Rough Country 589.20 Installation Instructions

6-Inch Lift Kit with N3 Shocks for F-250 Super Duty 4WD (2015–2016)

Part number: 589.20

trailfortress.com/rough-country-6-inch-lift-kit-589-20

Scan for fitment, price and install help

92158900

1589BAG1

2015 F250 6” SUSPENSION KIT

Thank you for choosing Rough Country for your suspension needs.

Rough Country recommends a certified technician installs 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 parts list. Be sure you have all the needed parts and understand where they go. Also please review the tools needed list and make sure you have needed tools.

PRODUCT USE INFORMATION

WARNING As a general rule, the taller a vehicle is the easier it will roll. We strongly recommend seat belts and shoulder harnesses should be worn at all times. Avoid situations where a side rollover may occur.

Braking performance and capabilities are decreased when significantly larger/heaver tires and wheels are used. Take this into consideration while driving. Also, speedometer recalibration is necessary when larger tires are installed.

Do no add, alter, or fabricate any factory or after-market parts which increase vehicle height over the intended height of the Rough Country product purchased. Mixing component brands, lifts, and/or combining body lift with suspension lifts voids all warranties. 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.

This kit is packaged as a leveling kitð raising the front 6òand the back 6ò If you desire a different look or if the vehicle has a tool box or added weight in the rear, please consult with your sales representative about block / u-bolt options.

This 6òsuspension system was developed for **37x12.50x17** tire on an after market wheel w/ 4.5òback spacing.

NOTICE

NOTICE TO DEALER AND VECHICLE OWNER

Any vehicle equipped with any Rough country product must have the ñWarning to Driverò 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**ð 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.

Tools Needed:

10mm Socket / Wrench
12mm Socket / Wrench
15mm Socket / Wrench
18mm Socket / Wrench
18mm Socket / Wrench
19mm Socket / Wrench
21mm Socket / Wrench
24mm Socket / Wrench
30mm Socket / Wrench
34mm Socket
5/8òSocket / Wrench
3/4òSocket / Wrench
1 7/8òSocket / Wrench
Pliers
Coil Spring Compressor
Pitman Arm Puller
Brake Fluid
Jack Stands
Jack

Torque Specs:

Size	Grade 5	Grade 8
8MM	18ft/lbs	23 ft/lbs
5/16ò	15 ft/lbs	20 ft/lbs
3/8ò	30 ft/lbs	35 ft/lbs
7/16ò	45 ft/lbs	60 ft/lbs
1/2ò	65 ft/lbs	90 ft/lbs
9/16ò	95 ft/lbs	130 ft/lbs
5/8ò	135 ft/lbs	175 ft/lbs
3/4ò	185 ft/lbs	280 ft/lbs

Kit Contents:

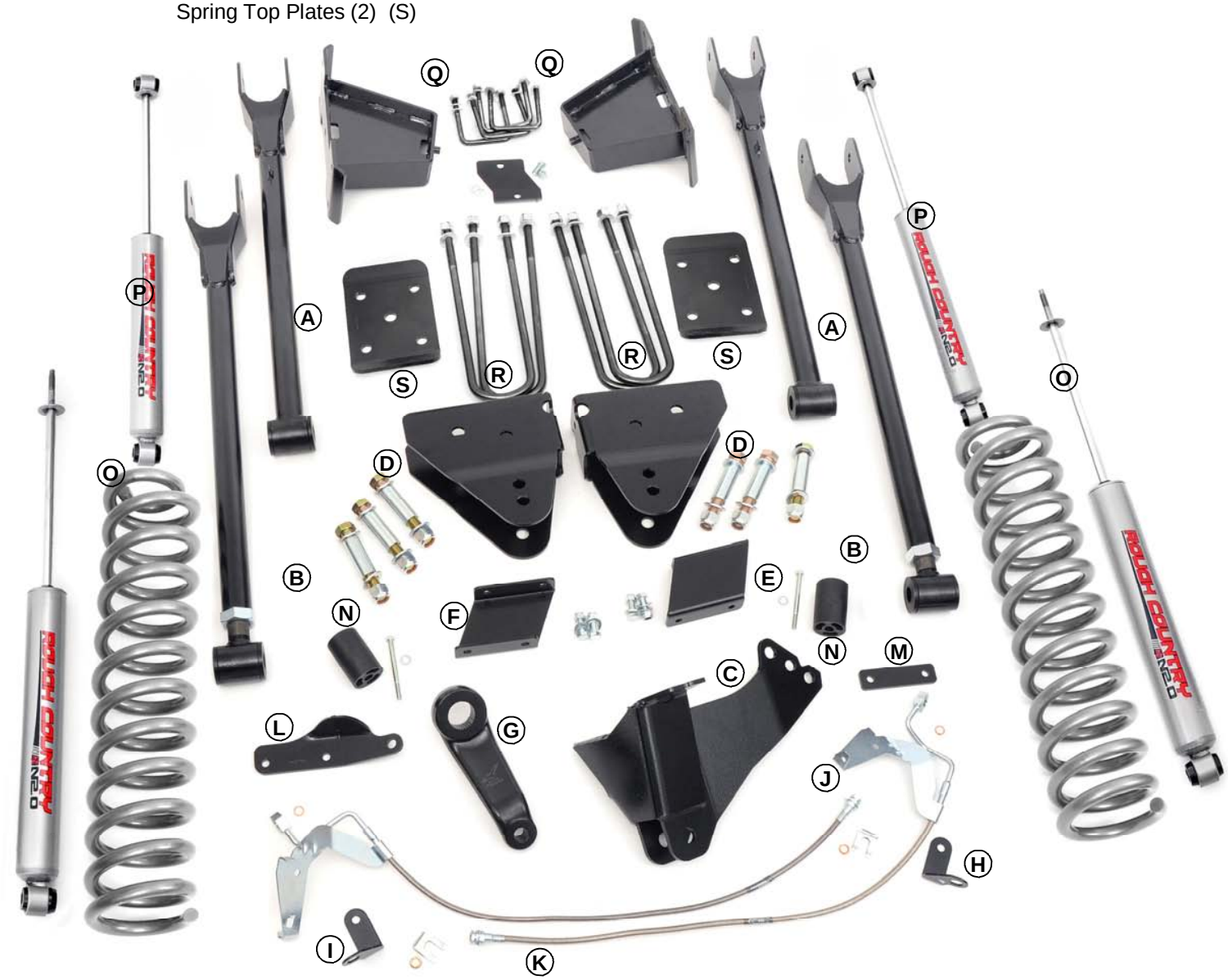
9295	Diesel Coil Springs
1580Box1	Fixed Upper Control Arms (A)
1580Box2	Adj Lower Control Arms (B)
1565Box1	Track Bar Bracket (C)
	Control Arm Bracket (D)
	Dr Sway Bar Brkt (E)
	Pass Sway Bar Brkt (F)
	Pitman Arm (G)
	Dr Brake Line Bracket (H)
	Pass Brake Line Bracket (I)
	Dr Fr Stainless Line (J)
	Pass Fr Stainless Line (K)
	Pass Stab Brkt (L)
	Dr Sway Bar Shim (M)
	Fr Bump Stop Spacers (N)
1580Box4	Nitro Fr Shock Absorbers (O)
	Nitro Rr Shock Absorbers (P)
1564Box3 or 1564Box4	
	Rr 6òAnti-Wrap Blocks (Q)
	U-bolts (R)
	Fabbed Block Shims (4)
	Spring Top Plates (2) (S)

Kit Bags:

1580Bag4-*Qty 2*
For Upper and Lower Arms:
8-Bushings
4-Sleeves

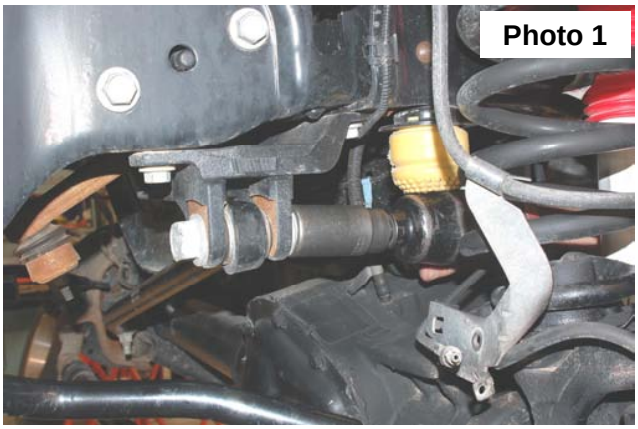
1580Bag3-
For Lower Adj Arms:
2-Jam Nuts

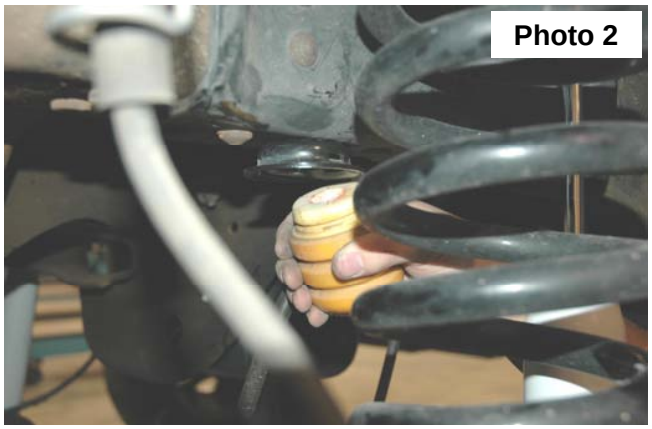
1565Bag1-
For Upper and Lwr Arms
2-Crush Sleeves
6-3/4" x 5" Bolts
6-3/4" Lock Nuts
12-3/4" Flat Washers
For Fr Bump Stops:
2-8mm x 95mm Bolts
2-8mm Flat Washers
For Fr Brake Line Bracket:
2-Brake Line Clip
For Fr Sway Bar Brackets:
4-7/16" x 1 1/4" Bolts.
4-7/16" Lock Nuts
8-7/16" Flat Washers
For Rear Brake Line Brkt:
1-7/16" x 1" Bolt
1-7/16" Lock Nut
2-7/16" Flat Washers
For Rear Spring U-bolts:
8-7/16" Lock Nuts
8-7/16" Flat Washers
For Rear Axle U-bolts:
8-5/8" Lock Nuts
8-5/8" Flat Washers



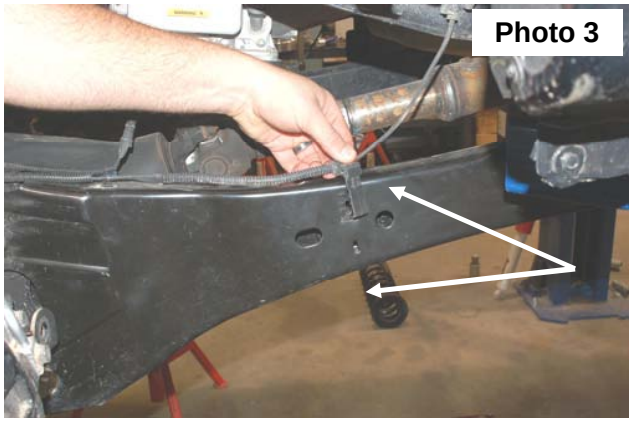
FRONT INSTALLTION INSTRUCTIONS

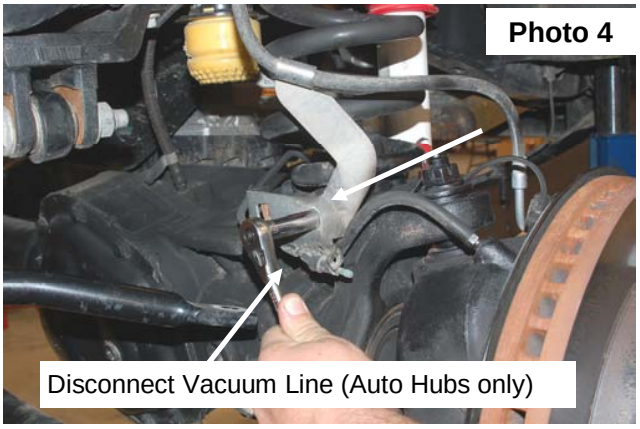
1. Block the rear wheels of the vehicle. Raise the front of the vehicle and support the frame with jack stands. Remove the front wheels and tires and set aside. Position a hydraulic jack under the front axle and raise the jack until the front suspension begins to compress
2. Disconnect the track bar from the driver side frame bracket, using a 30mm wrench. **See Photo 1.**
3. Remove the bump stop from the cup shaped bracket. Remove the bracket from the frame rail using 10mm wrench. **See Photo 2**.



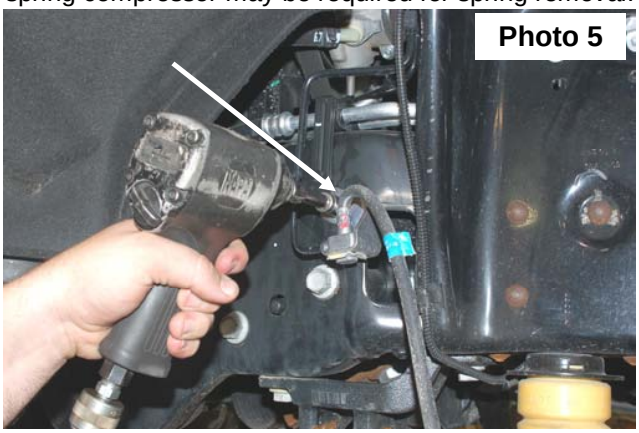


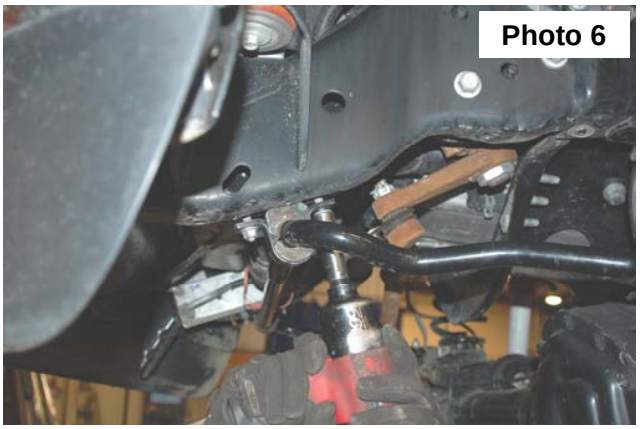
4. Disconnect the ABS sensor wire from the lower spring seat and the radius arm, using pliers. **See Photo 3.**
5. Unbolt the brake line brackets from the axle, using a 10mm wrench. Remove the vacuum line from the clamp on the axle.(If equipped with automatic hubs). **See Photo 4**





6. Remove the stock brake line from the frame using a 10mm socket. Retain stock hardware. **See Photo 5**.
7. Using a 19mm wrench, remove the nut, retaining washer and rubber bushing from the both upper shock mounts. Using a 18mm wrench remove the lower shock bolts. Retain hardware for re-use.
8. Remove the sway bar from the frame using a 15mm socket. **See Photo 6.** Retain the stock hardware for re-use.
9. Remove the factory stabilizer from the passenger side frame mount using 15mm wrench. Retain hardware for re-use.
10. Carefully lower the jack until the coil springs are free. Remove the coil springs from the vehicle. Note: use of a coil spring compressor may be required for spring removal.





11. Support both driver and passenger radius arms with jack stands. Using a 24mm wrench, and socket remove the bolts holding the radius arm to the axle. Retain stock hardware for re-use. **See Photo 7.**
12. Using a 24mm wrench, and socket remove the bolt holding the radius arm to the frame. **See Photo 8.**





13. Insert bushings, and sleeves from kit bag into the upper control arm. **See Photo 9**.
14. Insert the radius arm drop bracket into the stock location. Bolt into place using the supplied 3/4ò x 4.75ò bolt, crush sleeve, nut and washer in the bracket. Do not tighten at this time. **See Photo 10**.





15. Attach the control arms to the axle using the stock hardware. **See Photo 11. It may be necessary to use the rear nut from the frame mount due to some models having the radius arm nut welded to the radius arm.**
16. Attach the upper control arm to the radius arm bracket in the top hole. Bolt into place using the supplied 3/4ò x 4.75ò bolt, nut and washer provided in the kit bag. Do not tighten at this time. **See Photo 12.**





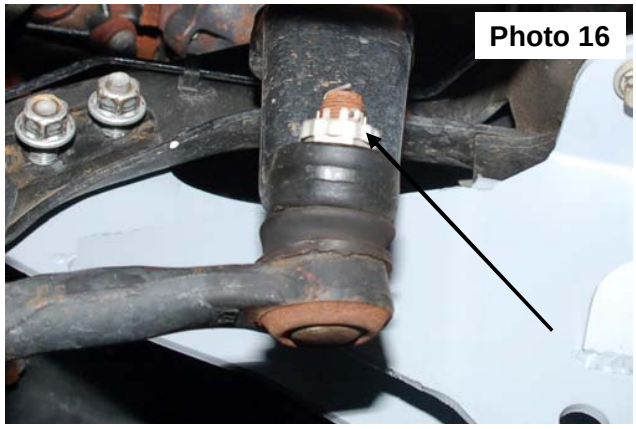
17. Adjust the arm to a measurement of 36 1/8ò from center hole to center hole. Tighten the jam nut using a 1 7/8ò wrench.
18. Attach the lower control arm to the axle using the stock hardware. **See Photo 13.** Do not tighten at this time.
19. Insert the joint end of the lower control arm into the radius arm drop bracket. Bolt into place using a 3/4òx 4.75òbolt, nut and washer provided in the kit bag. **See Photo 14.**





20. Reattach the ABS wire to the upper control arm. **See Photo 15**.
21. Repeat step 12-17 on the opposite side.
22. Remove the cotter pin and nut using a 21mm wrench, from the drag link end where it attaches to the pitman arm. **See Photo 16.**
23. Dislodge link with a tie rod end puller, or a pickle fork. Note: replace the link if any stud looseness is detected, or if you can twist the studs in its socket with your fingers.

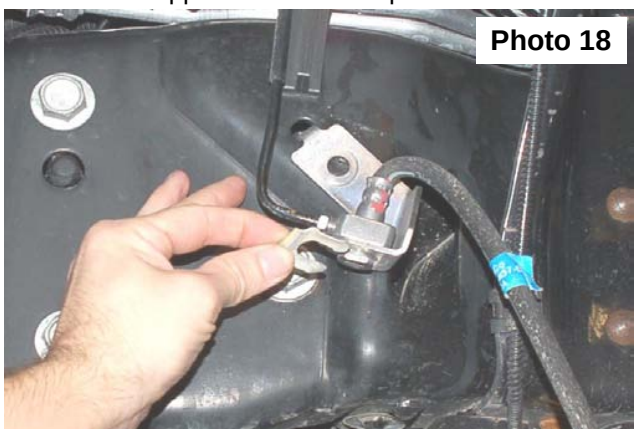


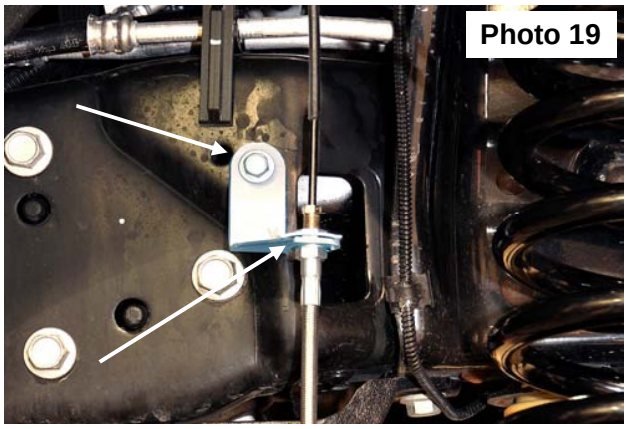


24. Using a 34mm socket, remove the nut from the steering sector and remove the pitman arm with a puller tool. Inspect the splines on the shaft for excessive wear, repair if needed.
25. Install new arm, lock washer, and nut. Using a 34mm socket, tighten bolt.
26. Attach the drag link stud to the pitman arm. Torque nut to factory specs, and install cotter pin. Check for adequate linkage clearances while turning steering wheel full lock in both positions
27. Using the nylon bump stop extension provided, place the extension between the frame and the bump stop cup. Bolt back into the original location using the supplied 8mm x 95mm bolt. Torque to 15 ft. lbs using a 12mm wrench. Reinstall the factory bump stop in the bump stop cup. **See Photo 17.**



28. Lower the front axle enough to install the new coil springs. Position the coil springs in the lower coil buckets on the axle and rotate as necessary to be sure that the pigtail of the coil in indexed properly in the bucket. Position the factory rubber isolator on top of each coil, then raise the axle enough to seat the coil springs in the upper spring buckets.
29. Install the bushings and 9/16òID sleeves on the front gas shock absorbers part # 658459.
30. Compress the front springs enough to install the front shocks. Bolt the lower end of the shock to the axle using the stock hardware using a 18mm wrench. Attach the upper end of the shock with the stock hardware, using a 19mm wrench. Tighten only enough to bulge the bushing
31. Remove the clip as shown from the brake line and remove the factory brake line bracket from the line**. See Photo 18**.
32. Loosen the hard line from the brake line block using a 10mm wrench and straighten out the metal brake line.
33. Remove the stock brake line from the caliper.
34. Secure the new bracket to the frame with the stock hardware. Tighten using a 10mm socket. **See Photo 19.**
35. Install the new supplied brake line to the steel line and tighten.
36. Install the supplied brake line clip to secure the line to the bracket. **See Photo 19.**





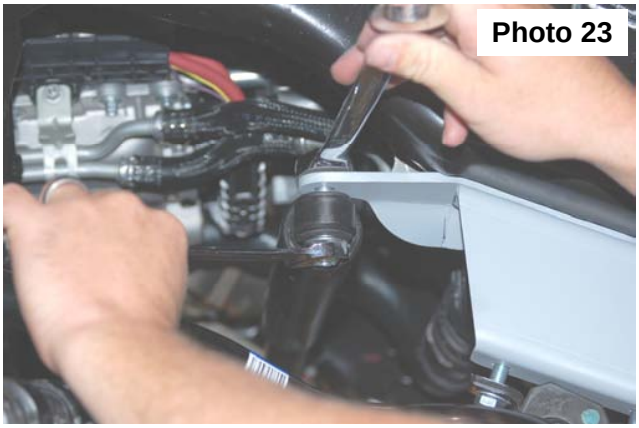
37. Reinstall the ABS and vacuum line.
38. Install the new sway bar link drop brackets and sway bar shim bracket if reusing the factory stabilizer as shown in the drivers side factory frame location with the factory hardware. **If the factory stabilizer will not be re-used or an after market stabilizer will be installed, the stabilizer bracket will not be installed.** Tighten using a 15mm socket. **See Photo 20.**
39. Install the sway bar drop bracket and stabilizer relocation bracket if reusing the factory stabilizer on the passenger side as shown with the factory hardware. **If the factory stabilizer will not be re-used or an after market stabilizer will be installed, the stabilizer bracket will not be installed.** Tighten using a 15mm wrench. **See Photo 21.**





40. ***If reinstalling the stock stabilizer***, install the sway bar on the drop brackets and shim plate as shown on the driver side with the supplied 7/16òx 1 1/4ò bolts, washers and lock nuts. Tighten using a 5/8òWrench. **See Photo 22.**
41. Install the stabilizer in the bracket using the stock hardware. **See Photo 23.**


Photo 22


Photo 23

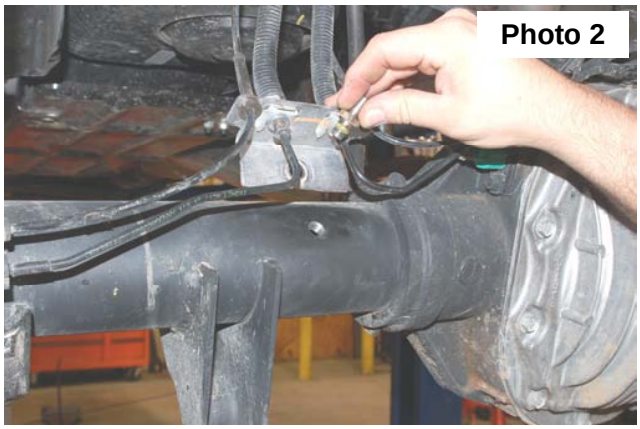
42. Using a 21mm wrench and 18mm wrench socket remove the factory track bar bracket. Retain stock hardware for re-use.
43. Position the Rough Country track bar bracket on the frame as shown and secure using the factory hardware. Tighten hardware using a 18mm wrench. **See Photo 24.**
44. Install the wheels/tires.
45. Jack up the vehicle and remove the jack stands.
46. Lower the vehicle to the ground and tighten the radius arm bolts.
47. Line up the track bar with the hole in the new track bar bracket. You may have to start the truck and turn the wheels in the direction the track bar needs to go to help align the track bar with the hole. Install using the stock track bar bolt. Tighten bolt.


Photo 24

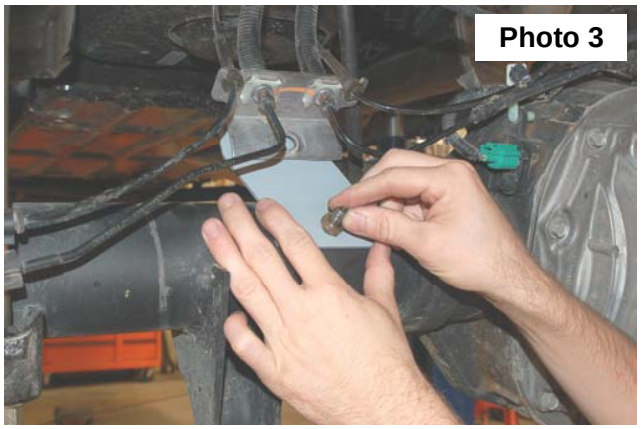
REAR INSTALLATION

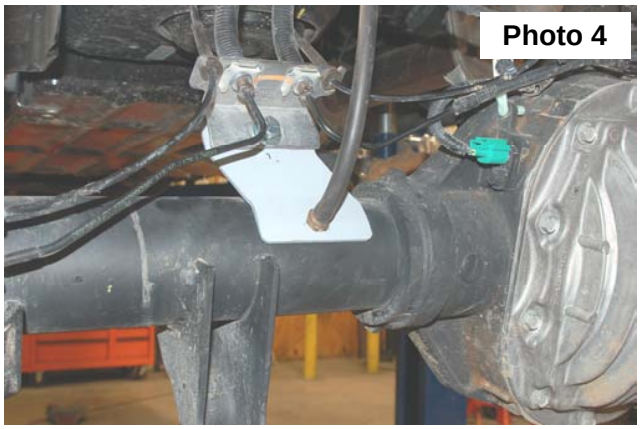
1. Chock front wheels and jack up the rear of the vehicle. Secure with jack stands on the frame rail.
2. Place a floor jack under the rear differential on the rear axle. Using a 18mm wrench for the upper, and 19mm and 15mm wrench for the lower, remove the stock shock absorbers, retain the stock hardware for reuse.
3. Remove the diff vent hose from the differential. **See Photo 1.**
4. Remove the diff vent tube using a 5/8òwrench. Retain the vent tube for reuse. **See Photo 2.**



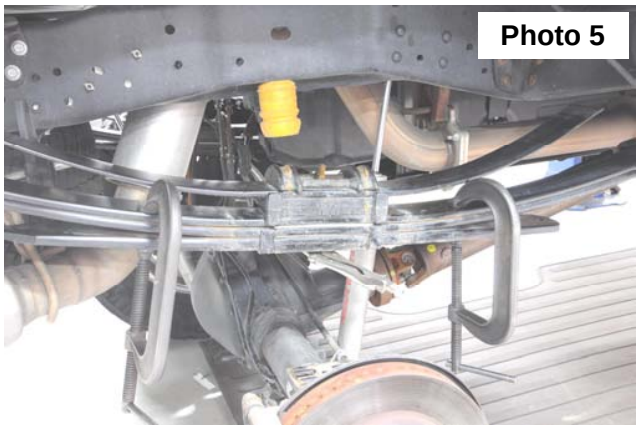


5. Install the supplied bracket in the stock location using the stock hardware. Tighten using a 5/8òwrench. **See Photo 3.**
6. Install the stock brake line bracket to the new bracket with the supplied 7/16òx 1òBolts, washers and lock nuts and tighten using 5/8òwrench. Reinstall the diff vent hose as shown. **See Photo 4.**

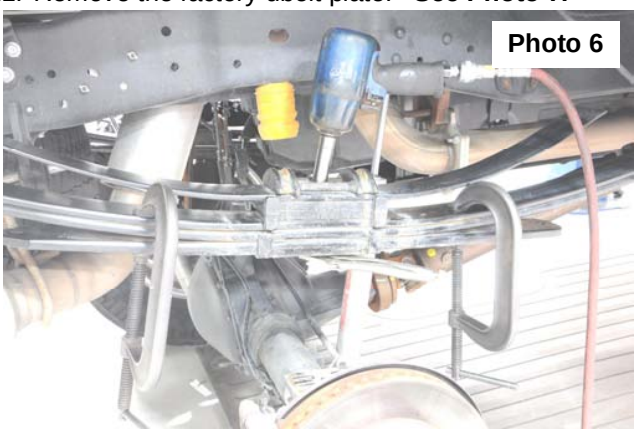


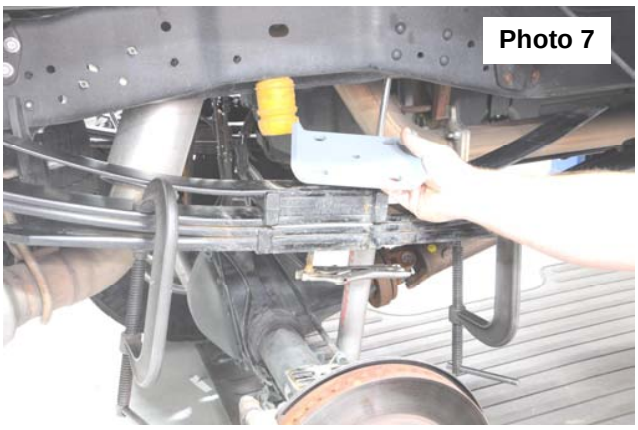


7. Using a 24mm socket, remove the stock u-bolts. Use the floor jack to lower the axle assembly to allow for lifted block installation.
8. Using C-clamps, clamp the spring pack on each side of the center pin.
9. Using locking pliers, lock onto the bottom of the center pin. **See Photo 5.**

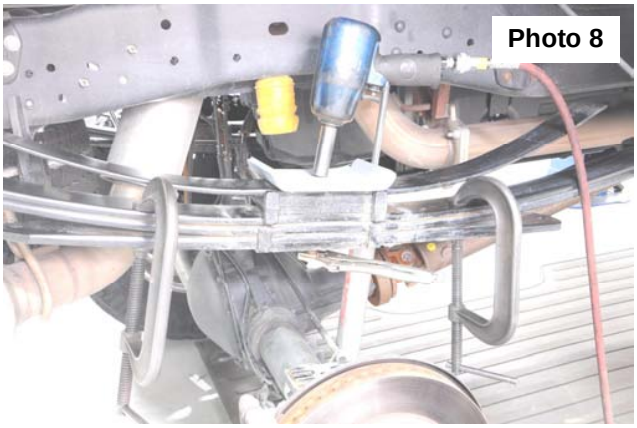


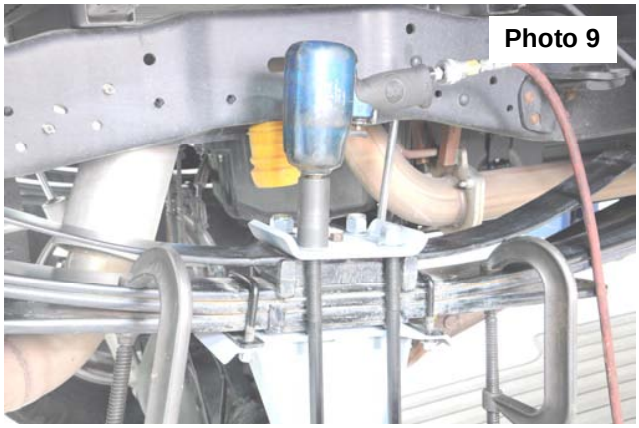
10. Using a 9/16ò socket, remove the nut from the center pin. **See Photo 6.**
11. Remove the factory ubolt plate. **See Photo 7.**





12. Using the stock hardware, attach the supplied ubolt plate and tighten the center pin using a 9/16ò socket. **See Photo 8.**
13. Install the supplied shim plates between the block and the leaf spring. Install the supplied 7/16ò square ubolts and hardware. Tighten using a 5/8ò socket.
14. Install the new supplied 3/4ò ubolts from the bottom. Use the supplied 3/4ò hardware and tighten using a 1-1/8ò socket. **See Photo 9.**





15. Locate shock part number 658601 gas shock and assemble poly bushings and sleeve in shock. Using a 18mm wrench, for the upper, and a 19mm and 15mm wrench for the lower. Install using factory hardware on upper and lower shock mount
16. Install the tires and wheels.
17. Jack up the rear of the vehicle and remove the jack stands. Lower the vehicle to the floor.
18. With the weight of the vehicle on the axle, torque the u-bolts to 130-150 ft-lbs.
19. Check all hardware for proper torque.

POST INSTALLTION INSTRUCTIONS

WARNING ***BRAKE SYSTEM MUST BE BLED BEFORE DRIVING. MAKE SURE THE BRAKE SYSTEM IS WORKING PROPERLY BEFORE OPERATING THE VEHICLE.***

1. Have a qualified alignment center realign front end to Caster minï 4.0 degree
   Camber ï 0.6ð .09 degree
   Toe ï .10ï .15 degree
2. Install Warning to Driver decal on sun visor.
3. Re-torque all nuts, bolts, and especially u-bolts after the first 100 miles, again after another 100 miles and then check periodically thereafter.
4. All components must be retightened after 500 miles, and every three thousand miles after installation
5. Adjust headlights to proper settings.

Thank you for choosing Rough Country for your suspension needs.

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