TRAIL FORTRESS

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Rough Country 41840 Installation Instructions

4-Inch Lift Kit with M1 Struts for 2021–2025 Ford F-150 4WD

Part number: 41840

trailfortress.com/rough-country-4-inch-lift-kit-41840

Scan for fitment, price and install help

ROUGH COUNTRY
SUSPENSION SYSTEMS®

Ford 21-24 F-150 4in Knuckle Kit

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

Rough Country recommends a certified technician install this system. In addition to these instructions, professional knowledge of disassembly/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.

⚠NOTICE Please read instructions before beginning installation. Check the kit hardware against the parts list on the next page. Be sure you have all needed parts and know where they go. Also, please review tools needed list and make sure you have the 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 questions exist we will be happy to answer any questions concerning the design, function, and correct use of our products.

This suspension system was developed using a 34” or 295/70R18-295/60R20, tire on 9” wheels with a +12 offset. Factory wheels and tires can be used. If using a larger tire on the factory wheel, wheel spacers are required. **Note** if wider tires are used, offset wheels will be required and trimming will be required.

⚠WARNING **This vehicle 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.**

DEALER AND VEHICLE OWNER

⚠NOTICE 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.

⚠NOTICE Note to installer : Before installation begins we recommend that a test drive be performed. While driving check for uncommon sounds and/or vibrations . What you feel and hear during the test drive will only magnify once lift kit is installed. Advise you to discuss possible issues identified from drive with customer before proceeding to install this kit.


ROUGH COUNTRY
M1 MONOTUBE SHOCK ABSORBER
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Kit Components

41800991
1– Dr Knuckle
1– Pass Knuckle

41800992
1– Dr Control Arm
1– Pass Control Arm
140730BAG1
41400BAG1
81168BAG2
9/16BAG1
RCK6696PBAG
2-3” Blocks
4-9/16 x 3 1/8 x 11 1/2 U-Bolts

502192
1– Loaded Strut Pair

770771P
1– Rear Shock Pair

Tools Needed

Jack and Jack Stands
Pry Tool
Adjustable Pliers
Hammer
Thread Locker
5mm Wrench or Socket
10mm Wrench or Socket
13mm Wrench or Socket
15mm Wrench or Socket
18mm Wrench or Socket

Supplied Hardware

1 - 40730BAG1
2– 10mm-1.5 x 60mm Bolt
2– 1.25 x 3” Bump Stop Spacer
1– 41400BAG1
2-6mm-1.0 Nylock Nut
4- M6-1.0 x 14mm Button Head
2– Headlight Sensor Bracket
1– 9/16BAG1
8– 9/16 Nylock Nut
8-9/16 Flat Washer
2– RCK6696BAG
1-Nylock Nut

Tools Needed:

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

Torque Specs:

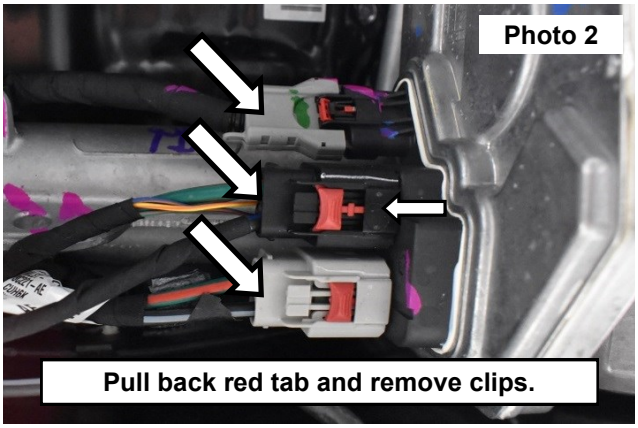
Size	Grade 5	Grade 8
5/16”	15 ft/lbs	20 ft/lbs
3/8”	30 ft/lbs	35 ft/lbs
7/16”	45 ft/lbs	60 ft/lbs
1/2”	65 ft/lbs	90 ft/lbs
9/16”	95 ft/lbs	130 ft/lbs
5/8”	135 ft/lbs	175 ft/lbs
3/4”	185 ft/lbs	280 ft/lbs

	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

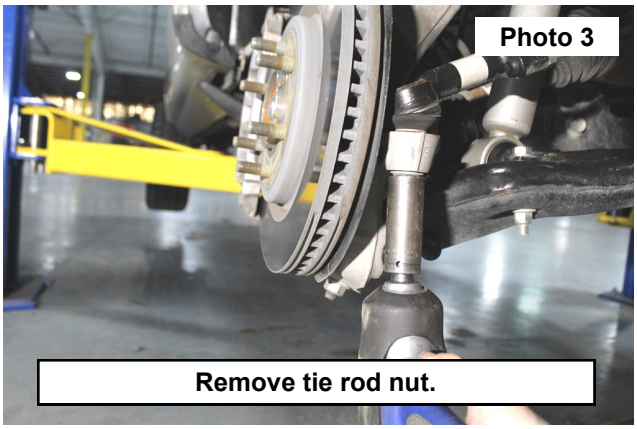
INSTALLATION INSTRUCTIONS

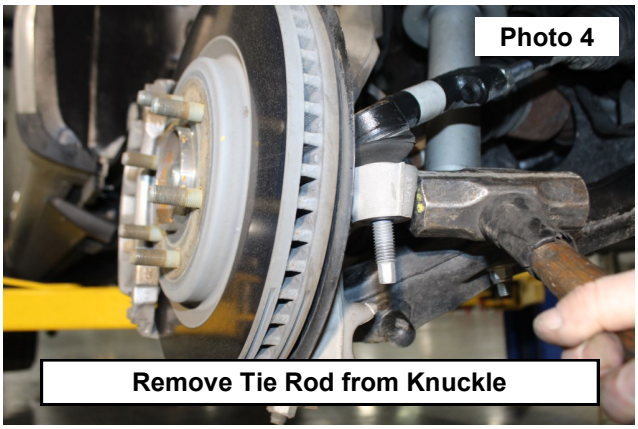
1. Lift vehicle using jack and place on jack stands.
2. Using a 21mm socket, remove tires. **See Photo 1**
3. Remove the 3 EPAS (Electronic Power Assist Steering) Plugs on the steering assembly by the front differential. Pull the red tab back to unlock as shown by the middle plug. **See Photo 2.** **<u>This must be done BEFORE installation is begun.</u>**





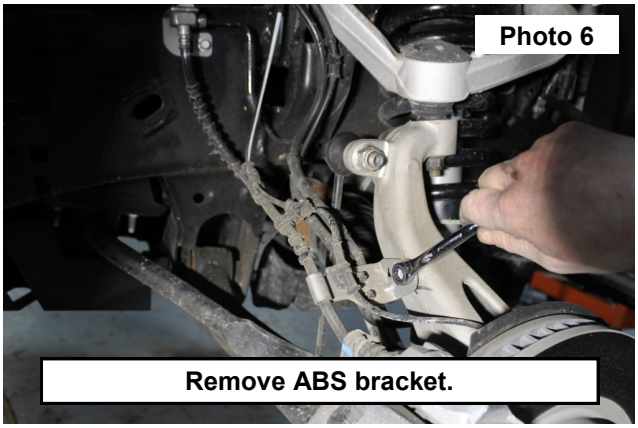
4. Using 21mm socket, remove tie rod nut. **See Photo 3.**
5. Using a hammer, tap on knuckle to release tie rod. **See Photo 4.**



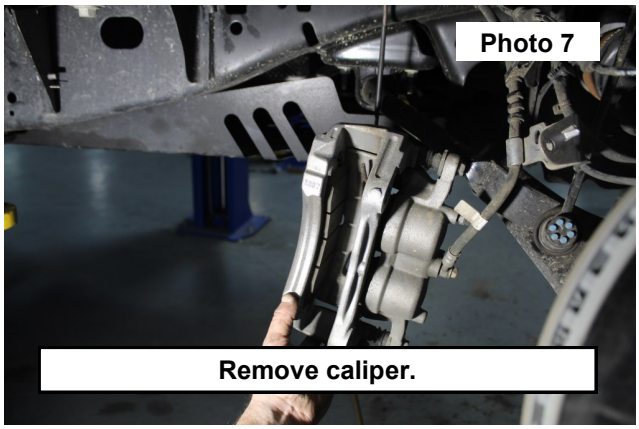


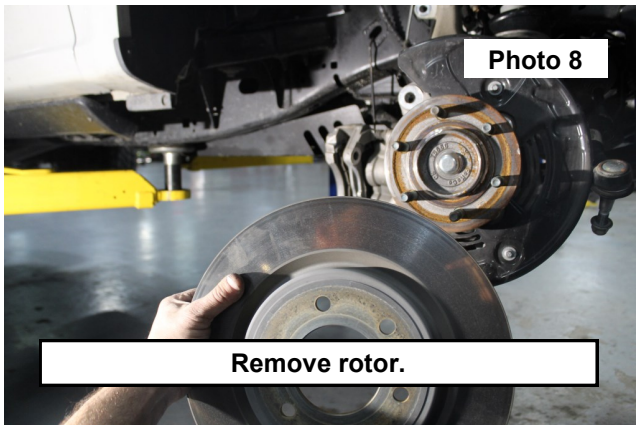
6. Using a 21mm socket, remove sway bar link. **See Photo 5.**
7. Using a 10mm socket, remove the ABS bracket from the knuckle. Retain hardware. **See Photo 6.**



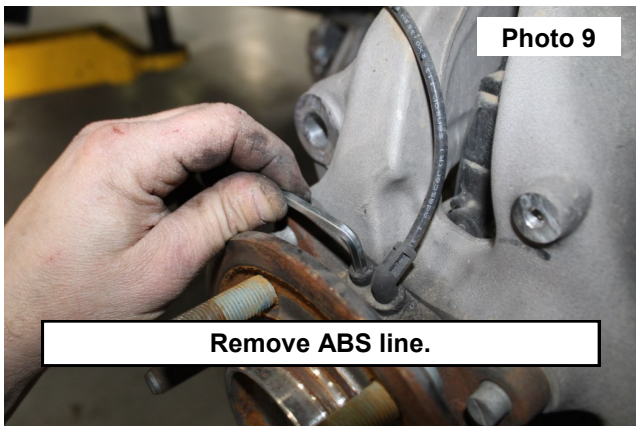


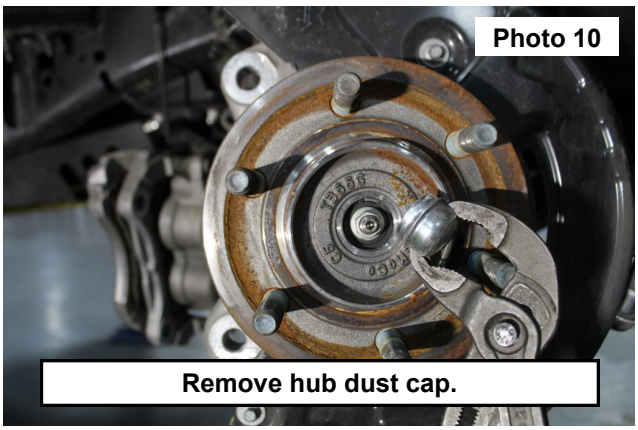
8. Using a 21mm socket, remove the brake caliper and hang out of the way. **See Photo 7.**
9. Slide rotor off of knuckle. **See Photo 8.**



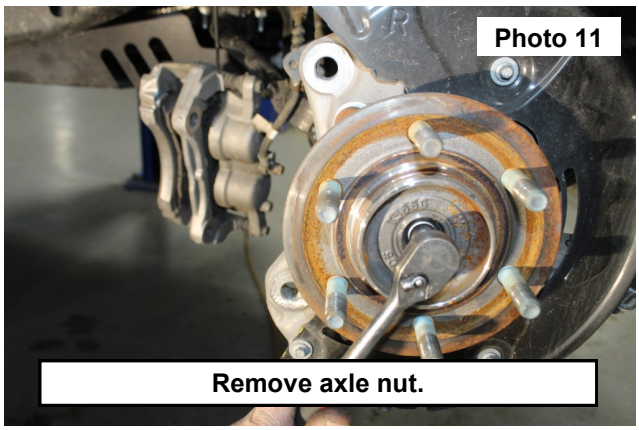


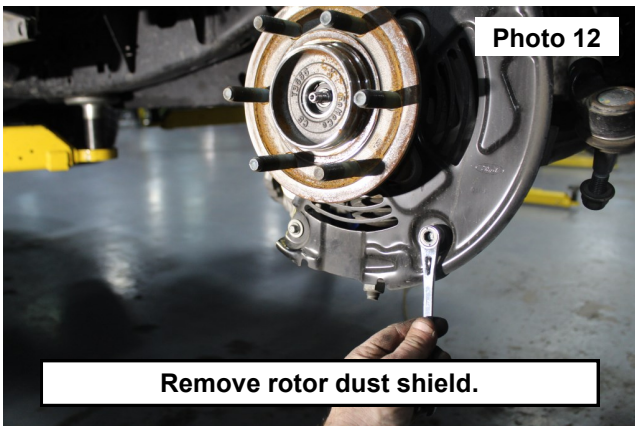
10. Using 5mm allen wrench, remove ABS line from knuckle. **See Photo 9.**
11. Remove axle dust cap with adjustable pliers. **See Photo 10.**



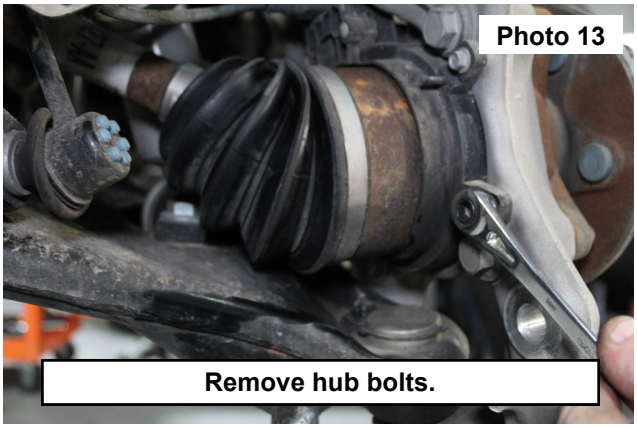


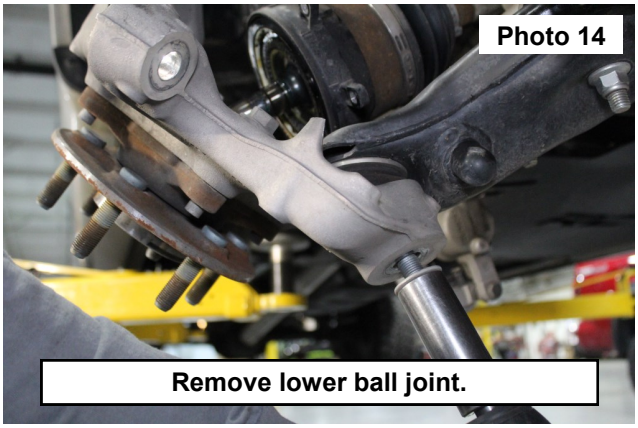
12. Using 13mm socket, remove axle nut. **See Photo 11.**
13. Remove rotor dust shield using 8mm socket. **See Photo 12**.



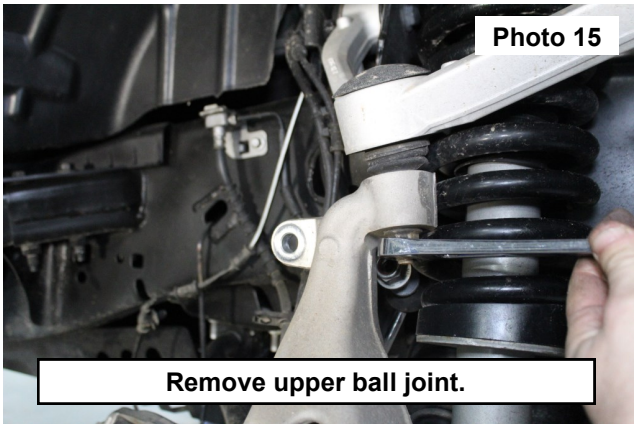


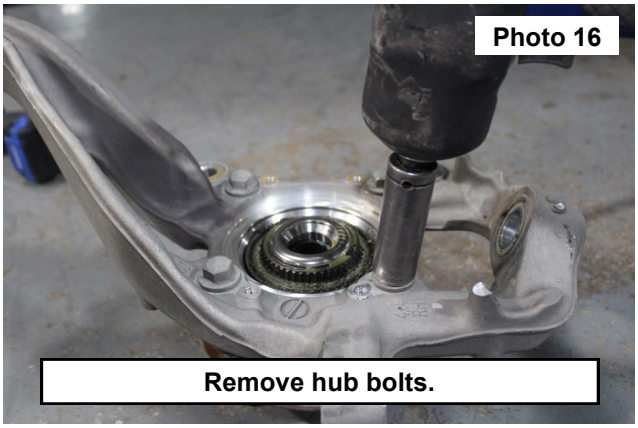
14. Remove actuator hub bolts using an 8mm. **See Photo 13.**
15. Remove lower ball joint from knuckle using 21mm socket. **See Photo 14.**





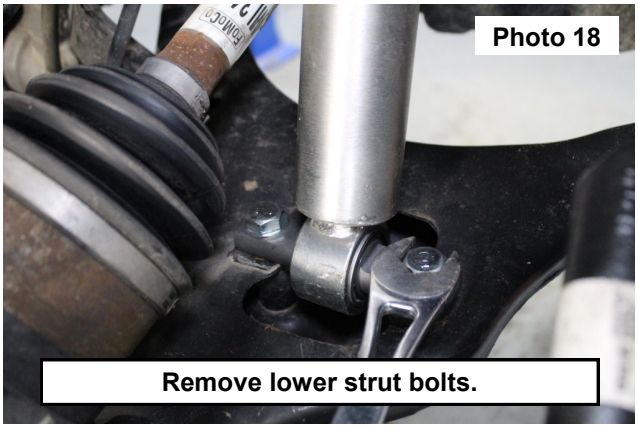
16. Remove upper ball joint from knuckle with 21mm socket. **See Photo 15.**
17. Pull knuckle from vehicle. Remove hub bolts using 18mm socket retaining hardware. **See Photo 16.**



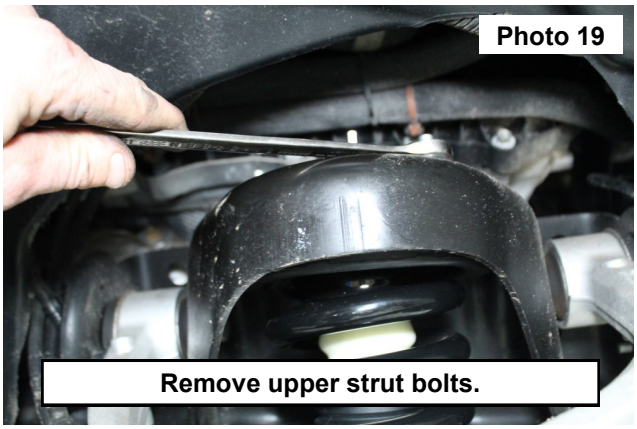


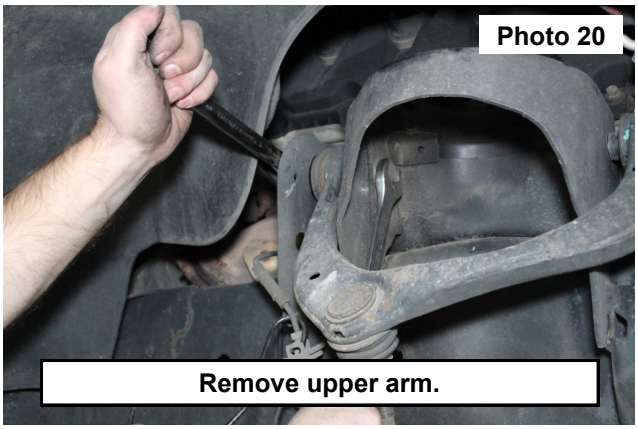
18. Install hub onto new knuckle using 18mm socket and thread locker to secure bolts. **See Photo 17.**
19. Remove lower strut bolts using 18mm socket. **See Photo 18.**



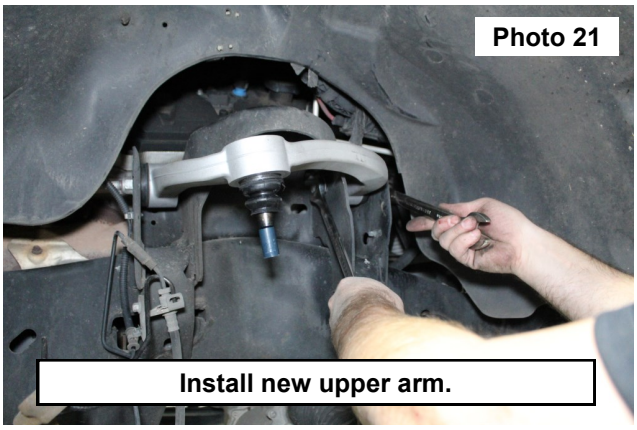


20. Remove upper strut hardware with 19mm socket. **See Photo 19.**
21. Remove factory strut from the vehicle.
22. Remove the upper control arm using a 21mm and 22mm wrench. Retain hardware for later use. **See Photo 20.**





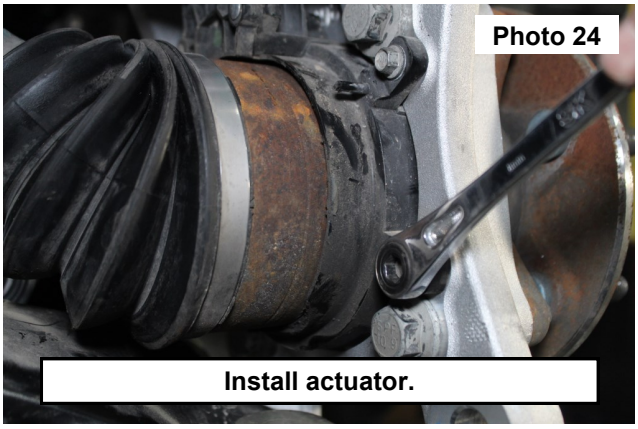
23. Install the supplied forged aluminum upper control arms using the factory hardware. Tighten to factory specs using 21mm and 22mm wrenches. **See Photo 21.**
24. Install the supplied new struts using 18mm and 19mm sockets. **See Photo 22.**



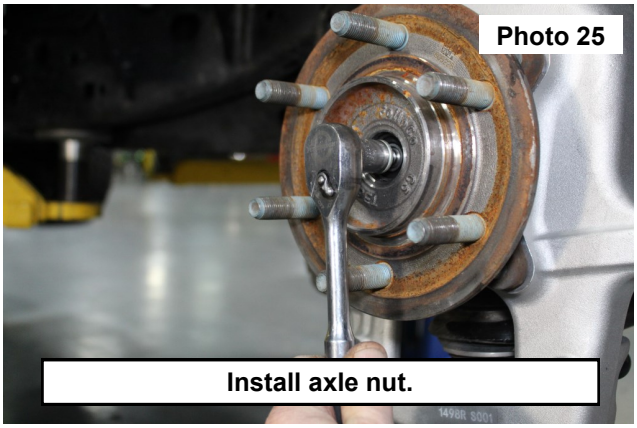


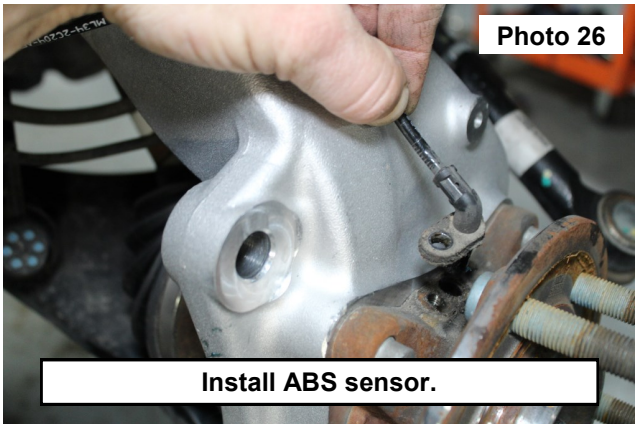
25. Install new knuckle assembly on lower control arm and place axle through the hub. **See Photo 23.**
26. Install actuator using factory hardware and tighten using an 8mm wrench. **See Photo 24.**



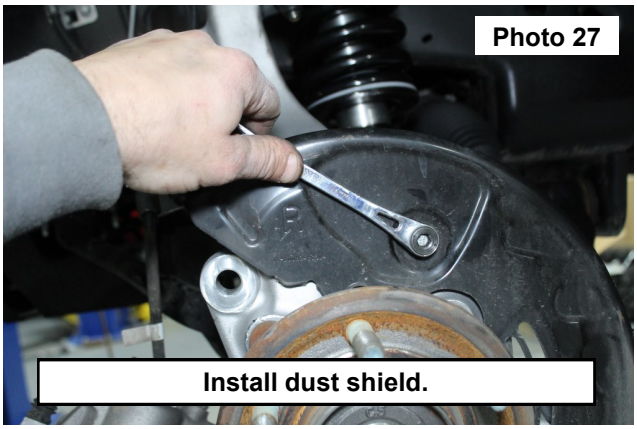


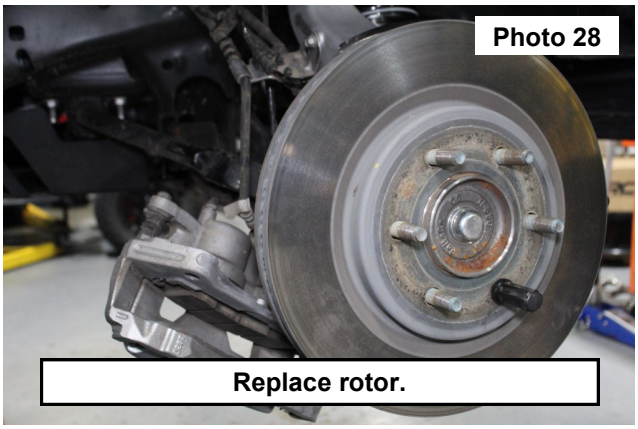
27. Install axle nut and torque to 30ft-lbs with 13mm socket. **DO NOT USE IMPACT.** Caution must be taken or damage to shaft may occur. **See Photo 25.**
28. Reinstall ABS sensor into hub using factory hardware. **See Photo 26.**



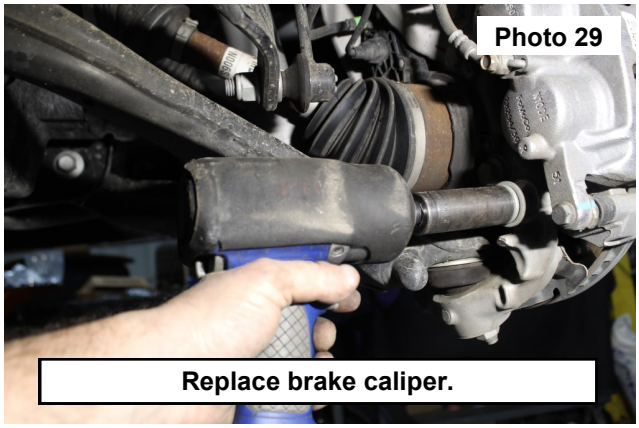


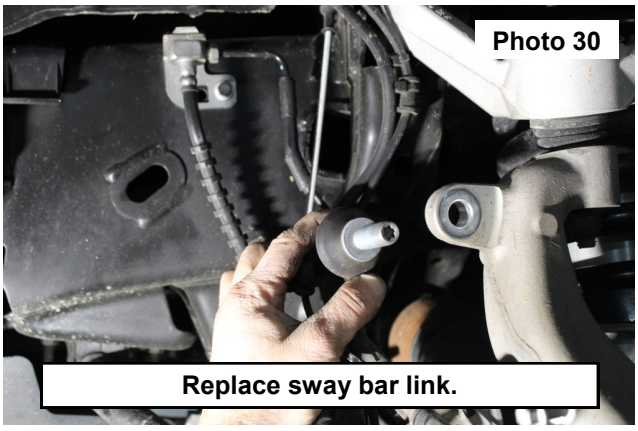
29. Install dust cover using an 8mm. **See Photo 27.**
30. Replace rotor. **See Photo 28.**





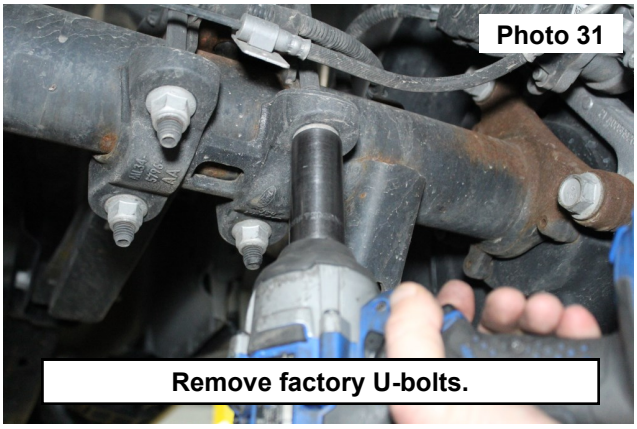
31. Install brake caliper using 21mm socket. **See Photo 29.**
32. Install sway bar link using 21mm socket. **See Photo 30.**
33. Install wheels and tires.
34. Lower vehicle to the ground and tighten upper control arms.

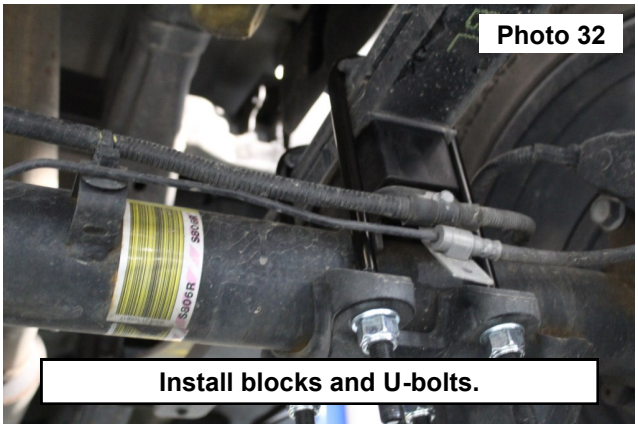




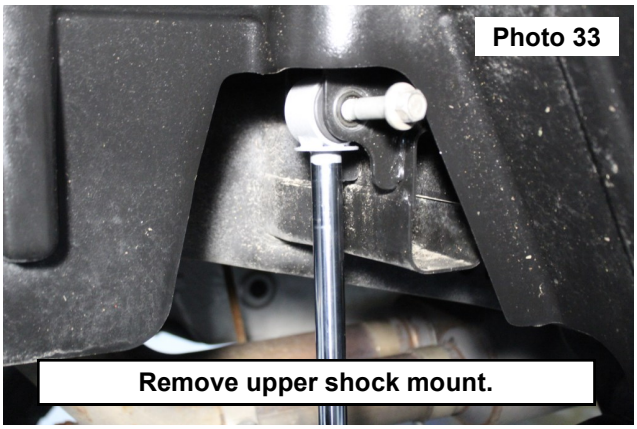
REAR INSTALLATION INSTRUCTIONS

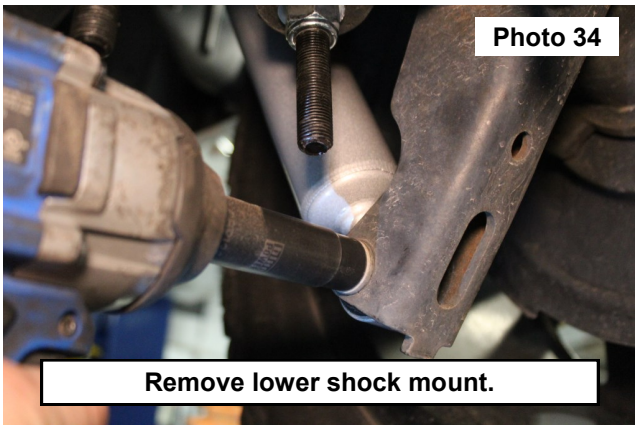
1. Lift rear of vehicle and place on jack stands.
2. Remove U-bolt nuts using 21mm socket. **See Photo 31.**
3. Install block and new U-bolts, insuring short side of block towards front of vehicle. Tighten U-bolts using 22mm socket. **See Photo 32.**



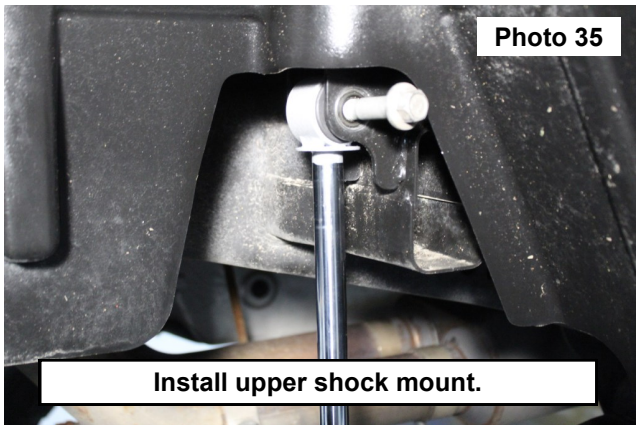


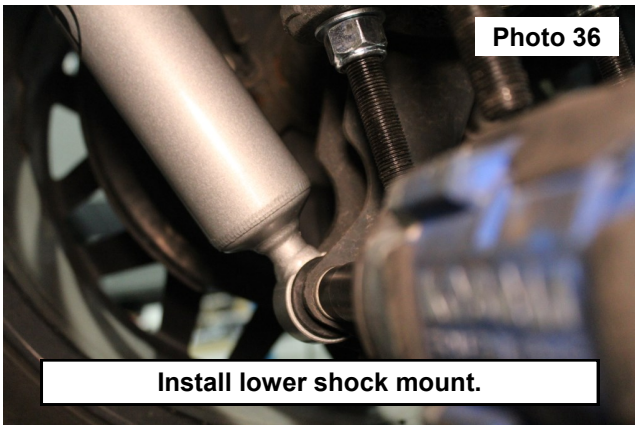
4. Remove upper shock mount using 18mm and 15mm socket. **See Photo 33.**
5. Remove lower shock mount using 18mm and 15mm socket. **See Photo 34.**





6. Install new shocks with 18mm and 15mm socket. **See Photo 35 and 36.**
7. Install wheels and tires and lower vehicle to the ground.





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.
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.
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.



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