TRAIL FORTRESS

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Rough Country 73100 Installation Instructions

2.5-Inch Lift Kit for 2019–2023 Toyota RAV4 AWD/FWD

Part number: 73100

trailfortress.com/rough-country-2-5-inch-lift-kit-73100

Scan for fitment, price and install help

ROUGH COUNTRY SUSPENSION SYSTEMS®

73100BAG

2019 - UP RAV4 2.5” Lift Kit

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

Rough Country recommends that 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 all the instructions before beginning the installation. Check the kit hardware against the ‘’Kit Contents’’ list below. If question exist, please call us @1-800-222-7023. We will be happy to answer any questions concerning this product. Check all fasteners for proper torque. Check to ensure for adequate clearance between all components. Check and retighten wheels at 50 miles and again at 500 miles. Periodically check all hardware for tightness. Be sure you have all the needed parts and understand where they go. Also, please review the “Tools Needed” list to be certain you have the necessary tools to complete the installation.

PRODUCT USE INFORMATION

⚠WARNING As a general rule, the taller a vehicle is the easier it will roll. We strongly recommend that seat belts and shoulder harnesses be worn at all times. Braking performance and capabilities are decreased when significantly larger/ heavier tires and wheels are used. Do not add, alter, or fabricate any factory or after-market parts which increase vehicle height over the intended height of the Rough Country product purchased. 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.

TIRE FITMENT

This kit was developed using a 235/70-r17 for a no rub on a 17x8 +38mm offset. Due to differences in manufacturing, dimension and inflated measurements, tire and wheel combinations should be test fit prior to installation.

NOTICE TO DEALER AND VEHICLE OWNER

⚠NOTICE Any vehicle equipped with any Rough country product must have the “Warning to Driver” decal installed on the sun visor or dash. The decal is to 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 to forward these installation instructions on too the vehicle owner for review and to be kept in the vehicle for its service life.



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2019 - UP RAV4 2.5” Lift Kit

TOOLS NEEDED:

Jack
Safety Stands
Wheel Chocks
Pliers

Metric Wrench/Socket

10mm
12mm
14mm
17mm
18mm
19mm
22mm

KIT CONTENTS:

Front Strut Spacers (2)
Front Sway Bar Brackets (2)
Driver Rear Shock Extension (1)
Pass Rear Shock Extension (1)
Crush Sleeve (2)
Rear Spring Spacer (2)
Rear Spring Spacer Keeper (2)
Rear Trailing Arm Spacer (2)
Rear Subframe Spacer 1.25” (4)
Rear Subframe Spacer .25” (4)
Rear Subframe Support (2)

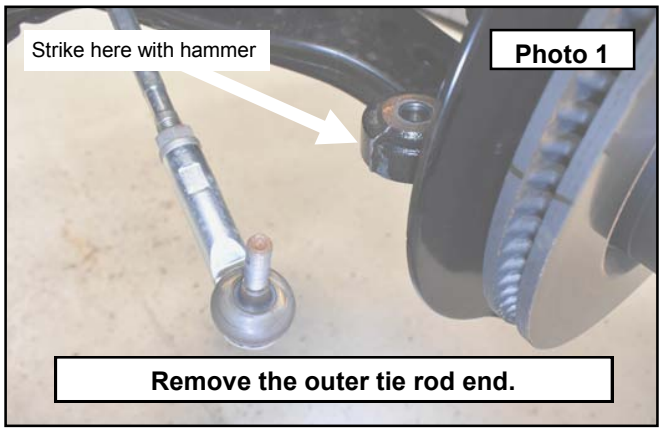
HARDWARE INCLUDED:

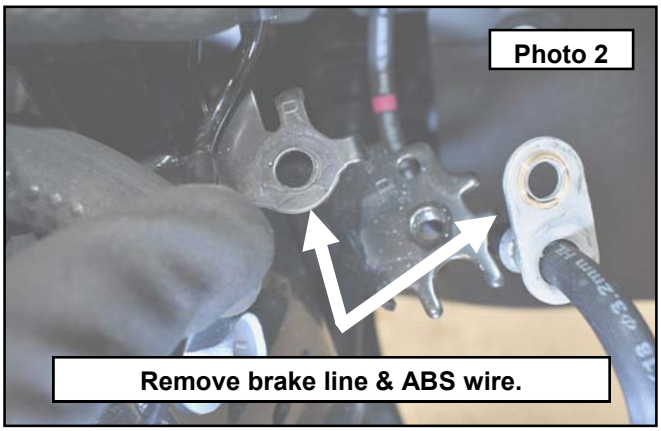
10mm Stud Bag
10mm x 55mm Bolt (2)
10mm Locking Nut (2)
12mm x 35mm Bolt (2)
12mm x 60mm Bolt (2)
12mm Lock Washer (8)
12mm Flat Washer (4)
12mm Locking Nut (2)
16mm x 80mm Bolt (2)
16mm x 160mm Bolt (4)
16mm Flat Washer (8)
16mm Locking Nut (2)



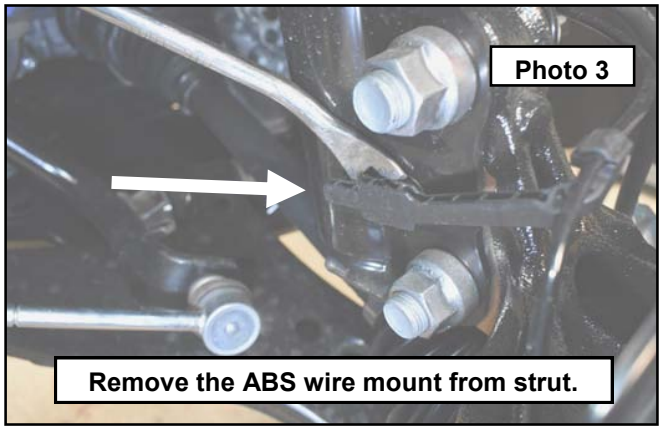
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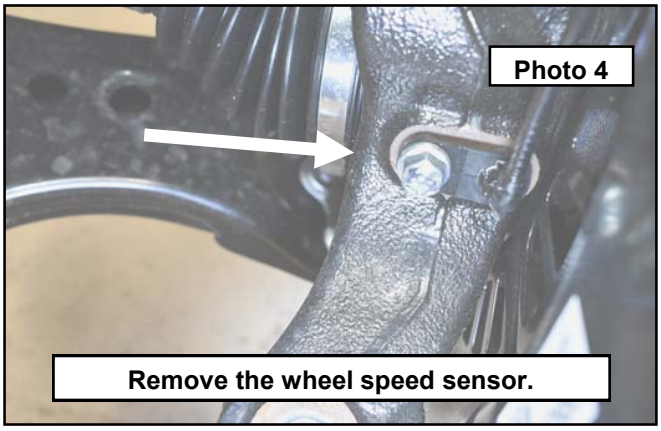
1. Park your vehicle on a clean flat surface, engage the parking brake and block the rear tires.
2. Jack the front of the vehicle up and place safety stands at the indicated lift points for the unibody in the service manual. Remove the wheels/tires and set aside. (Vehicle shown on a 2 post automotive hoist)
3. **Save all removed hardware for reinstallation later unless otherwise indicated.**
4. Open the hood and disconnect the negative terminal on the battery.
5. Remove the cotter pin using pliers and nut from the outer tie rod end at the knuckle using a 17mm socket. Strike the tie rod end boss with a hammer to dislodge the taper. Let hang out of the way. Take care to not hit the threads on the tie rod end. This can result in damaged threads impeding reinstallation later. **Photo 1**
6. Remove the rubber brake line and ABS wire from the strut body using a 14mm socket. **Photo 2**



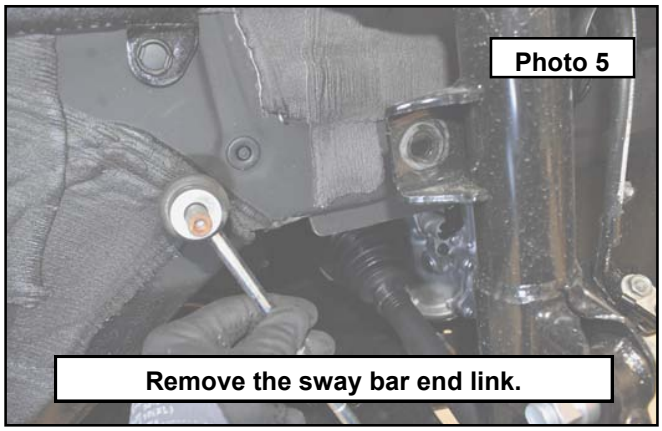


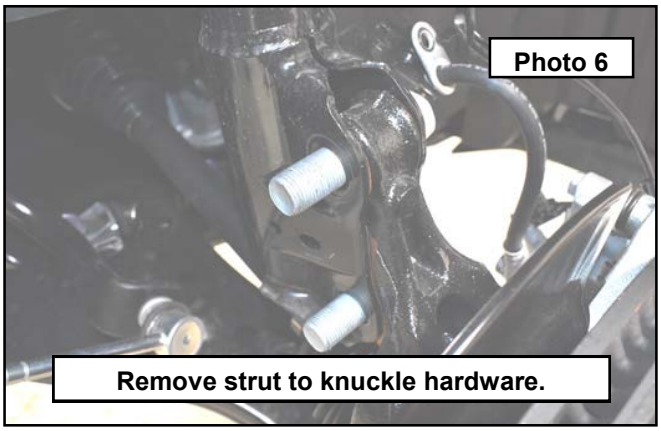
7. Remove the ABS wire mount from the strut body using a pry tool. **Photo 3**
8. Remove the wheel speed sensor from the knuckle using a 10mm socket. Pull the wheel speed sensor out of the knuckle and move the ABS wire out of the way to avoid any damage that could occur while working on the rest of the suspension. **Photo 4**





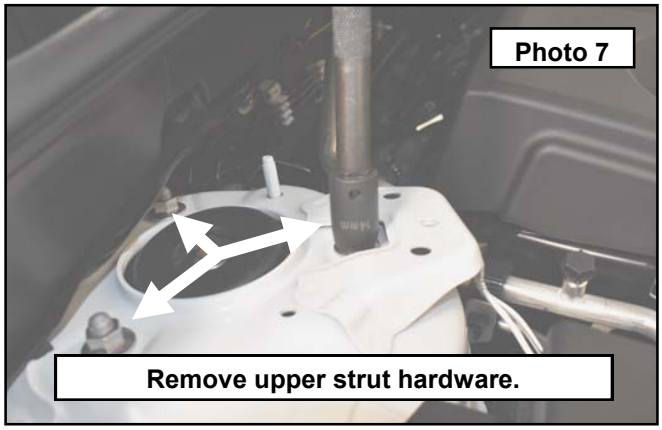
9. Remove the sway bar end link from the strut body using a 17mm socket. Let hang out of the way. **Photo 5**
10. Remove the strut to knuckle hardware using a 22mm socket and wrench. Support the knuckle making sure to not overextend the CV axle or have it “pop” out of socket. **Photo 6**

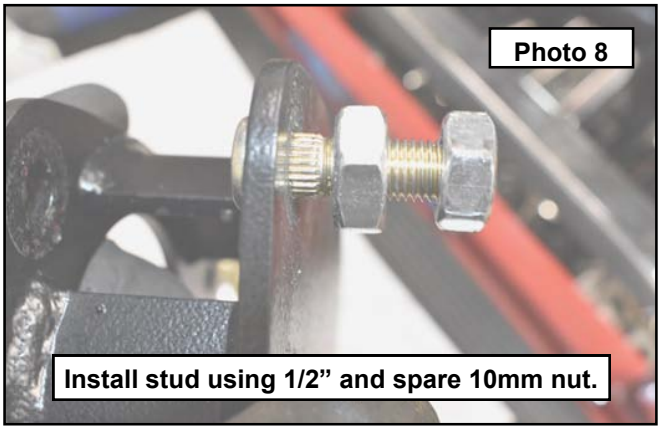




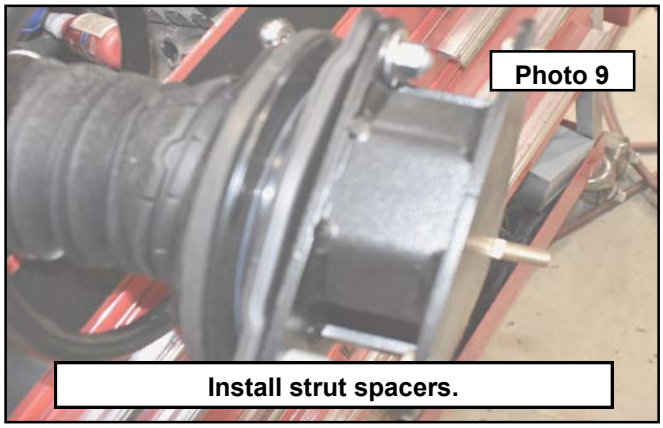
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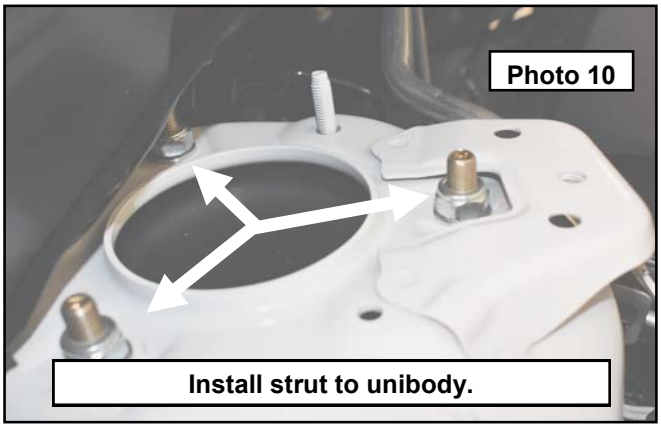
11. Use a helper to hold the strut, remove the upper strut tower hardware using a 14mm socket and wrench. Remove the strut from the vehicle and set aside for assembly. **Photo 7**
12. Install the provided studs into the tops of the strut spacers using the provided 1/2" nut acting as a spacer and the spare 10mm nut in the provided stud bag. Use of a lubricant is suggested between the two nuts to prevent galling of the metals. Once the stud is fully seated, repeat the process for the rest of the studs. **Photo 8**



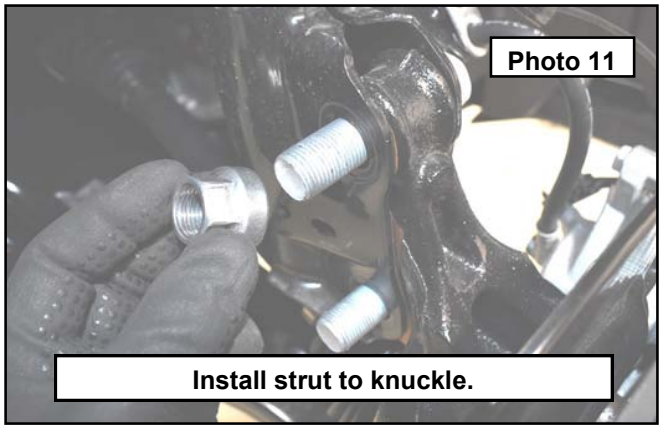


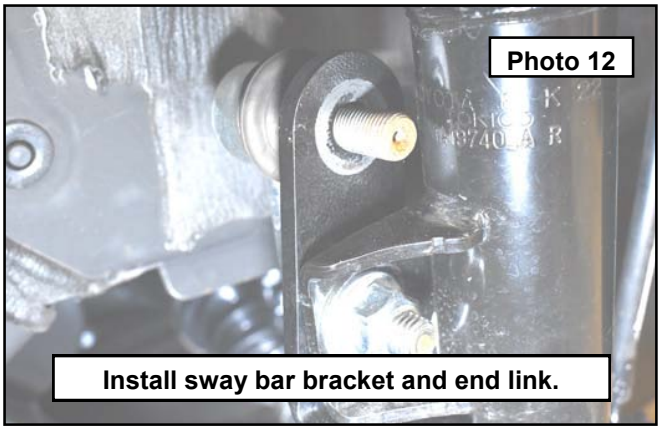
13. The strut spacers are universal and can be installed on either side of the vehicle. Install the strut spacers to the struts using the factory hardware and a 14mm wrench. Torque to 30 ft-lbs. **Photo 9**
14. Install the completed strut assemblies into the vehicle using the provided 10mm flat washers, lock washers and nuts (some stud bags will not come with washers, but will have locking flange nuts instead). Leave loose to aid in the lower installation of the strut. You will tighten down at a later step. **Photo 10**





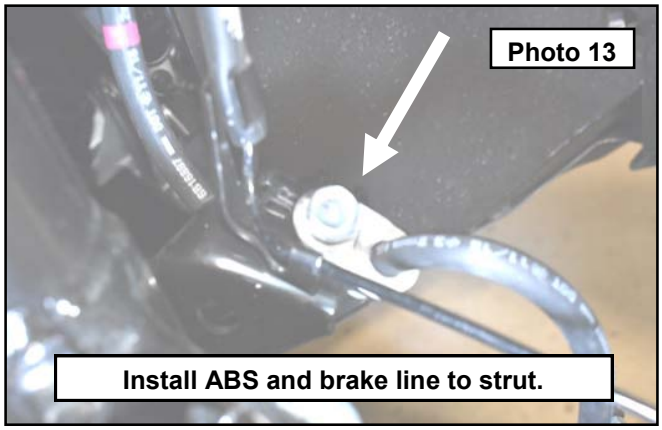
15. Raise the lower control arm up while guiding the knuckle into the strut mount. Install the previously removed factory hardware using a 22mm wrench and socket. Torque to **110 ft-lbs**. In the event more or less camber is needed, the upper bolt can be replaced with a cam bolt. This will be determined by the alignment technician after the installation is completed. **Photo 11**
16. Install the sway bar bracket to the strut using the provided M12 bolt, washers and nut using a 19mm socket and wrench. Then install the end link to the bracket using the factory hardware and 17mm socket. Torque all to **45 ft-lbs**. **Photo 12**

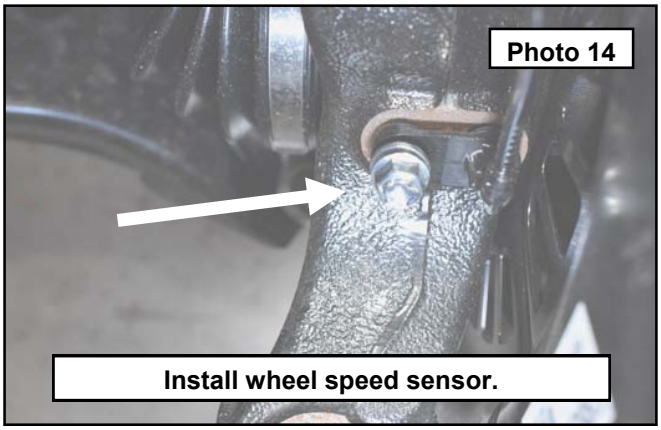




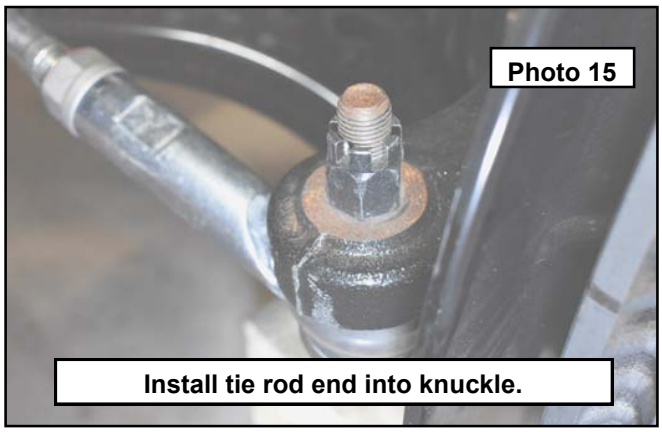
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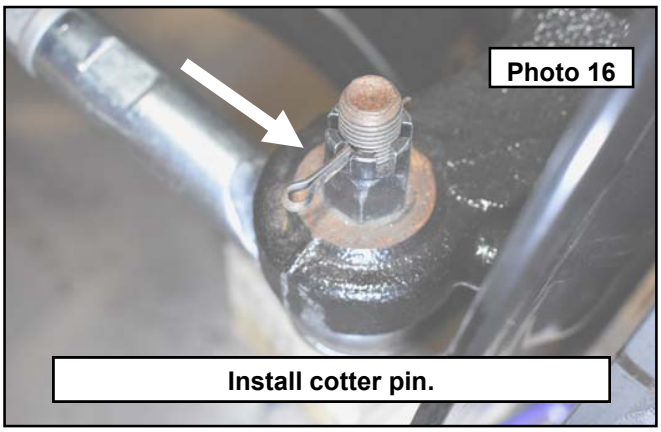
17. Reinstall the ABS and rubber brake line to the strut (making sure to lock the ABS bracket into place before the rubber brake line bracket) using the factory hardware and 14mm socket. Torque to **5 ft-lbs**. **Photo 13**
18. Reinstall the wheel speed sensor to the knuckle using the factory hardware and 10mm socket. Wipe off any debris that may have gotten on the sensor before installation to insure proper functioning of the system. Torque to **5 ft-lbs**. **Photo 14**



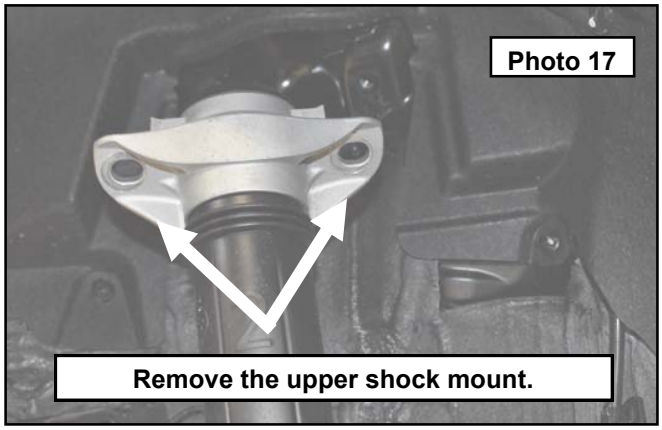


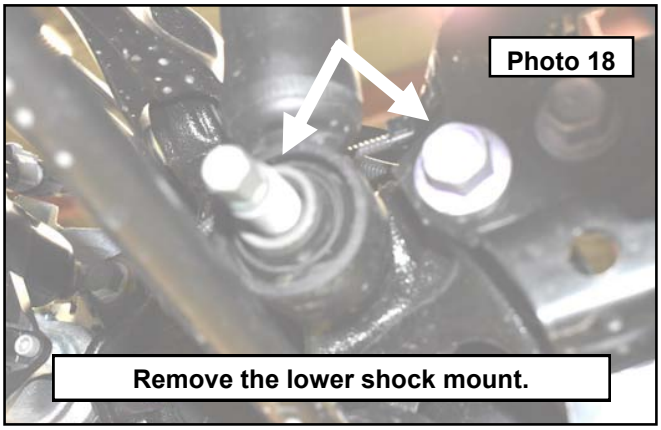
19. Install the ABS wire mount back to the strut body by pressing into place in the same location as removed.
20. Reinstall the outer tie rod to the knuckle using the factory hardware and 17mm socket. Torque to **65 ft-lbs**. **Photo 15**
21. If the hole does not line up, bump the nut in the tightening fashion until the cotter pin can be installed. DO NOT make more than a 1/4 turn on the nut to get everything to line up. **Photo 16**





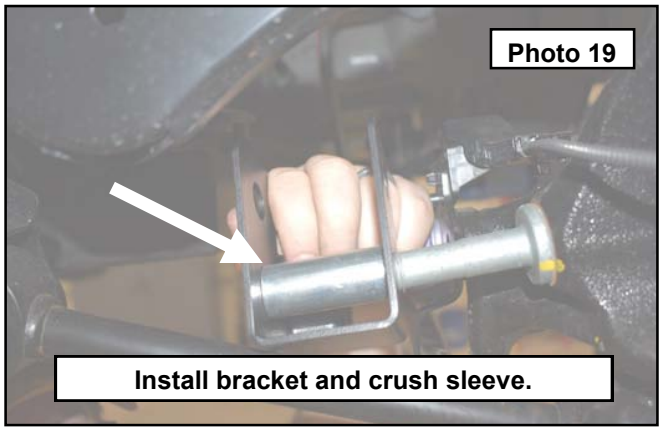
22. Install the wheels/tires and lower the vehicle to the ground. Torque the lug nuts to the wheel manufacturer's specs and the upper strut hardware to **30 ft-lbs**. Jack the rear of the vehicle up and place safety stands at the indicated lift points for the unibody in the service manual. Remove the wheels/tires and set aside. Support the lower control arm with a jack.
23. Remove the upper shock from the wheel well using a 14mm socket. **Photo 17**
24. Remove the lower shock mount from the knuckle using a 22mm socket. Remove the shock from the vehicle and set aside. Remove the bolt next to the shock using a 19mm socket. **Photo 18**

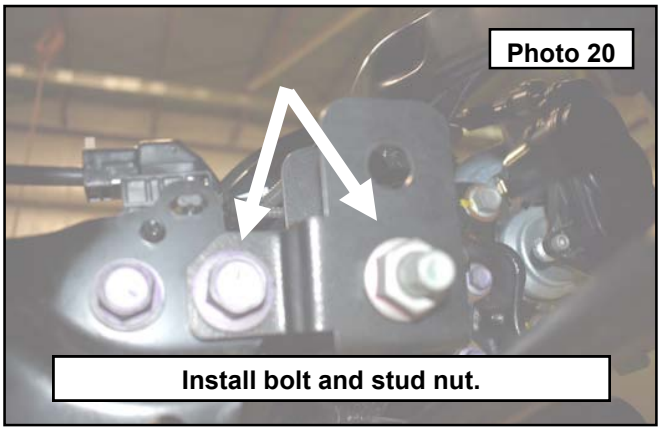




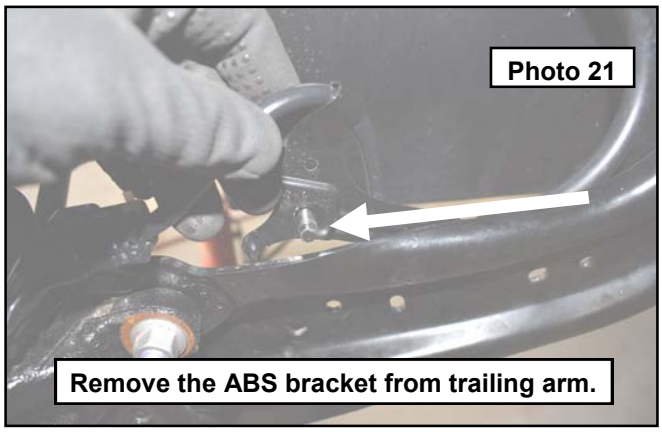
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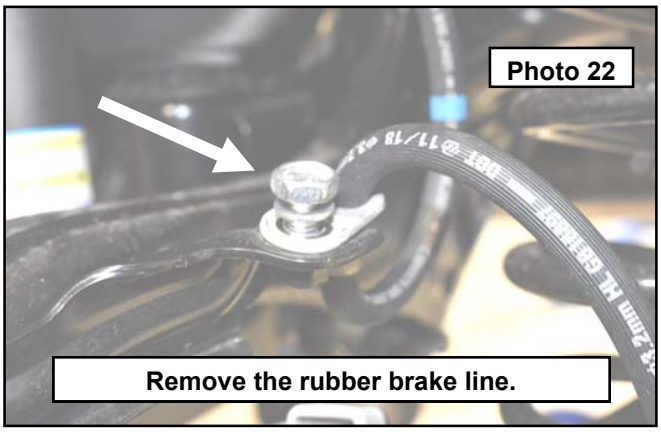
25. Install the shock extension by placing the crush sleeve inside and then sliding over the lower factory shock stud. **Photo 19**
26. Reinstall the previously removed bolt from the knuckle and trailing arm using a 19mm socket. Torque to **95 ft-lbs**. Install the factory lower shock stud nut using a 22mm socket. Torque to **120 ft-lbs**. **Photo 20**



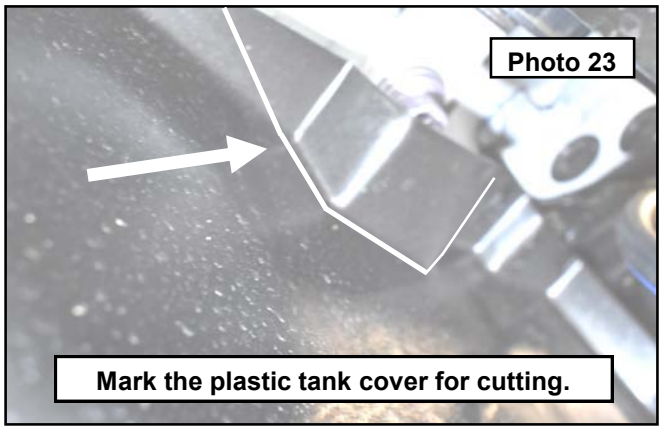


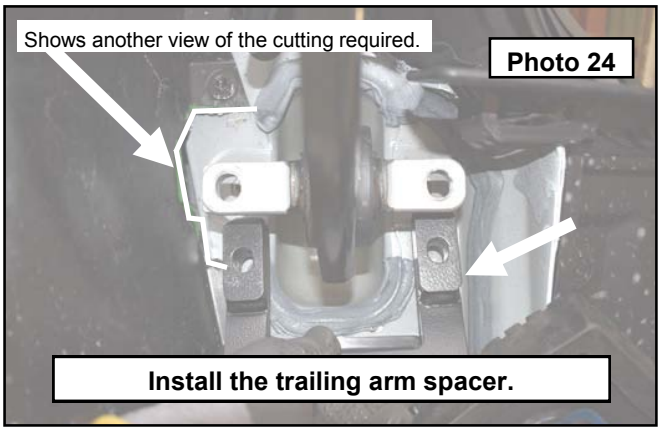
27. Remove the ABS wire bracket from the trailing arm using a 12mm socket and let hang out of the way. **Photo 21**
28. Remove the rubber brake line from the trailing arm using a 14mm socket and let hang out of the way. **Photo 22**





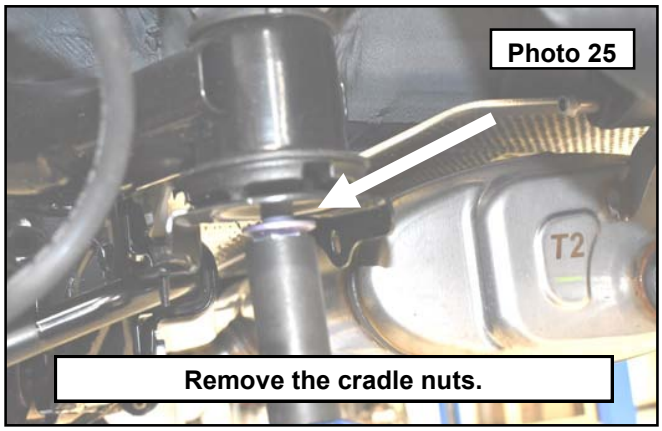
29. When looking up at the trailing arm to unibody mount, you will see the plastic tank cover extends over the inner most bolt. This will need to be trimmed out so that you can remove the trailing arm bolts and install the spacer. Mark the protruding piece of the tank with a paint pen and using a suitable cutting tool, remove this section and discard. There is a wiring harness right behind this cover, make sure you do not cut into it. You can use a razor knife to cut this out using caution to not cut into the tank, wiring harness or yourself. **Photo 23**
30. Remove the trailing arm bolts and lower the arm down. Install the trailing arm spacer between the unibody and the arm using the provided 12mm x 60mm bolts, lock washers, and flat washers. The “horseshoe” end will go towards the front of the vehicle. Torque to **75ft-lbs**. **Photo 24**

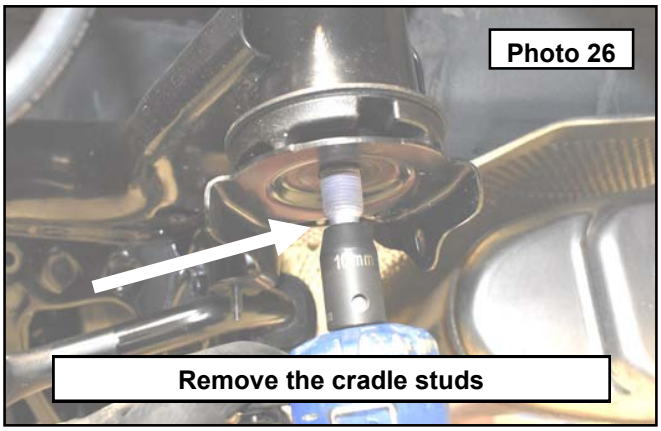




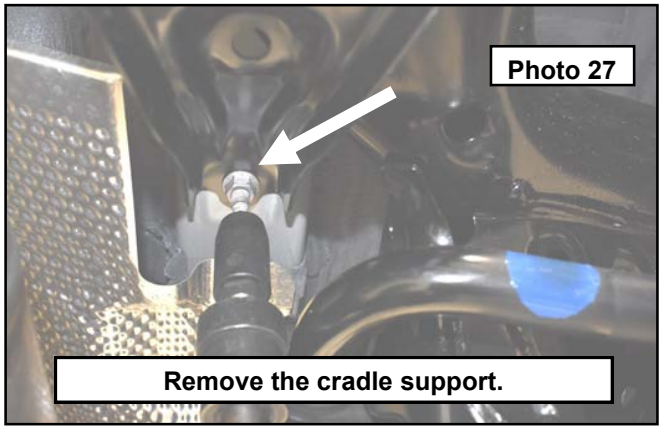
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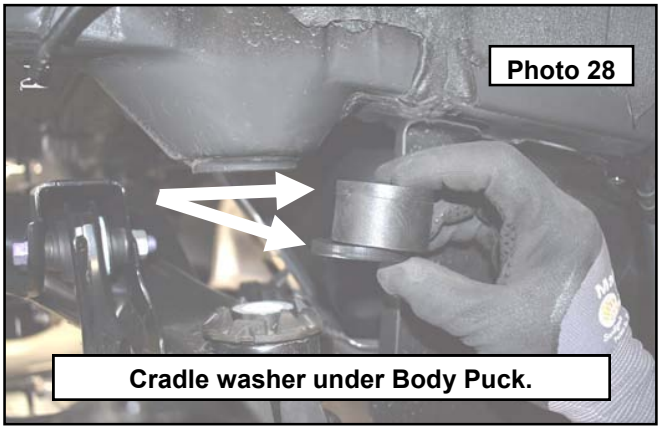
31. Support the rear subframe with a jack. Starting on one side of the vehicle, loosen but do not remove the two cradle nuts on that side using a 18mm socket. On the opposite side, remove the nuts completely. **Photo 25**
32. Once the nuts are removed, you will be left with the stud that is screwed into the unibody. These will need to be removed and discarded using a 10mm socket. These will be replaced with new bolts later. **Photo 26**



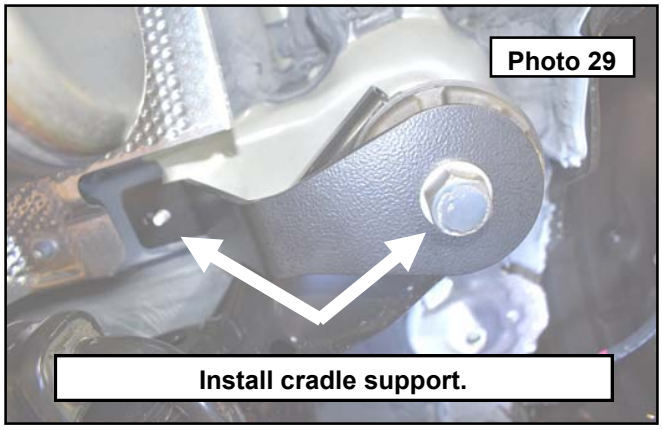


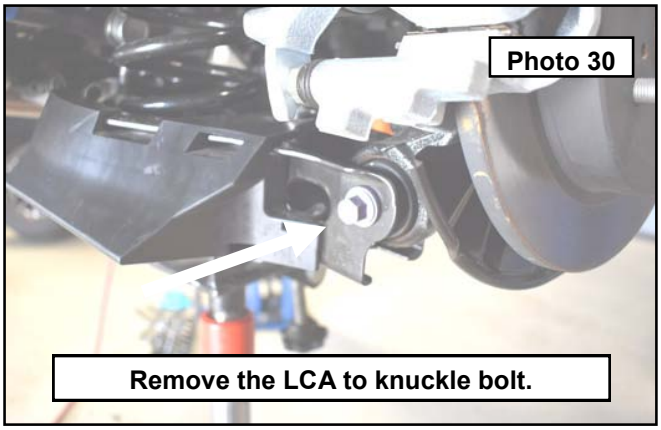
33. Remove the cradle support from the unibody using a 10mm socket. Discard the brace but save the nut. **Photo 27**
34. Lower the cradle down low enough to install a 1.25” body puck spacer and .25” thick cradle washer. You will install the cradle washer under the body puck spacer. **Photo 28**





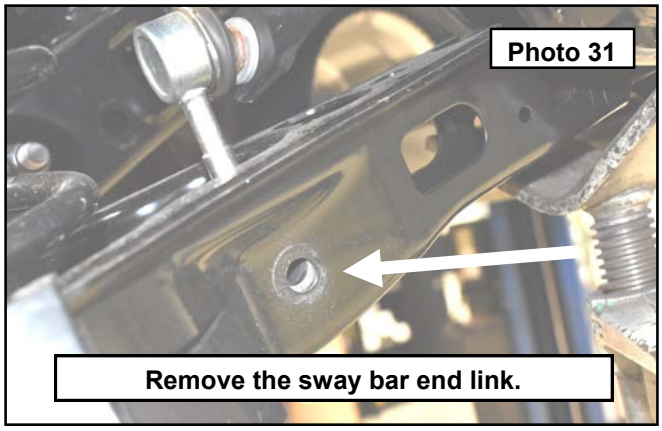
35. Raise the cradle enough to hold all in place. Install the new cradle support to the unibody using the factory nut using a 10mm socket and the suppled 16mm x 160mm bolt and flat washer using a 22mm socket. Do not fully tighten at this time. Repeat the cradle installation steps for the opposite side. Once all spacers have been installed, make sure the cradle is square under the unibody and torque the 16mm bolts to **165 ft-lbs**, and the cradle support nut to **45 ft-lbs**. **Photo 29**
36. Support the lower control arm with a jack. Remove the lower control arm to knuckle bolt using a 14mm socket and wrench. Loosen but do not remove the lower control arm at the subframe. **Photo 30**

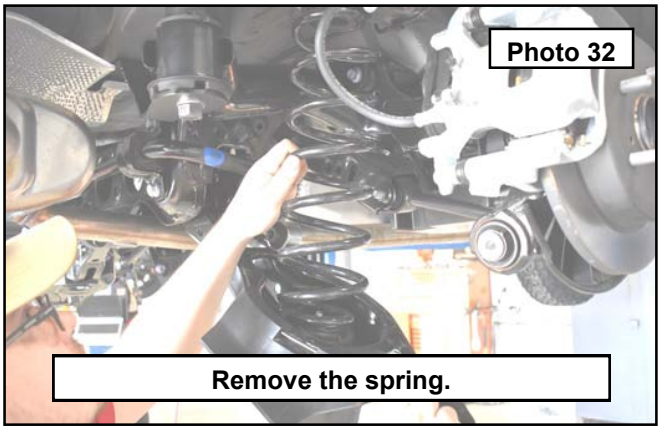




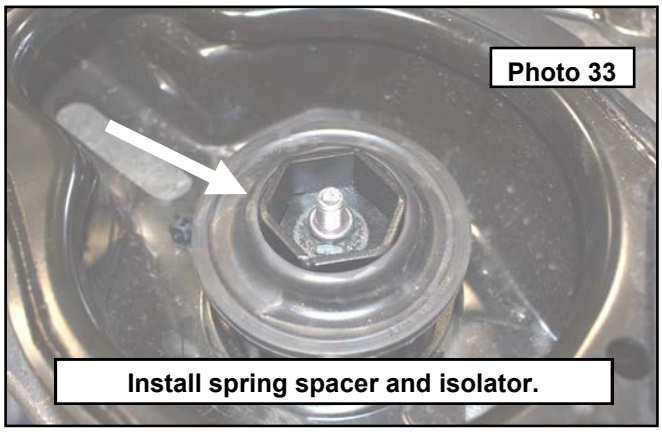
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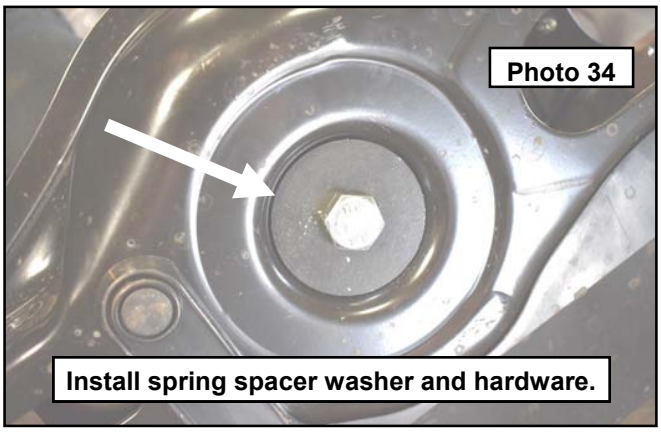
37. Remove the sway bar end link hardware from the lower control arm using a 14mm socket and wrench. Swing the sway bar up and out of the way. **Photo 31**
38. Lower the jack supporting the lower control arm slowly and remove the spring. Retain the upper isolator for reinstallation later. **Photo 32**



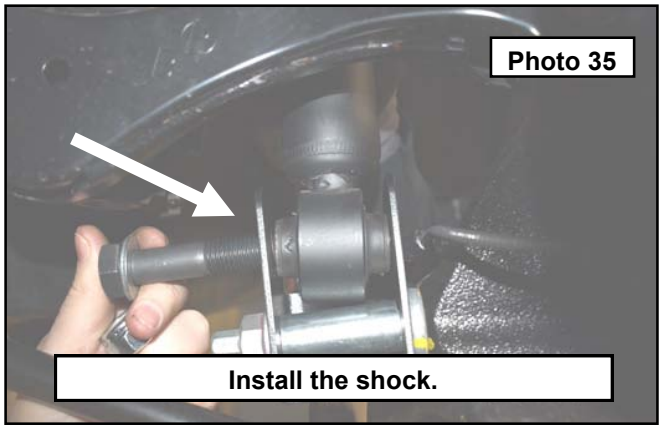


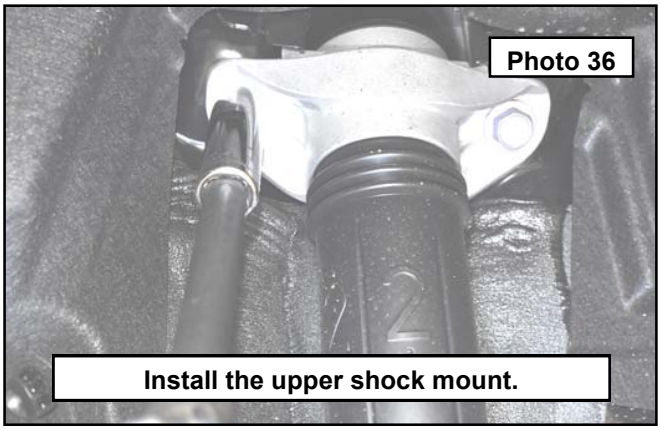
39. Remove the lower spring isolator and install onto the spring spacer. Install the spring spacer into the lower control arm. **Photo 33**
40. From under the arm, install the spring spacer washer, a 10mm x 55mm bolt through the lower control arm and spacer, and nut into the spring spacer. Torque to **30 ft-lbs**. **Photo 34**





41. Reinstall the spring and raise the lower control arm up to install the knuckle using the factory hardware. Do not tighten at this time. Reinstall the sway bar end links to the lower control arm using the factory hardware. Do not tighten at this time.
42. Install the lower shock mount to the shock extension using the provided 16mm x 80mm bolts, washers, and nuts. Leave loose at this time.
43. Install the upper shock mount to the unibody using the factory hardware, 14mm socket, and torque to **75 ft-lbs**. **Photo 36**





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44. Reinstall the ABS wire bracket to the trailing arm using the factory hardware, 12mm socket and torque to **5 ft-lbs**. **Photo 37**
45. Install the rubber brake line to the trailing arm using the factory hardware while flipping the bracket upside down. Torque to **5 ft-lbs**. **Photo 38**





46. Install the wheels/tires and lower the vehicle to the ground. Torque the lug nuts to the wheel manufacturer's specs.
47. Reconnect the negative terminal at the battery.
48. Start the engine. Make sure there are not any dash lights pertaining to the suspension and cycle the steering wheel from lock to lock verifying all clearances between the suspension components, body and wheel/tire package. Adjust as necessary.
49. Roll the vehicle backwards and forwards a few feet to get the suspension to settle to the new ride height.
50. Torque the rear lower control arm to knuckle and subframe to **95 ft-lbs**, the lower shock mount to **120 ft-lbs**, and the sway bar end link to **75 ft-lbs**.
51. Have the alignment set to the specs provided below.

FRONT	DRIVER	PASSENGER	TOLORANCE
CAMBER	+0.0	+0.0	+/-0.5
CASTER	+4.5	+4.5	+-/0.5
TOE	+0.0	+0.0	+/-.05
REAR	DRIVER	PASSENGER	TOLORANCE
CAMBER	-0.3	-0.3	+/-0.5
TOE	+.05	+.05	+/-.05

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

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