

ROUGH COUNTRY

SUSPENSION SYSTEMS®

2011-13 2500/3500 Dodge 5" X-Series

Thank you for choosing Rough Country Suspension for your Off Road 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. Average professional install time for this kit is 4-6 hours.

Please read all the instructions before beginning the installation. Check the kit hardware against the kit contents list on the last page. Be sure you have all the needed parts and understand where they go.

⚠ WARNING

Product Use Information

As a general rule, the taller a vehicle is the easier it will roll. We strongly recommend, because of roll-over possibility, that the vehicle be equipped with a functional roll-bar and cage system. Seat belts and should harnesses should be worn at all times. Avoid situations where a side rollover may occur.

Also check the steering stabilizer. It is a good idea when adding larger than stock tires to go with a larger bore steering stabilizer or a dual unit for tires 35+and above. Inspect the stabilizer and replace as necessary.

Braking performance and capability are decreased when significantly large/heavier tires and wheels are used. Take this into consideration while driving.

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. 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.

⚠ NOTICE

This suspension system was developed for 37x12.50 tire on the stock 17+x 9+or 20+wheels at 5+of lift. On an aftermarket wheel you will need to purchase a 8+wide wheel with minimum of 4-5/8+of backspacing. When larger tires are installed, speedometer recalibration is necessary. Due to ride height inconsistencies from the factory you may need to slightly trim the front plastic valance for proper tire clearance.

This kit can also be used a 3500 single rear wheel truck. Use of this kit on a dual rear wheel pickup is not recommended. Block and u-bolt combinations may vary with 3500 models.

⚠ NOTICE

On vehicles equipped with a two piece driveshaft & carrier bearing as on the Mega Cab, there is the potential for take off vibration, depending on the severity this can be corrected with shimming down the carrier bearing.

Carrier bearing drop kit Part # 1110 is available from Rough Country. Also 2500/3500 trucks with factory overload springs the overload will have to be removed for the new block and u-bolt installation.

⚠ NOTICE

Notice to Dealer and Vehicle Owner

Any vehicle equipped with any Rough country product must have the ⚠Warning to Driver+decals 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. 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.

INSTALLING DEALER—It is your responsibility to install the warning decal and to forward these installation instructions to the vehicle owner for review and to be kept in the vehicle for its service life.



Tools and Supplies Needed to Install Kit

1. Torque Wrenches	8. Pitman Arm Puller
2. ½+Drive Ratchet and Sockets	9. Hammers
3. Assorted Combination Wrenches	10. C-Clamps
4. Heavy Duty Jack Stands	11. Center Punch
5. Hydraulic Floor Jacks	12. Rubbing Alcohol
6. Channel Locks	13. Safety Glasses
7. Anti-Seize Compound	14. Non- Water Soluble Grease

FRONT SUSPENSION INSTALLATION

1. Secure and block the rear tires of the vehicle on a level concrete or asphalt surface
2. Open the hood and remove the shock nuts, retaining washers and rubber bushings from both upper shock mounts located inside the engine compartment. The shocks will be removed when the coils are removed.
3. 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
4. On both sides of the vehicle, scribe alignment marks on the adjustment cam and axle bracket at the lower link to axle attachment point for later reference. **See Photo 1.**
5. Unbolt the brake line brackets from the control arm mount on the axle using a 13mm wrench to ensure brake line free play during the suspension system installation.
6. Loosen the stock front upper sway bar links on the sway bar as shown in **Photo 2** using a 15mm wrench.

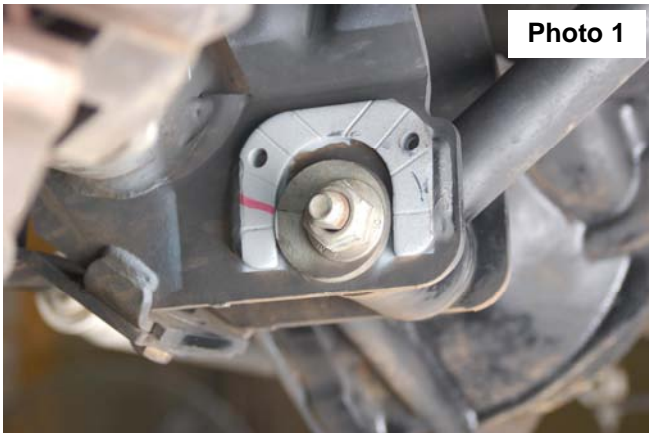


Photo 1

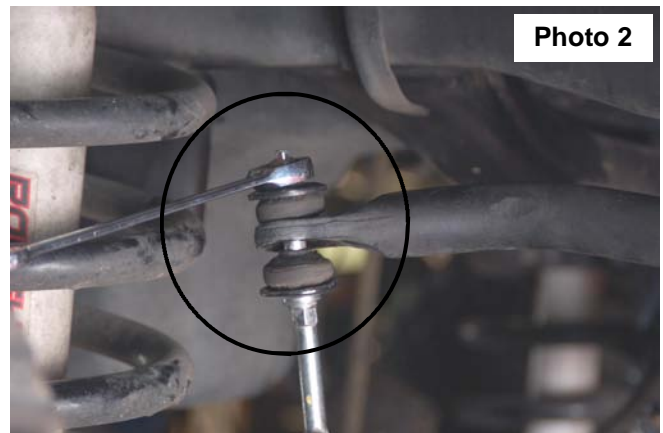


Photo 2

7. Remove the track bar from its upper mounting point on the frame using a 24mm wrench and rest it on the axle. It may be helpful to loosen the lower track bar bolt on the axle. Retain hardware for reuse.
8. Remove the cotter pin, and castle nut from the drag link where it connects to the pitman arm. A pitman arm tool may be needed to separate the drag link from the pitman arm. Remove the stock nut, and lock washer from the sector shaft on the steering box. Save hardware for later installation. Using a pitman arm puller carefully remove the stock pitman arm.
9. The new lower control arms will be installed first on both sides of the vehicle. This is done to make it easier to remove the hardware from the arms and to not cause bind in the front suspension. Remove the lower suspension arm nut, cam, and cam bolt from the axle. Refer to **Photo 1**. Remove the nut and bolt from the frame attachment point and remove the lower suspension arm from the vehicle. Repeat this step for the opposite side of the vehicle. Retain hardware for reuse.

10. Adjust the arms to a length of 20+ from center to center of the eye. **Note: The arms may need to be readjusted for the alignment. This measurement is a starting point.**
11. Install the new Rough Country lower suspension arms in place of the stock lower suspension arms. **See PHOTO 3 & 4.** Slight prying of the mounts apart may be necessary for arm installation. Install the original rear suspension arm bolt and slightly tighten the nut. Install the original front suspension arm bolt and slightly tighten the nut. Refer to the reference mark on the cam bolt and the axle when installing the cam bolt. Repeat on the other side of the vehicle.

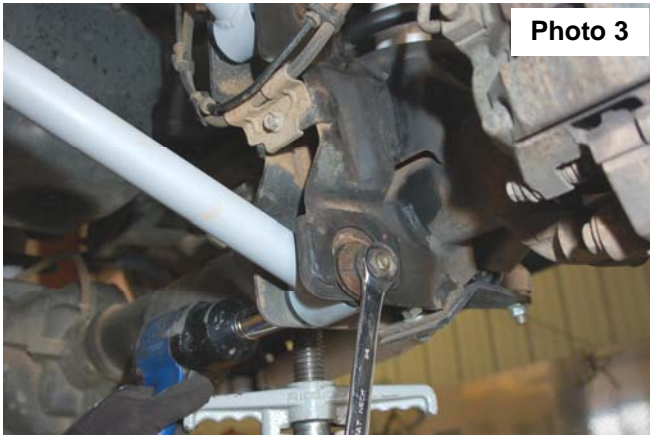


Photo 3



Photo 4

12. Remove the upper suspension arm nut and bolt at the axle. Remove the nut and bolt at the frame and remove the upper suspension arm. Repeat this step for the opposite side of the vehicle. **Note: If your truck has a diesel engine it may be necessary to unbolt the exhaust from the turbo to allow for clearance to remove the upper front bolt.** Retain hardware for reuse.
13. Adjust the arm to a length of 18-5/16 from center to center of the eye. **Note: The arms may need to be readjusted for the alignment. This measurement is a starting point.**
14. Install the upper suspension arms in place of the stock upper suspension arms. **See PHOTO 5 & 6.** Slight prying of the mounts may be necessary for arm installation. Install the original front and rear suspension arm bolt and slightly tighten the nuts. **Note: Raising the axle to ride height and rotating the lower arm cam adjusters will facilitate insertion of the upper suspension arms.** Repeat steps for the opposite side of the vehicle.



Photo 5



Photo 6

15. Remove the lower shock bolts on the axle, and save for later installation. The shock absorbers will be removed from the vehicle at the same time the coils are removed from the vehicle.
16. Carefully lower the jack until the coil springs are free (the upper suspension arm will be contacting the axle bracket) Remove the coil springs and shocks from the vehicle. **Note: use of a coil spring compressor may be required for spring removal.**
17. Locate shock absorbers part #658732 or 2.2 upgrade part #660574, and push in sleeves in lower shock mount.
18. Install the Rough Country coil springs and shock absorber in the stock mounts by sliding the shock through the middle of the coil. The use of a coil spring compressor may be required for installation
19. Lower the axle until the spring can be seated in the mount. Check to be sure the wrap on the coil spring in relation to the lower mount properly seats the spring by turning the coil spring until it seats.
20. Remove the coil spring compressor at this time.

21. Place the track bar bracket on the factory upper track bar mount. Insert the supplied $\frac{3}{4}$ " x $1\frac{3}{8}$ " long sleeve inside the factory mount and line it up with the mounting hole. **See Photo 7.** Install the supplied 16mm x 80mm bolt and nut through the bracket, sleeve and factory mount. Tighten slightly.
22. Install the 12mm x 3" bolt through the bracket and slotted existing hole in the frame cross member. **See Photo 8.** The bolt should be installed from the bottom. Install the supplied square washer and lock nut. Tighten track bar hardware. The track rod will be installed into the new mount after the vehicle is on the ground.



Photo 7



Photo 8

INSTALL SQUARE WASHER ON TOP OF CROSSMEMBER

23. Install the new pitman arm into the stock location on the sector shaft, using stock hardware and torque nut to 185 ft. lbs. **See Photo 9.**
24. Reinstall the drag link onto the pitman arm using stock hardware.
25. Remove the sway bar hardware using a 18mm wrench as shown in **Photo 10** and allow the sway bar to separate from the frame.



Photo 9



Photo 10

26. Install the sway bar drop bracket as shown in **Photo 11** and secure to the frame using the factory hardware. Tighten with a 18mm wrench.
27. Install the sway bar to the new bracket with the supplied $\frac{7}{16}$ " x $1\frac{1}{4}$ " bolts, flat washers and nuts. **See Photo 12.** Tighten using a $\frac{9}{16}$ " socket and wrench.



Photo 11



Photo 12

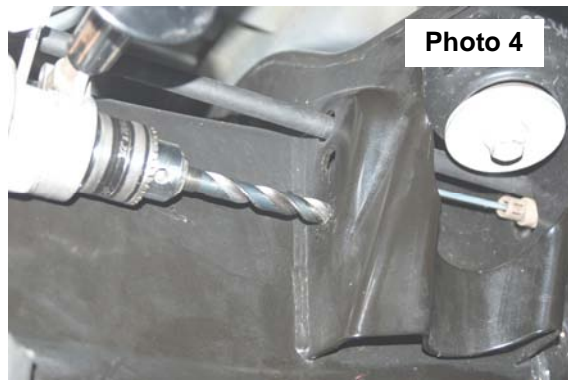
28. Raise the front axle with a floor jack to slightly compress the coil springs.
29. Install the lower end of the shocks in the stock location and tighten using stock hardware.
28. Lower vehicle to the ground. Install the tires / wheels. Install track bar on bracket with supplied 16mm x 80mm Bolt.
29. Torque the fasteners to the following specifications, Lower suspension arm cam nut-110 ft/lbs, Lower suspension arm rear nut-88 ft/lbs, Upper suspension arm axle nut-89 ft/lbs, Upper suspension arm frame nut-62 ft/lbs, Track Rod Bolt-110 ft/lb

E-BRAKE EXTENSION INSTALLATION

1. Secure and block the front tires of the vehicle on a level concrete or asphalt surface.
2. Raise the rear of the vehicle and support the frame with jack stands. Remove the rear wheels and tires and set aside.
3. Un-couple the e-brake cable on the drivers side of the vehicle. **See Photo 1.**
4. Remove the cable from the body mount using pliers to release the cable clips as shown in **Photo 2**



5. Remove the cable and place the supplied drilling template in place, making sure the template has the new hole placed directly below factory hole. The template may be tapped in place. **See Photo 3.**
6. Drill the new hole as shown using a 9/16+ drill bit. **See Photo 4.**



7. Install the e-brake line bracket on the e-brake line as shown in **Photo 5**, making sure the bracket snaps into place.
8. Install the supplied brake line bracket as shown in **Photo 6** with the supplied 1/2"x 1 1/2" bolts, flat washers and lock nut. Tighten using a 19mm wrench / socket.



9. Install the supplied e-brake extension bracket as shown in **Photo 7.**



REAR BLOCK INSTALLATION

1. Secure and block the front tires of the vehicle on a level concrete or asphalt surface.
2. Raise the rear of the vehicle and support the frame with jack stands. Remove the rear wheels and tires and set aside.
3. Place a floor jack under the center of the axle, and remove the stock u-bolts. Also remove the stock shocks.
4. Lower the axle down away from the springs, to allow clearance for the block. Make sure you do not overextend the brake lines.
5. Using C clamps, clamp on each side of the leaf pack and remove the two spring bolts using an 18mm socket as shown in **Photo 1**.
6. Remove the factory mini spring pack and bolts. **See Photo 2.**



Photo 1

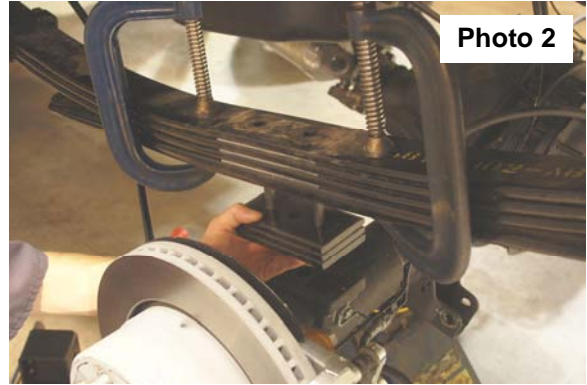


Photo 2

7. Install supplied 1/2"x 3" Allen head bolts and lock nuts. **See Photo 3.**
8. Tighten using a 3/4" socket and 3/8" Allen. **See Photo 4.**



Photo 3

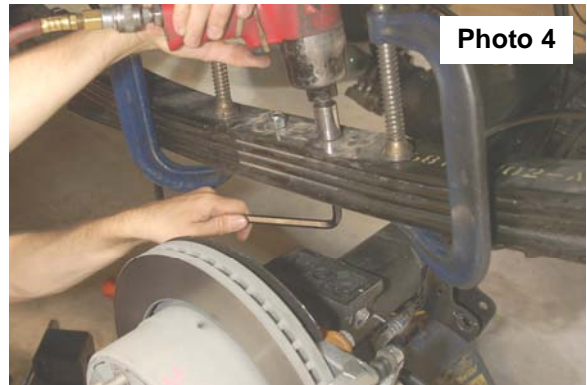


Photo 4

9. Remove C clamps and install supplied anti-wrap block and ubolts. Tighten using a 13/16" socket. Torque to 90 ft-lbs. **Larger end of the block will go toward the rear of the truck. See Photo 5.**
10. Install supplied anti-wrap ubolts, washers, and nuts as shown in **Photo 6**. Tighten using a 5/8" socket. Torque to 45 ft-lbs.

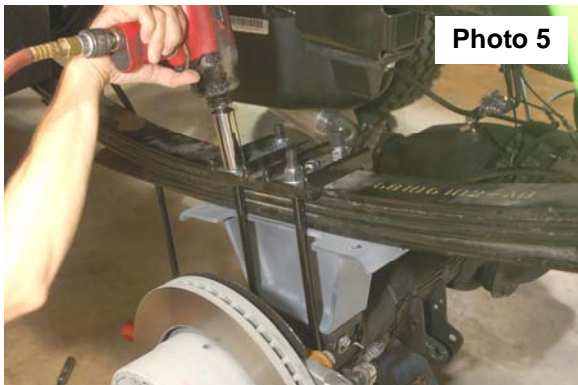


Photo 5

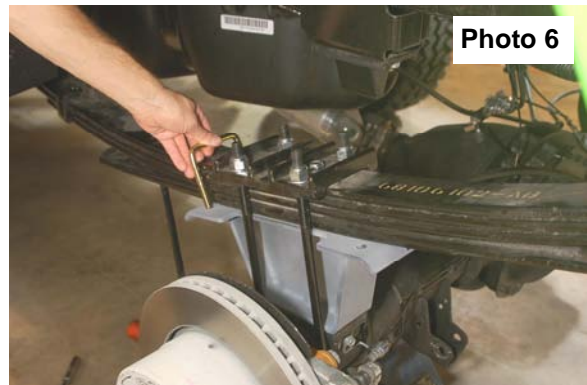


Photo 6

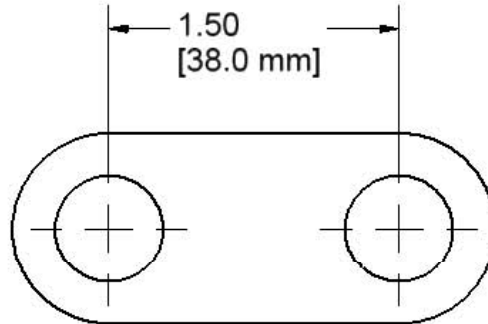
11. Assemble the new shock absorbers part #658694 or 2.2 upgrade part #660562 with bushings/sleeves and install on the vehicle.
12. Install the wheels / tires. Jack up the vehicle and remove the jack stands.
13. Lower the vehicle to the floor.

Kit Contents:	Poly Bags:	
2-Coil Spring 1-Front Track Bar Bracket 2-Front Sway Bar Brackets 1-Pitman Arm (6616) 2-Rear Lift Block 4-Rear U-bolt 2-Front Shock Absorber N2.0 - 658732 or 2.2 - 660574 2-Rear Shock Absorber N2.0 - 658694 or 2.2 - 660562 2-Upper Adj Control Arms 2-Lower Adj Control Arms	1394Bag3: Shock Bag 6-Shock Sleeves 4-Stem Bushings 4-Bushings retainers 2-Stem Nuts	1348Bag2: 2-16mm Locknut 2-16mm X 80mm Bolt 1-12mm Flange Locknut 1-12mm X 80mm Bolt 1-Square Track Rod Washer 4-7/16+X 1 1/4+Bolt 4-7/16+Lock Nut 8-7/16+Flat Washer 1-1/2+x 1 1/2+Bolt 1-1/2+Lock Nut 2-1/2+Flat Washer



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DRILLING TEMPLATE



POST INSTALLATION INSTRUCTIONS

Check all fasteners for proper torque. Check to ensure there is adequate clearance between all rotating, mobile, fixed and heated members. Check steering gear for interference and proper working order. Test brake system. Perform steering sweep. Check to ensure brake hoses have sufficient slack and will not contact rotating, mobile, or fixed members, adjust lines/brackets to eliminate interference and maintain proper working order. Failure to perform inspections may result in component failure.

Re-torque all fasteners after 500 miles. Visually inspect components and re-torque fasteners during routine vehicle service.

Readjust headlights to proper settings.

It is the buyer's responsibility to have all bolts/nuts checked for tightness after the first 100 miles and then every 1000 miles. Suspension components every 3000 miles.

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.

