



Part # 13086
2011-2017 Chevy 2500/3500 HD 4x4
3.5" lift with Uniball upper control arms

Part #	Description	Qty.
13086-01	DS & PS Upper control arm	2
13085-02	DS & PS upper shock bracket	2
13085-03	Limiting strap bracket	2
12904-03	Torsion bar key	2
LS14	Limiting strap	2
5u-3431416S	3/4" x 3 1/4" x 16" square u-bolt	4
34NW	U-bolt hardware bag	1
BL101	Rear block	2
13086NB	Hardware bag	1
13086NB1	Hardware bag	1
13086INST	Instruction Manual	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.

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.

Installation Manual 2011 — 2017 Chevy 2500/3500HD 4x4 3.5" Lift w/ Uniball upper control arms.

Part # 13086

SS08012017

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.

IMPORTANT!

This kit will NOT work on vehicles equipped with Air Suspension. If your vehicle is equipped with this type of suspension, please contact the company you purchased the lift kit from and arrange for returning the parts.

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 or 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"x12.50" tire with a wheel having 5.5" or less backspacing once part # 13086 has been installed. 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 the upper control arm will 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.**

The OEM front shocks will not be long enough once this system has been installed, but Tuff Country includes a shock relocation bracket for the front shocks. Also, the rear shocks will work once this system has been installed, but Tuff Country recommends replacing the rear shocks. If you have not already ordered your new rear shocks, please contact Tuff Country or your local Tuff Country dealer and order your new rear shocks. We recommend to install a shock that is 30" fully extended.

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.

Hardware bag 13086NB includes:

Description	Quantity	
9165B	9/16" x 5" bolt	4
916UN	9/16" unitorque nut	4
123B	1/2" x 3" bolt	4
12UN	1/2" unitorque nut	10
12WA	1/2" uss flat washer	8
38UNUT	3/8" extruded "U" nut	2
716WA	7/16" uss flat washer	16
12512BG9	1/2" x 5 1/2" grade 9 bolt	2
12114B	1/2" x 1 1/4" bolt	4

Hardware bag 13086NB1 includes:

Description	Quantity	
TC-001	Poly Bushing	8
PB6052	Poly Bumpstop	2
S10153	1.250" x .563" x .4375" sleeve	2
S10237	2.250" x .625" x .750" sleeve	4
S10238	.850" x .630" x 2.560" sleeve	4
SERT06	Grease fitting	4
S10300	Bottom Uniball sleeve	2
S10290	Top Uniball sleeve	2

Recommended tool selection:

Drill and assorted bits

Jack stands

Torsion bar removal tool

Torque wrench

Standard socket set

Standard wrench set

Metric socket set

Metric wrench set

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: _____

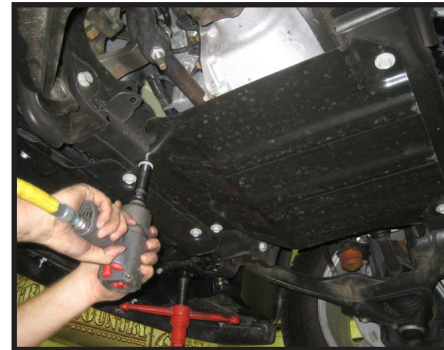
Driver side rear: _____

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 both the driver and passenger side with jack stands. Remove the tires and wheels from both sides.

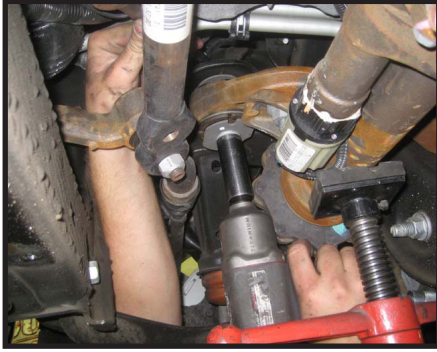
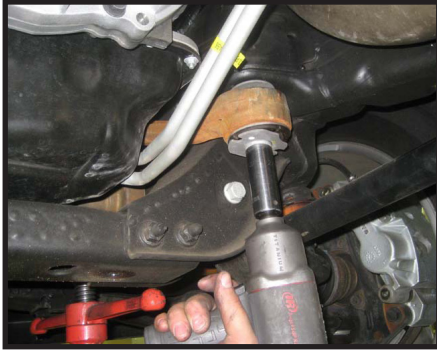
2. Remove the lower skid plate. Save the hardware for later re-installation.



3. Place a pair of hydraulic floor jacks under the front differential. Place one on the driver side and one on the passenger side.

4. Working on the front differential, remove the hardware attaching all (4) mounting points of the differential. The OEM hardware may be discarded.





5. Carefully lower down on the hydraulic floor jacks holding the front differential allowing enough room for the new differential spacers to be installed.

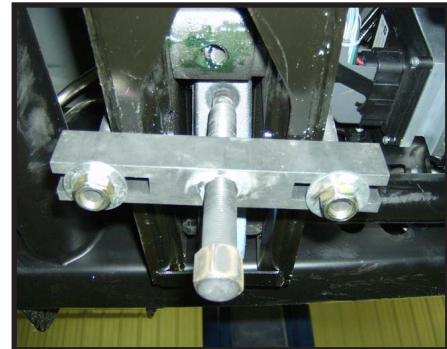
6. Locate (4) S10237 sleeves, (4) 9/16" x 5" bolts, (8) 1/2" uss flat washers and (4) 9/16" unitorque nuts from hardware bag 13086NB/13086NB1. Install the new differential spacer sleeves between the front differential and OEM mounts and secure using the new 9/16" hardware. Torque to **85 ft lbs**. Carefully remove the hydraulic floor jacks holding the front differential.



7. Working on the driver side, scribe a mark on the torsion bar and the lower control arm. **Special note: this is done so that the torsion bar can be put back into the same location on the lower control arm once the new torsion bar key has been installed.** Repeat procedure on the passenger side.



8. Working on the driver side and using a proper torsion bar removal tool. **Special note: Tuff Country Suspension requires that a proper torsion bar unloading tool to be used when performing this installation. If you do not have one, please contact your local GM dealer to purchase one from them.** Carefully remove the stock torsion bar bolt and block. Set the torsion bar bolt and block aside. Repeat procedure on the passenger side.





9. Working on the driver side, carefully tap the torsion bar forward until the torsion bar key can be removed. Remove and discard the torsion bar key. Repeat procedure on the passenger side.



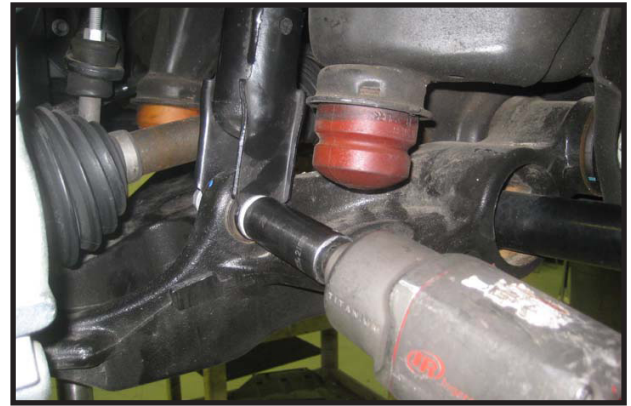
10. Working on the driver side, remove the upper shock hardware holding the shock into the upper mounting location. The hardware may be discarded. Remove the lower shock hardware holding the shock to the lower control arm. Save the lower hardware and shock. Repeat procedure on the passenger side.



12. Working on the driver side, remove the hardware attaching the upper control arm to the knuckle. The hardware may be discarded. Repeat procedure on the passenger side.



13. Working on the driver side, separate the upper control arm from the knuckle. **Special note: using a hammer and striking the knuckle will help break the taper.** Repeat procedure on the passenger side.

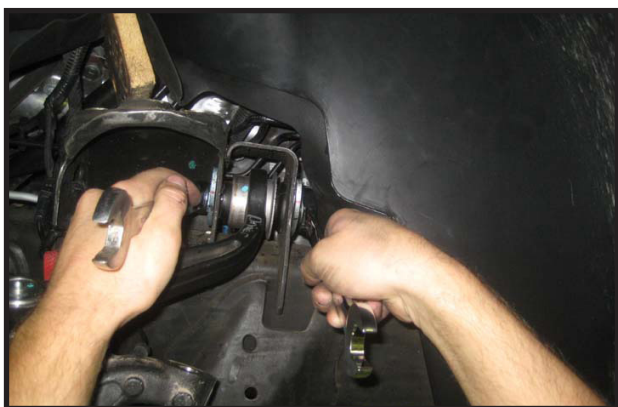


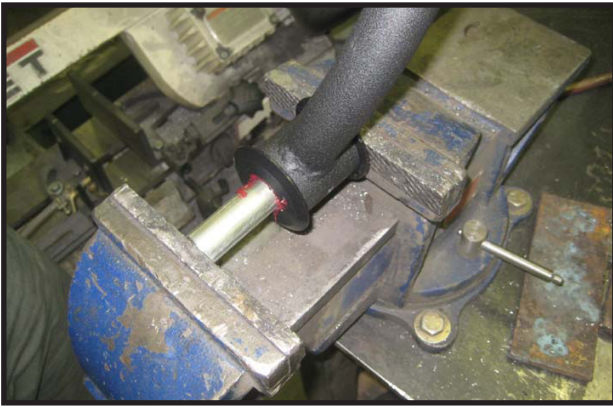
11. Working on the driver side, place a hydraulic floor jack under the driver side lower control arm and carefully raise up until the jack comes into contact with the lower control arm. **Special note: Using a tie down strap to hold the lower control arm in place so that the lower control arm does not drop and damage the CV axle is another option.** Repeat procedure on the passenger side.



14. Working on the driver side, remove the hardware attaching the upper control arm into the OE location. Save the hardware. The upper control arm maybe discarded. Repeat procedure on the passenger side.

15. Locate the new upper control arms. Also locate (8) TC-001 poly bushings (4) S10238 sleeves, and (4) SERT06 grease fittings from hardware bag 13086NB1. Install the new bushings and sleeves into the 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.**

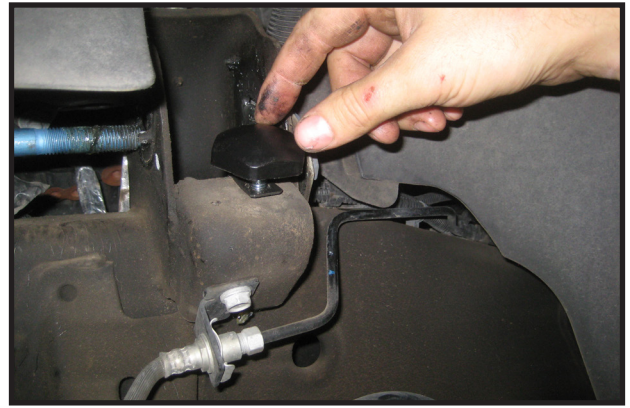




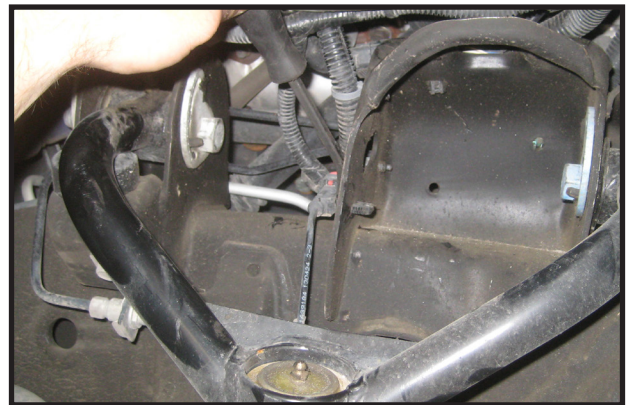
16. Carefully install the new grease fittings. Take care to not over tighten the grease fittings as they are made of soft brass.



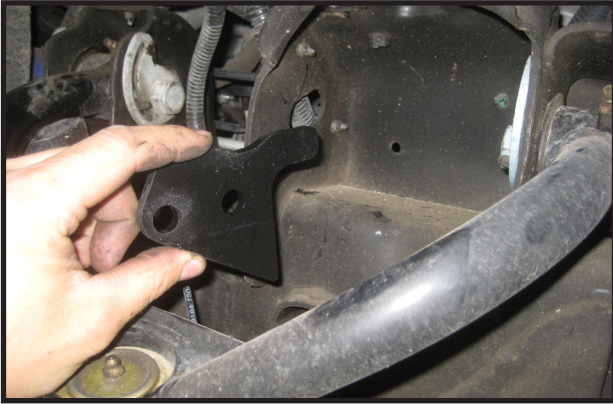
17. Locate (2) poly bumpstops, and (2) 38UNUT extruded "u" nuts from hardware bags 13086NB/13086NB1. On both sides of the vehicle, install the U nut in the front control arm bumpstop pad. Install the new poly bumpstop into the U nut and tighten until the poly bumpstop starts to flare out and stop.



18. Working on the driver side, carefully pop the ABS wire connection out of its mounting location from the shock tower



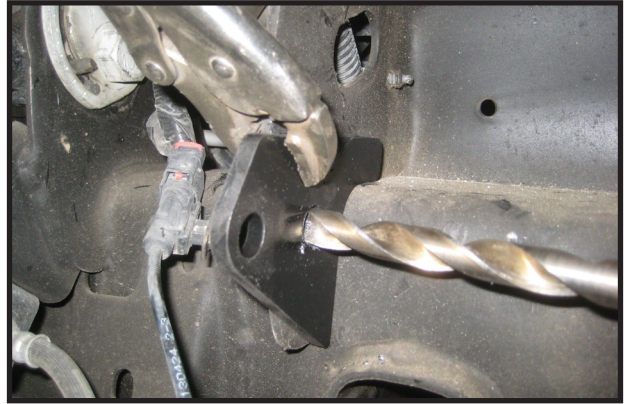
19. Locate the 13085-03 limiting strap brackets and insert them to the inside of the shock towers so that it follows the contour of the frame rail.



20. With the bracket in place, clamp it tightly to the shock tower.



21. Using a 1/2" drill bit, and the existing hole in the limiting strap bracket as a guide, carefully drill through the shock tower. **Special note: Due to tight quarters, this hole will most likely be drilled on a slight angle, and that is fine.**



22. Secure the bracket to the shock tower using the new 1/2" x 1 1/4" bolts and hardware.



23. Working on the driver side, install a new upper control arm into the OEM mounts, using the OEM hardware. Torque to 95 ft lbs. Repeat on the passenger side.

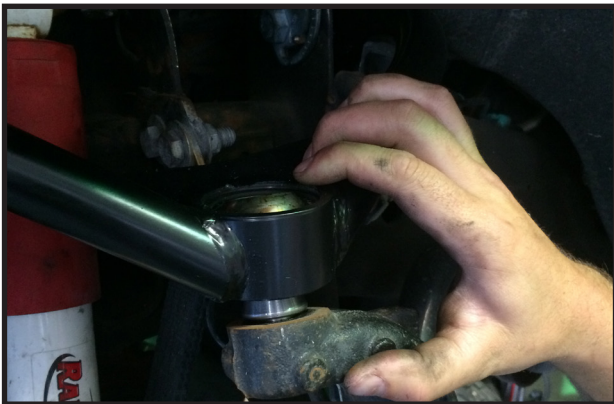


24. Locate (2) S10300 sleeves, (2) S10290 sleeves, (2) 12512BG9 bolts, (4) 716WA flat washers, and (2) 12UN unitorque nuts.

25. Working on the driver side, Install the S10300 bottom uniball sleeve into the bottom of the uniball bearing.



26. Carefully lower the upper control arm and raise the steering knuckle and mate the tapered sleeve into the top of the steering knuckle.



27. Install the S10290 upper uniball sleeve into the top of the uniball bearing.



28. Install the 1/2" x 5 1/2" grade 9 bolt with the washers and nuts so that the head of the bolt is on the steering knuckle side and the nut is on the uniball bearing side. Torque to **65 ft lbs**. Repeat on the passenger side.



29. Locate the OEM front shocks, carefully remove the upper pressed in studs from the upper shock mount. The studs may be discarded.



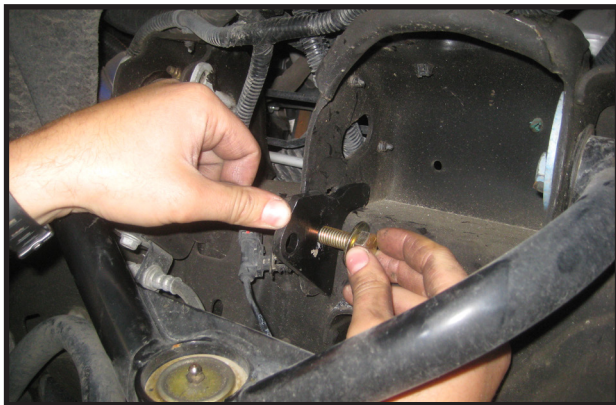
30. Locate (4) 1/2" x 3" bolts, (4) 7/16" flat washers and (4) 1/2" unitorque nuts from hardware bag 13086NB. Also,

locate the new front shock relocation blocks. Working on the driver side install the new 1/2" bolts and front shock relocation block to the OE shock and install into the upper shock location using the new 1/2" hardware. **Do not tighten at this point.** Repeat procedure on the passenger side.

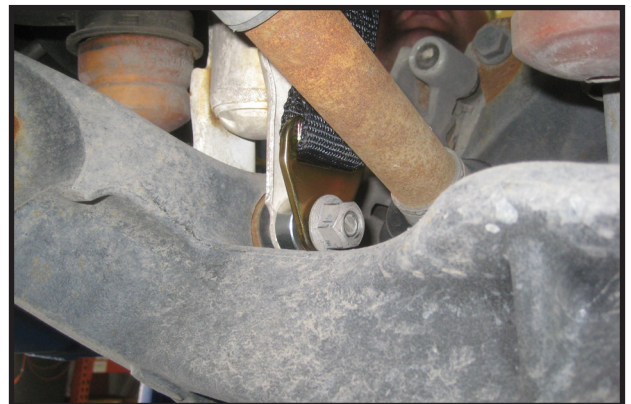
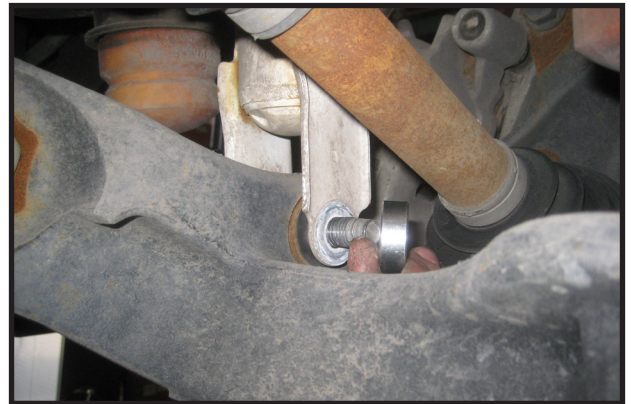


31. Locate (2) S10153 spacer sleeves, (2) LS14 limiting straps, (2) 1/2" x 1 1/4" bolts (2) 1/2" unitorque nuts, and (4) 7/16" flat washers.

32. Using the 1/2" x 1 1/4" bolts and hardware, attach one end of the limiting straps to the previously installed bracket.



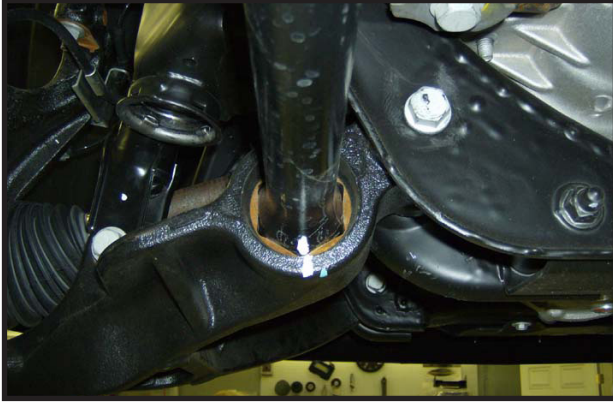
33. Using the OE lower shock hardware and the S10153 spacer sleeve, secure the shock and limiting strap using the spacer sleeve to space the strap away from the mount.



34. Re-install the ABS connections to the original location.

35. Move back to the upper shock hardware from step #30 and torque to **65 ft lbs.**

36. Locate the new torsion bar keys, working on the driver side, install the new torsion bar key into the crossmember and carefully tap the torsion bar into the new key making sure that the reference lines match up. Repeat on the passenger side.



37. Working on the driver side, install the stock torsion bar bolt into the torsion bar block. For now, set the torsion bar bolt about half way in the block. **Special note: Once the rear end installation is complete and the weight of the vehicle is on the ground, proper adjustment for the ride height will occur.** Remove the torsion bar adjusting tool and repeat procedure on the passenger side.

38. Check and double check and check again to make sure all steps have been performed properly.

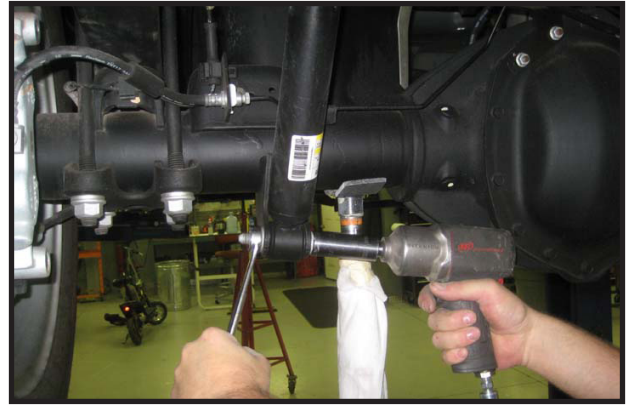
39. Re-install the tires and wheels and carefully lower the vehicle back onto the ground.

Rear End Installation

40. To begin the rear end installation, carefully block the front tires and wheels so that the vehicle can not roll forward. Safely lift the rear 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 rear tires and wheels from both sides.

41. Place a hydraulic floor jack under the driver and passenger side of the rear axle.

42. Working on the driver side, remove the lower shock hardware attaching the shock to the axle mount. The upper shock hardware does not need to be removed unless you are replacing the shocks. Repeat on the passenger side.



43. Working on the driver side, remove the u-bolts and discard them. Set the u-bolt plate aside for re-installation. Repeat on the passenger side





44. Carefully lower down on both floor jacks at the same time enough to fit the new blocks under the leaf springs. **Special note: Be extra careful not to over extend any brake lines or wire harnesses.**

45. Locate (2) new rear lift blocks. Working on the driver side, install the new block onto the spring perch. Repeat on the passenger side.



46. Carefully raise up on both hydraulic floor jacks at the same time until the spring assembly sits flush with the newly installed blocks.

47. Locate the (4) new rear u-bolts and also locate the 34NW u-bolt hardware bag. Install the new u-bolts along with the new 3/4" nuts and washers. **Special note, if the u-bolt is too long you will need to trim off excessive threads.** Torque to **135 ft lbs.**

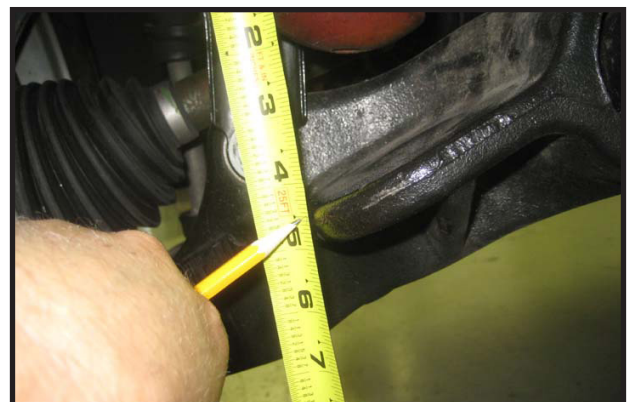


48. Re-install the shock lower mounting hardware and torque to **85 ft lbs**

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

50. Check and double check that all steps have been performed completely and correctly.

51. Move back to the front of the vehicle and working the driver side, adjust the torsion bar adjustment bolt until your measurement from the lip of the front bump stop to the bump stop landing on the lower control arm reaches 4 1/2". Repeat on the passenger side.



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 installion. 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.



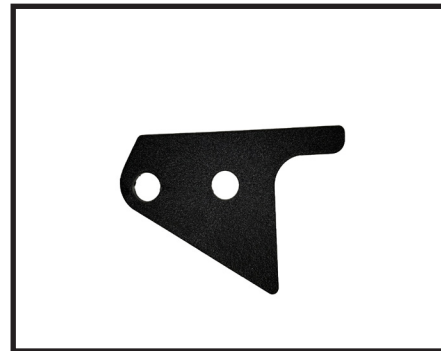
Part # 13086-01 / Qty. 2
DS & PS upper control arm



Part # 13085-02 / Qty. 2
DS & PS shock extension bracket



Part # 12904-03 / Qty. 2
Torsion bar key



Part # 13085-03 / Qty. 2
Limiting strap bracket



Part # LS14 / Qty. 2
Limiting strap



Part # S10300 / Qty. 2
Bottom Uniball sleeve



Part # S10290 / Qty. 2
Top Uniball sleeve