TRAIL FORTRESS

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Rough Country 24831 Installation Instructions

5-Inch Lift Kit, N3 Shocks: Silverado/Sierra 1500 2WD (2014–2019)

Part number: 24831

trailfortress.com/rough-country-5-inch-lift-kit-24831

Scan for fitment, price and install help

921248000

ROUGH COUNTRY SUSPENSION SYSTEMS®

248INSTBAG

GM 2014-18 2wd 1500 5” Kit

Thank you for choosing Rough Country for your suspension needs. We appreciate your business!!

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. Be sure you have all needed parts and know where they go.

PRODUCT USE INFORMATION

⚠WARNING 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. We will be happy to answer any questions concerning the design, function, and correct use of our products.

⚠WARNING Trucks equipped with electric power steering must unplug the steering components before e any part are removed. Failure to do so may cause damage to the rack and pinion.

This kit is packaged as a leveling kit—raising the front 5” and the rear 3 1/2”. If you desire a different look or if the vehicle has a tool box or added weight in the rear, please consult with your sales representative about an add-a-leaf option.

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 18” or larger wheel not to exceed 9” in width. When using a 18” wheel backspacing should be maximum of 5.5” and a minimum 5.0” . With a 20” or larger wheel backspacing should be a maximum of 6.0” and a min of 5.5”. Additionally a quality tire of radial design is recommended, not exceeding 33” tall and 12.5” wide. Please note that use of a 33” x 12.5” tire may require modification to the front valance.

⚠NOTICE **Please refer to the instructions on the last page for trimming the tie rods. For alignment purposes, it will be necessary to trim/shorten the tie rod end to allow the front end alignment to be set properly**

Optional kicker Bars Part #1262 are available for this kit. Please contact you local Rough Country Dealer for information.

⚠NOTICE **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.

We hope installing your Rough Country lift kit is a positive experience. Please note that variations in construction and assembly in the vehicle manufacturing process will virtually ensure that some parts may seem difficult to install. Additionally, the current trend in manufacturing of vehicles results in a frame that is highly flexible and may shift slightly on disassembly prior to installation. The use of pry bars and tapered punches for alignment is considered normal and usually does not indicate a faulty product. However, if you are uncertain about some aspect of the installation process, please feel free to call our tech support department at 800-222-7023. We do not recommend that you modify the Rough Country parts in any way as this will void any warranty expressed or implied.

trailfortress.com/rough-country-5-inch-lift-kit-24831

Kit Boxes

Aluminum Control Arms

24831 w/ N3 Rr Shocks:
- *248BOX1*
- *229BOX2*
- *1238BOX1*
- *262BOX2*
- *23158*

24834 w/ N3 Struts & N3 Rr Shocks:
- *248BOX1*
- *229BOX2*
- *1238BOX1*
- *23014*
- *23158*

24870 w/ V2 Rr Shocks:
- *248BOX1*
- *229BOX2*
- *1238BOX1*
- *262BOX2*
- *760739*

24871 w/ N3 Struts & V2 Rr Shocks):
- *248BOX1*
- *229BOX2*
- *1238BOX1*
- *23014*
- *760739*

Cast Steel Control Arms

24730 w/ N3 Rr Shocks:
- *248BOX1*
- *229BOX2*
- *1237BOX1*
- *262BOX2*
- *23158*

24733 w/ N3 Struts & N3 Rr Shocks:
- *248BOX1*
- *229BOX2*
- *1237BOX1*
- *23014*
- *23158*

24770 w/ V2 Rr Shocks:
- *248BOX1*
- *229BOX2*
- *1237BOX1*
- *262BOX2*
- *760739*

24771 w/ N3 Struts & V2 Rr Shocks):
- *248BOX1*
- *229BOX2*
- *1237BOX1*
- *23014*
- *760739*

Kit Box & Bag Contents

Box Kit

248BOX1
- Sway Bar Drop Brackets-2
- Transmission Shims-2
- U-Bolts-4
- Rear Blocks-2
- Frt Brake Line Brackets-2
- Rr Brake Line Bracket-1
- Sway Links-2
- 248INSTBAG
- 9/16BAG
- 1263BAG1
- 1296BAG3

229BOX2
- Front Crossmember-1
- Rear Crossmember-1

262BOX2
- Upper Strut Spacers-2
- 10MMSTUDBAG-2

1238BOX1 (Aluminum Control Arms)
- Driver Knuckle-1
- Passenger Knuckle-1

1237BOX1 (Steel Control Arms)
- Driver Knuckle-1
- Passenger Knuckle-1

23158-Rear N3 Shock Pair

23014-Frt N3 Strut Pair

760739-Rear V2 Shock Pair

Kit Bags

248INSTBAG
- Instruction Sheet-1
- Warning to Driver Sticker-1

1263BAG1-*Front Kit Bag*

For Front Cross Member
- 5/8” x 4.5” Bolt (2)
- 5/8” Nylock Nuts (2)
- 5/8” Flat Washers (4)

For Rear Cross Member
- 5/8” x 5.5” Bolt (2)
- 5/8” Nylock Nuts (2)
- 5/8” Flat Washers (4)

For Lwr Strut to Ctrl Arm Mt
- 10mm x 55mm Bolt (4)
- 10mm Lock Nuts (4)
- 10mm Washers (8)

For Sway Bar Bracket
- 10mm x 35mm Bolt (4)
- 10mm Lock Nuts (4)
- 10mm Lock Washer (4)
- 10mm Washers (8)

For Frt and Rr Brake Line Brkts
- 5/16” x 3/4” Bolt (4)
- 5/16” Nylon Lock Nut (4)
- 5/16” Washer (8)

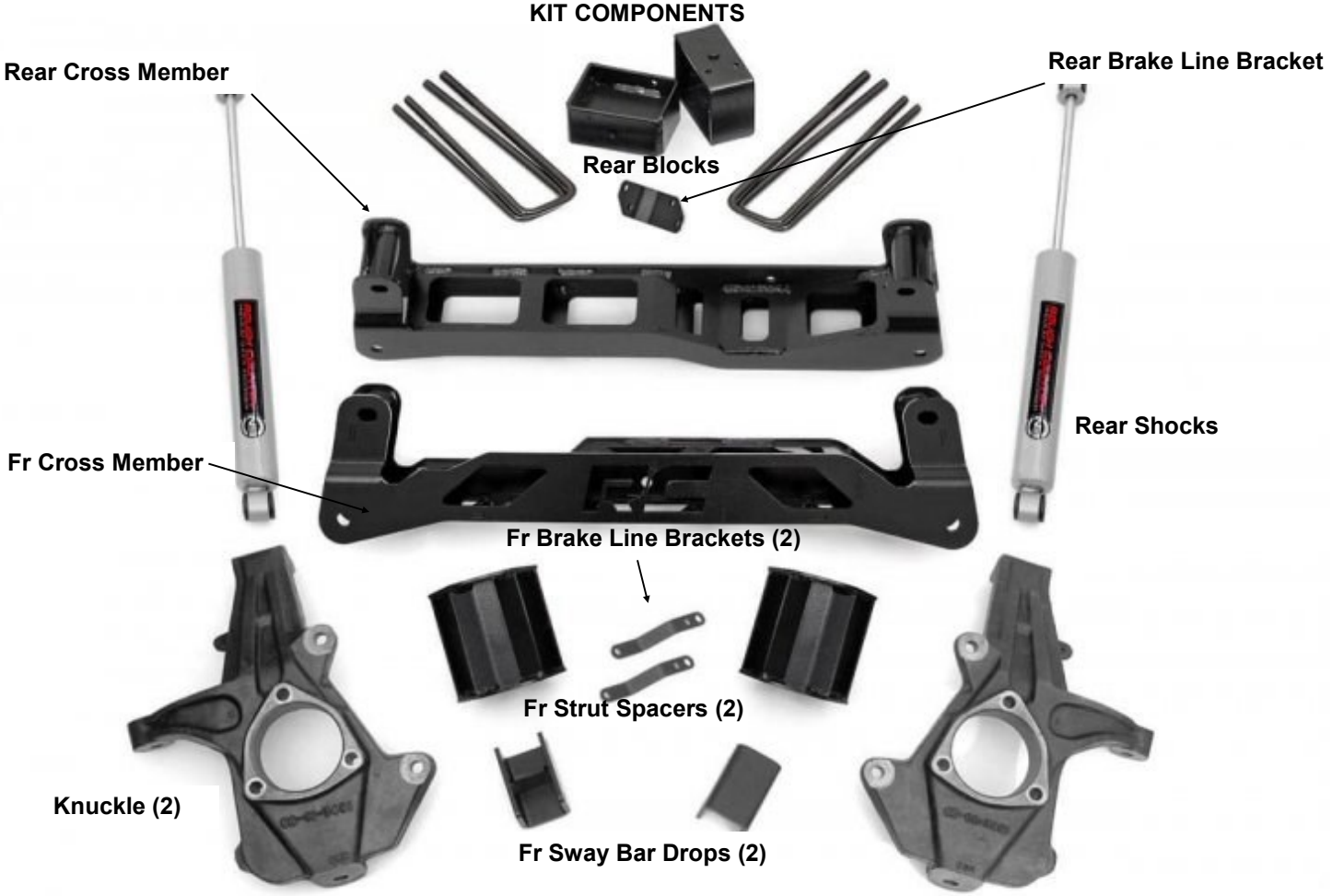
1296BAG3-*Transmission Shim Bag*
- 10mm x 55mm Bolts (2)
- 10mm x 40mm Bolts (2)
- 10mm Flat Washers (2)

Kit Bags

10MMSTUDBAG-2-*Upper Strut Spacer Bag*
- 10mm Stud-6
- 10mm Flange Lock Nut-6
- 10mm Nut-1
- 1/2” Jam Nut-1

9/16BAG-*U-bolt Bag*
- 9/16” Washers-8
- 9/16” Nuts-8

KIT COMPONENTS



Torque Specs:

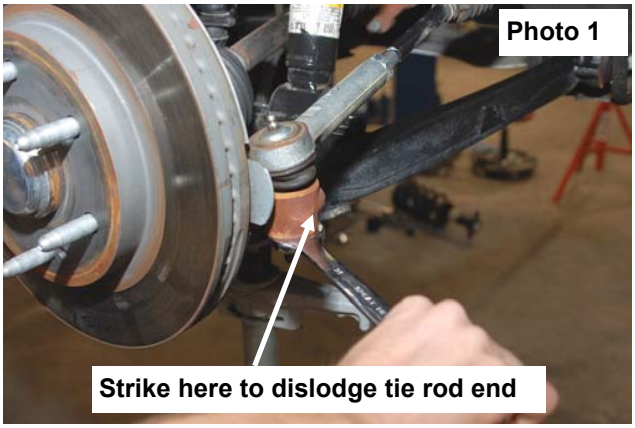
Size	Grade 5	Grade 8	Size	Class 8.8	Class 10.9
5/16”	15 ft/lbs	20ft/lbs	6MM	5ft/lbs	9ft/lbs
3/8”	30 ft/lbs	35ft/lbs	8MM	18ft/lbs	23ft/lbs
7/16”	45 ft/lbs	60ft/lbs	10MM	32ft/lbs	45ft/lbs
1/2”	65 ft/lbs	90ft/lbs	12MM	55ft/lbs	75ft/lbs
9/16”	95 ft/lbs	130ft/lbs	14MM	85ft/lbs	120ft/lbs
5/8”	135ft/lbs	175ft/lbs	16MM	130ft/lbs	165ft/lbs
3/4”	185ft/lbs	280ft/lbs	18MM	170ft/lbs	240ft/lbs

Tools Needed:

Floor Jack /Jack Stands
10mm socket /wrench
13 mm socket/wrench
15mm socket / wrench
17mm socket/wrench
18mm socket /wrench
21mm socket /wrench
22mm socket /wrench
24mm socket /wrench
7/16” Socket / Wrench
9/16 socket /wrench
Reciprocating Saw
Drill
11/16” Drill Bit
Hand Grinder
Loctite

FRONT INSTALLATION

1. Park the vehicle on a level surface and chock the rear wheels.
2. Jack up the front of the vehicle. Place jack stands under the frame rails and lower onto jack stands letting the front suspension hang.
3. Remove the tires and wheels. Remove the upper and lower factory skid plates using a 15mm wrench. Retain factory hardware and front skid plate for reuse. Unplug electric power steering if equipped.
4. Using a 21mm wrench, remove the tie-rod nut as shown in **Photo 1**. Strike the side of the mount to dislodge the tie rod end. Remove from the knuckle.
5. Remove the sensor wire from the plastic clip. Remove the bracket from the control arm using a 10mm wrench. **See Photo 2.**



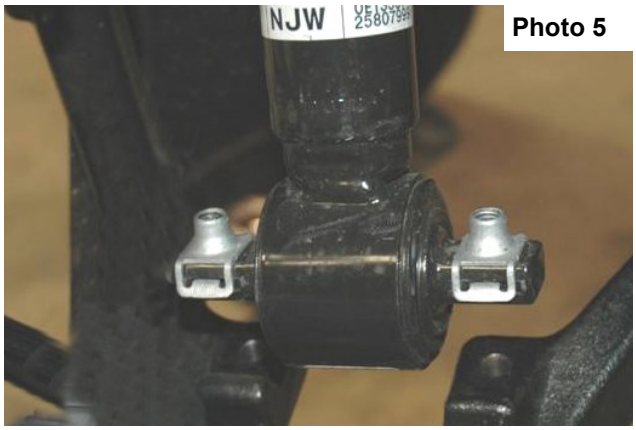


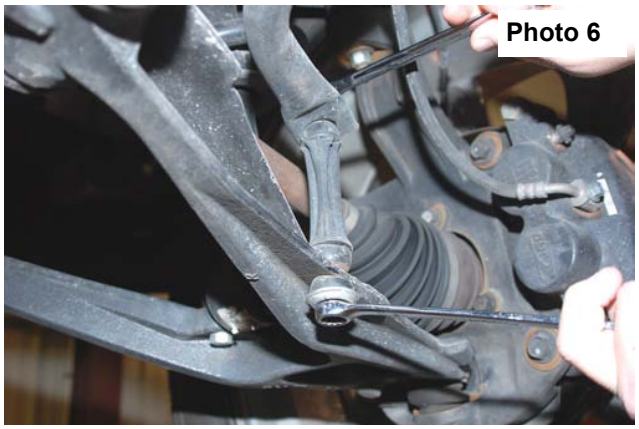
6. Remove and unplug the ABS sensor wire from the frame as shown in **Photo 3** and remove the two bolts holding brake caliper to the factory knuckle using a 18mm wrench. Remove the caliper assembly from the knuckle and hang securely out of the way. ⚠ WARNING Do not hang the caliper by the brake hose.
7. Using a 18mm wrench, remove the upper strut nuts as shown in **Photo 4**. Retain factory hardware for reuse.





8. Using a 15mm wrench, remove the 2 bolts securing the lower strut as shown in **Photo 5**, to the lower control arm and remove the strut from the vehicle. Remove and discard the factory lower retainer clips. New hardware will be used.
9. Remove the sway bar & end links from the lower control arm as shown in **Photo 6** using a 15mm wrench.





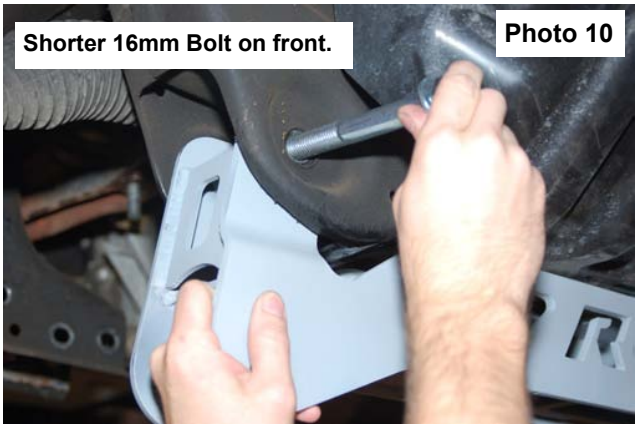
10. Remove the sway bar from the frame as shown in **Photo 7** using a 10mm wrench. Retain all hardware for reuse.
11. Using a 15mm wrench, remove the 6 axle shaft bolts from the differential and remove from the knuckle. Repeat on opposite side.
12. Remove the upper and lower ball joint from knuckle using a 18mm wrench and 24mm on the lower. Upper shown in **Photo 8**. Strike the knuckle as shown to dislodge the ball joint. Separate the upper control and lower control arm from the knuckle and remove the knuckle and the lower control arms from the vehicle.





13. Remove the four rear cross member bolts and remove the rear cross member brace as shown in **Photo 9** using a 18mm wrench.
14. Trim the lower control arm mount on the frame as shown in **Photo 10**. Trim only enough to allow for installation of new front RC cross member.
15. Install the front cross member as shown in **Photo 10** with the supplied 16mm x 120mm bolts, nuts /washers. Do not tighten at this time.





16. Install the rear cross member in the factory location using the supplied 16mm x 130mm bolts, nuts/ washers as shown in **Photo 11.** Do not tighten at this time.



17. Reinstall the lower control arms in the cross member brackets with the factory hardware. Do not tighten at this time.
18. Tighten the cross member bolts using a 24mm socket & wrench.
19. Install the supplied 10mm studs (10mmstudbag-2) into the strut spacer using the supplied 1/2" jam nut (10mmstudbag-2) between the spacer and the 10mm nut (10mmstudbag-2). Tighten the 10mm nut using a 17mm socket, pulling the stud into the spacer. **Do not using an impact. See Photo 12.**
20. Install the strut spacer on top of the strut as shown in **Photo 13** with the stock hardware. Tighten using a 18mm wrench.

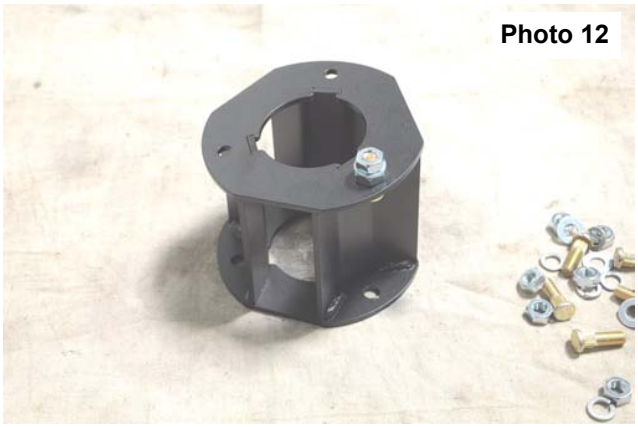


Photo 12


Photo 13

21. Install the strut into the upper mount using the supplied 10mm hardware (10mmstudbag-2). Tighten using a 17mm wrench.
22. Install the lower part of the strut in the factory location on the lower control arm with the supplied 10mm x 55mm bolts, nuts /washers. Tighten using a 17mm" wrench.
23. On the factory knuckles, remove the bearing assembly using a 15mm wrench and install in the new knuckle. Tighten hardware. **See Photo 14.**
24. Install the knuckles on the lower ball joint with the factory hardware. Tighten using a 18mm wrench.
25. Trim tie rod ends as per instructions on last page and install on the knuckle. Tighten using a 21mm wrench.
26. Install the sway bar drop brackets with the 10mm x 35mm bolts, locking washers & flat washers using a 17mm wrench. Tighten hardware. **See Photo 15.**


Photo 14

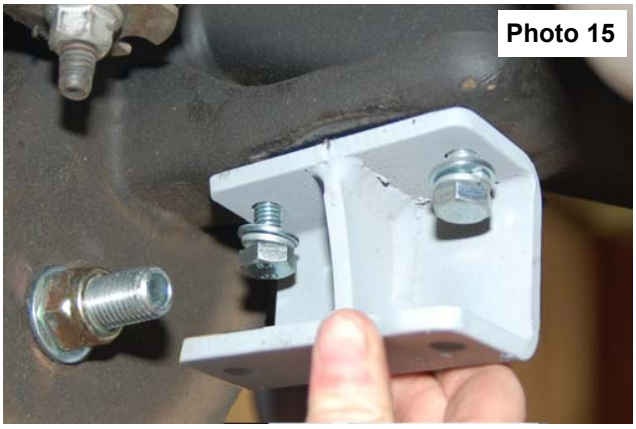


Photo 15

27. Install the sway bar on the sway bar drop brackets with the stock bolts and supplied 10mm nuts & washers. Tighten using a 17mm wrench. **See Photo 16.**
28. Using the supplied template on last page of instructions as a guide, mark and drill the lower control arm using a 11/16" drill bit to relocate the sway bar end link. **See Photo 17.** After drilling, install the sway bar end link with the stock hardware and tighten.


Photo 16

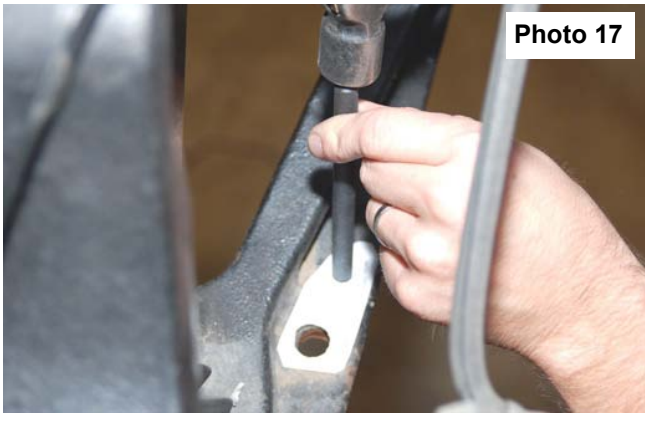


Photo 17

28. The brake shroud must be trimmed to allow the caliper to reinstalled, Mark the dust shroud as shown in **Photo 18** and trim. Reinstall the brake caliper on the knuckle with the factory hardware and tighten.
29. Remove the brake line bracket from the upper control arm mount as shown in **Photo 19** using a 13mm wrench.
30. Install the supplied brake line relocation bracket on the upper control arm mount with the stock hardware. Slightly pull down on the brake line assembly and reinstall on the drop bracket with the supplied 5/16” x 3/4” bolts, nuts / washers using a 7/16 wrench. **See Photo 20.** Reconnect the ABS wire that was disconnected in Step 6.

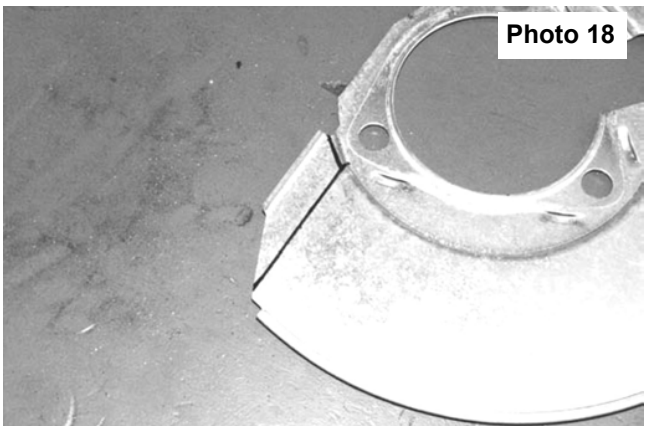


Photo 18


Photo 19


Photo 20

31. Remove the brake line clip from the brake line using a flat head screw driver as shown in **Photo 21** and trim as shown in **Photo 22** Reinstall the modified bracket on the stock control arm with the stock hardware.

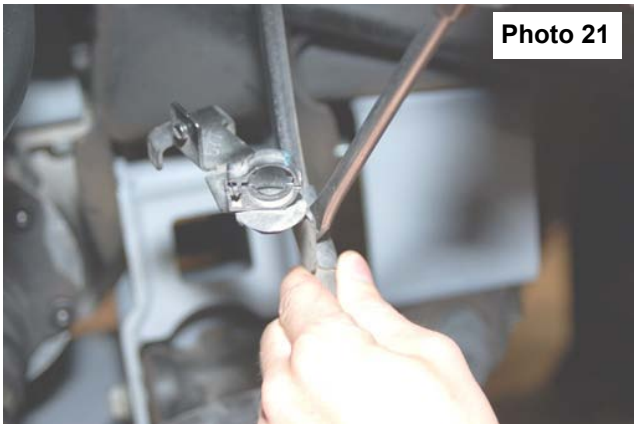


Photo 21

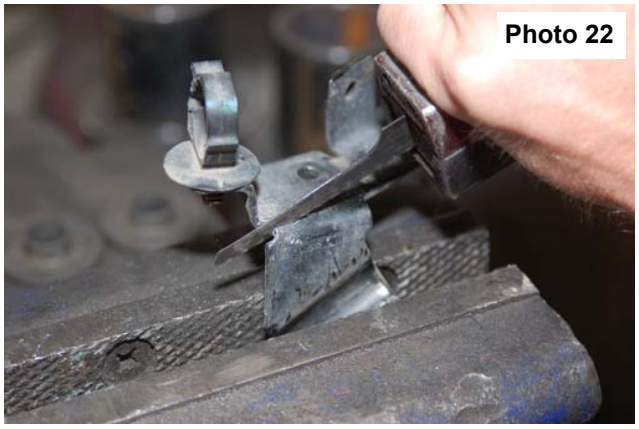


Photo 22

32. If the optional kicker bars were purchased with this kit, install at this time per the instructions included with that kit.
33. Plug in the electric power steering connector if equipped. Reinstall the factory upper skid plate with the factory hardware.
34. Install the tires and wheels. Jack up the front of the vehicle and remove the jack stands.
35. Lower the vehicle to the ground.

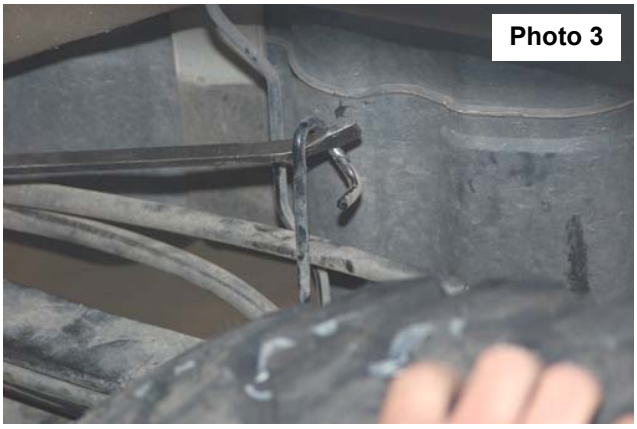
REAR INSTALLATION INSTRUCTIONS

1. Chock the front tires.
2. Before jacking up the rear of the vehicle. Remove the stock brake line bracket using a 13mm wrench, from the driver side frame rail to allow the extension bracket to be installed. **See Photo 1.** The stock bolts can be accessed from the side of the vehicle. Retain the stock hardware for reuse.
3. Install the brake line bracket to the new bracket with the supplied 5/16" x 3/4" bolts, nuts /washers. Reinstall the assembly in the stock location with the stock hardware using a 13mm wrench. **See Photo 2.**





4. Remove the e-brake cable from the mount as shown in **Photo 3.** This will require a screw driver to bend open mounting loop.
5. Remove the ABS wire, if equipped, from the frame rail as shown in **Photo 4** to allow slack in the line.

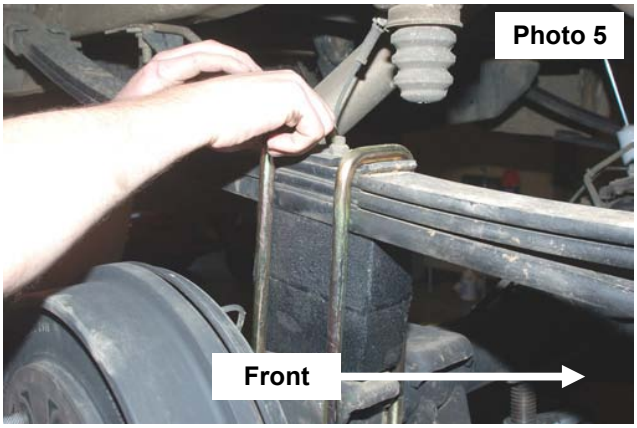




6. Jack up the rear of the vehicle and place jack stands under the frame rails. Remove tire and wheels.
7. Lightly support the differential with a floor jack .
8. Remove the stock shock absorbers using a 21mm wrench. Retain the hardware for reuse.
9. Remove the stock u-bolts and lower the axle to allow the supplied block to be installed. Discard the factory block if so equipped.
10. Install the new block on the axle. Jack up the axle and make sure the center pin is aligned with the block. **See Photo 5.**

NOTICE **Note the short side of block goes towards front of vehicle.**

11. Install the supplied u-bolts and tighten using a 22mm wrench and a crossing pattern.



12. Install the new shock absorbers with factory hardware using a 21mm wrench. **See Photo 6.**
13. **07-13 Models skip to step 18.**
14. Using a 15mm socket remove the 2 bolts from the transmission crossmember and jack up the transmission. **See Photo 7.**
15. Install the (2) transmission shims along with the bolts and washers from 1296BAG3. **See Photo 8.**


Photo 6


Photo 7

16. Let the transmission down and tighten the hardware using 16mm socket and wrench. Torque to 32 ft-lbs.
17. Reconnect the ABS lines to the plastic retaining clip at the bottom of each frame rail. The connector will not be reattached to the top of the frame. Reroute the lines as needed to gain proper slack.
18. Re-install tires and wheels.
19. Remove jack stands and lower vehicle to ground.


Photo 8

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. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure.
3. 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.
4. Have a qualified alignment center align the vehicle immediately. Realign to factory specifications. The following are the recommended specifications:

Caster in degrees	4.5 +-1.0
Camber in degrees	0.0—.3
Toe In in degrees	0.1 +-.2

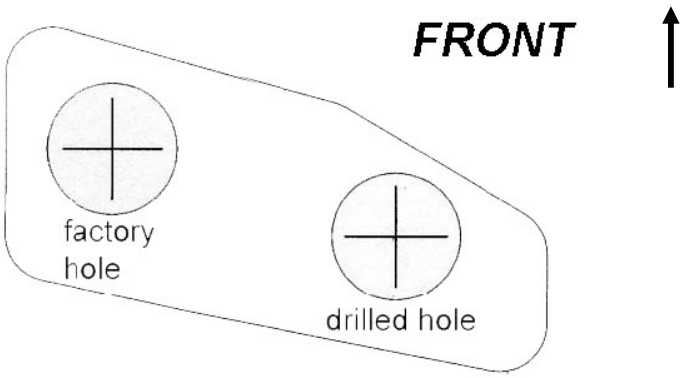
For alignment purposes, please refer to the instructions on next page. The inner & outer tie rod ends may need to be trimmed to allow the front end alignment to be set properly. Please alert your alignment specialist of this possibility.

6. Perform head light check and adjustment to proper settings and Check and retighten wheels at 500 miles.
7. All kit components must be retightened at 500 miles and then every three thousand miles after installation. Periodically check all hardware for tightness.
8. Install “Warning to Driver” decal on sun visor

Note: Installation of larger tires will require speedometer recalibration.

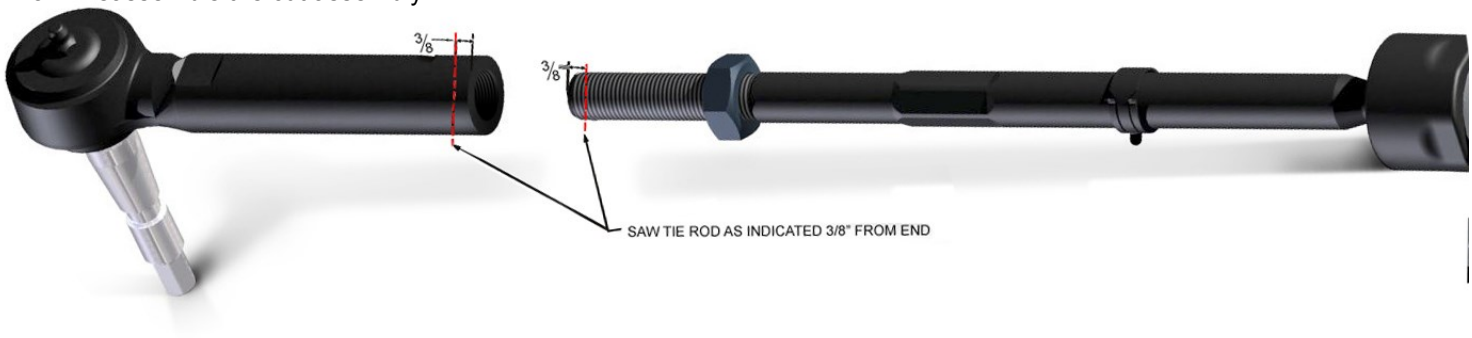
TEMPLATE FOR SWAY BAR RELOCATION

Cut out template and position template on lower control arm as shown in Step 45.. Drill with a 11/16 drill bit and relocate the sway bar end links into the new location.



INSTRUCTIONS FOR TRIMMING TIE ROD ENDS.

1. Disassemble the tie rod from the tie rod ends
2. Measure over 3/8” and mark.
3. Cut the tie rods / tie rod sleeves as shown below to allow the vehicle to be realigned.
4. Smooth any rough edges.
5. Reassemble the cut assembly



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