# Rough Country 23970 Installation Instructions

23970

Part number: 23970

trailfortress.com/rough-country-4-5-inch-lift-kit-23970

Scan for fitment, price and install help

92123900A

ROUGH COUNTRY SUSPENSION SYSTEMS®

123930BAG

# 99-06 2WD CHEVY/GM 1500 4.5” LIFT

**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. 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.

Due to differences in manufacturing, dimension and inflated measurements, tire and wheel combinations should be test fit prior to installation. **This kit was developed using a 33.12.0-16 on stock wheel.**

**⚠NOTICE** **NOTICE TO DEALER AND VEHICLE OWNER**

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.

**Kit Contents:**

***7501:***
1-Dr Side Knuckle (1)
1-Pass Side Knuckle (1)

***9258:***
COIL SPRING (2)

***1239BOX1:***
Fr Shock-660766 (2)
Rr Shock-660739 (2)
Shock Bag (1232 BAG2) (2)
Rear Fabbed Block(2)
Rear U-bolts (4)
9/16” Bag (1)



**Bag Contents:**

***1232Bag2:***
STEM CUSHION (4)
RETAINER (4)
3/8 NUT (2)

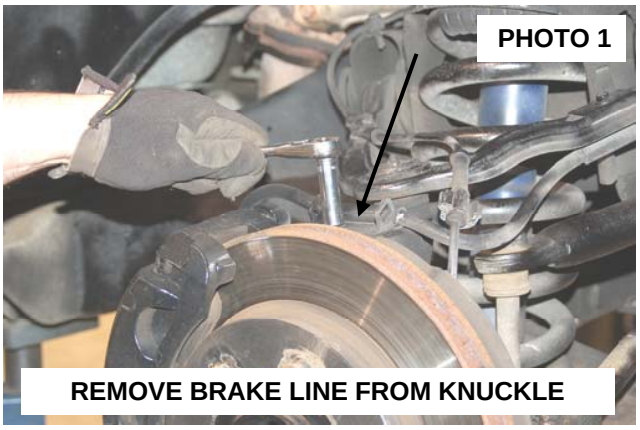
***9/16 BAG:***
9/16 NYLOCK (8)
9/16 WASHER (8)

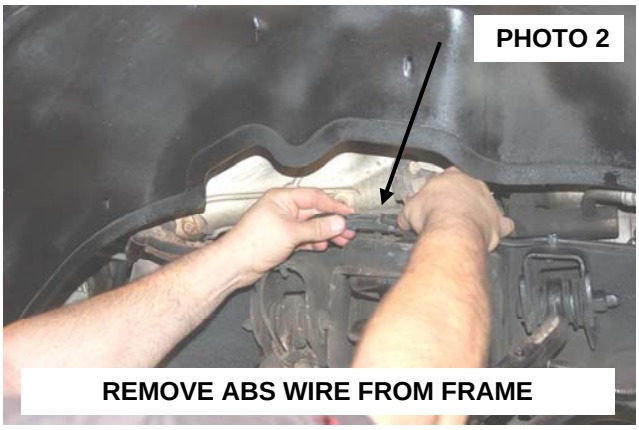
**Tools Needed:**
*18mm Wrench/Socket*
*15mm Wrench/Socket*
*13mm Wrench/Socket*
*24mm Wrench/Socket*
*9/16” Wrench/Socket*
*10mm Wrench/Socket*
*7/8” Wrench/Socket*
*21mm Wrench/Socket*
*Jack and stands*
*Wheel Chocks*
*WD40 / Lubricant*

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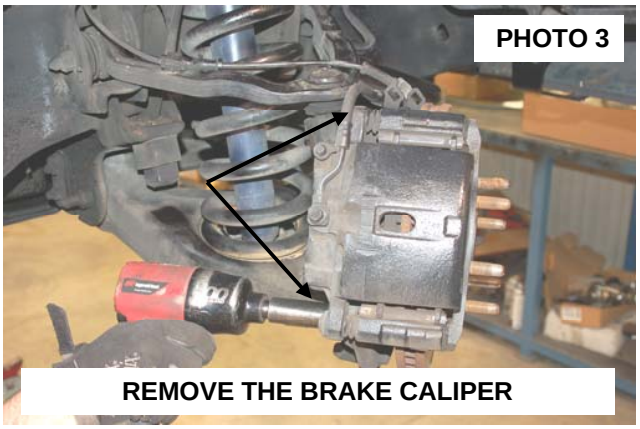
## INSTALLATION INSTRUCTIONS

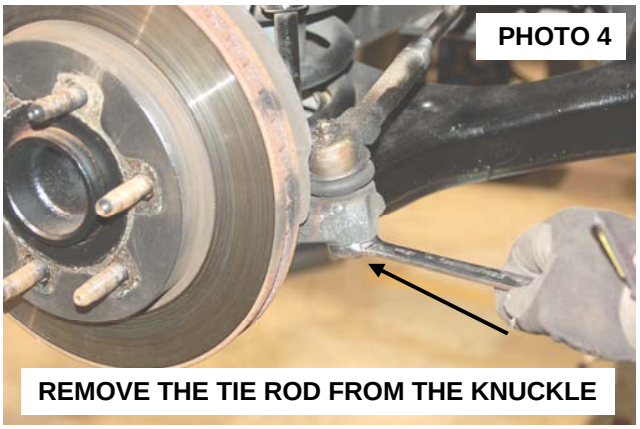
1. Now that you have your needed tools, let's begin the installation.
2. First, find level ground and set the emergency, chocking rear tires to prevent rolling.
3. Using a floor jack, lift the front of the vehicle. Place jack stands on the frame rail directly behind the lower control arm mounts. Now, carefully lower the vehicle onto the jack stands.
4. Using a deep well 7/8" socket, remove the tires\wheels.
5. Remove the bolt on the top of the knuckle that secures the brake line to the knuckle, using a 10mm wrench. **See Photo 1.**



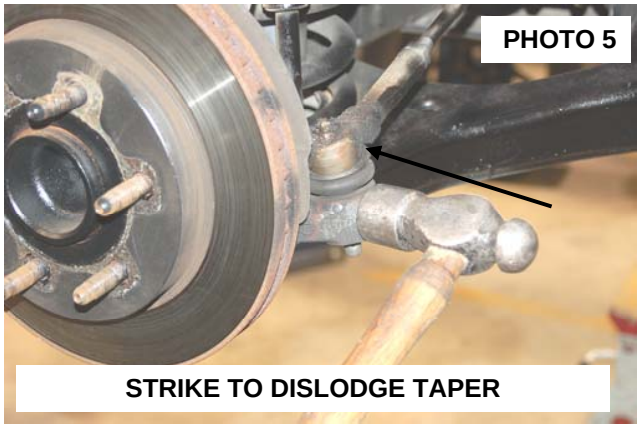



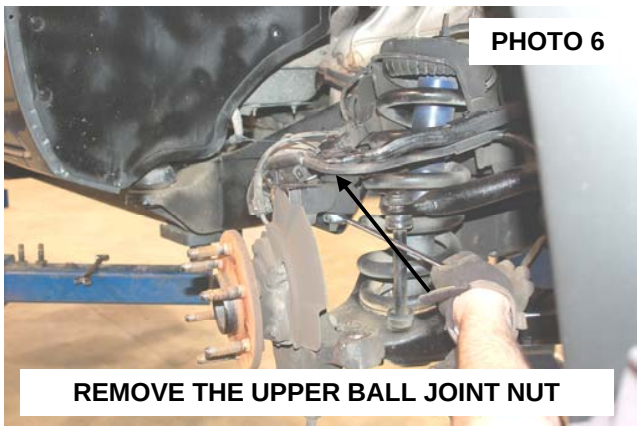

6. Remove the ABS wire from the mounts on the control arm and the clip on the upper coil seat. **See Photo 2.**
7. Remove the brake caliper using a 18mm socket and secure out of the way. **See Photo 3.** Remove the brake rotor and set aside.



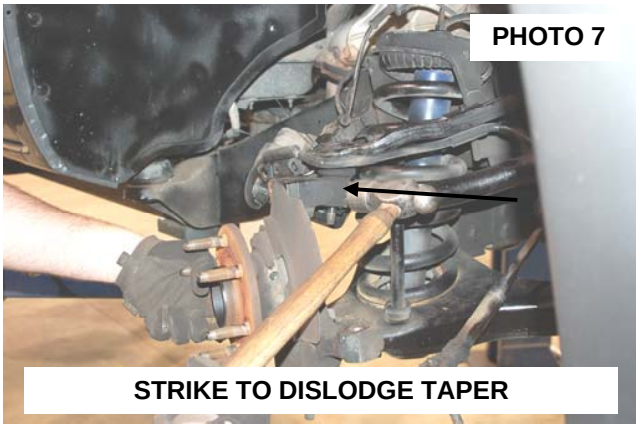



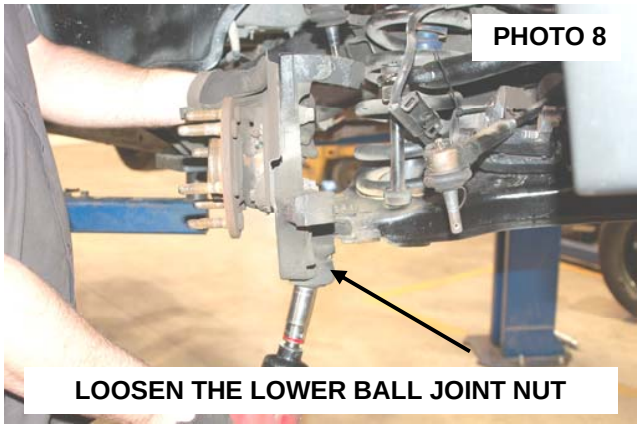

8. Remove the tie rod end from the knuckle using a 18mm socket and secure out of the way. **See Photo 4.**
9. Loosen and remove the tie rod by striking the knuckle as shown to dislodge the tie rod. **See Photo 5.**
10. Place the floor jack directly underneath the lower control arm, applying pressure, and loosen the upper ball-joint nut in which holds the upper control arm to the knuckle using a 18mm wrench. **See Photo 6.**



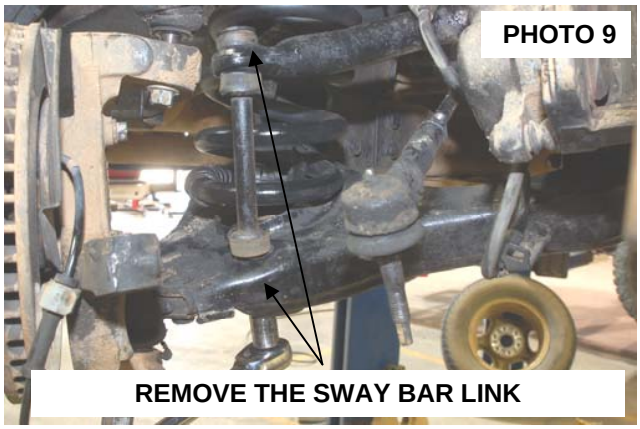



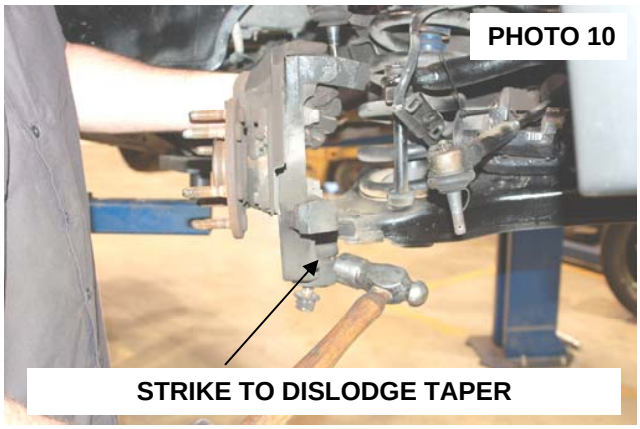
10. Remove the ball joint from spindle either by using a ball joint separator tool or by striking on the upper portion of the knuckle until the upper ball joint is free. **See Photo 7.**
11. Loosen the lower ball joint nut using a 18mm wrench. **See Photo 8.** Do not remove the lower ball joint nut at this time.



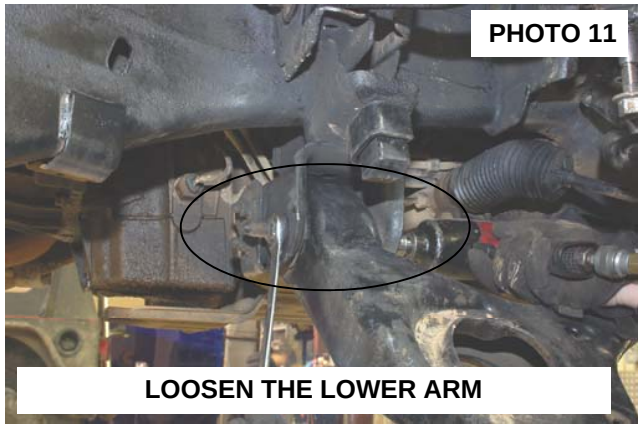



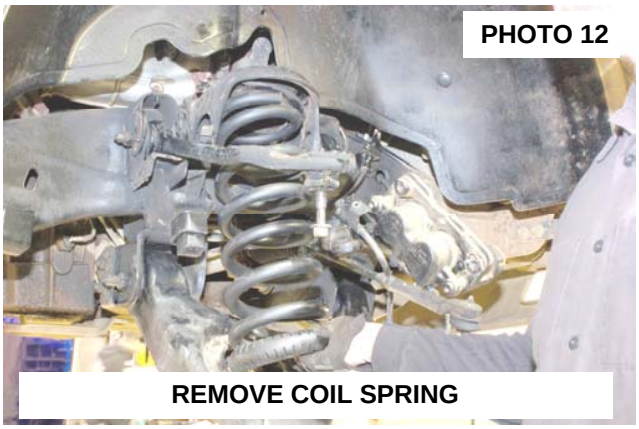

12. Remove the sway bar using a 15mm wrench. **See Photo 9.**
13. Strike to dislodge the lower ball joint and remove the lower nut, removing the knuckle from the vehicle. See **Photo 10**




14. Remove stock shock using a 15mm wrench for top bushing end and a 13mm on bar pin bolts. Retain bar pin hardware for later usage.
15. With the jack under the lower arm, loosen the lower arm hardware using a 18mm socket & 24mm wrench . Let pressure off slowly allowing the arm to droop downward. **See Photo 11.**
16. Remove stock coil spring. **See Photo 12.**




17. **This completes the tear down process for the front installation. Lets move on to the reassembly process.**

18. Remove the three bolts that secure the bearing assembly to the stock knuckle and remove using a 15mm socket. These bolts will be reused later in the installation of new knuckles. **See Photo 13 & 14.**

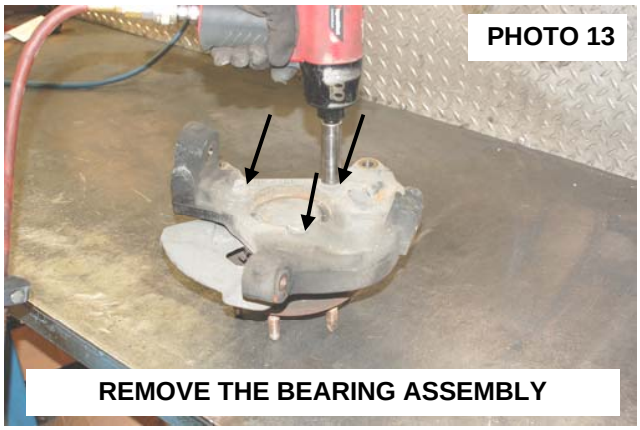

PHOTO 13
REMOVE THE BEARING ASSEMBLY


PHOTO 14
ASSEMBLY REMOVED FROM KNUCKLE

19. Install the bearing assembly on the new knuckle with the three factory bolts, making sure to align the brake cover. . Tighten using a 15mm socket to factory specs. **See Photo 15.**
20. Install the new lifted coil spring, lifting lower control arm with jack to secure spring in location**. See Photo 16**
21. Attach knuckle assembly to the lower control arm, hand tightening the lower ball joint nut in to place at this time.


PHOTO 15
INSTALL THE ASSEMBLY ON KNUCKLE


PHOTO 16
INSTALL THE COIL SPRING

22. Secure knuckle to lower control arm with an 24mm wrench, tightening to the factory torque specs. **See Photo 17**
23. Using the jack, lift up the lower control arm compressing and seating the coil spring. Attach the upper control arm to the knuckle with the stock hardware using an 18mm socket and tighten to factory specs. **See Photo 18**

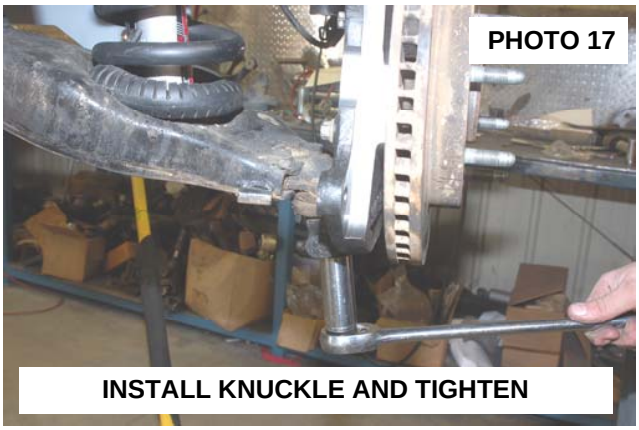
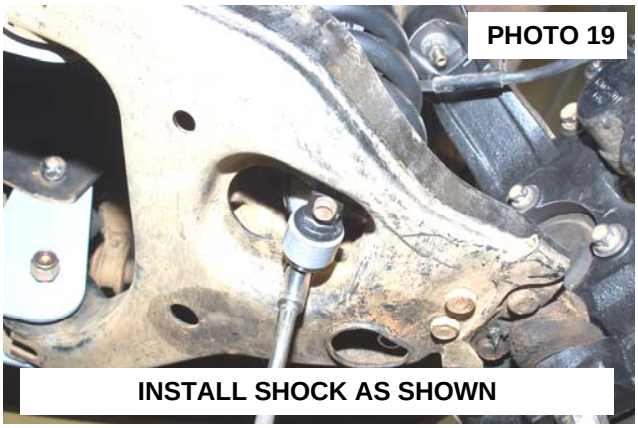

PHOTO 17
INSTALL KNUCKLE AND TIGHTEN


PHOTO 18
TIGHTEN THE UPPER BALL JOINT

**24.** Using the retained stock hardware and new front shock, install by sliding cylinder though lower control arm securing shock in position as shown using a 13mm socket. **See Photo 19.**

**25.** Using supplied bushings, retainers, and 3/8 nuts, secure top of shock in stock location using a 9/16 wrench. Tighten upper stud until bushing begins to slightly bulge.







**26.** Using factory sway bar links, reinstall using a 15mm wrench. See Photo 20

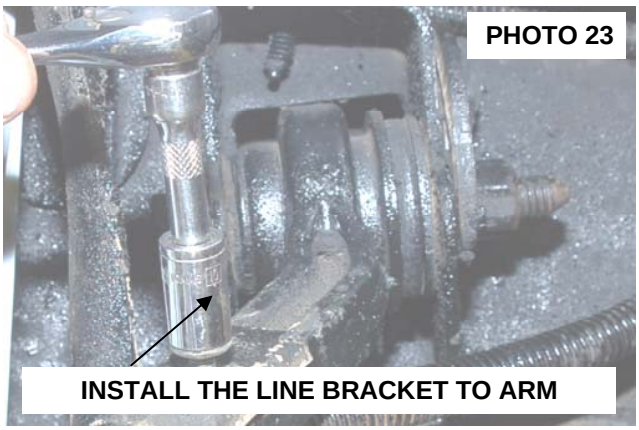
27. It may be necessary to reposition the brake line mounting bracket to allow the bracket to bolt up to the new mounting hole on the knuckle. If needed spray the control arm bracket and knuckle bracket with WD40 and slide the brackets to allow the brake line to install on the knuckle and upper control arm. Move the knuckle from full left turn and right turn to make sure the brackets are positioned correctly and the brake line is not pulled. **See Photo 21.**
28. Move brackets as needed and install the brake line bracket bolt onto the hole on side of the new knuckle and on the upper control arm with the stock hardware. **See Photo 22 & 23.** Tighten brake brackets using a 10mm wrench.





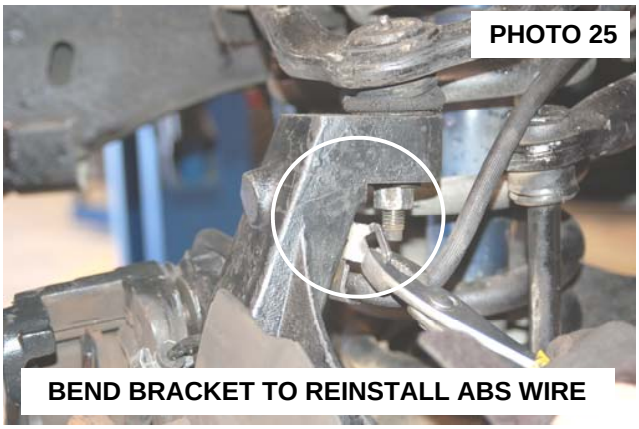


29. Reinstall the brake caliper and tighten using a 18mm socket to factory specs. **See Photo 24.**
30. Install the tie rod end on the new knuckle. Tighten using a 18mm wrench to factory specs and install the cotter pin.





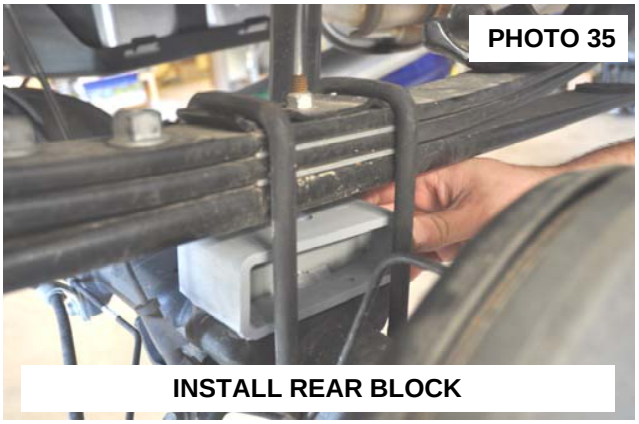

31. Bend the brake line bracket as shown to install the ABS wire as shown in **Photo 25.** If needed spray the line with WD40 and move the rubber mounts to install the wire on the arm and on the upper coil seat. Reinstall the ABS wire in the clip on the upper coil seat. **Be sure to check for adequate clearance and move as necessary.**
32. Recheck all fasteners and install the wheels/tire. **Repeat process for opposite side.**

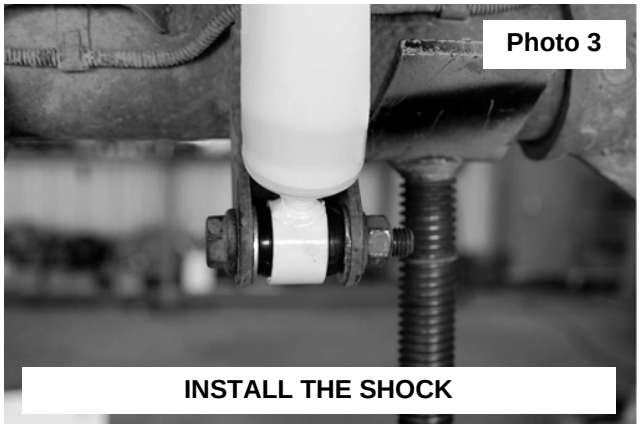



33. Install the tires and wheels after completion of both sides and lower the vehicle to the ground.

## REAR INSTALLATION

1. Chock the front wheels and jack up the rear of the vehicle. Support the vehicle with jack stands. Remove the tires/ wheels using 7/8" deep well socket.
2. Remove the factory shocks using a 21mm wrench and discard.
3. Support the rear axle with a floor jack and remove the factory u bolts.
4. Install the block on the axle and make sure the block and axle pin align. **See Photo 1**.
5. Install the supplied 9/16" u-bolts, washers, and nuts on the leaf springs, securing the block to the springs. Do not tighten at this time. **See Photo 2.**
6. Grinding may be required on the driver side e-brake bracket on the lower shock mount. If needed grind the threads to make sure there is no interference with the shock absorber.
6. Install the new shocks with the factory bolts and nuts using a 21mm wrench. **See Photo 3**.



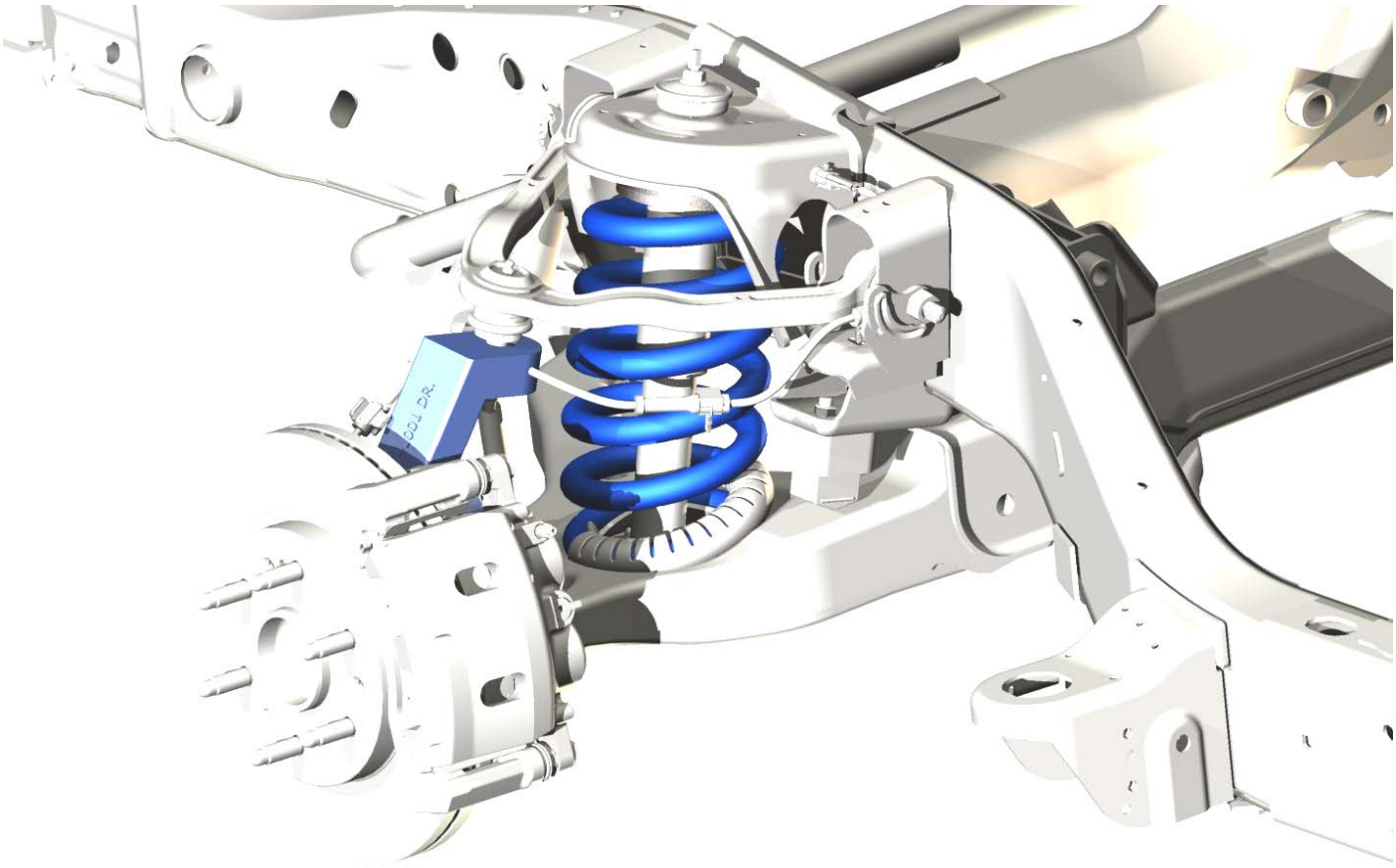




7. Install the wheels and tires. Tighten lug nut to factory specifications using crossing pattern. Lower the vehicle to the ground.
8. Tighten the lug nuts to 85 ft lbs.

## POST INSTALLATION INSTRUCTIONS

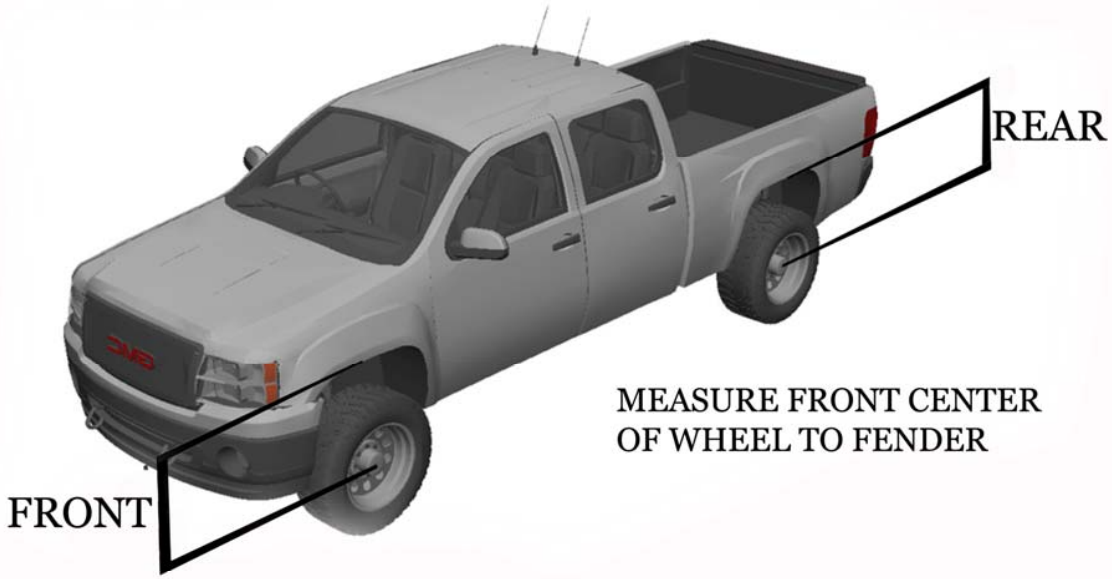
1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between brake lines. Check steering gear for clearance. Test and inspect brake system.
2. On some vehicles the front lower skirting will need to be trimmed if using certain wheel /tire combinations and with heavy offset wheels. Trim only as needed.
3. Have a qualified alignment center align the vehicle immediately. Realign to factory specifications. Have headlights adjusted to proper settings.
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.



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

# BEFORE AND AFTER LIFT DIMENSIONS




## STOCK MEASUREMENTS

FRONT DRIVER_____
FRONT PASSENGER_____

REAR DRIVER_____
REAR PASSENGER_____

## LIFTED MEASUREMENTS

FRONT DRIVER_____
FRONT PASSENGER_____

REAR DRIVER_____
REAR PASSENGER_____

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.