



EZ - Ride Suspension

Installation manual

3" Suspension Kit

2013-2016 Ram 3500 4WD

Part # 33118

sj10232013rev.01

Part # 33118
2013 Ram 3500 4WD
3" Suspension Kit

<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
33118-01	Front coil spring spacer	2
33118-02	Track Bar relocation bracket	1
14056-02	Front shock relocation bracket	2
BL102	Rear block	2
5U-41815R	9/16" x 4 1/8" x 15" round u-bolt	4
916NW	Hardware bag	1
33118NB	Hardware bag	1
70504	Pitman arm	1
S10242	1.000" x .750" x 1.430" sleeve	1
33118INST	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:

This Suspension kit is designed to fit the new style 3 link front suspension. You can identify this by your front shock being outside the front coil spring. If your front shock is inside the coil spring, this kit will not work and you will need to call Tuff Country or your local Tuff Country dealer and order the proper kit for your vehicle.

Tuff Country recommends a 35" x 12.50" tire and wheel package. If taller than a 35" tire is installed, Tuff Country assumes no liability and the warranty will be VOID!

This Suspension kit comes with front shock relocation brackets to be used with the OE shocks. If after market front shocks are wanted, Tuff Country EZ Ride Suspension recommends installing a 26" fully extended front shock without the front shock relocation bracket. 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.

This Suspension kit 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.

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.

Special note: 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.

Recommended tools selection:

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

Hardware bag 33118NB includes:

<u>Description</u>	<u>Quantity</u>
9163B (9/16" x 3" bolt)	2
12WA (1/2" USS flat washer)	4
916UN (9/16" unitorque nut)	2
381B (3/8" x 1" bolt)	2
516WA (5/16" USS flat washer)	4
38UN (3/8" unitorque nut)	2
12114B (1/2" x 1 1/4" bolt)	1
716WA (7/16" USS flat washer)	2
12UN (1/2" unitorque nut)	1
M1890B (18 mm x 90 mm bolt)	1
M18WA (18 mm flat washer)	2
M18UN (18 mm unitorque nut)	1

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: _____

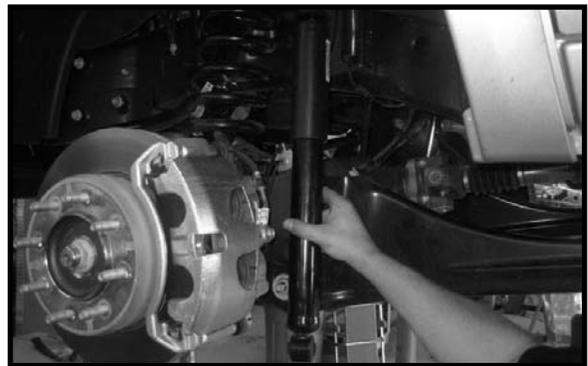
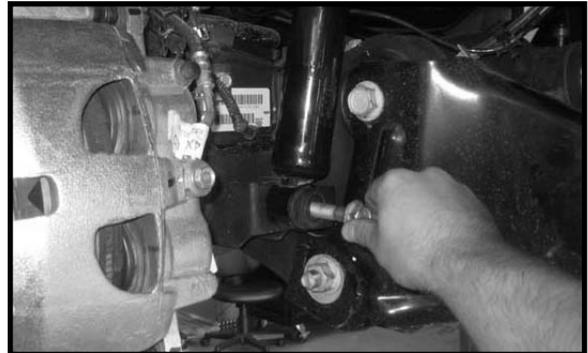
Passenger side rear: _____

Front end installation:

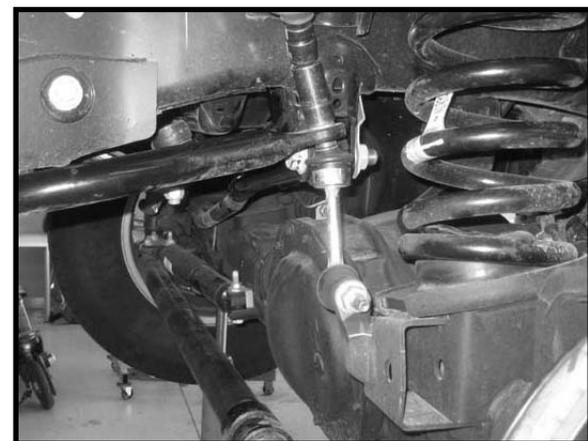
1. To begin installation, block the rear tires of the vehicle so that the vehicle is stable and can't roll backwards. Safely lift the front of the vehicle and support the vehicle with a pair of jack stands. Place a jack stand on both the driver and the passenger side. Next, remove the front wheels and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

2. Place a pair of hydraulic floor jacks under the front axle. Place one on the driver side and passenger side. Carefully raise up on both hydraulic floor jacks at the same time until they come into contact with the front axle.

3. Working on the driver side, remove the shock from the lower mounting location and save the lower hardware. Repeat procedure on the passenger side. **Special note:** This Suspension kit comes with front shock relocation brackets to be used with the OE shocks. If after market front shocks are wanted, Tuff Country EZ Ride Suspension recommends installing a 26" fully extended front shock without the front shock relocation bracket.



4. Working on the driver side, remove the sway bar end link from the sway bar. Save the hardware. Repeat procedure on the passenger side.



5. Working on the driver side, remove the nut that connects the tie rod end to the pitman arm. Save the nut. Using a hammer, carefully break the taper on the tie rod that connects to the pitman arm. **Special note: Take special care not to rip or tear the stock outer tie rod boot. The new pitman arm has a reverse taper on it, after the new pitman arm has been installed, the stock outer tie rod needs to be rotated 180 degrees.**

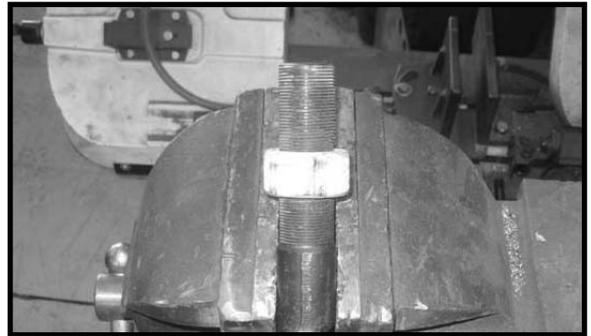
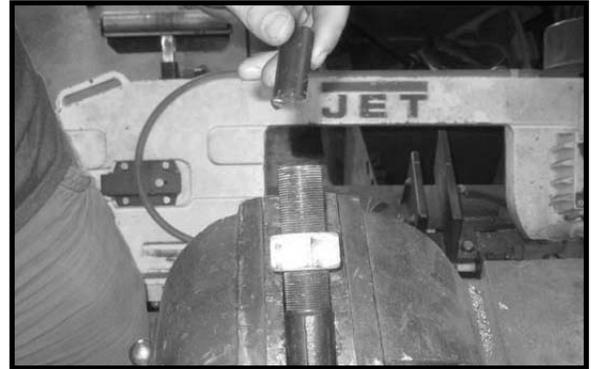
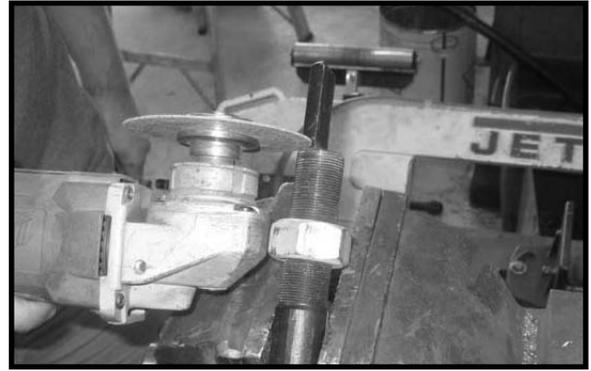
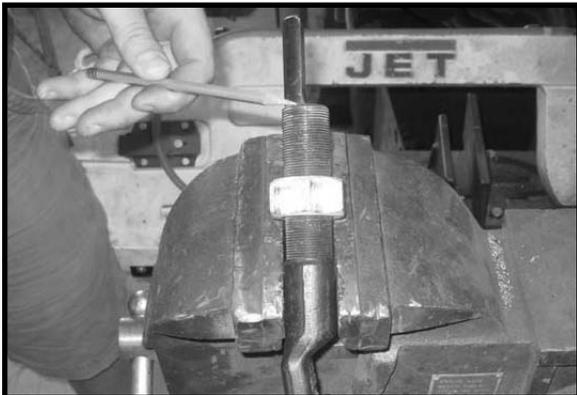


6. Next, remove the nut and lock washer from the sector shaft on the steering box. Save the hardware. Using a pitman arm puller, carefully remove the pitman arm from the sector shaft. The stock pitman arm may be discarded.

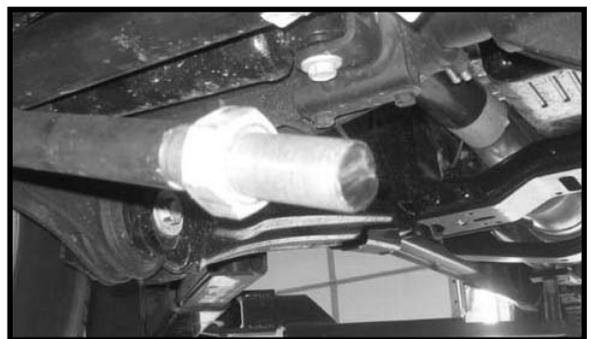


7. Locate the new pitman arm and the pitman arm hardware. Install the new pitman arm into the stock location on the sector shaft and secure using the stock hardware. Make sure to use loctite. Torque the nut on the sector shaft to **225 ft lbs.**

8. Remove the outer tie rod that will connect to the newly installed pitman arm and place in a vise. Using a die grinder, carefully cut off the locking portion of the tie rod.



9. Remove the threaded sleeve from the tie rod and save. Using a die grinder, carefully cut off the locking portion of the tie rod.



10. Connect the 2 end of the tie rod back together using the threaded sleeve and install to the newly installed pitman arm. **Special note: The new pitman arm has a reverse taper on it, if you have not already rotated the stock outer tie rod 180 degrees, rotate the stock outer tie rod at this point.** Secure the outer tie rod to the previously installed pitman arm using the OE hardware. Make sure to use loctite and torque to 85 ft lbs. Now center the threaded sleeve on both ends of the tie rods and tighten the locking nuts. Once the suspension system has been completely installed and the vehicle gets to an alignment shop, the alignment shop will properly center the tie rod.

11. Working on the driver side, remove the track bar hardware that is connecting the track bar to the OE track bar location. Save the hardware.



12. Working on the front portion of the OE track bar bracket, carefully enlarge the 3/8" hole to a 1/2" hole using a electric drill.

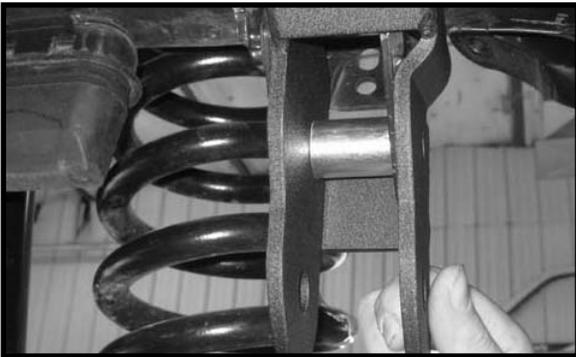


13. Locate the new track bar relocation bracket. Also, locate (1) 1/2" x 1 1/4" bolt, (2) 7/16" USS flat washers and (1) 1/2" unitorque nut from hardware bag 33118NB. Install the new track bar relocation bracket to the OE track bar bracket by installing the rear portion of the new bracket to the inside of the OE bracket and the front portion of the new bracket to the outside portion of the OE bracket. Secure using the new 1/2" hardware into the hole that was drilled earlier into the front leg of the OE track bar bracket. **Do not tighten at this point.**





14. Locate the new S10242 sleeve. Also, locate (1) 18 mm x 90 mm bolt, (2) 18 mm flat washers and (1) 18 mm unitorque nut from hardware bag 33118NB. Using the new 18 mm bolt, hardware and sleeve, secure the new track bar relocation bracket to the stock track bar bracket OE hole. Do not tighten at this point. **Special note: The new sleeve will be installed inside the OE bracket.**



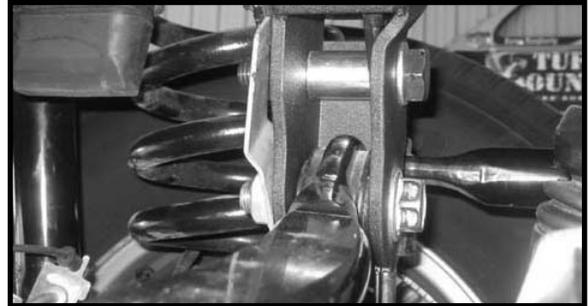
15. Move back to the 1/2" x 1 1/4" hardware attaching the new bracket to the OE bracket and add some loctite and torque to **38 ft lbs.**



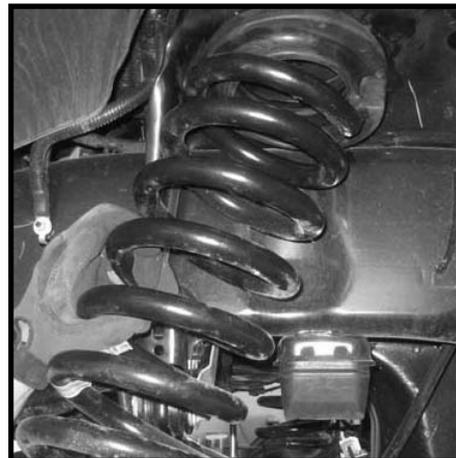
16. Move back to the 18 mm hardware attaching the new bracket to the OE location and add some loctite and torque to **95 ft lbs.**



17. Install the track bar to the newly installed track bar bracket and secure using the OE hardware. Make sure to use loctite and torque to **145 ft lbs.** **Special note: If you are not able to install the track bar to the newly installed track bar bracket, this step will need to be performed when the suspension system is completely installed and the weight of the vehicle is on the ground.**



18. Carefully lower down on both hydraulic floor jacks at the same time allowing enough room for the coil springs to be removed. Working on the driver side, remove the coil spring and set aside. Repeat procedure on the passenger side. **Special note: Take special care not over extend any brake lines or hoses.**



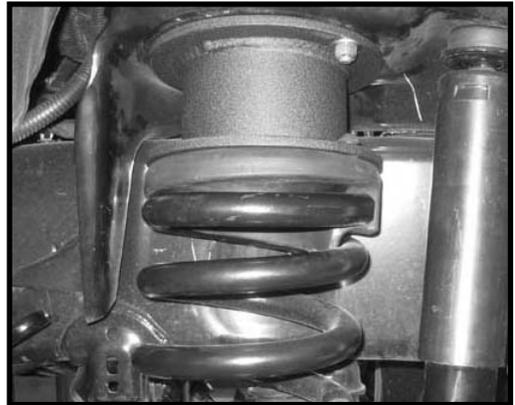
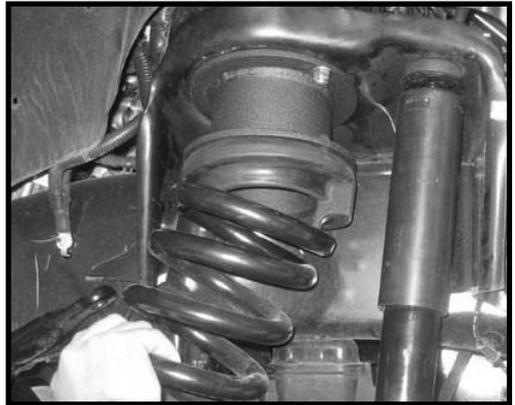
19. Locate the new coil spring spacers. Also, locate (2) 3/8" x 1" bolts, (4) 5/16" USS flat washers and (2) 3/8" unitorque nuts from hardware bag 38111NB. Working on the driver side, install the new spacer to the upper coil spring pocket and secure using the new 3/8" hardware. Make sure to add loctite and torque to **28 ft lbs.** Hole already provided. **Special note: When installing the new spacer into the vehicle, make sure that the fat side of the taper goes towards the outside of the vehicle. Also, there is a notch in the upper ring of the spacer also needs to be installed with the notch facing the outside of the vehicle.** Repeat procedure on the passenger side.



20. Locate the OE coil spring isolator. Working on the driver side, install the OE coil spring isolator to the newly installed coil spring spacer. **Special note: Make sure that the nipple of the isolator fits properly into the hole on the lower ring of the new coil spring spacer.** Repeat procedure on the passenger side.



21. Locate the OE coil springs. Working on the driver side, install the coil spring back into the vehicle. Carefully raise up on the hydraulic floor jack until the coil spring seats properly into the newly installed isolator and coil spring spacer. Repeat procedure on the passenger side.



22. Locate the new front shock relocation brackets. Locate (2) 9/16" x 3" bolts, (4) 1/2" USS flat washers and (2) 9/16" unitorque nuts from hardware bag 33118NB. Install the new shock relocation brackets to the bottom of the stock shocks and secure using the new hardware. **Do not tighten at this point. Special note: This Suspension kit comes with front shock relocation brackets to be used with the OE shocks. If after market front shocks are wanted, Tuff Country EZ Ride Suspension recommends installing a 26" fully extended front shock without the front shock relocation bracket.**

23. Working on the driver side, install the modified shock into lower location using the OE hardware. Make sure to use loctite and torque the lower mounting hardware to **85 ft lbs.** Move back to the new 9/16" hardware and add some loctite and torque to **85 ft lbs.** Repeat procedure on the passenger side.



24. Working on the driver side, install the sway bar back to the sway bar end link and secure using the OE hardware. Make sure to use loctite and torque to **40 ft lbs**. Repeat procedure on the passenger side.

25. Carefully remove the (2) hydraulic floor jacks from under the front axle.

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

27. If you were not able to install the track bar to the newly installed track bar bracket, please perform step # 17 now that the weight of the vehicle is on the ground.

Front end installation complete.

Rear end installation.

28. 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.

29. 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.

30. 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.

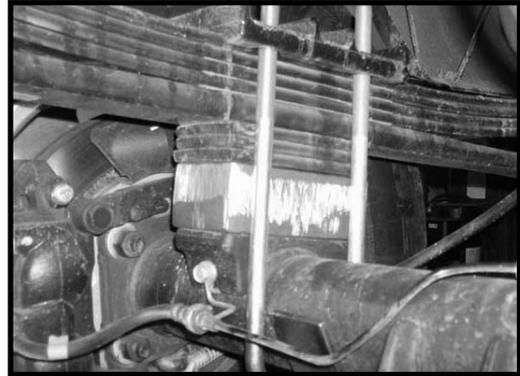
31. Working on the driver side, remove the rear u-bolts. The rear u-bolts and hardware may be discarded. Set the stock upper u-bolt plate aside for later re-installation. Repeat procedure on passenger side.

32. Carefully lower down on both hydraulic floor jacks at the same time until the springs separate from the rear axle. Lower down approximately 2". **Special note: Make sure not to over extended any brake lines or hoses when lowering axle.**

33. Locate the new rear blocks. Working on the driver side, install the new rear block between the rear axle and the spring assembly. Repeat procedure on passenger side.

34. 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.

35. Locate (4) new 9/16" x 3 1/2" x 15" round u-bolts. Locate (8) 9/16" u-bolt high nuts and (8) 9/16" u-bolt washers from hardware bag 916NW. Also, locate the upper u-bolt plate. 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. **Special note: The picture shown is with a 2" block installed not the 1" block that is included with this kit.**



36. 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. 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: 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.

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

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

39. 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.

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