TRAIL FORTRESS

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Rough Country 27940 Installation Instructions

6-Inch Lift Kit with M1 Shocks for Avalanche, Suburban, Yukon XL

Part number: 27940

trailfortress.com/rough-country-6-inch-lift-kit-27940

Scan for fitment, price and install help

ROUGH COUNTRY SUSPENSION SYSTEMS®

1272BAG10

00-06 CHEVY/GM TAHOE, YUKON, SUBURBAN, YUKON XL & AVALANCE 6" NTD LIFT

Thank you for choosing Rough Country for all of 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 Kit Contents list on next page. Be sure you have all the needed parts and understand where they go. Also please review the tools needed list to be certain that you have the tools necessary to complete the installation.

PRODUCT USE INFORMATION

⚠WARNING We strongly recommend, because of rollover possibility, that seat belts and shoulder harnesses should be worn at all times. Braking performance and capabilities are decreased when significantly larger/heavier tires and wheels are used. Take this into consideration while driving.
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, with this 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 Due to differences in manufacturing, dimension and inflated measurements, tire and wheel combinations should be test fit prior to installation. For this application we recommend a wheel not to exceed 9" in width with 4.5 " of backspacing.. Additionally a quality tire of radial design is recommended, not exceeding 35" tall and 12.5" wide. If this vehicle was equipped from the factory with 17" wheels and if purchasing new wheels, the wheel size must not be below 17" but can be larger than 17" due to the vehicle being equipped with larger calipers /rotor.

⚠NOTICE **NOTICE TO DEALER AND VEHICLE 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.

⚠NOTICE Note to installer : Before installation begins we recommend that a test drive be performed. While driving check for uncommon sounds and/or vibrations . What you feel and hear during the test drive will only magnify once lift kit is installed. Advise you to discuss possible issues identified from drive with customer before proceeding to install this kit.

TOOLS NEEDED:

Floor Jack
Jack Stands
10mm socket /wrench
11mm socket /wrench
13mm Deep Socket
13mm wrench
15mm socket / wrench
17mm socket / wrench
18mm socket /wrench
19mm socket /wrench
21mm socket /wrench
24mm socket /wrench
35mm socket
9/16 socket /wrench
7/8" deep well socket
Torsion bar Tool
Drill
17/32 Drill Bit
Loc-Tite
Reciprocating Saw

TORQUE SPECS:

Size	Grade 5	Grade 8	Class 8.8	Class 10.9	
5/16"	15 ft/lbs	20 ft/lbs	6MM	5 ft/lbs	9 ft/lbs
3/8"	30 ft/lbs	35 ft/lbs	8MM	18ft/lbs	23 ft/lbs
7/16"	45 ft/lbs	60 ft/lbs	10MM	32ft/lbs	45ft/lbs
1/2"	65 ft/lbs	90 ft/lbs	12MM	55ft/lbs	75ft/lbs
9/16"	95 ft/lbs	130 ft/lbs	14MM	85ft/lbs	120ft/lbs
5/8"	135 ft/lbs	175 ft/lbs	16MM		



Kit Contents:

1272Box7
- Front Cross Member
- Rear Cross Member

1272Box6
- Front Skid Plate
- NTD Brackets
- Dr Diff Bracket
- Pass Diff Bracket
- Front Sway Bar Links (2)
- Front Sway Bar Link Brackets (4)
- CV Axle Spacers (2)
- LinkBag1- Sway Bar Link Hardware
- 1272Bag6- Diff, Skid, NTD Hardware
- 1272Bag8-Instructions
- 1272Bag9-Cross Member Hardware

1279Box3
- Front Shock (2)
- Rr Shock Brackets (2)
- Shock Hardware Bag (1)
- Rr Brake Line Bracket (1)
- Rr Bump Stop Ext. (2)
- Rr Trac Bar Bracket (1)
- Rear Sway Bar Links (2)
- 1280Bag1- Rear Hardware Bag
- 283N2BAG2– Front Shock Hardware

1285
- Driver Side Knuckle
- Pass Side Knuckle

Fastener Breakdown:

1272Bag9-

For Front Cross Member
- *5/8” x 4 1/2” Bolt (2)*
- *5/8” Washer (4)*
- *5/8” Nut (2)*

For Rear Cross Member
- *5/8” x 5 1/2” Bolt (2)*
- *5/8” Washer (4)*
- *5/8” Nut (2)*

1272Bag3- ***For Axle CV Spacers***
- *10mm x 65mm Allen Bolt (12)*

1272Bag7-

For Pass Side Dif Drop Brkt.
- *1/2” x 1 1/2” Bolt (2)*
- *1/2” Washer (4)*
- *1/2” Nut (2)*

For Driver Side Dif Drop Brkt.
- *Poly Bushings (2)*
- *2.41” x 9/16”ID Sleeve (1)*

For Skid Plate
- *3/8” x 1” Self Taping Bolt (2)*
- *1/2” x 4 1/2” bolt (1)*
- *1/2” Washer (2)*
- *1/2” Nut (1)*
- *3/8” x 1” Bolts (2)*
- *3/8” Nylock Nuts (2)*
- *3/8” Flat Washers*

For Non-Torsion Bar Bracket
- *1/2” x 1 3/4” Bolt (2)*
- *1/2” Washer (2)*
- *1/2” Nut (2)*
- *Sleeve (2)*
- *3/4” X 5.5” Bolt (2)*
- *3/4” Nylock Nut (2)*
- *3/4” Washer (4)*

1280BAG1-

For Rear Track Bar Brkt.
- *1.75” x9/16” ID Sleeve(1)*
- *9/16” x 3 1/2” Bolt (1)*
- *9/16” Washer (2)*
- *9/16” Nut (1)*
- *7/16” x 1” Bolt (2)*
- *7/16” Washer (4)*
- *7/16” Nut (2)*

For Rear Bump Stop Brkts.
- *3/8” x 1” Self Taping Bolt (4)*

For Rear Brake Line Brkt
- *5/16” x 1 1/4 Bolt (1)*
- *5/16” Washer (2)*
- *5/16” Nut (1)*

For Rear Sway Bars
- *1/2” x 2 1/2” Bolt (2)*
- *1/2” Nut (2)*
- *1/2” Washers (4)*

LINKBAG1-

For Front Sway Links:
- *4-12mm x 35mm Bolts*
- *4-12mm x 65mm Bolts*
- *8-12mm Flange Lock nuts*

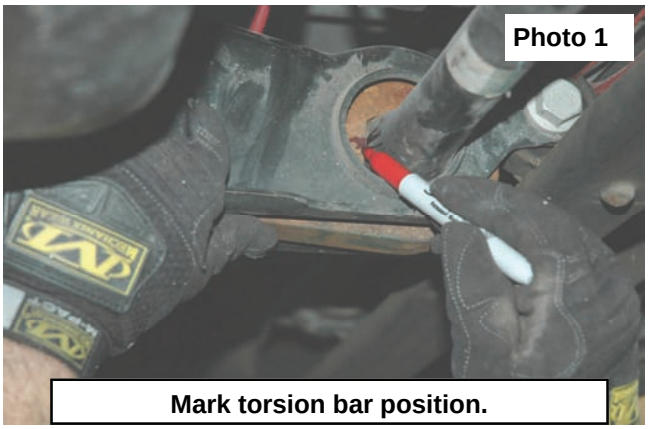
283N2BAG2-

For Front Shocks:
- *2– Male Stem Bushings*
- *2– Female Stem Bushings*
- *4– 3/8 Cup Washers*
- *2– 3/8 Nuts*

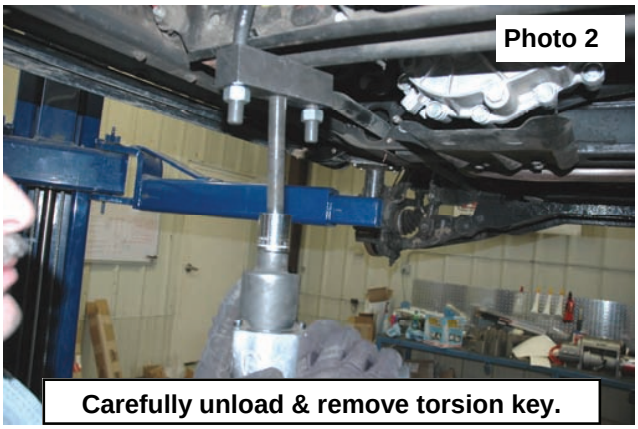
FRONT INSTALLATION

1. Place the truck on a clean level surface and set the parking brake. Chock the rear wheels and using a floor jack raise the front of the truck and support the frame rails with approved jack stands. Never work under an unsupported vehicle. Using a 7/8" deep well socket remove the front wheels.
2. Locate the torsion bar adjuster bolt on the bottom of the rear cross member, measure the threads showing on the torsion bar adjuster bolt. Mark the position of the torsion bars on the control arm and torsion bar key. Mark both the drivers side and passenger side. **See Photo 1.**
3. Using a torsion bar tool, relieve the pressure from the torsion bar adjuster bolt and remove the bolt and threaded block. **See Photo 2**.

WARNING Be extremely careful when loading and unloading the torsion bars; there is a tremendous amount of stored energy in the bars. Keep you hands and body clear of the adjuster arm assembly and the puller tool in case anything slips or breaks.



Mark torsion bar position.

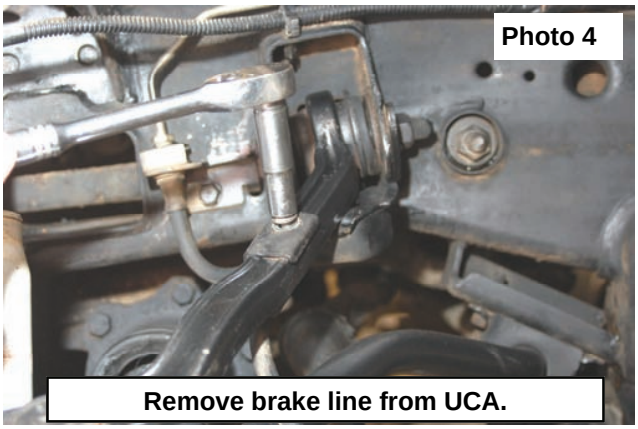


Carefully unload & remove torsion key.

4. Using a 15 mm socket remove the factory lower skid plate. **See Photo 3.**
5. Starting on the drivers side use a 10mm socket to remove the brake line from the upper control arm and knuckle. Unplug the ABS wire from the frame rail. **See Photo 4.**

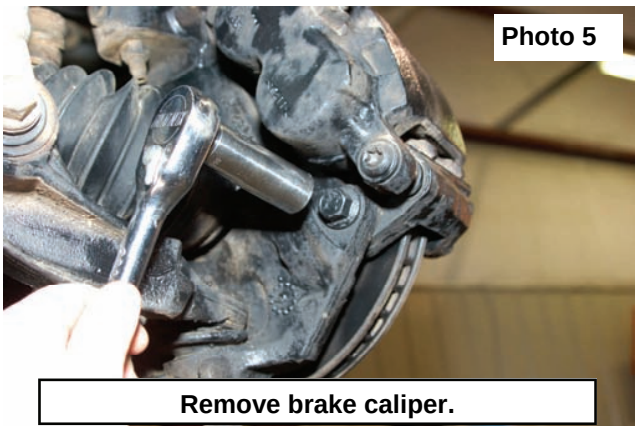


Remove the factory skid plate.

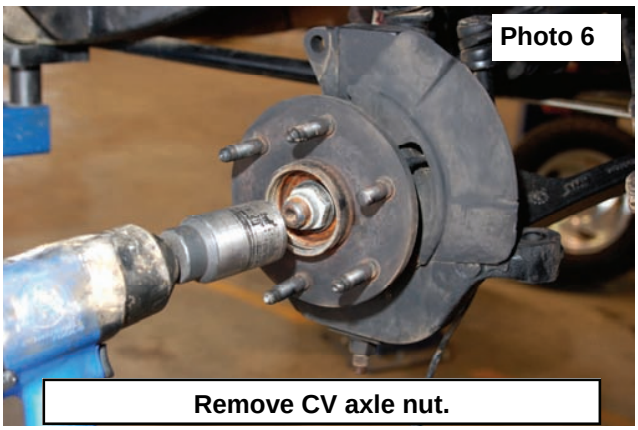


Remove brake line from UCA.

6. Using a 18mm socket unbolt the brake caliper and rotor. Secure the brake caliper out of harms way. **See Photo 5.**
7. Using a 35 mm socket remove the CV nut from the knuckle. **See Photo 6.** Remove the tie rod from the stock knuckle using a 18mm wrench. Strike the side of the knuckle where the tie rod mounts to dislodge the tapered tie rod end. Retain the stock hardware for reuse.

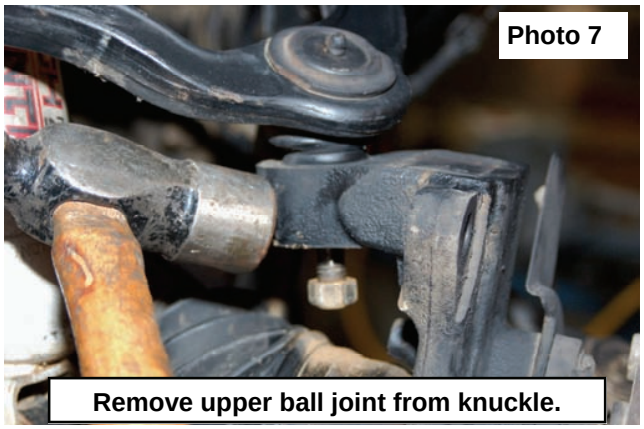


Remove brake caliper.



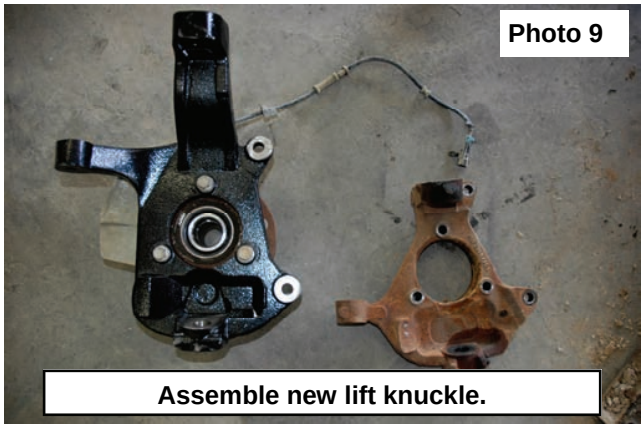
Remove CV axle nut.

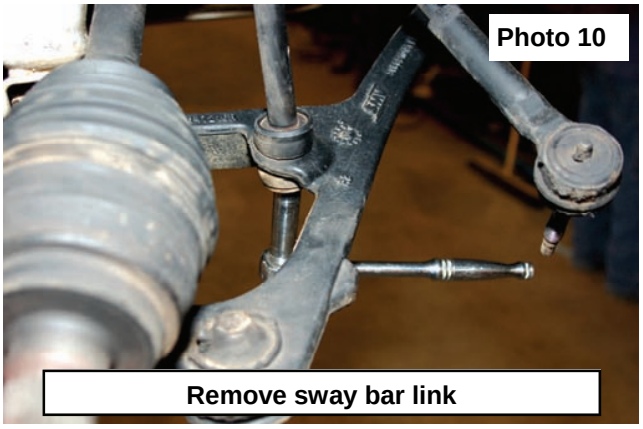
8. Using a 18mm wrench for the upper ball joint and a 24 mm deep well socket for the lower, remove the ball joint nuts. Using a hammer hit the knuckle as shown until the ball joint is free. **See Photo 7 & 8.** Remove the knuckle.





9. Remove the three factory bolts that hold the wheel bearing to the stock knuckle. Remove the wheel bearing and dust cover using a 15mm socket. Locate the new knuckles supplied with the kit and using Loc-Tite; install the bearing with the factory hardware on the new knuckle. Tighten to 133 ft.lbs. **See Photo 9.**
10. Using a 13mm deep well socket remove the sway bar link from the lower control arm and sway bar. **See Photo 10**.



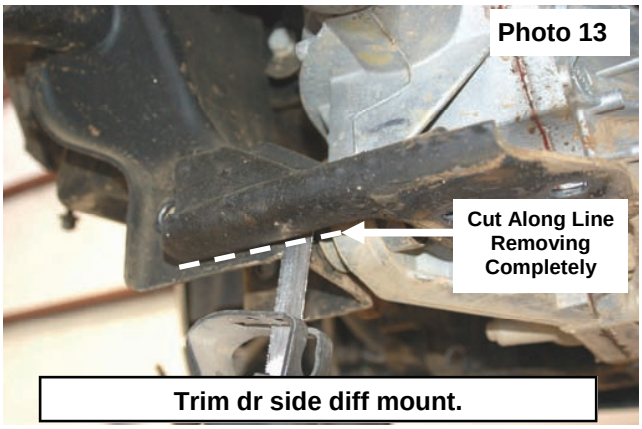


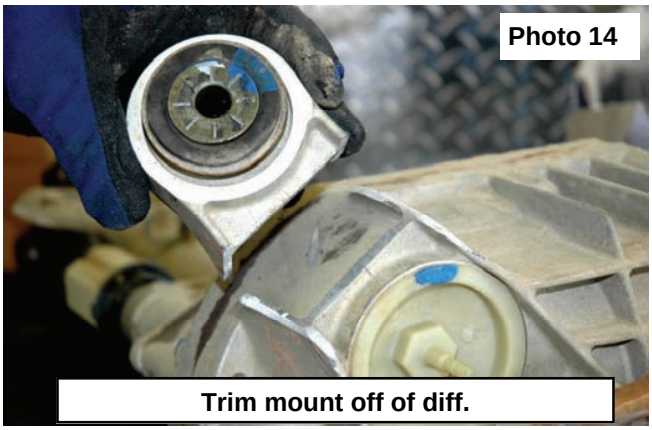
11. Using a 15 mm wrench remove the upper shock nut. Using a 21 mm socket and 21 mm wrench remove the lower shock bolt. Remove the shock. Retain the hardware for reuse.
12. Using a 15mm socket remove the 6 inner CV bolts. **See Photo 11**. Set CV half shaft aside for reuse.
13. Using a 18mm wrench and a 24 mm socket remove the lower control arm hardware and remove the lower control arm. Retain the hardware for reuse. Repeat steps 5 through 13 on passenger side.
14. Support the differential with a floor jack and remove the two nuts on the passenger side that secures the differential to the frame using a 21mm wrench. Remove the upper differential bolt that secures the driver side differential to the frame using a 21mm wrench.
15. Mark the front driveshaft and yoke for reference and remove the front driveshaft from the differential using a 11mm wrench. Secure driveshaft out of harms way. **See Photo 12**.



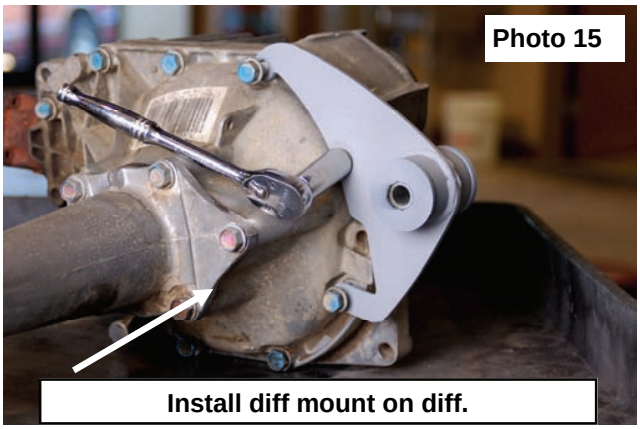


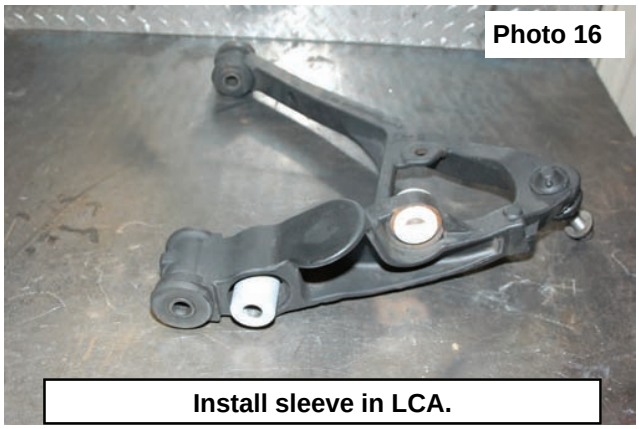
16. Remove the lower differential bolt on the drivers side using a 21mm wrench. Jack up the differential to allow for the trimming of the drivers side stock mount.
17. Cut the frame as shown in **Photo 13** with a reciprocating saw. After trimming, Remove the differential vent hose, differential plug and the plug clips from the axle. With assistance lower the differential down and remove from the vehicle.
18. Cut the differential as shown in **Photo 14** using a reciprocating saw. Take care not to damage the differential.



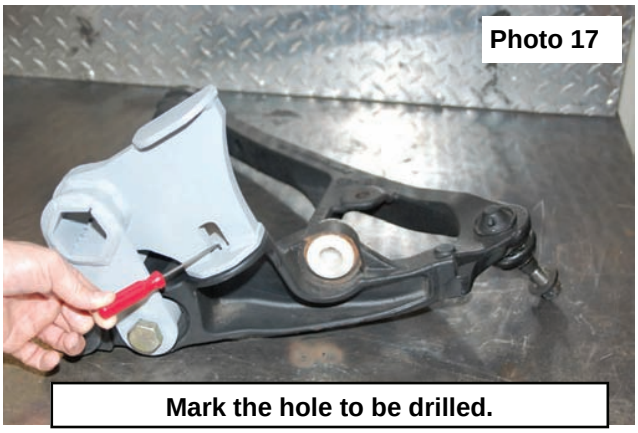


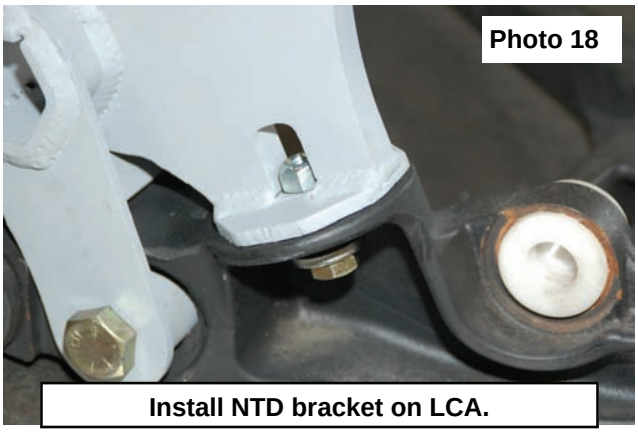
19. Locate the driver differential bracket and install the bushings /sleeve (1272BAG7) in the mount. Install on the differential as shown with factory hardware using a 15mm socket. Tighten to 35ft. Lbs. **See Photo 15**.
20. Install the supplied sleeve in the lower control as shown in **Photo 16** arm and install the Torsion bar bracket on the lower control arm. **Note: There is a driver and passenger side bracket.**



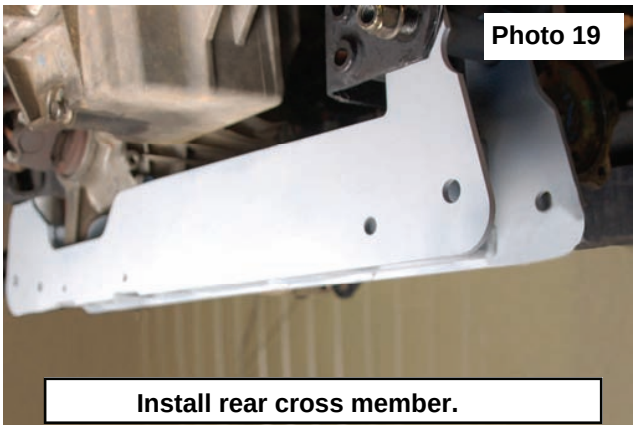


21. Using the bracket as a guide, mark the lower control arm and remove the Torsion Bar Bracket from the arm. **See Photo 17. Passenger Side arm shown.**
22. Drill the lower control arms using a 17/32" drill bit and reinstall the torsion bar bracket on the lower control arm and tighten the supplied 1/2" x 1 3/4" bolts, washers & nuts and 3/4" x 5.5" bolts, washers, & nuts from, 1272BAG7. **See Photo 18.**



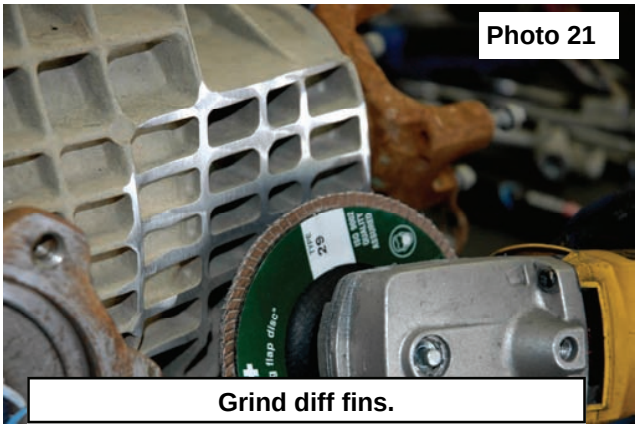


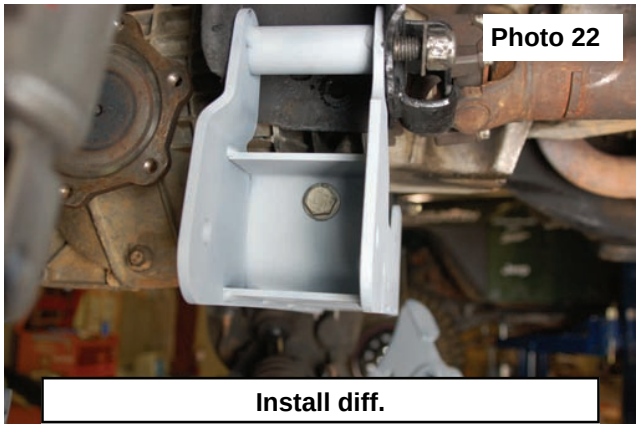
23. Install the rear cross-member as shown in **Photo 19** with supplied 5/8" X 5 1/2" bolts, washers and nuts from 1272Bag9. Install the bolts from the front to the back. Do not tighten at this time. If the optional kicker braces were purchased with this kit, install the mounting brackets on the rear cross member using the instructions included with that kit.
24. Install the passenger side differential bracket as shown, using factory hardware, in **Photo 20** (tall end of taper positioned towards front of vehicle) with the factory hardware using a 21mm wrench. Do not tighten at this time.



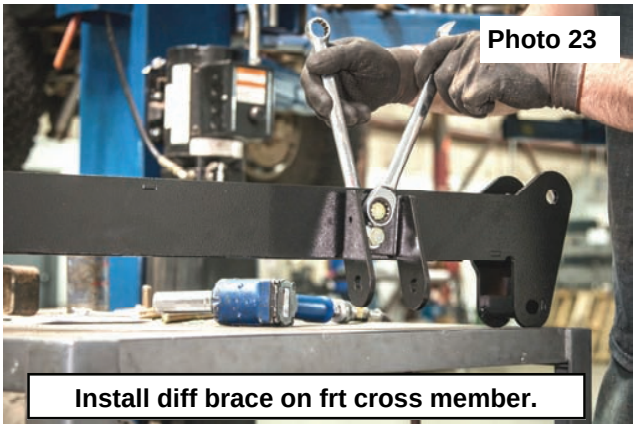


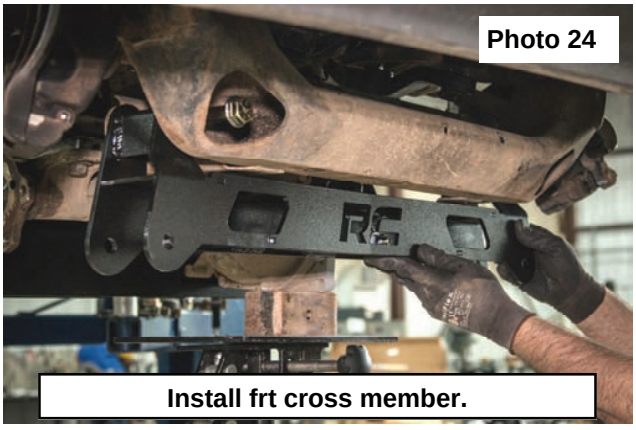
25. NOTE: It will be necessary to trim the cooling fins on the side of the differential to allow for clearance on the frame. Trial fit the differential in the lower mount and trim the cooling fins as needed using a hand grinder. **See Photo 21.** With assistance raise the differential into place and install the rear mount of the differential into the new cross-member mount with the stock hardware. **See Photo 22**. Do not tighten at this time.



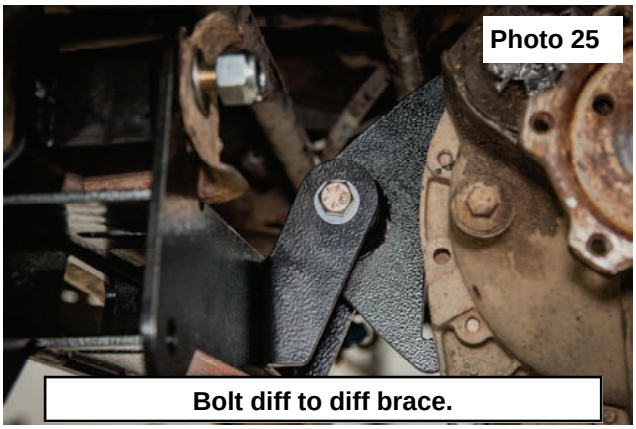


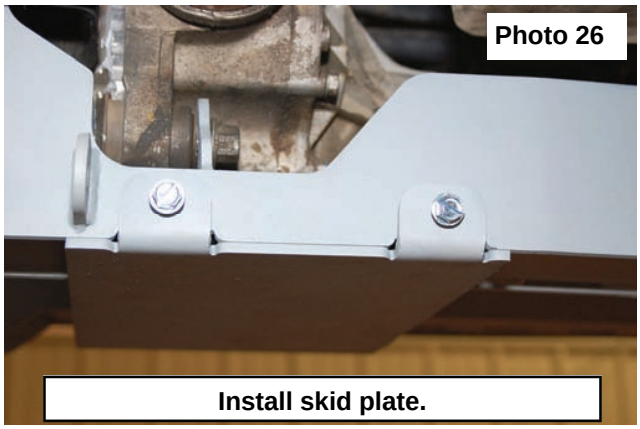
26. Reinstall the passenger side of the differential into the new mounts with the supplied 1/2" x 1 1/2" bolts, washers & nuts from 1272Bag7. Do not tighten at this time. Reinstall the driveshaft using marking made as a reference and secure using factory hardware and tighten using a 11mm wrench. Tighten to 19 ft. lbs.
27. Install the differential brace onto the front cross member using the supplied 1/2" x 1.5" bolts, washers and nylock nuts from 1272Bag7. Tighten using 3/4" wrenches. **See Photo 23.**
28. Install the front cross-member as shown in **Photo 24** with the supplied 5/8" x 4 1/2" bolts, washers and nuts from 1272Bag9. Do not tighten at this time.



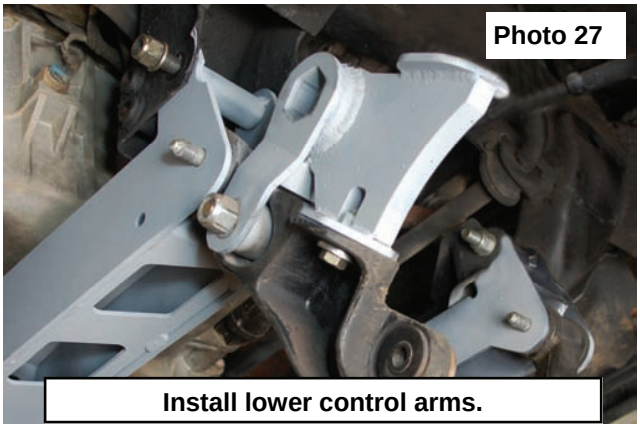


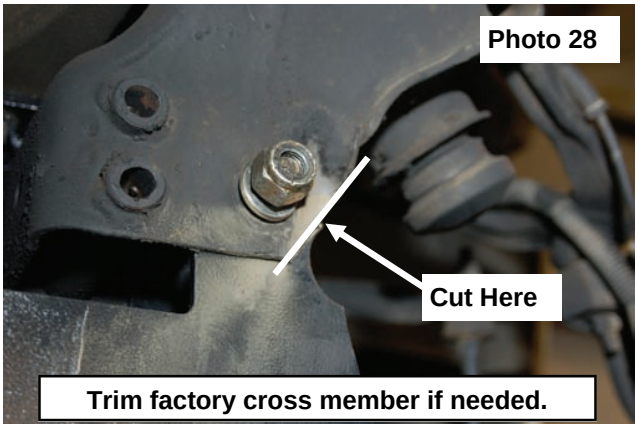
29. Install the differential bracket in the mounting tab on the back side of the front cross member using the supplied 1/2" x 4 1/2" bolt, washers and nut from 1272Bag7. Install the skid plate by lining up the holes in the cross-members and installing the supplied 3/8" self tapping bolts in the rear and the 3/8" x 1" bolts, nuts, and washers(1272Bag7) in the front, tighten using a 9/16" socket and wrench. **See Photo 25 & 26**. Pull the differential vent hose that was previously disconnected down to install in the stock location and reinstall differential plug and wiring clips to the differential.



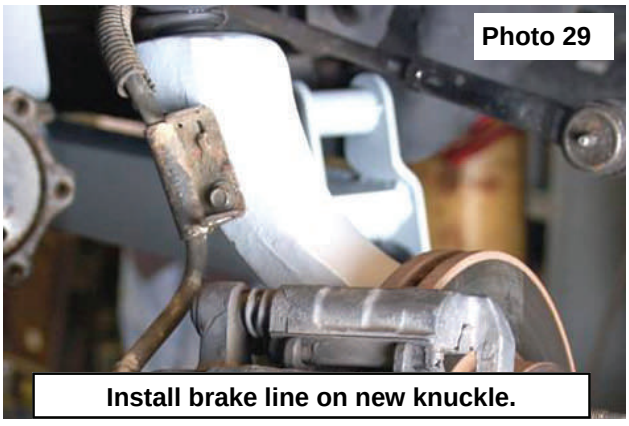


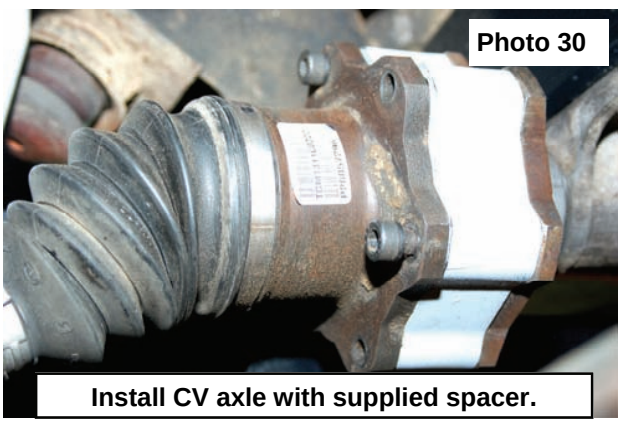
30. Install the lower control arms with the torsion bar drop brackets in the new drop brackets with the factory hardware (bolts install front to rear). **See Photo 27**. Do not tighten control arm hardware at this time.
31. Push the lower control arm up to check for any clearance issues. If needed cut the factory cross member. Cross member has been trimmed in **Photo 28**.





32. Tighten cross-member and differential drop bracket hardware at this time. Tighten 5/8" cross member hardware to 154 ft. lbs., 9/16" differential hardware to 114 ft. lbs., factory hardware on passenger differential bracket to 75ft-lbs.
33. Install the new knuckles with the stock ball joint hardware and tighten using a18mm & 24mm wrench.
34. Install the brake caliper with factory hardware. Using a 10mm wrench install the brake line on the knuckle. **See Photo 29**. Tighten upper ball joint to 37 ft. lbs and lower to 94 ft. lbs. and tighten brake hardware. Reconnect the ABS wire. If more slack is needed the line can be sprayed with 10-40 and the mounts slid down**.**
35. Install the stock shafts in the knuckle with factory hardware and using a 35mm socket. Locate the supplied CV spacers and place the spacer in between the differential and the shaft as shown in **Photo 30.** Using Loc-Tite, secure with the supplied 10mm x 65mm Socket head cap bolts (1272BAG3) with 8mm allen wrench. Torque hardware to 58 ft.-lbs.





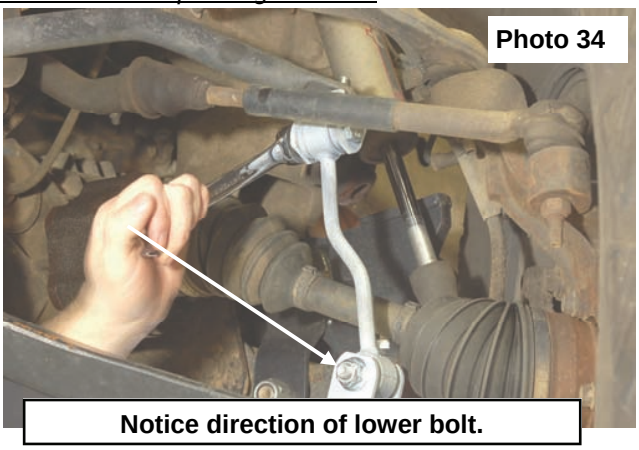
36. Install the tie rod end in the knuckle with the stock hardware and using a 19mm wrench. Tighten to 50 ft.-lbs.
37. Install the supplied sway bar link bracket as shown in **Photo 31** on the lower control arm using the supplied 12mm x 35mm bolt and flange lock nut from LinkBag1. Tighten using a 18mm & 19mm wrench**.**
38. Install the upper sway bar link bracket as shown on the sway bar with the supplied 12mm x 35mm Bolt and flange lock nut from LinkBag1. **See Photo 32.**



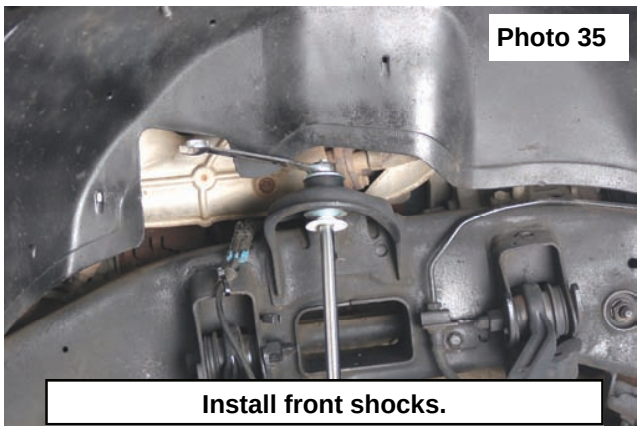


39. Install the sway bar link in the upper bracket with the supplied 12mm x 65mm bolt and flange lock nut from LinkBag1. **See Photo 33.** Tighten using a 18mm & 19mm wrench.
40. Install the sway bar link in the lower bracket and secure with the supplied 12mm x 65mm Bolt and flange lock nut from LinkBag1. *The bolt will need to be installed as shown with the threads pointing forward.* **See Photo 34.**



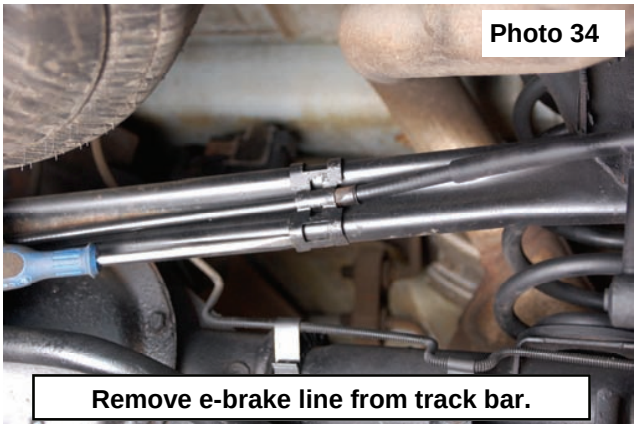


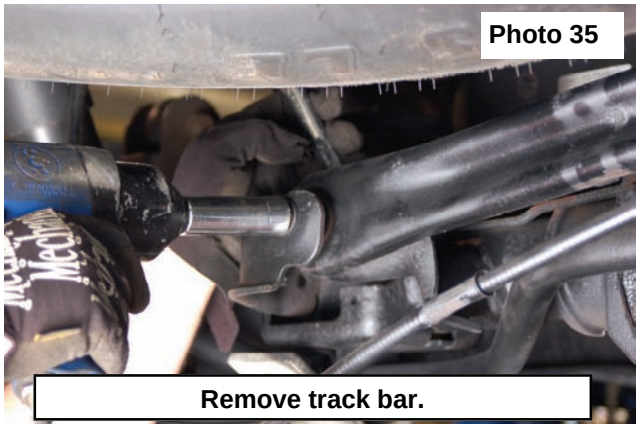
41. Using a torsion bar tool, load the torsion bars using the mark made earlier as a reference.
42. Install front shock in the factory lower location as shown in **Photo 35** with factory hardware and using a 21mm wrench. Install the shock in the upper mount with supplied stem bushings, cup washers & nuts (283N2BAG2) using a 9/16” wrench.
43. Install the tires and wheels and jack up the vehicle to remove the jack stands. Lower the vehicle to the ground.
44. Tighten control arm hardware using a 18mm & 24mm wrench.



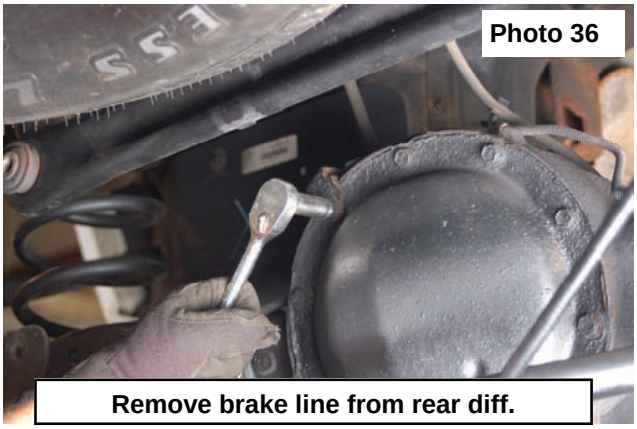
REAR INSTALLATION INSTRUCTIONS

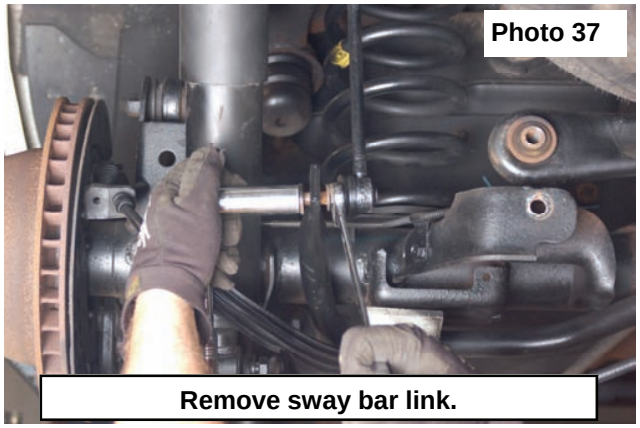
1. Chock the front wheels and jack up the rear of the vehicle. Support the vehicle with jack stands.
2. Remove the tires/wheels using 7/8” deep well socket.
3. Lightly support the axle with a floor jack.
4. Using a flat head screwdriver, remove the e-brake line from the track rod by removing the clip as shown in **Photo 34**.
5. Remove the track rod from the axle as shown in **Photo 35** using a 21mm socket/wrench.



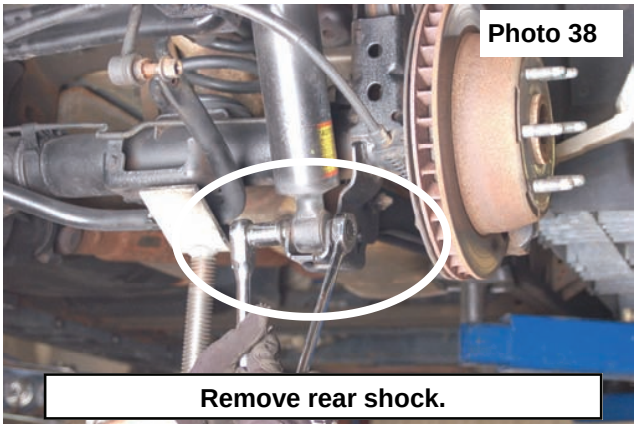


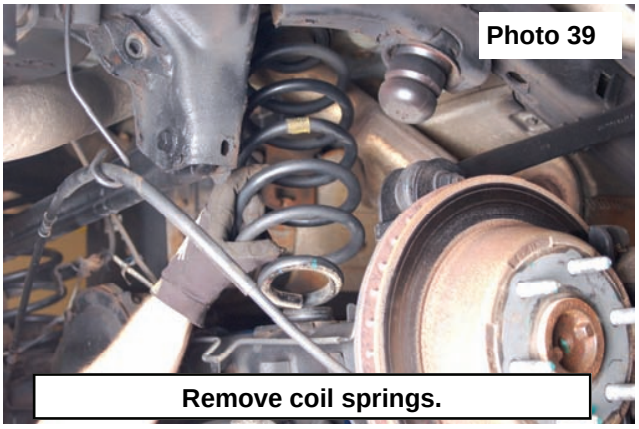
6. Remove the bolt securing the brake line bracket using a 13mm socket as shown in **Photo 36**. Retain hardware for reuse.
7. Remove the sway bar links from the axle and the frame using a 18mm wrench as shown in **Photo 37**. Retain the upper frame mount hardware for reuse.



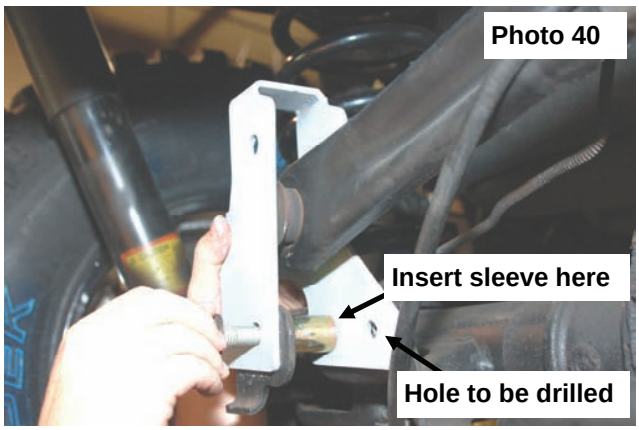


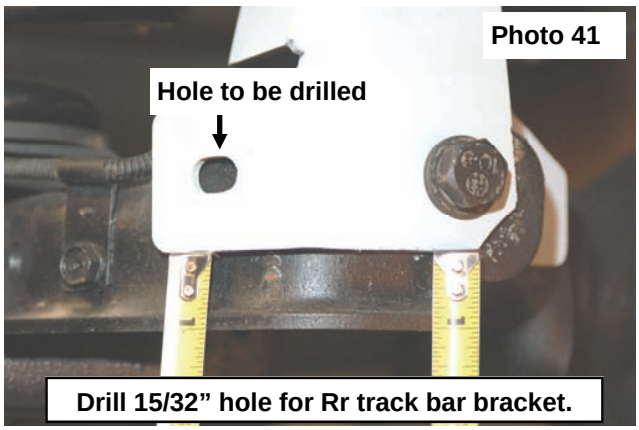
8. Remove the lower shock from the axle as shown in **Photo 38** using a 21mm wrench/socket leaving the upper part of the shock attached to the frame. Retain the hardware for reuse.
9. Remove the lower control arm from the axle using a 21mm wrench/socket. Retain hardware for reuse.
10. Lower the axle with the floor jack and remove the coil springs. **See Photo 39.**



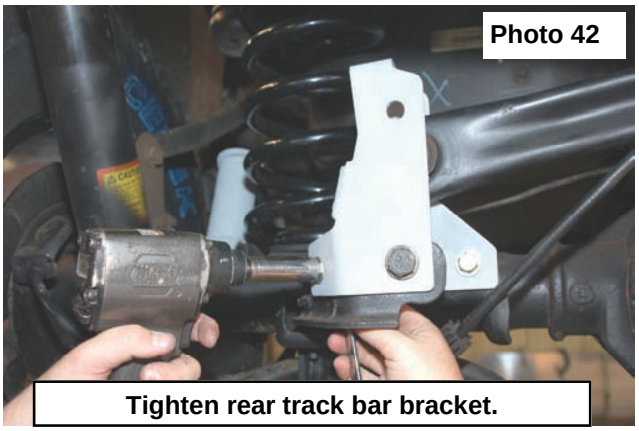


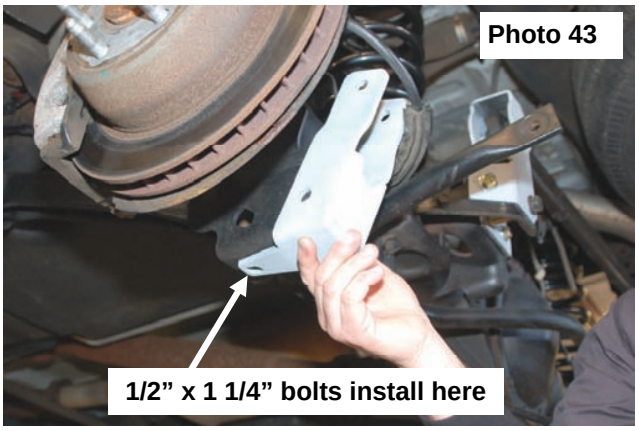
11. Install the new coil springs in the stock location. Reinstall the lower control arms on the axle with the stock hardware and tighten using a 21mm wrench/socket.
12. Install the new track bar bracket as shown in **Photo 40** in the stock location with the supplied crush sleeve and stock hardware with flanged nut towards middle of vehicle. Do not tighten at this time.
13. Make sure the bracket is even as shown in **Photo 40 & 41**. Mark and drill the two holes using a 15/32" drill bit.



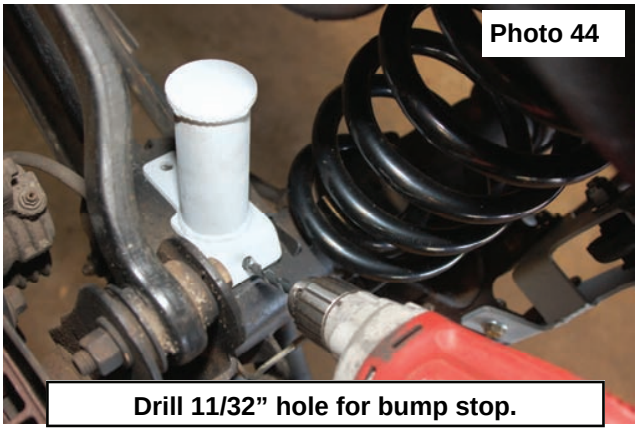


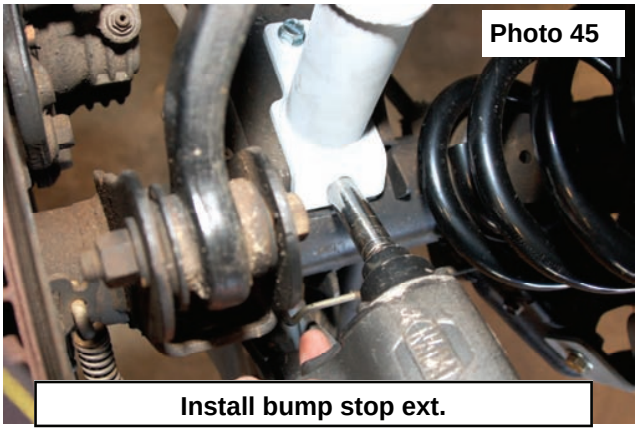
14. Secure with the supplied 7/16" x 1" bolts, washers /nuts, from 1280BAG1 as shown in **Photo 42.** Raise the axle to align the track rod with the new bracket and install using supplied 9/16" x 3 1/2" bolt, washers, and nut. Tighten using a 21mm socket & 22mm wrench. Tighten 7/16" bolts to 52 ft. lbs and the 9/16" bolt to 82 ft. lbs.
15. Install the lower shock relocation bracket **(Please note there is a passenger and driver side bracket)** in the stock location as shown in **Photo 43** using the 1/2" X 1 1/4" bolts, washers & nuts, from 1280BAG1, in the lower rear hole and the supplied 9/16" x 3 1/2" bolts, washers, and nuts in the stock location, from 1280BAG1. Tighten 1/2" bolt to 57 ft-lbs. and the 9/16" bolt to 82 ft-lbs. The stock shocks will be installed after the vehicle is lowered to the ground using stock hardware.



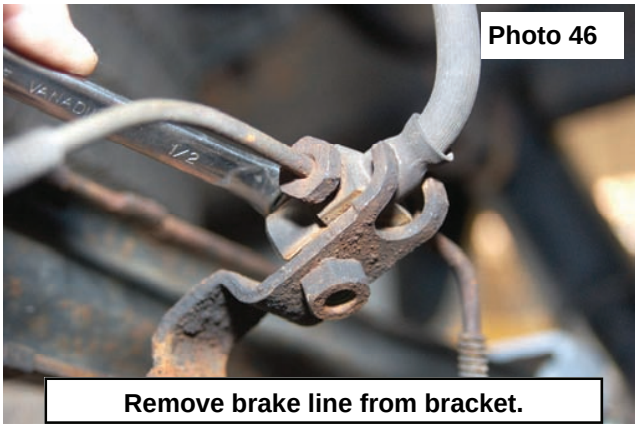


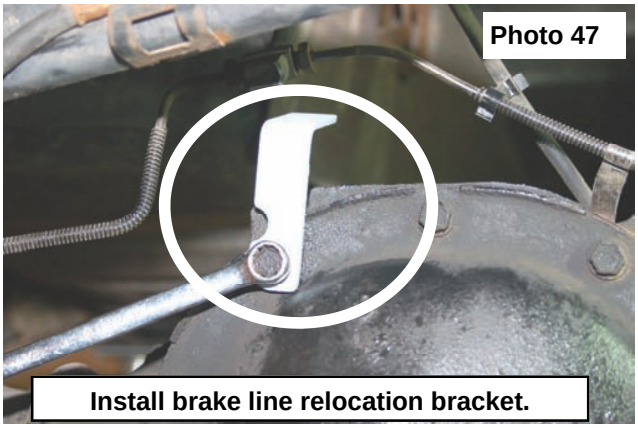
16. Install the bump stops as shown aligning the new bump stop bracket with the factory bump stop. Mark and drill the holes using a 11/32" drill bit as shown in **Photo 44**.
17. Install the bump stops with the supplied 3/8" x 1" self tapping bolts, from 1280BAG1 using a 9/16" socket. Do not over-tighten. **See Photo 45**.



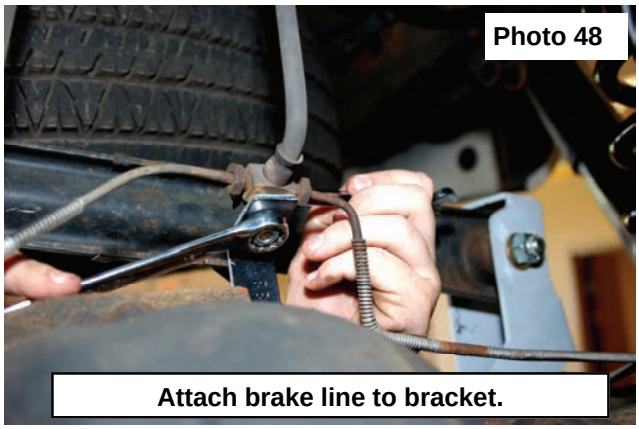


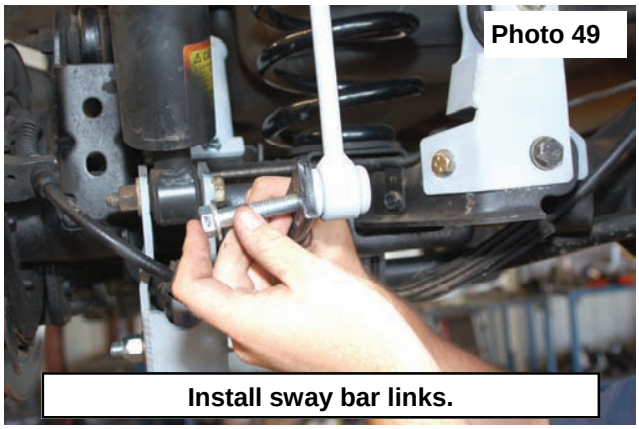
18. Remove the brake line from the brake line bracket using a 1/2” wrench. **See Photo 46**.
19. Install the new brake line bracket as shown in the stock location on the differential with stock hardware using a 13mm wrench. **See Photo 47.**





20. Install the brake line on the new brake line extension bracket as shown in **Photo 48** with supplied 5/16” x 1 1/4” bolt, washer & nut, from 1280BAG1.
21. Swing the sway bar up and install the supplied rear links as shown in **Photo 49** with supplied 1/2” x 2 1/2” bolts/ washers & nuts, from 1280BAG1, in lower mount and stock hardware in upper mounts. Tighten to 57 ft. lbs.

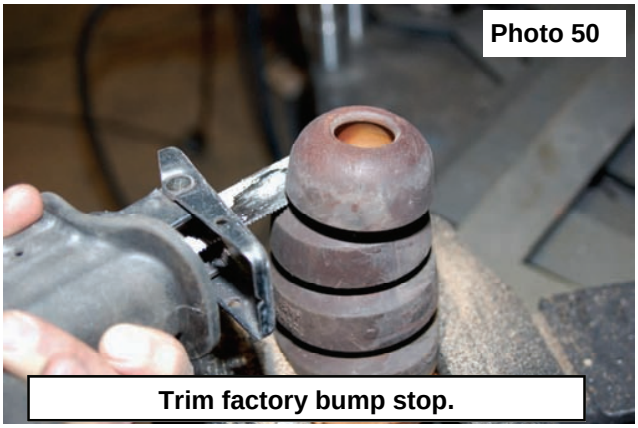




22. Install the wheels and tires.
23. Jack up the vehicle and remove the jack stands. Lower the vehicle to the ground.
24. Install the stock shocks in the new mounts with the stock hardware using a 21mm wrench. Tighten to factory specifications.

BUMPSTOP MODIFICATION FOR AVALANCHE ONLY

1. Remove the bump stop from the stock location on the frame . Trim the bump stop as shown in **Photo 50** using a reciprocating saw.
2. Only the top portion will be trimmed as shown in **Photo 51**. After the bump stop has been trimmed, reinstall on the vehicle in the stock location.





POST INSTALLATION INSTRUCTIONS

1. 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.
2. On some vehicles the front lower skirting will need to be trimmed if using certain wheel /tire combinations and with heavy offset wheels. Trim only as needed.
3. Activate four wheel drive system and check front hubs for engagement.
4. Have a qualified alignment center align the vehicle immediately. Realign to factory specifications. Have headlights adjusted to proper settings.
6. Perform head light check and adjustment to proper settings.
7. Check and retighten wheels at 50 miles and again at 500 miles.
8. Recheck lifted height and adjust torsion bar as necessary.
9. All kit components must be retightened at 500 miles and then every three thousand miles after installation. Periodically check all hardware for tightness.
10. Install “Warning to Driver” decal on sun visor.

⚠NOTICE Installation of larger tires will require speedometer recalibration.

OPTIONAL EQUIPMENT

Rough Country offers two optional items for this vehicle when lifted with our suspension system. Both of these items are highly recommended, but not required. Part # 87320 is a single steering stabilizer kit and will help with 35” tires to reduce front end wonder and steering integrity. Also available is a set of kicker braces that add stability to the frame for off road performance. Please contact your Rough Country distributor to order.

Optional Equipment:
Part # 1272 Box4-Kicker Braces



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

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.