Rough Country 618.20 Installation Instructions

618.20

Part number: 618.20

trailfortress.com/rough-country-4-5-inch-lift-kit-618-20

Scan for fitment, price and install help

921620N200C

ROUGH COUNTRY SUSPENSION SYSTEMS®

1620BAG8

4” & 4.5” Jeep YJ Suspension Lift Kit

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

Rough Country recommends a certified technician install this system. In addition to these instructions, professional knowledge of disassembly and 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.

⚠NOTICE Please read the instructions before beginning the installation. Check the kit hardware against the Kit Contents shown on page 7. Be sure you have all needed parts and know where they go. If there are any questions about the installation or installation steps call our tech line at 800-222-7023.

⚠NOTICE With the installation of all lift kits and larger tires it is important to check the condition of your steering stabilizer. If the stabilizer is worn or is leaking it should be replaced. Steering stabilizers are designed to restrain “bump steer” and front-end vibration, giving added life to tires, ball joints, and other steering components. A large bore off-road stabilizer kit is highly recommended for vehicles equipped with larger tires, please contact your Rough Country distributor for details on purchasing this **Part #8731730.**

PRODUCT USE INFORMATION

⚠WARNING As a general rule, the taller a vehicle is, the easier it will roll. Offset, as much as possible, what is lost in rollover resistance by increasing tire track width. In other words, go "wide" as you go "tall". Many sportsmen remove their mud tires after hunting season and install ones more appropriate for street driving; always use as wide a tire and wheel combination as possible to enhance vehicle stability.

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 significantly 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 33x12.5 tire on a 15” x 8” wheel with 3.75” of backspacing. If the use of factory wheels is desired the maximum tire size that can be used is a 33” x 10.5”.

If you have any questions concerning the design, function, and/or correct use of our products please contact one of our customer service representatives us at 800-222-7023.

⚠NOTICE NOTICE TO DEALER AND VEHICLE OWNER

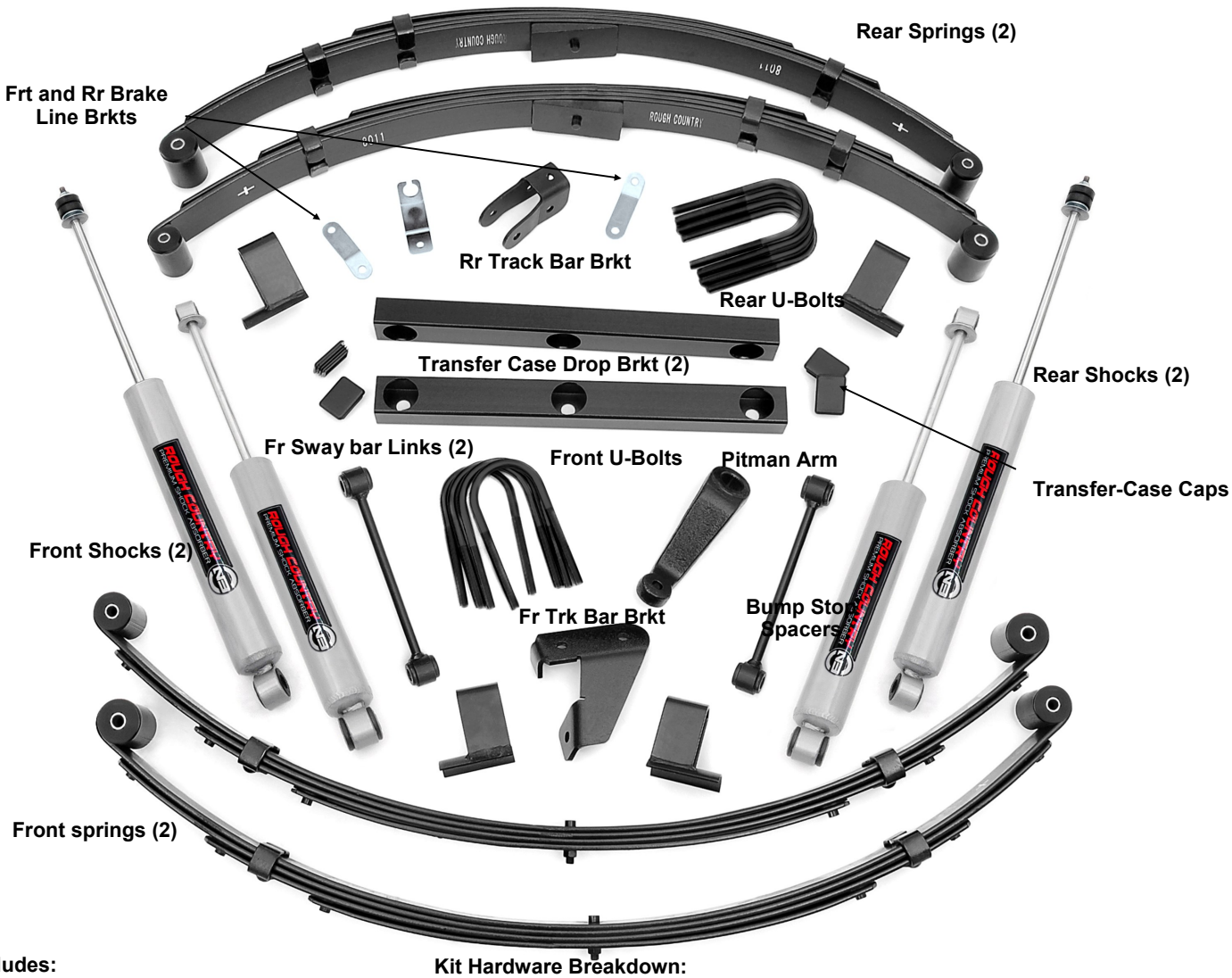
Any vehicle equipped with any Rough Country product should have a “Warning to Driver” decal installed on the inside of the windshield or on the vehicle’s dash. The decal should act as a constant reminder for whoever is operating the vehicle of its unique handling characteristics.

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.

IMPORTANT PRE—INSTALLATION INSTRUCTIONS

Prior to beginning this installation it is always good to use a penetrating oil and spray all fasteners that will be removed. Typically the spring eye bolts and the pitman arm are difficult to remove without having done this step. Rough Country does offer a replacement spring bolt kit to replace all leaf spring mounting bolts, Part #1184 that is highly recommended and something that should be considered before proceeding.

620N2 4” Kit Contents



Kit Includes:
8010-Fr Springs
8011-Rr Springs
1620BOX3 Contains:
- 6-1/2” x 2 3/4” x 6 1/4” U-bolts
- 2-1/2” x 3 1/4” x 6 3/4” U-bolts
- 1-Front Track Bar Bracket
- 1-Rear Track Bar Bracket
- 2-Front Sway Bar Links
- 2-Transfer Case Drop Spacers
- 4-Bump Stop Brackets
- 1-Pitman Arm
- 2-Front Brake Line Brackets
- 1-Rear Brake Line Bracket
- 2-Front Shock Absorbers
- 2-Rear Shock Absorbers
- 2-1/2” U-Bolt Bags
  - 8-1/2” Nuts
  - 8-1/2” Washers
- 1 -1620Bag1: Kit Hardware
- 1 -1620Bag7: - Kit Hardware
- 1—7593 Kit Bag

For Transfer Case Drop Brackets
- 6-9/16” x 3”Conical Bolts

Kit Hardware Breakdown:
1620Bag1:

For Rear Brake Line Bracket
- 1-5/16” x 1” Bolt
- 1-5/16” Washers
- 1-5/16” Nut

For Front Sway Bar Links
- 2-12mm x 65mm Bolts
- 2-Flat Washers
- 2-12mm Flange Lock Nut
- 2-Upper Sleeves

For Front Brake Line Brackets
- 2-5/16” x 1” Bolts
- 2-5/16” Washers
- 2-5/16” Nuts

For Pitman Arm
- *1-Cotter Pin*

For Front Track Bar Bracket
- 1-12mm x 65mm Bolt
- 1-Flat Washer
- 2-12mm Flange Lock Nut
- 1-12mm x 50mm Bolt
- 1-3/8” x 1 1/4” Bolt
- 1-3/8” Flat Washer
- 1-3/8” Flange Lock Nut

For Rear Track Bar Bracket
- 1-12mmx 65mm Bolt
- 1-12mm Flange Lock Nut
- 1-Crush Sleeve
- 1-3/8” x 1” Bolt
- 1-3/8’ Flat Washer
- 1-3/8” Flange Lock Nut

1620Bag7:

For Fr and Rear Shocks
- 4-Stud Bushings
- 4-Cup Washers
- 2-Stud Nuts
- 2-Upper Rr Mount Flat Washers

618.20 4.5” Military Wrap Springs Kit Contents



Kit Includes:
8063-Fr Springs
8064-Rr Springs
1618BOX3— Kit Box Contains:
- 6-1/2” x 2 3/4” x 6 1/4” U-bolts
- 2-1/2” x 3 1/4” x 6 3/4” U-bolts
- 1-Front Track Bar Bracket
- 1-Rear Track Bar Bracket
- 2-Front Sway Bar Links
- 2-Transfer Case Drop Spacers
- 4-Bump Stop Brackets
- 1-Pitman Arm
- 2-Front Brake Line Brackets
- 1-Rear Brake Line Bracket
- 2-Front Shock Absorbers
- 2-Rear Shock Absorbers
- 2-1/2” U-Bolt Bags
  - 8-1/2” Nuts
  - 8-1/2” Washers
- 1 -1620Bag1: Kit Hardware
- 1 -1620Bag7: - Kit Hardware
- 1—7593 Kit Bag

1618BOX2—Kit Box Contains:
- 4-Boomerang Shackles

For Transfer Case Drop Brackets
- 6-9/16” x 3”Conical Bolts

Kit Hardware Breakdown:
1620Bag1:
For Rear Brake Line Bracket
- 1-5/16” x 1” Bolt
- 2-5/16” Washers
- 1-5/16” Nut

For Front Sway Bar Links
- 2-12mm x 65mm Bolts
- 2-Flat Washers
- 2-12mm Flange Lock Nut
- 2-Upper Sleeves

For Front Brake Line Brackets
- 2-5/16” x 1” Bolts
- 4-5/16” Washers
- 2-5/16” Nuts

For Pitman Arm
- *1-Cotter Pin*

For Front Track Bar Bracket
- 1-12mm x 65mm Bolt
- 1-Flat Washer
- 2-12mm Flange Lock Nut
- 1-12mm x 50mm Bolt
- 1-3/8” x 1 1/4” Bolt
- 1-3/8” Flat Washer
- 1-3/8” Flange Lock Nut

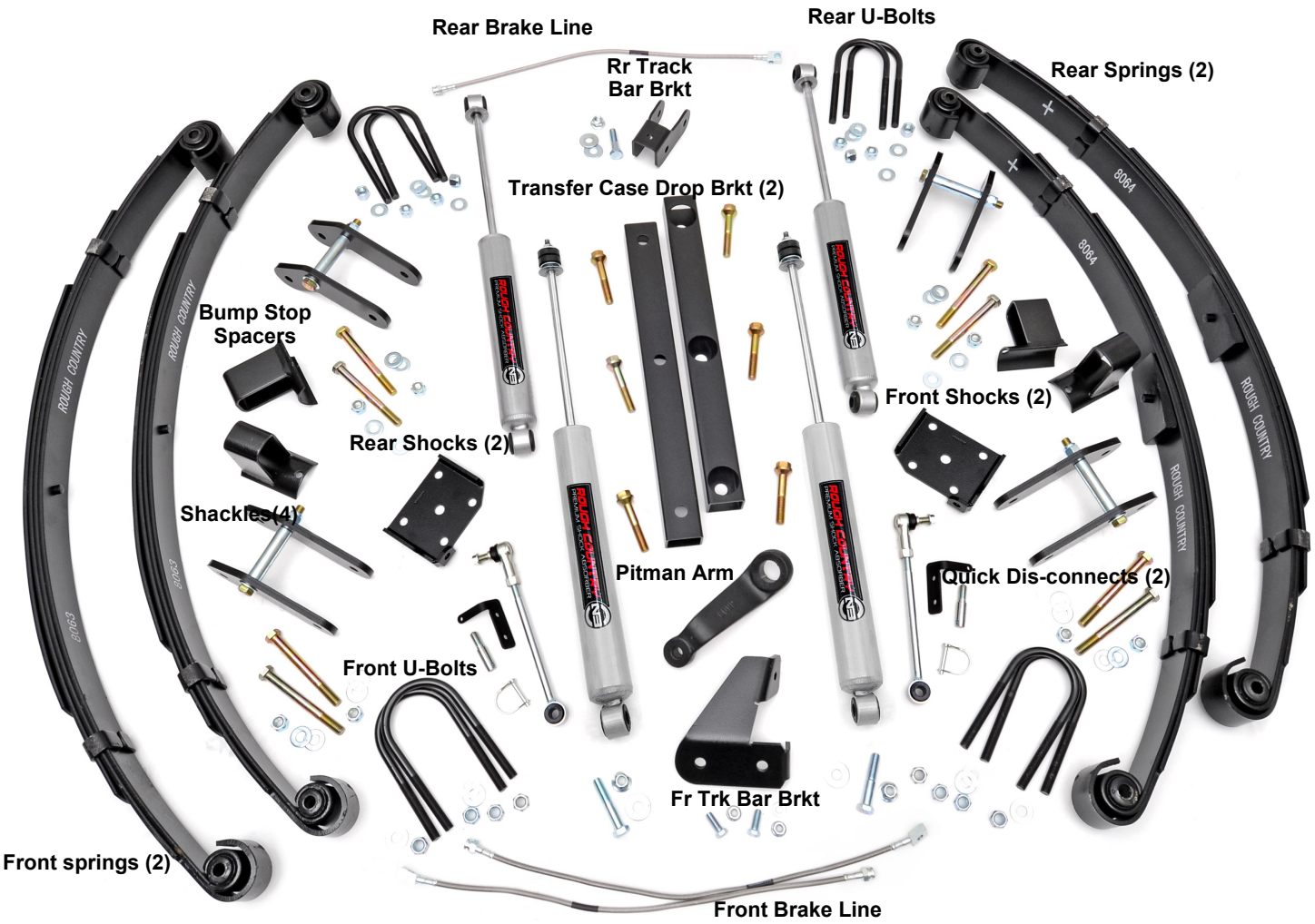
For Rear Track Bar Bracket
- 1-12mmx 65mm Bolt
- 1-12mm Flange Lock Nut
- 1-Crush Sleeve
- 1-3/8” x 1” Bolt
- 1-3/8’ Flat Washer
- 1-3/8” Flange Lock Nut

For Front & Rear Springs
- *8*-Spring Bushings Large
- 8 Spring Bushings
- 4-1/2” ID Spring Sleeves
- 4-9/16” ID Spring Sleeves

1620Bag7:
For Fr and Rear Shocks
- 4-Stud Bushings
- 4-Cup Washers
- 2-Stud Nuts
- 2-Upper Rr Mount Flat Washers

RC0274:
For Shackles
- 8-1/2” Nylocks
- 8-1/2” x 5” Bolts
- 16-1/2” Washers

617.20 4.5” X-Series Military Wrap Springs Kit Contents



Kit Includes:
8063-Fr Springs
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1618BOX3— Kit Box Contains:
- 6-1/2” x 2 3/4” x 6 1/4” U-bolts
- 2-1/2” x 3 1/4” x 6 3/4” U-bolts
- 1-Front Track Bar Bracket
- 1-Rear Track Bar Bracket
- 2-Front Sway Bar Links
- 2-Transfer Case Drop Spacers
- 4-Bump Stop Brackets
- 1-Pitman Arm
- 2-Front Brake Line Brackets
- 1-Rear Brake Line Bracket
- 2-Front Shock Absorbers
- 2-Rear Shock Absorbers
- 2-1/2” U-Bolt Bags
  - 8-1/2” Nuts
  - 8-1/2” Washers
- 1 -1620Bag1: Kit Hardware
- 1 -1620Bag7: - Kit Hardware
- 1—7593 Kit Bag

1617BOX1—Kit Box Contains:
- 4-Boomerang Shackles
- 1-Front and Rear Brake lines
- 1-Sway Bar Dis-connects

For Transfer Case Drop Brackets
- 6-9/16” x 3”Conical Bolts

Kit Hardware Breakdown:
1620Bag1:
For Rear Brake Line Bracket
- 1-5/16” x 1” Bolt
- 2-5/16” Washers
- 1-5/16” Nut

For Front Sway Bar Links
- 2-12mm x 65mm Bolts
- 2-Flat Washers
- 2-12mm Flange Lock Nut
- 2-Upper Sleeves

For Front Brake Line Brackets
- 2-5/16” x 1” Bolts
- 4-5/16” Washers
- 2-5/16” Nuts

For Pitman Arm
- *1-Cotter Pin*

For Front Track Bar Bracket
- 1-12mm x 65mm Bolt
- 1-Flat Washer
- 2-12mm Flange Lock Nut
- 1-12mm x 50mm Bolt
- 1-3/8” x 1 1/4” Bolt
- 1-3/8” Flat Washer
- 1-3/8” Flange Lock Nut

For Rear Track Bar Bracket
- 1-12mmx 65mm Bolt
- 1-12mm Flange Lock Nut
- 1-Crush Sleeve
- 1-3/8” x 1” Bolt
- 1-3/8’ Flat Washer
- 1-3/8” Flange Lock Nut

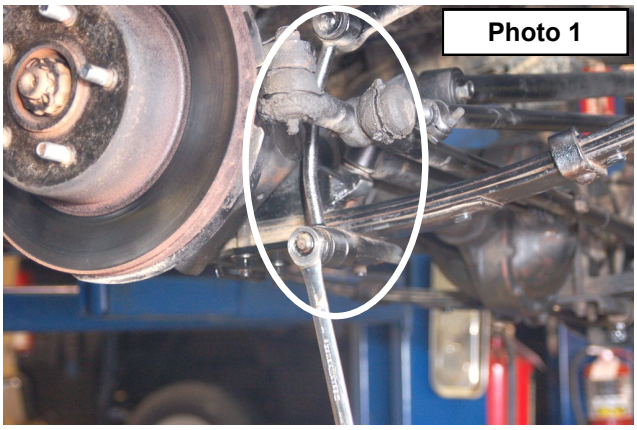
For Front & Rear Springs
- *8*-Spring Bushings Large
- 8 Spring Bushings
- 4-1/2” ID Spring Sleeves
- 4-9/16” ID Spring Sleeves

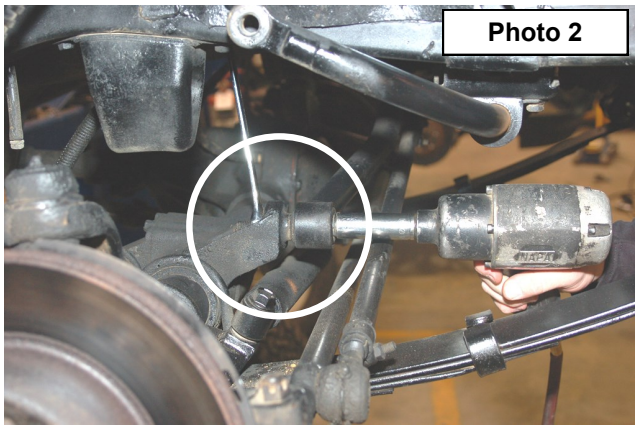
1620Bag7:
For Fr and Rear Shocks
- 4-Stud Bushings
- 4-Cup Washers
- 2-Stud Nuts
- 2-Upper Rr Mount Flat Washers

RC0274:
For Shackles
- 8-1/2” Nylocks
- 8-1/2” x 5” Bolts
- 16-1/2” Washers

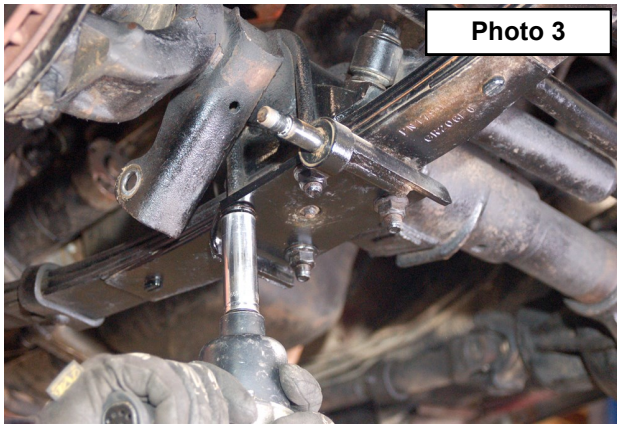
INSTALLATION INSTRUCTIONS

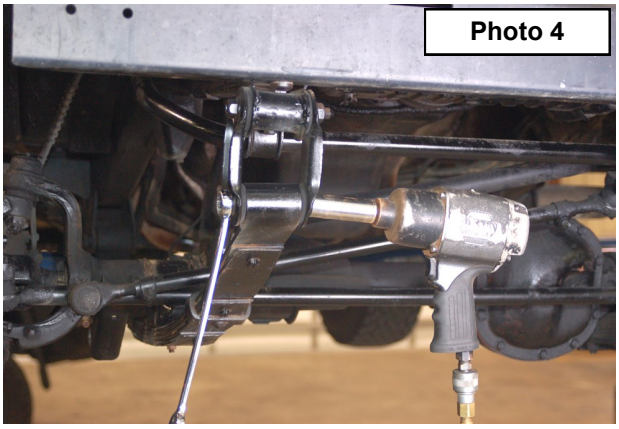
1. Raise the front of the vehicle and support with safety stands under the frame rails. Take care not to over extend the stock brake lines.
2. Remove the front wheels and tires. Remove front stock shocks. Retain the lower shock hardware for reuse.
3. Support the front axle housing with a floor jack (you must have stands under frame supporting vehicle weight).
4. Remove the stock sway bar links from the sway bar and the spring pads. It may be necessary to tap the upper link on the sway bar with a hammer to release the tapered pin. **See Photo 1.**
5. Unbolt track bar from the axle mount on the passenger side of the front axle as shown in **Photo 2** and then tie the bar up and out of the way.



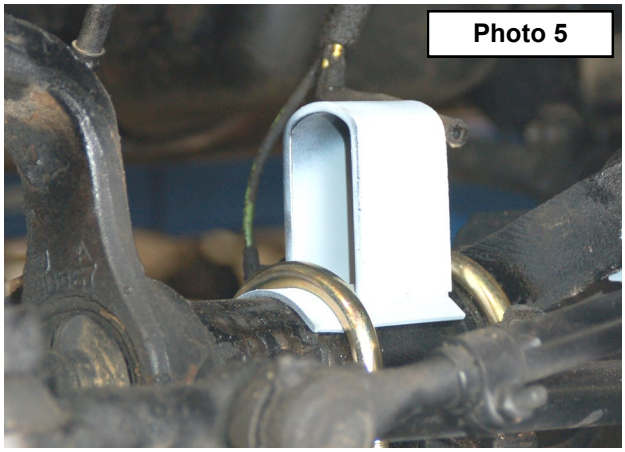


6. Remove the stock brake hose bracket from the top of the frame rail by removing the one bolt located directly behind the shock towers. (Access can be gained through the engine compartment). Retain the factory torx head bolt for re-use.
7. Remove the four front spring to axle u-bolts. **See Photo 3**. (The remainder of the spring removal and installation is performed one side at a time.)
8. On the driver side position a floor jack under the axle tube, just inside of the leaf spring. Raise the jack until the axle just separates from the spring. Now remove the frame bolts and the shackle bolts on the leaf spring. Retain hardware for reuse. **See Photo 4**. Remove the stock spring.

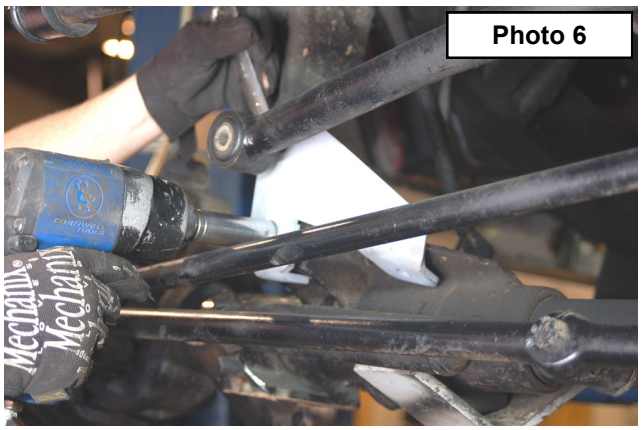


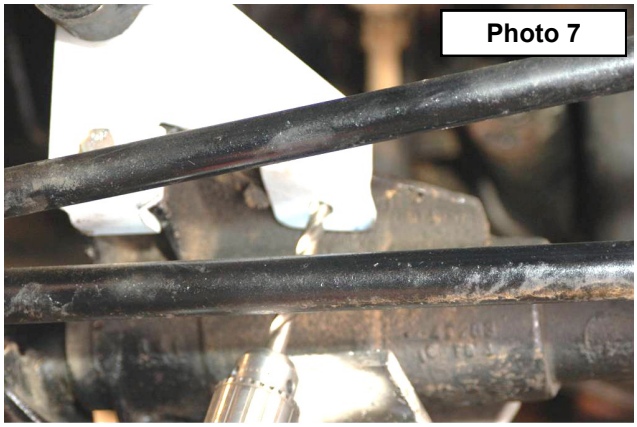


9. Repeat on the other side. **Refer to shackle instructions RC0400 if installing a Rough Country 4.5" lift kit (617.20 or 618.20).**
10. Loosely attach the spring to its hangers with the stock bolts, washers & nuts (unless optional spring bolt package 1184 was purchased). Note that small spring eye goes to shackle end. Snug up but do not completely tighten. Make sure spring tie bolt heads align and seat into spring perch holes.
11. While installing new u-bolts, place the bump stop extension brackets on top of the axle tubes. **See Photo 5. (**The bump-stops are captured by the u-bolts). Tighten u-bolts to 65 ft. lbs. of torque. Tighten spring pivot bolts to 35ft. lbs. on both frame mounts and shackle mounts.

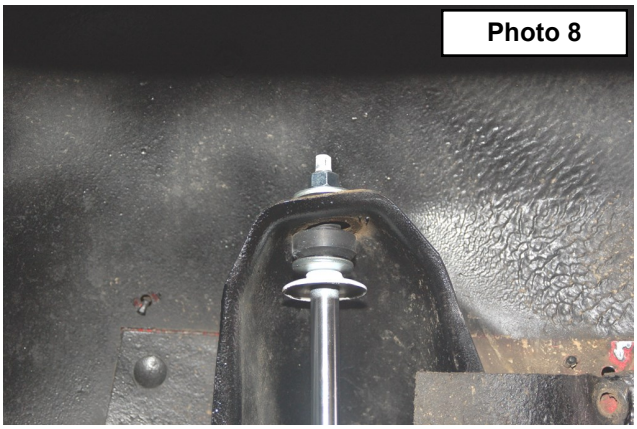


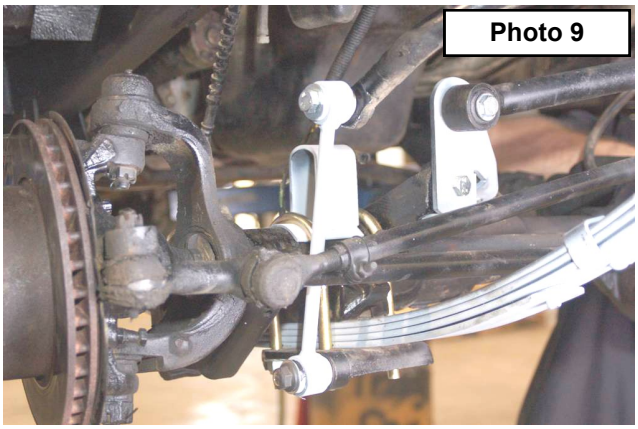
12. To install the new tracking bar bracket on the front axle housing on the passenger side, place the track bar bracket on the stock mount where the flange matches with the stock flange on the right side of the bracket as shown in **Photo 6.** Install supplied 12mm x 65mm long bolt and flange lock nut to secure. (Torque to 45ft/lbs). Using the hole in the new bracket as a guide, drill a 3/8" hole through the stock flange of the track bar housing as shown in **Photo 7**. Install the 3/8" x 1 1/4" bolt, washer and 3/8" flange lock nut. (Torque to 35 ft/lbs). Do not install the track rod to the bracket at this time.



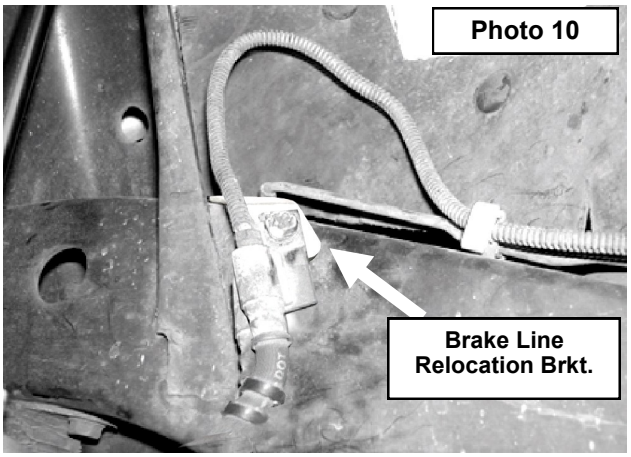


13. Install new front shock absorbers with the factory hardware lower hardware and supplied upper hardware (1620BAG7). Tighten upper stem type mounts only until bushings swell slightly – do not over-tighten, torque lower mounts to 45 ft lbs. **See Photo 8.**
14. **If installing 617.20, X-Series 4.5" kit, refer to 92110900 sway bar link instructions.** Locate the provided sleeves in 1620Bag1 bag and install into one end of the new sway bar link. Install the new sway bar link in the lower factory location on the stud with stock nut. Install on the sway bar using the supplied 12mm x 65mm bolts, washers on both sides against bushings/nuts. Tighten Hardware using a 18mm wrench **See Photo 9.**



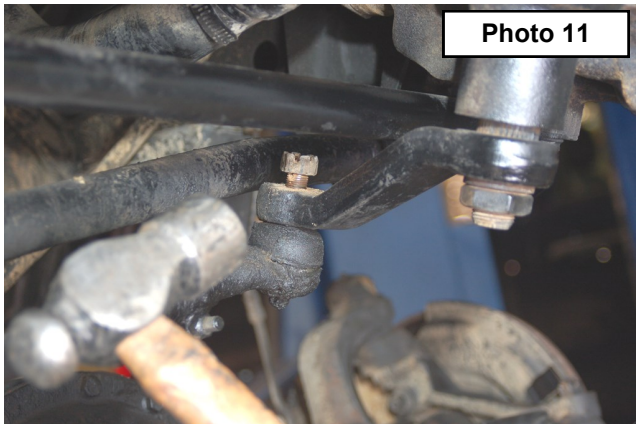


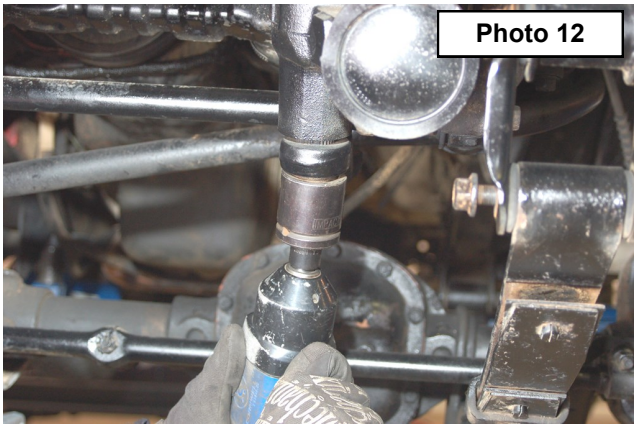
15. **If installing 617.20, X-Series 4.5" kit, install supplied SS brake lines and skip to step 16.** Install new brake line relocating brackets in stock hole reusing the T45 torx head bolt on frame rail. Pull steel line out from the frame rail (Use caution when rerouting the steel line so you do not kink the line). Mount the line to the bracket using the 5/16" x 1" bolts, washers and flange lock nut. **See Photo 10**.
16. Do not tighten the springs at this time. The spring hardware will be tightened once the vehicle is on the ground and the suspension has been cycled. Tightening the hardware at this time with the vehicle off the ground could result in a stiff ride.
17. Install tires/wheels, remove jack stands and lower vehicle to floor.
18. Tighten the front spring's shackle mount to 90-95 ft /lbs and the frame mount to 100 ft/lbs and install the track rod on the track rod bracket with the supplied 12mm x 50mm bolt, nut & washer on the head of the bolt against track rod bushing. Refer back to **Photo 6.**



PITMAN ARM INSTALLATION INSTRUCTIONS

1. With the tire on the ground and the full vehicle weight on the suspension, move the steering left to right, check the following for looseness, slack and wear: steering sector-to-frame attaching points, steering sector main (output) shaft, drag link and tie rod ends, track-bar mounting points and bushings.
2. With the tires off the ground, check for improper wheel bearing pre-load and ball joint wear. **IT IS VERY IMPORTANT** that all steering related parts are in proper working condition. If any problems exist, repair before proceeding.
3. Remove the cotter pin and nut from the drag link end where it attaches to the pitman arm. Dislodge link with a tie rod end remover tool or by **tapping** with a hammer as shown. **See Photo 11.** NOTE - replace the link if any stud looseness is detected or if you can twist the stud in its socket with your fingers.
4. Using an impact remove the pitman arm nut from the steering sector output shaft. **See Photo 12.** Using a puller tool remove the pitman arm. Inspect the shaft splines for excessive wear, repair if needed. Retain hardware for reuse.

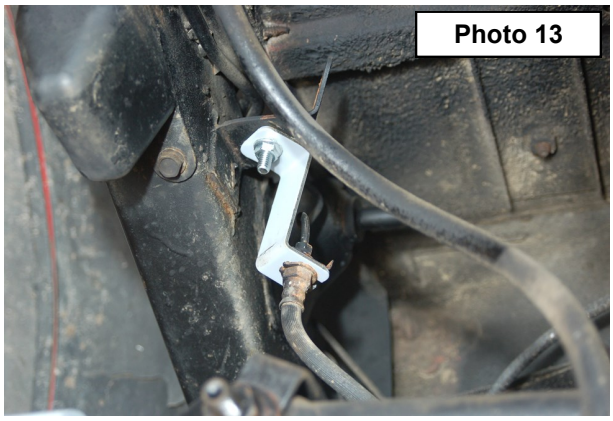




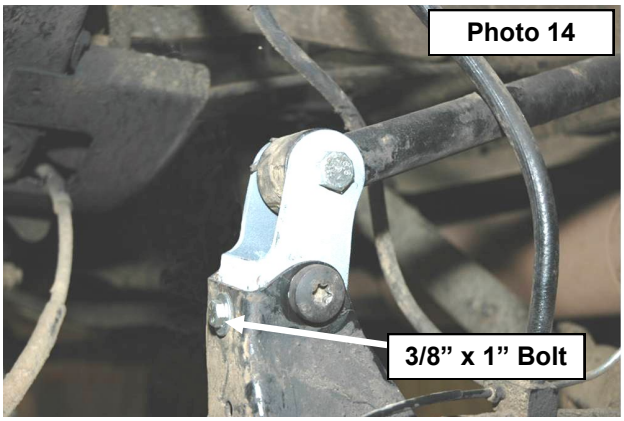
5. The arm and shaft splines should be clean and free of grit. Install new arm, factory lock washer and nut; torque to 170-230 Ft. Lbs.
6. Attach the cleaned drag link stud to the pitman arm. Torque slotted nut to factory specifications and install supplied-cotter pin. NOTE - If the drag link end stud is tightened in a position other than the straight ahead position or allowed to twist in the adjustment collar, vehicle drift to the left or right could occur.
7. Check for over extension (stud bind) as follows: To achieve the greatest possible linkage angle, have the truck frame resting on jack stands with the front axle hanging at full extension travel. Check drag link ends, with the steering wheel turned full lock in both directions; to be sure studs still have the some pivot capability.
8. Check for adequate linkage clearances while turning steering wheel lock to lock. Re-torque all fasteners and double check cotter pins.
9. Have toe-in adjustment set to factory specs.

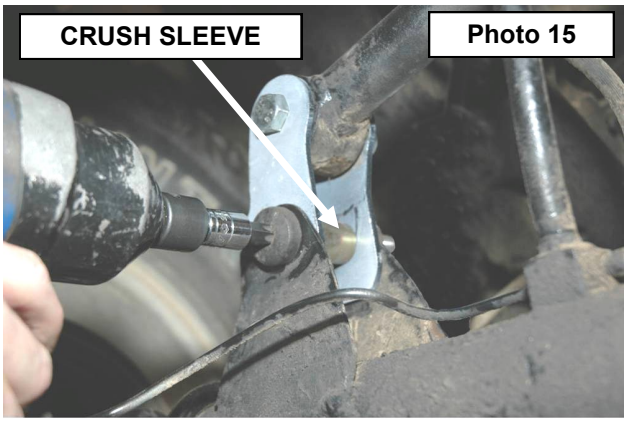
REAR INSTALLATION INSTRUCTIONS

1. Chock the front tires and jack up the vehicle. Place safety jack stands under rear frame rails.
2. **If installing 617.20, X-Series 4.5" kit, install supplied SS brake lines and skip to step 3.** Remove the retainer clip that attaches the stock rubber brake hose to its upper mount bracket. This is where the rubber hose ends and the metal line starts on the driver side frame rail. Insert the new "Z" bracket in between the stock mounting bracket and the hose end. The 5/16" x 1" bolt and flanged lock nut are used at the bracket to bracket end. Position the hose/line through the slot and into the hole on the "Z" bracket's opposite end and then reinstall clip. **See Photo 13**.



3. Remove the stock u-bolts from the axle using a 3/4" socket
4. With the axle at full droop. Position a floor jack under the axle for support and remove the leaf spring hardware securing the springs to the frame and shackles. Retain the hardware for reuse.
5. Remove the rear springs from the frame mount and the shackles.
6. Disconnect rear track bar from the axle on the driver side of the vehicle using a T55 torx head bit. Retain the hardware for reuse.
7. Install new track bar relocation mounting bracket on the **axle** by placing it into the factory mounting point and installing 3/8" x 1.00" long bolt, flange lock nut and washer into the hole as shown. Use factory hardware & supplied crush sleeve in stock mounting location. Install the supplied 12mm x 65mm long bolt and flange lock nut in the upper hole to secure the track rod to the new bracket. **See Photo 14 & 15.** Do not tighten at this time.

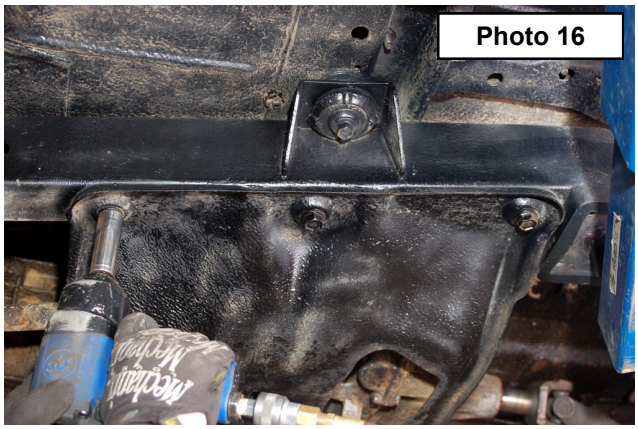


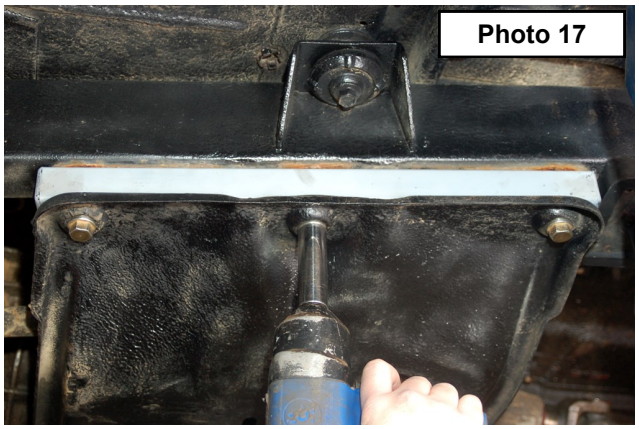


8. **Refer to shackle instructions RC0400 if installing a Rough Country 4.5" lift kit (617.20 or 618.20).**
9. Installation of new rear springs with the stock bolts in the stock location (unless optional bolt package 1184 was purchased).
10. The bump-stop extension bracket will install under the u-bolts as on the front. When installing the springs the thick part of shim goes toward front of jeep. **Do not fully tighten the springs and the track bar to factory specs until the vehicle is on the ground. Tightening before the weight is on the vehicle may prevent the shackles from moving to their natural position and result in the arched spring being pinned forward against the frame.**
11. Install shocks with the factory hardware. Torque upper and lower mounts to 45-ft. lbs.
12. With the addition of shackles or any other extra lifting device there may not be adequate clearance between the shock body and the axle tube. In this situation your only option is to relocate the lower shock bracket to gain clearance on the axle tube.
13. Install tires / wheels.
14. Remove jack stands and lower vehicle to floor. Tighten the shackle bolts to 90-95 ft. lbs. and the frame end bolts to 100ftlbs. Install/tighten track bar into drop down bracket with the factory hardware and tighten to factory specs..

TRANSFER CASE INSTALLATION INSTRUCTIONS

1. Place floor jack under transmission mount skid plate. Make sure the jack is centered.
2. Using a floor jack, support the skid plate.
3. Slightly loosen the bolts on the transfer case skid plate on both sides to allow for some movement. Do not remove the bolts. **See Photo 16.**
4. Proceed to either side. **NOTE:** ***Do not attempt to take out the bolts on both sides simultaneously. Installation is done one side at a time***. Remove the three bolts holding the transfer case skid plate to the frame rail. Note: It may be necessary to loosen the bolts holding the transfer case to the skid plate to allow for movement to install the lowering spacers on the skid plate.
5. Locate transfer case cap plug bag and install in the transfer case spacer. Slightly lower the skid plate and insert the transfer case lowering spacer. **See Photo 17.** The spacer has a front and back (the holes line up in only one direction). When the transfer case is dropped it will tend to move forward, to get the new bolts to align with holes in frame rail you will probably have to push the transfer case skid plate towards the back of the vehicle or loosen the transmission mount bolts on the bottom of the skid plate.





6. Using the conical bolts supplied slightly tighten the bolts. **<u>Do not fully tighten</u>** to allow for some movement for the opposite side.
7. Proceed to the opposite side of the vehicle and install the brackets as instructed above. After installing both sides, tighten bolts– do not over tighten.
8. It may be necessary to remove some material from the body underneath the shifter on the manual shift models to allow clearance for shifting into all gears. To accomplish this, remove the shifter boot from the shifter. Go through the shift pattern and note where the shifter is coming in contact with the body. Remove approximately ¼”- of material from the body with a small grinder. Generally the gears affected are 2nd, 4th and reverse. Go through the shift pattern again and note any contact. Trim accordingly. Reinstall the boot and secure.

POST INSTALLATION INSTRUCTIONS

1. 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 brakes.
2. 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.
3. If larger tires (10% or larger than stock) are installed, speedometer recalibration is necessary.
4. Bump stops and extensions must be in place on all vehicles! Note: allowing suspension to over extend by neglecting to install or maintain stops and extensions may cause serious damage to related components.
5. Using an certified alignment professional with experience in aligning lifted vehicles, get an alignment done to factory specifications.
6. Readjust headlights to proper settings.

MAINTENANCE INFORMATION

It is the buyers ultimate responsibility to have all bolts/nuts checked for tightness after the first 100 miles and then every 1000 miles. A qualified professional mechanic must inspect wheel alignment steering system, suspension and driveline systems at least every 3000 miles.

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

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