TUFF COUNTRY™

EZ-RIDE™ SUSPENSION

Installation Manual
2019 - Current GM 1500 4x4
Part # 14199

SS10262021

Part # 14199

Note: NOT compatible with Trail Boss, High Country with ARC, Denali or AT4

Part #	*Description*	*Qty.*
14199-01	Driver side upper control arm	1
14199-02	Passenger side upper control arm	1
14199-03	Upper strut spacer	2
14199-04	Internal strut spacer	2
14199NB	Hardware bag	1
14199PL	Hardware bag	1
BL203	Rear lift block	2
916NW	U-bolt hardware bag	1
5U-249S	U-bolts	4
14056-02	Rear shock brackets	2

Hardware Bag 14199NB

Part#	*Description*	*Qty.*
M101.5FLN	M10-1.5 flange nut	6
38FLN	3/8” flange lock nut	6
M1060B	M10 x 60mm bolt	4
M10WA	M10 flat washer	8
M10UN	M10 unitorque nut	4
9163B	9/16” x 3” bolt	2
12WA	1/2” flat washer	4
916UN	9/16” unitorque nut	2
SERT06	90° grease fitting	4
14UN	1/4” unitorque nut	2
14WA	1/4” flat washer	2

Hardware Bag 14199PL

Part#	*Description*	*Qty.*
M02617-BK-01	Poly bushing	8
S10232	Large diameter washer	4
S10239	.815” x .560” x 2.45” sleeve	4

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.

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.

For a list of parts, please refer to the back of the installation manual for photos of parts that are included in this suspension system.

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

After the completion of the installation, a front end alignment is required.

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 system was developed using a 35" x 11.5" tire with a 20" x 9" wheel and an offset of 0. The OEM tires and wheels can be used in conjunction with this lift kit. If a wider tire is installed on the stock wheel, contact with suspension components may occur. Due to different types of tread patterns, some aggressive tires in this size recommendation may require slight trimming of inner fender plastic. Our tire and wheel fitments are only a guideline. Different production times or tolerances will vary and this size should only be used as a starting point. Each vehicle is different and will need to be treated as such.

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.

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.

Recommended tool selection:

Wall mounted strut compressor
Jack stands
Torque wrench
Standard socket set
Standard wrench set
Metric socket set
Metric wrench set
Hydraulic floor jacks

Actual Parts may vary slightly from the parts in these photographs.

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:

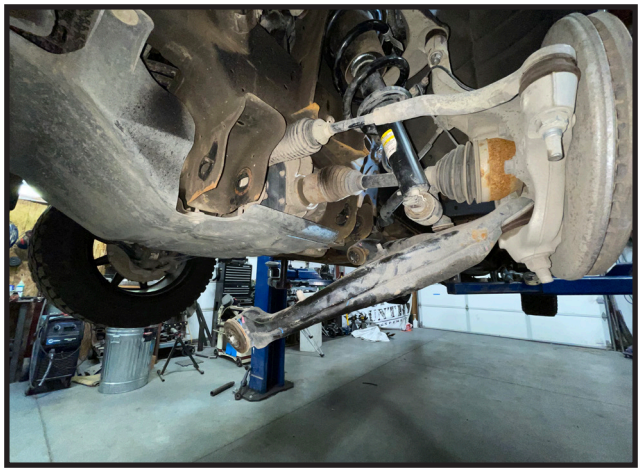
1. Block the rear tires. Raise the front of the vehicle and support the vehicle with jack stands, so that the front wheels are off the ground.

2. Remove the front tires and wheels.

3. Working on the driver side, remove the ABS wire harness mount from the steering knuckle.

4. Remove the lower control arm mounting bolts and hardware and save.

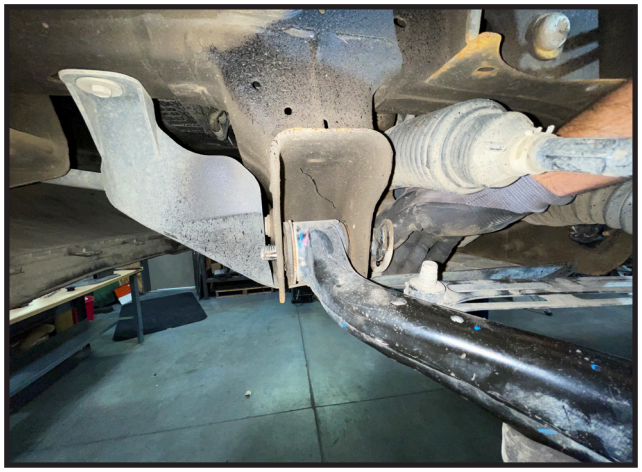
5. Working on the lower strut mount, remove the 2 bolts that attach it to the lower control arm. **Special note: when these bolts are out, be careful that the lower control arm doesn't drop and swing away too fast and damage anything.**



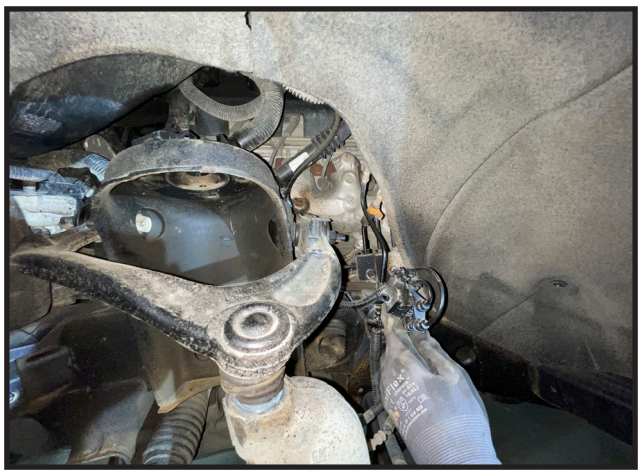
6. Now move to the upper strut mount and remove the 3 nuts that attach the strut to the mount while holding onto the strut so it doesn't drop out.

7. Once upper hardware is removed, carefully remove the strut from the vehicle and set aside

8. Move back to the lower control arm and re-install it into its mounting pockets using the OE bolts. **No need to tighten the bolts, they are just to hold it in place for now.**

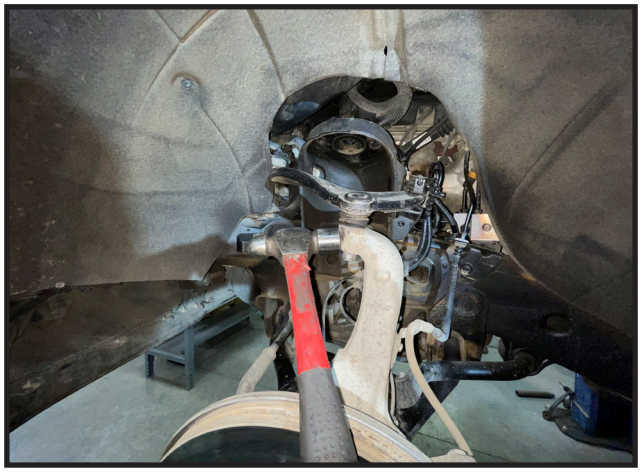


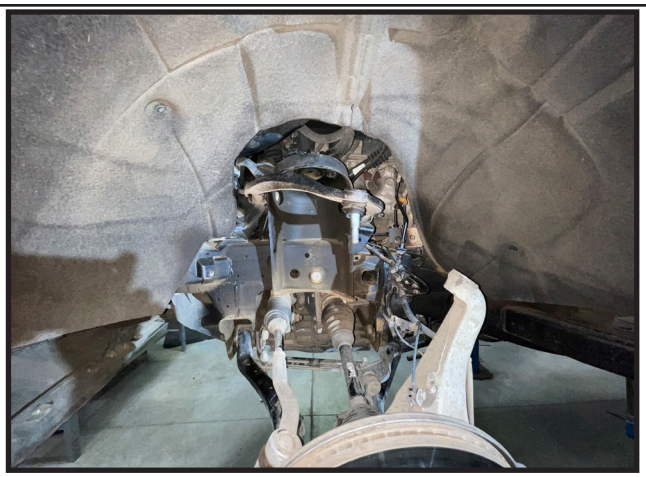
9. Remove the ABS wire harness mounting bracket from the upper control arm and pull aside.



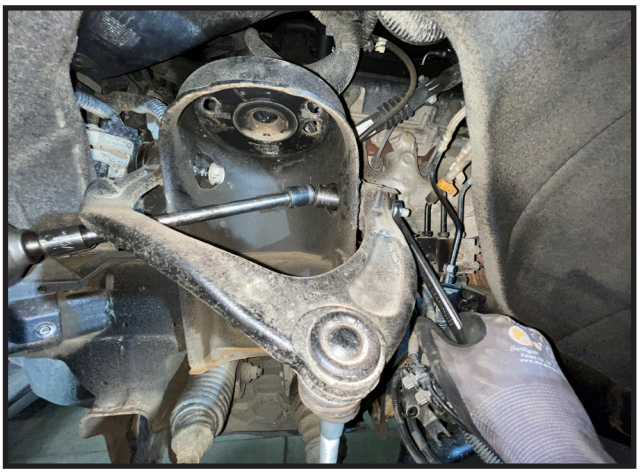
10. Using a floor jack or suitable tool, support the lower control arm so that the front suspension cannot drop down.

11. Remove the nut from the upper ball joint where it attaches to the steering knuckle. Carefully separate the ball joint from the knuckle by striking the steering knuckle with a hammer like seen in the photo below.

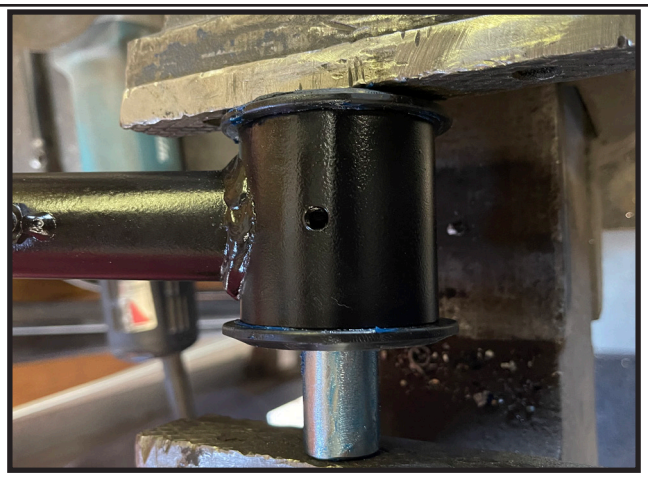




12. Remove the 2 bolts and hardware that attach the upper control arm to the vehicle, and remove the OE upper control arm.



13. Locate the new Driver side upper control arm, also locate (4) Polyurethane bushings, (2) crush sleeves, and (2) grease fittings. Using a polyurethane compatible grease, apply a healthy amount on the bushings and crush sleeves, then install into the new upper control arms.



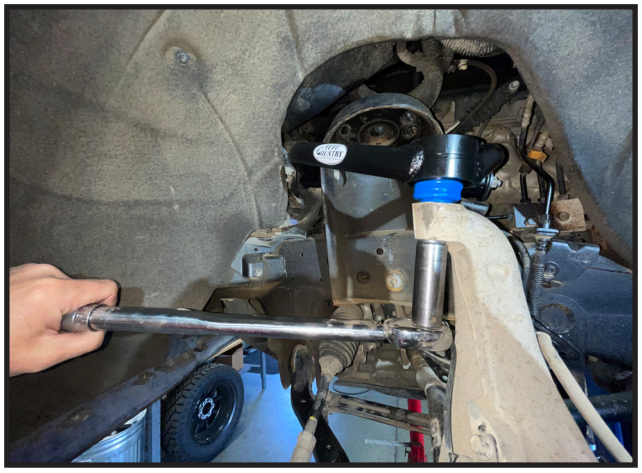
14. Carefully install the grease fittings into the threaded holes of the upper control arms. **Be careful to not over tighten these as they are made of brass and can easily strip out.**

15. Locate (2) new large diameter washers

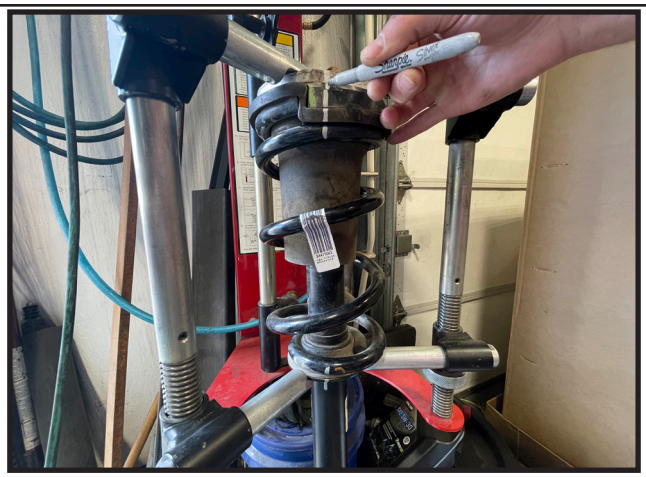
16. Install the new upper control arm using the OE bolts and nuts, make sure to **add the new large diameter washers on the outside of each eyelet like you see in the photo below**

17. Torque upper control arm bolts to **95 ft lbs.**

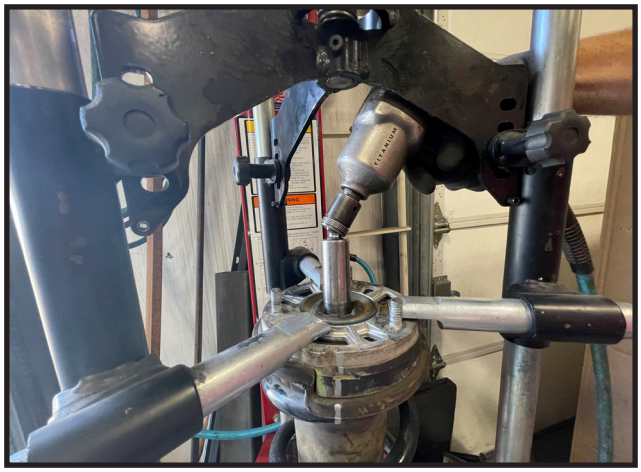
18. Carefully attach the upper balljoint to the steering knuckle using the newly provided flange nut. **Torque flange nut to 65 ft lbs.**

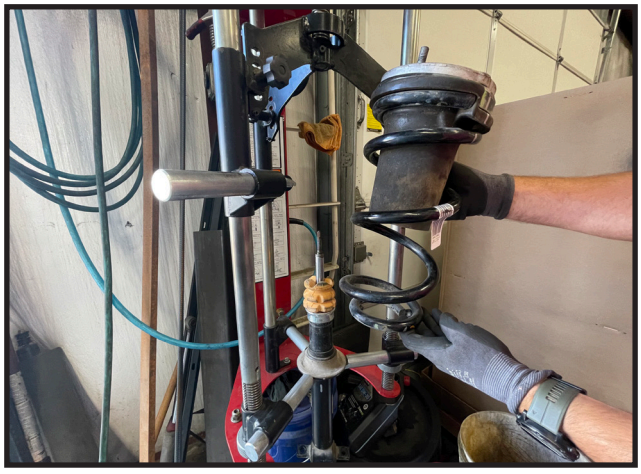


19. Place the strut in a wall mounted strut compressor and mark the orientation of the components so that it can be re-assembled in the same place.



20. Relieve the pressure from the strut top hat, remove the OE nut, top hat, and coil spring. Save hardware for later re-installation.





21. Remove the OE rubber jounce bumper and save.

22. Remove the OE plastic spring perch isolator from the lower coil spring perch and discard.

23. Install the new aluminum preload spacer on top of the OE spring perch. The new spacer should rest onto the OE spring perch.

24. Re-install the OE rubber jounce bumper.

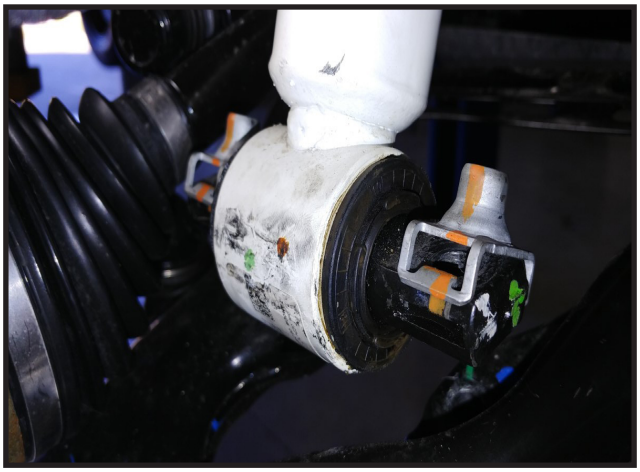
25. Re-install the coil spring and top hat **making sure that your orientation marks are all aligned,** and carefully compress the strut so that the OE nut can be installed on the shock stud. **Torque nut to 30 ft lbs.**

26. Take the strut assembly out of the compressing tool and take it to the bench. Install the new supplied 10mm flange nuts and thread them all the way down on the 3 studs on top of the strut. Using a cutting tool, cut 1/4" (roughly 3-4 threads) off of the top of the **2 outer** OE studs to make them short enough to clear the new strut spacer. Next cut the **1 inner** stud off flush with the top of the flange nut

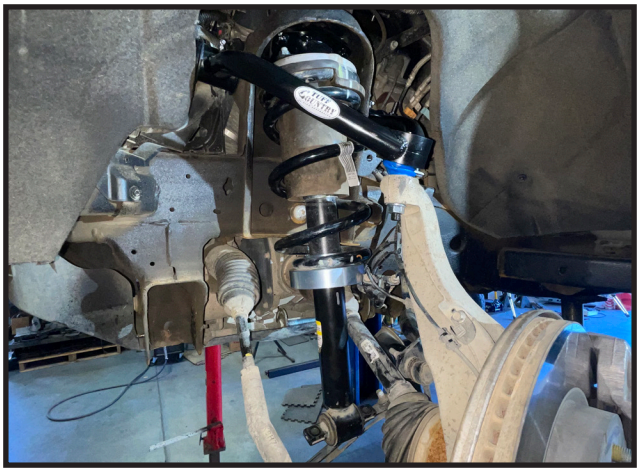
27. Remove the flange nuts and this will clear any rough edges from cutting the studs

28. Using the 10mm flange nuts, Install the new upper strut spacer so that the shorter side will be towards the inside of the vehicle.

29. While the strut is still on the bench, Remove the (2) OE clip nuts from the bottom mount of the shock and discard.



30. Locate (3) 3/8" flange nuts, Install the strut assembly back into the vehicle and loosely start only 1 of the 3/8" flange nuts on the outer most upper stud.



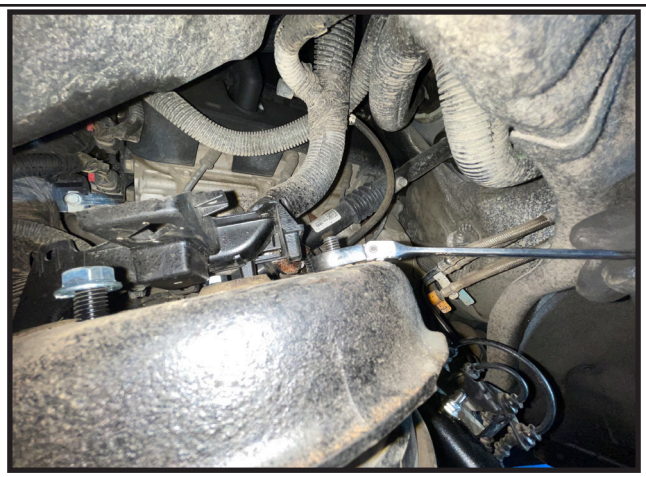
31. Locate (2) 10mm x 60mm bolts, (4) 10mm flat washers, and (2) 10mm unitorque nuts. Carefully raise up the lower control arm so that the lower strut mounting points are lined up and install the new 10mm hardware with the bolt heads facing up. **Do not tighten at this time.**

32. This step can be tricky, but you need to continue raising up on the lower control arm so that the eyelets go back into the mounting pockets.

33. Re-install the OE lower control arm adjusting bolts in the same orientation that they were removed. **Do not tighten at this time.**

34. Move back to the strut lower mounting hardware that were installed on STEP #31 and **Torque to 42 ft lbs.**

35. Move back to the upper strut mounting hardware and install the other (2) 3/8" flange nuts, and **torque all (3) to 35 ft lbs**



36. Locate (1) 1/4" unitorque nut, and (1) 1/4" flat washer, and install the ABS wire harness mount onto the welded stud of the new upper control arm.

37. Using the OE bolt, install the ABS wire sensor bracket to the top of the steering knuckle

Repeat steps 3-37 on the Passenger side of the vehicle

38. Make sure to go around and hit any new grease fitting with some polyurethane compatible grease.

39. Re-install the tires and wheels and torque to vehicle manufacturer, or wheel manufacturer specs.

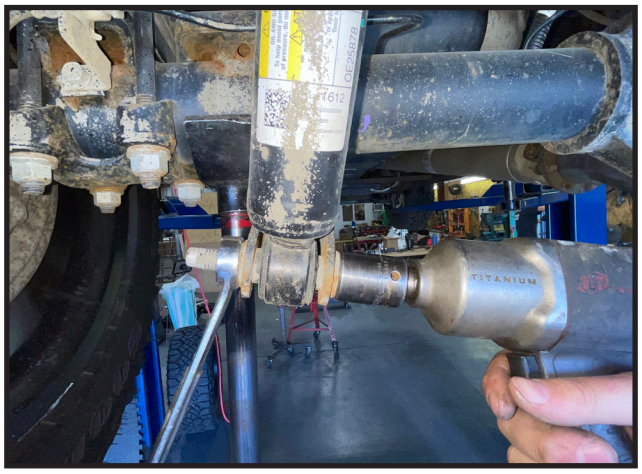
40. Carefully lower the front of the vehicle back on to the ground, and remove the jacks.

41. Move back to the lower control arm mounting bolts, adjust them back to the OE position for now, and **Torque to 100 ft lbs**

Rear Installation

1. Block the front tires and raise the rear of the vehicle enough to support the frame rails with jack stands.

2. Remove the rear shocks and set aside. **If you are replacing the rear shocks you can discard the originals, if you are adding the new extension bracket, keep the originals for later.**



3. Working on the passenger side, slightly loosen, but don't remove the u-bolts.

4. Move to the driver side and completely remove the u-bolts. Lower the axle down enough to install the new lift blocks. **Special note: be extra careful to not over stretch any brake lines or wire harness's.**

5. Install the new lift block between the bottom of the leaf spring and the perch on the axle making sure alignment pin and hole are lined up.

6. Secure using the new u-bolts and hardware. **Snug the u-bolts at this time but do not fully torque yet.**

7. Repeat on the passenger side and once both blocks and u-bolts are installed **torque the u-bolts to 110 ft lbs.**

8. If you are installing new shock's, now is the time to put them on.

9. Locate new shock extension brackets and hardware and install on the top of the rear shocks.

10. Re-install shocks using the OE hardware.

Carefully remove all the jacks and lower the vehicle back down to the ground.

Installation Complete!

Check and double check to make sure that all steps were performed properly. After the completion of this install, Tuff Country Recommends taking the vehicle in for a complete front end alignment.

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 the system after the first 100 miles of installation. It is also the Customers responsibility to do a complete re-torque after every 3,000 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.