Rough Country 590.20 Installation Instructions

8-Inch Lift Kit with N3 Shocks for 2005-2007 Ford Super Duty 4WD

Part number: 590.20

trailfortress.com/rough-country-8-inch-lift-kit-590-20

Scan for fitment, price and install help



92159000

05-07 F250 8” 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 and the kit contents on the back of these instructions. 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

As a general rule, the taller a vehicle is the easier it will roll. We strongly recommend, because of rollover possibility, that the vehicle be equipped with a functional roll-bar and cage system. 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 kit—raising the front 8” and the back 7 with new leaf springs”. If you desire a different look or if your truck has a tool box or something else that is going to bring the rear end down, please consult with your sales repetitive about option higher block and u-bolt options.

The 8” suspension system was developed for 37x12.50x17 tire on an after market 17x9” wheel with 4” of back spacing.

NOTICE TO DEALER AND VECHICLE 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:

Diesel Coil Springs
Upper Control Arms (2)
Lower Control Arms (2)
Stabilizer Drop Brackets
Track Bar Bracket
Control Arm BracketBrake Line Drop Bracket
Sway Bar Link Extension
Pitman Arm
Carrier Bearing Drop Brkt
Front and Rear Shocks
7” Rear Spring
Rear U-Bolt Kit

Tools Needed:

8mm Wrench
10mm Wrench
12mm Wrench
15mm Wrench
17mm Wrench
17mm Socket
18mm Wrench
18mm Socket
19mm Wrench
21mm Wrench
24mm Socket
30mm Socket
1 1/8” Wrench
1 13/16” Wrench
Jack Stands
Jack

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

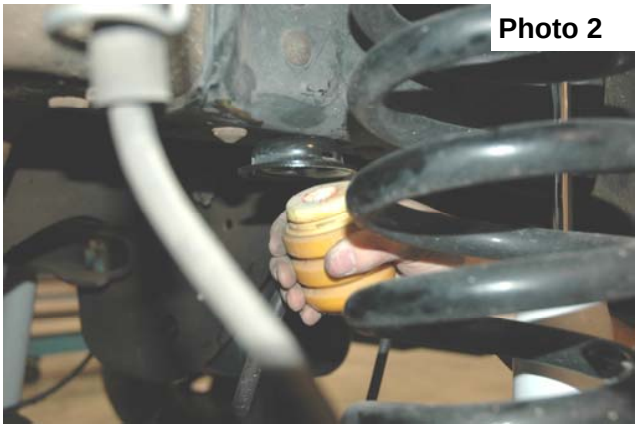
FRONT INSTALLTION INSTRUCTIONS

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.
3. Disconnect the sway bar end links from the axle bracket using a 21mm wrench. Remove end links **See Photo 1**.
4. Remove the bump stop from the cup shaped bracket. Remove the bracket from the frame rail using 10mm wrench. **See Photo 2**.

Photo 1



Photo 2

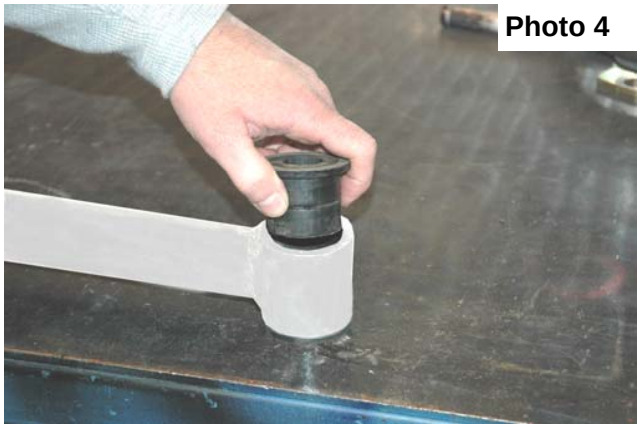


5. Disconnect the ABS sensor wire from the lower spring seat and the radius arm, using a 8mm wrench.
6. Unbolt the brake line brackets from the axle, using a 10mm wrench, to ensure brake line free play during the suspension system installation. Mark the coil springs and the coil spring seats on the axle with a grease pencil to ensure proper spring position during installation. Remove the center disconnect vacuum lines from the clamp on the axle.(If equipped with automatic hubs).
7. Using a 19mm wrench remove the nut, retaining washer and rubber bushing from the upper shock mounts. Using a 18mm wrench remove the lower shock bolts. Retain hardware for re-use. **See Photo 3**.
8. 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.
9. Using a 24mm wrench and socket remove the bolt holding the radius arm to the frame. Using a 24mm wrench, and socket remove the bolts holding the radius arm to the axle. Retain stock hardware for reuse.
10. Insert bushings, and sleeves from kit bag into both ends of the upper radius arm. **See Photo 4**.

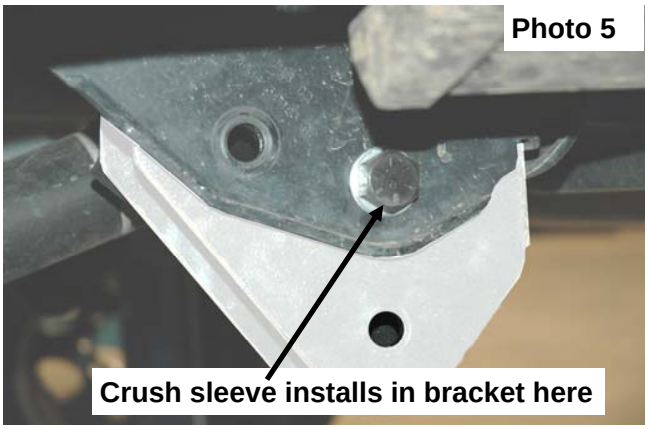
Photo 3

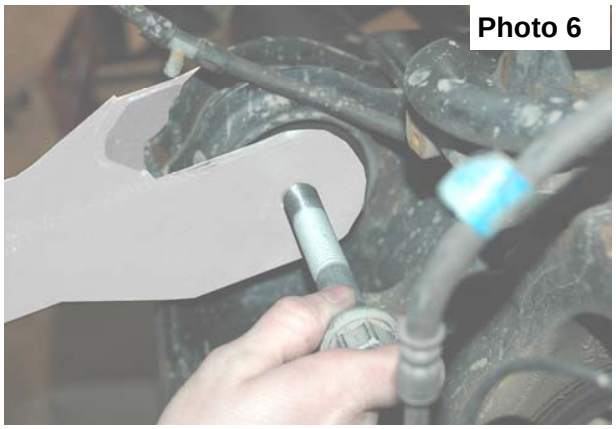


Photo 4

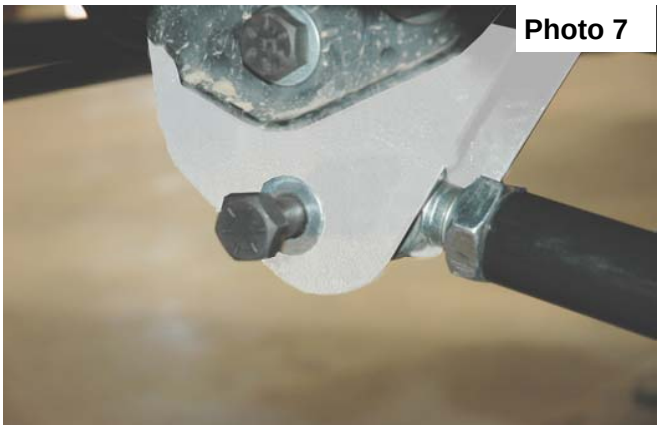


11. Insert the radius arm drop bracket into the stock location. Bolt into place using a 3/4” x4.75” bolt, crush sleeve, nut and washer provided in the kit bag. Do not tighten at this time. **See Photo 5**.
12. Attach the upper control arm to the radius arm drop bracket in the top hole. Bolt into place using a 3/4” x4.75” bolt, nut and washer provided in the kit bag. Do not tighten at this time.
13. Attach the control arms to the axle using the stock hardware. **See Photo 6. 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.**



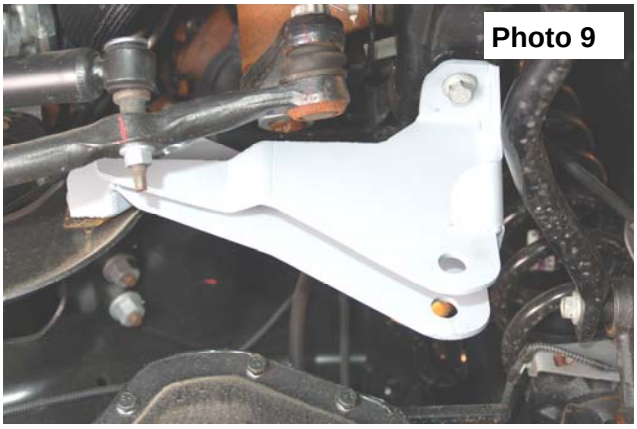


14. Insert the adjustable end of the lower radius arm into the radius arm drop bracket as shown in **Photo 7**. Bolt into place using a 3/4” x4.75” bolt, nut and washer provided in the kit bag. Using a 1 7/8” wrench tighten the jam nut. Center of end to center hole of opposite end should be 36 1/8”. Reattach the ABS wire to the upper radius arm. **See Photo 8**.
15. Repeat step 12-15 on the opposite side.





16. Using a 21mm wrench and 19mm wrench socket remove the factory track bar bracket from the frame. Retain stock hardware for re-use
17. Position the Rough Country track bar bracket on the frame in the same position as the original and secure using the factory hardware. **See Photo 9**. The track rod will be installed later.



18. 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 8mmx95mm bolt supplied. Torque to 15 ft. lbs.
19. 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.
20. Install the bushings and sleeves on the front gas shock absorbers part **# 658459.**
21. 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 using the stock hardware, and a 19mm wrench, tighten only enough to bulge the bushing.
22. Factory brackets secured the brake hoses to the front of the coil spring tower on the frame, these brackets where removed during disassembly. Remove the stock brake line strap from the brake hose to allow more of the rubber holes to be utilized. Attach the brake line drop brackets to the coil towers where the factory brackets where mounted using the stock hardware. Insert the supplied 5/16"x 3/4" bolt through the bracket and coil tower just below the factory bolt and secure using the supplied 5/16" nut.
23. Carefully reform the metal brake line as necessary in order to line up the factory brake hose bracket with the lower end of the drop bracket. Attach the factory bracket to the drop bracket using the supplied 1/4" x 3/4" bolt and nut. Attach the lower brake hose brackets to the axle using the factory hardware and tighten. **See Photo 10**.
24. The factory steering stabilizer bracket is attached to the front lip of the engine cross member via a two bolt tab. Remove the nuts securing the stabilizer mount to the cross member, using a 19mm socket. It is not necessary to entirely remove the factory bracket. Position the steering stabilizer drop bracket on the back side of the cross-member lip and secure it using the factory tab bolts and nuts. Do not tighten at this time
25. Install the supplied 5/8" X 1.50" bolt through the factory bracket, where the stabilizer used to mount and the new bracket. The bolt should be installed from the outside and secured with the supplied washers and nut. Tighten the 5/8" bolt to 112 ft/lbs and the factory bolt to 136 ft/lbs. Using a 24mm socket See **Photo 11.**

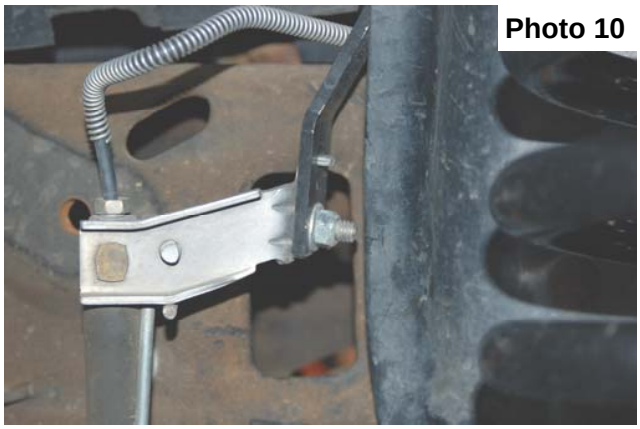


Photo 10

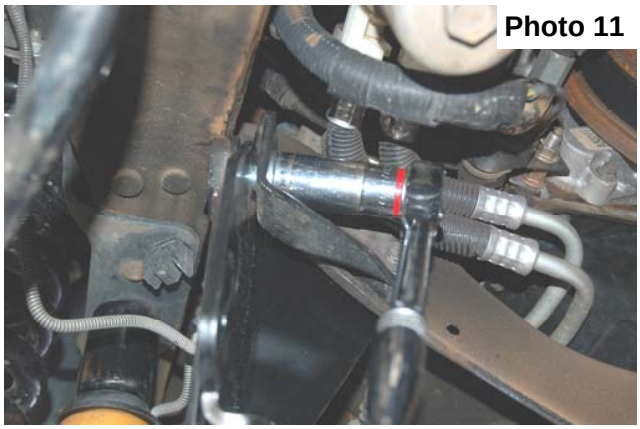


Photo 11

26. Install the factory washer and bushing half on the stem end of the stock stabilizer, them position the stem through the remaining hole in the new stabilizer drop bracket. Install the remaining bushing half, washer, and factory nut, then tighten until the bushing swells slightly**. See Photo 12**.
27. Install tires and wheels and lower the vehicle to the ground.
28. Thread the female end of the anti-sway bar link extension on the factory sway bar end links and tighten to 60 ft/lbs. **See Photo 13.**

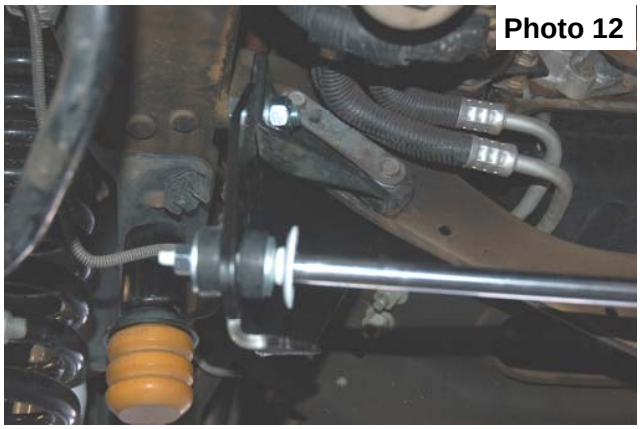


Photo 12

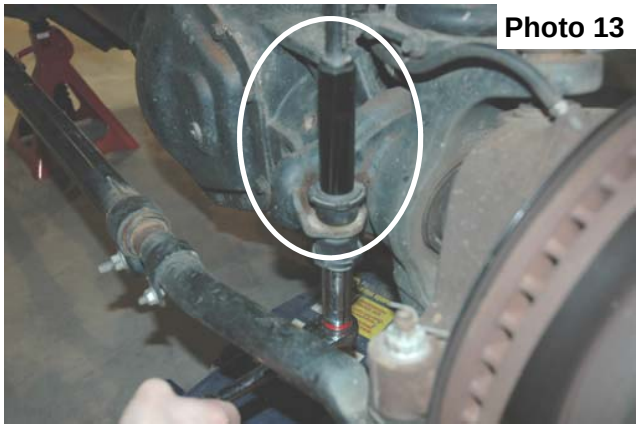
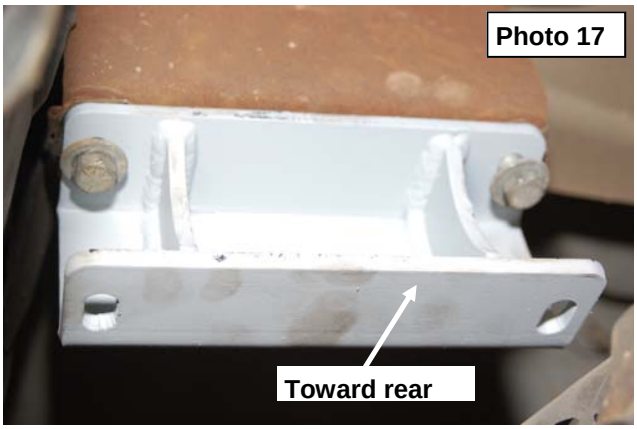


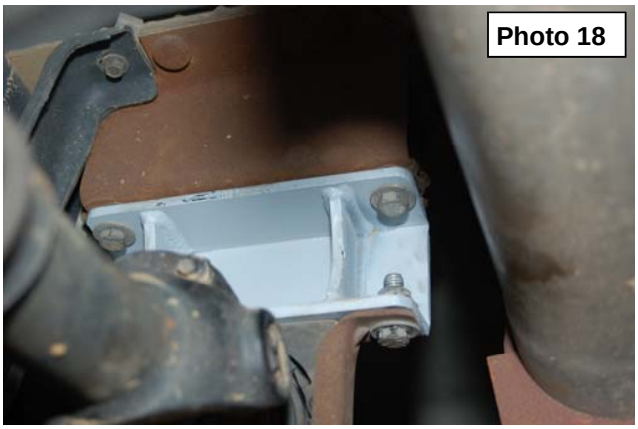
Photo 13

29. Tighten the radius arm bolt to 230 ft/lbs
30. Remove the cotter pin and nut using a 21mm wrench, from the drag link end where it attaches to the pitman arm. 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. 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.
31. Install new arm, lock washer, and nut. Using a 34mm socket, torque to 200 ft/lbs.
32. 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
33. Install the track bar in the new track bar bracket with the factory hardware. Tighten using a 30mm wrench. NOTE: It may be necessary to start the truck and turn the wheels in the direction the track bar needs to go in order to align the track bar with the hole. Install using the stock track bar hardware.

CARRIER BEARING DROP INSTRUCTIONS

1. For vehicles with 2 piece drive shafts, support the driveshaft, using a 17mm socket remove the bolts from the carrier bearing bracket.
2. Lower the drive shaft and install the drop bracket in the stock location. Reuse the factory hardware to secure the carrier bearing drop bracket to the frame. Tighten hardware. Please note the direction of the drop bracket. The bracket is installed with the tall part of the bracket toward the rear. Flat part of the bracket installs on the stock frame location and the drive shaft carrier bearing installs on the angled part of the bracket. **See Photo 17.**
3. Using the supplied 7/16” x 1 1/2” bolts, secure the carrier bearing to the new drop bracket as shown in **Photo 18.**





REAR LEAF SPRING 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. On Driver side disconnect the parking brake cable bracket from the spring plate and retain hardware **See Photo 1**. Take care not to over extend the brake lines.
4. Using a 24mm socket, remove the stock u-bolts. Use the floor jack to lower the axle assembly to allow for lifted block installation.
5. Remove the spring eye bolts and nuts and remove the spring**.** If equipped: the top mounted block and top mounted overload spring must be removed and will not be reused.
6. Install the new spring on vehicle using factory spring bolts. Torque to 86-110 ft./lbs.
7. Reattach parking brake cable bracket to the spring plate. If more slack is needed remove the cable from the rearmost cable ring on the frame rail **See Photo 2.**

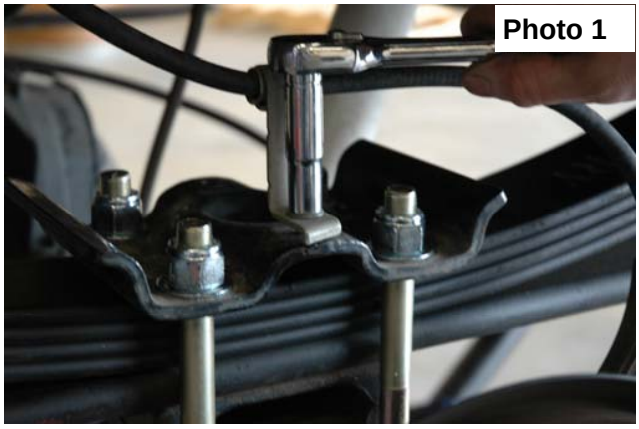


Photo 1

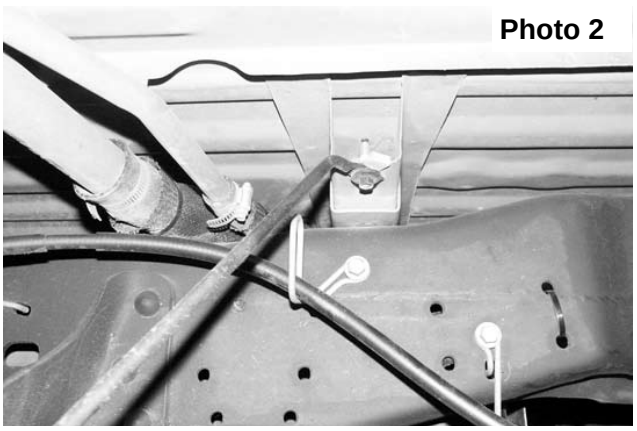


Photo 2

8. 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
9. Install the tires and wheels.
10. Jack up the rear of the vehicle and remove the jack stands. Lower the vehicle to the floor.
11. With the weight of the vehicle on the axle, torque the u-bolts to 120 ft/lbs.
12. On the leaf spring to front spring hanger torque bolts to 222 ft.lbs. and on rear leaf spring to shackle and shackle to frame mount torque bolts to 185 ft.lbs.
13. Check all hardware for proper torque.

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SUSPENSION SYSTEMS

POST INSTALLATION INSTRUCTIONS

1. Adjust steering wheel to re-center prior to driving.
2. 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. Check steering gear for clearance. Test and inspect brake system.
3. 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. Longer replacement hoses, if needed can be purchased from a local parts supplier.
4. Have a qualified alignment center realign front end to
   Caster min– 4.0 degree
   Camber –0.6—.09 degree
   Toe –.10– .15 degree
5. Install Warning to Driver decal on sun visor.
6. Re-torque all nuts, bolts, and especially u-bolts after the first 100 miles, again after another 100 miles and then check periodically thereafter.
7. All components must be retightened after 500 miles, and every three thousand miles after installation
8. Adjust headlights to proper settings.

KIT CONTENTS





Don't forget your RCX Dual Stabilizer Kit !



Thank you for choosing Rough Country for your suspension needs.