



EZ - Ride Suspension

Installation manual

4" Suspension Kit

2004 - 2013 Nissan Titan 4WD

Part # 54060

sj11212013rev.02

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2004 - 2013 Nissan Titan 4WD

4" Suspension Kit

| <u>Part #</u> | <u>Description</u> | <u>Qty.</u> |
|---------------|--|-------------|
| 54060-03 | Upper strut spacer | 2 |
| 54060-04 | Strut pre load spacer | 2 |
| 54060-05 | Rear block | 2 |
| 54060-06 | Driver side upper control arm | 1 |
| 54060-07 | Passenger side upper control arm | 1 |
| 54060-08 | Sway bar drop bracket | 2 |
| 54060NB | Hardware bag | 1 |
| 54060NB1 | Hardware bag | 1 |
| 54060PL | Poly bag | 1 |
| 5U-243S | 9/16" x 2 1/2" x 10 5/8" square u-bolt | 4 |
| 916NW | Hardware bag | 1 |
| 54060INST | Instruction manual | 1 |
| MIRRORHANGER | Rear view mirror hanger | 1 |
| WARNINGDECAL | Warning decal | 1 |
| INSTFILLER | Instruction filler | 1 |
| NAMETAG | Name tag | 1 |

Congratulations on your selection to purchase a Tuff Country EZ-Ride Suspension System. We at Tuff Country EZ-Ride Suspension are proud to offer a high quality product at the industries most competitive pricing. Thank you for your confidence in us and our product.

If you desire to return your vehicle to stock, it is the customers responsibility to save all stock hardware and components.

The Tuff Country EZ-Ride Suspension product safety label that is included in your kit box must be installed inside the cab in plain view of all occupants.

Important customer information:

Tuff Country EZ-Ride Suspension highly recommends that a qualified or a certified mechanic performs this installation.

It is the responsibility of the customer/installer to wear safety glasses at all times when performing this installation.

It is the customers/installers responsibility to read and understand all steps before installation begins. If you have any questions or concerns, please contact our technical department @ (801) 280-2777. Also, the OEM manual should be used as a reference guide.

This vehicles reaction and handling characteristics may differ from standard cars and/or trucks. Modifications to improve and/or enhance off road performance may raise the intended center of gravity. Extreme caution must be utilized when encountering driving conditions which may cause vehicle imbalance or loss of control. **DRIVE SAFELY!** Avoid abrupt maneuvers: such as sudden sharp turns which could cause a roll over, resulting in serious injury or death.

It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use.

After the original installation, Tuff Country EZ-Ride Suspension also recommends having the alignment checked every 6 months to ensure proper tracking, proper wear on tires and front end components. Tuff Country EZ-Ride Suspension takes no responsibility for abuse, improper installation or improper suspension maintenance.

Limited lifetime warranty

Notice to all Tuff Country EZ-Ride Suspension customers: It is your responsibility to keep your original sales receipt! If failure should occur on any Tuff Country EZ-Ride Suspension component, your original sales receipt must accompany the warranted unit to receive warranty. Warranty will be void if the customer can not provide the original sales receipt. Do not install a body lift in conjunction with a suspension system. If a body lift is used in conjunction with any Tuff Country EZ-Ride Suspension product, your Tuff Country EZ-Ride Suspension WARRANTY WILL BE VOID. Tuff Country Inc. ("Tuff Country") suspension products are warranted to be free from defects in material and workmanship for life if purchased, installed and maintained on a non-commercial vehicle; otherwise, for a period of twelve (12) months, from the date of purchase and installation on a commercial vehicle, or twelve thousand (12,000) miles (which ever occurs first). Tuff Country does not warrant or make any representations concerning Tuff Country Products when not installed and used strictly in accordance with the manufacturer's instructions for such installation and operation and accordance with good installation and maintenance practices of the automotive industry. This warranty does not apply to the cosmetic finish of Tuff Country products nor to Tuff Country products which have been altered, improperly installed, maintained, used or repaired, or damaged by accident, negligence, misuse or racing. ("Racing is used in its broadest sense, and, for example, without regards to formalities in relation to prizes, competition, etc.) This warranty is void if the product is removed from the original vehicle and re-installed on that or any other vehicle. This warranty is exclusive and is in lieu of any implied warranty of merchantability, fitness for a particular purpose or other warranty of quality, whether express or implied, except the warranty of title. All implied warranties are limited to the duration of this warranty. The remedies set forth in this warranty are exclusive. This warranty excludes all labor charges or other incidental of consequential damages. Any part or product returned for warranty claim must be returned through the dealer of the distributor from whom it was purchased. Tuff Country reserves the right to examine all parts returned to it for warranty claim to determine whether or not any such part has failed because of defect in material or workmanship. The obligation of Tuff Country under this warranty shall be limited to repairing, replacing or crediting, at its option, any part or product found to be so defective. Regardless of whether any part is repaired, replaced or credited under this warranty, shipping and/or transportation charges on the return of such product must be prepaid by the customer under this warranty.

Important information that needs to be read before installation begins:

Tuff Country recommends a 33" x 12.50" tire with a wheel that has a back spacing of 4.5" or less. If larger than a 33" x 12.50" tall tire is installed on your vehicle in conjunction with part # 54060, Tuff Country assumes no liability and the warranty will be VOID.

Tuff Country EZ-Ride Suspension packages (2) sets of instruction sheets with this box kit. (1) is for the installer and (1) is for the customer. The (1) for the customer has some post installation procedure literature and it is the installers responsibility to make sure that the customer receives a copy of the installation manual along with the literature.

The OE rear shocks will NOT be long enough once this suspension system has been installed. If you have not already ordered your rear shocks, please contact Tuff Country or your local Tuff Country dealer and order your new rear shocks. Tuff Country recommends installing a 30" fully extended shock.

Before installation begins, Tuff Country EZ-Ride Suspension highly recommends that the installer performs a test drive on the vehicle. During the test drive, check to see if there are any uncommon sounds or vibrations. If uncommon sounds or vibrations occur on the test drive, uncommon sounds or vibrations will be enhanced once the suspension system has been installed. Tuff Country EZ-Ride Suspension highly recommends notifying the customer prior to installation to inform the customer of these issues if they exist.

Make sure to use loctite on all new and stock hardware associated with the installation of this suspension system.

Tuff Country EZ-Ride Suspension recommends a wall mounted strut compressor be used when performing the steps that talk about installing the pre-load spacer into the strut. If you do not have a wall mounted strut compressor, please have these steps performed by your local Nissan Dealership.

Recommended tools selection:

Wall mounted strut compressor
Torque wrench
Standard socket set
Standard wrench set
Metric socket set
Metric wrench set
Tape measure
Hydraulic floor jacks

Hardware bag 54060NB includes:

| <u>Description</u> | <u>Quantity</u> |
|--------------------------------------|-----------------|
| M1230SHB (12 mm x 30 mm socket head) | 4 |
| M850HEXB (8 mm x 50 mm hex bolt) | 2 |
| 14WA (1/4" USS flat washer) | 6 |
| 5161B (5/16" x 1" bolt) | 2 |
| 516UN (5/16" unitorque nut) | 2 |
| 716114B (7/16" x 1 1/4" bolt) | 4 |
| 38WA (3/8" USS flat washer) | 4 |
| 716UN (7/16" unitorque nut) | 4 |
| 916UN (9/16" unitorque nut) | 4 |
| SUW-916 (9/16" harden u-bolt washer) | 4 |
| M670B (6 mm x 70 mm bolt) | 2 |
| M6LWA (6 mm lock washer) | 2 |
| 14FWA (1/4" fender washer) | 2 |
| M1255B (12 mm x 55 mm bolt) | 4 |
| M12LWA (12 mm lock washer) | 4 |
| M12WA (12 mm flat washer) | 4 |
| 38NLN (3/8" nylock nut) | 6 |
| 516WA (5/16" USS flat washer) | 6 |

Hardware bag 54060NB1 includes:

| <u>Description</u> | <u>Quantity</u> |
|---------------------------------------|-----------------|
| S10203 (1.000 x .485" x .750" sleeve) | 2 |
| BLR01 (brake line bracket) | 2 |
| CAM-16 (Cam washer) | 8 |
| CAM-17 (Cam bolt) | 4 |
| S10066 (1.250" x .563" x 1.840") | 2 |
| S10090 (1.000" x .500" x .400") | 4 |

Hardware bag 54060PL includes:

| <u>Description</u> | <u>Quantity</u> |
|--|-----------------|
| PB69137 (poly bushing) | 8 |
| S10243 (.750" x .563" x 2.170" sleeve) | 4 |
| SERT04 (sert fitting) | 4 |

Hardware bag 916NW includes:

| <u>Description</u> | <u>Quantity</u> |
|--------------------------------------|-----------------|
| 916HN (9/16" u-bolt high nut) | 8 |
| SUW-916 (9/16" harden u-bolt washer) | 8 |

Please follow instructions carefully:

Before installation begins, measure from the center of the hub, to the bottom of the fender well, and record measurements below.

Pre-installation measurements:

Driver side front: _____

Passenger side front: _____

Driver side rear: _____

Passenger side rear: _____

At the end of the installation take the same measurements and compare to the pre-installation measurements.

Post-installation measurements:

Driver side front: _____

Passenger side front: _____

Driver side rear: _____

Passenger side rear: _____

Front end installation:

1. To begin installation, block the rear tires of the vehicle so that the vehicle is stable and can't roll backwards. Safely lift the front of the vehicle and support the vehicle with a pair of jack stands. Place a jack stand on both the driver and the passenger side. Next, remove the front wheels and tires from both sides.

2. Remove the front upper skid plate. Save the skid plate but the hardware may be discarded.



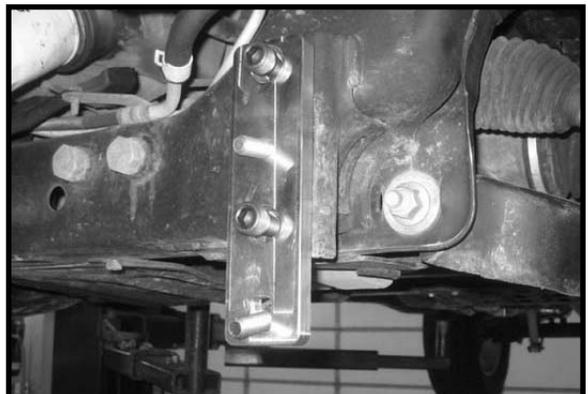
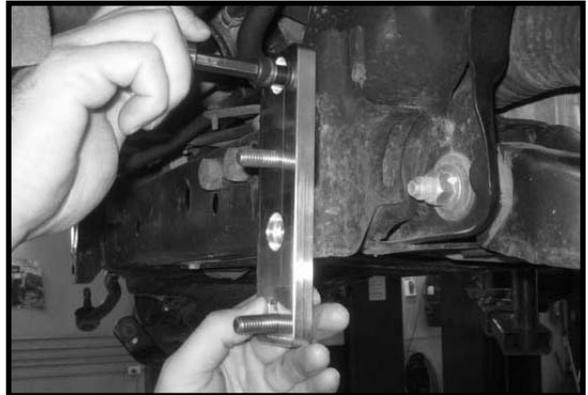
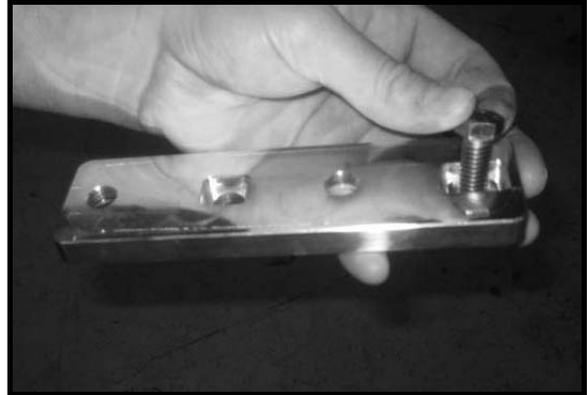


3. Working on the driver side, remove the sway bar from the "D" bushing mounting location. The hardware may be discarded. Repeat procedure on the passenger side and let the sway bar hang.

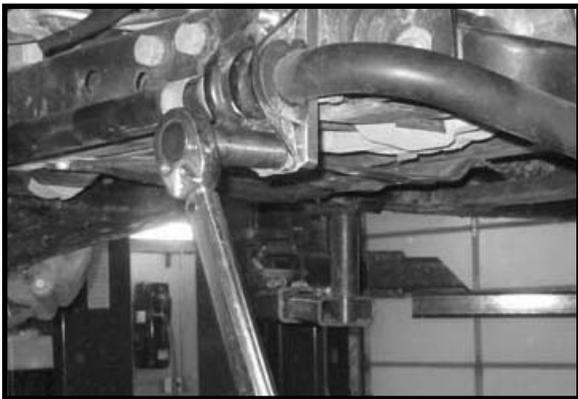
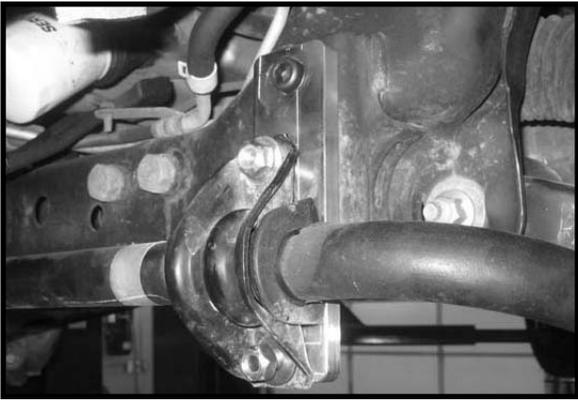


4. Locate the new sway bar relocation brackets. Also, locate (4) 7/16" x 1 1/4" bolt and (4) 12 mm x 30 mm socket head bolts from hardware bag 54060NB. Install the new 7/16" x 1 1/4" bolts to the new sway bar brackets into the cut out slot.

Working on the driver side, install the new bracket to the OE location and secure using the new 12 mm x 30 mm socket head bolts. Make sure to use loctite and torque to **40 ft lbs.** Repeat procedure on the passenger side.



5. Locate (4) 3/8" USS flat washers and (4) 7/16" unitorque nuts from hardware bag 54060NB. Working on the driver side, attach the sway bar to the newly installed sway bar bracket and secure using the new 7/16" hardware. Make sure to use loctite and torque to **40 ft lbs.** Repeat procedure on the passenger side.

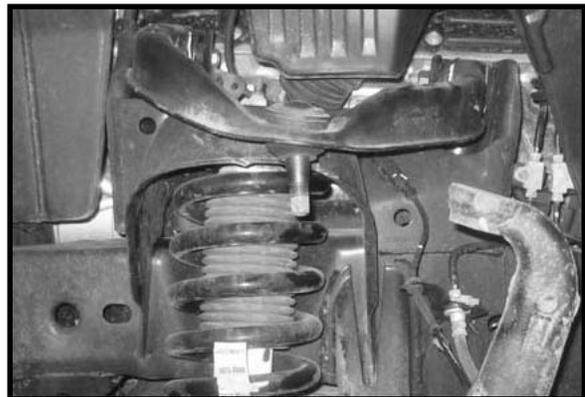
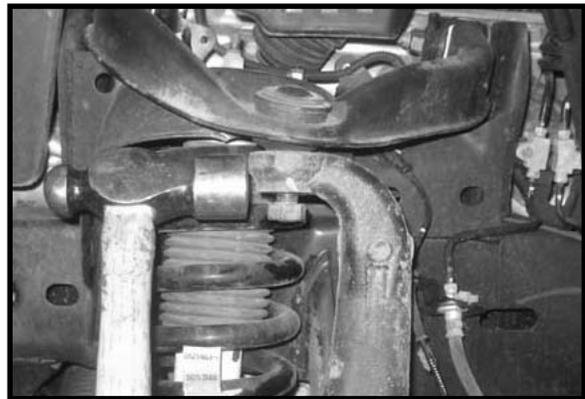


6. Place a pair of hydraulic floor jacks under the driver and passenger side lower control arm. Carefully raise up on both hydraulic floor jacks until they come into contact with the lower control arms.

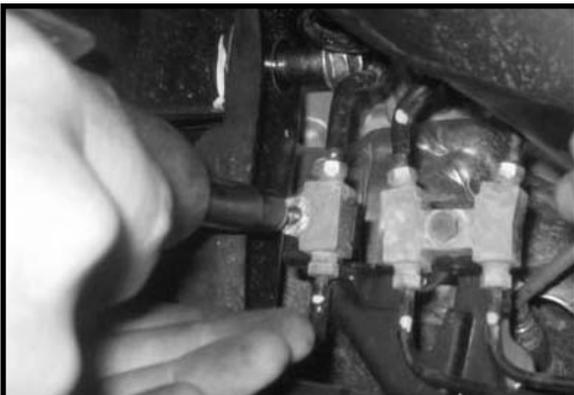
7. Working on the driver side, remove the cotter pin from the upper ball joint on the upper control arm. The cotter pin may be discarded. Repeat procedure on the passenger side.



8. Working on the driver side, loosen but do not remove the castle nut holding the upper control arm to the knuckle. With a hammer, carefully hit the knuckle to break the taper. Once the taper has been broken, remove the castle nut and discard. Separate the upper control arm from the knuckle. Repeat procedure on the passenger side.



9. Working on the driver side, remove the hardware attaching the upper control arm into the OE pockets. Save the OE hardware but the control arm may be discarded. Repeat procedure on the passenger side. **Special note: On the driver side only, the brake line will need to be removed from the bracket so that the rear upper control arm bolt can be removed. Save the brake line hardware.**



10. Working on the driver side, carefully remove the hardware attaching the outer tie rod to the knuckle. Save the hardware. Carefully break the taper and remove the tie rod from the knuckle. **Special note: Take special care not to damage the ball joint boot during removal.** Repeat procedure on the passenger side.

11. Working on the driver side, remove the (3) upper nuts holding the strut into the upper strut pocket. Save the hardware. Repeat procedure on the passenger side.



12. Working on the driver side, remove the lower mounting hardware that attaches the strut to the lower control arm. Save the hardware. Carefully lower down on the hydraulic floor jack allowing removal of the strut easier. Remove the strut and set aside. Repeat procedure on the passenger side.



Tuff Country EZ-Ride Suspension recommends a wall mounted strut compressor be used when performing the steps that talk about installing the pre-load spacer into the strut. If you do not have a wall mounted strut compressor, please have these steps performed by your local Nissan Dealership

13. Place the driver side strut into a wall mounted strut compressor. Scribe a line on the bearing plate, rubber isolator, the top coil of the strut, the bottom coil of the strut and bottom strut plate. **Special note: If these steps are not performed properly re-installing the strut back into the vehicle will be difficult.**



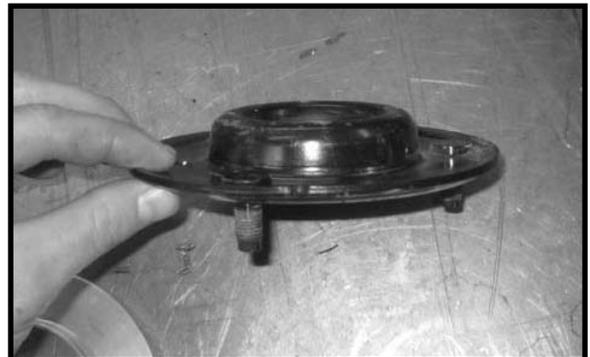
14. Place a clamp on the bottom coil portion of the coil spring and strut plate. This will help keep the coil spring in the proper location.

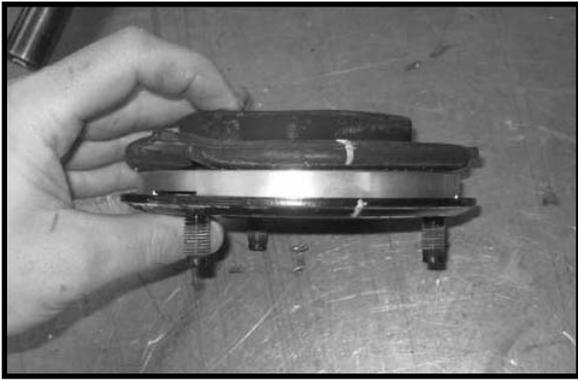
15. Carefully compress the driver side strut until the upper bearing plate can be removed. Remove the nut and hardware from the upper bearing plate and save the hardware for later re-installation.



16. Carefully loosen the wall mounted strut compressor until the bearing plate can be removed from the coil over.

17. Locate the new pre load spacer. Working on the driver side bearing plate, remove the isolator from the bearing plate and save. Install the pre load spacer to the bearing plate lining up the cut outs in the pre load spacer with the head of the bolts in the bearing plate. Now install the isolator to the pre load spacer. **Special note: Make sure that the lines that were scribed earlier in the installation line up with each other.**





18. Working on the driver side strut, install the bearing plate, pre load spacer and isolator back to the strut and securing using the OE hardware. Make sure to us loctite. **Special note: Make sure that the lines that were scribed earlier in the installation line up with each other.**



19. Locate the new upper strut spacer. Install the new upper strut spacer to the modified strut and secure using the OE hardware. Make sure to use loctite and torque to **45 ft. lbs.** Place the driver side strut aside for later installation into the vehicle.

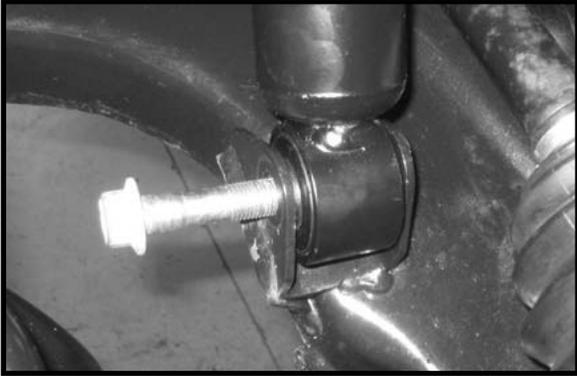


20. Repeat step # 11 - 19 on the passenger side strut.

21. Locate (6) 3/8" nylock nuts and (6) 5/16" USS flat washers from hardware bag 54060NB. Working on the driver side, install the modified strut back into the vehicle and secure the new upper strut spacer into the OE location using the new 3/8" nylock nuts and washers. **Do not tighten at this point.** Repeat procedure on the passenger side.



22. Working on the driver side, secure the bottom portion of the strut to the lower control arm using the OE hardware. Make sure to use loctite and torque to **150 ft lbs**. Repeat procedure on the passenger side.



23. Working on the driver side, move back to the 3/8" hardware and add some loctite and torque the (3) nuts to **28 ft lbs**. Repeat procedure on the passenger side.



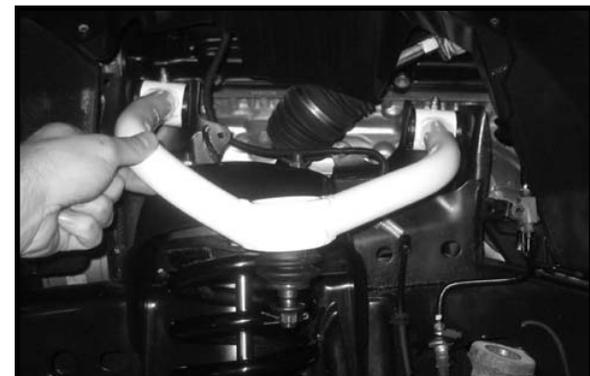
24. Locate the new upper control arms. Locate (8) poly bushings and (4) S10243 sleeves from hardware bag 54060PL. Install the new bushings and sleeves into the new upper control arms. **Special note: Make sure to use a fair amount of lithium or moly base grease before installing the new bushings and sleeves into the control arms. This will increase the life of the bushing as well as help prevent squeaking.**



25. Locate the new sert fittings from hardware bag 54060PL. Install the new sert fittings into the new upper control arms. **Special note: Make sure not to over tighten and also make sure that the sert fitting is facing towards the outside of the vehicle. This will make for easier access when using a grease gun.**



26. Working on the driver side, install the new upper control arm into the upper pockets using the OE hardware. **Do not tighten at this point.** Repeat procedure on the passenger side.



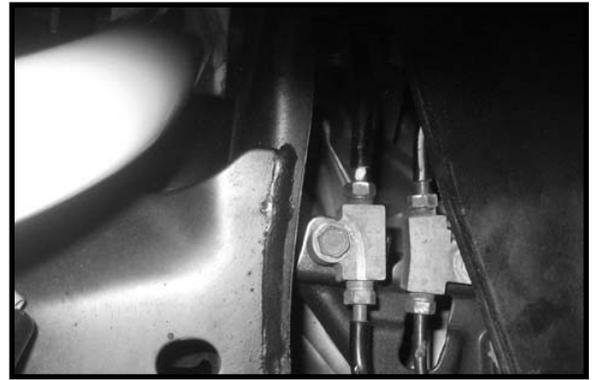
27. Working on the driver side, remove the cotter pin and castle nut from the upper control arm ball joint. Install the newly installed upper control arm to the knuckle and secure using the new ball joint castle nut. Torque the castle nut to **70 ft lbs**. Install the new cotter pin to the ball joint. **Special note: If you are not able to install the cotter pin because the hole in the ball joint does not line up with the castle nut DO NOT loosen the castle nut but tighten it until the cotter pin can be installed.** Repeat procedure on the passenger side.



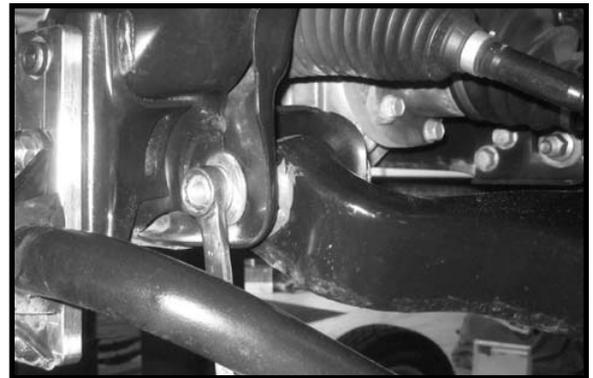
28. Working on the driver side, install the outer tie rod to the knuckle and secure using the OE hardware. Make sure to use loctite and torque to **63 ft lbs**. Repeat procedure on the passenger side.



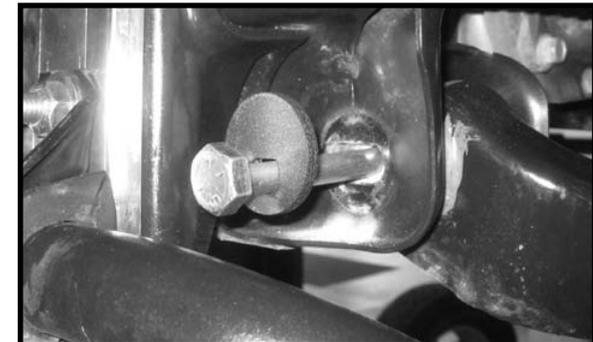
29. Working on the driver side, secure the brake line bracket back to the brake line location using the OE hardware. Make sure to use loctite and torque to **8 ft lbs**.

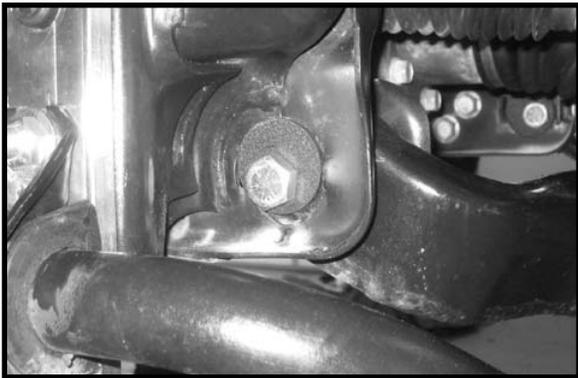


30. If need be, reposition the hydraulic floor jacks under the lower control arm. Working on the driver side, remove the hardware attaching the lower control arm to the front and rear mounting location. The OE hardware may be discarded. Repeat procedure on the passenger side.

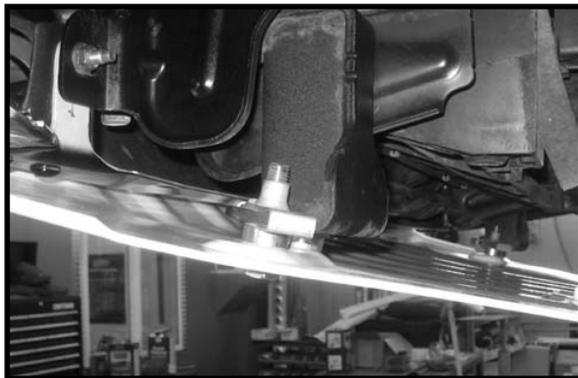


31. Locate (4) 9/16" x 5" cam bolts and (8) cam washers from hardware 54060NB1. Also, locate (4) 9/16" unitorque nuts from hardware bag 54060NB. Working on the driver side, secure the lower control arm to the OE mounting points using the new cam bolt and hardware. Make sure to use loctite and torque to **100 ft. lbs**. Repeat procedure on the passenger side.





32. Locate the OE skid plate. Locate (4) S10090 spacer sleeves from hardware bag 54060NB1. Also, locate (4) 12 mm x 55 mm bolts, (4) 12 mm flat washers and (4) 12 mm lock washers from hardware bag 54060NB. Install the OE skid plate to the OE location using the new spacer sleeves and 12 mm hardware into the front location. Make sure to use loctite and torque to **18 ft. lbs.**



33. Locate (2) S10066 spacer sleeves from hardware bag 54060NB1. Also, locate (2) 6 mm x 70 mm bolts, (2) 6 mm lock washers and (2) 1/4" fender washers from hardware bag 54060NB. Secure the rear portion of the skid plate to the OE location using the new spacer sleeve and hardware. Make sure to use loctite and torque to **8 ft lbs.**



34. Carefully remove the (2) hydraulic floor jacks from under the lower control arm.

35. Install the tires and wheels and carefully lower the vehicle to the ground.

36. Now that the weight of the vehicle is on the ground, move back to the hardware attaching the upper control arm to the OE mounting location on the driver and passenger side and add some loctite and torque to **130 ft. lbs**

Front end installation complete.

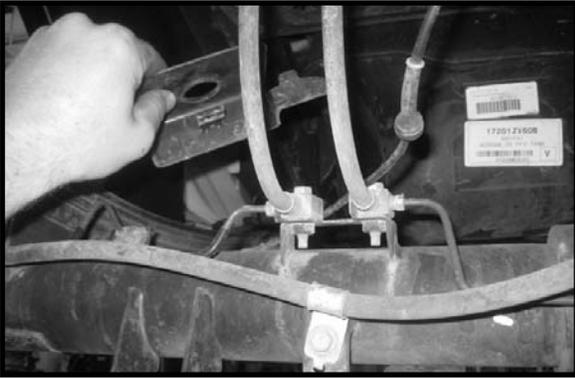
Rear end installation.

37. To begin installation, block the front tires of the vehicle so that the vehicle is stable and can't roll forward. Safely lift the rear of the vehicle and support the frame with a pair of jack stands. Place a jack stand on both the driver and passenger side. Next remove the wheels and tires from both sides.

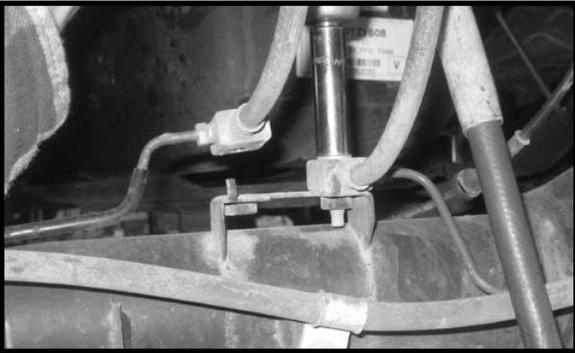
38. Position a pair of hydraulic floor jacks under the rear axle. Place one jack stand on the driver side and one on the passenger side. Raise up on both hydraulic floor jacks at the same time until they make contact with the rear axle.

39. Working on the driver side, remove the stock shock from the OE location and save the upper and lower hardware for later re-installation. **Special note: The stock rear shocks will work once this Suspension kit has been installed but if you want to replace the rear shocks, Tuff Country EZ Ride Suspension recommends installing a 30" fully extended shock. If you have not already ordered your shocks, please contact Tuff Country or your local Tuff Country dealer and order your new rear shocks.** Repeat procedure on the passenger side.

40. Working on the rear axle, remove the brake line cover plate. The brake line cover plate and hardware may be discarded.



41. Working on the rear axle, remove the brake lines from the OE mounting location. The hardware may be discarded.



42. Locate (2) S10203 spacer sleeves from hardware bag 54060NB1. Also, locate (2) 8 mm x 50 mm bolts and (2) 1/4" USS flat washers from hardware bag 54060NB. Install the spacer sleeve between the brake line and axle and secure using the new 8 mm bolt and hardware. Make sure to use loctite and torque to **12 ft lbs.**



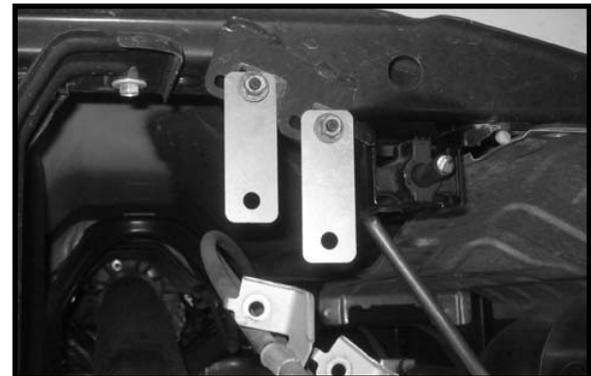
43. Working on the driver side, remove the rear u-bolts. The rear u-bolts and hardware may be discarded. Set the stock lower u-bolt plate aside for later re-installation. Repeat procedure on passenger side.



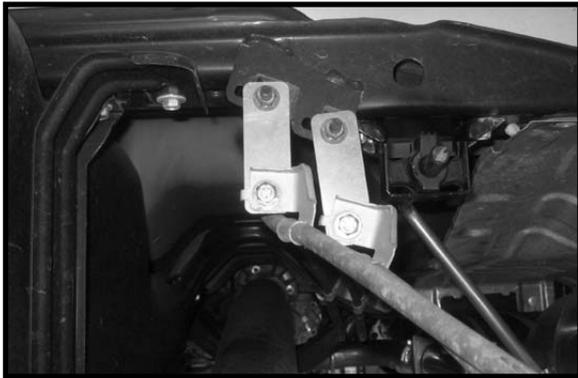
44. Working right above the rear drive line, remove the OE emergency brake line brackets from the OE location. Save the hardware.



45. Locate (2) emergency brake line relocation brackets from hardware bag 54060NB1. Install the new brackets to the OE location using the OE hardware. Make sure to use loctite and torque to **12 ft lbs.**



46. Locate (2) 5/16" x 1" bolts, (4) 1/4" USS flat washers and (2) 5/16" unitorque nuts from hardware bag 54060NB. Secure the OE emergency brake line brackets to the newly installed emergency brake line brackets and secure using the new 5/16" hardware. Make sure to use loctite and torque to **22 ft lbs.**



47. Carefully lower down on both hydraulic floor jacks at the same time until the springs separate from the rear axle. Lower down approximately 4". **Special note: Make sure not to over extend any brake lines or hoses when lowering axle.**

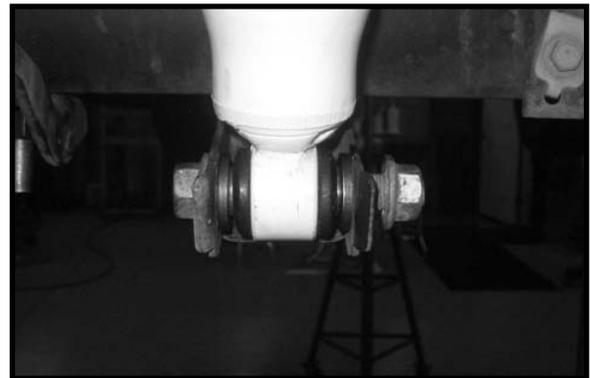
48. Locate the new rear blocks. Working on the driver side, install the new rear block between the rear axle and the spring assembly. **Special note: The new rear blocks have a taper to them, make sure that the smaller end of the block is installed towards the front of the vehicle.** Repeat procedure on passenger side.

49. Raise up on both hydraulic floor jacks at the same time until the driver and passenger side spring assembly seats properly with newly installed blocks.

50. Locate (4) new 9/16" x 2 1/2" x 10 5/8" square u-bolts. Locate (8) 9/16" u-bolt high nuts and (8) 9/16" u-bolt washers from hardware bag 916NW. Also, locate the lower u-bolt plates. Working on the driver side, install new u-bolts into the OE location and secure using the new 9/16" high nuts and washers. Torque to **120 ft lbs.** Repeat procedure on passenger side.



51. Locate the rear shocks. **Special note: The stock rear shocks will work once this Suspension kit has been installed but if you want to replace the rear shocks, Tuff Country EZ Ride Suspension recommends installing a 30" fully extended shock. If you have not already ordered your shocks, please contact Tuff Country or your local Tuff Country dealer and order your new rear shocks.** Locate the upper and lower shock hardware. Install the proper shock sleeve into the upper and lower eyelets of the shocks. Also, locate (4) 9/16" harden washers from hardware bag 54060NB. Working on the driver side, install the rear shock into the upper and lower location using the stock hardware. Make sure to use loctite and torque to **85 ft lbs.** **Special note: Install (2) 9/16" harden washer on the bottom eyelet of the new shocks. There will be one washer on each side of the eyelet. Also, Tuff Country EZ-Ride Suspension highly recommends that the shocks are installed with shock boots. If shock boots are not installed, damage may occur to the piston of the new shock.** Repeat procedure on the passenger side.



52. Check and double check to make sure that the rear end installation is complete and then check again.

53. Remove both hydraulic floor jacks from under the rear axle.

54. Install the tire wheels and carefully lower the vehicle to the ground.

Congratulations, installation complete!

Special note: After the completion of the installation, Tuff Country EZ-Ride Suspension recommends taking the vehicle to an alignment shop and having a proper front end alignment performed.

Tuff Country EZ-Ride Suspension recommends that a complete re-torque is done on all bolts associated with this suspension system. It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use. Neglect of following these steps could cause brackets to come loose and cause serious damage to the suspension system and to the vehicle.

This Suspension System comes with (1) installation manual and some post installation procedure literature and it is the installers responsibility to make sure that the customer receives the post installation procedure literature. If a customer would like a copy of the installation manual, please have them visit our website at www.tuffcountry.com. Have them go to the customer care section to download these instructions. If you have any questions, please feel free to call us at (801) 280-2777.

If you have any questions or concerns, please feel free to contact Tuff Country or your local Tuff Country dealer.