## Thank you for choosing Rough Country for 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 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. 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.

This suspension system was developed using a 37X12.50X17 tire with 4.5" to 4.75" of back spacing on aftermarket wheels. Stock wheels can be used with this kit with up to a 35x12.5 tire, but different tire manufactures designs may result in a tire width that could result in contact with the lower control arm and/or front sway bar link in a sharp turn. Please consult with your tire and wheel expert before purchasing. Also note that if wider tires are desired, offset wheels will be required.

IMPORTANT NOTE: Upon completing the install of this kit the draglink must be adjusted to center the steering wheel <u>BEFORE</u> the vehicle is driven. Failure to do so will cause a computer error, odd handling, and poor performance.

Driveshafts are available from Rough Country. The stock driveshafts do not have enough range of motion, thus the shaft joints bottom out and damage will occur. It is highly recommended that the stock shafts not be used and new yoke style shafts are installed.

If question exist we will be happy to answer any questions concerning the design, function, and correct use of our products by calling 1-800-222-7023.

## 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.

INSTALLING DEALER - 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.

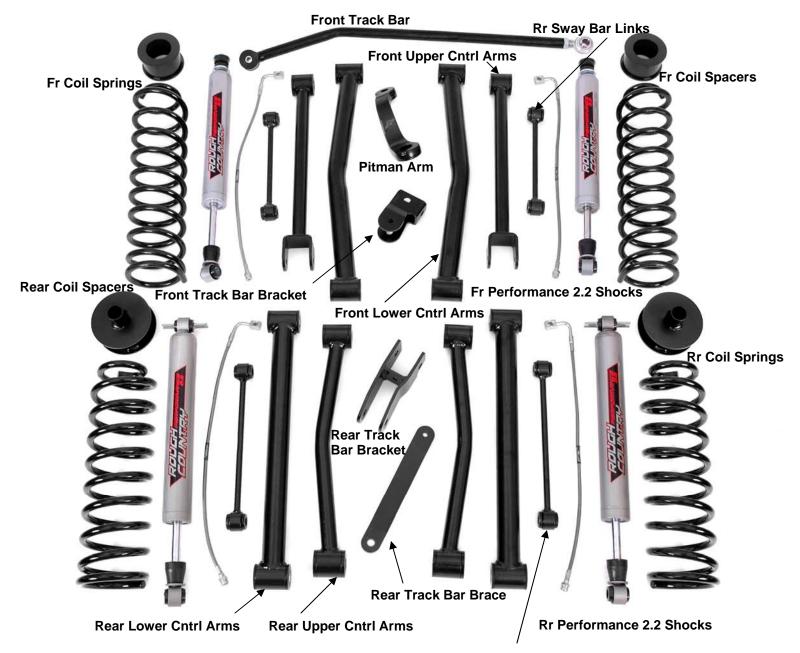
#### **Tools Needed:**

10mm Wrench	21mm Socket	Jack
14mm Wrench	21mm Wrench	Jack Stand
18mm Wrench	7/16" Wrench	13/32" Drill Bit
18mm Socket	9/16" Wrench	Drill

19mm Wrench 9/16" Socket Pitman arm puller

19mm Deep Well Socket

7/8" Wrench



**Rear Sway Bar Links** 

TORQUE SPECIFICATIONS				
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		
Metric (Grade)	8.8	10.9	12.9	
14MM	85ft/lbs	120ft/lb.	145ft/lbs	

### FRONT INSTALLATION INSTRUCTIONS

1.	Prior to installing this kit, with the vehicle on the ground, measure the heights of your vehicle. This measurement can
	be recorded from the center of the wheel straight up to the top of the inner fender lip. Record the measurements.

. –	D.E.		D.D.
LF: ,	RF: ,	LR: ,	RR:

- 2. Place vehicle in park and chock the rear wheels. Raise the front of the vehicle with a jack and secure a jack stand beneath each frame rail behind the front control arms. Ease the frame down onto the stands. Support the axle with a floor jack.
- 3. Remove the front tires/wheels, using a 19mm deep well socket.
- 4. Using a 21mm socket, remove bolt securing the front track bar to the frame. Retain stock hardware. **See Photo 1**.
- 5. Using a 18mm socket and wrench remove the bottom sway bar bolts. Using a 21mm socket and 21mm wrench, remove the top of the sway bar link. See Photo 2.
- 6. Remove the lower shock bolt using a 18mm socket and wrench. Using a 14mm wrench unbolt the top of the shock and remove. See Photo 3. Retain stock hardware.
- 7. Using a 21mm socket and wrench loosen the upper and lower control arm bolts at the axle and frame, but do not remove.

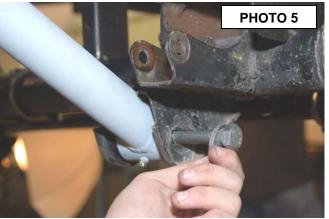




- On some models it will be necessary to remove the brake line bracket from the frame to allow the coils to be removed. Using a 10MM socket, remove the brake line bracket from the stock location.
- 9. Lower the axle with the floor jack to allow room for the coils to be removed. Remove stock coil springs. Retain upper coil isolators.
- 10. Using a 21mm wrench, remove the bolts that secure the lower link arms to the axle. The OE lower control mounts are perforated from the factory. The perforated sections must be removed to accept the new cam bolts supplied in the kit. The perforated sections can be removed with a rotary grinding tool or a chisel. See Photo 4.
- 11. Assemble the lower control arms with the bushings, sleeves & install in the lower mounts with the supplied cam

bolts. The cam bolts should be installed from the outside. Snug, but do not tighten at this time. See Photo 5. The bend on the lower control should be facing inward to allow for the tires to achieve full lock to lock turning.







**PHOTO 3** 

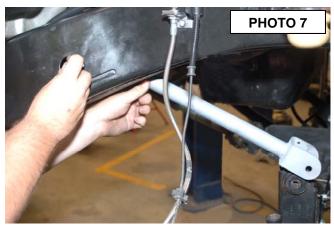
- 12. Remove the bolts securing the upper control arms to the axle using a 18mm wrench/socket. It will be necessary to cut out the passenger side upper bolt as shown in **Photo 6** to remove the control arm.
- 13. After the stock control arms have been removed assemble the bushings /sleeves in the upper control arms and install in the upper mounts with supplied 12mm x 80mm bolt on the passenger side, and stock hardware on the driver side. Do not fully tighten at this time. **See Photo 7.**



- 14. Loosen the stock brake line from the metal line on the frame rail shown in **Photo 8** using a 12 mm line wrench. A catch pan will be needed to catch the brake fluid.
- 15. Remove the line from the frame rail using a 10mm socket as shown in **Photo 9.** Remove the brake line from the caliper and replace the brake line with the supplied stainless steel lines and brackets as shown in **Photo 10.** Reattach at the caliper using supplied crush washers, tighten line and install the spring clip.
- 16. Remove the drive shaft from the differential using a 15mm wrench. **See Photo 11.**
- 17. Remove the driveshaft from the transfer case by removing the 8-8mm bolts as shown in **Photo 12**. Remove the shaft from the Jeep. Driveshaft install will be performed in a later step.









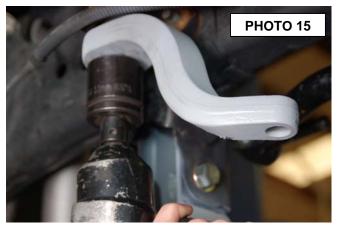




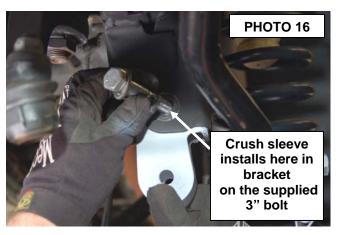
- 18. Install the new Rough Country coil spring spacer as shown in **Photo13** in the factory location, making sure the coil is positioned properly in the lower seat, as stock was.
- Using a 21mm socket remove the tie rod end from the pitman arm. Remove the pitman arm nut using a 33mm socket
- 20. Using a pitman arm puller, remove factory pitman arm. See Photo 14. Install the new pitman arm with the stock hardware an using a 33mm socket. See Photo 15. Reinstall the drag link on the new pitman arm with the stock nut and using a 21mm wrench.
- 21. Locate the front shock part # 660585 shock . Position the cup washer and stem bushing on the stem end of the shock and insert the stem in the upper shock tower. Install the remaining bushing and washer and loosely secure using the supplied nut. Tighten until the bushing swells slightly.







- 22. NOTE: The RC 2.2 Series shocks are built to run piston down and have a built in bump stop thus a longer bump stop or bump stop extension is not needed with this kit.
- 23. Attach the shaft end of the shock to the axle and secure using the stock hardware. Tighten to 80 ft.lbs.
- 24. Locate new track bar bracket and install into the stock mount as shown with supplied 9/16 x 3" bolt crush sleeve, washers, nut. **See Photo 16.**
- 25. Using the supplied 1/2" x 1 3/4" bolt/washer & lock washer, install into stock hole on track bar mount. The thicker 1/2" washer **must** be used in this location. **See Photo 17**. Tighten hardware.





- 26. Assemble the bushings/sleeves in the track rod and adjust to a length of 32 7/8" center of hole to center of hole. Install the new track bar into the new track rod bracket using the stock hardware. Install the lower end of the new track rod on the axle as shown in **Photo 17**. Torque all fasteners to specifications. It may be necessary to turn the steering wheel to align the track rod end with the axle.
- 27. Reinstall the front tires/wheels, using a 19mm deep well socket & lower the vehicle to the floor.
- 28. Install the supplied 10" sway bar link in the factory location on the axle and on the sway bar with the supplied 1/2" x 2 3/4" bolts/washers & nuts. Tighten the upper using a 3/4" wrench.



Please note: New drive shafts will have to be installed with this kit. Please follow instructions if included with drive shafts or have installed by qualified mechanic.

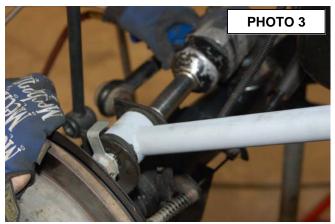
### **REAR INSTALLATION INSTRUCTIONS**

- 1. Jack up the rear of the vehicle and support the vehicle with jack stands, so that the rear wheels are off the ground. Chock front wheels. Position a jack so it supports, but does not raise the rear axle.
- 2. Remove the rear tires/wheels, using a 19mm deep well socket. Support the axle with a floor jack.
- 3. Using a 21mm socket remove the track bar bolt at the axle and secure the track bar out of the way. The axle hardware will not be reused.
- Using a 10mm wrench, unbolt the brake hose bracket at the frame to allow the axle to be lowered. Retain stock hardware.
- 5. Remove and discard the rear shocks using a 18mm wrench. Retain stock hardware.
- 6. Lower the axle and remove the coils springs. Retain the upper coil isolator for reuse.
- 7. Remove the driveshaft, as on the front using a 15mm wrench on the axle and a 8mm wrench for the transfer case.
- 8. Remove the upper control arms from the frame and axle using a 18mm wrench. Retain the upper flag nut in the frame and all other factory hardware. **See Photo 1.**
- 9. Assemble the bushings/sleeves in the upper control arms and install in the stock location with factory hardware using a 18mm wrench. **See Photo 2** showing the passenger side rear flag nut install & **Photo 3** showing rear axle install. Do not fully tighten at this time.



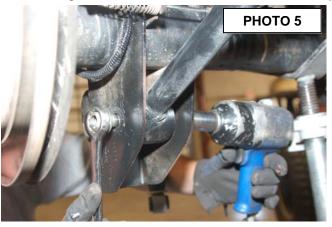


10. Using a 21mm socket remove the bolts securing the lower control arms at both the axle and frame. Passenger side lower shown in **Photo 4 & 5.** Remove the control arms and retain the hardware for reuse.





11. Assemble the bushings/sleeves in the new lower control arms and install in the factory location with the factory hardware using a 21mm wrench. **See Photo 6**. Do not fully tighten at this time.

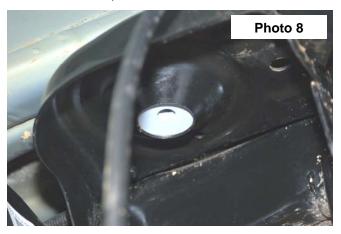




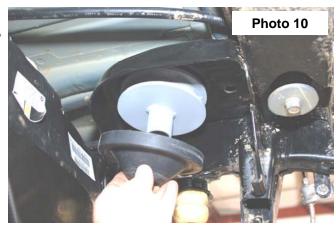
12. Install the new coil spring spacer with supplied washer/nut retainer and secure the assembly with supplied 1/2" x 2 3/4" bolt & lock washers through the factory coil mount as shown in **Photo 7,8 & 9**.

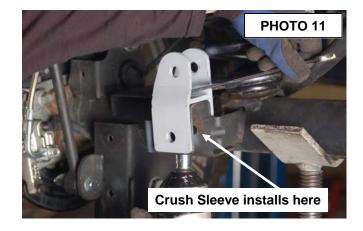


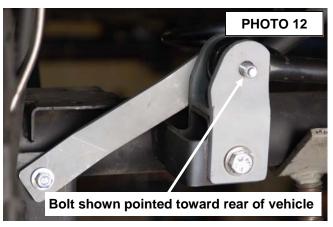
- Install the factory coil spring isolator as shown. See Photo 10.
- 14. Install the top of the coil back onto the coil seat. When installing the bottom of the coil into the seat rotate the coil until the pigtail hits the spring stop. Lower vehicle slightly, watching coils to assure they properly seat on top
- 15. Position the rear track bar bracket over the rear factory track bar mount. Verify that the original track bar mounting hole and the hole in the new track bar bracket are aligned vertically. Using the track bar bracket as a template mark and drill a 13/32" hole in the top of the original track bar mount from the top.
- 16. Insert the supplied crush sleeve, inside the factory track bar mount. Insert the supplied 14mm" x 80mm" bolt through the bracket, factory mount, and sleeve secure using the washer and nut. Tighten.
- 17. Install the .375-16 x 1" bolt, washer through the drilled hole from the top and secure with flange nut using a 9/16" wrench and socket. **See Photo 11.**
- 18. Install strap as shown in **Photo 12**. The bracket / factory track bar will install in place with the supplied 14mm x 80mm bolt washers & nut (upper hole) with the head of the bolt on the front by the coil spring. Install the supplied 3/8" x 1 1/4" top lock nut /washer on the shock mount and brace. It may be necessary to move the axle up or down with the floor jack to align the hole with the track rod.











- 19. Locate the 4 sway bar link sleeves. Insert the sleeves into the sway bar link bushings. Using the supplied .500-16 x 2.75" bolts, washers and nuts from 1683bag4, install the sway bar links to the sway bar, and axle mount., and tighten using a 13/16" socket and 7/8" wrench. . Make sure the bolts are installed with the HEAD of the bolt toward the tire.
- 20. Install the rear RCX 2.2 series shocks part # 660586 using the factory hardware, using a 16mm socket for the top, and a 18mm socket for the bottom. Shaft end of the shock will be pointed down. The shocks have a built in bump stop. A longer bump stop will not be needed. See Photo 13.
- 21. Remove the rubber brake line from the steel line using a 12mm wrench as shown in Photo 14 and remove the brake line from the caliper using a 15mm wrench.





22. Install the new brake line bracket using a 10mm wrench and stock hardware to secure to factory location. Install the

new brake line on the hard line and tighten. Install spring clip as shown in **Photo 15**. Install on the caliper with supplied crush washers,

- 23. using a 15mm wrench.
- 24. Reinstall the rear tires/wheels, using a 19mm deep well socket.
- 25. Lower the vehicle to the floor.
- 26. Using a 21mm socket tighten the front and rear lower control arms, both ends to 130 ft.lbs
- 27. Using a 18mm socket tighten the front upper control arms, both ends to 80 ft.lbs
- 28. Using a 21mm socket tighten the rear upper control arms to 130 ft. lbs.
- 29. Remove the e-brake cable bracket from the body using a 10mm wrench as shown in **Photo 16**. Remove the bracket

from the e-brake cable as shown in Photo 17 to allow slack in the e-brake cables.

Please note: New drive shafts will have to be installed with this kit. Please follow instructions if included with drive shafts or have installed by qualified mechanic







## **POST INSTALLATION**

IMPORTANT NOTE: The draglink must be adjusted to the center steering wheel <u>BEFORE</u> the vehicle is driven. Failure to do so will cause a computer error, odd handling, and poor performance

 Adjust front draglink to center the steering wheel before driving by loosening the two bolts and turning the adjustment collar. See Photo 1 & 2





- 2. 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.
- 3. 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.
- 4. Re-torque all fasteners after 500 miles and recheck after 1000 miles. Alignment must be checked by a qualified mechanic. Visually inspect components and re-torque fasteners during routine vehicle service.
- 5. Readjust headlights to proper settings.
- 6. Have a qualified alignment center realign the front end, to the factory specifications immediately.

Caster preferred 4.6 degree range +,- 1 degree
Camber preferred -0.25 degree range +,- 0.63 degree
Toe-in preferred 0.15degree range +,- 0.15 degree

# DO NOT REUSE FACTORY DRIVESHAFTS

