TRAIL FORTRESS

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Rough Country 40630 Installation Instructions

6-Inch Lift Kit with N3 Shocks for Ford F-150 2WD (2021-2024)

Part number: 40630

trailfortress.com/rough-country-6-inch-lift-kit-40630

Scan for fitment, price and install help

921406000

ROUGH COUNTRY
SUSPENSION SYSTEMS®



FORD 2021 F-150 4” - 6” 2wd 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. 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 The taller a vehicle is, the easier it will roll. We strongly recommend, because of rollover possibility that seat belts and shoulder harnesses should be worn at all times. Avoid situations where a side rollover may occur.

⚠WARNING 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 questions exist we will be happy to answer them concerning the design, function, and correct use of our products.

The 6”suspension system was developed using a 35X12.50/20 tire with 20 x 9 wheel with 4 1/2” backspace. The lifts were designed to lift the front to level the vehicle. Due to manufacturing, dimension variances, and inflation all tire and wheel combinations should be tested prior to installation on all oversized / wider then stock tires. We recommend using a 20” minimum wheel with corresponding tire, 9" in width with a minimum backspacing of 4.5" to a maximum of 5". When using a stock wheel, it must be 20” or larger and the maximum tire width is 11 1/2”.

⚠NOTICE **Vehicles will require the EPAS (Electronic Power Assist Steering) plugs to be disconnected prior to beginning installation of this kit. See installation instructions. Failure to disconnect these plugs may result in damage to the EPAS module resulting in an error message being displayed, which will require replacement of the EPAS module**

⚠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 of its unique handling characteristics.

Tools Needed:

3/32” Allen Wrench	Floor Jack
11/32” Socket	Jack stands
5mm Allen Wrench	Hammer
8mm Allen Wrench	9/16 wrench /socket
8mm wrench /socket	1 1/16” Wrench
10mm wrench /socket	Torque Wrench
12mm Wrench	Trim Remover Tool
13mm wrench / socket	
15mm wrench /socket	
16mm wrench /socket	
18mm wrench /socket	
19mm wrench /socket	
21mm wrench /socket	
22mm wrench /socket	
24mm wrench /socket	
30mm wrench /socket	
T45 Torx Bit	

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

trailfortress.com/rough-country-6-inch-lift-kit-40630

4” KIT CONTENTS

40830 (4” Kit w/ N3 Rear Shocks):

555BOX3
1555BOX4
587BOX3
40830BOX3
40830BOX4

40870 (4” Kit w/ V2 Rear Shocks):

555BOX3
1555BOX4
587BOX3
40830BOX3
40830BOX4

6” KIT CONTENTS

40630 (6” Kit w/ N3 Rear Shocks):

587BOX1
587BOX2
40630BOX4
40630BOX5
557BOX3

40670 (6” Kit w/ V2 Rear Shocks):

587BOX1
587BOX2
40630BOX4
40630BOX5
557BOX4
760751

KIT CONTENTS

4” KIT BOX CONTENTS

555BOX3
- *2-Strut Spacers*

1555BOX4
- 1-*Front Crossmember*
- *1-Rear Crossmember*

587BOX3
- *1-Dr Side Knuckle*
- *1-Pass Side Knuckle*

40830BOX3
- *4-9/16” Ubolts*
- *2-Rear Blocks*
- *2-Rear Bump Stop Brackets*
- *1-Rear Brake Line Bracket*

40830BOX4
- *4-Cam Bolts*
- *1-1556BAG2*
  - 2-Ubolts
  - 4-3/8”-16 Flange Lock Nuts
- *1-551BAG1 (Hardware)*
  - 2-3/8” Flat Washers
  - 1-3/8”-16x1” Bolt
  - 1-3/8”-16 Lock Nut
  - 4-5/16” Flat Washers
  - 3-5/16”-18x0.75” Bolts
  - 3-5/16”-18 Lock Nuts
  - 8-7/16” Flat Washers
  - 4-7/16”-14x1.25” Bolts
  - 4-7/16”-14 Lock Nuts
- 1-*1553BAG1*
  - 4-3/4” Flat Washers
  - 2-18MM-2.5x150MM Bolts
  - 2-18MM-2.5 Lock Nuts
- *2-Swaybar Drop Brackets*

1-Rear N3 Shock Pair

1-Rear V2 Shock Pair

6” KIT BOX CONTENTS

587BOX1:
- *1-Front Crossmember*
- *1-Rear Crossmember*

587BOX2:
- *1-Dr Side Knuckle*
- *1-Pass Side Knuckle*

40630BOX4:
- *4-9/16” Ubolts*
- *2-Rear Blocks*
- *2-Rear Bump Stop Brackets*
- *1-Rear Brake Line Bracket*

40630BOX5:
- *4-Cam Bolts*
- *1-1556BAG2*
  - 2-Ubolts
  - 4-3/8”-16 Flange Lock Nuts
- *1-551BAG1 (Hardware)*
  - 2-3/8” Flat Washers
  - 1-3/8”-16x1” Bolt
  - 1-3/8”-16 Lock Nut
  - 4-5/16” Flat Washers
  - 3-5/16”-18x0.75” Bolts
  - 3-5/16”-18 Lock Nuts
  - 8-7/16” Flat Washers
  - 4-7/16”-14x1.25” Bolts
  - 4-7/16”-14 Lock Nuts
- 1-*1553BAG1*
  - 4-3/4” Flat Washers
  - 2-18MM-2.5x150MM Bolts
  - 2-18MM-2.5 Lock Nuts
- *2-Frt Brake line Brackets*
- *2-Swaybar Drop Brackets*

557BOX3:
- *1-10MMSTUDBAG-2*
  - 6-10MM-1.25 Stud
  - 6-10MM-1.25 Flange Nut
  - 1-10MM-1.25 Nut
  - 1-1/2” Jam Nut
- *2-Rear N3 Shocks*
- *2-6” Strut Spacers*

557BOX4 (40670 Kit Only):
- *1-10MMSTUDBAG-2*
  - 6-10MM-1.25 Stud
  - 6-10MM-1.25 Flange Nut
  - 1-10MM-1.25 Nut
  - 1-1/2” Jam Nut
- *2-6” Strut Spacers*

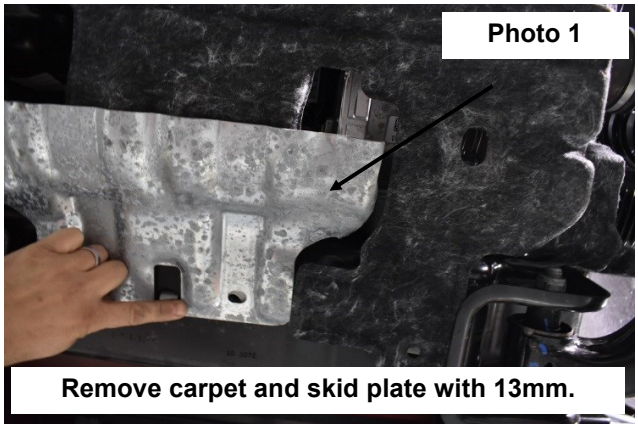
1-Rear N3 Shock Pair

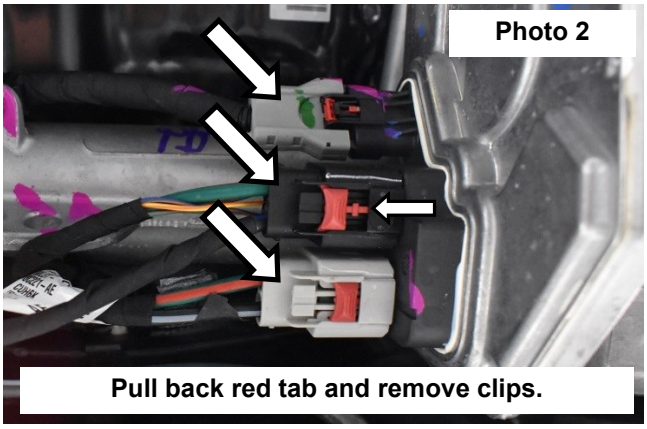
1-Rear V2 Shock Pair



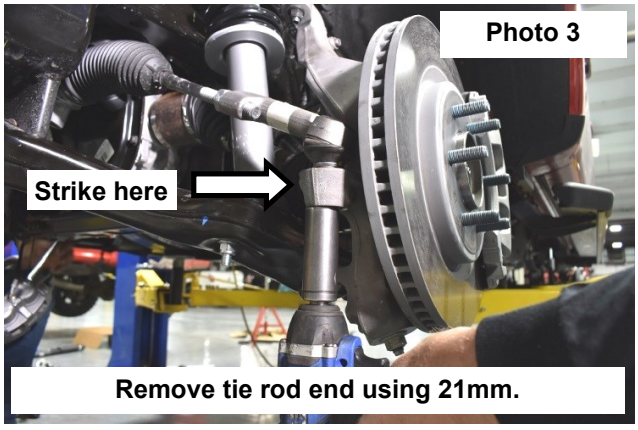
FRONT INSTALLATION INSTRUCTIONS

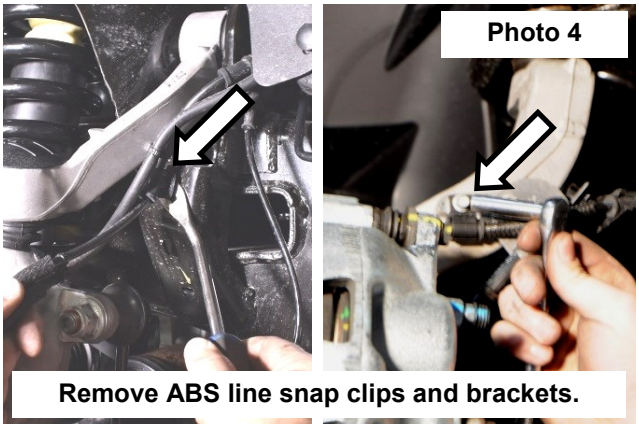
1. Chock the rear wheels and jack up the front of the vehicle.
2. Place jack stands under the frame rails and lower onto jack stands.
3. Remove the wheels/tires using a 21mm socket.
4. Remove the carpet and skid plate (**If equipped**) with a 13mm socket/wrench. **See Photo 1.**
5. Remove the 3 EPAS (Electronic Power Assist Steering) Plugs on the steering assembly. Pull the red tab back to unlock as shown by the middle plug in **Photo 2.**
   <u>This must be done BEFORE installation is started.</u>



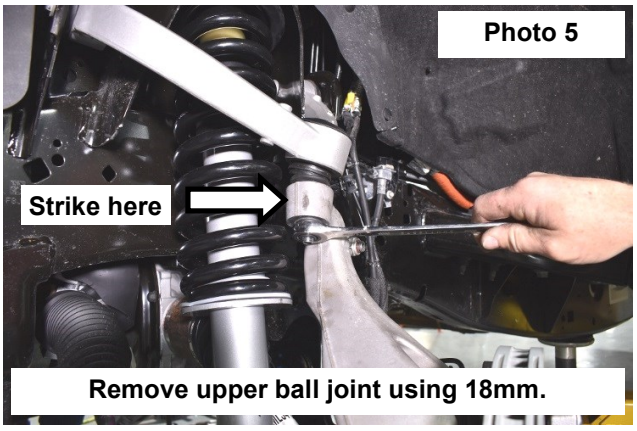


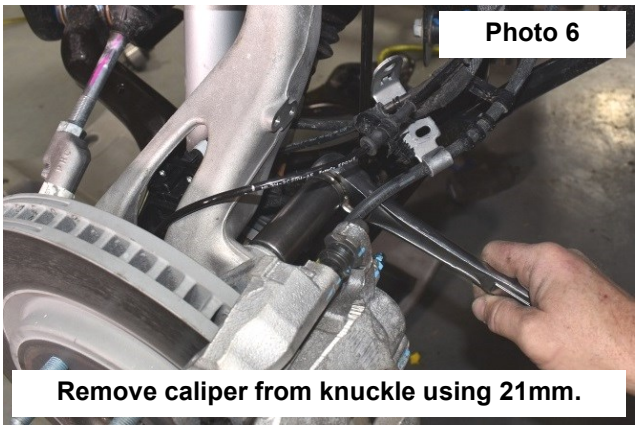
6. Remove tie-rod end using a 21mm wrench. Strike the knuckle with a hammer to loosen the tie rod end. **Photo 3.**
7. Remove ABS line snap clips using a trim remover tool to get more slack in the line. **See Photo 4.**



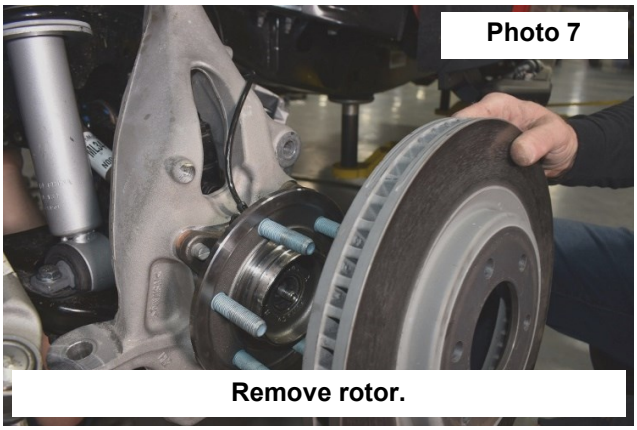


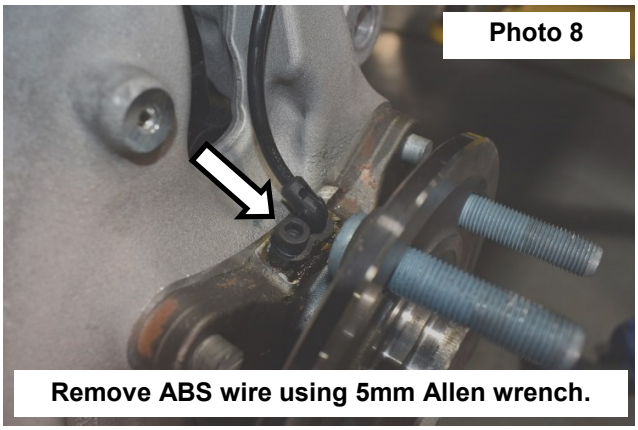
8. Remove the upper ball joint nut using a 18mm socket/wrench. Strike the knuckle to loosen. **See Photo 5.**
9. Using a 21mm socket, remove brake caliper as shown in **Photo 6**. Hang caliper out of way. Do not let caliper hang by brake hose as this will damage hose.



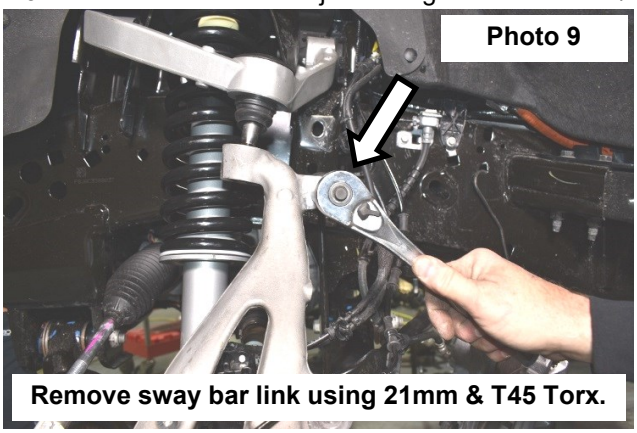


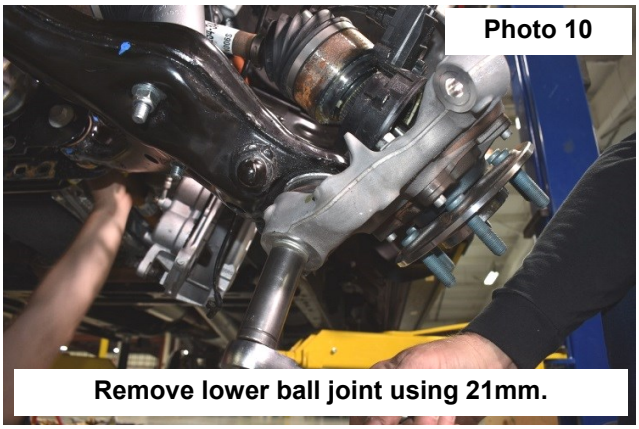
10. Remove the rotor. **See Photo 7.**
11. Remove the ABS wire from the bearing assembly using a 5mm Allen wrench. **See Photo 8.**



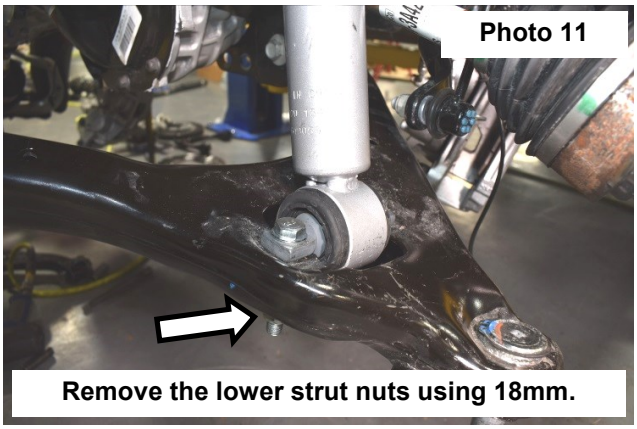


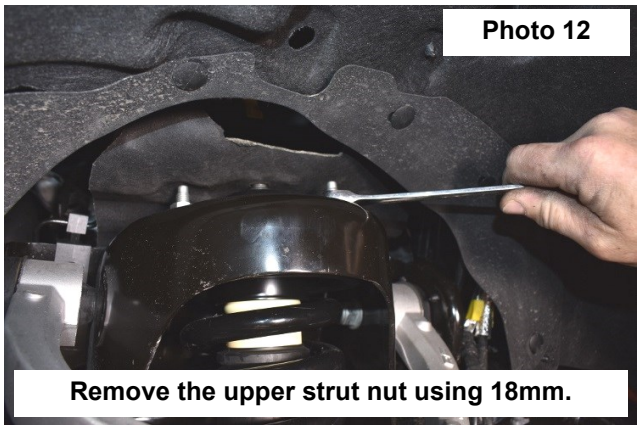
12. Remove the sway bar link using a 21mm wrench and T45 Torx bit. **See Photo 9.**
13. Remove the lower ball joint using a 21mm socket/wrench and remove the knuckle. **See Photo 10.**



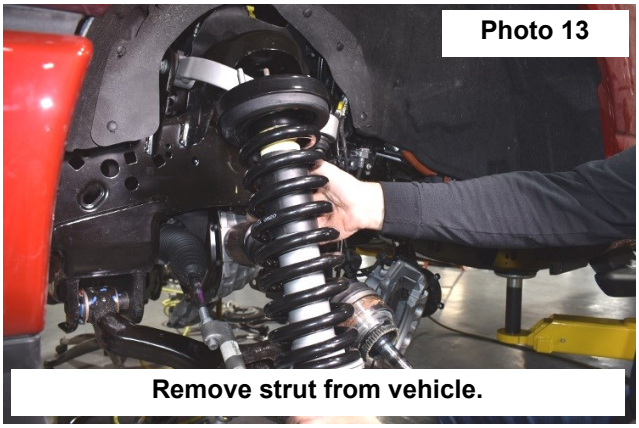


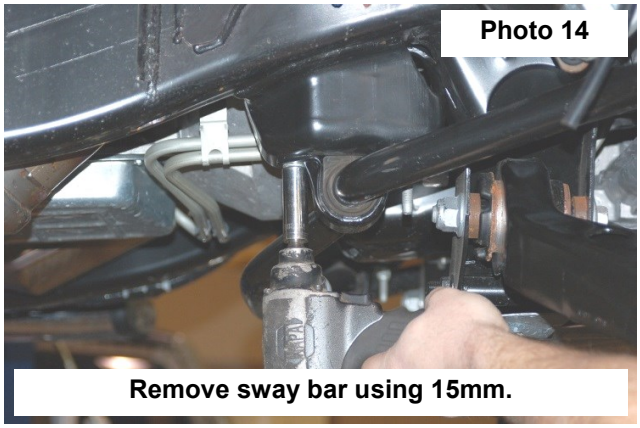
14. Remove the lower strut nuts using an 18mm socket/wrench. **See Photo 11.**
15. Remove the upper strut nuts using a 18mm wrench. **See Photo 12.**



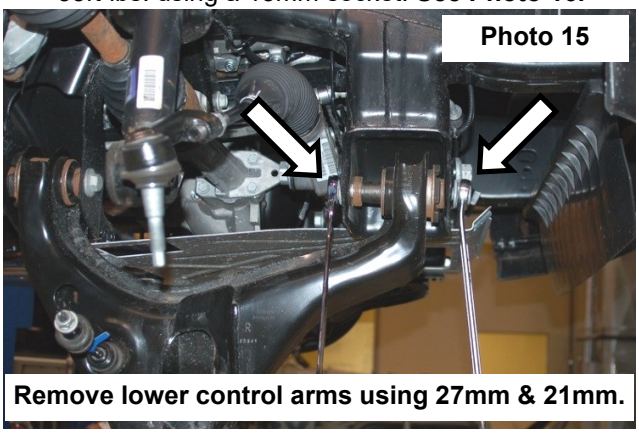


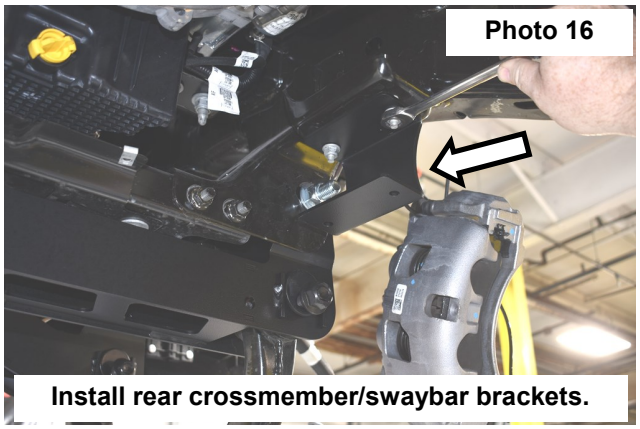
16. Remove the strut from the vehicle. **See Photo 13.**
17. Remove the swaybar from the frame using a 15mm socket/wrench. **See Photo 14.**



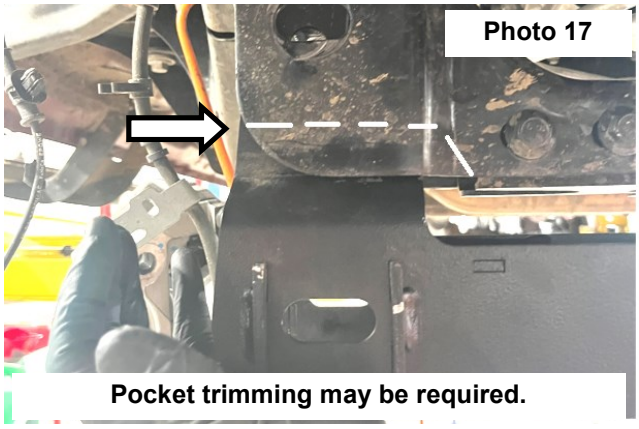


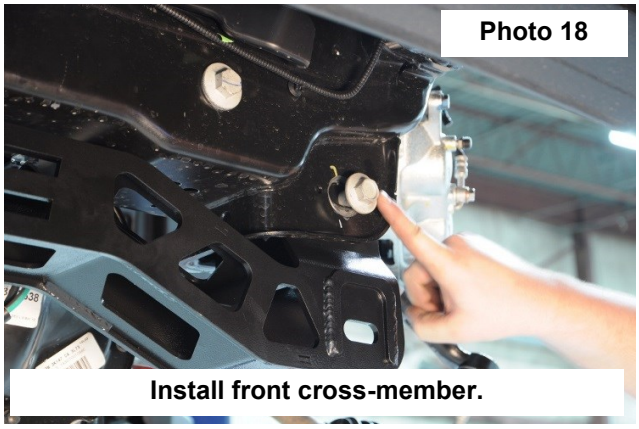
18. Remove lower control arms using a 27mm socket/wrench on nut and 21mm socket/wrench on bolt. **See Photo 15.**
19. Install the rear cross-member with the supplied 18mm x150mm bolt. The bolt will install through the sway bar bracket and rear cross-member, securing it to the stock location. Do not tighten at this time. Install the RC decal on the sway bar brackets with supplied #8-32 bolts, and nuts using a 3/32" Allen wrench and 11/32" socket. Torque nuts to 35ft-lbs. using a 15mm socket. **See Photo 16.**





20. **NOTE: Depending on vehicle, pocket trimming may be require to ensure proper fitment. See Photo 17.**
21. Install the front cross-member using the factory hardware. **See Photo 18**. Do not tighten at this time.





22. Install the lower control arms using the supplied 18mm x 160mm cam bolts, washers and nuts using a 1 1/16" socket/wrench. **See Photo 19**. Do not tighten at this time.
23. Tighten all upper cross-member bolts. Torque to 190 ft-lbs using a 21mm, 1 1/16" socket and 1 1/16" wrench.
24. Using a 10mm wrench remove the brake line bracket from the driver and pass side frame. **See Photo 20.**

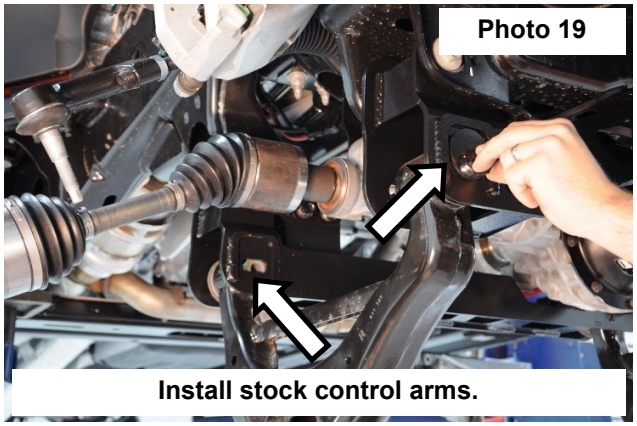


Photo 19
Install stock control arms.

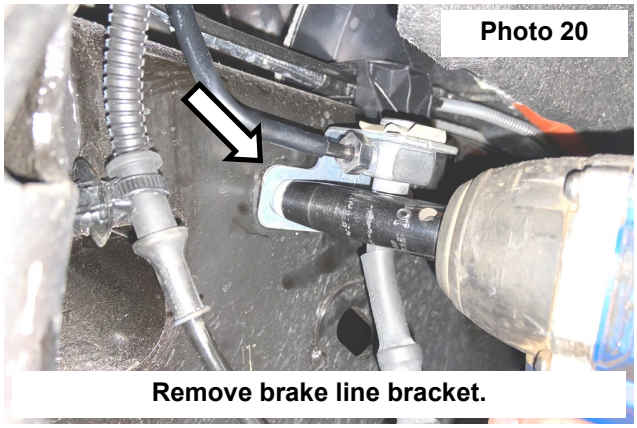


Photo 20
Remove brake line bracket.

25. On the passenger side remove the brake line from the two factory clips. **See Photo 21.**
26. Install the new brake line bracket on the driver and passenger side with the stock hardware. **See Photo 22.**

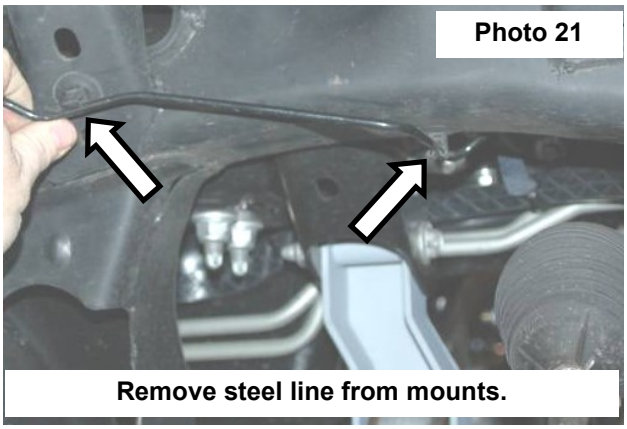


Photo 21
Remove steel line from mounts.

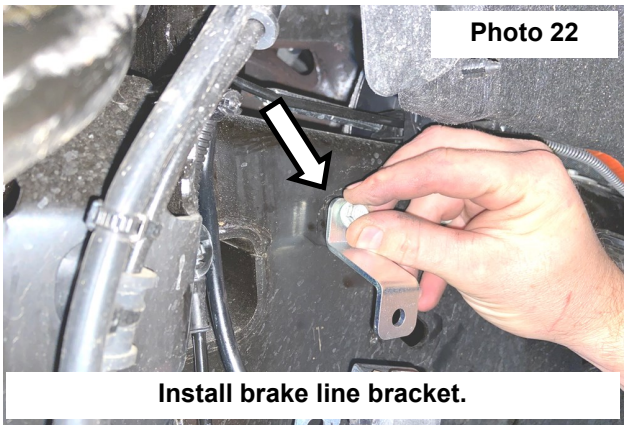


Photo 22
Install brake line bracket.

27. Install the factory passenger side brake line in the new bracket using the supplied 5/16' x 3/4" bolt, washer and nuts. **Take care to not kink the brake line. See Photo 23.**
28. On the driver side, pull slightly on the brake line to allow the line to be installed on the new bracket. Secure the brake line to the new bracket with the supplied 5/16" x 3/4" bolt, washers and nut. **Take care to not kink the brake line.**
29. Using a 13mm socket / wrench, torque the supplied brake line bolts to 15ft-lbs. Torque stock hardware to 18ft-lbs.
30. Install the supplied 10mm studs in the strut spacers with a 17mm wrench, using the 1/2" jam nut. **See Photo 24**.

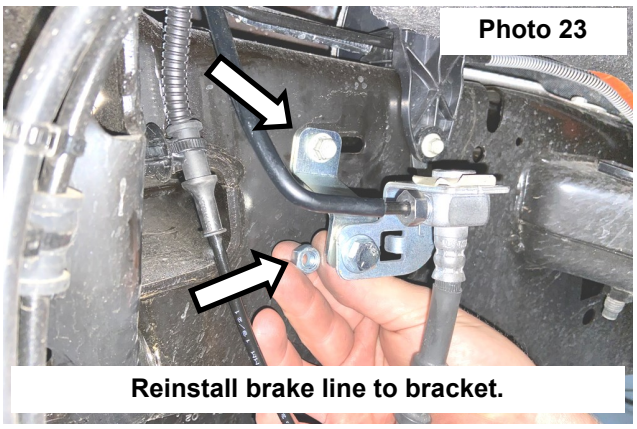


Photo 23
Reinstall brake line to bracket.

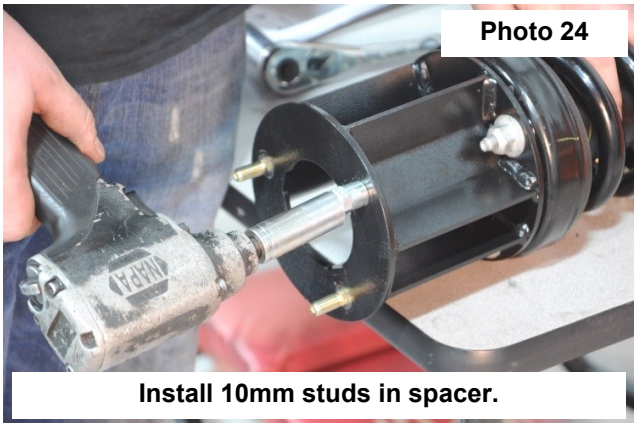


Photo 24
Install 10mm studs in spacer.

31. Using the stock hardware, install the strut spacers on the struts. Torque to 45ft-lbs. using a 15mm. **See Photo 25.**
32. Install the strut with strut spacers installed in the stock upper mount. Secure with supplied 10mm nuts, washers and lock washers. **See Photo 26.** Do not tighten at this time.

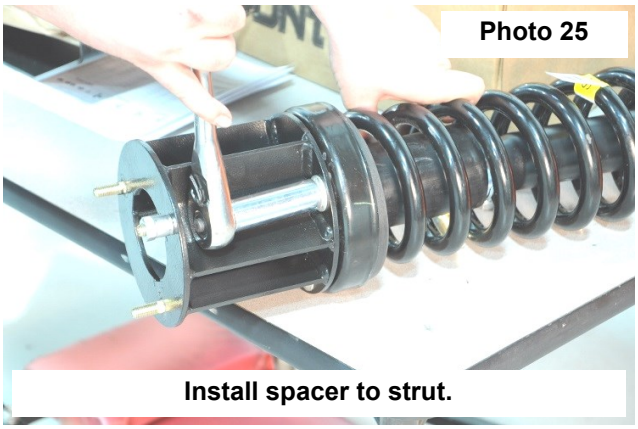


Photo 25
Install spacer to strut.

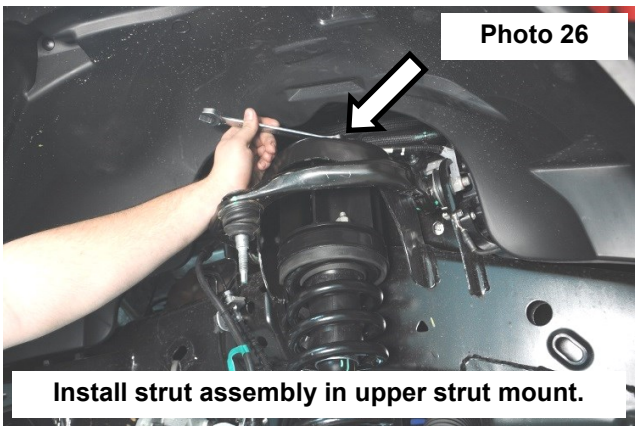


Photo 26
Install strut assembly in upper strut mount.

33. Install the lower strut in the lower control arm using the factory hardware. Torque using a 18mm socket.
34. Torque upper strut mount hardware using 17mm wrench.
35. Reconnect the sway bar links to the knuckles using a 21mm wrench and T45 Torx bit. Install nut to hold the sway bar in place but do not tighten at this time. **See Photo 27.**
36. Swing up the sway bar and install on the sway bar drop brackets using the supplied 7/16" x 1" bolts, washers and nuts. Torque to 45ft-lbs. using a 5/8 wrench and socket. Torque the sway bar links to 18ft-lbs. using an 18mm socket. **See Photo 28**

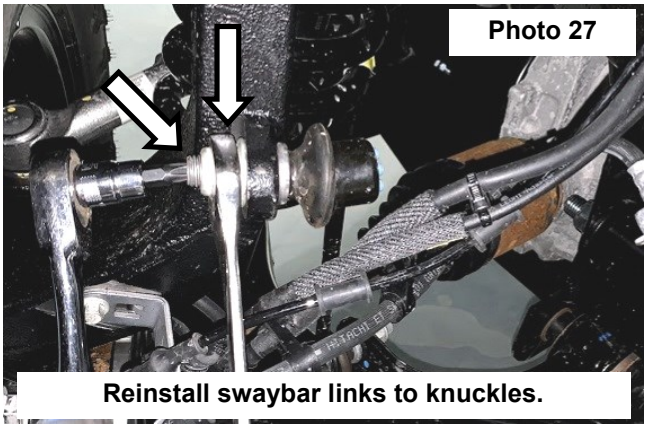


Photo 27
Reinstall swaybar links to knuckles.

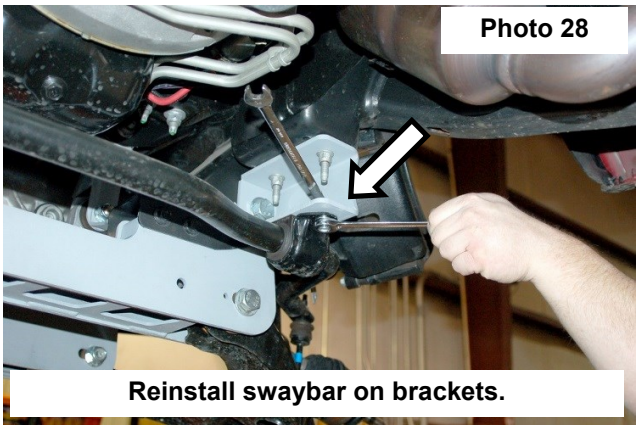


Photo 28
Reinstall swaybar on brackets.

37. Install the RC knuckles to lower control arm first using a 24mm socket/wrench. **See Photo 29.**
NOTE: Do not use an impact drill on the upper and lower ball joint, tighten with hand tools.
39. Install the tie rod end using a 21mm socket wrench and install the rotor. **See Photo 30.**

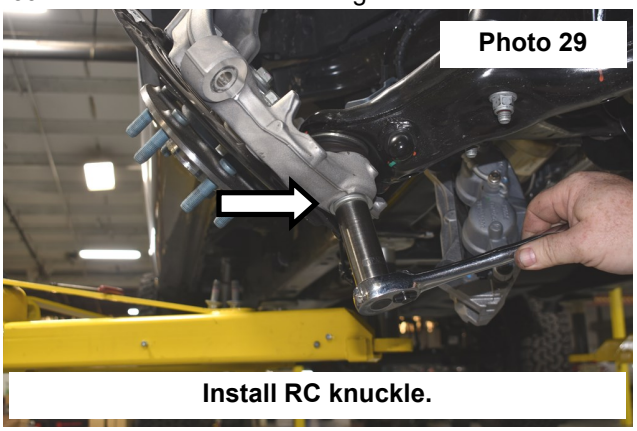


Photo 29
Install RC knuckle.

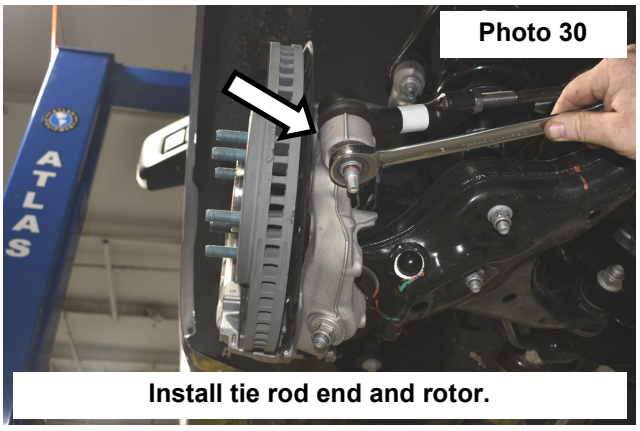


Photo 30
Install tie rod end and rotor.

40. Install the ABS wire on the bearing assembly, torque to 8 ft-lbs. using a 5mm Allen. **See Photo 31. Install the factory dust shield on the supplied knuckle, using factory hardware. torque to 14ft-lbs. use a 8mm socket.**
41. Install the caliper to the knuckle with the stock hardware, Torque to 140ft-lbs. using a 21mm socket. **See Photo 32.**

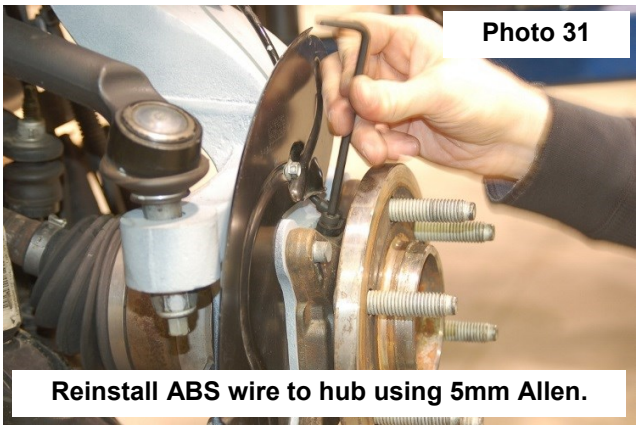


Photo 31

Reinstall ABS wire to hub using 5mm Allen.

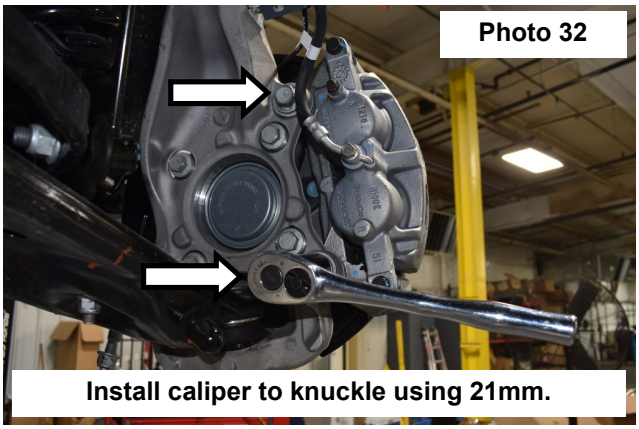


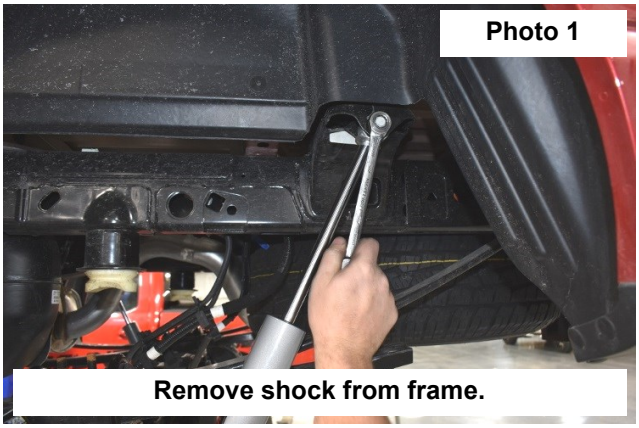
Photo 32

Install caliper to knuckle using 21mm.

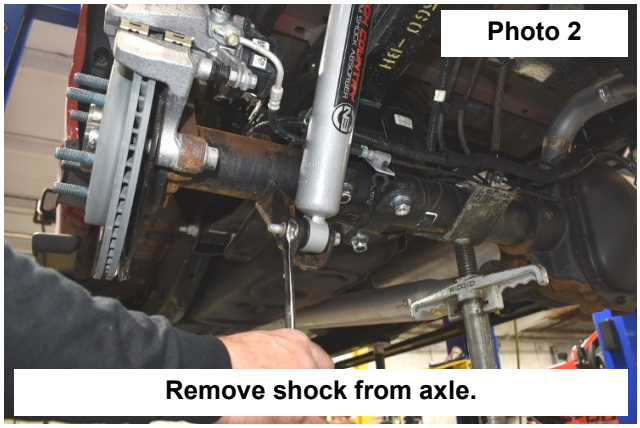
42. Make sure the ABS wire are out of harms way. Using a zip tie, secure the and ABS wire to the knuckle neck.
43. Install the tires and wheels using a 21mm socket. Remove the jack stands and lower the truck to the ground.
44. Tighten the lower control arm bolts using a 1-1/16” wrench and socket. **Torque to 240 ft/lbs.**

REAR INSTALLATION INSTRUCTIONS

1. Chock the front tires and jack the rear the rear end up. Put jack stand under the frame rail and lower truck onto jack stands.
2. Remove tires and wheels using a 21mm socket.
3. Remove rear shocks from the upper and lower mount using 18mm and a 15mm wrench. **See Photo 1 & 2.** Retain the stock hardware.

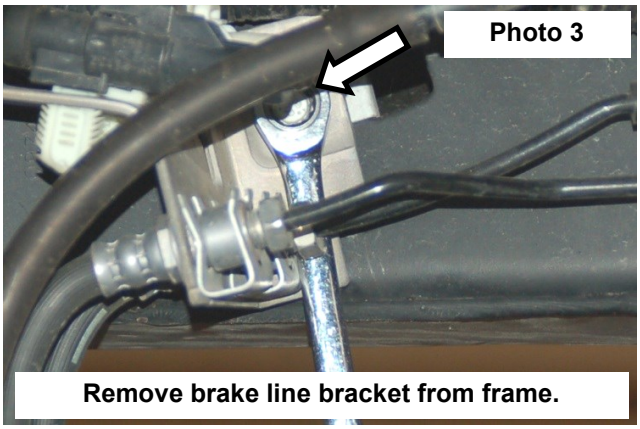


Remove shock from frame.

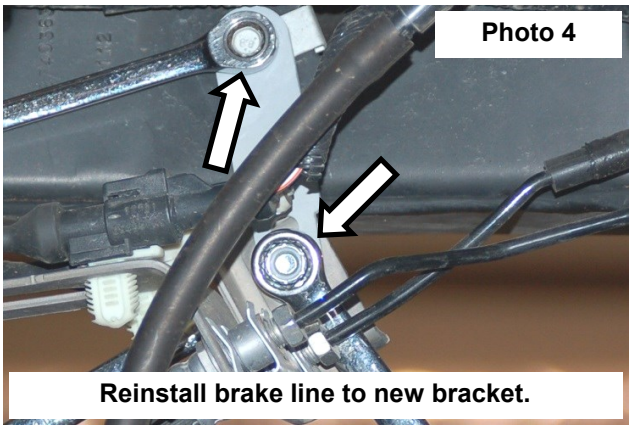


Remove shock from axle.

4. Using a 10mm wrench, remove the brake line assembly on the inner driver side frame rail. **See Photo 3.**
5. Install the brake line assembly to the new bracket using the supplied 3/8" x 1" bolt, washers and nut. Torque to 30ft-lbs. using a 9/16" socket and wrench**. See Photo 4.**
6. Install the brake line extension bracket on the frame using the stock hardware and torque to 18ft-lbs. using a 10mm socket. **See Photo 4.**

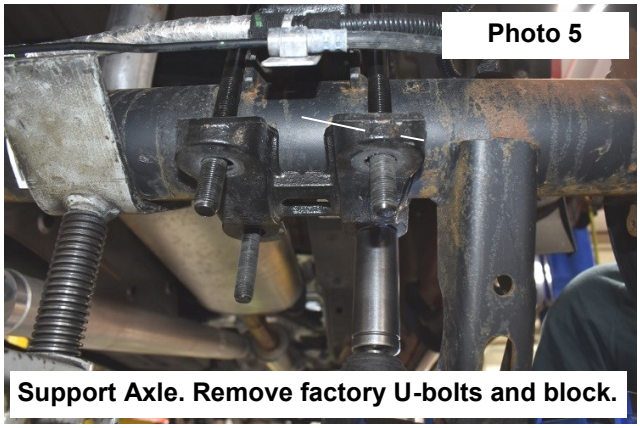


Remove brake line bracket from frame.

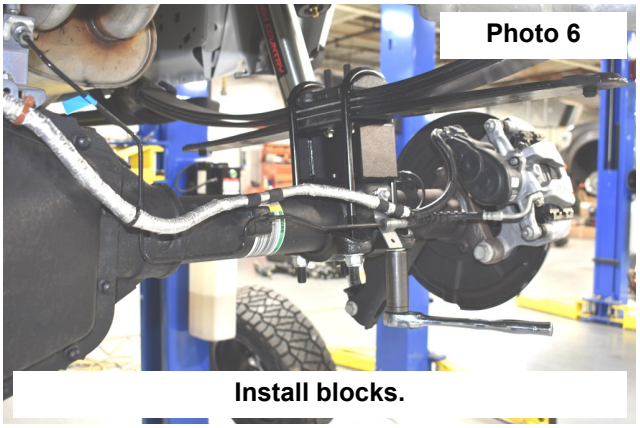


Reinstall brake line to new bracket.

9. Using a jack support the rear end and remove U-bolts using a 21mm socket and remove the factory blocks. **See Photo 5.**
10. Install the supplied blocks on the block pin holes on the axle and raise the axle into place. **See Photo 6.**
    NOTE: Taller end of block to the rear of the truck!
11. Install the axle u-bolts, torque to 90ft-lbs. using a 22mm socket.



Support Axle. Remove factory U-bolts and block.



Install blocks.

12. Install the supplied rear bump stop bracket, with the supplied 3/8” x 3.5” round u-bolt, and 3/8” nylock nuts, making sure the bracket lines up with the factory bump stop. Torque to 30ft-lbs. with a 9/16” socket. **See Photo 7.**
13. **For <u>V2 rear shocks</u> and <u>Vertex rear shocks</u> follow shock installation instructions included in shock package and skip to step 15.**
14. Install the new shock absorbers in the upper and lower mounts using the stock hardware. Torque to 55ft-lbs. using a 18 and 15mm wrench. **N3 shocks will mount with the body down.**
15. Install the rear tire and wheels.
16. Raise up the rear of the vehicle and remove the jack stands. Lower the vehicle to the ground.

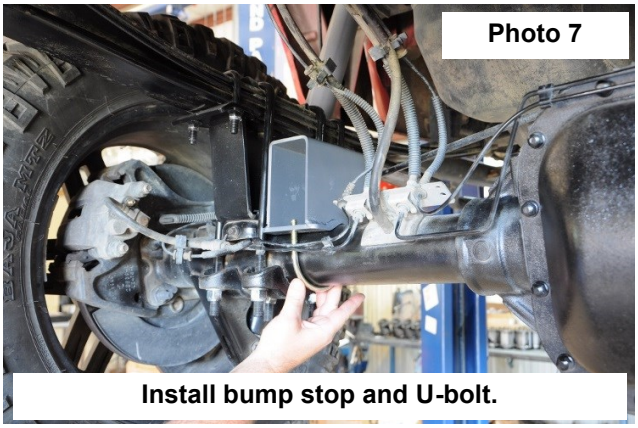


Photo 7

Install bump stop and U-bolt.

POST INSTALLATION INSTRUCTIONS

1. Check all fasteners for proper torque. Check to ensure there is adequate clearance between all rotating, mobile, fixed and heated members. Check steering gear for interference and proper working order. Test brake system
2. Perform steering sweep. Check to ensure brake hoses have sufficient slack and will not contact rotating, mobile, or fixed members, adjust lines/brackets to eliminate interference and maintain proper working order. Failure to perform inspections may result in component failure
3. Readjust headlights to factory settings
4. Have vehicle aligned by a certified alignment professional.
5. Re-torque all nuts, bolts, and especially u-bolts after the first 100 miles, again after another 100 miles and then check periodically thereafter
6. All components must be retightened after 500 miles, and every three thousand miles after installation.

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Ford
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