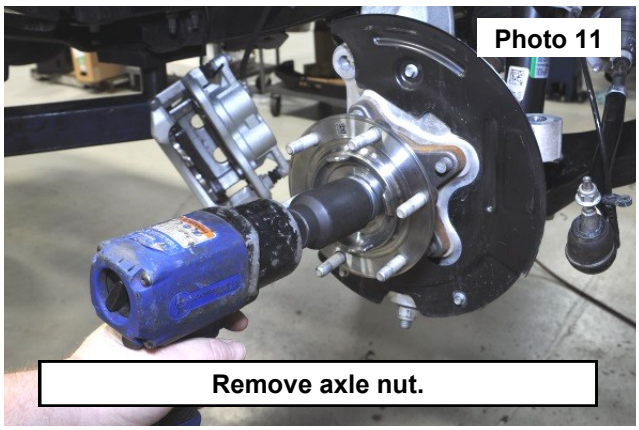


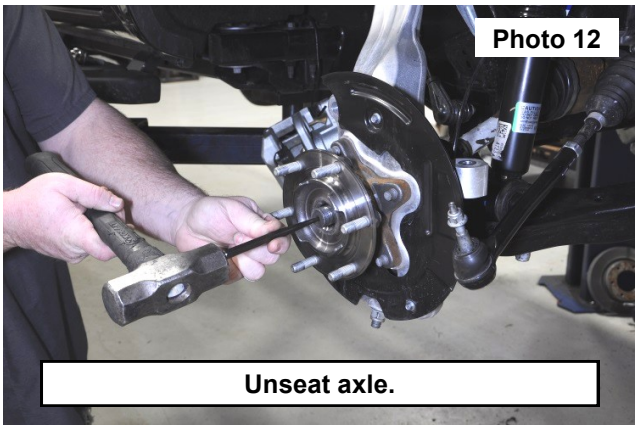
11. Remove the 2 bolts attaching the brake caliper to the knuckle, carefully remove the caliper from the rotor and hang by a steel hook in a safe place. Retain hardware for later use. **See Photo 9. NOTE: Do not hang caliper by the brake line.**
12. Remove the rotor from the hub, set aside for reuse. **See Photo 10.**



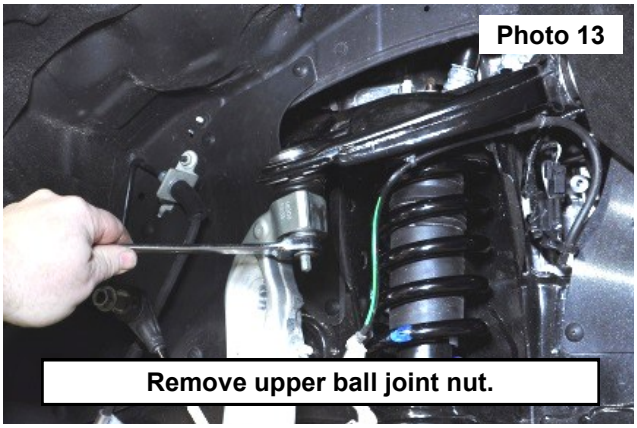


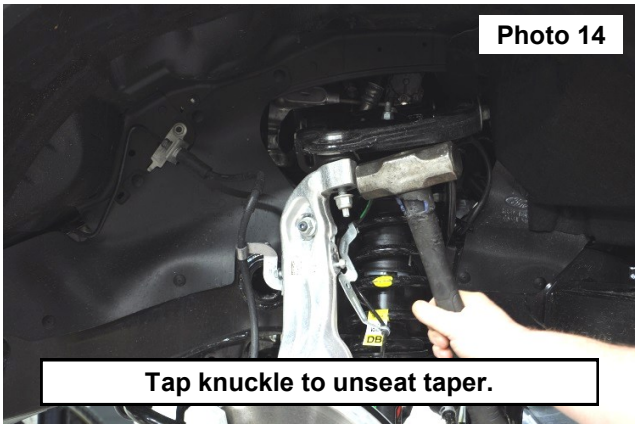
13. Using a 36mm socket, remove the axle nut from the hub. Retain hardware for later use. **See Photo 11.**
14. Unseat the axle from the hub, using a punch and a hammer. **NOTE: Do Not Damage Threads. See Photo 12.**



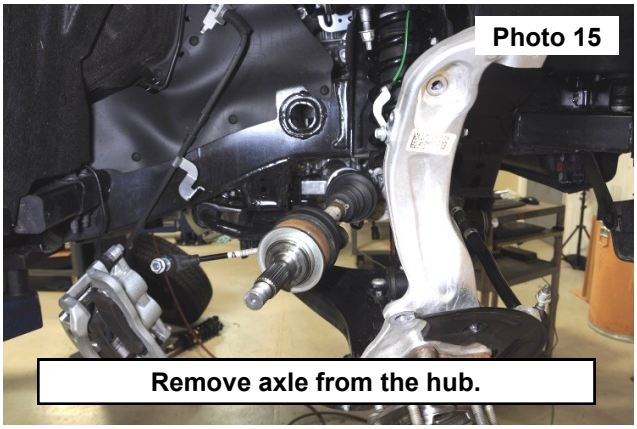


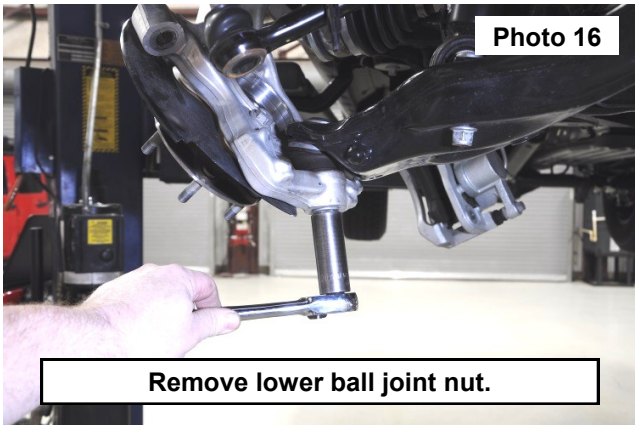
15. Loosen the nut on the upper ball joint, using an 18mm wrench. **See Photo 13.**
16. Using a hammer strike the knuckle to release the taper and remove the ball joint nut. Retain hardware for later use. **See Photo 14.**



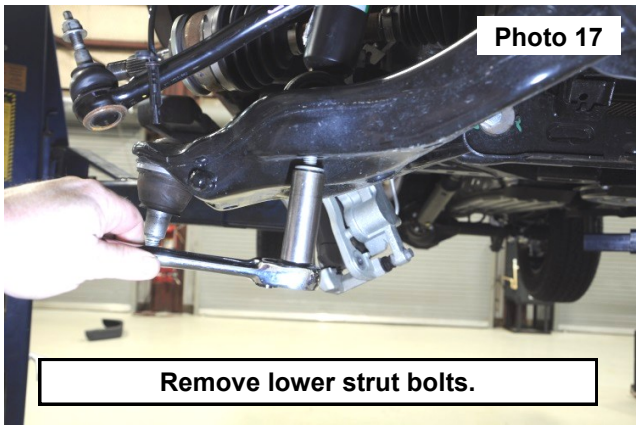


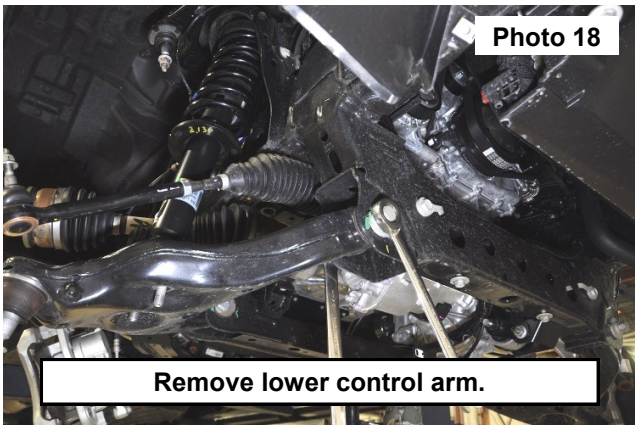
17. Lean the knuckle outward, removing the axle from the knuckle. **Do not let the axle over extend or droop down. Damage may occur to the axle and axle boot. See Photo 15.**
18. Loosen the lower ball joint nut using a 21mm socket, use a hammer to unseat the taper by striking the end of the knuckle, finish removing the nut. **See Photo 16.**



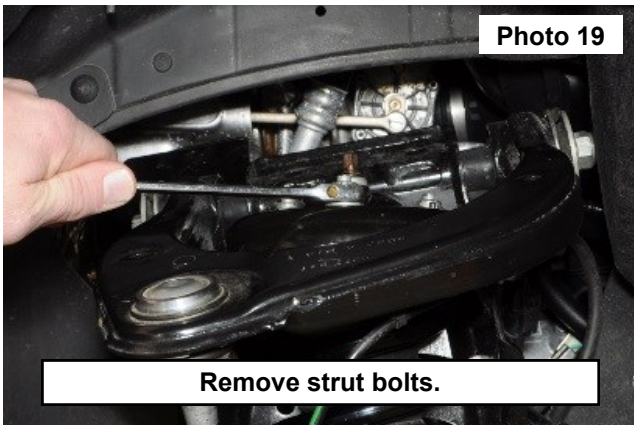


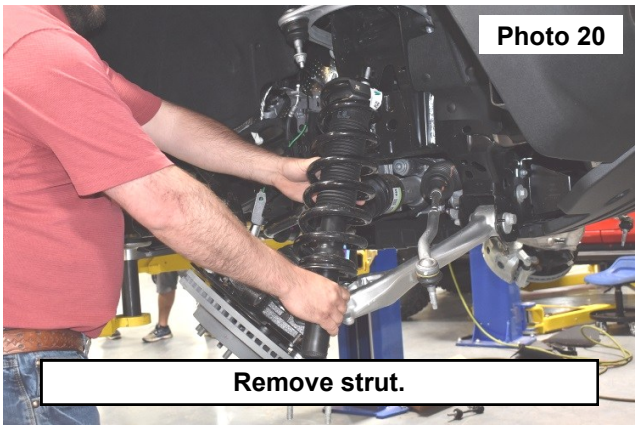
19. Remove the knuckle and hub assembly from the vehicle, set aside for later use.
20. Remove the 2 nuts from the bottom of the strut. Use a 18mm socket. Retain for later use. **See Photo 17.**
21. Remove the cam bolts in the lower control arm, using a 21mm wrench and a 24mm wrench. Retain hardware for later use. **See Photo 18.**



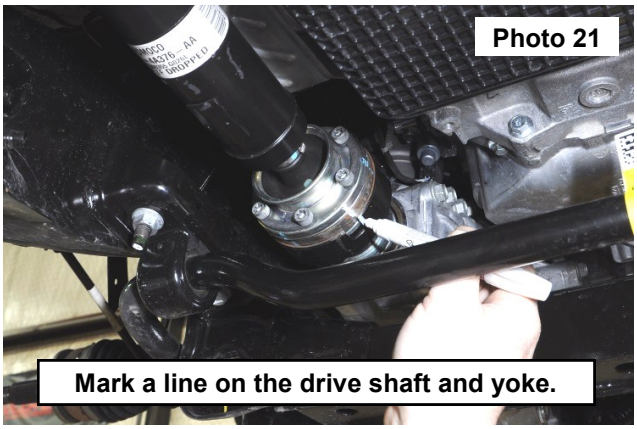


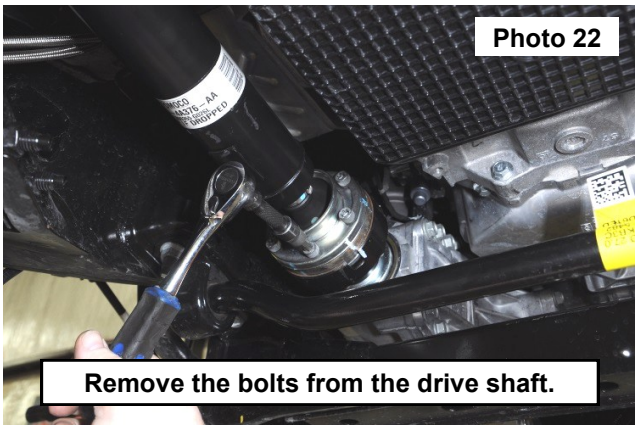
22. Remove the lower control arm and set aside.
23. Using a paint pen, mark the outer stud on the strut.
24. Remove the 3 nuts on the top of the strut, using a 15mm wrench. Retain hardware for later use. **See Photo 19.**
25. Remove strut from vehicle. **See Photo 20.**



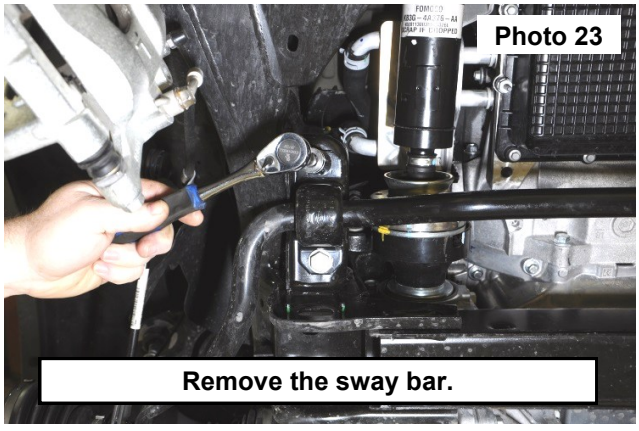


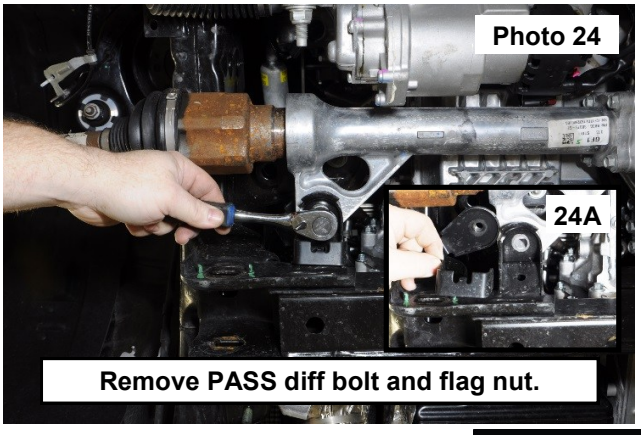
26. Repeat steps 6-24 on the opposite side of the vehicle.
27. Using a paint pen, mark a straight line on the drive shaft and the yoke. **See Photo 21.**
28. Using a T45 Torx, remove the 6 bolts from the drive shaft. Retain hardware for later use. **See Photo 22.**



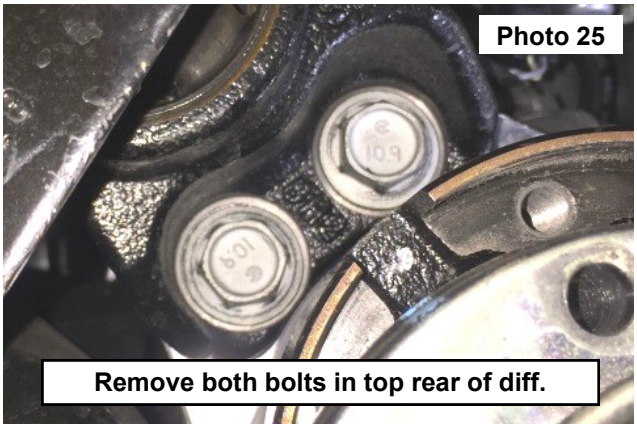


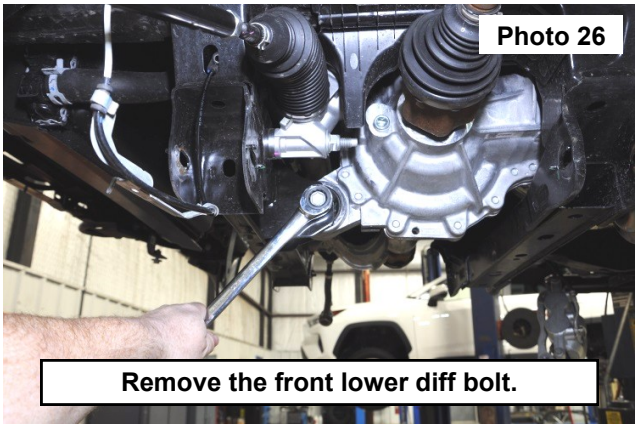
29. Remove the 2 bolts and 2 nuts on each side of the sway bar mount to the frame, using an 18mm socket. **See Photo 23.** Retain sway bar and hardware for reuse.
30. Support the diff. using a jack.
31. Remove the passenger side rear diff bolt, using a 13mm socket. **See Photo 24.** Remove the flag nut as shown in **Photo 24A.**



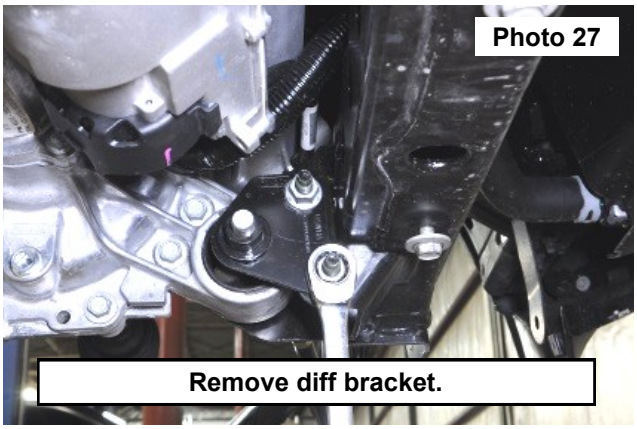


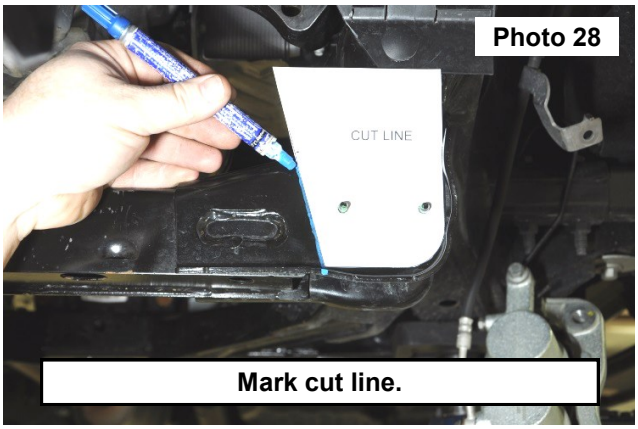
32. Remove the 2 rear driver side diff bolts, located above the yoke. Use a 18mm socket. Retain hardware for later use. **See Photo 25.**
33. Remove the bolt in the front of the diff, using a 21mm socket. Retain hardware for later use. **NOTE: The nut is welded into the removeable diff mount plate. See Photo 26.**



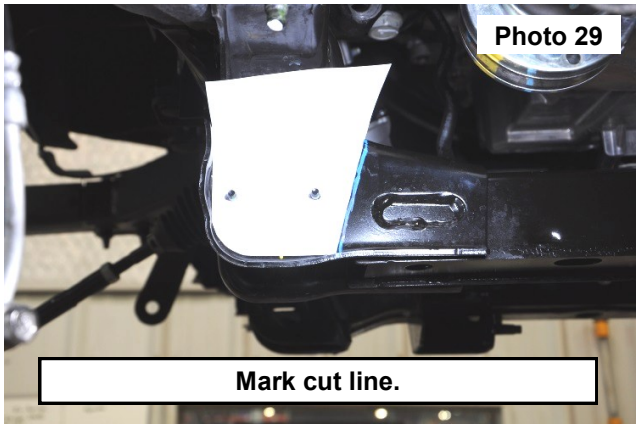


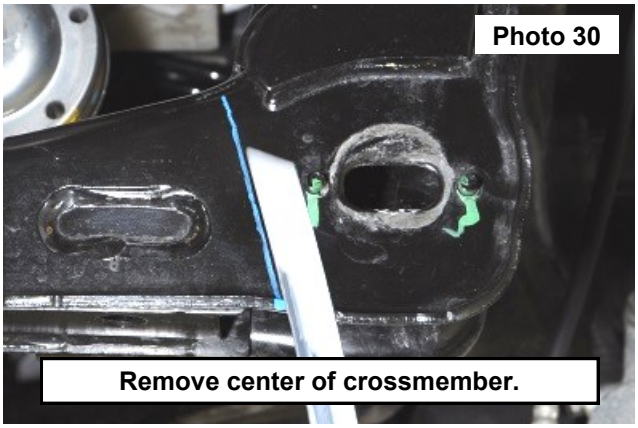
34. Remove the diff mounting plate, using an 18mm socket. **See Photo 27.** Retain hardware for later use.
35. Remove diff by rotating the pinion up while lowering diff down.
36. Use the supplied template on the rear crossmember. Use a paint pen to mark the cut line on all 4 corners of the cross member. **See Photos 28 and 29.**



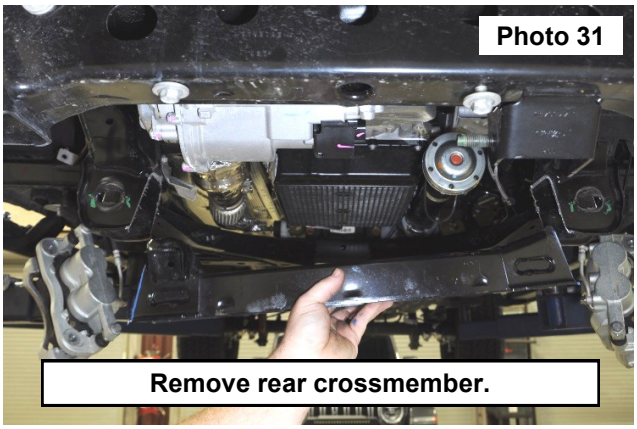


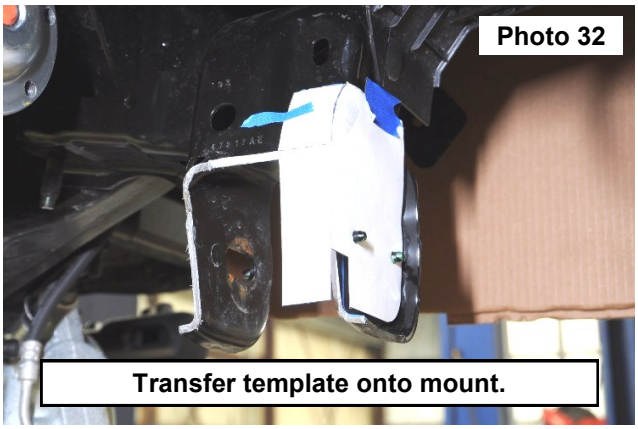
37. Use a reciprocating saw to trim the lines made on the crossmember, remove the center of the rear crossmember. **See Photo 30.**



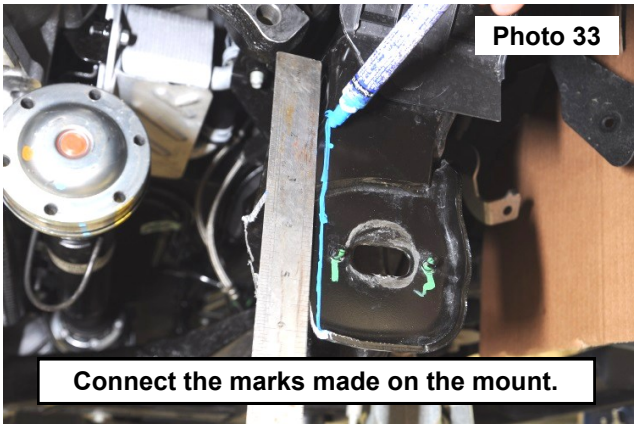


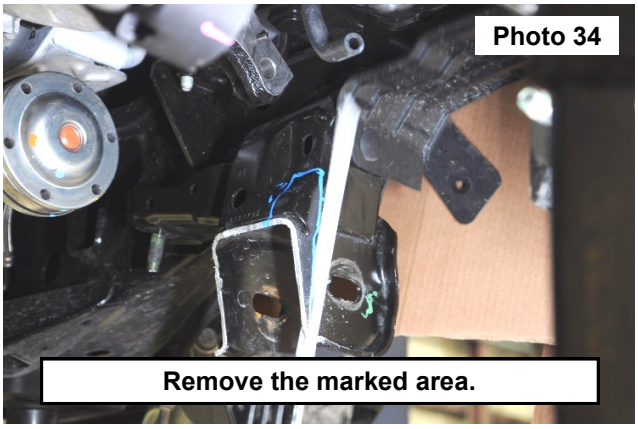
38. Remove the center of the crossmember. **See Photo 31.**
39. Locate the supplied template, fold the dotted lines to fit onto the profile of the control arm mount and trim the holes to fit over the alignment tabs. **See Photo 32.**



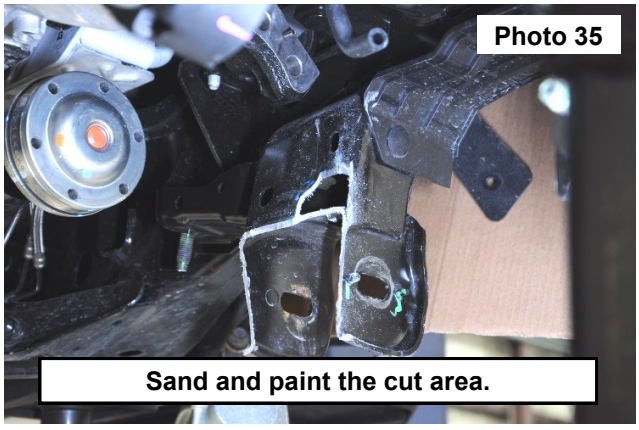


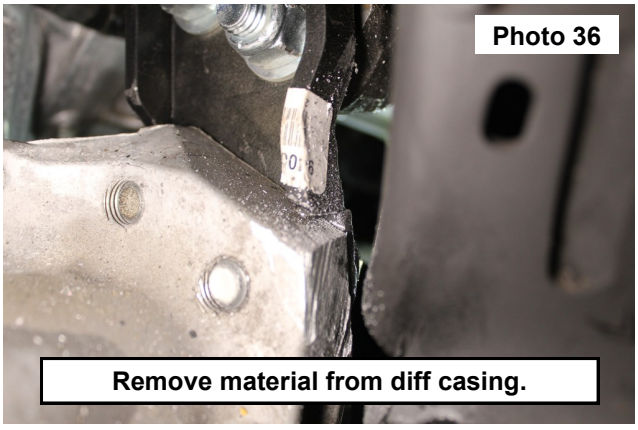
40. Use a paint pen, transfer the out side of the template onto the control arm mount.
41. Remove the template and connect the front side of the marks using a straight edge. **See Photo 33.**
42. Use a reciprocating saw to trim the lines made on the mount. **See Photo 34.**



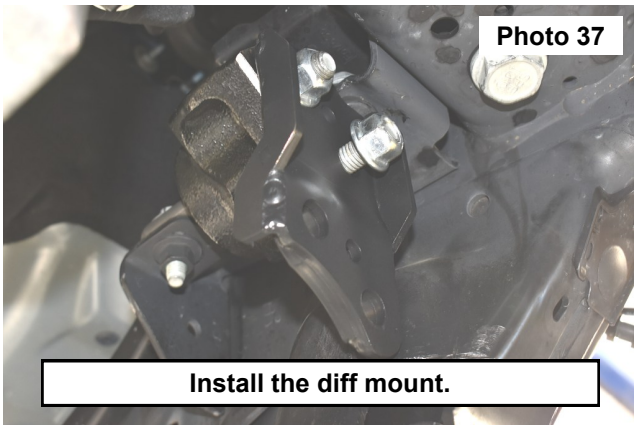


43. Sand and smooth all trimmed areas on both sides of the control arm mounts. Paint these areas to prevent rust. **See Photo 35.**
44. Remove 1/4 inch off the corner of the diff casting for clearance using a sander. **See Photo 36.**



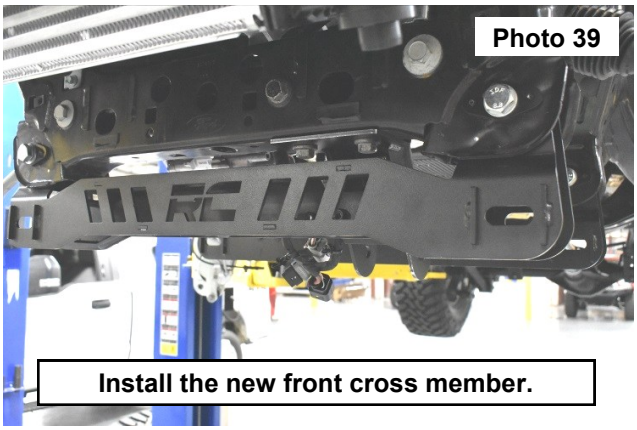


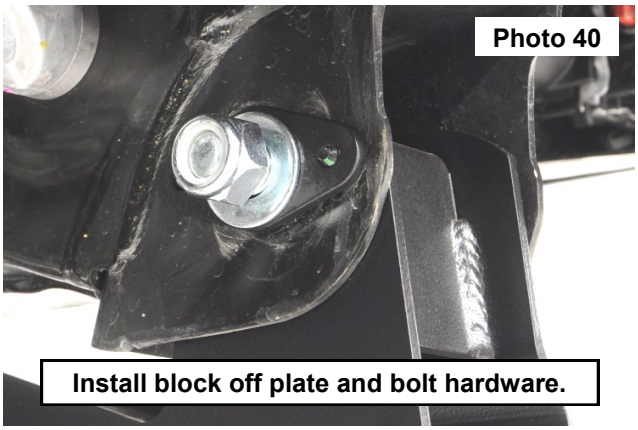
45. Install rear diff mount with the supplied 9/16 x 2” hardware using 13/16 socket/wrench. **See Photo 37.**
46. Install new front diff bracket with the retained hardware and supplied 16mm nut and washer for the upper bolt. Tighten with 18mm and 24mm wrenches. **See Photo 38.**



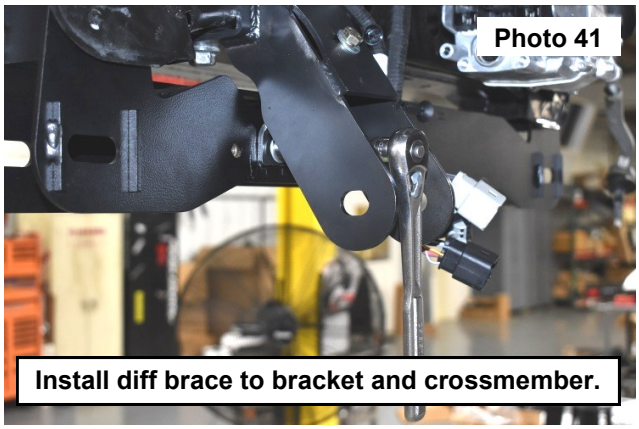


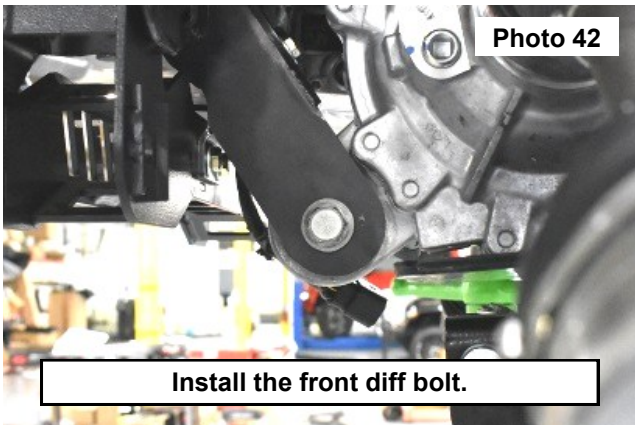
47. Install the front cross member using the 16mm hardware. Also install cam stand off plates on cam bolts. **See Photo 39 and Photo 40.**





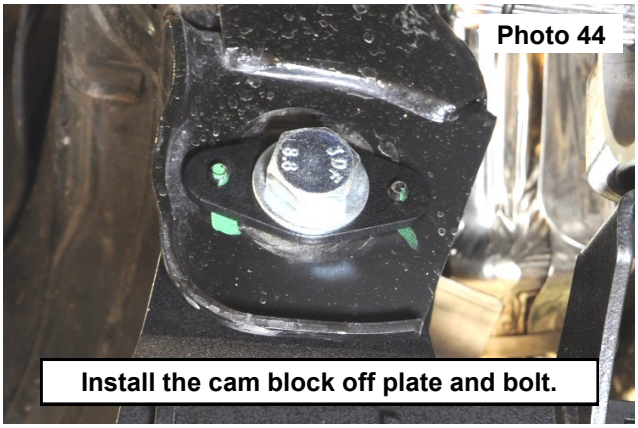
48. Install the front diff brace to the front diff bracket and crossmember with the supplied 3/8 hardware using 9/16 socket/ wrench. Do not tighten at this time. **See Photo 41.**
49. Install the front differential in the front diff mount using the stock bolt and supplied 16mm nut and washer. **See Photo 42.**



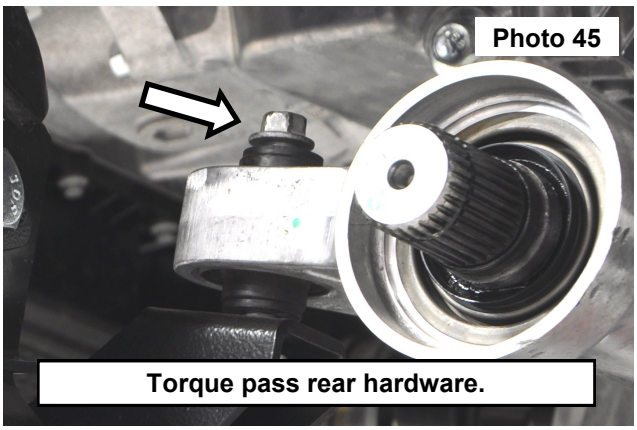


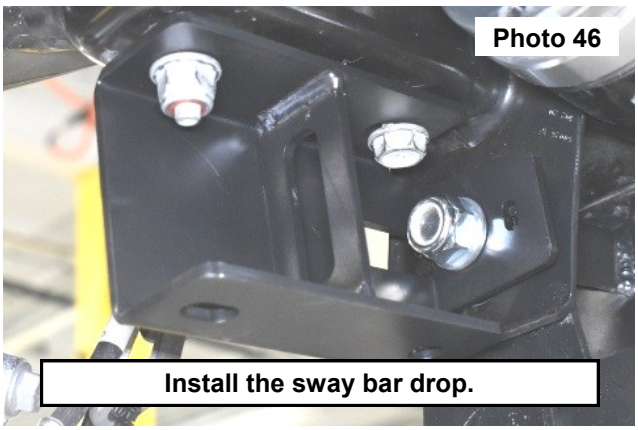
50. Install rear crossmember using the supplied cam block off plate on the alignment tabs on the front of the mount. Secure using the supplied 16mm bolts and washers **(do not install nuts at this point).** Attach the differential to the mount on the rear cross member using the factory bolt and supplied 10mm washer and nut. **See Photo 43 and Photo 44.**



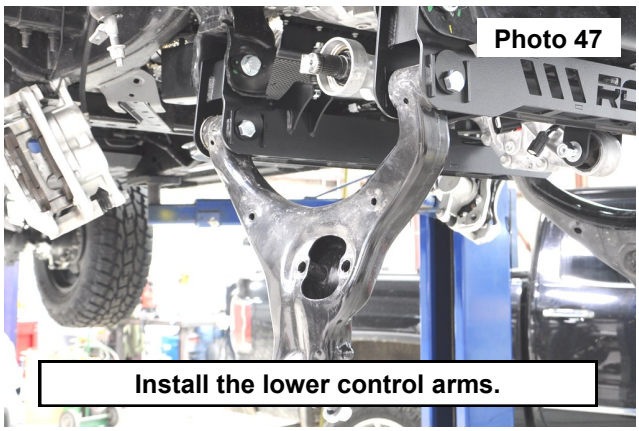


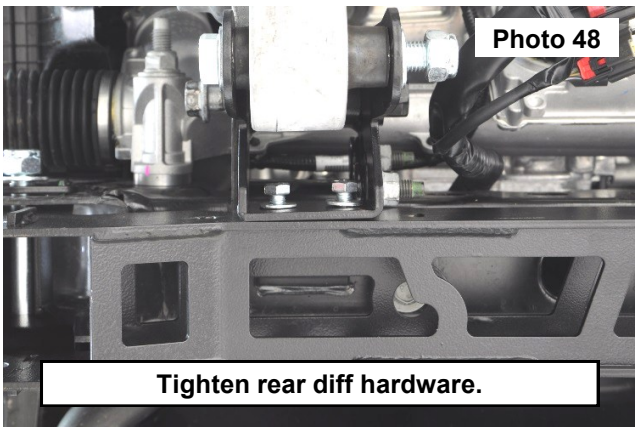
51. Install the retained OE bolt, 10mm washer, and 10-1.5mm nylock nut in the passengers side diff mount on the rear crossmember. **See Photo 45.** Do not tighten at this time.
52. Install the sway bar drops for each side of the vehicle onto the crossmember bolt using (1) of the supplied 16mm flat washer and (1) 16mm-2.0mm nylock nuts. Use the retained factory nut and bolt in the top of the sway bar drop mount. Torque the sway bar drop hardware to 55 ft-lbs. on each side using a 18mm socket. **See Photo 46.**



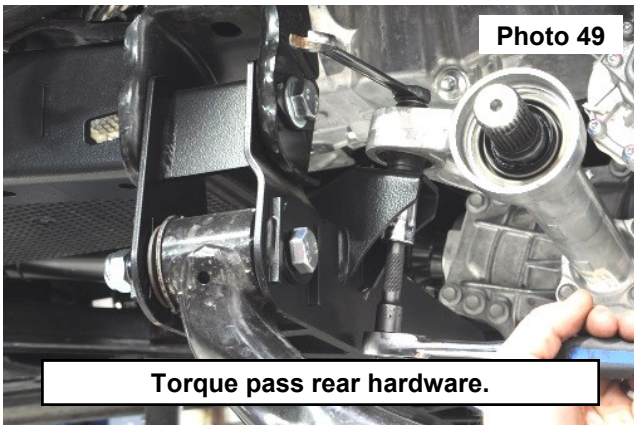


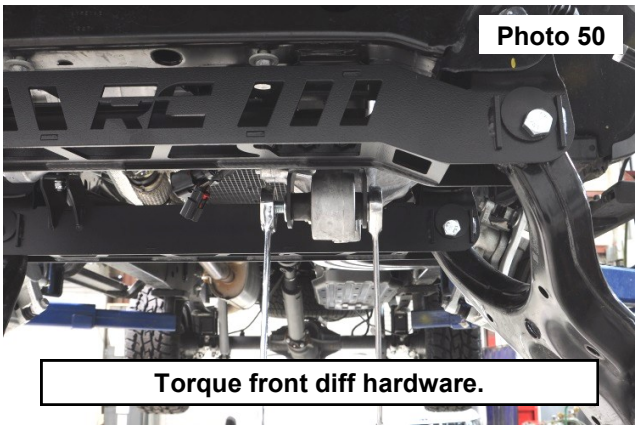
53. Install the lower control arms securing the supplied bolts and cam washers into the new crossmembers. Do not tighten and only snug the nuts and bolts using a 24mm wrench and socket. These will be tightened once the truck is on the ground. **See Photo 47.**
54. Install the front diff mount bracket onto the front crossmember using the (2) supplied 3/8-16 x 1 bolts and (2) 3/8 flat washers. Torque to 35 ft-lbs. using a 9/16 socket. **See Photo 48.**



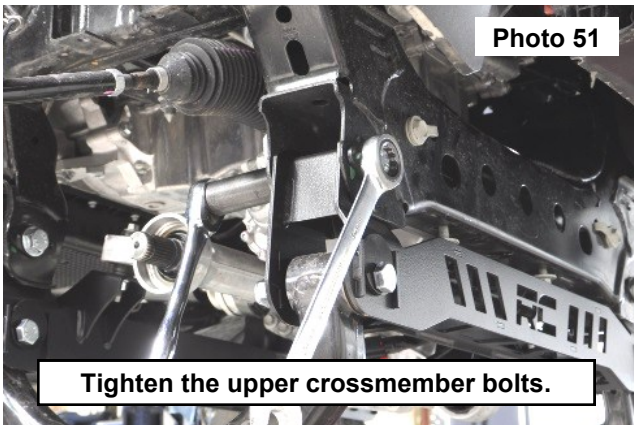


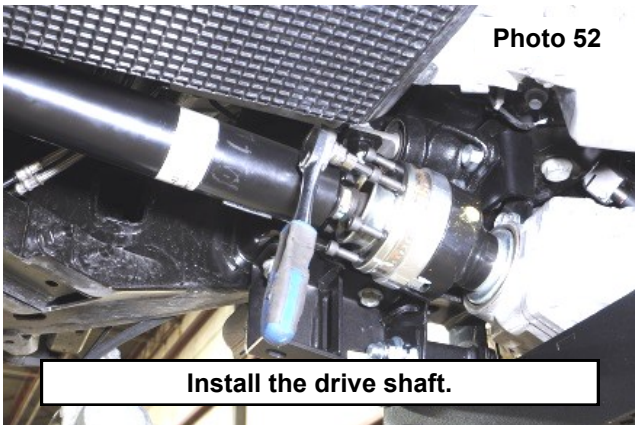
55. Rear passenger OE bolts and 10mm nut. Torque to 45 ft-lbs. using a 13mm and 17mm socket. **See Photo 49.**
56. Torque the 2 front 16mm diff mount bolts to 100 ft-lbs. using an 24mm wrench and socket. **See Photo 50.**



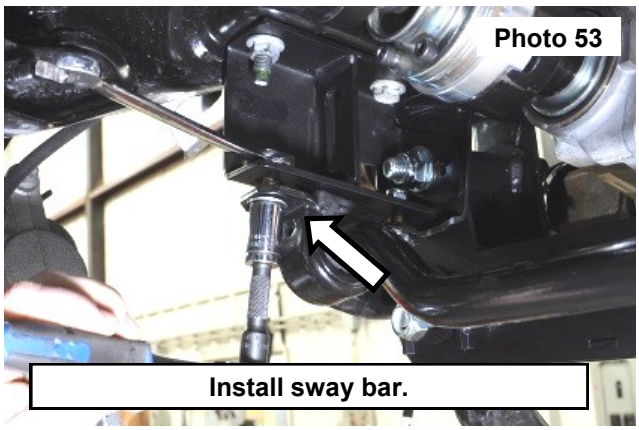


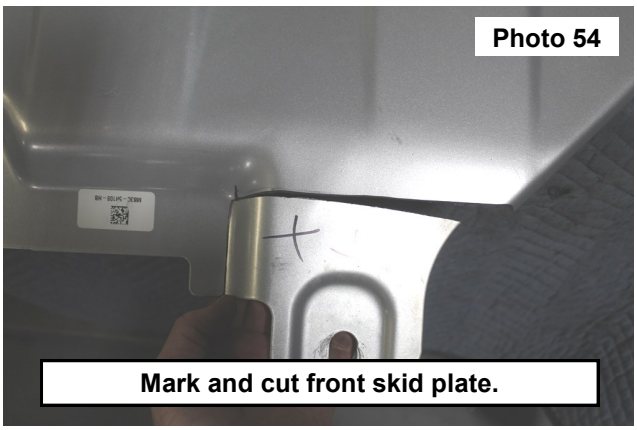
57. Torque the front and rear upper crossmember bolts to 130 ft-lbs. using a 24mm wrench and socket. **See Photo 51.**
58. Install the driveshaft using stock hardware. Torque to 18 ft-lbs using a T45 torx. **See Photo 52.**





59. Install the sway bar onto the sway bar drops using the supplied (2) 7/16-14 x 1.25 hex head bolts, (4) 7/16 flat washers and (2) 7/16 nylock nuts. Torque to 45 ft-lbs. using 5/8 wrench and socket. **See Photo 53.**
60. Mark and cut front skid plate and install the skid plate onto the front and rear crossmembers using the (4) supplied 3/8-16 x 1 hex head bolts and (4) 3/8 flat washers. Torque to 30 ft-lbs. using a 9/16 socket. **See Photo 54.**





61. Install the skid plate onto the front and rear crossmembers using the (4) supplied 3/8-16 x 1 hex head bolts and (4) 3/8 flat washers. Torque to 30 ft-lbs. using a 9/16 socket. **See Photo 55.**
62. Identify the spacers cut into the top of each spacer is a “D” for the drivers side and a “P” for the passengers side. **See Photo 56.**

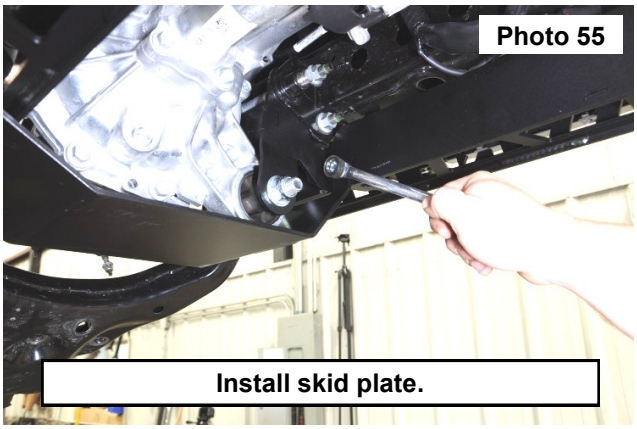
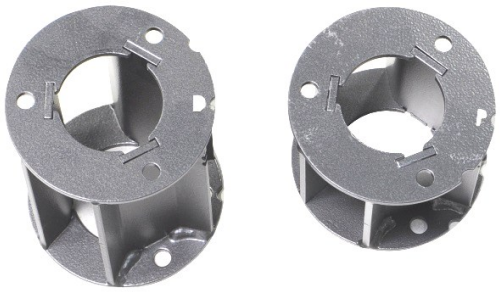


Photo 55

Install skid plate.

Photo 56



Identify the Driver and Passengers spacer.

63. Install the (3) studs in the small holes in each spacer. use the supplied 1/2 inch jam nut for a spacer along with the 10mm nut using a 17mm socket to seat the stud in the top of the spacer. **See Photo 57.**
64. Remove the roll pin from front struts. **See Photo 58**.

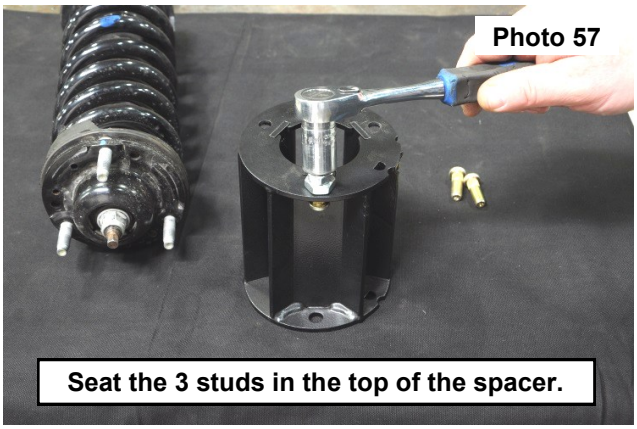


Photo 57

Seat the 3 studs in the top of the spacer.

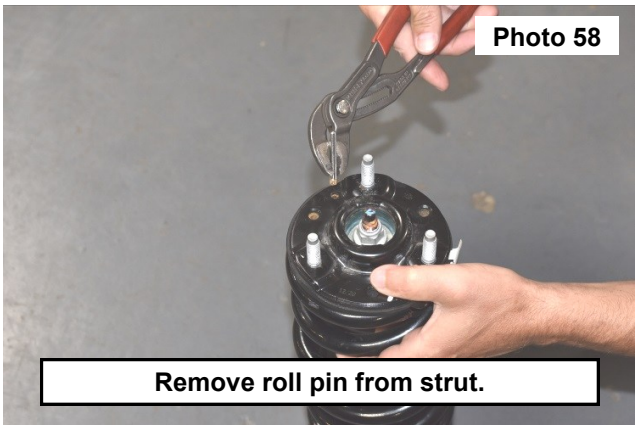


Photo 58

Remove roll pin from strut.

65. **Driver Side Only:** Use a strut compressor or coil spring compressor to compress the coil. Then, rotate the strut hat 180°. **Do not change strut body and coil orientation. See Photo 59**.
66. Install the spacer onto the top of the strut with the D or P oriented towards the outside of the vehicle closer to the wheels using the 3 OE nuts. Torque to 35 ft-lbs. use a 15mm socket. **See Photo 60.**

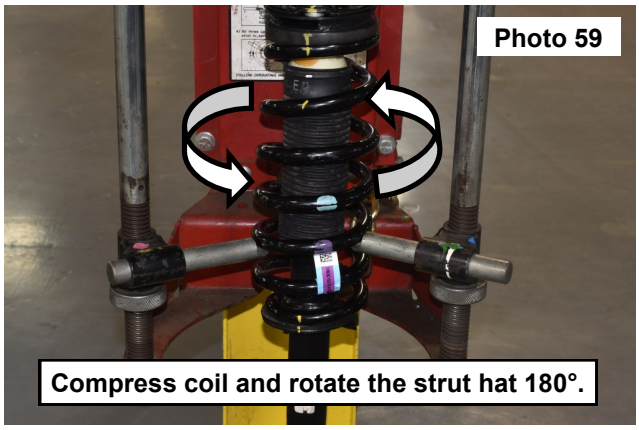


Photo 59

Compress coil and rotate the strut hat 180°.

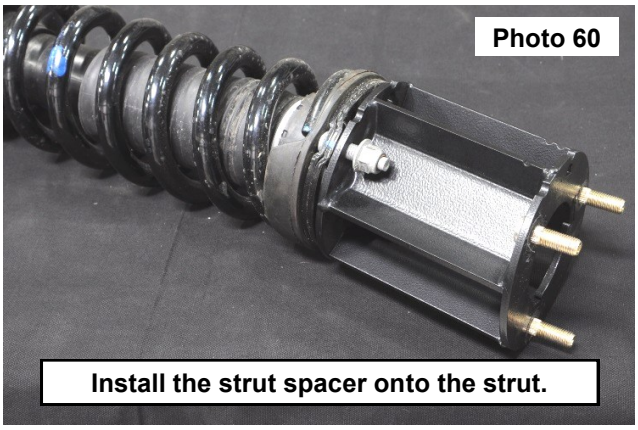
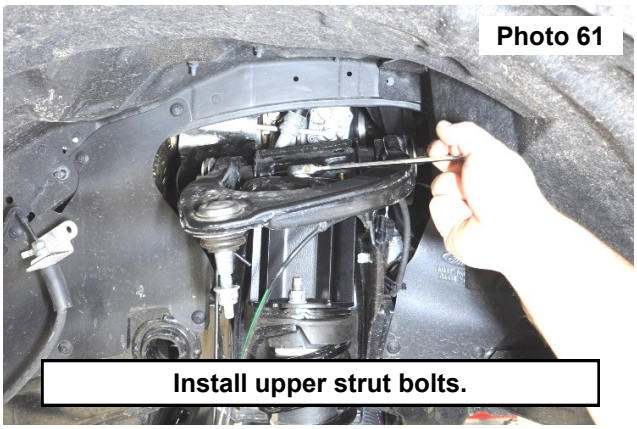
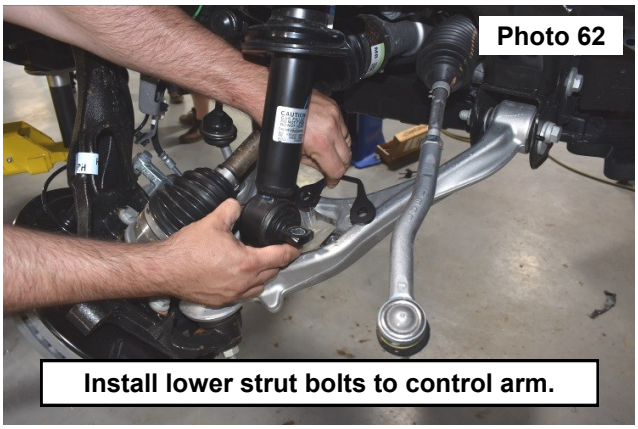


Photo 60

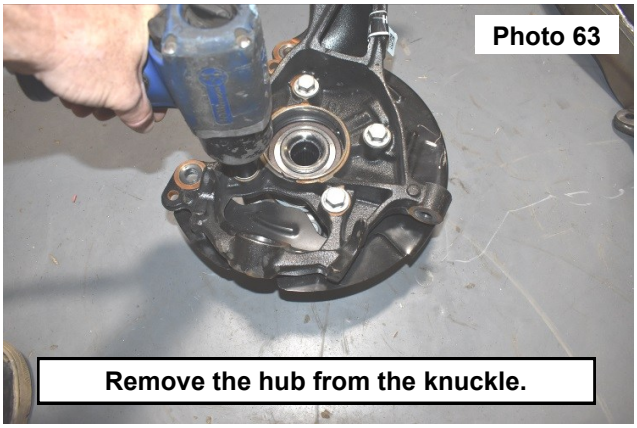
Install the strut spacer onto the strut.

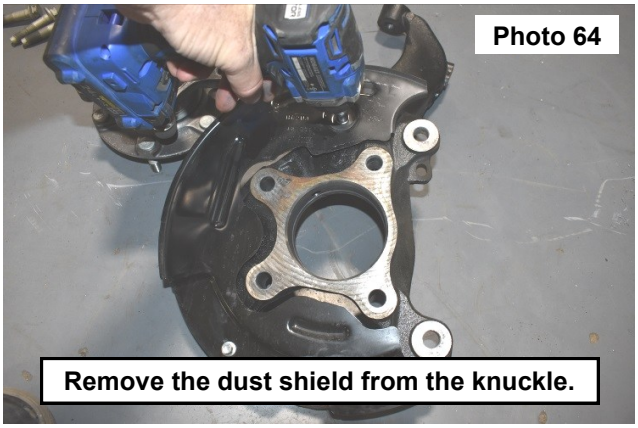
67. Install the strut, secure using the (3) supplied 10mm flange nuts on top of the strut mount. Do not tighten at this time. **NOTE: The "D" and "P" on spacers must be oriented out towards the wheels. See Photo 61.**
68. Raise the lower control arm up and install (2) of the horse shoe spacers on each side using the supplied 12mm x 80mm bolts, nuts, and washers. **See Photo 62.**



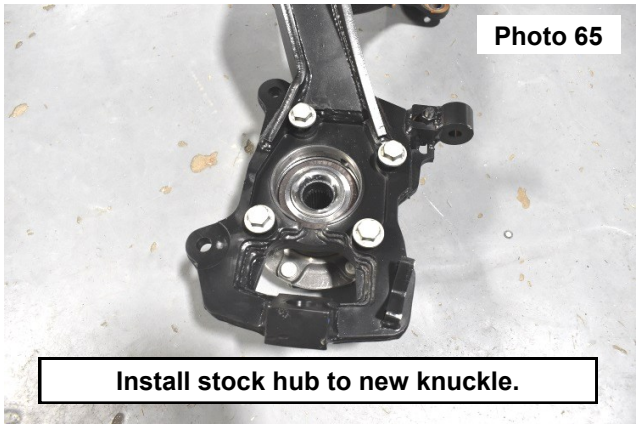


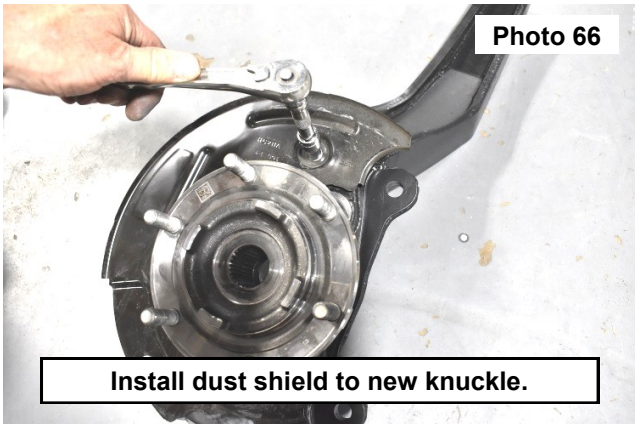
69. Remove the hub bolts in the back side of the OE knuckle using a 18mm socket. **See Photo 63.**
70. Remove the dust shield from the OE knuckle using a 8mm socket. **See Photo 64.**



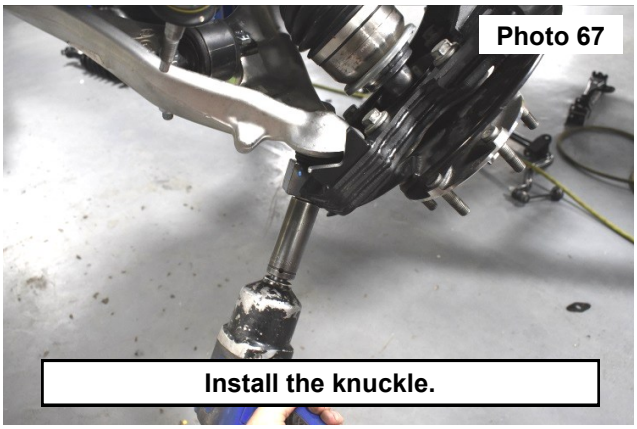


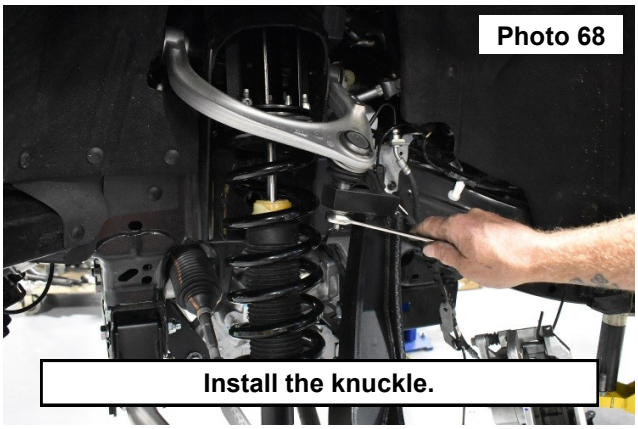
71. Install the stock hub to the new knuckle using the stock hardware. **See Photo 65**.
72. Install the stock dust shield to the new knuckle using the stock hardware. **See Photo 66.**



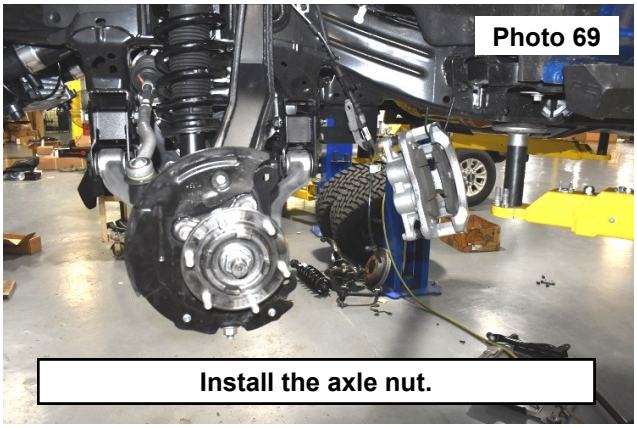


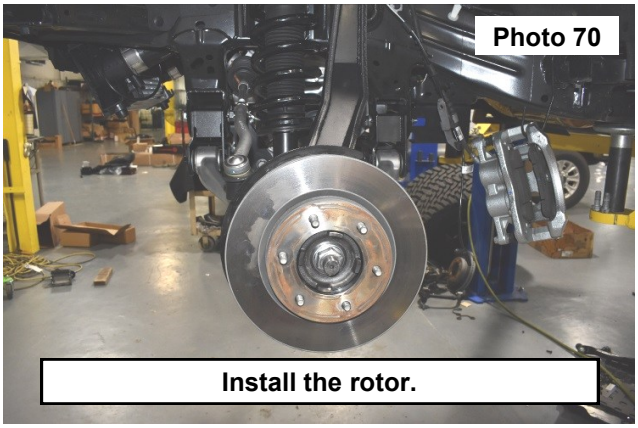
73. Install the knuckle to the axle and lower control arm using the stock hardware. **See Photo 67** and **Photo 68**.



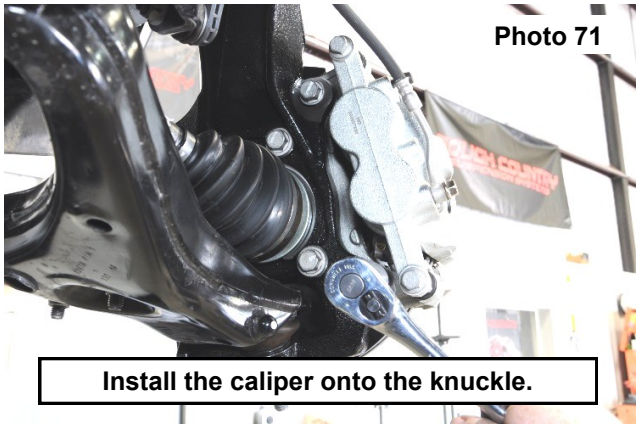


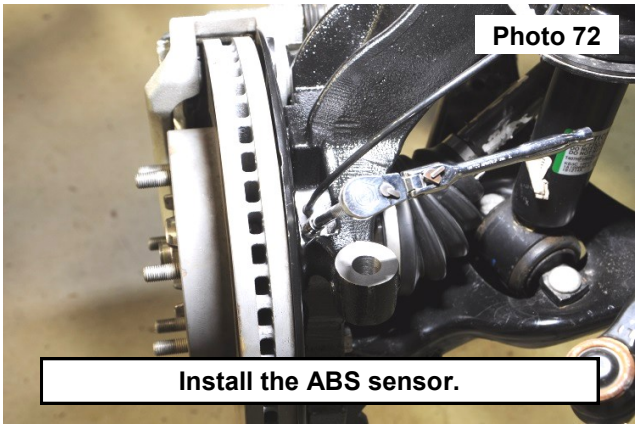
74. Install the axle nut using a 36mm socket. **See Photo 69**.
75. Install the rotor to the hub. **See Photo 70.**



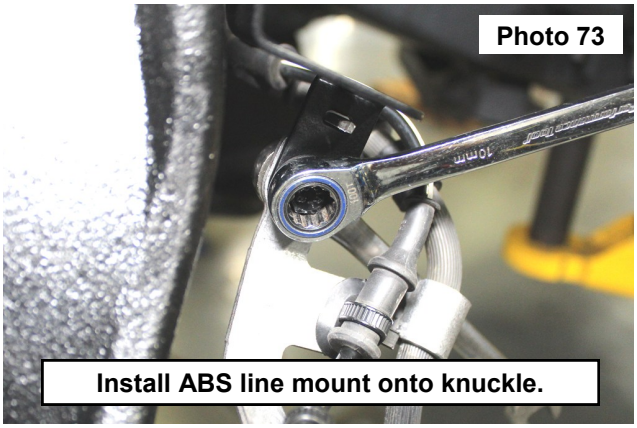


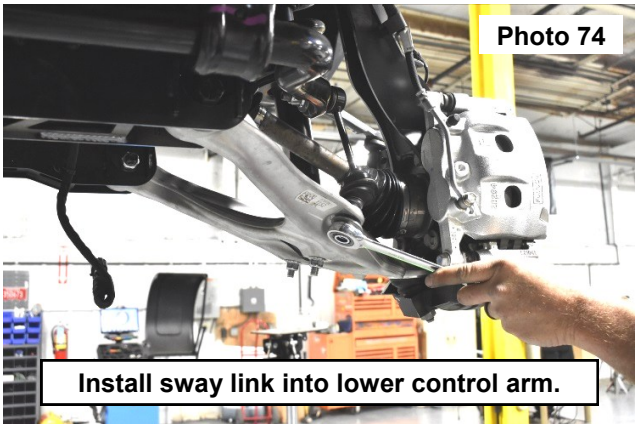
76. Install the caliper onto the rotor and the knuckle, secure using the (2) retained bolts. Torque to 130 ft-lbs. use an 18mm socket. **See Photo 71.**
77. Install the ABS sensor in the knuckle and use the retained bolt. Tighten using an 8mm socket. **See Photo 72**.



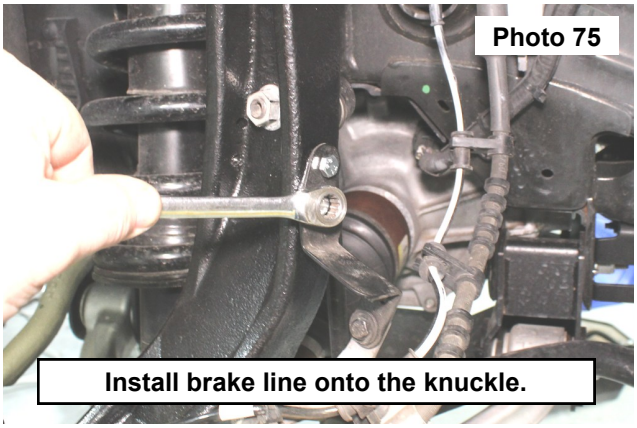


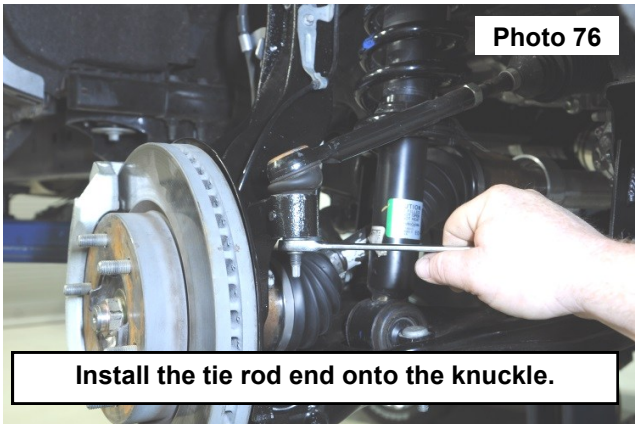
78. Install the ABS line mount onto the rear side of the knuckle, secure using the retained bolt. Tighten using a 10mm socket. **See Photo 73**.
79. Install the sway bar link into the lower control arm using the stock hardware. **See Photo 74**.



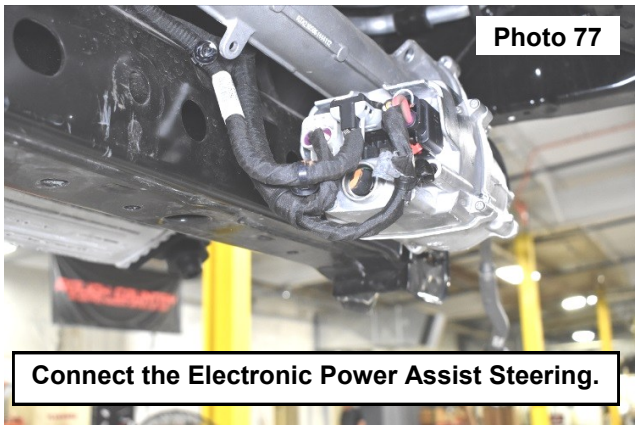


80. Install brake line onto knuckle using 10mm wrench. **See Photo 75.**
81. Install the tie rod end into the knuckle with the retained nut using a 15mm wrench. **See Photo 76**.



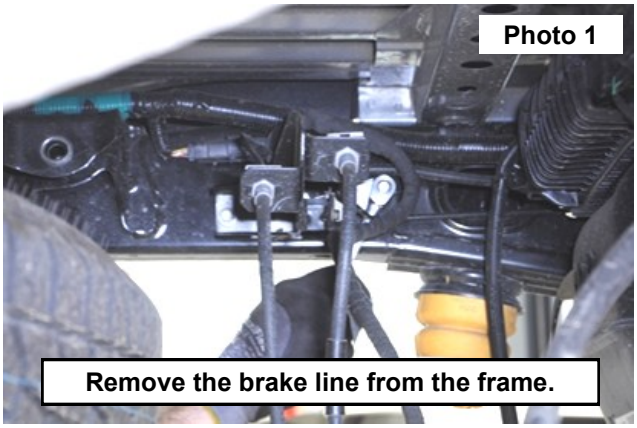


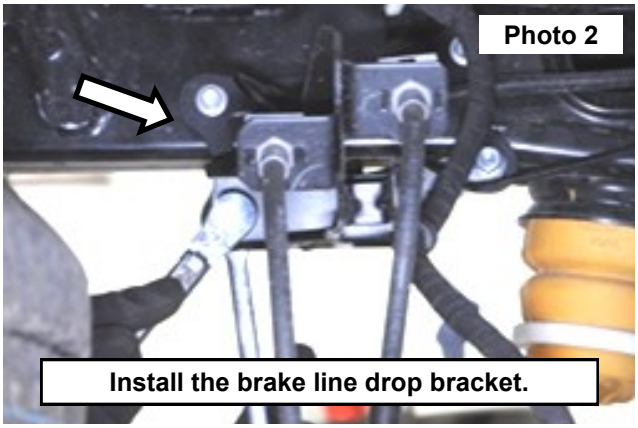
82. Connect the (3) EPAS (Electronic Power Assist Steering) plugs as shown located on the steering assembly. **See Photo 77.**
83. Put on wheels and lower.
84. Tighten all hardware.



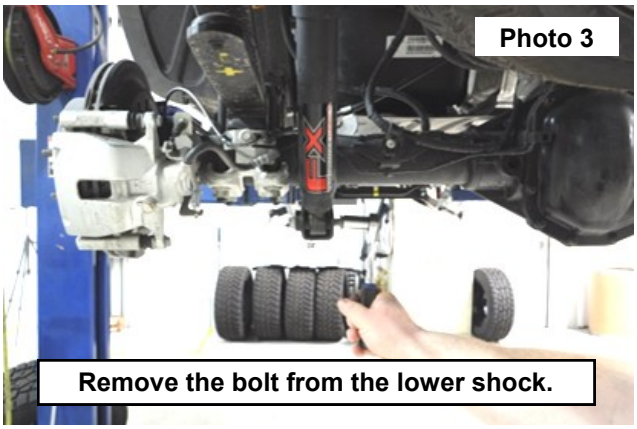
REAR INSTALLATION INSTRUCTIONS

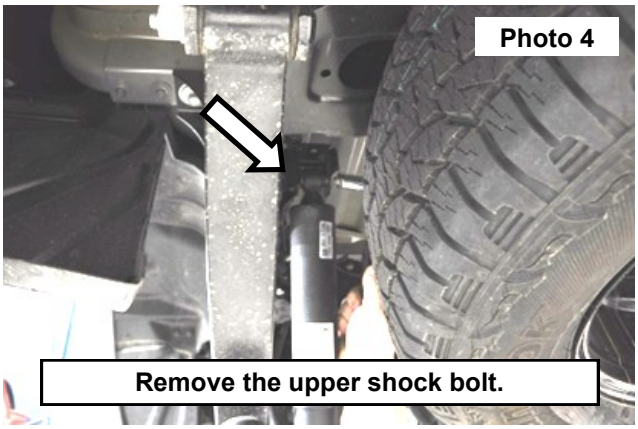
1. Chock the front wheels and jack up the rear of the vehicle.
2. Place jack stands under the frame rails and lower onto jack stands.
3. Remove the wheels/tires using a 19mm socket.
4. Remove the two bolts holding the brake line bracket on frame using a 10mm socket, retain hardware for reuse. **See Photo 1.**
5. Install the rear brake line drop bracket. use the stock hardware on top and the (2) supplied 5/16-18 X 3/4 hex head bolt (2) 5/16 flat washers and (2) 5/16 nylock nuts. Torque hardware to 15 ft-lbs. using a 13mm wrench and socket. **See Photo 2.**



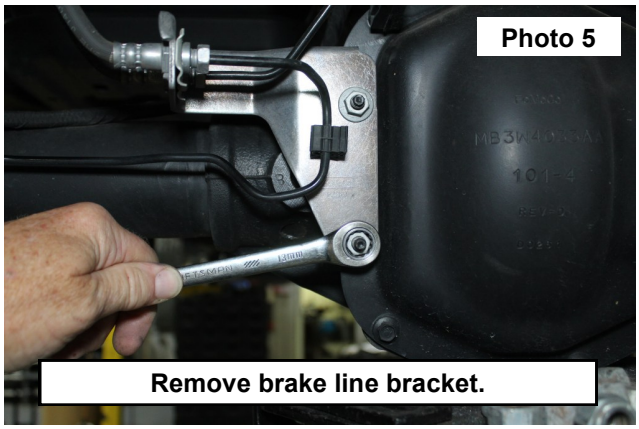


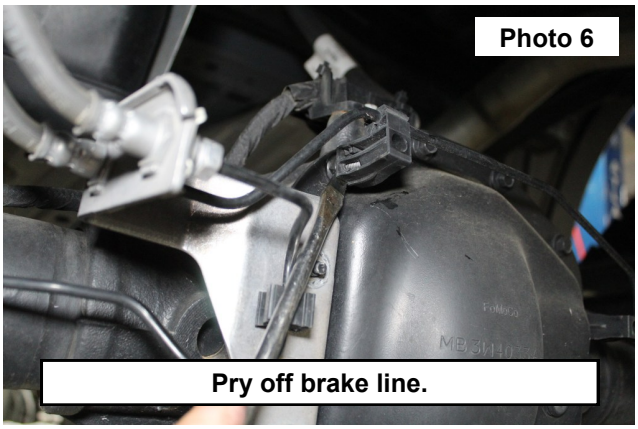
6. Support the rear axle.
7. Remove the upper and lower shock bolts using a 15mm socket. Remove shock. Retain hardware for later use. **See Photo 3 and Photo 4.**



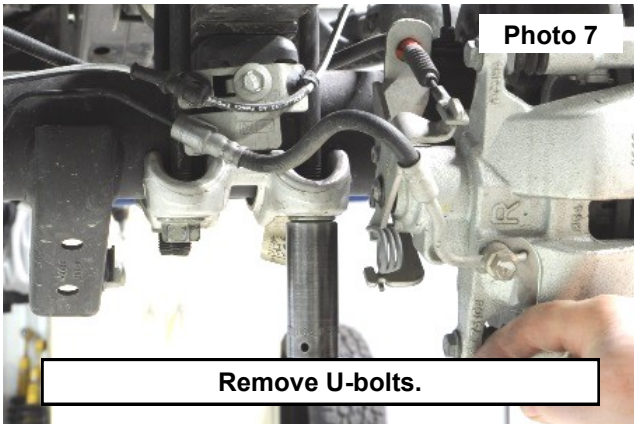


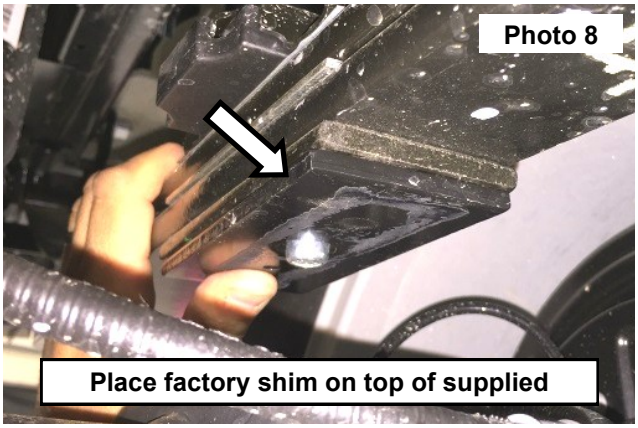
8. Remove brake line bracket using 13mm wrench. **See Photo 5.**
9. Pry the brake line off the rear diff using a pry tool. **See Photo 6.**



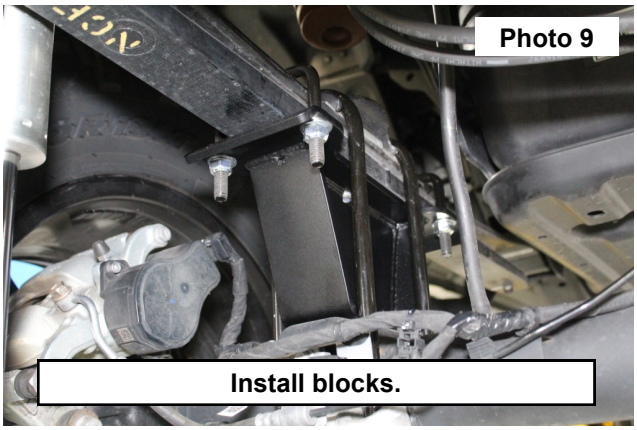


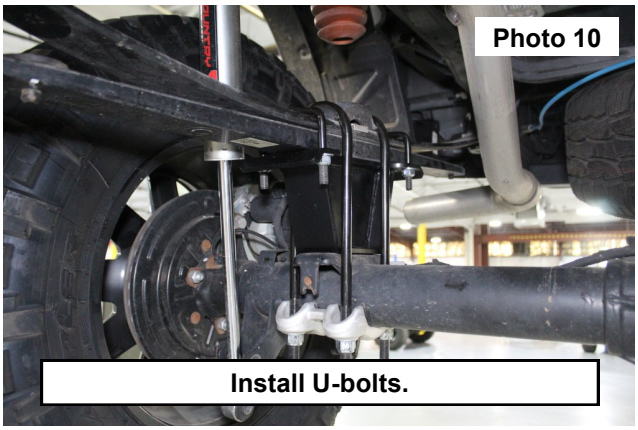
10. Remove the nuts from the U bolts using a 21mm socket. Retain the U bolt plate. **See Photo 7.**
11. If equipped with a factory leaf shim, make sure the shim is placed on **top of the supplied lift block** in the next step. Usually found on the driver side. **See Photo 8.**



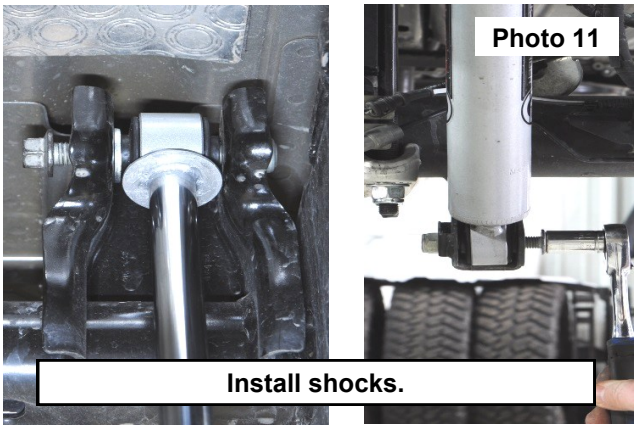


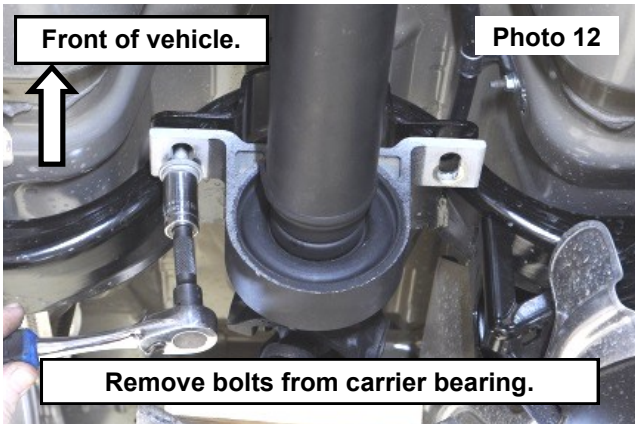
12. Place the 9/16 x 13.5” U-bolts over block and loosely install to bolt plate. Attach the anti-wrap U-bolts to block. Torque to 90 ft-lbs using a 22mm socket. NOTE: Long side of block should be facing rear of vehicle. **See Photo 9 and Photo 10.**





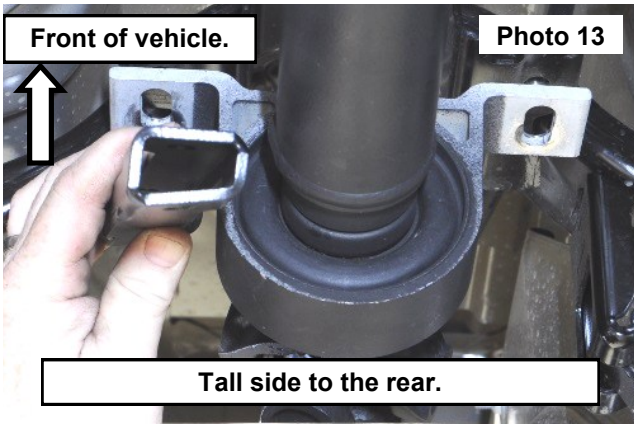
13. Install shock into the upper and lower mounts with the 1/2” washer (if needed). Secure using the retained hardware. Torque to 80 ft-lbs. using a 15mm wrench and socket. **See Photo 11.**
14. Support the driveshaft close to the carrier bearing. Use a 15mm socket to remove the bolts from the carrier bearing. **IMPORTANT: Do not let driveshaft hang. See Photo 12.**

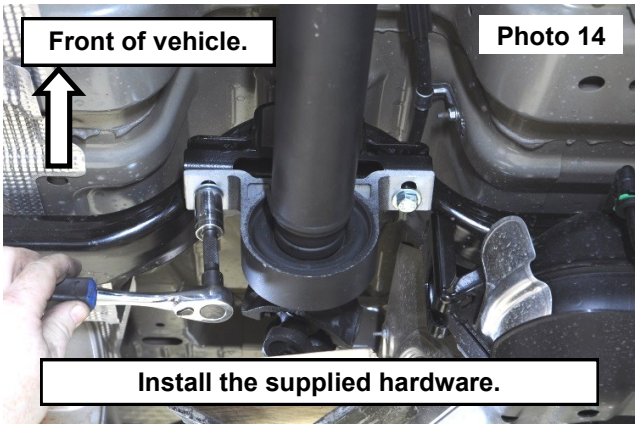




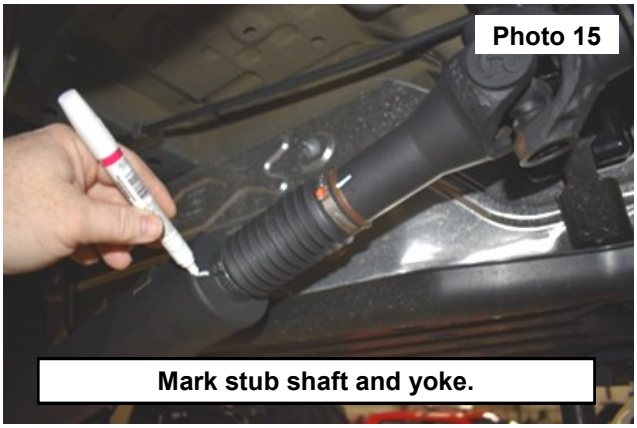
REAR INSTALLATION INSTRUCTIONS

15. Install the carrier bearing spacer with the tall side to the rear. **See Photo 13.**
16. Secure the carrier bearing by installing the (2) supplied 10-1.5mm x 60mm hex head bolts, lock washers and flat washers. Torque to 32 ft-lbs. using a 17mm socket. **See Photo 14.**





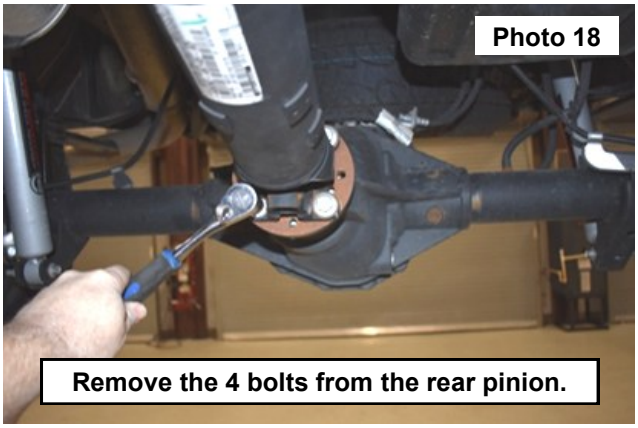
17. Mark the rear stub shaft and yoke shaft for factory orientation. Loosen the front clamp. **See Photos 15 and Photo 16.**



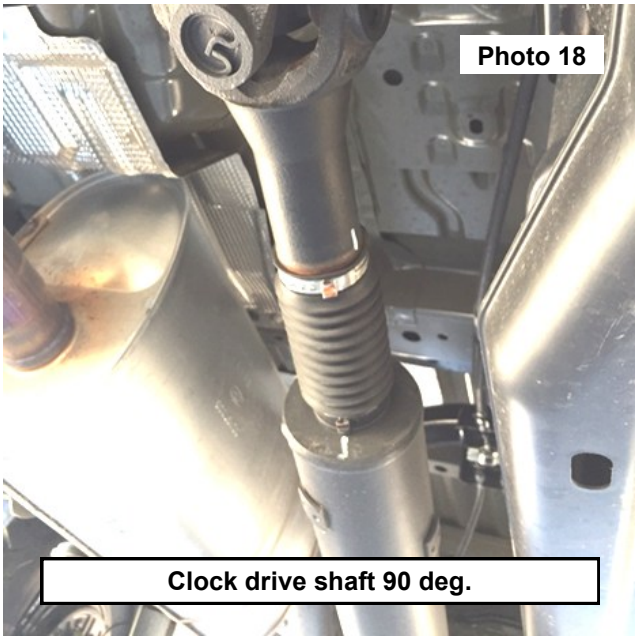


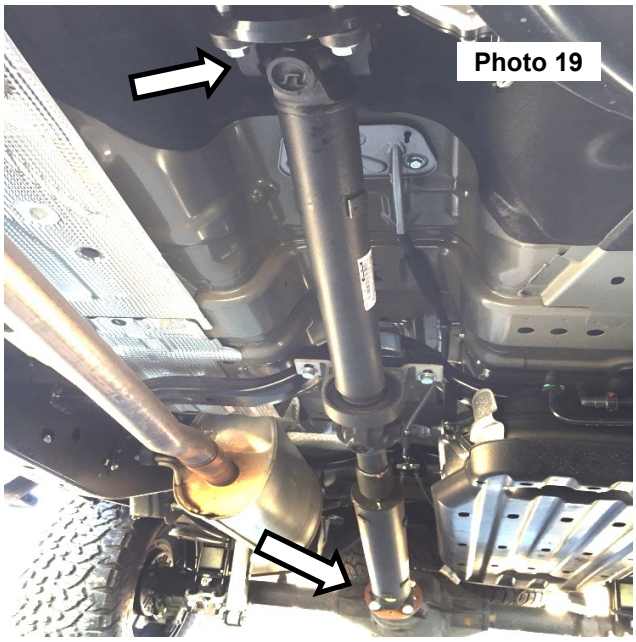
18. Mark the flange orientation at the rear pinion. **See Photo 17.**
19. Use a jack stand for support and disconnect the rear flange from the rear pinion. Use a 15mm socket to remove. **See Photo 18.**



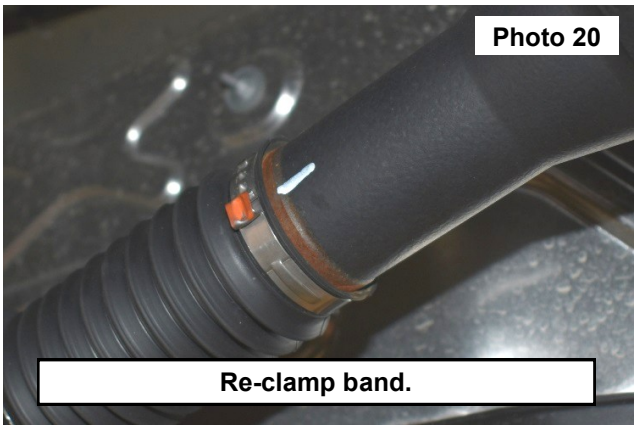


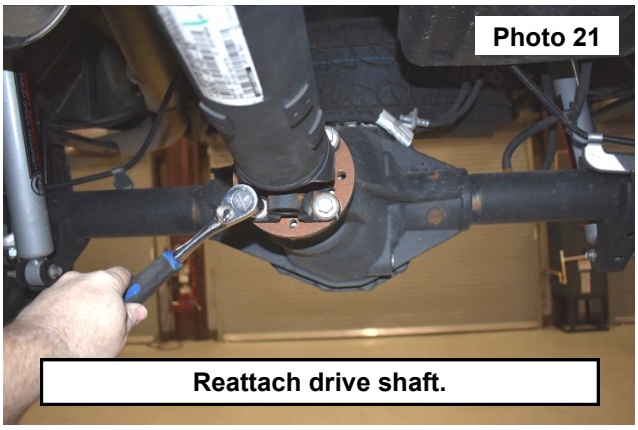
20. With the front clamp loose and the rear shaft supported, pull the rear stub shaft loose from the yoke shaft. Clock the stub shaft 90 degrees and reassemble. The front end yoke at the transfer case and the rear end yoke at the pinion should now be aligned. If they are not aligned then repeat this step to acquire alignment. **See Photos 18 and Photo 19.**



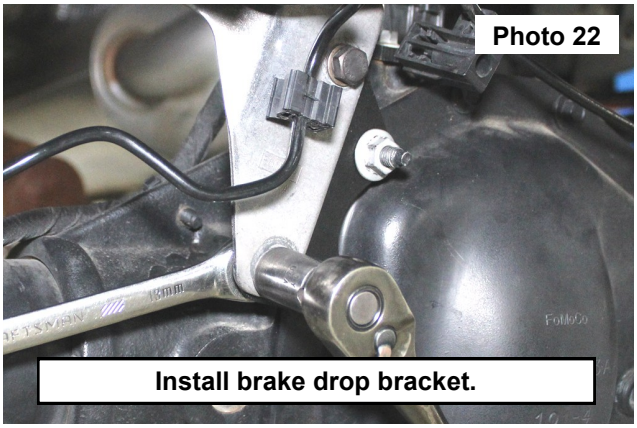


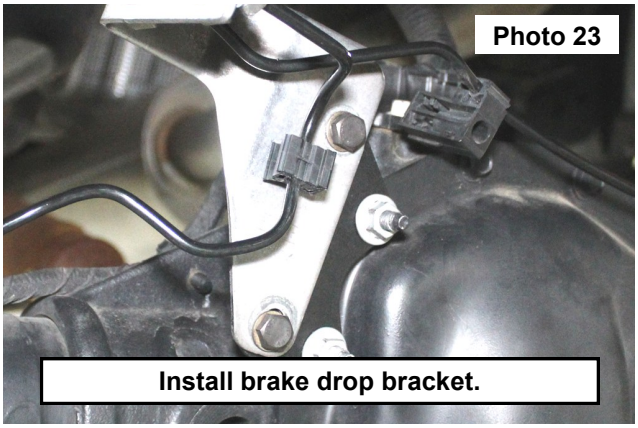
21. Using a band clamp tool, re-clamp the drive shaft band that was loosened. **See Photo 20.**
22. Reattach the drive shaft flange to the rear pinion using the 4 retained bolts. Make sure to align the previous marks. Use a 15mm socket. **See Photo 21.**





23. Using a 13mm wrench and socket, install the brake line drop bracket with retained hardware. **See Photo 22 and Photo 23.**



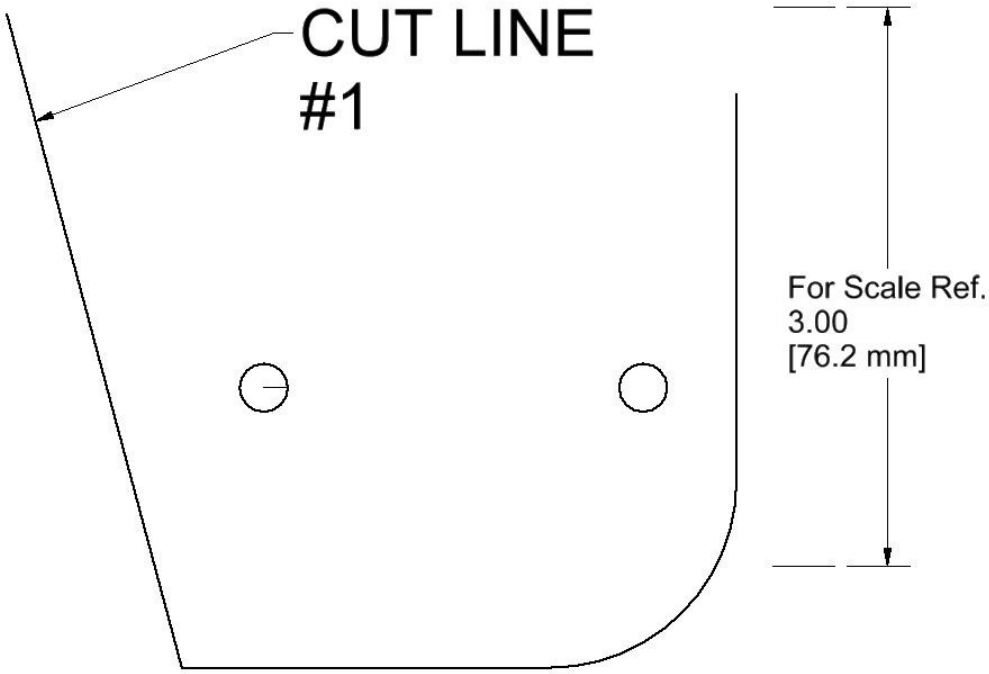


24. Install the wheels and tires onto the vehicle and tighten using a 19mm socket.
25. Using a jack, raise up the rear of the vehicle and remove the jack stands to lower the vehicle to the ground.
26. Remove the rear wheel chocks.
27. The front end of this vehicle will require an alignment.



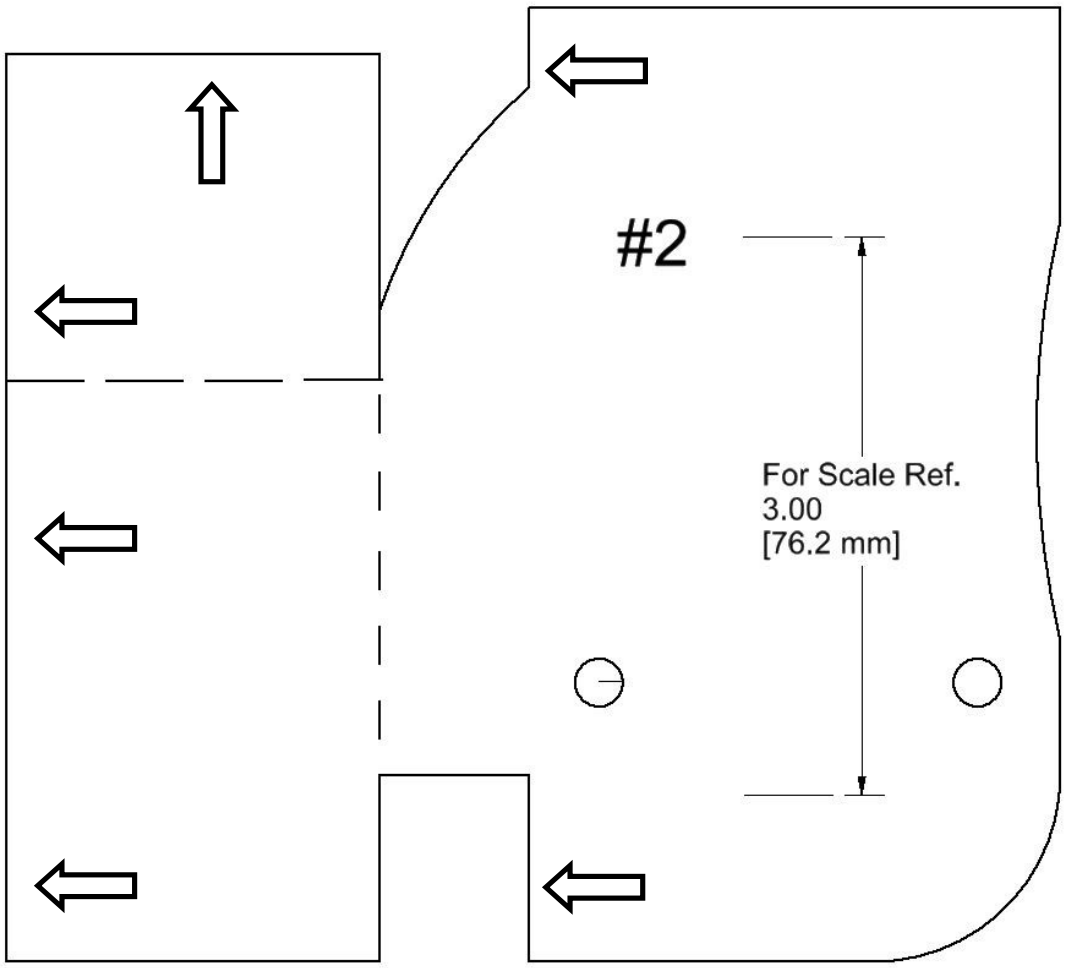
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RC
ROUGH COUNTRY


CUT LINE
#1
For Scale Ref.
3.00
[76.2 mm]


RC
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Mark at arrows when template is on the vehicle.




RC
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