



EZ - Ride Suspension

Installation manual

2007 - 2012

Toyota Tundra 4WD & 2WD

2.5" Suspension kit

Part # 53070

sj11082011rev.03

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<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
53070-01	Front strut spacers	2
52925-04	Rear lifted blocks	2
5U-242S	9/16" x 2 9/16" x 9" square u-bolts	4
916NW	Hardware bag	1
53070NB	Hardware bag	1
53070INST	Instruction sheet (customer copy)	1
53070INST	Instruction sheet (installer copy)	1
MIRRORHANGER	Rear view mirror hanger	1
WARNINGDECAL	Warning decal	1

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

Before installation begins, it is the customers/installers responsibility to make sure that all parts are on hand. If any parts are missing, please feel free to call one of our customer service representatives @ (801) 280-2777.

It is the customers/installers responsibility to read and understand all steps before installation begins. OEM manual should be used as a reference guide.

Make sure to use thread locker or loctite on all new and stock hardware associated with this installation.

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.

Torque settings:

5/16"	15—18 ft lbs.
3/8"	28—32 ft lbs.
7/16"	30—35 ft lbs.
1/2"	65—85 ft lbs.
9/16"	85—120 ft lbs.
5/8"	95—130 ft lbs.
3/4"	100—140 ft lbs.

Important customer information:

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

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

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.

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

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:

Once part # 53070 has been installed. Tuff Country recommends a 33X12.50 tire package. If larger than a 33X12.50 tire is installed on your vehicle in conjunction with part # 53070; Tuff Country assumes no liability and the warranty will be VOID.

Due to the different variation of the stock strut spring rate, height after installation of the spacer may vary. Any questions please feel free to contact Tuff Country or your local Tuff Country dealer.

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.

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.

Hardware bag 53070NB includes:

<u>Description</u>	<u>Quantity</u>
52925-01 (Rear park brake drop bracket)	2
S10090 (1.000" x .500" x .400")	13
5161B (5/16" x 1" bolt)	2
14WA (1/4" USS flat washer)	2
516UN (5/16" unitorque nut)	2
S10051 (1.750" x .510" x .950")	2
126B (1/2" x 6" bolts)	2
716WA (7/16 USS flat washers)	2
12UN (1/2" unitorque nuts)	2

Recommended tools selection:

Torque wrench
Standard socket set
Standard wrench set
Metric socket set
Metric wrench set
Tape measure
Hydraulic floor jacks

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 frame 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.

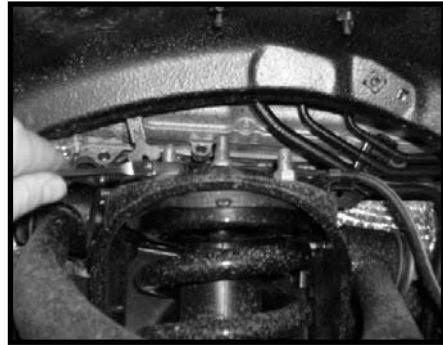
2. Working on the driver side, remove the stock hardware that connects the stock ABS line bracket to the stock upper control arm. Save the stock hardware. Repeat procedure on the passenger side.



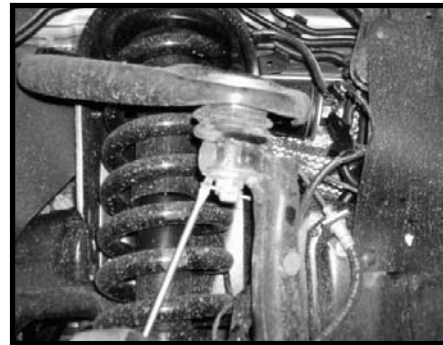
3. Working on the driver side, remove the stock hardware that connects the stock brake line bracket to the stock knuckle. Save the stock hardware. Repeat procedure on the passenger side.



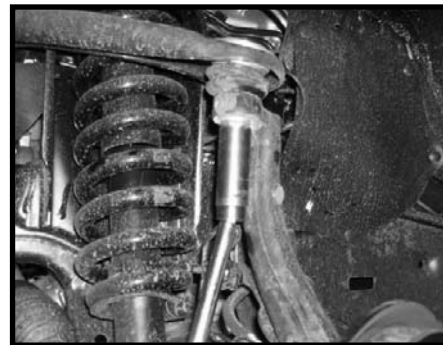
4. Working on the driver side, remove the (4) stock upper outer nuts that connect the stock strut into the stock location. Save the stock nuts. Repeat procedure on the passenger side. **Special note: Only remove the (4) stock upper outer nuts, DO NOT remove the stock nut in the middle of the stock strut.**



5. Working on the driver side, remove the stock cotter pin from the stock upper control arm ball joint. Save the stock cotter pin. Repeat procedure on the passenger side.



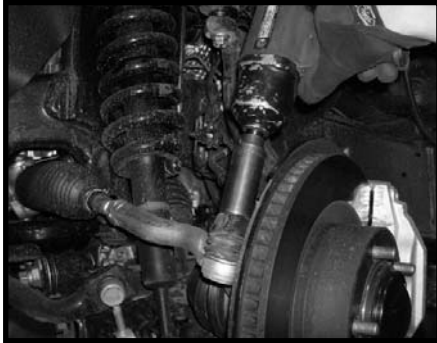
6. Working on the driver side, loosen but do not remove the stock nut that connects the stock upper control arm ball joint to the stock steering knuckle. Carefully break the stock taper by striking the stock knuckle with a hammer. **Special note: Take special care not to damage the stock upper control arm ball joint or rip the stock upper control arm ball joint dust boot. For now, leave the stock upper control arm attached to the stock knuckle. We want to just break the stock taper for now.** Repeat procedure on the passenger side.



7. Working on the driver side, remove the stock cotter pin from the stock outer tie rod ball joint. Save the stock cotter pin. Repeat procedure on the passenger side.

8. Working on the driver side, loosen but do not remove the stock nut that connects the stock outer tie rod ball joint to the stock steering knuckle. Carefully break the stock taper by striking the stock knuckle with a hammer. **Special note:**

Take special care not to damage the stock outer tie rod ball joint dust boot. Repeat procedure on the passenger side.



9. Move back to the stock upper control arm ball joint nut and remove completely. Also, move back the stock outer tie rod ball joint nut and remove completely. Remove the stock upper control arm and the stock outer tie rod from the stock knuckle. Let the stock knuckle hang. **Special note: Make sure not to over extend the brake lines, ABS lines and the stock CV axle, if need be, tie the stock knuckle up so these problems do not occur.** Repeat procedure on the passenger side.

10. Working on the driver side, place a hydraulic floor jack under the stock lower control arm. Carefully raise up on the hydraulic floor jack until it comes into contact with the stock lower control arm. Repeat procedure on the passenger side.

11. Working on the driver side, remove the stock lower hardware that connects the stock strut to the stock lower control arm. Save the stock hardware. Repeat procedure on the passenger side.

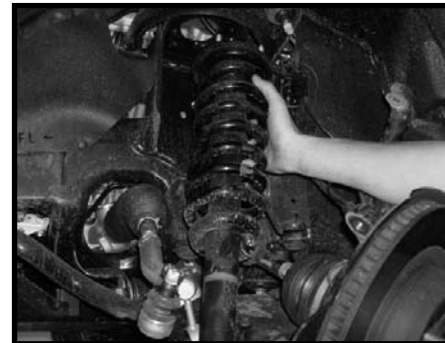


12. Working on the driver side, remove the stock sway bar end link hardware that connects the stock sway bar end link to the stock lower control arm. Save the stock hardware. Repeat procedure on the passenger side. Let the stock

sway bar hang.



13. Carefully lower down on the hydraulic floor jack about 2" allowing enough room for the stock strut to be removed from the vehicle. Repeat procedure on the passenger side.



14. Working on the driver side strut, measure the exposed threads sticking out of the middle bolt on the stock strut. Repeat procedure on the passenger side strut.

Driver side measurement: _____

Passenger side measurement: _____



15. Working on the driver side strut, lay the strut on a work bench with the out arrow on the upper strut bearing plate facing the sky. Then scribe a reference mark on the bottom eyelet of the stock strut. This will allow you to install the upper strut plate in the stock location once the strut is put back together with the strut spacer in it.

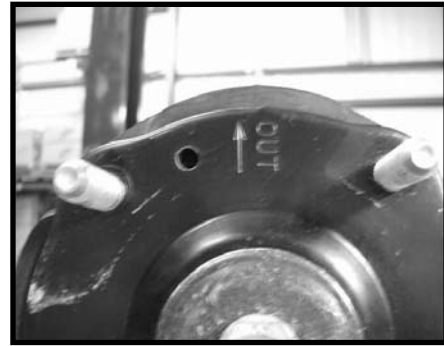
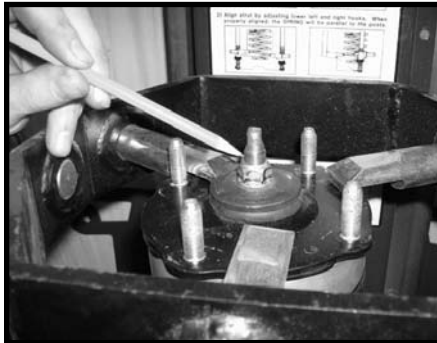




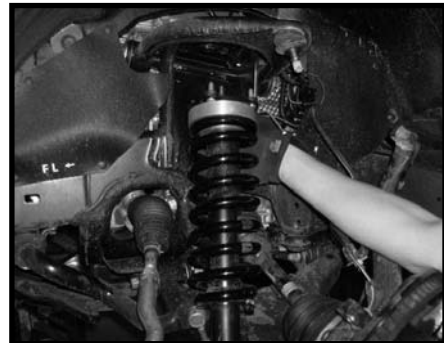
Special note: Tuff Country EZ-Ride suspension highly recommends using a wall mounted strut compressor when disassembling the stock strut and installing the new strut spacer. If a wall mounted strut compressor is not available, Tuff Country EZ-Ride recommends having these steps performed by your local Toyota Dealer.

16. Using a wall mounted strut compressor, carefully compress the driver side stock strut until the upper stock strut bearing plate can be removed. Remove the stock nut and hardware from the top of the stock strut assembly and save the stock hardware. Set the stock upper strut bearing plate aside. The stock rubber isolator may be discarded.

17. Locate (1) new upper strut spacer. Also, locate the stock hardware and stock upper strut bearing plate. Install the new upper strut spacer between the stock strut and the upper stock strut bearing plate. Secure using the stock hardware. Refer back to the measurements that were made in step # 14 and tighten the nut until the measurement is the same as the measurement from step # 14. **Special note: Make sure that the stock upper strut bearing plate with the out arrow is facing the reference mark that was made on the bottom of the stock strut.** Remove the modified driver side stock strut from the wall mounted strut compressor and set aside for further instructions.



18. Locate (4) S10090 sleeves from hardware bag 53070NB. Locate the (4) stock upper strut nuts. Also, locate the newly modified stock strut. Working on the driver side, install the modified stock strut into the stock upper location and secure using the stock nuts. **Do not tighten at this point. Special note: Make sure that the out arrow is facing towards the outside of the vehicle.**



19. Locate the stock sway bar end link mounting hardware. Working on the driver side, secure the stock sway bar end link to the stock lower control arm using the stock hardware. Add some thread locker or loctite and torque to **60 ft lbs.**

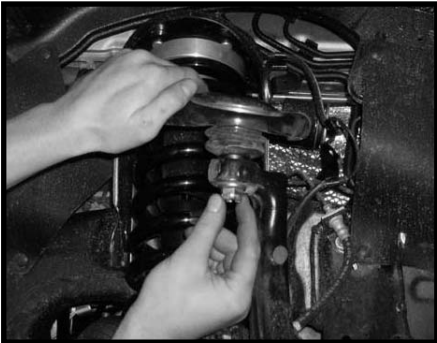
20. Locate the stock lower strut mounting hardware. Working on the driver side, secure the stock lower strut to

the stock lower control arm using the stock hardware. Make sure to add some thread locker or loctite and torque to **100 ft lbs.**

21. Move back to the (4) upper stock nuts that are connecting the newly modified stock strut into the stock upper location and add some thread locker or loctite and torque all (4) nuts to **50 ft lbs.**

22. Remove the hydraulic floor jack from under the driver side stock lower control arm.

23. Locate the stock upper control arm castle nut. Install the stock upper control arm to the stock knuckle and secure using the stock castle nut. Make sure to add some thread locker or loctite and torque to **80 ft lbs.**



24. Locate the stock upper control arm cotter. Working on the driver side, install the stock cotter back into the stock upper control arm ball joint. **Special note: If the stock cotter pin can not be installed because the hole in the stock castle nut does not line up with the stock ball joint, DO NOT loosen the stock castle nut so that the cotter pin can fit, tighten the stock castle nut some more so that the stock cotter pin can be installed.**



25. Locate the stock outer tie rod castle nut. Working on the driver side, install the stock outer tie rod to the stock knuckle and secure using the stock castle nut. Make sure add some thread locker or loctite and torque to **67 lbs.**

26. Locate the stock outer tie rod cotter pin. Working on the driver side, install the stock cotter back into the stock outer tie rod ball joint. **Special note: If the stock cotter pin can not be installed because the hole in the stock castle nut does not line up with the stock ball joint, DO NOT loosen the stock castle nut so that the cotter pin can fit, tighten the stock castle nut some more so that the stock cotter pin can be installed.**



27. Locate the stock brake line mounting hardware. Working on the driver side, secure the stock brake line bracket to the stock knuckle and secure using the stock hardware. Make sure to add some thread locker or loctite and torque to **12 lbs.**



28. Locate the stock ABS mounting hardware. Working on the driver side, secure the stock ABS bracket to the stock upper control arm and secure using the stock hardware. Make sure to add some thread locker or loctite and torque to **12 lbs.**



Repeat steps 15 - 28 on the passenger side.

29. Remove the stock front upper skid plate from the stock location and save the stock skid plate and the stock hardware.





30. Place a pair of hydraulic floor jacks under the front differential. Place one on the driver side and one on the passenger side. Carefully lift up on both hydraulic floor jacks until they make contact with the front differential.

31. Working on the driver side, carefully remove the stock bolt that connects the stock front differential to the stock front cross member. Save the stock oversized washer. The stock bolt and nut may be discarded. Repeat procedure on the passenger side.



32. Locate (2) new S10051, (2) 1/2" x 6" bolts, (2) 1/2" uni-torque nuts and (2) 7/16" USS flat washers from hardware bag 53070NB. Also, locate the stock oversized washers that were removed in step # 31. Carefully lower down on both hydraulic floor jacks allowing enough room for the new front differential spacers to be installed. Working on the driver side, install the new front differential spacer between the front differential and the stock front cross member and secure using the new 1/2" x 6" bolt, hardware and the stock oversized washer. Make sure to use thread locker or loctite. Do not tighten at this point. Repeat procedure on the passenger side. Now, torque the new 1/2" hardware to **80 ft lbs.** Carefully remove both hydraulic floor jacks front under the front differential.



33. Locate (3) S10090 sleeves from hardware bag 53070NB. Also, locate the stock skid plate and the stock skid plate hardware. Install the stock skid plate into the stock upper location and secure using the stock hardware. Make sure to use thread locker or loctite. **Do not tighten at this point.** Now secure the rear portion of the stock skid plate to the stock location and secure using the stock hardware and new spacers. Make sure to use thread locker or loctite and torque all skid plate mounting hardware to **18 ft lbs.**

34. Re-install the tires and wheels and carefully lower the vehicle to the ground.

Front end installation complete!

Rear end installation:

35. 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 rear tires and wheels from both sides. **Special note: Make sure NOT to set the parking brake.**

36. Place a pair of hydraulic floor jacks under the rear differential. Carefully raise up on both hydraulic floor jacks until they make contact with the rear differential.

37. Working on the driver side, remove the stock park brake bracket from the stock location and save the stock hardware. Repeat procedure on the passenger side.

38. Working on the driver side, remove the stock shock from the stock lower mounting location. Save the stock hardware. Let the stock shock hang, it does not need to be removed from the upper mounting location. Repeat procedure on the passenger side.

39. Working on the driver side, remove the stock u-bolts from

the stock location. The stock u-bolts and hardware may be discarded. Save the stock u-bolt plate. Repeat procedure on the passenger side.

40. Carefully lower down on both hydraulic floor jacks at the same time allowing enough room for the new rear blocks to be installed. **Special note: Take special care not to over extend any brake lines or hoses.**

41. Locate the new rear blocks. Working on the driver side, install the new block between the stock spring assembly and the stock rear differential. **Special note: There is a slight taper to the new blocks, the taller side of the block needs to be installed towards the rear of the vehicle.** Repeat procedure on the passenger side.

42. Carefully raise up on both hydraulic floor jacks at the same time until the new rear blocks seat properly with the stock spring assembly.

43. Locate the new 9/16" x 2 9/16" x 9" square u-bolts. Locate (8) 9/16" u-bolt high nuts and (8) 9/16" harden u-bolt washers from hardware bag 916NB. Also, locate the stock u-bolt plate. Working on the driver side, install the u-bolts into the stock location and secure using the new hardware and the stock u-bolt plate. Working in a criss-cross direction, torque the new u-bolts to **85 ft lbs.** Repeat procedure on the passenger side.

44. Locate the stock lower shock mounting hardware. Working on the driver side, install the stock shock into the stock lower shock location and secure using the stock hardware. Make sure to use thread locker or loctite and torque to **65 ft lbs.**

45 Locate (2) rear park brake extension bracket, (2) 5/16" x 1" bolts, (2) 1/4" USS flat washers and (2) 5/16" unitorque nuts from hardware bag 50307NB. Locate the stock hardware that connected the stock park brake extension to the stock location. Working on the driver side, install the new park brake extension into the stock location and secure using the stock hardware. Make sure to use thread locker or loctite but do not tighten at this point. Secure the stock park brake bracket to the newly installed relocation bracket and secure using the new 5/16" x 1" bolt and hardware. Make sure to use thread locker or loctite and torque to **12 ft lbs.** Move back to the stock bolt holding the new bracket into the stock location and torque to **12 ft lbs.** Repeat procedure on the passenger side.



46. Carefully remove both hydraulic floor jacks from under the vehicle.

47. If the vehicle that you are working on does not have a 2-piece rear drive shaft, please skip to step # 50.

48. Place a hydraulic floor jack under the carrier bearing on the rear drive shaft. Carefully raise up until the hydraulic floor jack makes contact with the rear carrier bearing. Remove the stock hardware that connects the rear carrier bearing to the stock location. Carefully lower down on the hydraulic floor jack about 1".

49. Locate (2) S10090 sleeves from hardware bag 53070NB. Also, locate the stock carrier bearing hardware. Install the new sleeves between the stock carrier bearing and the stock location. Secure using the stock hardware. Make sure to use thread locker or loctite and torque to **38 ft lbs.** **Special note: The carrier bearing bracket is slotted, when tightening bolts, make sure the carrier bearing is as straight as possible.** Remove the hydraulic floor jack from under the carrier bearing.



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

51. Check and double check to make sure that all steps were performed properly. Once installation is complete take vehicle directly to an alignment center for proper front end alignment.

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.

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