Rough Country 76831RED Installation Instructions

3.5-Inch Lift Kit with N3 Shocks for Toyota Tundra (2007–2021)

Part number: 76831RED

trailfortress.com/rough-country-3-5-inch-lift-kit-76831red

Scan for fitment, price and install help

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ROUGH COUNTRY SUSPENSION SYSTEMS®

76820BAG5

Toyota 2007-17 Tundra 3.5” 4wd/2wd Suspension 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 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 the tool list and make sure you have the necessary tools to install the kit.

PRODUCT USE INFORMATION

⚠WARNING As a general rule, 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. 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 suspension system was developed to accommodate a **Maximum tire size of 35 x 12.50 on an 17” or larger wheel with 6 3/16” backspacing. Larger tires or different wheel offsets will need to be verified prior to use.**

⚠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. 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.

Tools Needed:

19 mm Socket
13/16” Socket
22 mm Socket
Hammer
17 mm Wrench
14 mm Socket
18mm Wrench
19 mm Wrench
Grinder
Torque Wrench

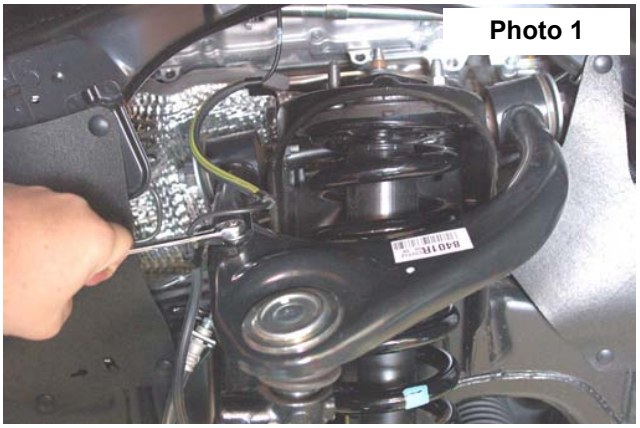
Torque Specs:

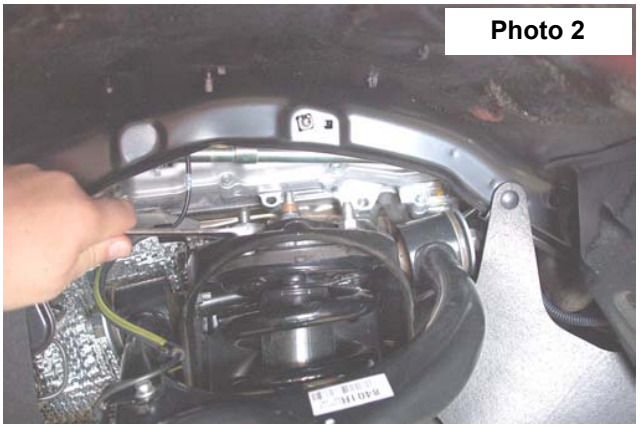
Size	Grade 5	Grade 8
5/16”	15 ft/lbs	20 ft/lbs
3/8”	30 ft/lbs	35 ft/lbs
9/16”	95 ft/lbs	130 ft/lbs
5/8”	135 ft/lbs	175 ft/lbs
3/4”	185 ft/lbs	280 ft/lbs

	Class 8.8	Class 10.9
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

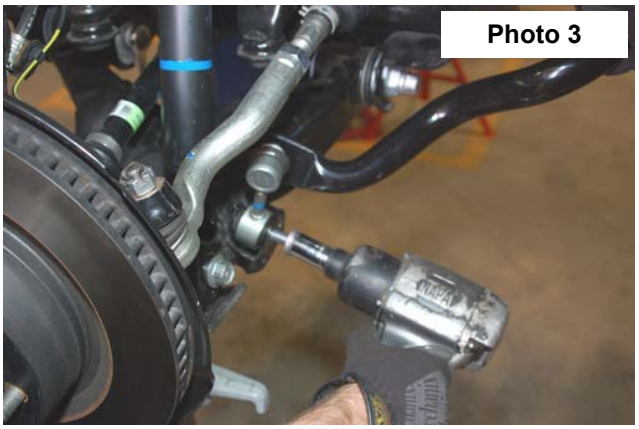
FRONT INSTALLATION

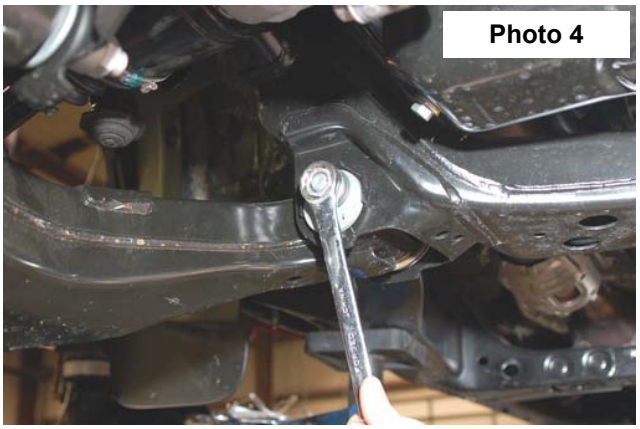
1. Park the vehicle on a level surface and chock the rear wheels.
2. Measure the front / rear to determine how much lift will be needed to level the vehicle. FR_____RR_____
3. Jack up the front of the vehicle using a floor jack. Place jack stands under the frame rails directly behind the lower control arms and lower the vehicle onto the jack stands.
4. Remove the tires and wheels.
5. Remove the sensor wire bracket as shown in **Photo 1** using a 10MM wrench. **Take care not to overextend or damage this wire.** Retain the hardware for reuse.
6. Remove the upper strut nuts as shown in **Photo 2** using a 14MM wrench. Retain hardware.


Photo 1

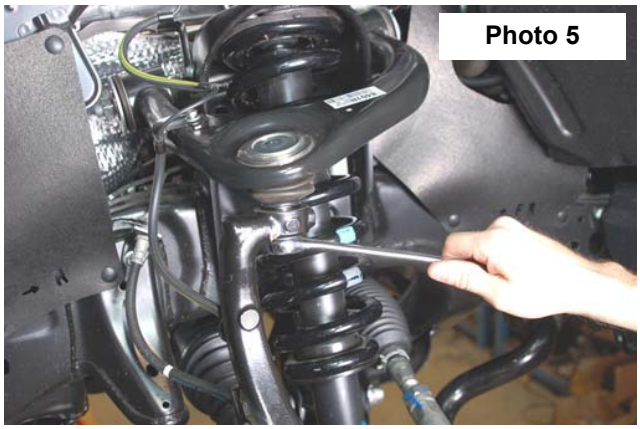

Photo 2

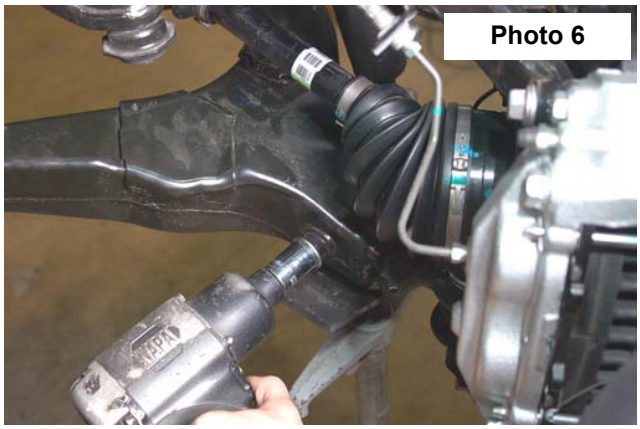
7. Remove the sway bar link from the lower control arms using a 19MM wrench. **See Photo 3**. Retain hardware.
8. Loosen , but do not remove the lower control arm bolts to allow the lower control arm to swing down using a 24MM wrench. **See Photo 4.**


Photo 3

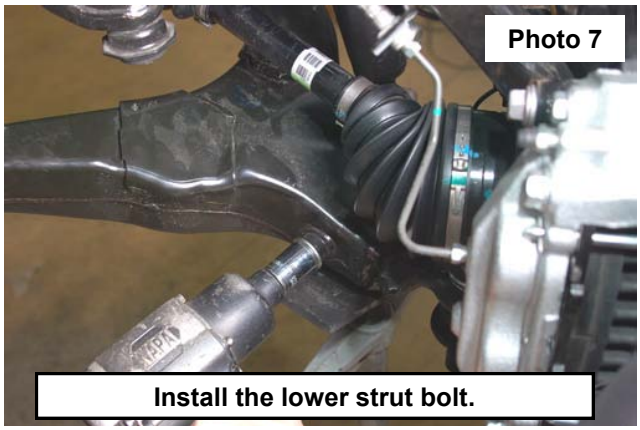

Photo 4

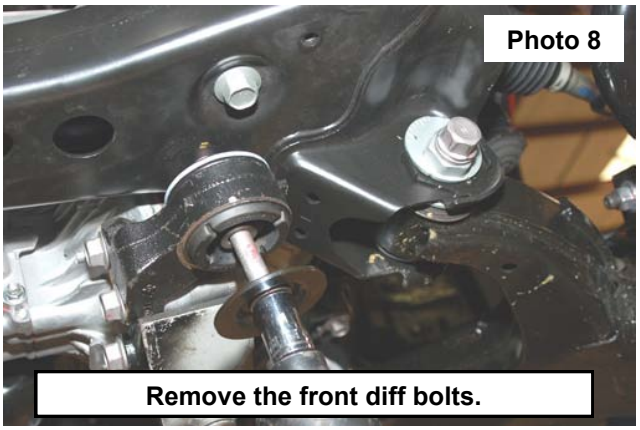
9. Remove the brake line bracket from the knuckle using a 12MM wrench.
10. Remove the upper ball joint nut using a 19MM wrench as shown in **Photo 5.** It may be necessary to hit side of the knuckle to break the taper lock loose. Remove the upper control arm and retain the factory hardware.
11. Remove the lower strut bolts as shown in **Photo 6** using a 22MM socket and wrench. Remove the strut from the vehicle.


Photo 5

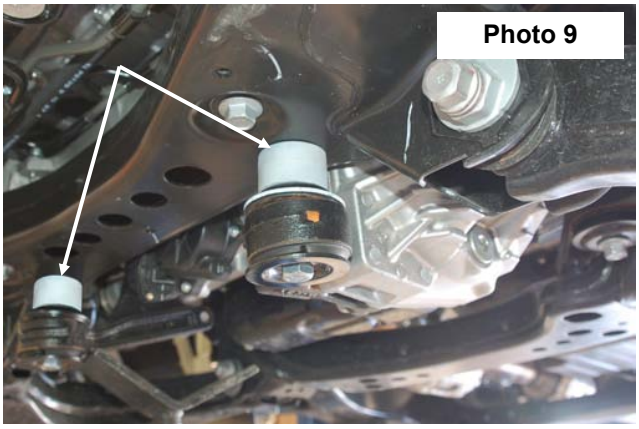

Photo 6

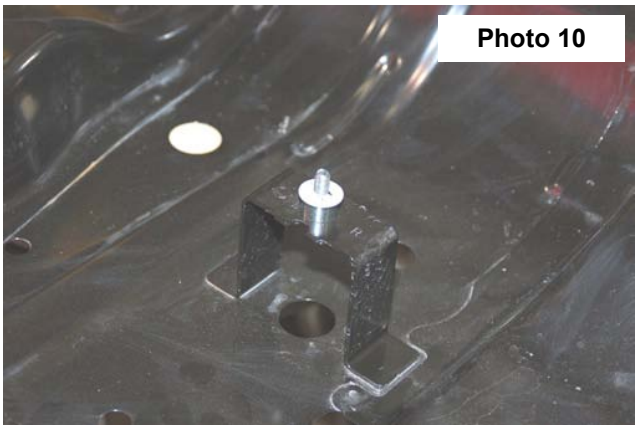
12. Install the 10mm studs from 10mmstudbag into the supplied strut spacers, using a 17mm socket and the supplied jam nut to pull the studs into the holes. You will install the studs into the end with the smaller holes.
13. Install the supplied strut spacer (**flat side of spacer must face the frame**) on the strut using the factory hardware. Torque to factory specs using a 14mm.
14. Install the strut assembly into the strut tower and secure with the supplied 10mm nuts & lock washers. Tighten using a 17mm wrench.
15. Install the lower strut bolt in the original position that it was removed. Torque to factory specs using a 22mm socket. **See Photo 7.**
16. **2wd models skip to step 23.** On 4wd models the front of the diff will be lowered to improve axle shaft angle. Remove the front driver as shown in **Photo 8** and passenger side differential bolts.



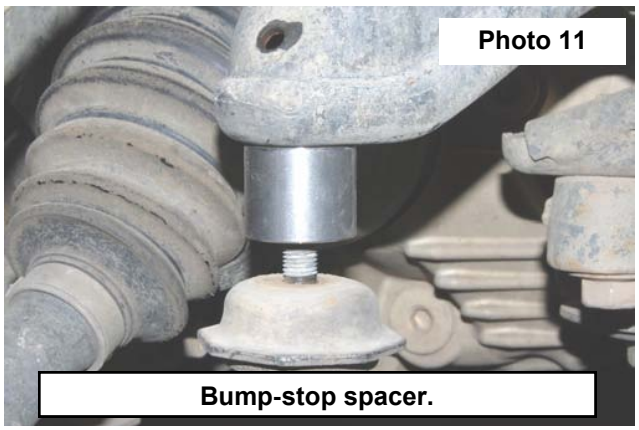


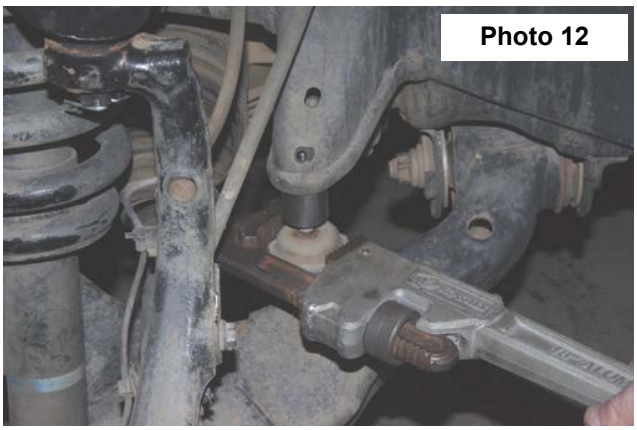
17. Install the 1” long spacers in between the diff mount and the frame with the supplied 9/16” x 6” hardware. Tighten hardware using a 13/16” wrench. **See Photo 9**.
18. The skid plate spacers will be placed on the skid plate. Using the 8mm x 30mm bolts supplied in the kit, place the bolts through each hole and **secure the bolts with the retaining washers as shown in Photo 10 to keep bolt and spacer in place while installing the skid plate**. Install the skid plate into the stock holes; with the spacers between the skid plate and the frame.





19. Remove the (4) factory bump-stops and install the supplied bump-stop spacers in the factory locations. Then install the factory bump-stops into the spacers. **See Photo 11.**
20. Tighten the bump-stops to factory specs. **See Photo 12.**





21. Install the supplied upper control arm using the factory hardware and torque to factory specs. **Ball joint must be greased before use. Check ball joint grease after the first 100 miles and then every 3000 miles.**
22. Connect the ball joint to the steering knuckle and torque to factory specs using a 19mm. **See Photo 13.**

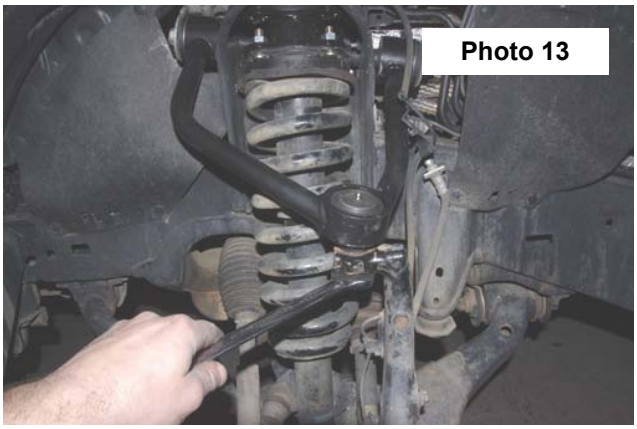
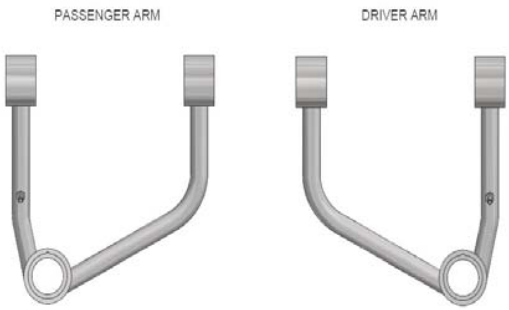
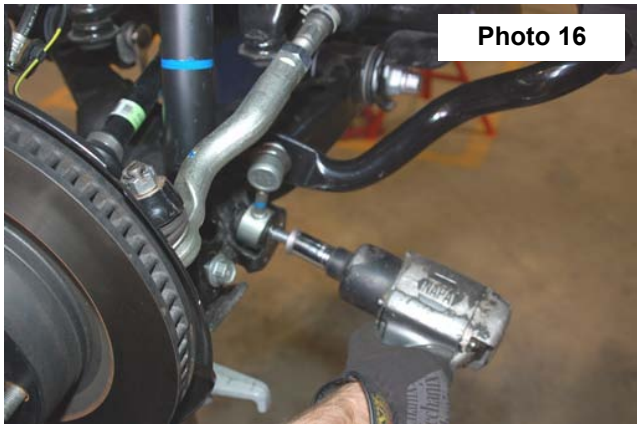


Photo 14



23. Attach the brake line bracket to the new upper control arm using the supplied 1/4" nut from the 76720BAG2, tighten using a 7/16" wrench. **See Photo 15**.
24. Using an 18mm remove the sway bar from the frame.
25. Install the supplied sway bar drop brackets and stock sway bar using the supplied 12mm x 75mm bolts and washers. Torque to 55ft-lbs using an 18mm socket.
26. Install the factory sway bar link with factory hardware and torque using a 19mm socket to factory specs. **See Photo 16.**
27. Install the wheels and tires and lower the vehicle to the ground.





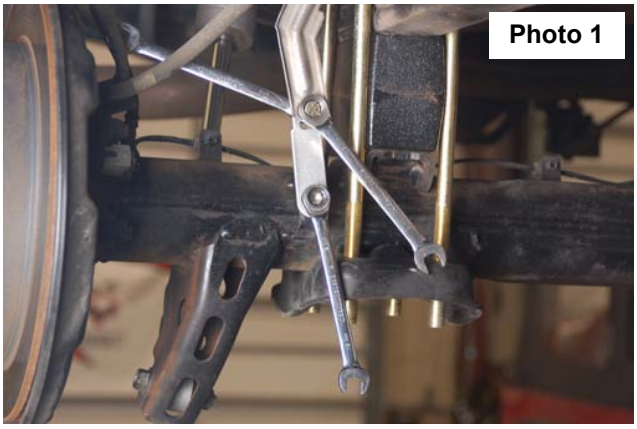
REAR INSTALLATION INSTRUCTIONS

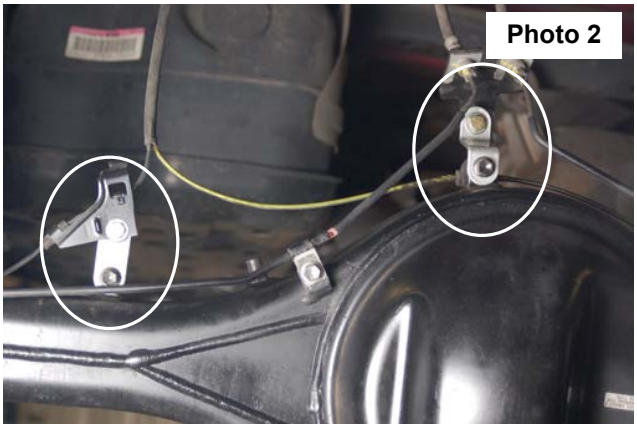
1. Chock the front wheels.
2. Jack up the rear of the vehicle and place jack stands underneath the frame rail.
3. Remove the tires and wheels.
4. Remove rear shocks using a 17mm wrench.
5. Place the floor jack underneath the axle and remove the stock u-bolts and blocks by lowering the axle.
6. Install new brake line brackets in **Photo 1** using stock and supplied 5/16 x 3/4" bolts. Tighten using 12mm wrench and 13mm wrench to tighten.\
7. Install new emergency brake cable brackets on the driver and passenger side as shown in **Photo 2** using stock hardware to secure the new bracket to the stock location. Secure the new bracket to the stock brake bracket using the supplied 5/16 x 3/4" bolts . Tighten using a 12mm wrench and 13mm wench to tighten.
8. Install the new blocks between the spring and the axle perch. Install the new u-bolts and secure with fasteners provided.

⚠ NOTICE Taller end of the block will go to the rear of the vehicle.

6. Install the supplied shocks in the stock position with supplied hardware, using a 15mm and 18mm wrench.

⚠ NOTICE N3 shock absorbers are designed to run with the body of the shock absorber on the axle





Post Installation

1. Check all fasteners for proper torque. Check to ensure there is adequate clearance between all rotating, mobile, fixed and heated members. Check steering for interference and proper working order. Test brake system.
2. Perform steering sweep. The distance between the tire sidewall and the brake hose must be checked closely. Cycle the steering from full turn to full turn to check for clearance. Failure to perform inspections may result in component failure.
3. **Ball joint must be greased before use. Check ball joint grease after the first 100 miles and then every 3000 miles.**
4. Re torque all fasteners after 500 miles. Visually inspect components and re torque fasteners during routine vehicle service.
5. Readjust headlights to proper settings.
6. Vehicle will have to have a front-end alignment.

Alignment specs.	Caster	1.6 to 3.1 degree
	Camber -	3- to 1.2 degree
	Toe ……	00 to .05
	Total Toe	.05 to .10 degree

KIT CONTENTS



Kit Contents:

- 1-Driver Side Control Arm
- 1-Pass Side Control Arm
- 2-Front Strut Extensions
- 2-Sway Bar Drop Brackets
- 2-10MMSTUDBAG
- 4-Bumpstop Spacers
- 1-76820BAG5
- 1-76820BAG2
- 1-9/16BAG
- 2-Rear Blocks
- 4-Ubolts
- 6-Brake Line Relocation Brackets
- 2-Rear Shocks
- 2-6190BAG

10MMSTUDBAG:

- 6-10mm studs
- 6-10mm Nuts
- 6-10mm Lock Washers

76820BAG5:

- Kit Instructions

76820BAG2:

- 3-Skid Plate Spacers Sleeves
- 3-8mmx30mm Bolts
- 3-8mm Retaining Washers
- 2-Differential Spacers
- 2-9/16”x6” Bolts
- 2-9/16” Nuts
- 2-9/16” Flat Washers
- 2-1/4” Nylock Nuts
- 4-12mm x 75mm Bolts
- 4-12mm Flat Washers
- 3-5/16” x 3/4” Bolts
- 6-5/16” Flat Washers
- 3-5/16” Lock Nuts

9/16BAG:

- 8-9/16 Nylock Nuts
- 8-9/16 Flat Washers

6190BAG:

- Ball Joint Hardware

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