TUFF COUNTRY™

EZ - Ride Suspension

Installation manual

6” suspension system

2011-2016 Chevy or GMC 2500HD

Part # 16085

sj08152011rev.01

Part # 16085
2011-2016 Chevy or GMC 2500 HD
6” suspension system

Parts contained in Box 1 of 3

Part #	***Description***	***Qty.***
16085-03	Front cross member	1
16085-04	Rear cross member	1
16085-07	DS torsion bar relocation bracket	1
16085-08	PS torsion bar relocation bracket	1
16085-09	Torsion bar cover plate	2
16085-10	DS CV axle spacer	1
16085-15	Upper shock relocation bracket	2
16085-17	Lower sway bar end link bracket	2
16085-19	Rear brake line relocation bracket	1
16085-21	Torsion bar skid plate mounting bracket	1
56900-15	E-brake cable relocation bracket	2
16085NB	Hardware bag	1
BL406	Rear lifted block	2
BL-01	Front brake line jumpers	2
16085INST	Instruction manual	2
MIRRORHANGER	Rear view mirror hanger	1
WARNINGDECAL	Warning decal	1
SHOCKTIE	Zip ties	4

Parts contained in Box 2 of 3

Part #	***Description***	***Qty.***
16085-05	DS differential relocation bracket	1
16085-06	PS differential relocation bracket	1
16085-11	DS front upper bump stop	1
16085-12	PS front upper bump stop	1
16085-13	DS lower shock/bump stop bracket	1
16085-14	PS lower shock/bump stop bracket	1
16085-16	Lower skid plate	1
16085-18	Rear bump stop extension	2
16085-20	Torsion bar cross member skid plate	1
16085PL	Hardware bag	1
SB-07	Sway bar end link	2
5U-3431416S	3/4” x 3 1/4” x 16” square	4
34NW	Hardware bag	1

Parts contained in Box 3 of 3

Part #	***Description***	***Qty.***
16085-01	DS knuckle	1
16085-02	PS knuckle	1

Important customer information:

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.

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.

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 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.

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:

The stock tires and wheels will work in conjunction with part # 16085 but a large size tire and the stock wheels will not work in conjunction with part # 16085. Once part # 16085 has been installed with larger tires, new wheels will be needed. Here are the approved rim sizes. 17" x 8" with 5" - 5.25" of back spacing or less. 18" x 8" to 9" with 5" - 5.5" of back spacing or less. 20" x 8.5" to 10" with 5" - 6" of back spacing or less. Tuff Country recommends a 35x12.50 tire package. If larger than a 35x12.50 tire is installed on your vehicle in conjunction with part # 16085; Tuff Country assumes no liability and the warranty will be VOID.

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.

New longer front and rear shocks are needed after this suspension system has been installed and the front and rear shocks need to be ordered as a separate part #. Tuff Country has designed after market upper and lower front shock bracket for this vehicle. If you have not already ordered your front and rear shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your front and rear shocks. Tuff Country recommends installing a 23" fully extended nitrogen gas loop to loop style shock in the front and a 30" fully extended nitrogen gas loop to loop shock in the rear.

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.

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.**

Hardware bag 16085PL includes:

Description	Quantity
MO2220 (poly bushing)	4
S10026 (.680” x .500” x 1.500” sleeve)	2
38FN (3/8” fine nut)	2
S10049 (coned washer)	4
PB8016 (poly bushing)	4
S10102 (.630” x .500” x .260” sleeve)	2

Hardware bag 16085NB includes:

Bag # 1

Description	Quantity
1434B (1/4” x 3/4” bolt)	2
14UN (1/4” unitorque nut)	2
14WA (1/4” USS flat washer)	10
5161B (5/16” x 1” bolt)	3
5161STB (5/16” x 1” self threading bolt)	8
51634STB (5/16” x 3/4” self threading bolt)	4
516UN (5/16” unitorque nut)	3
381STB (3/8” x 1” self threading bolt)	10
716134B (7/16” x 1 3/4” bolt)	4
38WA (3/8” USS flat washer)	8
716UN (7/16” unitorque nut)	4

Bag # 2

Description	Quantity
12112B (1/2” x 1 1/2” bolt)	2
12112CB (1/2” x 1 1/2” carriage bolt)	2
12114B (1/2” x 1 1/4” bolt)	10
12212B (1/2” x 2 1/2” bolt)	2
12234B (1/2” x 2 3/4” bolt)	2
122B (1/2” x 2” bolt)	2
12312B (1/2” x 3 1/2” bolt)	1
12LWA (1/2” lock washer)	2
12UN (1/2” unitorque nut)	20
12WA (1/2” USS flat washer)	16
716WA (7/16” USS flat washer)	45

Bag # 3

Description	Quantity
9163B (9/16” x 3” bolt)	4
9164B (9/16” x 4” bolt)	2
916UN (9/16” unitorque nut)	6
M1080B (10 mm x 80 mm bolt)	8
M1240B (12 mm x 40 mm bolt)	3
M12UN (12 mm unitorque nut)	2
M18130B (18 mm x 130 mm bolt)	2
M18150B (18 mm x 150 mm bolt)	2
M18UN (18 mm unitorque nut)	4
M18WA (18 mm washer)	8
916WA (9/16” USS flat washer)	2

Hardware bag 34NW includes:

Description	Quantity
3/4” u-bolt high nuts	8
3/4” u-bolt harden washers	8

Recommended tools selection:

Torsion bar puller
Cut off wheel
Sawzall
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.

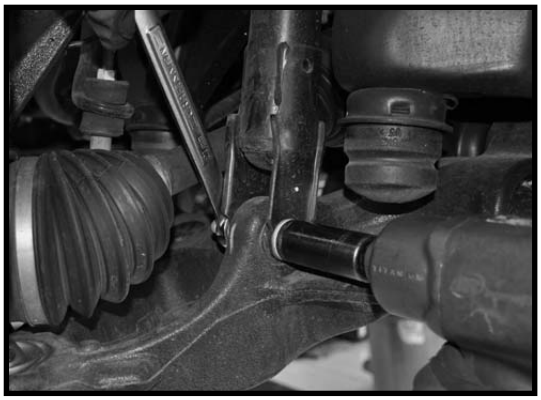
Pre-installation measurements:

Driver side front:_____
Passenger side front:_____
Driver side rear:_____
Passenger side rear:_____

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 shock from the upper and lower location. Save the lower hardware, The upper nuts and shock may be discarded. Repeat procedure on the passenger side. **New longer front shocks are needed after this suspension system has been installed and the front shocks need to be ordered as a separate part #. Tuff Country has designed after market upper and lower shock bracket for this vehicle. If you have not already ordered your front shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your front shocks. Tuff Country recommends installing a 23" fully extended nitrogen gas loop to loop style shock in the front.**

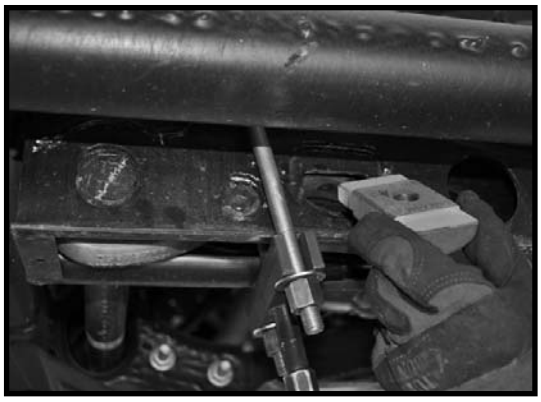


3. Remove the upper skid plate and set aside along with the hardware.

4. Remove the lower skid plate and discard the skid plate and hardware.

5. Working on the driver side, attach the torsion bar removing tool to the torsion bar cross member, making sure that the unloading bolt in the center of the torsion bar removing tool is in the small divot of the torsion bar key.

Adjust the torsion bar key up high enough so that the small metal adjusting block and bolt can be removed. Set the torsion bar block and hardware aside for later re-installation. Repeat procedure on passenger side.



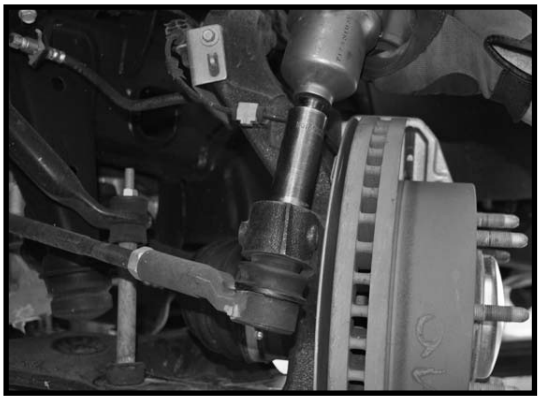
6. Mark both torsion bars before removal so that they can be re-installed back into the same location. **Example: Driver vs. Passenger and front vs. rear. Also, place a mark on the lower control arm and one lining up on the torsion bar.**

7. Working on the driver side, tap the torsion bar forward until the torsion bar key can be removed. Set the torsion bar key aside. **Special note: Take special care not to damage the CV axle when tapping the torsion bar forward. Also, the torsion bar can not be removed until the torsion bar cross member has been removed.** Repeat procedure on the passenger side.

8. Working on the driver side, remove the hardware that connects the torsion bar cross member to the mounting point. Set the hardware aside for later re-installation. Repeat procedure on the passenger side. Remove the torsion bar cross member from the vehicle and set aside for later re-installation.

9. Working on the driver side, slide the torsion bar out of the lower control arm and set aside for later re-installation. Repeat procedure on passenger side.

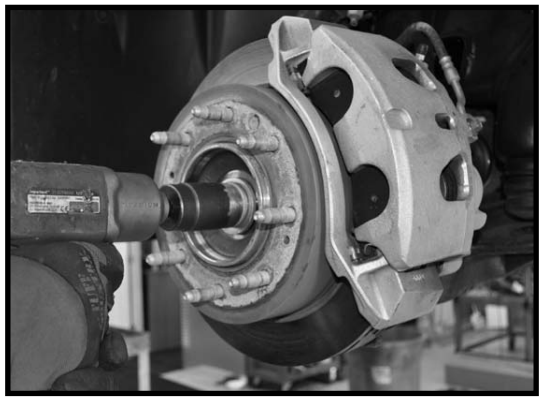
10. Working on the driver side, remove the nut that connects the outer tie rod ball joint to the steering knuckle. Set the nut aside for later re-installation. Carefully break the taper on the outer tie rod ball joint and remove the stock outer tie rod from the knuckle. **Special note: Hitting the knuckle with a hammer will make removal of the outer tie rod easier. Take special care not to rip or tear the outer tie rod ball joint dust boot.** Repeat procedure on the passenger side.



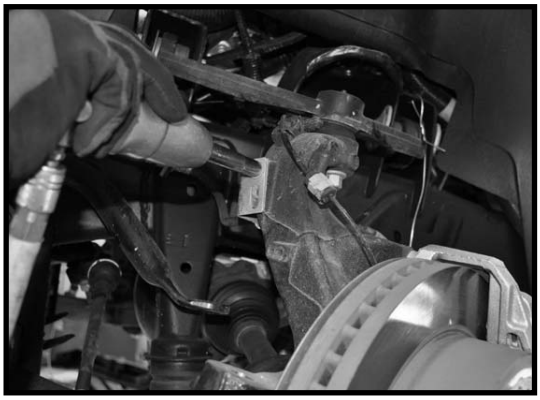
11. Working on the driver side, remove the sway bar end link from the stock location and discard the end link and all the hardware. Repeat procedure on the passenger side.

12. Working on the driver side, remove the hub bearing cap and set aside. Repeat procedure on the passenger side.

13. Working on the driver side, remove the hardware that connects the axle to the hub assembly and set aside. Repeat procedure on the passenger side.

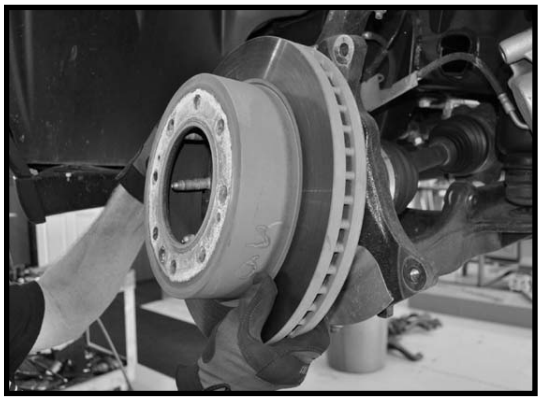


14. Working on the driver side, remove the brake line and ABS line from the knuckle. Also, remove the brake line bracket from the knuckle and set the bracket and hardware aside. Repeat procedure on the passenger side.



15. Working on the driver side, remove the (2) bolts that connect the brake caliper to the knuckle. Save the hardware for later re-installation. Using a bungee cord, carefully tie the brake caliper up and out of the way in the fender well. **Special note: Take special care not to kink or over extend the stock brake line.** Repeat procedure on the passenger side.

16. Working on the driver side, remove the rotor retaining bolt. Remove the rotor and set the rotor and bolt aside. Repeat procedure on the passenger side.

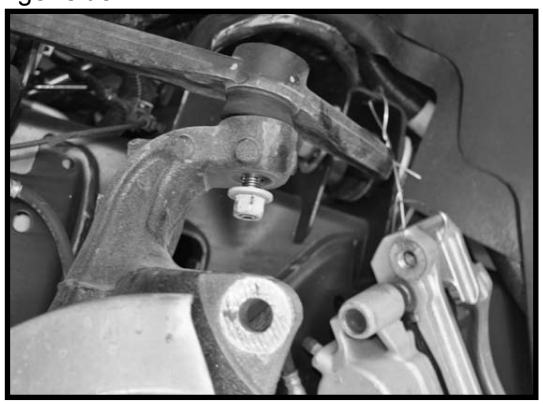


17. Working on the driver side, remove the CV axle from the differential. The hardware may be discarded. Remove the CV axle from the hub assembly and set aside for later re-installation. Repeat procedure on the passenger side but make sure to save the OE hardware.

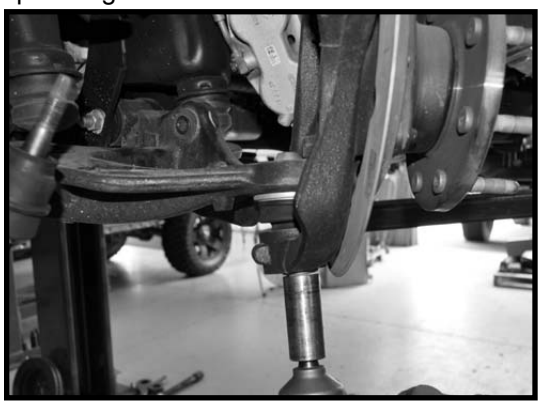
18. Working on the driver side, disconnect the ABS sensor from the hub and move the ABS line up and out of the way. Save the hardware for later re-installation. Repeat procedure on the passenger side.

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

the upper control arm attached to the knuckle. We want to just break the taper for now. Repeat procedure on the passenger side.

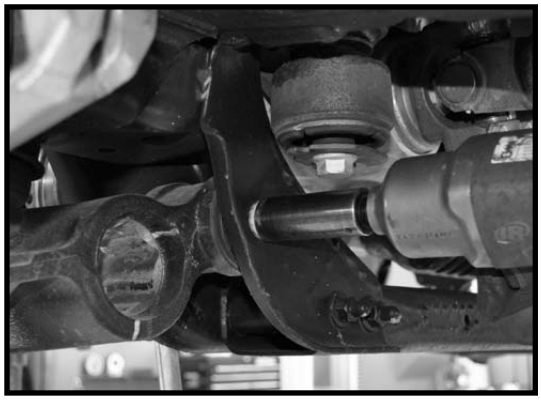


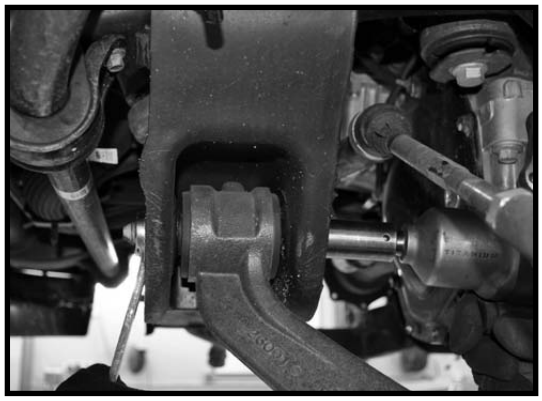
20. Working on the driver side, loosen but do not remove the nut that connects the lower control arm ball joint to the steering knuckle. Carefully break the taper by striking the knuckle with a hammer. **Special note: Take special care not to damage the lower control arm ball joint or rip the lower control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



21. Working on the driver side, move back to the nuts holding the upper control arm ball joint and the lower control arm ball joint to the steering knuckle and remove completely. Save the hardware for later re-installation. Carefully remove the hub assembly and the steering knuckle from the OE location and set aside for later re-installation. Repeat procedure on the passenger side.

22. Working on the driver side, remove the lower control arm. Set the control arm and hardware aside. Repeat procedure on the passenger side.

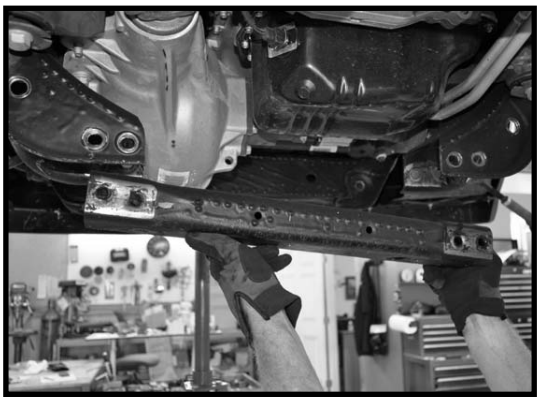




23. Place a mark on the front drive line and front differential. Remove the front drive line from the front differential and tie up and out of the way. Save the hardware.

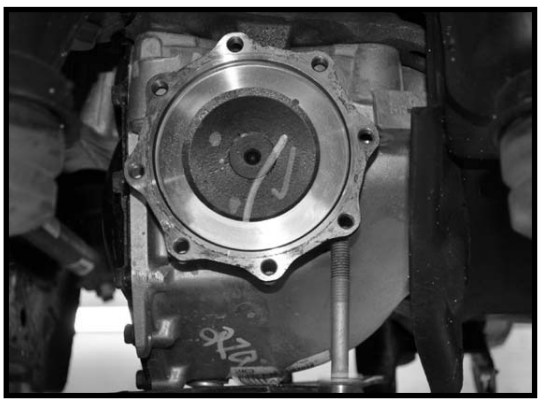
24. Working on the driver side, remove the rear cross member from the driver side rear lower control arm pocket. Repeat procedure on the passenger side. The rear cross-

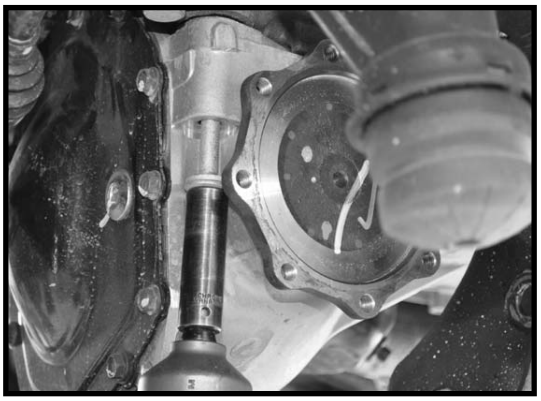
member and hardware may be discarded.



25. Place a pair of hydraulic floor jacks under the front differential, and carefully raise up on both hydraulic floor jacks at the same time, until they come into contact with the front differential.

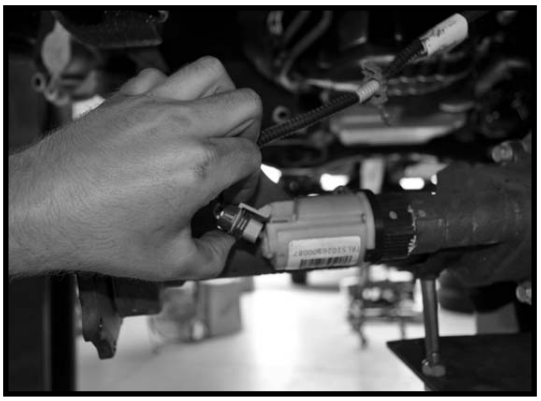
26. Working on the driver side, remove the (3) bolts holding the differential to the OE bracket. Save the (2) front bolts but the back bolt may be discarded.





27. Working on the passenger side, remove the (2) nuts that connect the passenger side of the front differential to the OE location and save the hardware for later re-installation.

28. Working on the front differential, disconnect the 4WD wiring harness and vacuum hose from the front differential. Tie the 4WD wiring harness up and out of the way. **Special Note: Take special care not to kink wiring. Also, disconnect the 4WD wire harness from any other attaching points of the front differential.**



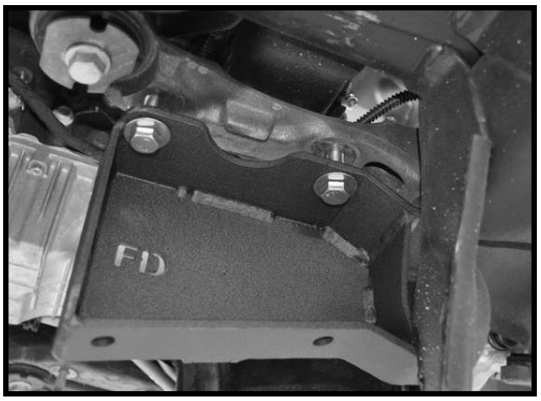
29. Carefully lower down on both hydraulic floor jacks at the same allowing enough room to remove the front differential completely from the vehicle. With the help from a buddy, carefully remove the front differential completely from underneath the vehicle and set the front differential on the ground or on a work bench.

30. Working on the driver side, measure 3 1/2” from the inside leading edge of the driver side rear lower control arm pocket and scribe a mark. Using a hacksaw or suitable cut-

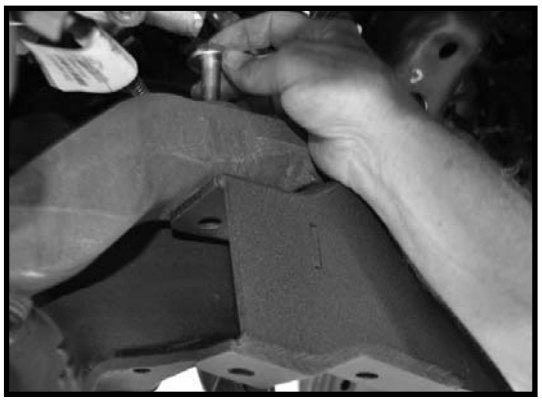
ting tool, carefully cut off along the line that was scribed earlier in this step. The cut off piece may be discarded. **Special note: When making this cut, make sure that you cut all the way through the rear lower control arm mounting point. If this cut is not performed properly, the front differential will not seat properly when the front differential is lowered into the new rear cross member. Tuff Country EZ-Ride highly recommends not using a cutting torch when performing step. Clean and dress up any exposed metal.**

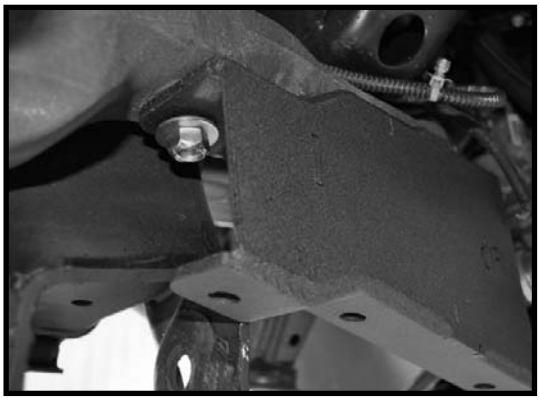
31. Working on the driver side, remove and save the OE bump stop that is closest to the front of the vehicle. Repeat procedure on the passenger side.

32. Locate the new driver side differential relocation bracket. Locate (2) 12 mm x 40 mm bolt from hardware bag 16085NB3. Also, locate (2) 7/16" USS flat washers from bag 16085NB2. Install the new driver side bracket to the stock location making sure that the "FD" in the bracket is towards the front of the vehicle. Securing using the new 12 mm x 40 mm bolts and 7/16" USS washers in the front (2) upper holes. **Do not tighten at this point.**

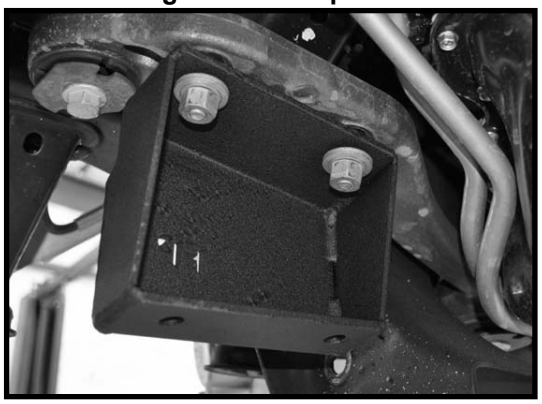


33. Locate (1) 1/2" x 3 1/2" bolt, (2) 7/16" USS flat washers and (1) 1/2" unitorque nut from hardware bag 16085NB2. Secure the rear portion of the newly installed driver side differential bracket to the rear mounting hole using the new 1/2" x 3 1/2" bolt and hardware. **Do not tighten at this point.**



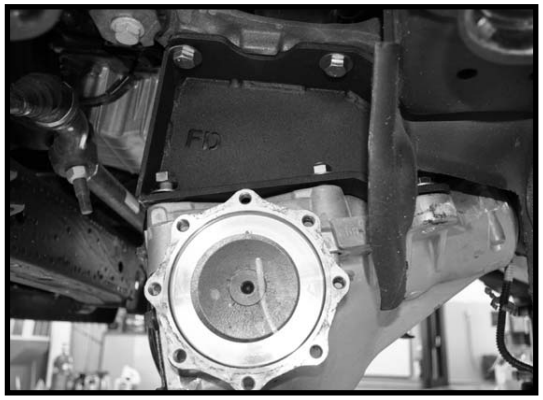


34. Locate the new passenger side differential relocation bracket. Also, locate the stock passenger side differential hardware. Install the new passenger side bracket to the stock location making sure that the “FP” is the bracket is towards the front of the vehicle. Secure using the stock hardware. **Do not tighten at this point.**

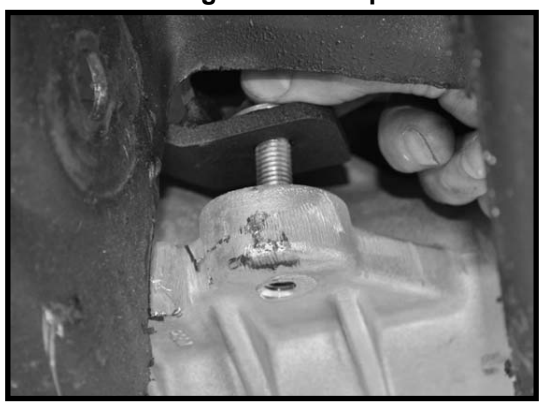


35. With the help from a buddy, carefully lift the front differential back onto a pair of hydraulic floor jacks and move the hydraulic floor jacks back underneath the vehicle so that the front differential can be re-installed.

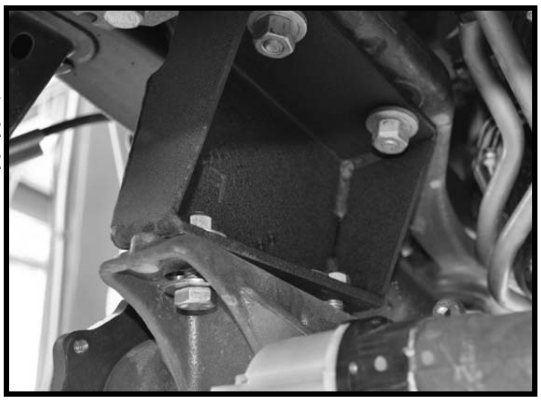
36. Locate (2) 12 mm unitorque nuts from hardware bag 16085NB3. Locate (2) 7/16” USS flat washers from hardware bag 16085NB2. Also, locate the (2) stock front differential bolts. Working on the driver side, secure the front differential to the newly installed driver side bracket using the stock bolts, new washers and new 12 mm nuts into the front (2) holes. **Do not tighten at this point.**

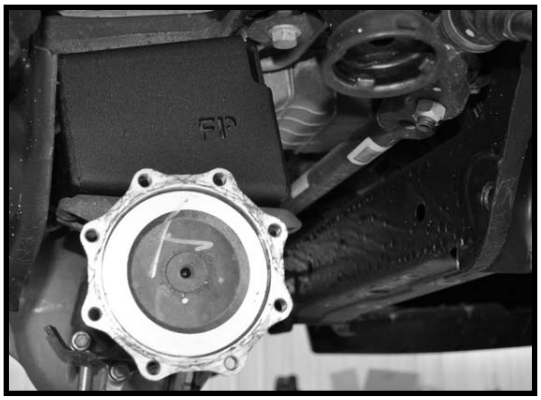


37. Locate (1) 12 mm x 40 mm bolt from hardware bag 16085NB3. Locate (1) 7/16” USS flat washer from hardware bag 16085NB2. Working on the driver side, secure the front differential to the newly installed driver side bracket using the new 12 mm bolt and 4/16” USS flat washer into the rear hole. **Do not tighten at this point.**



38. Locate (2) 1/2” x 1 1/2” bolts, (4) 7/16” USS flat washers and (2) 1/2” unitorque nuts from hardware bag 16085NB2. Working on the passenger side, secure the front differential to the newly installed passenger side bracket using the new 1/2” x 1 1/2” bolts and hardware. **Do not tighten at this point.**



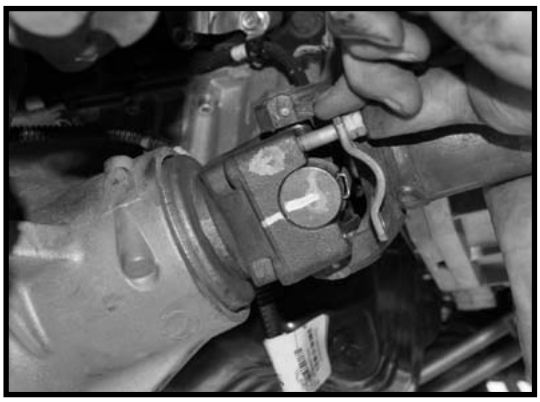


39. Move back to the 12 mm hardware on the driver side differential relocation bracket and add some loctite and torque to **65 ft lbs.** Now move back to the 1/2" hardware and add some loctite and torque to **65 ft lbs.**

40. Move back to the 12 mm hardware on the passenger side differential relocation bracket and add some tread locker or loctite and torque to **65 ft lbs.** Now move back to the 1/2" hardware and add some loctite and torque to **65 ft lbs.**

41. Carefully remove the hydraulic floor jacks from under the vehicle.

42. Install the drive line back to the front differential using the stock hardware. Make sure that the alignment marks line up with each other. Also, add some loctite and torque to **18 ft lbs.**



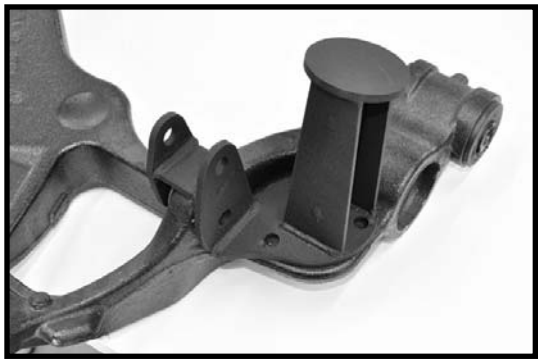
43. Reconnect the 4WD wiring harness and vacuum hose to the front differential.

44. Locate the new front cross member and the stock hardware that connected the front portion of the lower control arm to the stock location. Install the new front cross member using the stock hardware into the front lower control arm pockets. **Do not tighten at this point.**

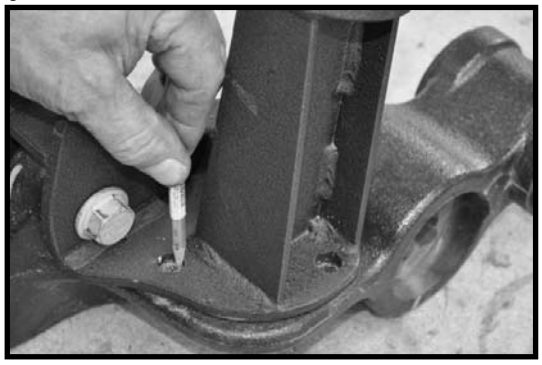
45. Locate the new rear cross member and the stock hardware that connected the rear portion of the lower control arm to the stock location. Install the new rear cross member using the stock hardware into the rear lower control arm pockets. **Do not tighten at this point.**

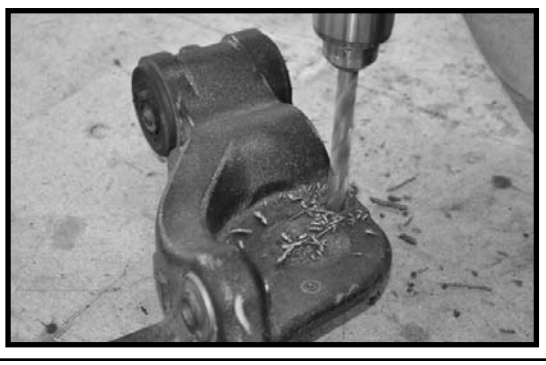
46. Locate (2) 1/2" x 1 1/4" bolts, (4) 7/16"USS flat washers and (2) 1/2" unitorque nuts from hardware bag 16085NB2. Working on the passenger side, secure the newly installed rear cross member to the passenger side rear lower control arm pocket using the new 1/2" x 1 1/4" bolt and hardware. **Do not tighten at this point.**

47. Place the driver side lower control arm on a work bench. Locate the driver side lower shock/bump stop bracket and the lower shock mounting hardware. Place the new lower shock/bump stop bracket on the lower control arm and secure using the stock hardware. **Do not tighten at this point.**

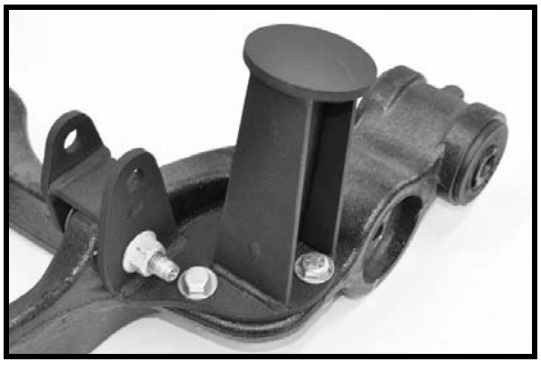


48. Using the new bracket as a guide, scribe a mark on the lower control arm. Remove the newly installed lower shock/bump stop bracket and set aside. Drill each marked hole out to 15/32" holes. **Special note: Drilling a pilot hole is highly recommended.**



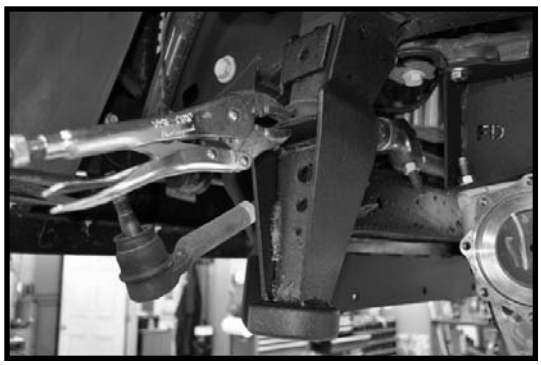


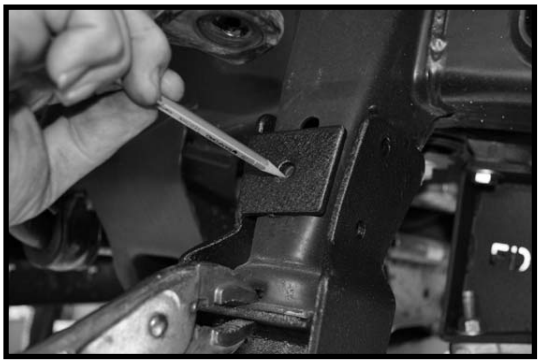
49. Locate (2) 7/16" x 1 3/4" bolts, (4) 3/8" USS flat washers and (2) 7/16" unitorque nuts from hardware bag 10865NB1. Place the lower shock/bump stop bracket back onto the lower control arm and secure using the new 7/16" x 1 3/4" bolts and hardware in the previously drilled holes. Now install the stock hardware into the lower OE shock location. Make sure to use loctite and torque to ?? ft. lbs. Move back to the newly installed 7/16" hardware and add some loctite torque to **80 ft lbs. Special note: Make sure that the OE bolt is installed from the front of the control arm to the rear. Set lower control arm a side.**



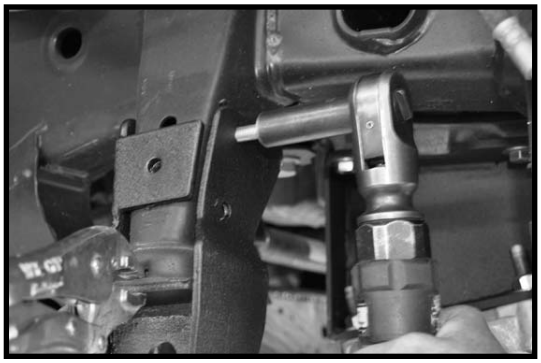
50. Repeat procedure on the passenger side lower control arm and lower shock/bump stop bracket.

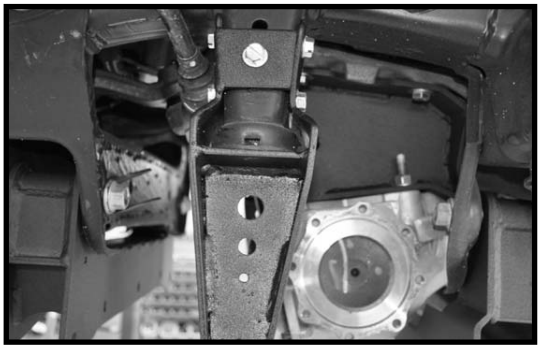
51. Locate the driver side upper bump stop relocation bracket. Working on the driver side, install the new bracket over the OE front bump stop bracket and using a pair of vise grips clamp the bracket in place. Using the bracket as a guide, carefully scribe a mark on the OE bracket in all (5) hole locations. Remove the new bracket and set aside. Using a 5/16" drill bit, carefully drill out all (5) locations. Repeat procedure on the passenger side.



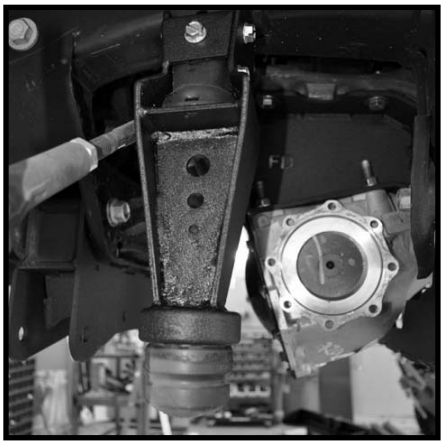


52. Locate (10) 3/8” x 1” self threading bolts from hardware bag 16085NB1. Install the new driver side bracket over the OE bracket and secure using the new 3/8” hardware. Make sure to use loctite and tighten. Repeat procedure on the passenger side.





53. Working on the driver side, install the OE bump stop into the previously installed bracket. Repeat procedure on the passenger side.



54. Locate (2) 18 mm x 130 mm bolts, (2) 18 mm x 150 mm bolts, (8) 18 mm flat washers and (4) 18 mm unitorque nuts from hardware bag 16085NB3. Working on the driver side, install the driver side lower control arm into the previously installed front and rear cross members. The 18 mm x 130 mm bolt will secure the front portion of the lower control arm into the front cross member and the 18 mm x 150 mm will secure the rear portion of the lower control arm into the rear cross member. **Do not tighten at this point and repeat procedure on the passenger side.**

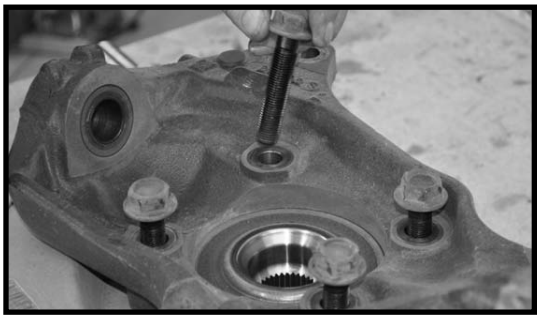
55. Locate the new lower front skid plate. Also, locate (6) 1/2" x 1 1/4" bolts, (12) 7/16" USS flat washers and (6) 1/2" uni-torque nuts from hardware bag 16085NB2. Secure the new lower front skid plate to the front and rear cross member using the new 1/2" x 1 1/4" bolts and hardware. **Do not tighten at this point.**

56. Move back to the OE hardware holding the new front and rear cross members into the OE location and add some loctite and torque to **100 ft lbs.**

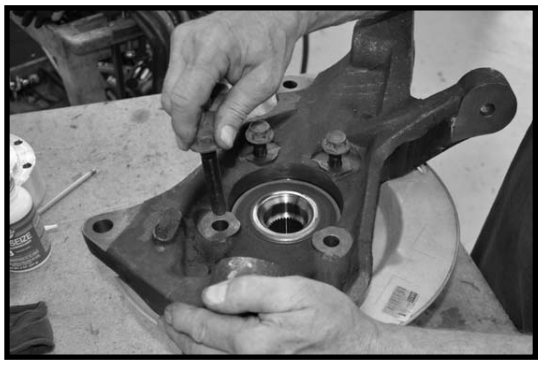
57. Move back to the 1/2" hardware holding the new rear cross member to the passenger side rear lower control arm pocket and add some loctite and torque to **65 ft lbs.**

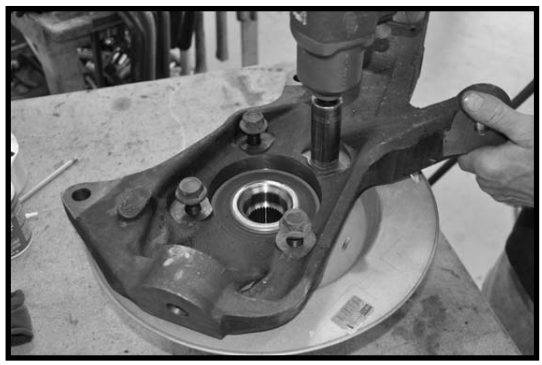
58. Move back to the 1/2" hardware holding the new front lower skid plate to the front and rear cross member and add some loctite and torque to **65 ft lbs.**

59. Working on the driver side knuckle and hub assembly, remove the (4) bolts that connect the hub assembly to the steering knuckle. Save the hardware. Remove the hub assembly from the knuckle and set aside. Also, carefully remove the rubber "O" ring located in the steering knuckle and save for later re-installation. The stock steering knuckle may be discarded. Repeat procedure on the passenger side knuckle.

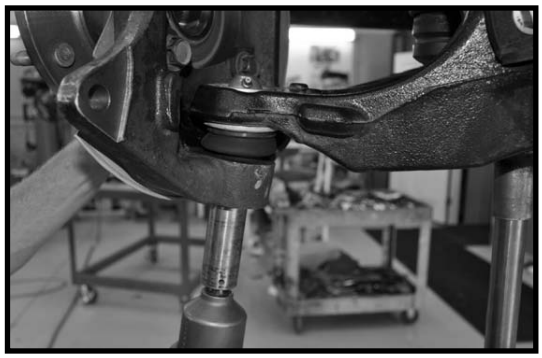


60. Locate the new driver side steering knuckle. Install the rubber “O” ring into the new steering knuckle. Secure the hub assembly to the new knuckle using the stock hardware. Make sure to use loctite and torque to **100 ft lbs.** Make sure that the dust shield is re-installed. Repeat procedure on the passenger side knuckle.

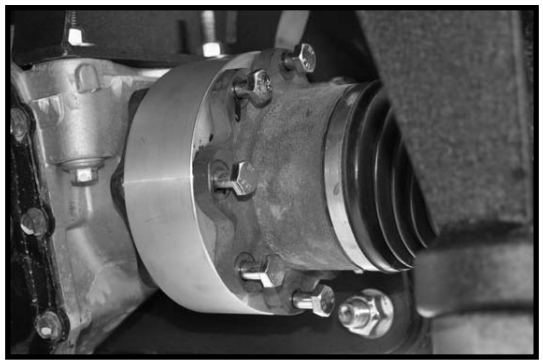




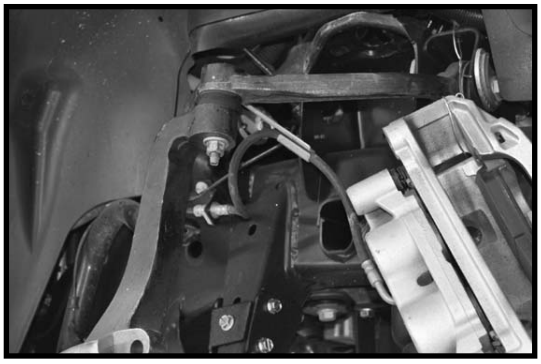
61. Working on the driver side, install the new knuckle to the lower control arm and secure using the stock hardware. Make sure to use loctite and torque to **45 ft lbs.**



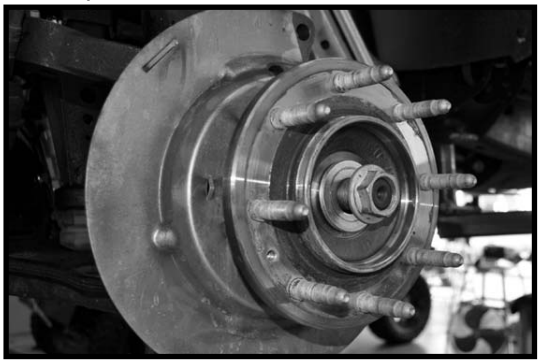
62. Locate the driver side axle and install it back into the hub assembly. Now, locate the new driver side CV axle spacer. Also, locate (8) 10 mm x 80 mm bolt from hardware bag 16085NB3. Working on the driver side, install the new CV axle spacer between the front differential and the CV axle. Secure using the new 10 mm x 80 mm bolts. Make sure to use loctite and torque to **65 ft. lbs. Special note: It is highly recommended not to use air tools when performing this step.**



63. Install the upper control arm to the previously installed knuckle and secure using the stock hardware. Make sure to use loctite and torque to **37 ft lbs.**



64. Working on the driver side, secure the front CV axle to the hub assembly using the OE hardware. Make sure to use loctite and torque to **177 ft. lbs.**



65. Working on the passenger side, install the new knuckle to the lower control arm and secure using the stock hardware. Make sure to use loctite and torque to **45 ft lbs.** Install the upper control arm to the previously installed knuckle and secure using the stock hardware. Make sure to use loctite and torque to **37 ft lbs.**

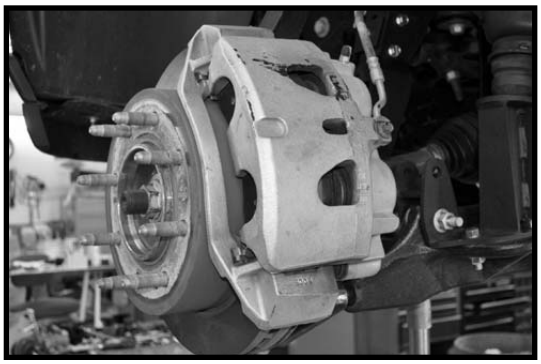
66. Working on the passenger side, install the CV axle back to the front differential using the OE hardware. Make sure to use loctite and torque to **65 ft. lbs. Special note: It is highly recommended not to use air tools when performing this step.**

67. Working on the passenger side, secure the front CV axle to the hub assembly using the OE hardware. Make sure to use loctite and torque to **177 ft. lbs.**

68. Working on the driver side, install the ABS sensor to the hub assembly using the OE hardware. Make sure to use loctite and torque to **115 inch lbs.** Repeat procedure on the passenger side.

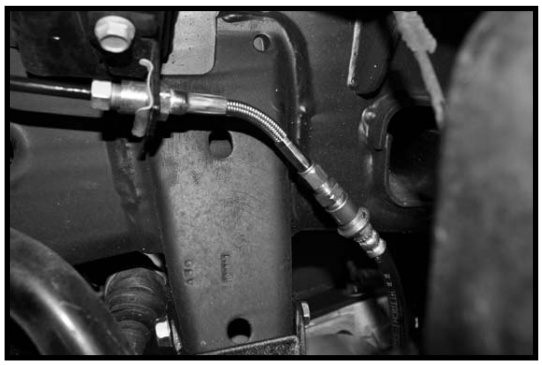
69. Working on the driver side, install the brake rotor and retaining bolt. Make sure to use loctite and torque to **106 inch lbs.** Repeat procedure on the passenger side.

70. Working on the driver side, install the brake caliper to the newly installed knuckle using the OE hardware. Make sure to use loctite and torque to **129 ft lbs.** Repeat procedure on the passenger side.



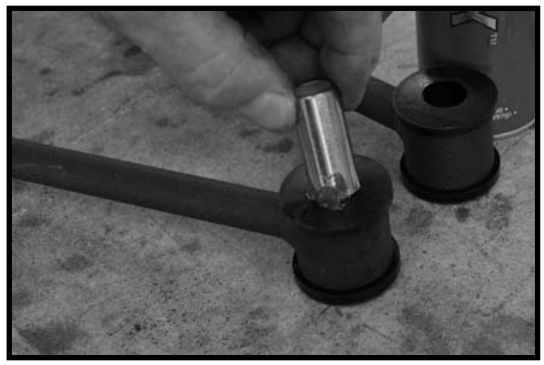
71. Working on the driver side, carefully install the hub bearing cap. Repeat procedure on the passenger side.

72. Locate the new brake line jumpers. Working on the driver side, remove the brake line clip and save. Remove the hard line from the soft line and add the new brake line jumpers. Re-install the OE clip. **Special note: Brake fluid will leak out of the lines and it is recommended to place a rag under the working area to catch the fluid. Also, the brake lines will need to be bled once the installation has been completed.** Repeat procedure on the passenger side.



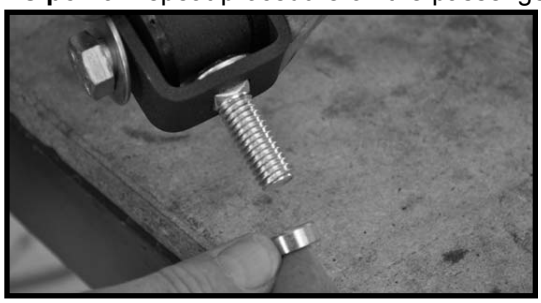
73. Working on the driver side, route the ABS line and brake line and re-attach them back to the newly installed knuckle. Repeat procedure on the passenger side.

74. Locate the new front sway bar end links. Locate (4) MO2220 poly bushings and (2) S10026 sleeves from hardware bag 16085PL. Install the new bushings and sleeves into the new sway bar end links. **Special note: Make sure to use a lithium or moly base grease prior to inserting the new bushings and sleeves into the new sway bar end links. This will increase the life of the bushing as well as prevent squeaking.**



75. Locate the lower sway bar mounting bracket. Locate (2) 1/2” x 1 1/2” carriage bolts, (2) 1/2” x 2 3/4” bolts, (4) 7/16” USS flat washers and (2) 1/2” unitorque nuts from hardware bag 16085NB2. Install the new carriage bolt to the lower sway bar mounts then install the new end links to the lower sway bar mounting brackets using the new 1/2” x 2 3/4” bolt and hardware. **Do not tighten at this point.**

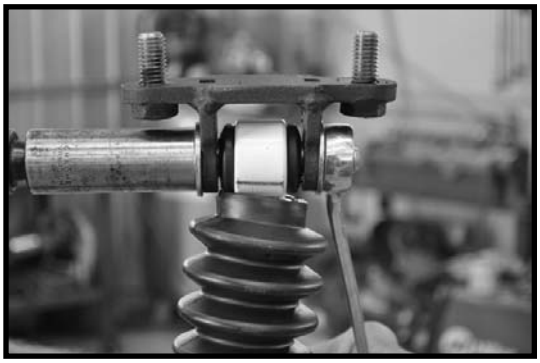
76. Locate (2) S10102 sleeves from hardware bag 16085PL. Also, locate (2) 7/16” USS flat washers and (2) 1/2” unitorque nuts from hardware bag 16085NB2. Working on the driver side, slide the new sleeve over the carriage bolt and then install the new sway bar end link to the lower control arm and secure using the new 1/2” hardware. **Do not tighten at this point.** Repeat procedure on the passenger side



77. Locate (4) sway bar end link bushings, (4) coned washers and (2) 3/8” fine nuts from hardware bag 16085PL. Working on the driver side, install the newly installed end link to the sway bar using the new poly bushings and hardware. **Do not tighten at this point.** Repeat procedure on the passenger side.

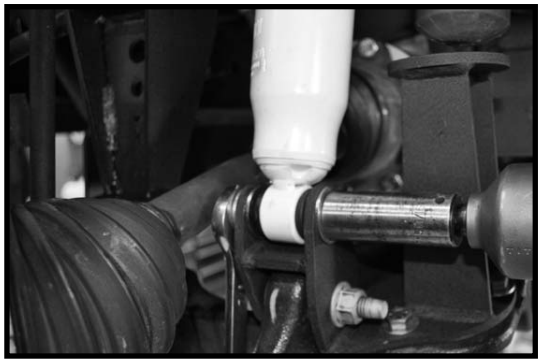
78. Working on the driver side, move back to the lower carriage bolt that is attaching the lower end link bracket to the lower control arm and add some loctite and torque to **35 ft lbs.** Now, add some loctite to the 1/2” hardware that is securing the end link to the lower bracket and torque to **75 ft lbs.** Finally, add some loctite to the sway bar end link where it is attached to the sway bar and tighten until bushings starts to bulge**.** Repeat procedure on the passenger side.

79. Locate the new front shocks. **New longer front shocks are needed and the front shocks need to be ordered as a separate part #. Tuff Country has designed after market upper and lower front shock bracket for this vehicle. If you have not already ordered your front and rear shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your front shocks. Tuff Country recommends installing a 23" fully extended nitrogen gas loop to loop style shock in the front.** Locate the new front upper shock brackets. Locate (2) 9/16" x 3" bolts and (2) 9/16" unitorque nuts from hardware bag 16085NB3. Also, locate (4) 1/2" USS flat washers from hardware bag 16085NB2. Install the new shocks to the new upper shock relocation brackets and secure using the new 9/16" x 3" bolt and 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.**



80. Locate (2) 1/2" unitorque nuts and (2) 7/16" USS flat washers from hardware bag 16085NB2. Working on the driver side, install the new shock and shock bracket to the OE location and secure using the new 1/2" hardware. Make sure to use loctite and torque to **75 ft lbs.** Repeat procedure on the passenger side.

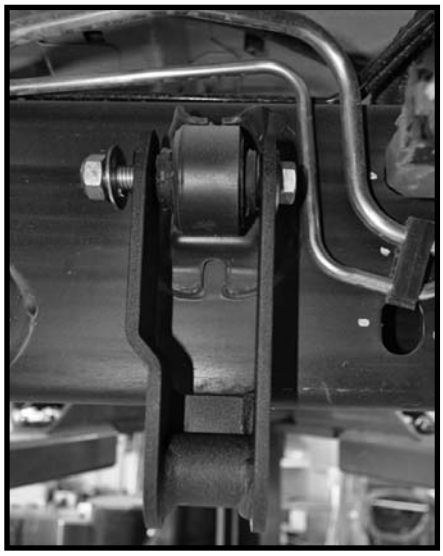
81. Locate (2) 9/16" x 3" bolts and (2) 9/16" unitorque nuts from hardware bag 16085NB3. Also, locate (6) 1/2" USS flat washers from hardware bag 16085NB2. Working on the driver side, install the newly installed shock to the new lower shock mount and secure using the new 9/16" x 3" bolt and hardware. Special note: Make sure to install (1) of the 1/2" USS flat washers between the lower shock bushing and the inside of the new bracket. Make sure to use loctite and torque to **85 ft lbs.** Repeat procedure on the passenger side.



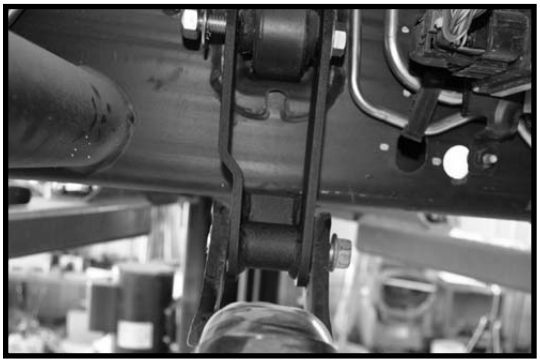
82. Working on the driver side, install the outer tie rod to the new steering knuckle and secure using the stock hardware. Make sure to use or loctite and torque to **44 ft lbs. Special note: The new steering knuckle has a reverse taper on it where the outer tie rod mounts to it, make sure to install the outer tie rod the proper way. The outer tie rod nut will now be installed on the bottom side of the new steering knuckle.** Repeat procedure on the passenger side.

83. Install the OE upper skid plate into the OE location and secure using the OE hardware. Make sure to use loctite and torque to **20 ft. lbs. Special note: There are access holes cut in the front cross member so that a socket can be used.**

84. Locate the new driver and passenger side torsion bar relocation brackets. Locate (2) 9/16" x 4" bolts and (2) 9/16" unitorque nuts from hardware bag 16085NB3. Also, locate (4) 1/2" USS flat washer from bag 16085NB2. Working on the driver side, install the new torsion bar relocation bracket to the OE mount and secure using the new 9/16" x 4" bolt and hardware. **Do not tighten at this point. Special note: The driver and passenger side brackets are a mirror image of each other. To make sure that you install the brackets on the correct side, install the brackets with the "S" bend on one side of the bracket towards the rear of the vehicle.** Repeat procedure on the passenger side.



85. Install the OE torsion bar cross member to the newly installed driver and passenger side torsion relocation bracket and secure using the OE hardware. **Do not tighten at this point.**



8 6 . Working on the driver side, carefully drill out the OE hole on the bottom of the torsion bar cross member to 1/4". Repeat procedure on passenger side.

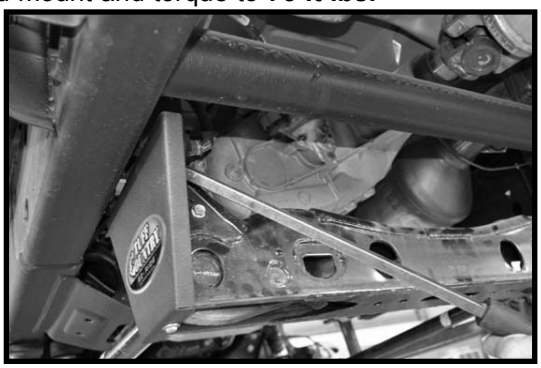
87. Locate the new driver and passenger side torsion bar drop cover plates. Also, locate (2) 1/4" x 3/4" bolts, (4) 1/4" USS flat washers and (2) 1/4" unitorque nuts from hardware bag 16085NB1. Working on the driver side, secure the new cover plate to the previously drilled out hole on the torsion bar cross member using the new 1/4" x 3/4" bolt and hardware. Make sure to use loctite and torque to **12 ft lbs.** Repeat procedure on the passenger side.

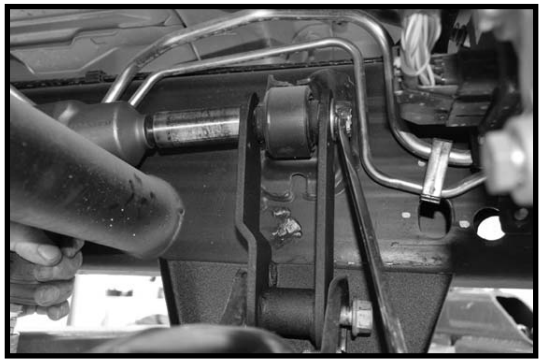
88. Locate (4) 5/16" x 3/4" self threading bolts from hardware bag 16085NB1. Working on the driver side and using the newly installed cover plate as a guide, carefully drill a 1/4" hole into the front and back side of the torsion bar cross member. Secure the cover plate to the previously drill holes using the new 5/16" x 3/4" self threading bolt. Repeat procedure on the passenger side.

89. Locate the torsion bars. Refer to the marks that were made earlier in the installation and re-install the torsion bars back into the OE location. **Example: Driver vs. Passenger and Front vs. Rear.**

90. Locate the torsion bar keys. Working on the driver side, install the torsion bar key back into the OE location in the torsion bar cross member. Slide the torsion bar back into the previously installed torsion bar key. Repeat procedure on the passenger side. **Special note: Make sure that the torsion bars are installed in the stock location in the stock lower control arm and the stock torsion bar key.**

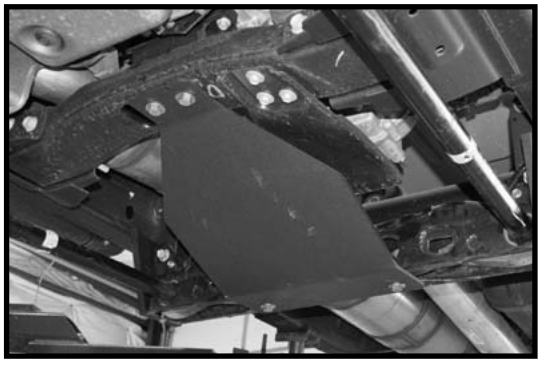
91. Center the torsion bar cross member in the vehicle and and some loctite and torque the new 9/16" bolts holding the new mount to the OE location to **?? ft lbs.** Add some loctite to the OE bolt holding the cross member to the newly installed mount and torque to **75 ft lbs.**





92. Locate the torsion bar adjusting blocks and hardware. Working on the driver side, attach the torsion bar removing tool to the stock torsion bar cross member, making sure that the unloading bolt in the center of the torsion bar removing tool is in the small divot of the stock torsion bar key. Adjust the torsion bar key up high enough so that the stock small metal adjusting block and bolt can be re-installed back into the stock location. Remove the torsion bar removal tool from the stock torsion bar cross member. **Special note: Set the driver and the passenger side torsion bar bolt so that there is 3/4" of thread showing between the head of the bolt and the adjusting block.** Repeat on the passenger side.

93. Locate the new torsion bar skid plate and the torsion bar skid plate mounting bracket. Locate (2) 1/2" x 1 1/4" bolts, (2) 1/2" x 2" bolts, (8) 7/16" USS flat washers and (4) 1/2" unitorque nuts from hardware bag 16085NB2. Install the torsion bar skid plate mounting bracket inside the transmission cross member. Secure the new skid plate to the torsion bar cross member using the new 1/2" x 1 1/4" bolts and hardware. **Do not tighten at this time.** Now secure the skid plate to the bracket in the transmission cross member using the new 1/2" x 2" bolts and hardware. Make sure to use loctite and torque to **65 ft lbs.** Move back to the newly hardware securing the skid plate to the torsion bar cross member and add some loctite and torque to **65 ft lbs.**



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

95. Check and double check to make sure that all steps were performed properly and check again.

96. There are still a couple of steps that need to be completed on the front end but these steps will not be completed until the rear end installation is completed and the weight of the vehicle is on the ground. These steps include the tightening of the new hardware that connects the stock lower control arms to the newly installed front and rear cross member and bleeding the brakes.

Rear end installation:

96. 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.

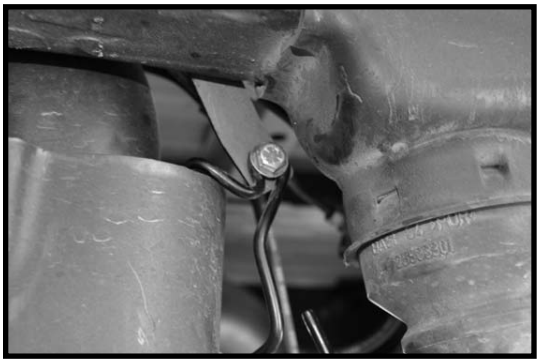
97. Working on the driver side, remove the shock from the upper and lower mounting points and save the hardware for later re-installation. The shock may be discarded. **Special note: New longer rear shocks are needed, if you have not already ordered shocks, please contact Tuff Country or your local Tuff Country dealer and order the proper shocks. Tuff Country recommends using a 30" fully extended nitrogen gas shock.** Repeat procedure on the passenger side.

98. Place a pair of hydraulic floor jacks under the rear differential and carefully raise up on both hydraulic floor jacks at the same time until they come into contact with the rear differential.

99. Working on the driver side, remove the emergency brake cable from the (2) OE mounting points and save the hardware.

100. Locate the (2) new emergency brake cable relocation brackets. Locate (2) 5/16" x 1" bolts, (4) 1/4" USS flat wash-

ers and (2) 5/16” unitorque nuts from hardware bag 16085NB1. Install the new brackets to the OE locations using the OE hardware. **Do not tighten at this point.** Secure the OE emergency brake cable brackets to the newly installed relocation brackets and secure using the new 5/16” x 1” bolts and hardware. Make sure to use loctite and torque to **20 ft lbs.** Move back to the OE hardware holding the new brackets to the OE location and add some loctite and torque to **20 ft lbs.**

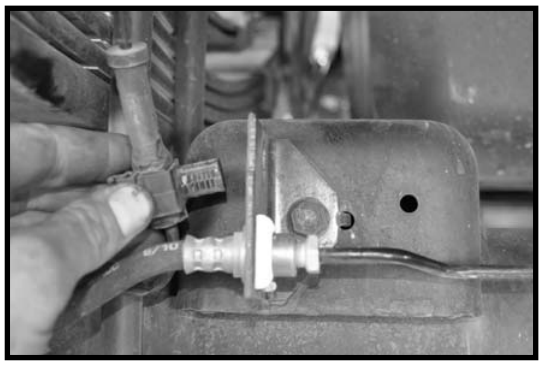


101. Working on the driver side, remove the OE brake line bracket from the inner frame rail. Save the OE hardware.

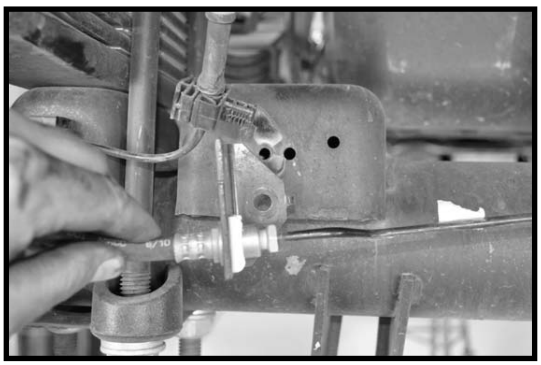
102. Locate the new brake line relocation bracket and install it into the OE location using the OE hardware. **Do not tighten at this point.**

103. Locate (1) 5/16” x 1” bolt (2) 1/4” USS flat washers and (1) 5/16” unitorque nut from hardware bag 16085NB1. Install the OE brake line bracket to the newly installed brake line relocation bracket and secure using the new 5/16” x 1” bolt and hardware. Make sure to use loctite and torque to **20 ft lbs.** Move back to the OE hardware holding the new bracket to the OE location and add some loctite and torque to **20 ft lbs.**

104. Working on the driver side, remove the ABS sensor from the axle mount and let hang. Repeat procedure on the passenger side.



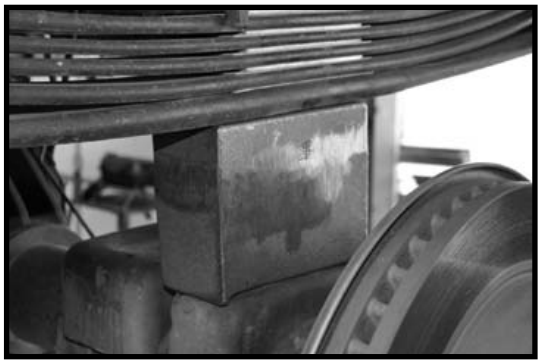
105. Working on the driver side, remove the brake line bracket from the axle mount. Save the OE hardware and repeat procedure on the passenger side.



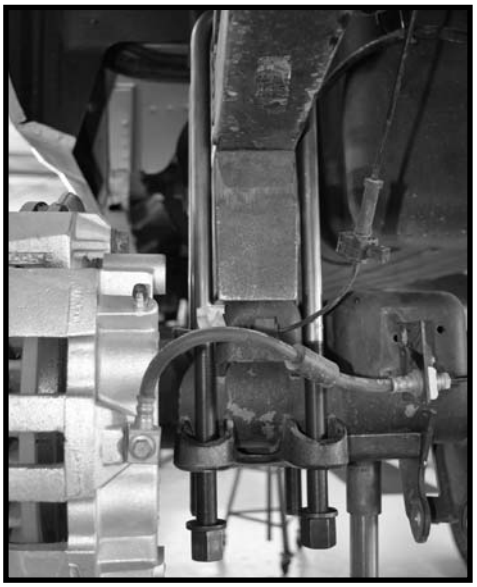
106. Working on the driver side, remove the u-bolts from the vehicle. The u-bolts and hardware may be discarded but set the lower u-bolt bracket aside. Repeat procedure on the passenger side.

107. Carefully lower down both hydraulic floor jacks at the same time approximately 5”. **Special note: Take special care not to over extend any brake lines and/or hoses.**

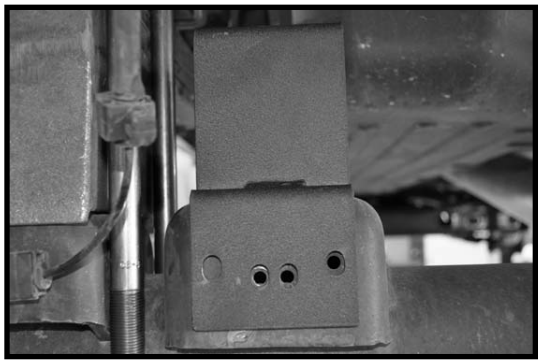
108. Locate (2) new rear lifted blocks. Working on the driver side, install the new lifted block between the axle and the OE spring. **Special note: the new rear lifted block has a taper to it. Make sure that the smaller end of the block is installed towards the front of the vehicle.** Repeat procedure on the passenger side. Carefully raise up on both hydraulic floor jacks at the same time until the OE spring assembly sits flush with the newly installed rear lifted block.



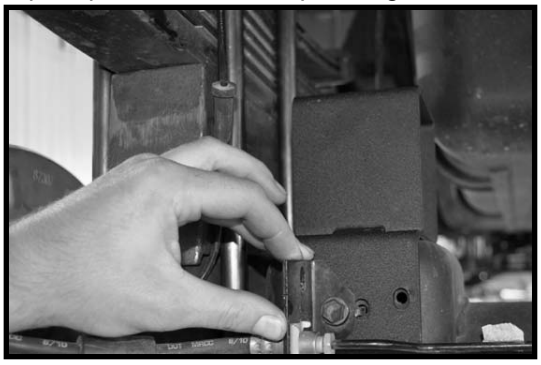
109. Locate (4) 3/4” x 3 1/4” x 16” square u-bolts. Also, locate (8) 3/4” u-bolt high nuts and (8) u-bolt washers from hardware bag 34NW. Also, locate the OE lower u-bolt plates. Working on the driver side, install the new u-bolts into the OE location and secure using the new 3/4” high nuts and washers. **Special note: Make sure to re-install the lower u-bolt plates. Torque to 140 ft lbs.** Repeat procedure on passenger side.



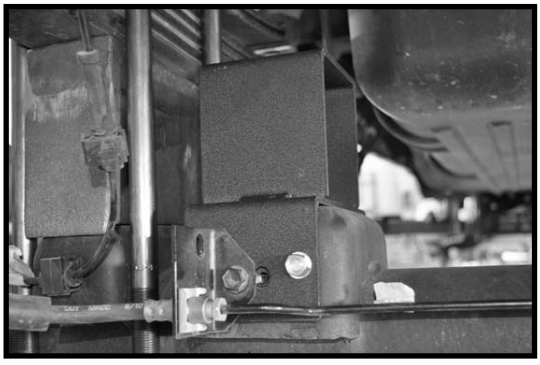
110. Working on the driver side, locate and install the new bump stop bracket over the OE bracket. Repeat procedure on the passenger side.



111. Working on the driver side, install the OE brake line bracket back into the OE location over the newly installed bump stop bracket. Make sure to use loctite and torque to **12 ft lbs.** Repeat procedure on the passenger side.



112. Locate (6) 5/16” x 1” self threading bolts from hardware bag 16085NB1. Working on the driver side, secure the newly installed bump stop bracket to the OE bracket using the new 5/16” x 1” self threading bolts. Make sure to use loctite and tighten**. Special note: There will be (1) attaching point on the back side of the bracket and (2) on the front side of the bracket.** Repeat procedure on the passenger side.



113. **Special note: New longer rear shocks are needed, if you have not already ordered shocks, please contact Tuff Country or your local Tuff Country dealer and order the proper shocks. Tuff Country recommends using a 30" fully extended nitrogen gas shock.** Working on the driver side, install the new shock into the OE location and secure using the OE hardware. **Special note: Make sure to use loctite and torque to 75 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. Also, is the OE brake line contacts the new shock, carefully bend the line to allow clearance.** Repeat procedure on the passenger side.

114. Carefully remove the (2) hydraulic floor jacks from under the rear differential.

115. Working on the driver side, install the ABS sensor back to the axle mount. Repeat procedure on the passenger side.

116. Working on the driver side and using a couple shock ties, carefully tie the ABS sensor to the legs of the newly installed u-bolts. Repeat procedure on the passenger side. **Special note: This picture is of the passenger side.**

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

Step # 118 needs to be performed with the weight of the vehicle on the ground.

118. Working on the driver side, move back to the new 18 mm hardware attaching the lower control arms to the newly installed front and rear cross members and add some loctite and torque to **100 ft lbs.** Repeat procedure on the passenger side.

119. With the help from a buddy, carefully bleed the front brakes and top off the brake fluid reservoir with proper brake fluid for your vehicle.

120. Check and double check to make sure that all steps were performed properly. And then check them again.

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.

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:_____

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.

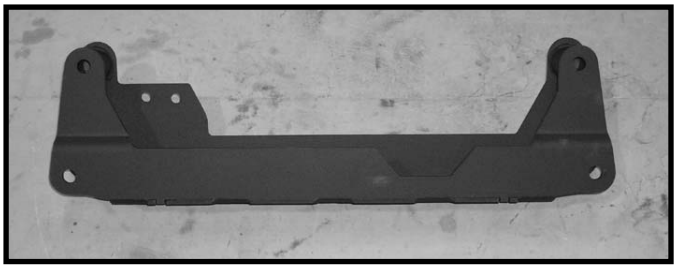
Tuff Country EZ-Ride Suspension packages (2) sets of instruction sheets with this box kit. (1) is for the installer and (1) is for the customer. The (1) for the customer has some post installation procedure literature and it is the installers responsibility to make sure that the customer receives a copy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

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

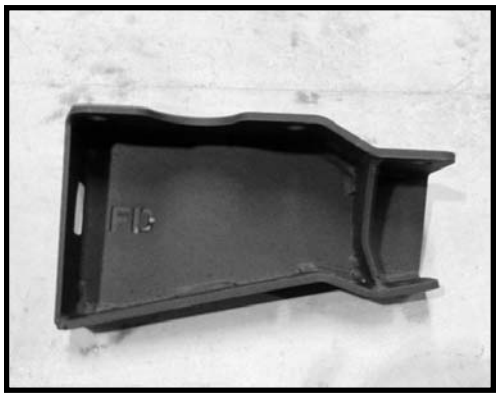
16085-01 (1)
DS knuckle

16085-02 (1)
PS knuckle

16085-03 (1)
Front cross member

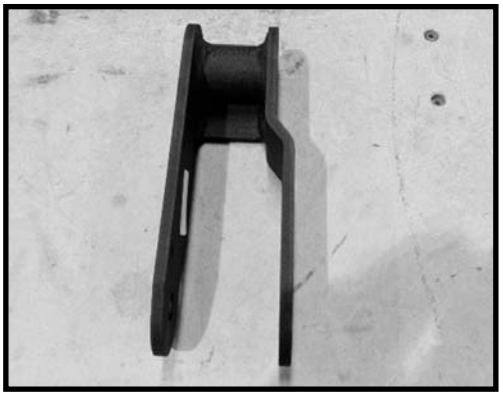


16085-04 (1)
Rear cross member

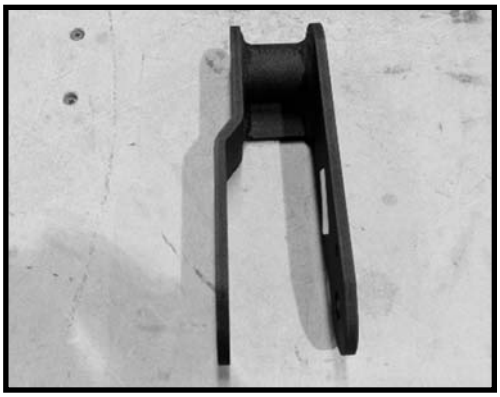


16085-05 (1)
DS differential relocation bracket

16085-06 (1)
PS differential relocation bracket

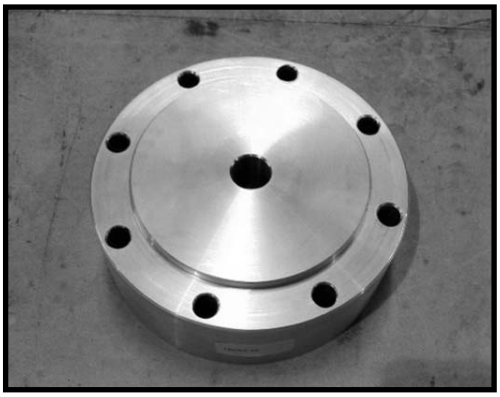


16085-07 (1)
DS torsion bar relocation bracket

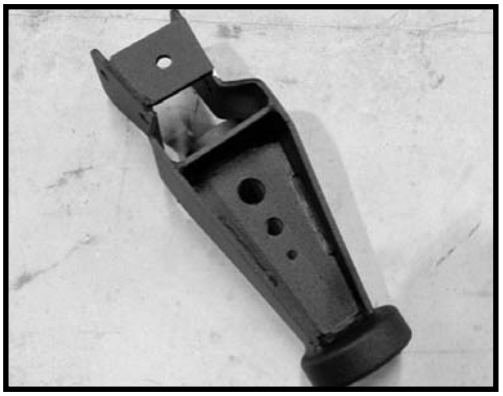


16085-08 (1)
PS torsion bar relocation bracket

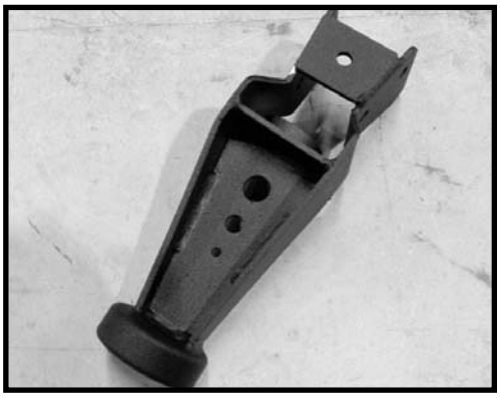
16085-09 (2)
Torsion bar cover plate



16085-10 (1)
DS CV axle spacer



16085-11 (1)
DS front upper bump stop

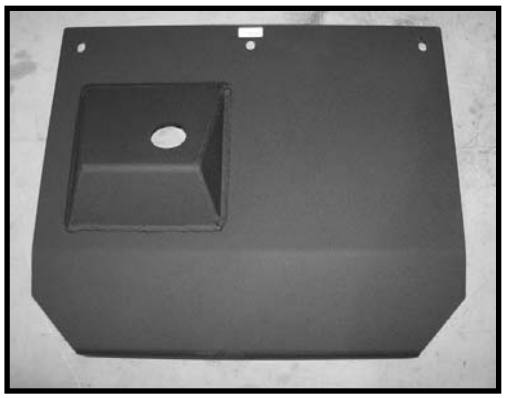


16085-12 (1)
PS front upper bump stop

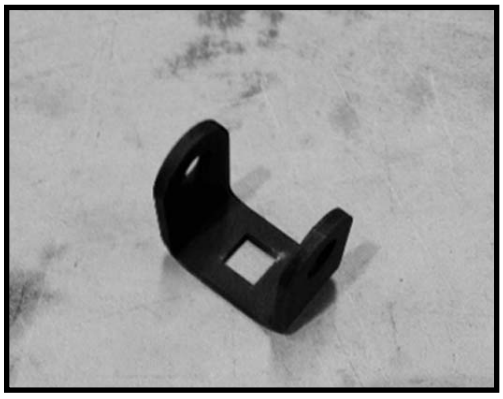
16085-13 (1)
DS lower shock/bump stop bracket

16085-14 (1)
PS lower shock/bump stop bracket

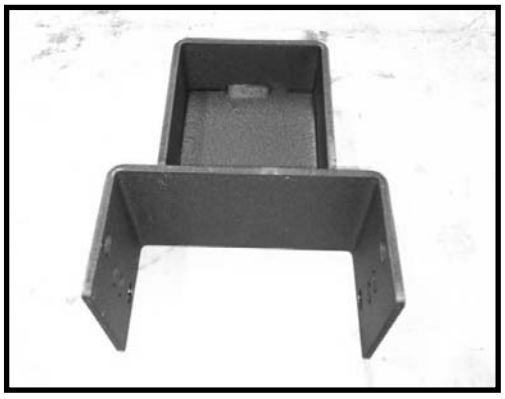
16085-15 (2)
Upper shock relocation bracket



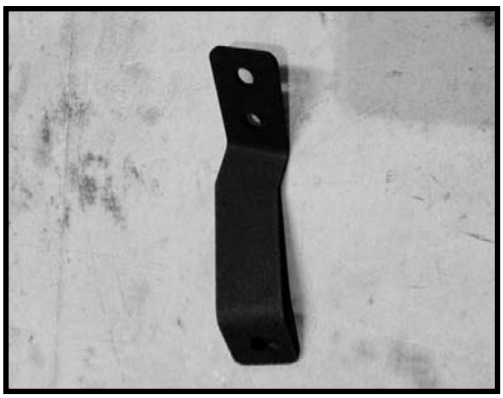
16085-16 (1)
Lower skid plate



16085-17 (2)
Lower sway bar end link bracket

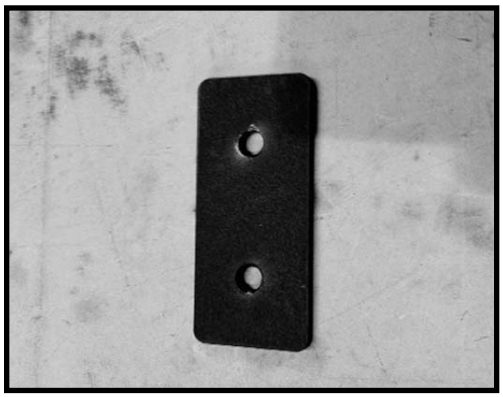


16085-18 (2)
Rear bump stop extension brackets

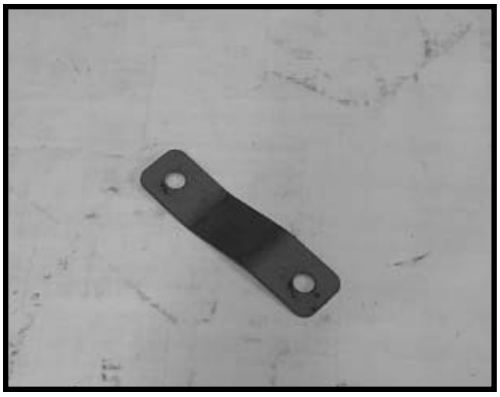


16085-19 (2)
Rear brake line relocation bracket

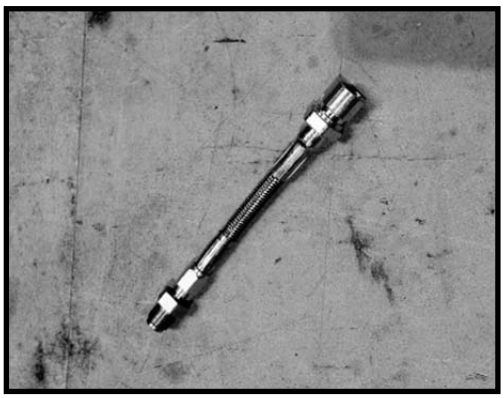
16085-20 (1)
Torsion bar cross member skid plate



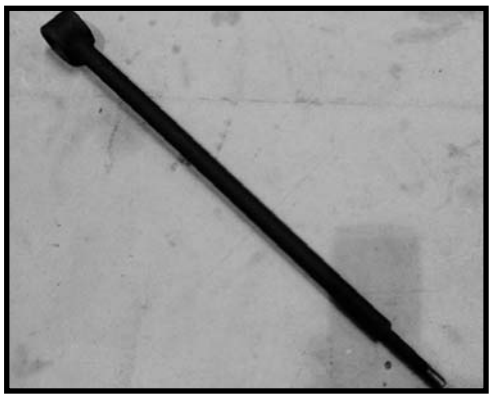
16085-21 (1)
Torsion bar skid plate mounting bracket



56900-15 (2)
E-brake cable relocation bracket



BL-01 (2)
Front brake line jumpers



SB-07 (2)
Sway bar end links