TUFF COUNTRY™

EZ - Ride Suspension

INSTALLATION MANUAL
4" I.F.S. SUSPENSION SYSTEM
1988 - 1998
CHEVY / GMC 1500 6 LUG
PART # 14810

Sj051904rev.03

PART NUMBER : 14810
1988 - 1998 CHEVY / GMC 1500 6 LUG
4" SUSPENSION SYSTEM WITH FRONT SPINDLES

PARTS LIST:

Part #	Description	Qty.
14810-01	Lower One Piece Sub Frame	1
14810-03	Driver Side Differential Relocation Bracket	1
14810-04	Passenger Side Differential Relocation Bracket	1
14810-05	Torsion Bar Drop Brackets	2
C4I-114M	Passenger Side Spindle	1
C4I-115M	Driver Side Spindle	1
BL401	4" Lifted Blocks	2
5U-9262S	9/16" x 2 3/4" x 12 5/8" Square U-Bolts	4
9804	1" Axle Spacers	2
P98	Rear Shock Clevis Mounts	2
BLR01	Rear Brake Line Extension Bracket	1
BLR08	Front Brake Line Extension Bracket	2
14810SL	Sleeve bag	1
14810PL	Poly bushing bag	1
14810NB	Hardware Bag	1
916NW	9/16" U-bolt High Nuts & Washers	1
14810INST	Instruction Sheet	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.

For a list of all parts, please refer to the Parts Description Page, at the end of the Installation Manual.

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

It is the responsibility of the installers to make sure that the rear view mirror hanger is hung from the rear view mirror. The rear view mirror hanger has instructions on proper post installation procedure.

The Tuff Country EZ-Ride Suspension product safety label that is included in your kit box must be installed inside the cab in plain view of all occupants.

IMPORTANT CUSTOMER INFORMATION

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

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

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.

This vehicles reaction and handling characteristics may differ from standard cars and/or trucks. Modifications to improve and/or enhance off road performance may raise the intended center of gravity. Extreme caution must be utilized when encountering driving conditions which may cause vehicle imbalance or loss of control. DRIVE SAFELY! Avoid abrupt maneuvers: such as sudden sharp turns which could cause a roll over, resulting in serious injury or death.

It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use.

After the original installation, Tuff Country EZ-Ride Suspension also recommends having the alignment checked every 6 months to ensure proper tracking, proper wear on tires and front end components. Tuff Country EZ-Ride Suspension takes no responsibility for abuse, improper installation or improper suspension maintenance.

LIMITED LIFETIME WARRANTY

Notice to all Tuff Country EZ-Ride Suspension customers: It is your responsibility to keep your original sales receipt! If failure should occur on any Tuff Country EZ-Ride Suspension component, your original sales receipt must accompany the warranted unit to receive warranty. Warranty will be void if the customer can not provide the original sales receipt. Do not install a body lift in conjunction with a suspension system. If a body lift is used in conjunction with any Tuff Country EZ-Ride Suspension product, your Tuff Country EZ-Ride Suspension WARRANTY WILL BE VOID. Tuff Country Inc. ("Tuff Country") suspension products are warranted to be free from defects in material and workmanship for life if purchased, installed and maintained on a non-commercial vehicle; otherwise, for a period of twelve (12) months, from the date of purchase and installation on a commercial vehicle, or twelve thousand (12,000) miles (which ever occurs first). Tuff Country does not warrant or make any representations concerning Tuff Country Products when not installed and used strictly in accordance with the manufacturer's instructions for such installation and operation and accordance with good installation and maintenance practices of the automotive industry. This warranty does not apply to the cosmetic finish of Tuff Country products nor to Tuff Country products which have been altered, improperly installed, maintained, used or repaired, or damaged by accident, negligence, misuse or racing. ("Racing is used in its broadest sense, and, for example, without regards to formalities in relation to prizes, competition, etc.) This warranty is void if the product is removed from the original vehicle and re-installed on that or any other vehicle. This warranty is exclusive and is in lieu of any implied warranty of merchantability, fitness for a particular purpose or other warranty of quality, whether express or implied, except the warranty of title. All implied warranties are limited to the duration of this warranty. The remedies set forth in this warranty are exclusive. This warranty excludes all labor charges or other incidental of consequential damages. Any part or product returned for warranty claim must be returned through the dealer of the distributor from whom it was purchased. Tuff Country reserves the right to examine all parts returned to it for warranty claim to determine whether or not any such part has failed because of defect in material or workmanship. The obligation of Tuff Country under this warranty shall be limited to repairing, replacing or crediting, at its option, any part or product found to be so defective. Regardless of whether any part is repaired, replaced or credited under this warranty, shipping and/or transportation charges on the return of such product must be prepaid by the customer under this warranty.

IMPORTANT INFORMATION THAT NEEDS TO BE READ BEFORE INSTALLATION BEGINS:

Tuff Country EZ-Ride Suspension recommends using a 4.5" back spacing on the tire and wheel combination. The stock wheels will not work in combination with the new spindle design.

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.

General Motors has introduced a new transfer case option that uses the name "Auto Trac". Auto Trac is a full time 4WD system. This options pertains to the Tahoe (2 or 4 door), Suburban and some pick up trucks. To identify this, see the transfer case selection panel located on the dash board. Below the 2HI button it will read "Auto 4WD" or "Auto". Vehicles with the "Auto Trac" transfer case may encounter a front drive line vibration when the lift kit is installed. After installation, if the vehicle that you are working on encounters any front driveline vibration, the stock driveline may need to be replaced. If this is the case on the vehicle that you are working on, please feel free to contact Tuff Country or your local Tuff Country dealer and order part # 10820 to replace your stock driveline.

Tuff Country EZ-Ride Suspension highly recommends NOT installing part # 14810 on vehicle's with a two piece rear driveline. If this suspension system is installed on vehicle's with a two piece rear drive line, rear drive line problems may occur and your Tuff Country WARRANTY WILL BE VOID.

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 #. 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.

After the completion of the installation a front end alignment is required. Also an exhaust modification is needed.

Hardware Bag 14810SL Includes:

Description	Quantity
S10027 (.620" x .500" x 2.500")	2
S10082 (.875" x .562" x 2.080")	1
S10088 (.500" x .380" x 3.000")	2

Hardware Bag 14810PL Includes:

Description	Quantity
15.12.72.02 (poly bump stop)	2
PB2408G (poly bushing)	2
PB8004G (poly bushing)	2
PB8016G (sway bar end link bushing)	8
15.03.29.39 (sway bar washers)	8
9.11109 (lube pack)	2

Hardware Bag 14810NB Includes:

Bag # 1

Description	Quantity
5/16" x 1 1 /4" bolts	3
5/16" unitorque nuts	3
5/16" flat washers	6
5/16" lock washers	3
3/8" x 8 1/2" bolts	2
3/8" unitorque nuts	4
3/8" flat washers	2
3/8" lock washers	2
10 mm x 55 mm bolts	12
10 mm x 60 mm bolts	4
10 mm lock washers	16

Bag # 2

Description	Quantity
7/16" x 1 1/2" Bolts	10
7/16" x 2 1/2" Bolts	2
7/16" x 3" Bolts	1
7/16" Unitorque Nuts	13
7/16" Flat Washers	26
7/16" Lock Washers	13

Bag # 3

Description	Quantity
1/2" x 1 1/4" Bolts	2
1/2" Unitorque Nuts	2
1/2" Flat Washers	4
1/2" Lock Washers	2

Bag # 4

Description	Quantity
9/16" x 1 3/4" Bolts	2
9/16" Unitorque Nuts	2
9/16" Flat Washers	4
9/16" Lock Washers	2

Bag # 5

Description	Quantity
5/8" x 4 1/2" Bolts	2
5/8" x 5 1/2" Bolts	2
5/8" Unitorque Nuts	4
5/8" Flat Washers	8
5/8" Lock Washers	4

Hardware Bag 916NW Includes:

Description	Quantity
9/16" U-Bolt High Nuts	8
9/16" U-bolt Harden Washers	8

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

Special Post Installation Procedure: Tuff Country EZ-Ride Suspension highly recommends adding a minimum of 1 pint, but no more that 1 1/2 pints, of proper front differential fluid into the front differential. To achieve this, you may have to fill the differential with it on its side or you may have to insert the fluid through the vend tube opening. On occasion, the customer may find burping of fluid coming out of the front vent tube.

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:_____

Please follow instructions carefully:

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 passenger side. Next, remove the tires and wheels from both sides.

2. Working on the driver side, remove the stock inner rubber fender splash guard and save the stock inner rubber fender splash guard and hardware for later re-installation. Repeat procedure on passenger side.

3. Working on the driver side, remove the stock shock from the stock upper and lower location and save the stock hardware for later re-installation. Longer shocks are needed, so the stock shocks may be discarded. **Special Note: Shocks are not included with this suspension system and need to be ordered as a separate part number, Tuff Country EZ-Ride Suspension recommends using a 23" fully extended nitrogen gas shocks.** Repeat procedure on passenger side.

4. Remove the stock front differential skid plate. The stock front differential skid plate and hardware may be discarded.

5. Remove the stock front driveline from the stock front differential and the stock transfer case. Save the stock driveline and hardware for later re-installation.

6. Measure exposed threads on the torsion bar adjusting bolt and record measurement here for a later reference.

Record Driver Side measurement here:_____
Record Passenger Side measurement here:_____

See Illustration # 1

7. Working on the driver side, attach the torsion bar removing tool, 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 removed. Save the stock hardware for later re-installation. Repeat procedure on passenger side.

See Illustration # 2

8. 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.** Working on the driver side, tap the stock torsion bar forward until the stock torsion bar cross member can be removed. Repeat procedure on the passenger side. **Special Note: When tapping the stock torsion bars forward, the stock torsion bar key will fall out.** Set the stock torsion bar keys a side for later re-installation.

9. Working on the driver side, remove the (3) stock bolts that connect the stock torsion bar cross member to the bottom side of the stock frame rail. The stock hardware may be discarded. Repeat procedure on the passenger side. Remove the stock torsion bar cross member from the stock location and set a side for later re-installation.

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

11. Working on the driver side, remove the stock brake line bracket from the stock upper control arm bracket and save the stock hardware for later re-installation. Repeat procedure on passenger side.

12. Working on the driver side, remove the stock front sway bar end link from the stock sway bar and the stock lower control arm location. The stock end link and hardware may be discarded. Repeat procedure on passenger side. **Special Note: At this time, invert the stock sway bar.**

13. Working on the driver side, loosen the stock nut that connects the stock outer tie rod ball joint to the stock steering knuckle. **Do not remove the stock nut completely.** Carefully break the stock taper on the stock outer tie rod ball joint. **Special Note: Take special care not to rip or tear the stock outer tie rod ball joint dust boot.** Once you have broke the stock taper, remove the nut and set a side for later re-installation. Remove the stock outer tie rod from the stock steering knuckle and let hang.

14. Working on the driver side, remove the (2) stock bolts that connect the stock brake caliper to the stock rotor.

Save the stock hardware for later re-installation. Using a bungee cord, carefully tie the stock 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.** Also, remove the stock rotor and set the stock rotor aside for later reinstallation.

15. Working on the driver side, remove the stock nut that connects the stock axle to the stock hub assembly. Save the stock nut for later re-installation.

See Illustration # 3

16. Working on the driver side, disconnect the stock ABS lines from each other. Also, disconnect the stock ABS line from any other mounting points.

17. Working on the driver side, remove the stock cotter pin from the stock castle nut that connects the stock upper control arm ball joint to the stock steering knuckle. **Save the stock cotter pin for re-installation.** Loosen the stock nut that connects the stock upper control arm ball joint to the stock steering knuckle. **Do not remove the stock nut completely.** Carefully break the stock taper on the stock upper control arm ball joint. **Special Note: Take special care not to rip or tear the stock ball joint dust boot.**

18. Working on the driver side, remove the stock cotter pin from the stock castle nut that connects the stock lower control arm ball joint to the stock steering knuckle. **Save the stock cotter pin for re-installation.** Loosen the stock nut that connects the stock lower control arm ball joint to the stock steering knuckle. **Do not remove the stock nut completely.** Carefully break the stock taper on the stock lower control arm ball joint. **Special Note: Take special care not to rip or tear the stock ball joint dust boot.**

19. Working on the driver side, move back to the stock nuts holding the stock upper control arm ball joint and the stock lower control arm ball joint to the stock steering knuckle and remove completely. Save the stock hardware for later re-installation.

20. Working on the driver side, carefully remove the stock hub assembly and the stock steering knuckle from the stock location. During the removal of the stock hub assembly and the stock steering knuckle carefully slide the stock CV axle out of the stock hub assembly and the stock steering knuckle during removal. **Special Note: If the stock CV does not slide out of the stock hub assembly and the stock steering knuckle, use a suitable removal tool to remove the stock CV axle from the stock hub assembly. Special Note: Take special care not to damage the stock threads on the stock axle.**

21. Working on the driver side stock hub assembly, carefully remove the (3) stock bolts that connect the stock hub assembly to the stock steering knuckle. Save the stock hardware and stock hub assembly for later re-installation. A new steering knuckle will be used, so the stock steering knuckle may be discarded.

22. Locate the new driver side steering knuckle. Using the stock hardware that was removed from step # 21, secure the new driver side steering knuckle to the stock hub assembly. Torque to **92 ft lbs. Special Note: Make sure to use thread locker or lock tite.**

23. Set the new driver side steering knuckle and hub assembly a side for later re-installation.

24. Working on the driver side, scribe a mark on the CV plate and another directly across to the stock differential, this will allow you to re-install the stock CV back into the stock location at a later step.

See Illustration # 4

25. Working on the driver side, unbolt and remove the (6) stock bolts holding the inner CV axle to the stock differential. The stock hardware may be discarded. Set the stock CV axle a side for later re-installation.

26. Working on the driver side, remove the stock front and rear hardware that connects the stock lower control arm to the stock front and rear location. Save the stock hardware for later re-installation. Set the stock lower control arm a side for later re-installation.

27. Repeat step's 13 - 26 on the passenger side.

28. Working on the driver side, locate the stock lower bracket that wraps around the rear lower half of the stock front differential. Remove the stock bolt that connects the lower portion of the stock front differential to the stock bracket. Save the stock hardware for later re-installation. Using the stock mounting point on the rear lower control arm as a reference point, measure 3" towards the inside of the vehicle and scribe a line on the stock bracket that wraps around the rear portion of the stock front differential. Using a hacksaw or suitable cutting tool, carefully cut along the line that was scribe earlier in this step. **Special Note: Tuff Country recommends not using a cutting torch when performing step # 28. Clean and dress up any exposed metal.**

See Illustration # 5

29. Locate the stock wiring harness that connects the 4WD control panel to the stock front differential. Disconnect the stock 4WD wiring harness from the stock front differential. Tie the stock 4WD wiring harness up and out of the way. **Special Note: Take special care not to kink wiring.**

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

31. Disconnect any other vent hoses and/or wiring that is connected to the stock front differential.

32. Working on the driver side, remove the stock hardware that connects the upper driver side tab of the stock front differential to the stock location. Save the stock hardware for later re-installation.

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

34. Carefully lower down on both hydraulic floor jacks at the same time allowing enough room to remove the stock front differential completely from the vehicle. With some help from a buddy, carefully lift and remove the stock front differential off both of the hydraulic floor jacks and set the stock front differential on a table or on the ground.

35. Working on the driver side of the stock front upper differential tab, measure 2" from the stock mounting point and scribe a mark on the stock front differential. Using a sawzall, carefully cut the upper tab off of the stock front differential and discard. **Refer to illustration # 6 for proper cut line.**

See Illustration # 6

36. Locate the new driver side differential relocation bracket, (1) 7/16" X 3" bolt, (1) 7/16" unitorque nut, (2) 7/16" flat washers and (1) 7/16" lock washer from hardware bag 14810NB2. Locate (4) 10 mm x 60 mm bolts and (4) 10 mm lock washers from hardware bag 14810NB1. Also, locate (2) PB2408 poly bushings from poly bag 14810PL and (1) S10082 crush sleeve from sleeve bag 14810SL. Install the new poly bushings and crush sleeve into the new driver side differential relocation bracket. **Special Note: Make sure to use a lithium or moly base grease prior to inserting the new bushings and sleeve into the new driver side differential relocation bracket. This will increase the life of the bushing as well as prevent squeaking.** Referring to illustration # 7, remove the (4) stock differential mounting bolts that connect to two half's of the stock front differential together. The stock bolts may be discarded. Secure the new driver side differential relocation bracket to the stock front differential using the new 10 mm x 60 mm bolts and lock washers. **Special Note: Get all (4) stock bolts started but do not tighten at this point. Also, make sure to use thread locker or lock tite.** Secure the lower portion of the new driver side differential relocation bracket to the stock front differential, using the new 7/16" x 3" bolt and hardware. Torque to **34 Ft. lbs.** Go back to the (4) new 10 mm x 600 mm bolts that hold the new differential relocation bracket to the stock front differential and torque to **34 ft lbs. Special Note: Make sure not to over tighten the stock and new hardware associated with the stock front differential and the new driver side differential relocation bracket. If these bolts are over tightened, the stock front differential may crack. At this time, Tuff Country EZ-Ride Suspension highly recommends adding a minimum of 1 pint, but no more that 1 1/2 pints, of proper front differential fluid into the front differential. To achieve this, you may have to fill the differential with it on its side or you may have to insert the fluid through the vend tube opening. On occasion, the customer may find burping of fluid coming out of the front vent tube.**

See Illustration # 7

37. Locate the new passenger side differential drop bracket and the stock hardware that was removed from step # 33. Install the new passenger side differential drop bracket into the stock location and secure using the stock hardware. **Do not tighten at this point. Special Note: Make sure to use thread locker or lock tite.**

See Illustration # 8

38. With some help from a buddy, carefully lift the stock front differential back onto the (2) hydraulic floor jacks. Carefully raise up on both hydraulic floor jacks at the same time until the passenger side of the stock front differential can be attached to the newly installed passenger side differential drop bracket.

39. Locate (2) 9/16" x 1 3/4" bolts, (4) 9/16" flat washers, (2) 9/16" unitorque nuts and (2) 9/16" lock washers from hardware bag 14810NB4. Carefully install the passenger side of the stock front differential to the previously installed passenger side differential drop bracket. Secure using the new 9/16" x 1 3/4" bolts and hardware. **Do not tighten at this point. Also, make sure to use thread locker or lock tite. Using a bungee cord, carefully tie the driver side of the stock front differential up and out of the way so that the new one piece lower sub frame can be installed. Once the driver side of the stock front differential is secured up and out of the way, the (2) hydraulic floor jacks may be removed from under the stock front differential.**

See Illustration # 9

40. Locate the new one piece lower sub frame and the stock lower control arm hardware that was removed in step # 26. Working on the driver side, install the front and rear part of the new one piece lower sub frame into the stock front and rear lower control arm stock pockets and secure using stock hardware. **Do not tighten at this point. Make sure to use thread locker or lock tite.** Repeat procedure on passenger side.

See Illustration # 10 / Front Location
See Illustration # 11 / Rear Location

41. Carefully remove the bungee cord that is holding the driver side of the front differential up and out of the way. Let the stock front differential rest on the newly installed one piece lower sub frame.

42. Locate the stock driver side rear differential mounting bracket hardware that was removed from step # 28. Install the rear portion of the stock front differential into the tab on the rear portion of the new one piece lower sub frame. Secure using the stock hardware. **Do not tighten at this point. Make sure to use thread locker or lock tite.**

See Illustration # 12

43. Locate the stock upper front differential hardware that was removed from step # 32. Working on the driver side, secure the new driver side differential relocation bracket to the front part of the newly installed one piece lower sub frame and secure using the stock hardware. **Do not tighten at this point. Make sure to use thread locker or lock tite.**

See Illustration # 13

44. Using a pair of hydraulic floor jacks, carefully raise up on the front portion on the new one piece lower sub frame until the front portion of the new one piece lower sub frame sits flush with the stock front cross member. Using the holes in the front portion of the new one piece lower sub frame as a guide, carefully drill (2) 1/2" holes into the stock front cross member.

45. Locate (2) 1/2" x 1 1/4" bolts, (2) 1/2" unitorque nuts, (4) 1/2" flat washers and (2) 1/2" lock washers from hardware bag 14810NB3. Secure the new front portion of the new one piece lower sub frame to the stock front cross member using the new 1/2" x 1 1/4" bolts and hardware. **Torque to 85 ft lbs. Make sure to use thread locker or lock tite.**

See Illustration # 14

46. Carefully remove both hydraulic floor jacks from under the front portion of the new one piece lower sub frame.

47. Working in this order, torque the following stock and new hardware to their proper torque specifications. First, on the driver side of the vehicle, torque the stock hardware that connects the rear portion of the stock front differential into the rear pocket of the new one piece lower sub frame to **75 ft lbs**. Next, working on the driver side, torque the stock hardware that connects the new driver side differential relocation bracket to the front tabs located on the front portion of the new one piece lower sub frame to **75 ft lbs**. Next, working on the passenger side, torque the stock hardware that connects the new passenger side differential drop bracket to the stock location to **75 ft lbs.** Next, working on the passenger side, torque the new hardware that connects the stock front differential to the new passenger side differential drop bracket to **85 ft lbs**. Next, working on the driver side, torque the stock hardware that connects the new one piece lower sub frame to the stock front and rear lower control arm pockets to **105 ft lbs**. Finally, working on the passenger side, torque the stock hardware that connects the new one piece lower sub frame to the stock front and rear lower control arm pockets to **105 ft lbs**.

48. Locate (2) poly bump stops from hardware bag 14810PL. Also, locate (2) 3/8" lock nuts, (2) 3/8" flat washers and (2) 3/8" lock washers from hardware bag 14810NB1. Working on the driver side, install the new poly bump stop into the newly installed one piece lower sub frame and secure using the new 3/8" hardware. Torque to **28 ft. lbs. Make sure to use thread locker or lock tite.** Repeat procedure on passenger side.

See Illustration # 15

49. Locate (2) 5/8" x 4 1/2" bolts, (2) 5/8" x 5 1/2", (4) 5/8" unitorque nuts, (8) 5/8" flat washers, (4) 5/8" unitorque nuts, (4) 5/8" lock washers from hardware bag 14810NB5. Also, locate the stock driver and passenger side lower control arms that were removed from step # 26. Working on the driver side, install the stock lower control into the newly installed one piece lower sub frame front location and secure using the new 5/8" x 4 1/2" bolt and hardware. **Do not tighten at this point. Make sure to use thread locker or lock tite.** Next, secure the rear portion of the stock lower control arm into the rear portion of the newly installed one piece lower sub frame and secure using the new 5/8" x 5 1/2" bolt and hardware. **Do not tighten at this point. Make sure to use thread locker or lock tite.** Repeat procedure on passenger side.

See Illustration # 16 / Front Location
See Illustration # 17 / Rear Location

50. Locate the new driver side steering knuckle and the stock hub assembly and the stock hardware for the upper control arm ball joint and the stock hardware for the lower control arm ball joint that was removed from step # 19. Using the stock hardware, secure the new driver side steering knuckle and stock hub assembly to the stock upper control arm ball joint and the stock lower control arm ball joint. **Make sure to use thread locker or lock tite. Special Note: Do not install the stock outer tie rod to the new steering knuckle at this point.** Torque the stock upper ball joint hardware to **37 ft lbs**. and the stock lower ball joint hardware to **74 ft lbs**. Repeat procedure on the passenger side using the passenger side steering knuckle.

See Illustration # 18

51. Locate (12) 10 mm x 55 mm bolts and (12) 10 mm lock washers from hardware bag 14810NB1. Locate (2) new axle half shaft spacers. Also, locate the stock driver and passenger side CV axles that were removed from step # 24. Working on the driver side, install the stock CV axle into the newly installed steering knuckle. **Special Note: Take special care note to damage the threads on the CV axle or the inner tulip joints.** Install (1) new axle spacer between the stock front differential and the stock axle. Secure using the new 10 mm x 55 mm bolts and hardware. Torque to **45 ft. lbs. Make sure to use thread locker or lock tite. Special Note: Make sure that the stock axle is re-installed back into the stock**

location on the stock front differential. Refer to the marks that were scribe in step # 25. Repeat on the passenger side.

See Illustration # 19

52. Locate the stock cotter pins that were removed from step # 16 and 17. Install the stock cotter pins back into the stock location on the stock upper and lower control arm ball joints.

53. Locate the stock hardware that connects the stock front axle to the stock hub assembly that was removed in step # 15. Working on the driver side, secure the stock front axle to the stock hub assembly and the new steering knuckle using the stock hardware. **Make sure to use thread locker or lock tite.** Torque to **154 ft. lbs.** Repeat procedure on the passenger side.

54. Locate the stock outer tie rod ball joint hardware that was removed from step # 13. Working on the driver side, install the stock outer tie rod to the new steering knuckle using the stock hardware. Torque to **33 ft. lbs. Special Note: The new steering knuckle has a reverse taper on it where the stock outer tie rod mounts to it, make sure to install the outer tie rod the proper way. The stock outer tie rod nut will now be installed on the bottom side of the new steering knuckle.**

See Illustration # 18

55. Move back to all associated hardware that connects the stock lower control arms to the new one piece lower sub frame and torque **125 ft. lbs.**

56. Locate the stock rotors that were removed from step # 14. Working on the driver side, install the stock rotor back into the stock location. Repeat procedure on the passenger side.

57. Locate the stock hardware that was removed from step # 14. Working on the driver side, re-install the stock brake caliper to the stock rotor using the stock hardware. **Make sure to use thread locker or lock tite.** Torque to **90 ft lbs.** Repeat procedure on the passenger side.

58. Working on the driver side, reconnect the stock ABS lines back together. Also reconnect all other stock mounting points on the stock ABS line. Repeat procedure on the passenger side.

59. Locate (2) front brake line relocation brackets, (2) 5/16" x 1 1/4" bolts, (4) 5/16" flat washers, (2) 5/16" unitorque nuts (2) 5/16" lock washers from hardware bag 14810NB1. Also, locate the stock hardware that was removed from step # 11. Working on the driver side, install the new brake line relocation bracket to the stock location using the stock hardware. Do not tighten at this point. Make sure to use thread locker or lock tite. Next, secure the stock brake line bracket to the newly installed brake line relocation bracket and secure using the new 5/16" x 1 1/4" bolt and hardware. Make sure to **use thread locker or lock tite.** Torque the stock and new hardware to **15 ft lbs.** Repeat procedure on the passenger side

See Illustration # 20

60. Locate (2) new sway bar end links from sleeve bag 14810SL. Locate (2) 3/8" x 8 1/2" bolts, (2) 3/8" flat washers and (2) 3/8" unitorque nuts from hardware bag 14810NB1. Also, locate (8) sway bar end links washers and (8) sway bar end links bushings from poly bag 14810PL. Working on the driver side, install the new sway bar end link and hardware to the stock sway bar and the stock lower control arm. Torque to **32 ft lbs. Repeat procedure on the passenger side. Special Note: If you did not invert the stock sway bar in step # 12, invert it before you install the new sway bar end links.**

See Illustration # 21

61. Locate (2) new torsion bar drop blocks. (10) 7/16" x 1 1/2" bolts, (2) 7/16" x 2 1/2" bolts, (24) 7/16" flat washers, (12) 7/16" unitorque nuts and (12) lock washers from hardware bag 14810NB2. Working on the driver side of the stock torsion bar cross member that was removed from step # 9, install the new torsion bar drop block to the stock torsion bar cross member and secure using (1) 7/16" x 2 1/2" bolt and hardware in the bottom center hole of the new torsion bar drop block and the stock torsion bar cross member. Use (2) 7/16" x 1 1/2" bolts and hardware on the outer (2) bottom holes. **Make sure to use thread locker or lock tite.** Torque the (3) 7/16" bolts to **35 ft lbs. Special Note: Install the stock torsion bar cross member to the inside of the new torsion bar drop blocks.** Repeat procedure on the passenger side.

62. Locate the driver side and passenger side torsion bar that was removed on step # 10. Working on the driver side, install the stock torsion bar into the stock lower control arm. Make sure that you push the stock torsion bar as far forward as you can, this will allow you to install the stock torsion cross member. **Special Note: Make sure that you install the stock torsion bar the same way that it was removed. Example: driver side vs. passenger side and front vs. rear.** Repeat procedure on passenger side.

63. Working on the driver side, install the stock torsion bar cross member and the newly installed torsion bar drop blocks to the stock location on the bottom of the stock frame rail and secure using the new 7/16" x 1 1/2" bolt and hardware. **Make sure to use thread locker or lock tite.** Torque to **35 ft lbs.** Repeat procedure on the passenger side.

See Illustration # 22

64. Locate the stock driver and passenger side torsion bar key's that were removed from step # 8. Working on the driver side, install the stock torsion bar key back into the stock torsion bar cross member. Holding the stock torsion bar key into the stock location, slide the driver

side torsion bar into the stock torsion bar key. Repeat procedure on the passenger side.

65. Locate the small metal adjusting blocks and bolts that were removed from step # 7. Working on the driver side, attach the torsion bar removing tool, making sure that the unloading bolt in the center 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 stock bolt can be re-installed, Refer back to step # 6 and adjust the stock bolt to the stock location. Repeat procedure on passenger side. Remove the torsion bar adjusting tool.

66. Move back to all newly installed brackets and make sure that all stock and new hardware is torqued to proper specifications. Reconnect the 4WD wiring harness to the stock front differential. Also, reconnect the front differential vent hose. **Special Note: Refer to the torque setting sheet at the end of the installation manual and torque to proper settings.**

67. Locate (2) 5/8" x 2 1/2" poly shock bushings from poly bag 14810PL. Locate (2) S10027 shock sleeves from hardware bag 14810SL. Also, locate the stock upper and lower shock hardware that was removed from step # 3 and the new shock boots. Install the new shock boots onto the new shocks. Insert the new poly shock bushings and sleeves into the upper eyelet of the new shocks. **Special Note: Shocks are not included with this suspension system, shocks need to be ordered as a separate part number, Tuff Country EZ — Ride Suspension recommends using a 23" fully extended nitrogen gas shock. Make sure to use a lithium or moly base grease prior to inserting the new bushings into the new shock. This will increase the life of the bushing as well as prevent squeaking.** Install the lower shock bushing and the proper sleeve into the lower eyelet of the new shock. **Special Note: Make sure to use a lithium or moly base grease prior to inserting the new bushings into the new shock. This will increase the life of the bushing as well as prevent squeaking.** Working on the driver side, install the new shock into the stock location and secure using the stock upper and lower shock hardware. Torque the stock upper and lower stock hardware to **70 ft lbs.** Repeat procedure on passenger side.

68. Locate the stock inner rubber fender splash guards that were removed from step # 2. Working on the driver side, re-install the inner rubber fender splash guard. Repeat procedure on the passenger side.

69. Check and double check to make sure that all steps were performed properly. Check and double check to make sure that all new and stock hardware has been torque to proper torque specifications. Refer to the torque specification sheet at the end of the installation manual.

70. Install the new tires and wheels and carefully lower the vehicle to the ground. **Special Note: Tuff Country EZ-Ride Suspension recommends using a 4.5" back spacing on the tire and wheel combination. The stock wheels will not work in combination with the new spindle design.**

71. An exhaust modification is required once the suspension system has been completed. After the rear end installation is complete take the vehicle directly to a muffler shop and have the exhaust modification performed. Once the exhaust modification has been performed re-install the stock front drive line back into the stock location using the stock hardware that was removed from step # 5. Torque to **35 ft lbs.**

Congratulation, Front End Installation Complete!

Rear End Installation:

72. 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.

73. Locate (1) rear brake line relocation bracket. (1) 5/16" x 1 1/4" bolt, (2) 5/16" flat washers, (1) 5/16" unitorque nut and (1) 5/16" lock washer from hardware bag 14810NB1. Remove the stock brake line bracket from the stock rear differential and save the stock bolt for later re-installation. Secure the new brake line bracket to the rear differential housing using the stock bolt that was removed earlier in this step. **Special Note: Make sure to use thread locker or lock tite.** Next, attach the stock brake line bracket to the newly installed brake line relocation bracket and secure using the new 5/16" x 1 1/4" bolt and hardware. **Torque to 16 ft. lbs.**

See Illustration # 23

74. Position a pair of hydraulic floor jacks under the rear axle. Place one jack stand on the driver side and one on the passenger side. Raise up on both hydraulic floor jacks at the same time until they make contact with the rear axle.

75. Working on the driver side, remove the stock shock and save the stock upper and lower hardware for later re-installation. Longer shocks are needed, so the stock shocks may be discarded. **Special Note: Shocks are not included with this suspension system, shocks need to be ordered as a separate part number, Tuff Country EZ-Ride Suspension recommends using a 30" fully extended nitrogen gas shocks.** Repeat procedure on passenger side.

76. Working on the driver side, remove the (2) stock rear U-bolts. The stock rear U-bolts and hardware may be discarded. Set the upper and lower U-bolt plates a side for later re-installation. Repeat procedure on passenger side.

77. Lower down on both hydraulic floor jacks at the same time until the stock springs separate from the stock rear axle and leave enough room for the new rear block to be installed. **Special Note: Make sure not to over extended any brake lines or hoses when lowering axle.**

78. Locate (2) new 4" lifted rear blocks. Working on the driver side, install (1) new 4" lifted block between the stock rear axle and the stock spring assembly. **Special Note: The new 4" lifted block has a slight taper to it, the small end of the new block needs to be installed with the small end towards the front of the vehicle.** Repeat procedure on passenger side.

See Illustration # 24

79. Raise up on both hydraulic floor jacks at the same time until the driver and passenger side stock spring assembly seats flush with newly installed 4" block.

80. Locate (4) new 9/16" x 2 3/4" x 12 5/8" Square U-bolts. Locate (8) 9/16" U-bolt high nuts, (8) 9/16" U-bolt washers from hardware bag 916NW. Also, locate the stock upper and lower U-bolt plates that were removed from step # 76. Working on the driver side, install (2) new 9/16" x 2 3/4" x 12 5/8" square U-bolts into the stock location and secure using the new 9/16" high nuts and washers. Torque to **120 ft lbs. Special Note: When torqueing down the new rear U-bolts, torque the front outer leg first, then the rear inner leg second, the front inner leg next and the rear outer leg last.** With a suitable cutting tool, cut off the extra thread from the new U-bolts. Repeat procedure on passenger side.

See Illustration # 24

81. Locate the new rear shocks. **Special Note: Shocks are not included with this suspension system, shocks need to be ordered as a separate part number, Tuff Country EZ — Ride Suspension recommends using a 30" fully extended nitrogen gas shock.** Also, locate (2) new rear upper shock clevis mounts and the stock upper and lower shock hardware that was removed from step # 75. Install the new poly bushings into each end of the new shocks. **Special Note: Make sure to use a lithium or moly base grease prior to inserting the new bushings into the new shock. This will increase the life of the bushing as well as prevent squeaking.** Install the new shock boots onto the new shocks, then install the new shock clevis mounts into the upper shock eyelet. Install the proper shock sleeve into the lower eyelet of the new shocks. Working on the driver side, install the new rear shock using the stock hardware. **Make sure to use thread locker or lock tite.** Torque the stock upper mounting hardware to **15 ft lbs.** and the stock lower mounting hardware to **70 ft lbs.** Repeat procedure on passenger side.

82. Check and double check to make sure that all step related with the front and rear end were performed properly. Check and double check to make sure that all stock and new hardware is torque to proper torque specifications. Refer to the torque specification sheet at the end of the installation manual.

83. Install the new tires and wheels and carefully lower the vehicle to the ground.

CONGRATULATIONS INSTALLATION COMPLETE

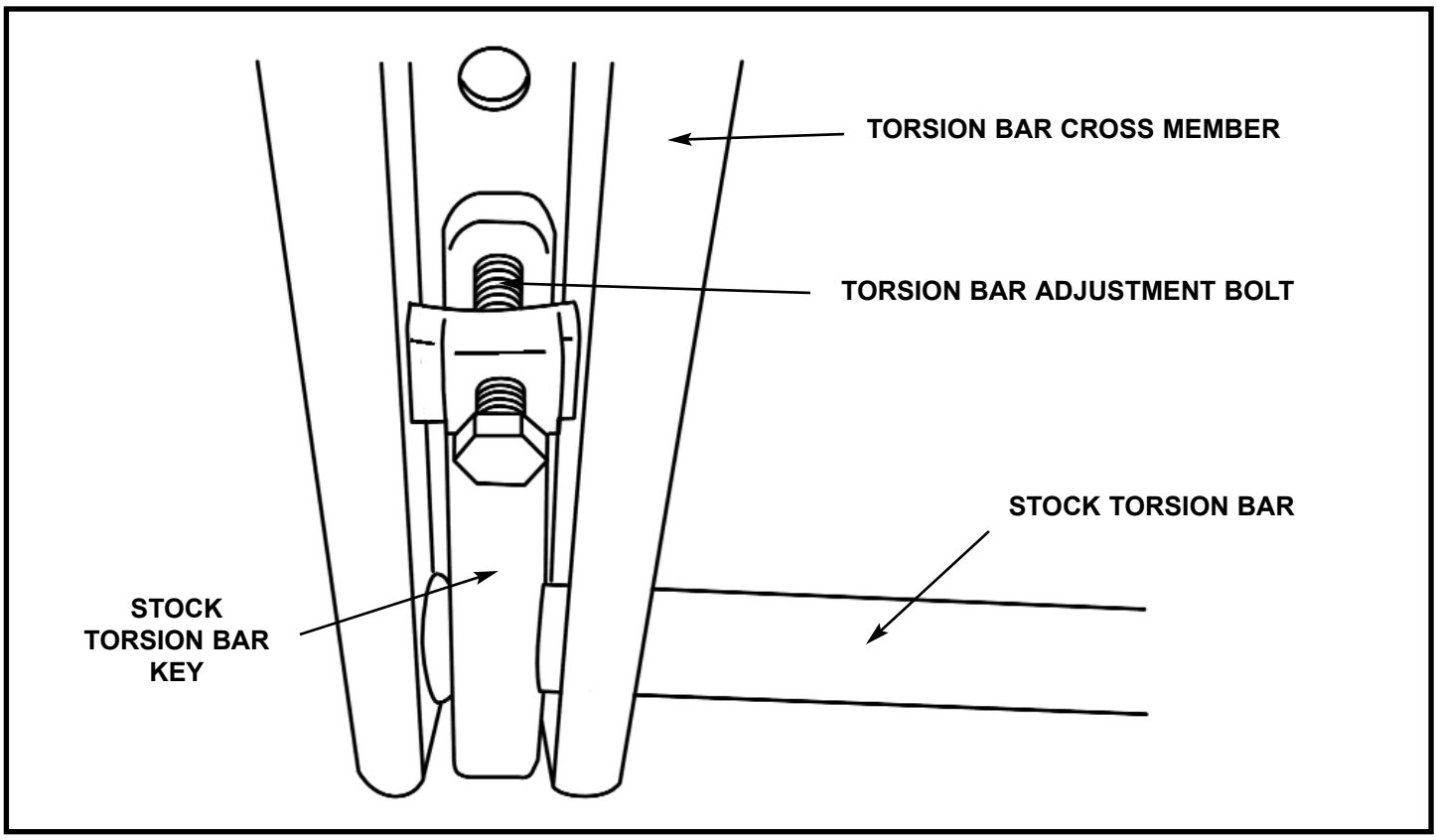
SPECIAL NOTE: AN EXHAUST MODIFICATION IS NEEDED. ALSO A FRONT END ALIGNMENT IS REQUIRED

ONCE THE EXHAUST MODIFICATION HAS BEEN PERFORMED REPLACE THE STOCK FRONT DRIVE LINE BACK INTO THE STOCK LOCATION AND SECURE USING THE STOCK HARDWARE THAT WAS REMOVED IN STEP # 5

IF YOU HAVE ANY QUESTION AND OR CONCERS ABOUT THE INSTALLATION PLEASE FEEL FREE TO CONTACT TUFF COUNTRY

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.**



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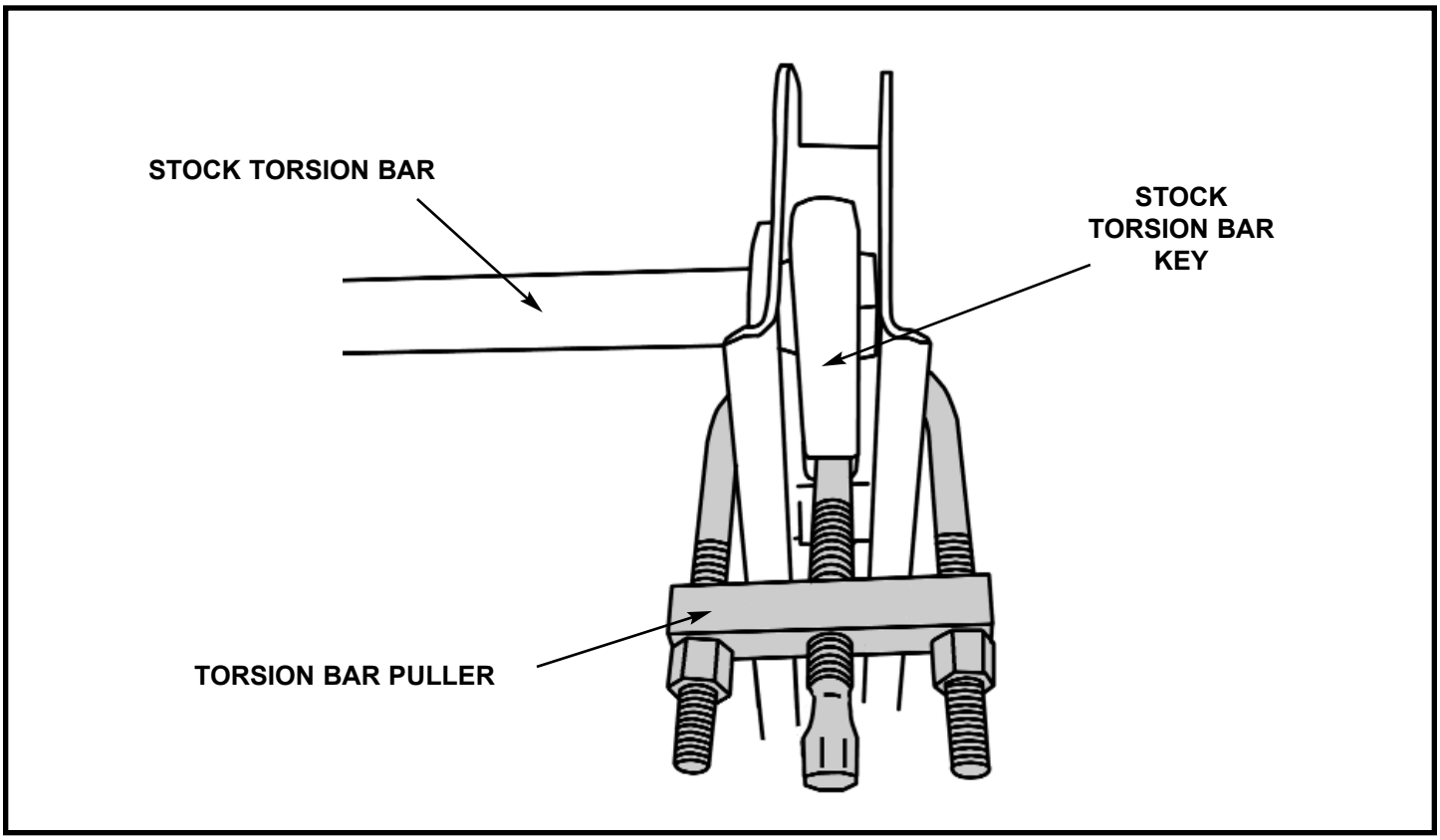

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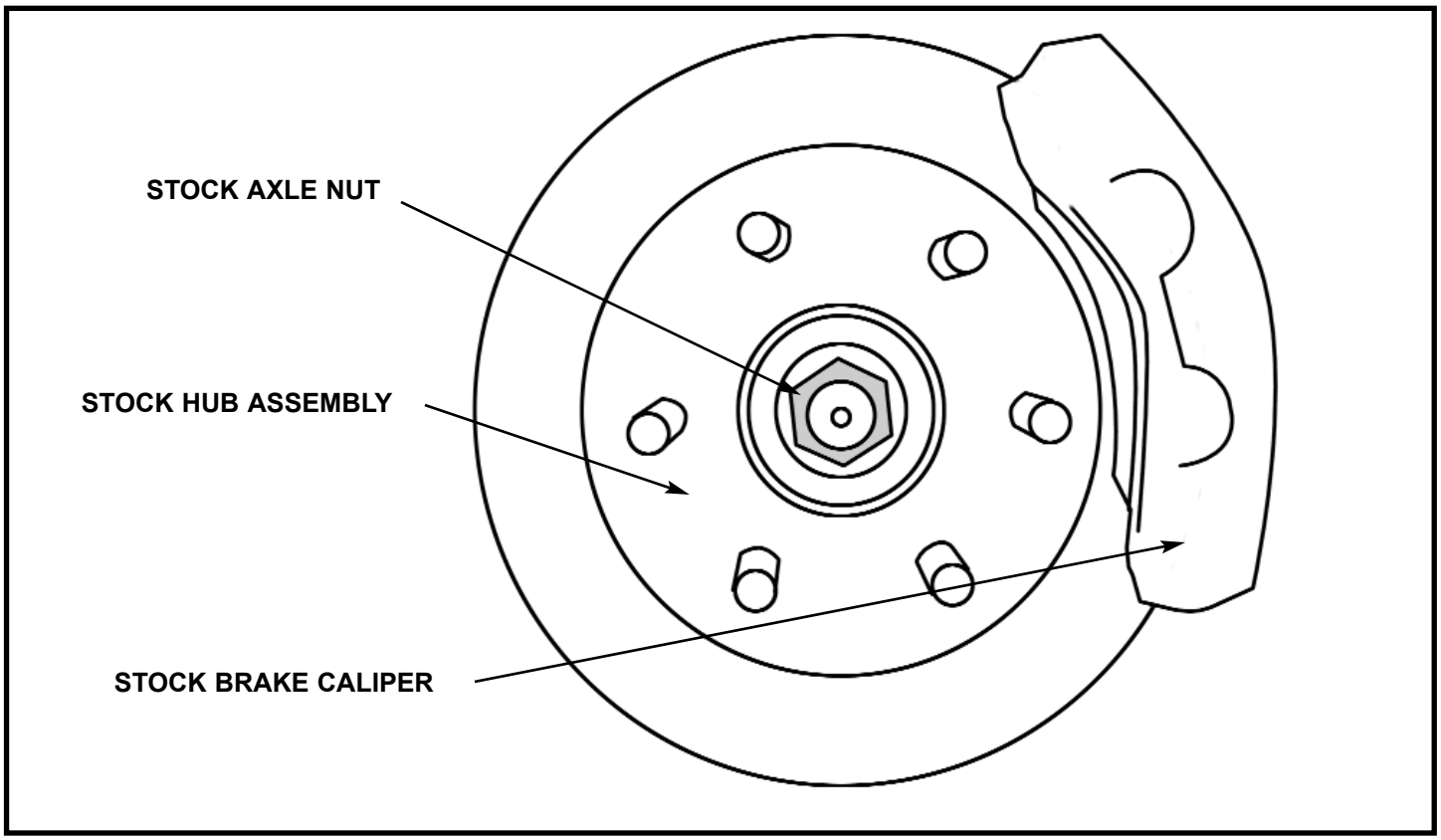

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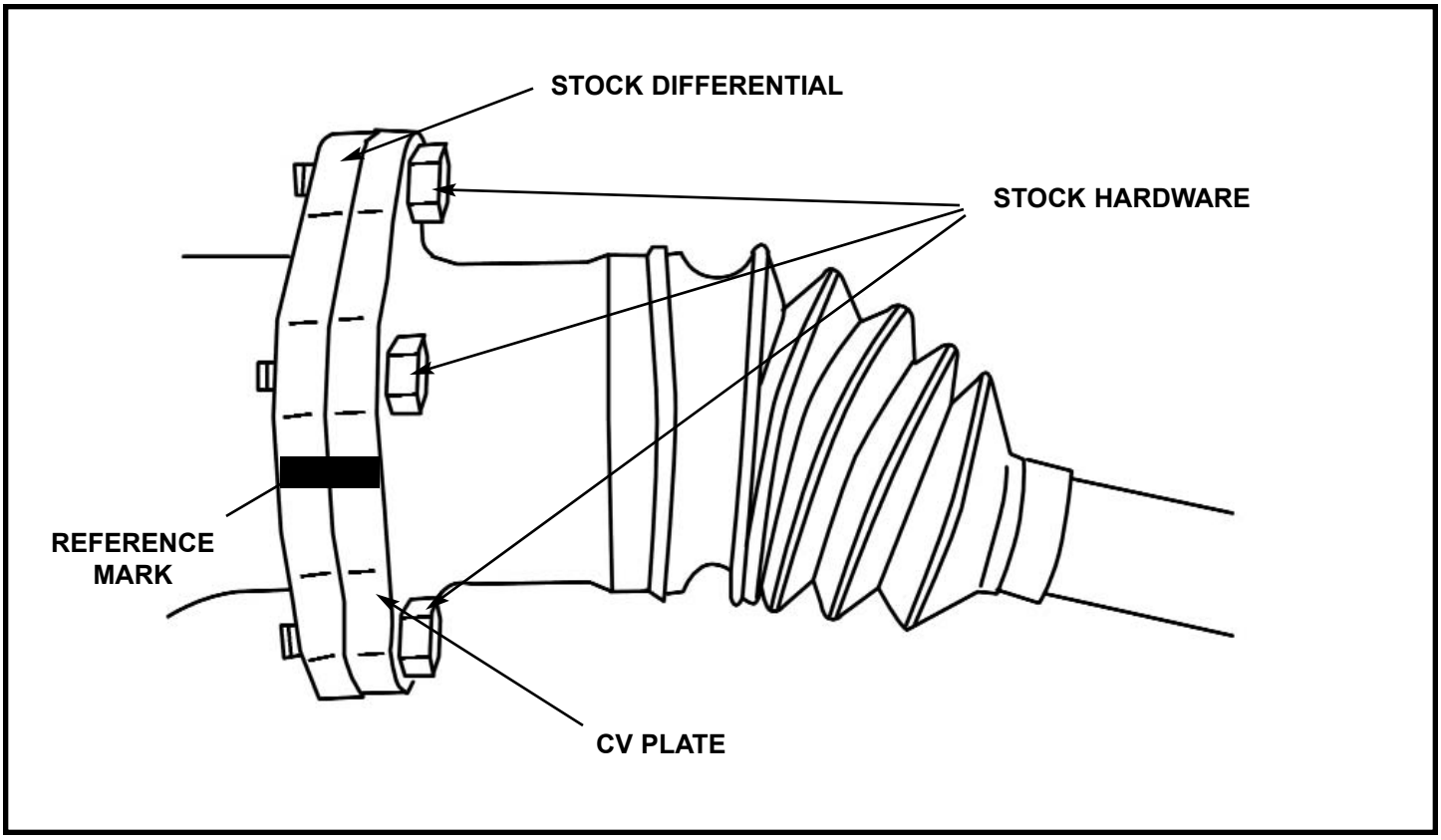

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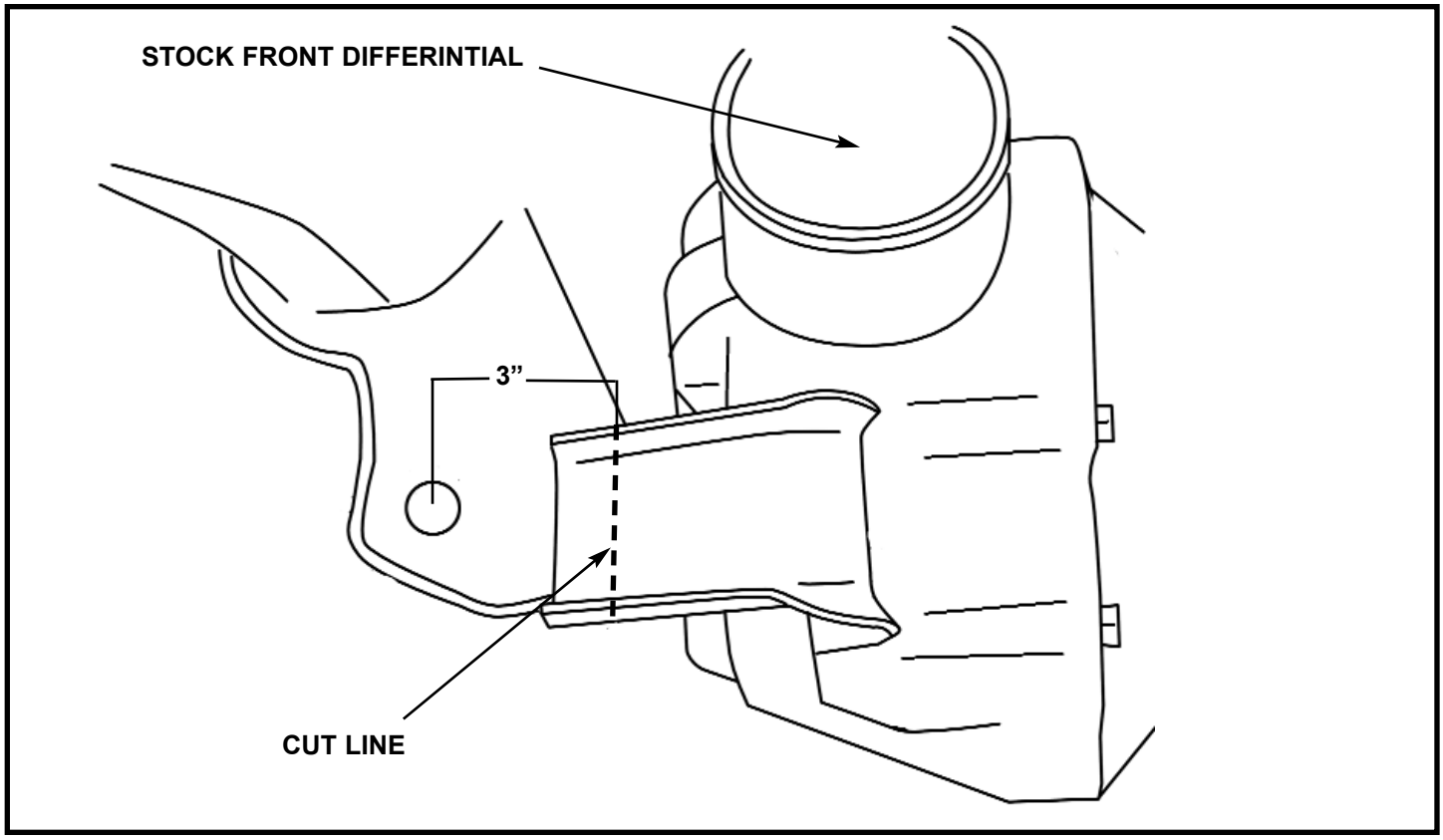

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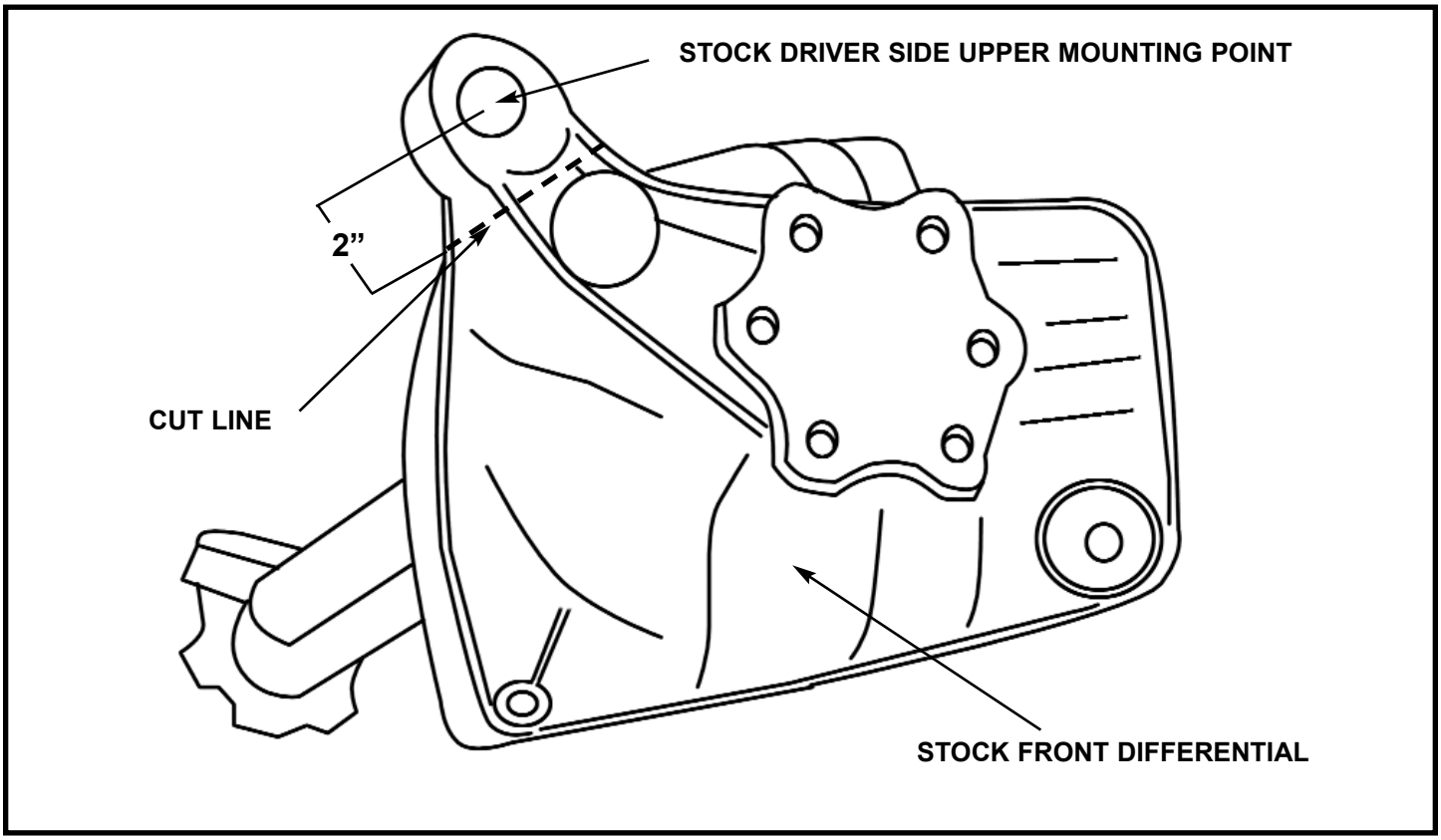

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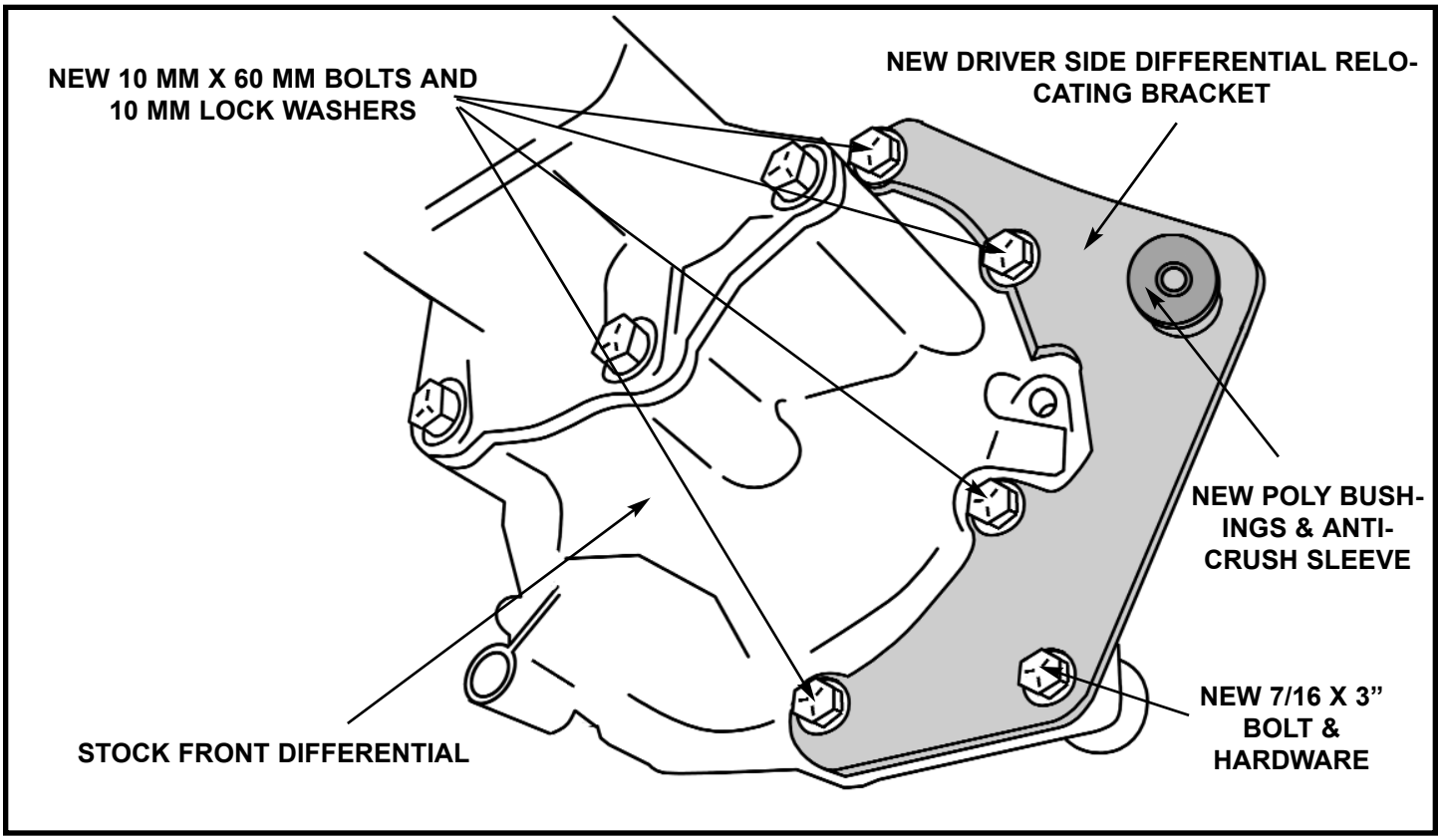

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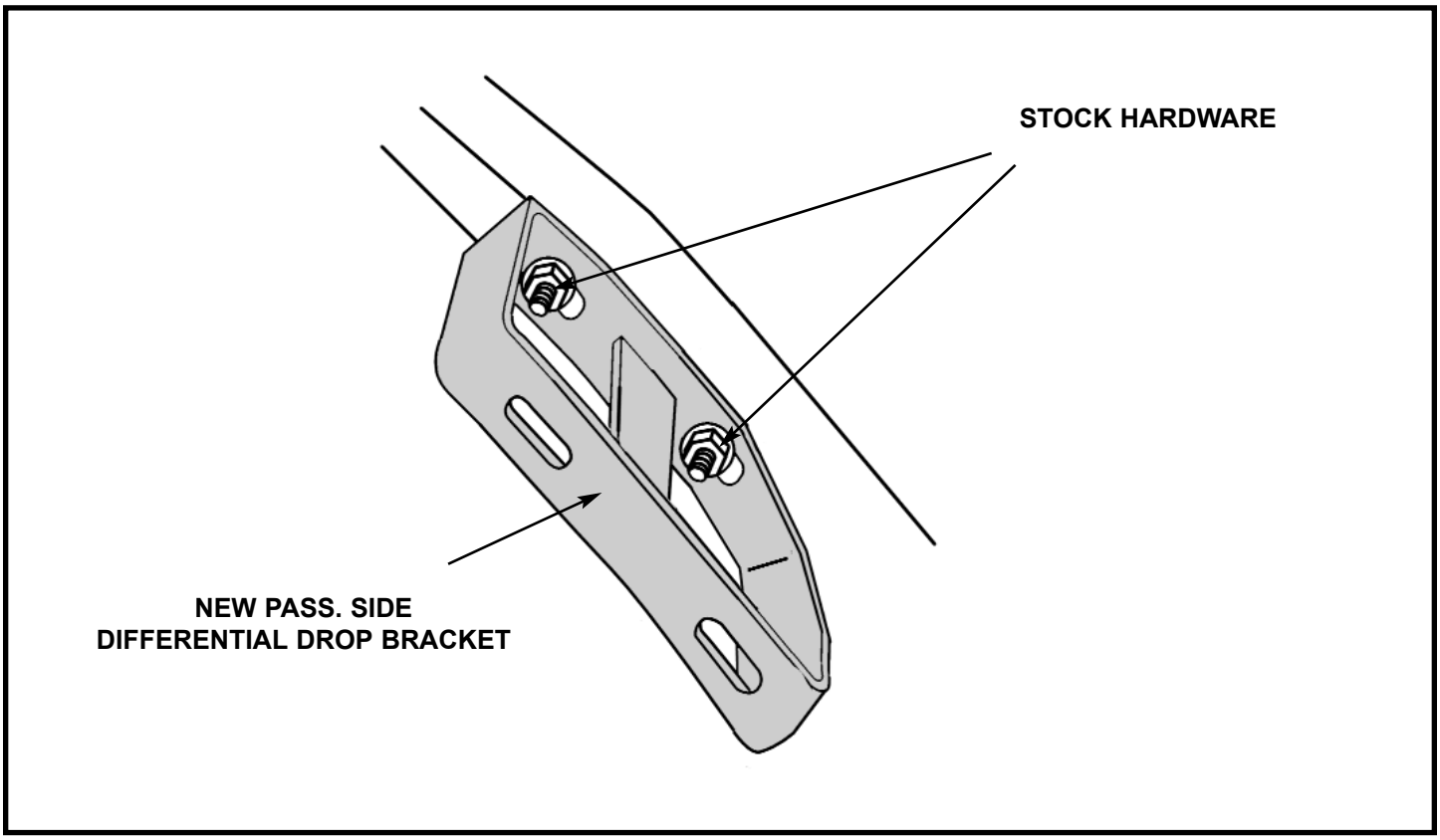

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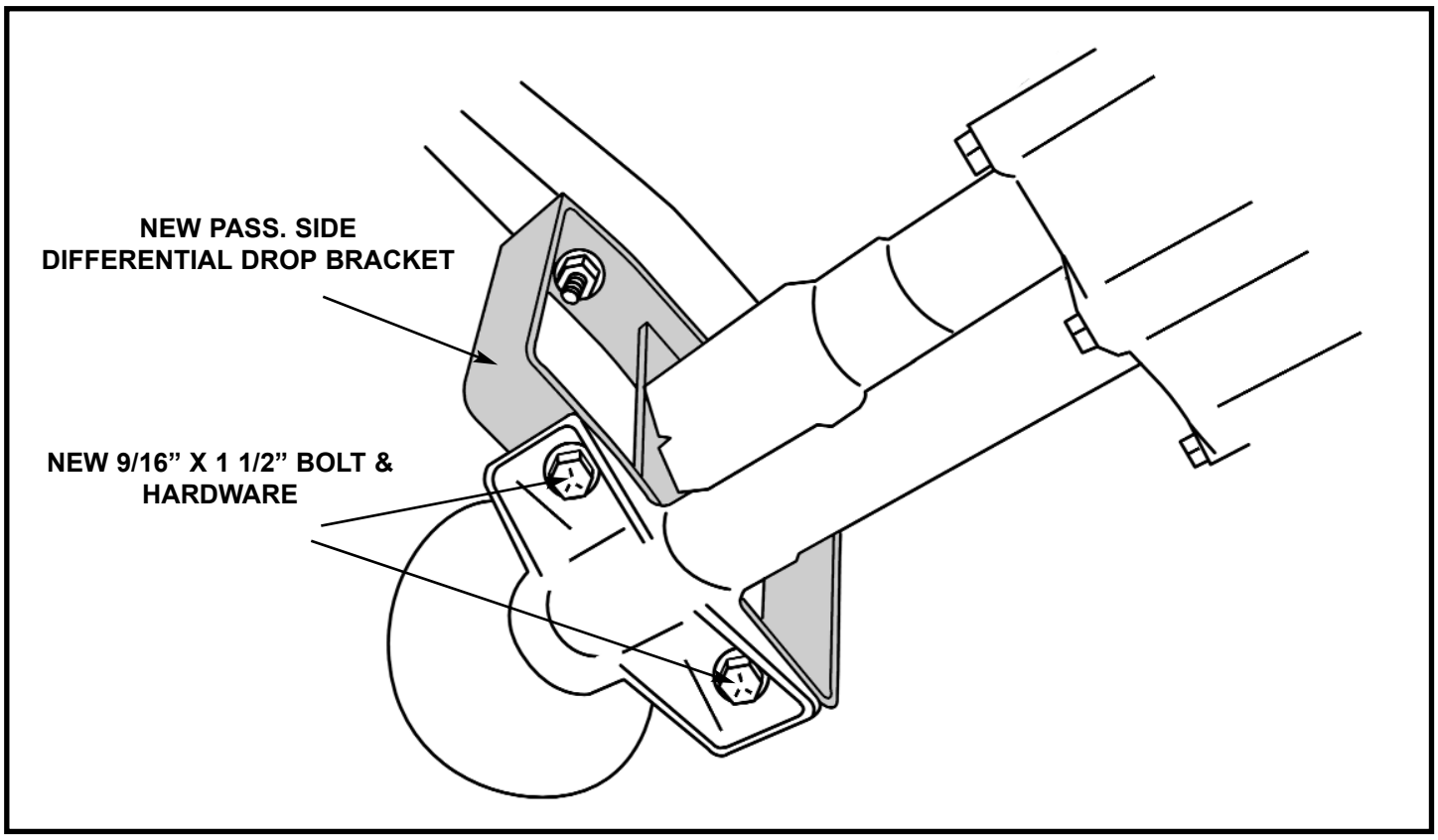

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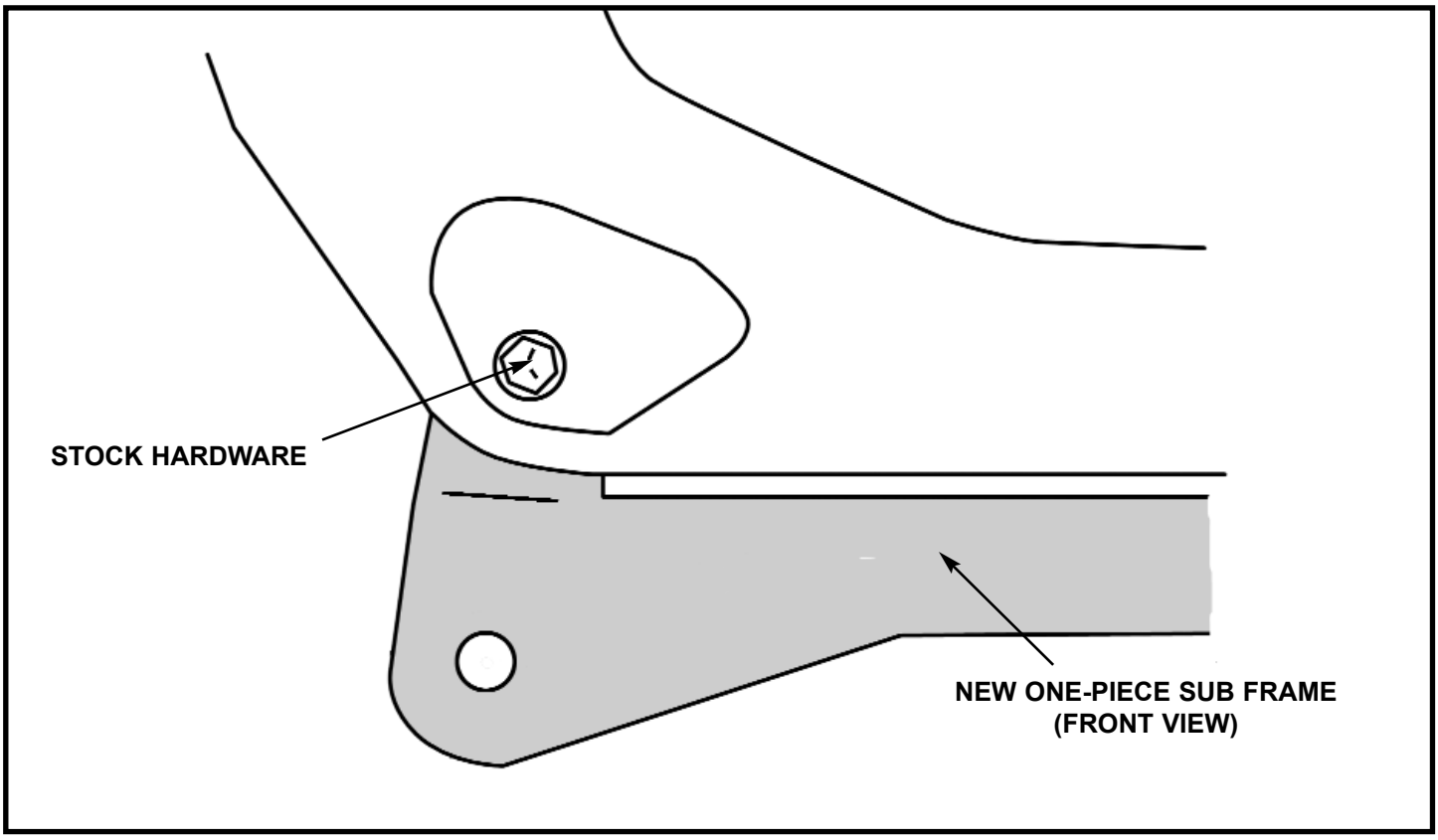

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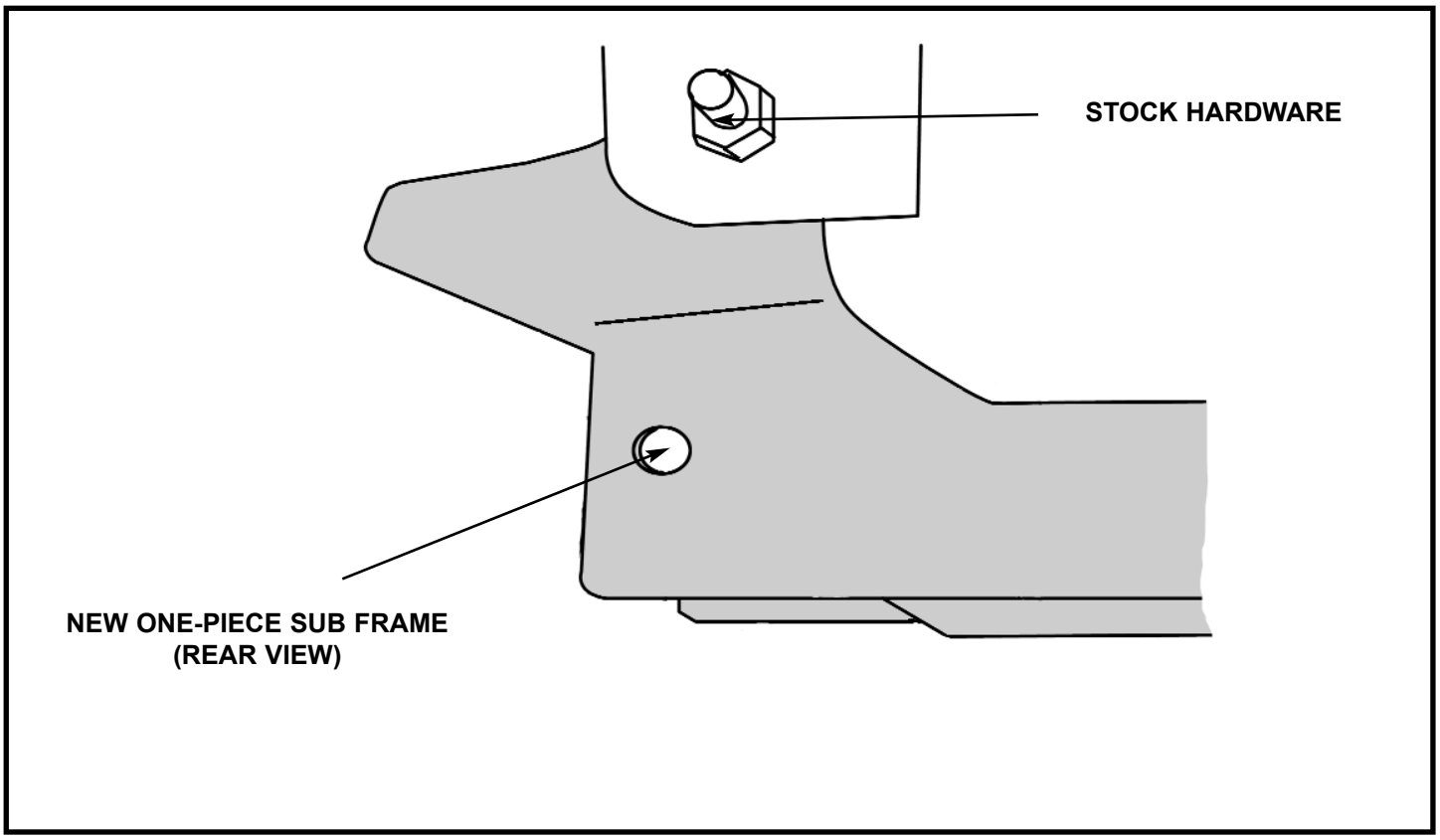

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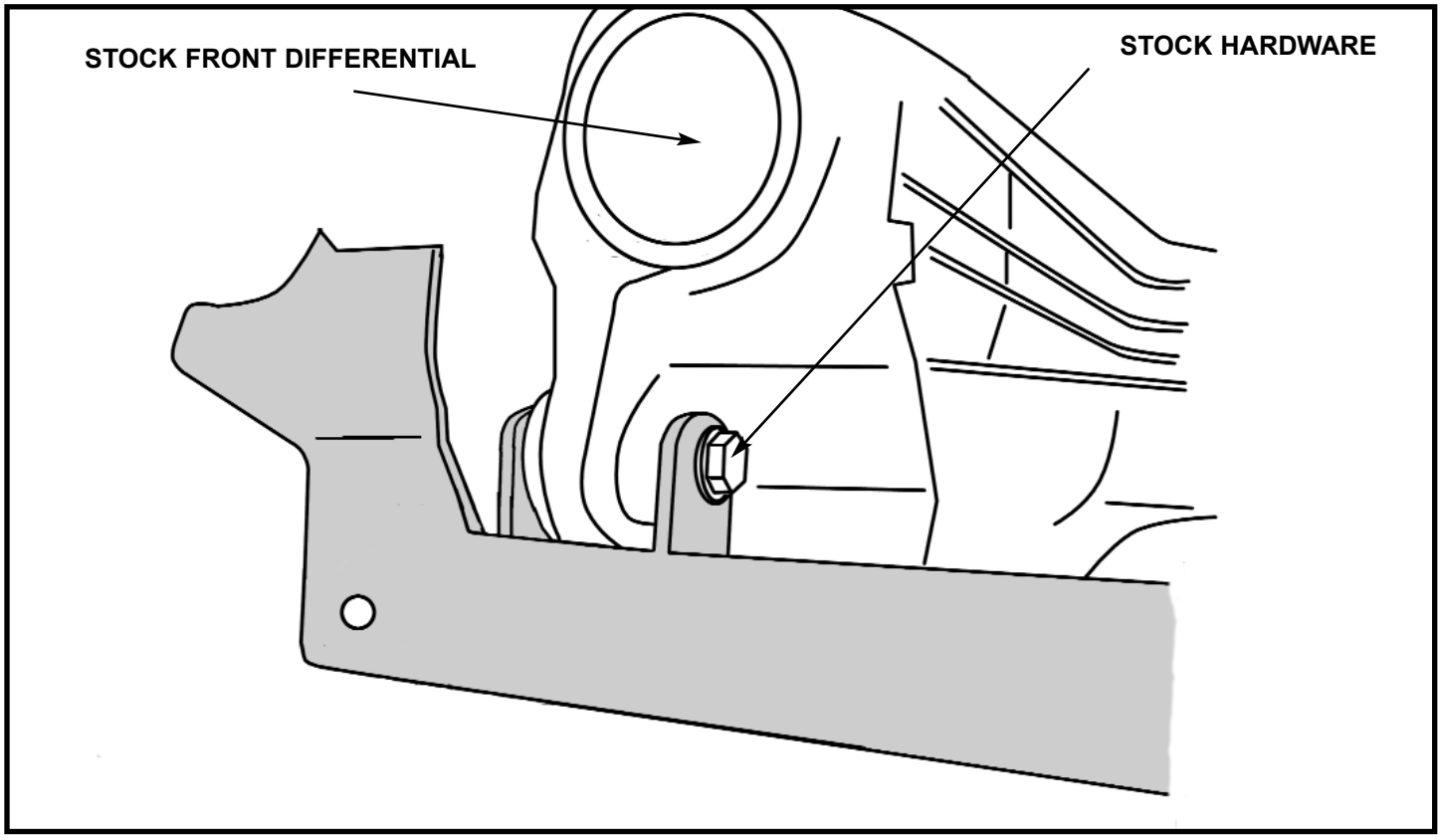

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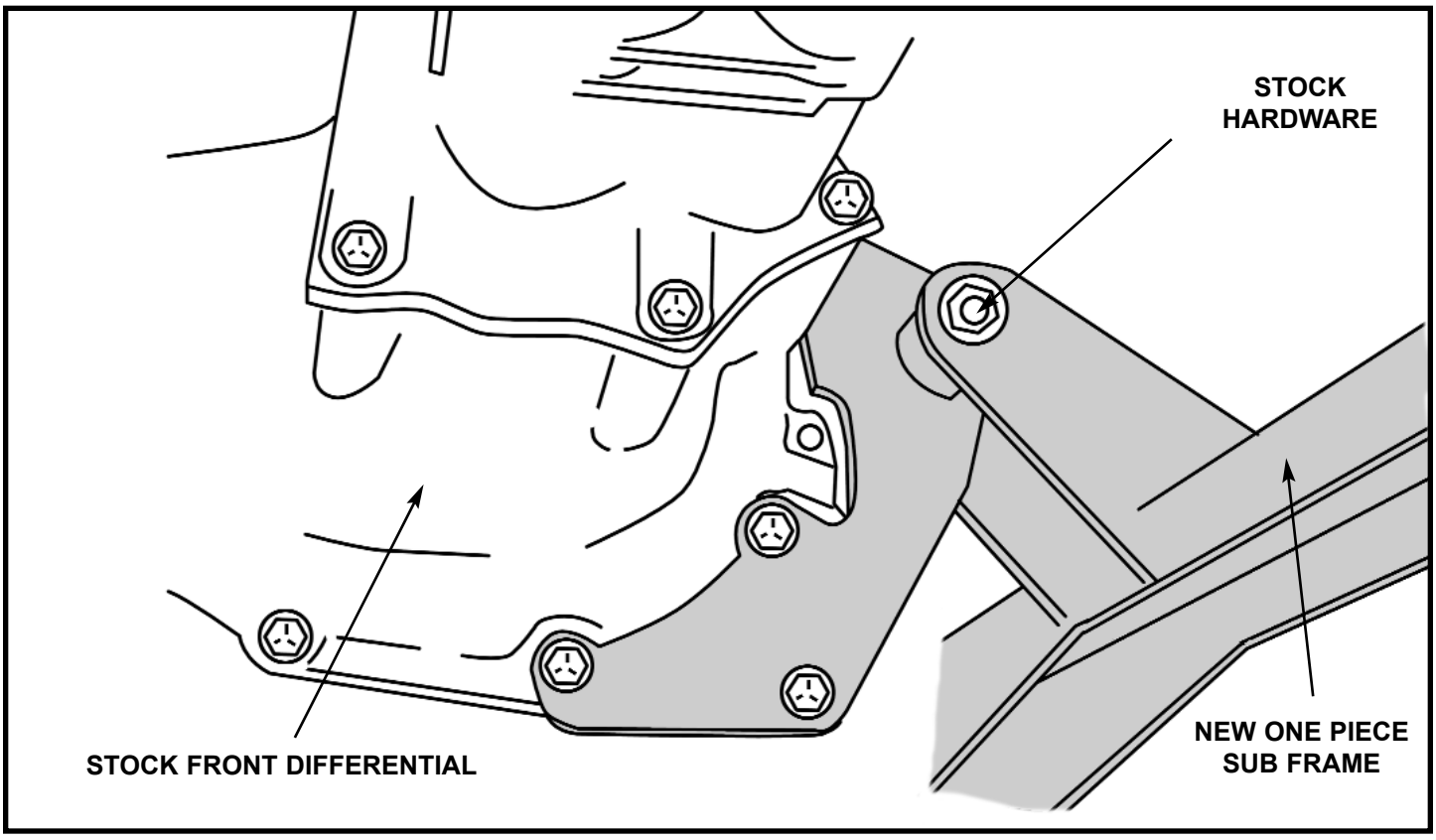

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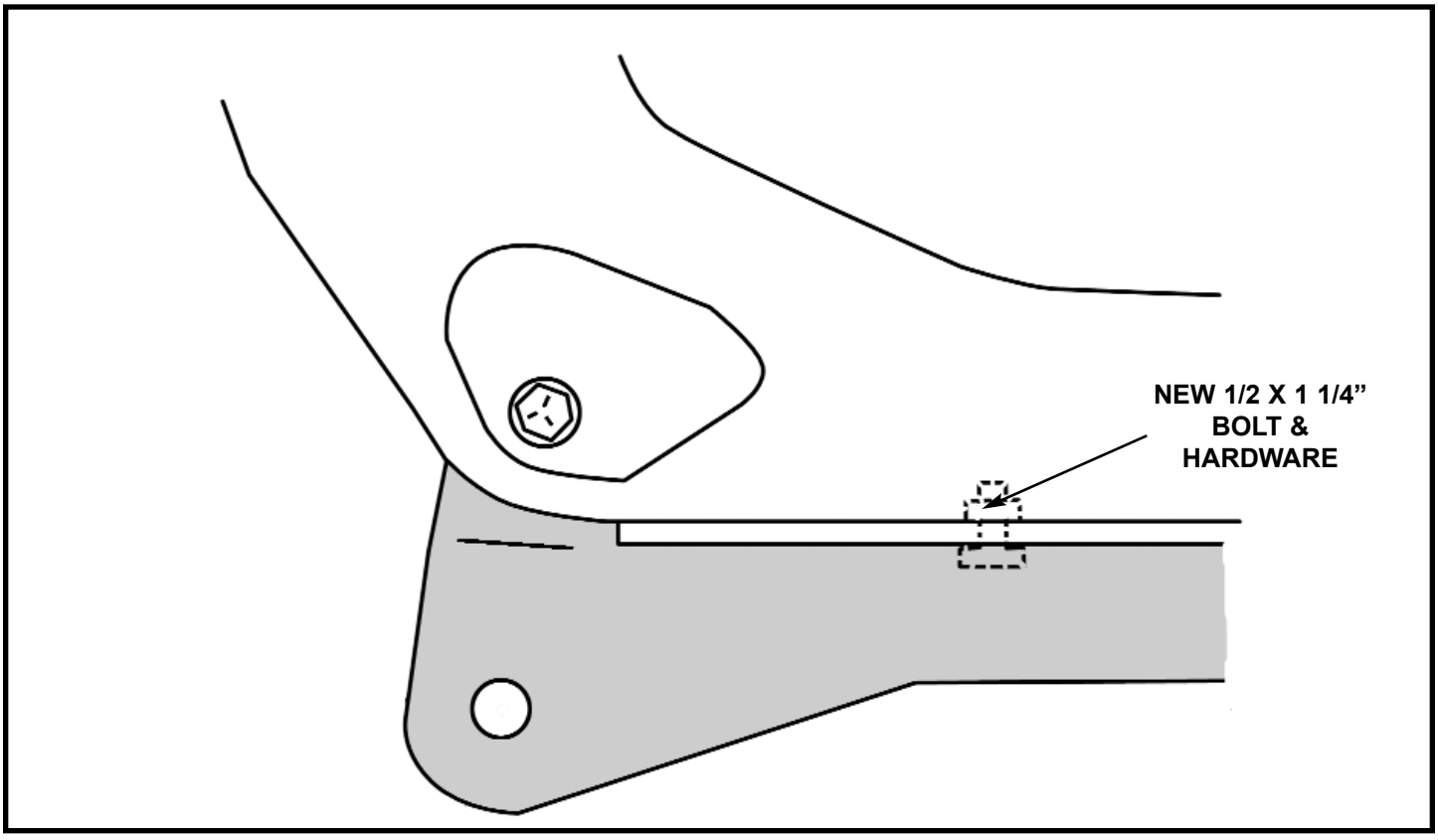

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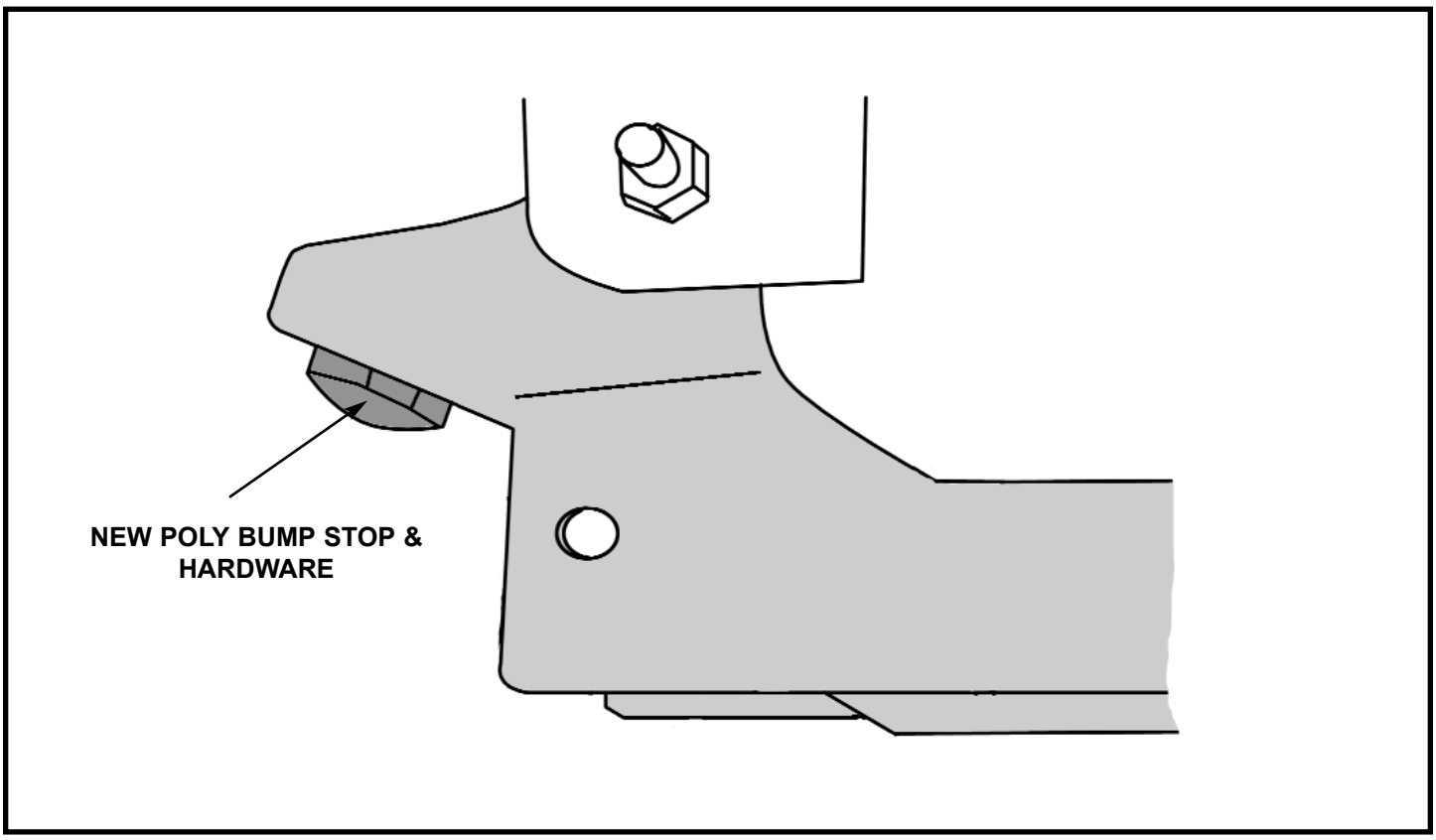

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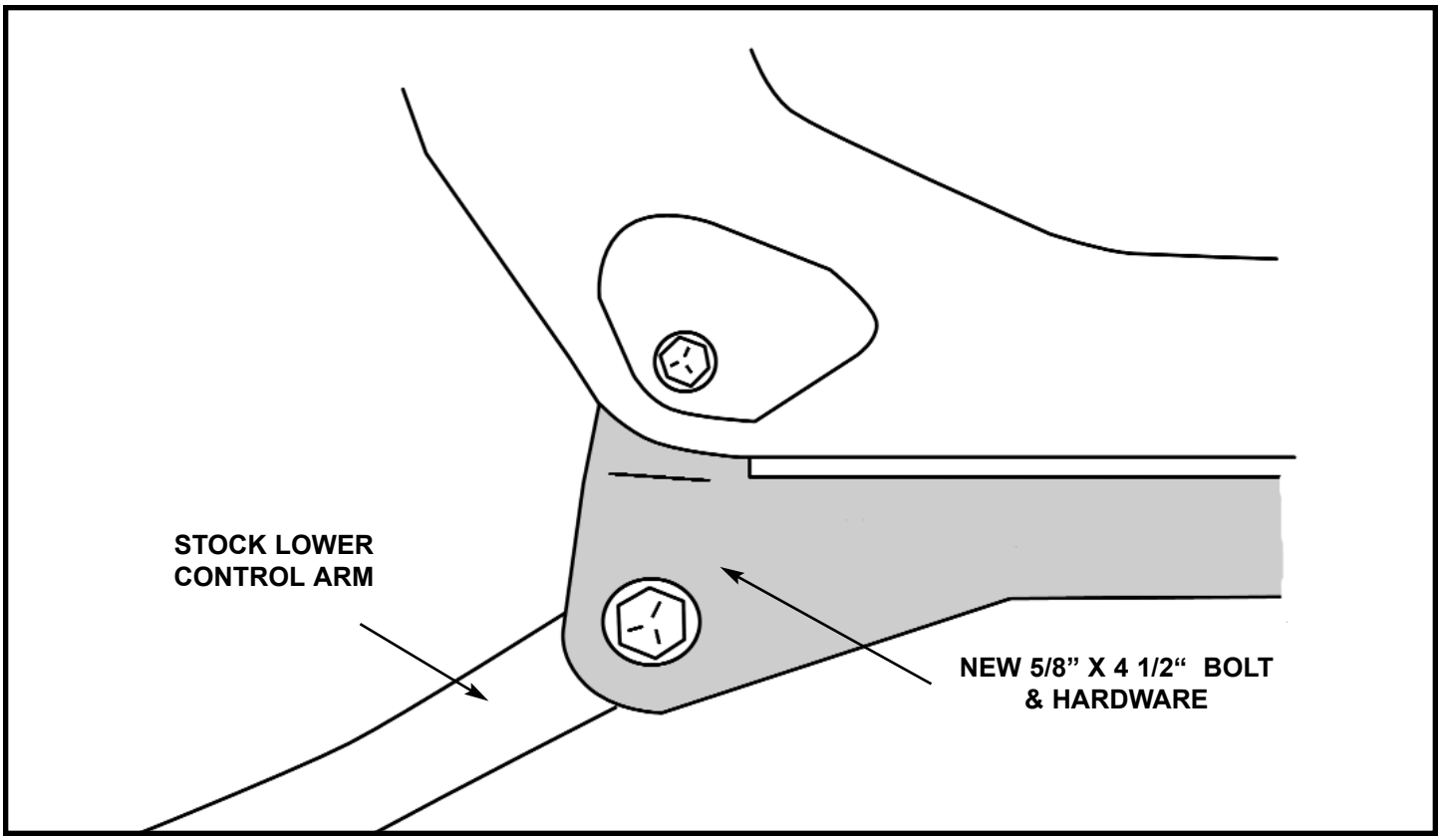

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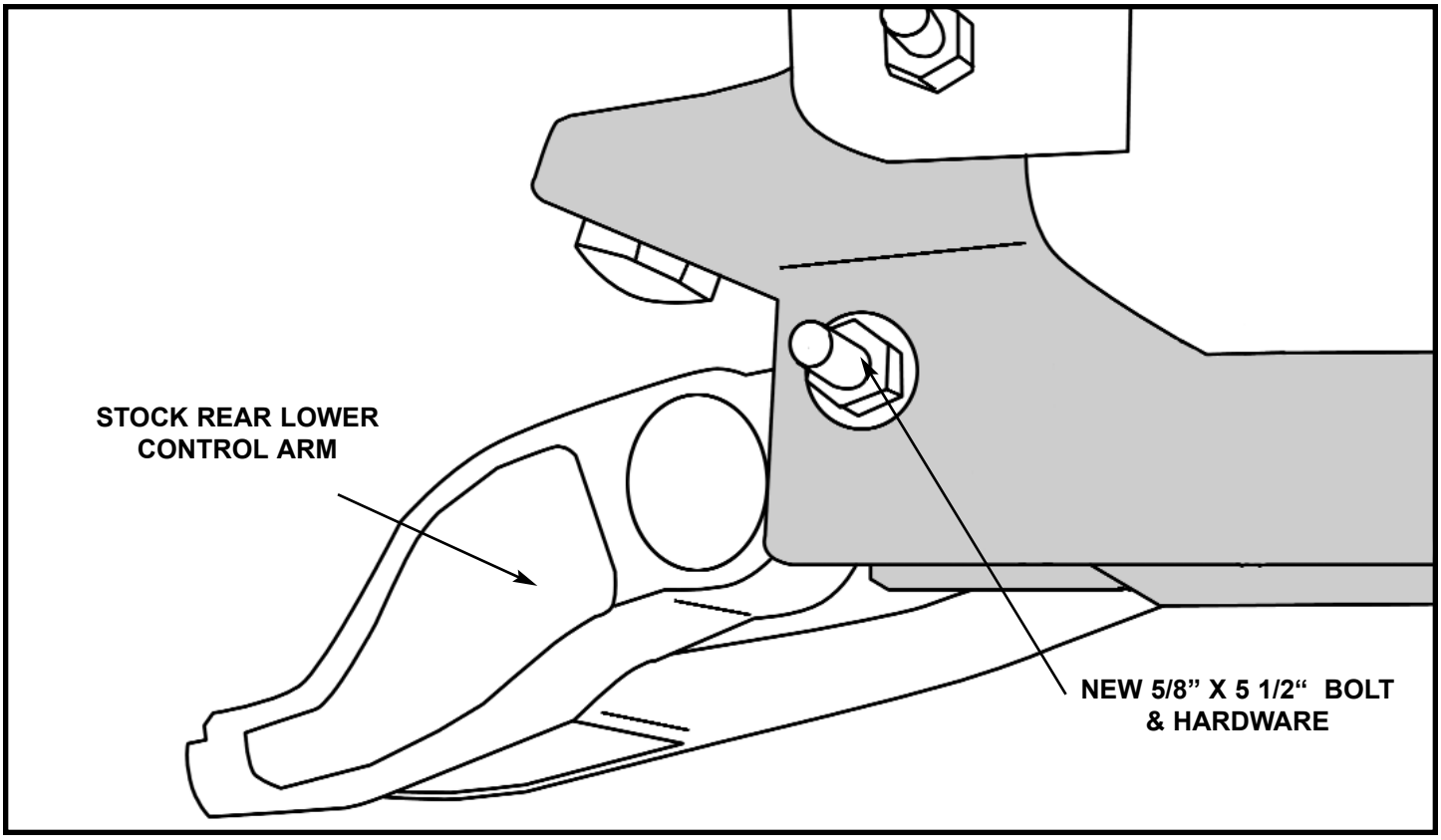

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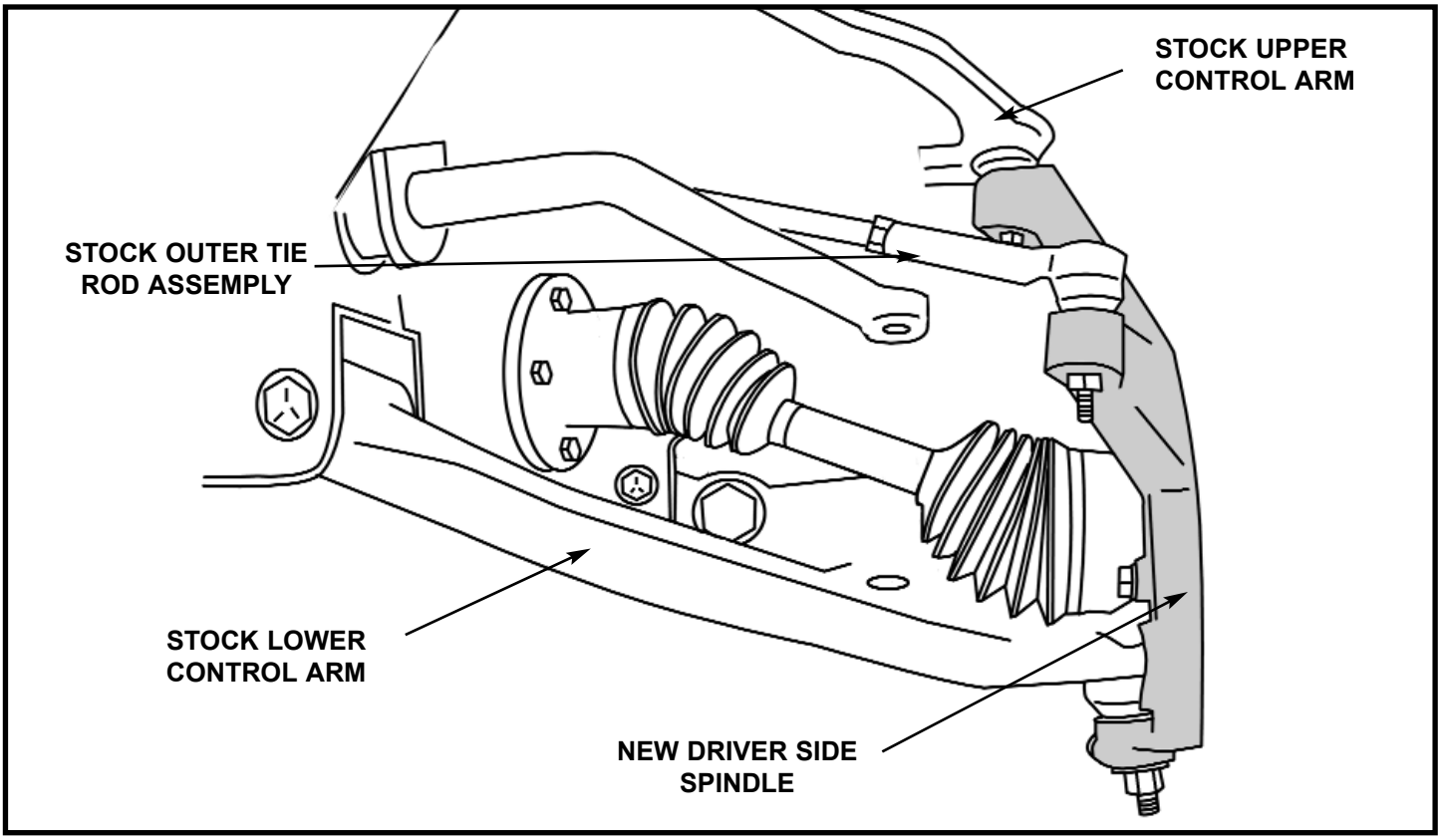

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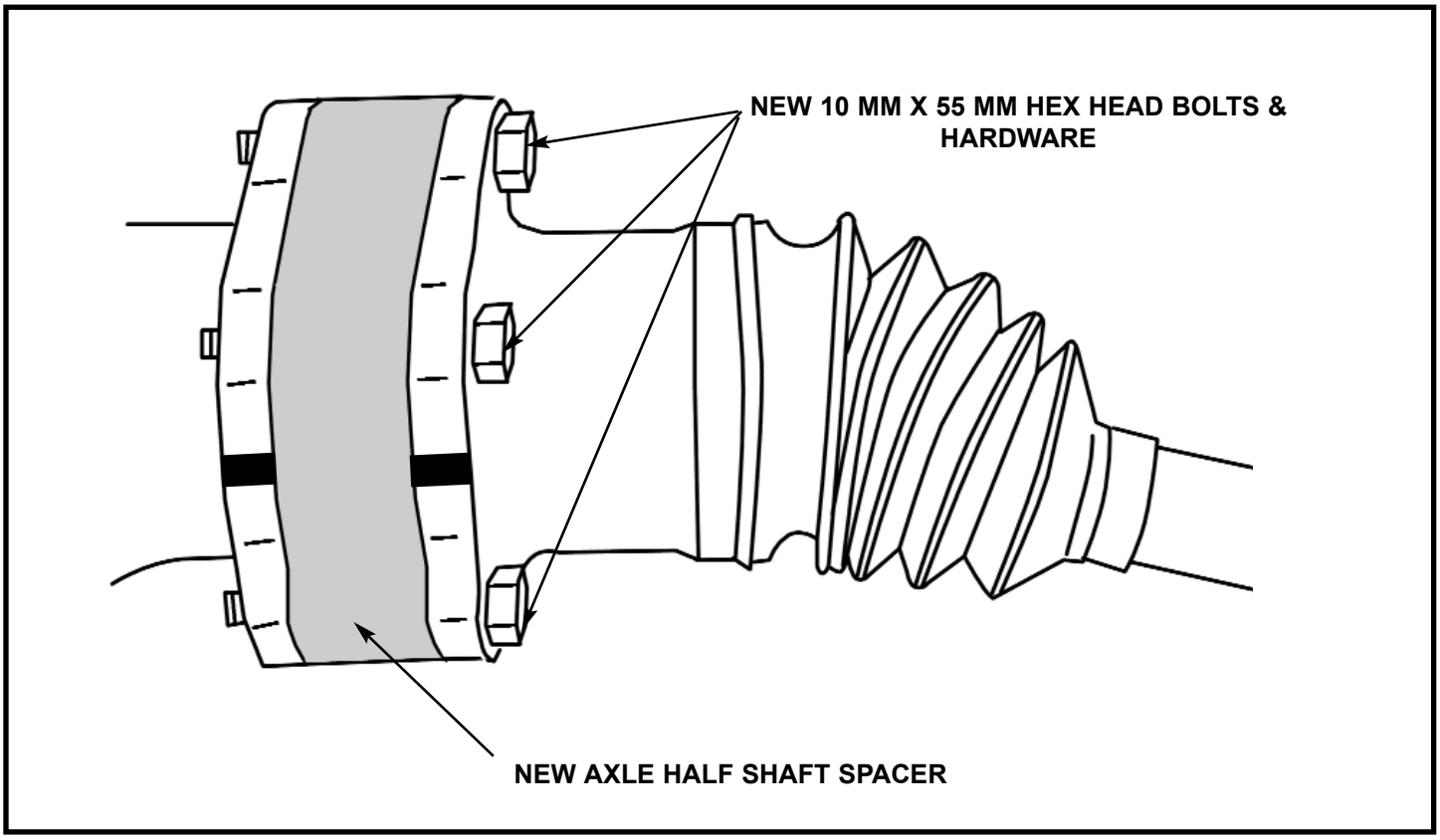

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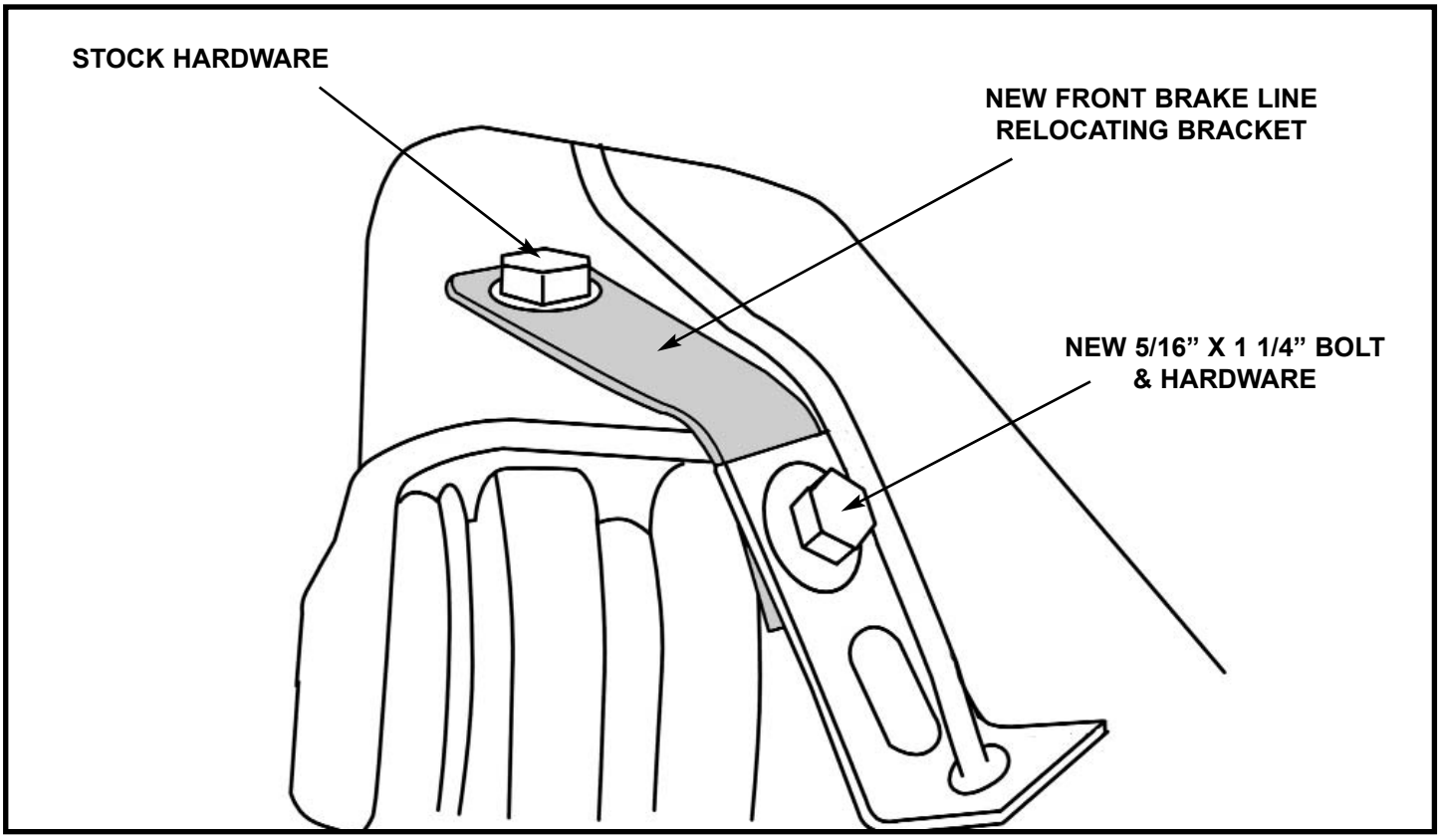

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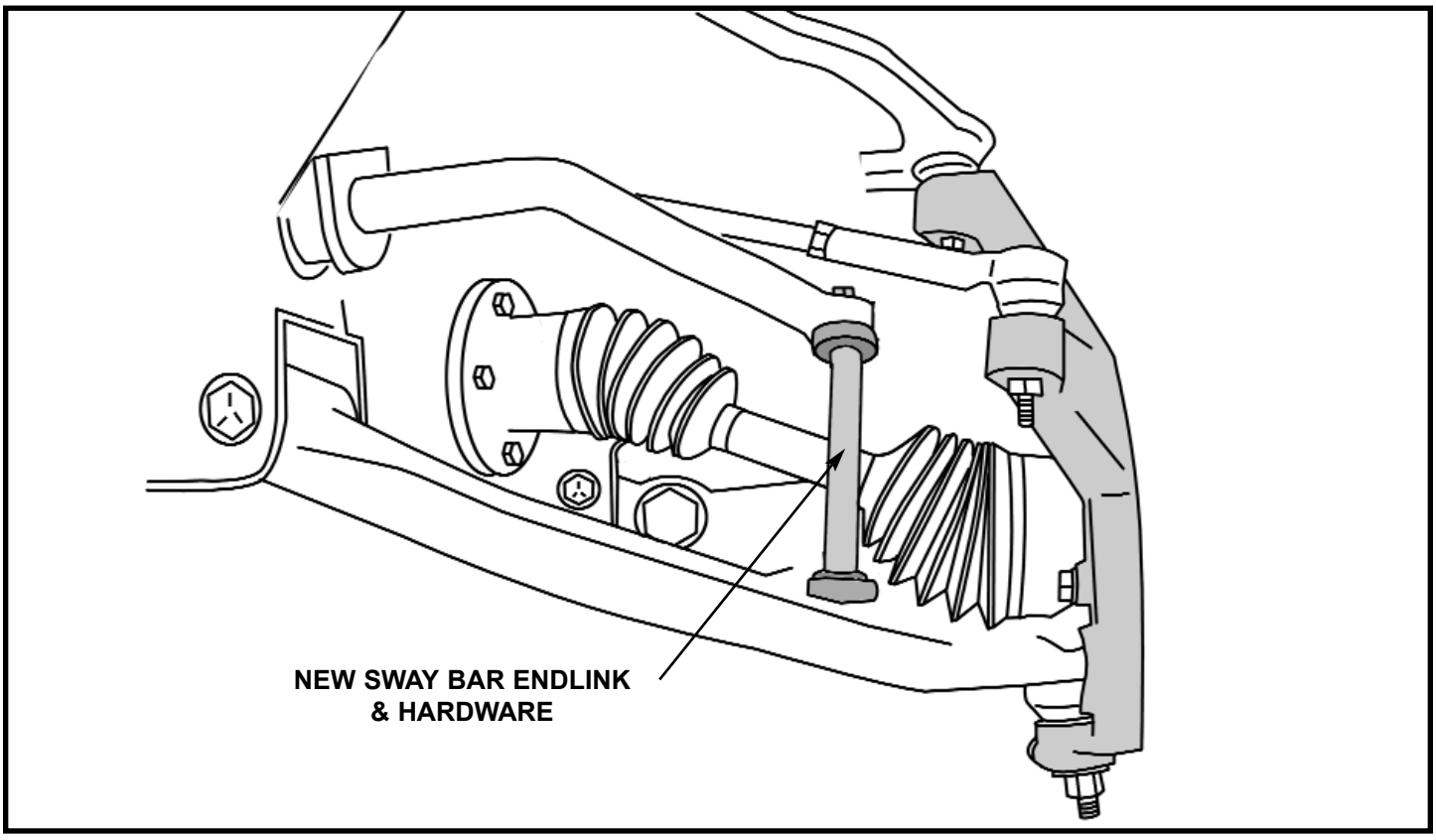

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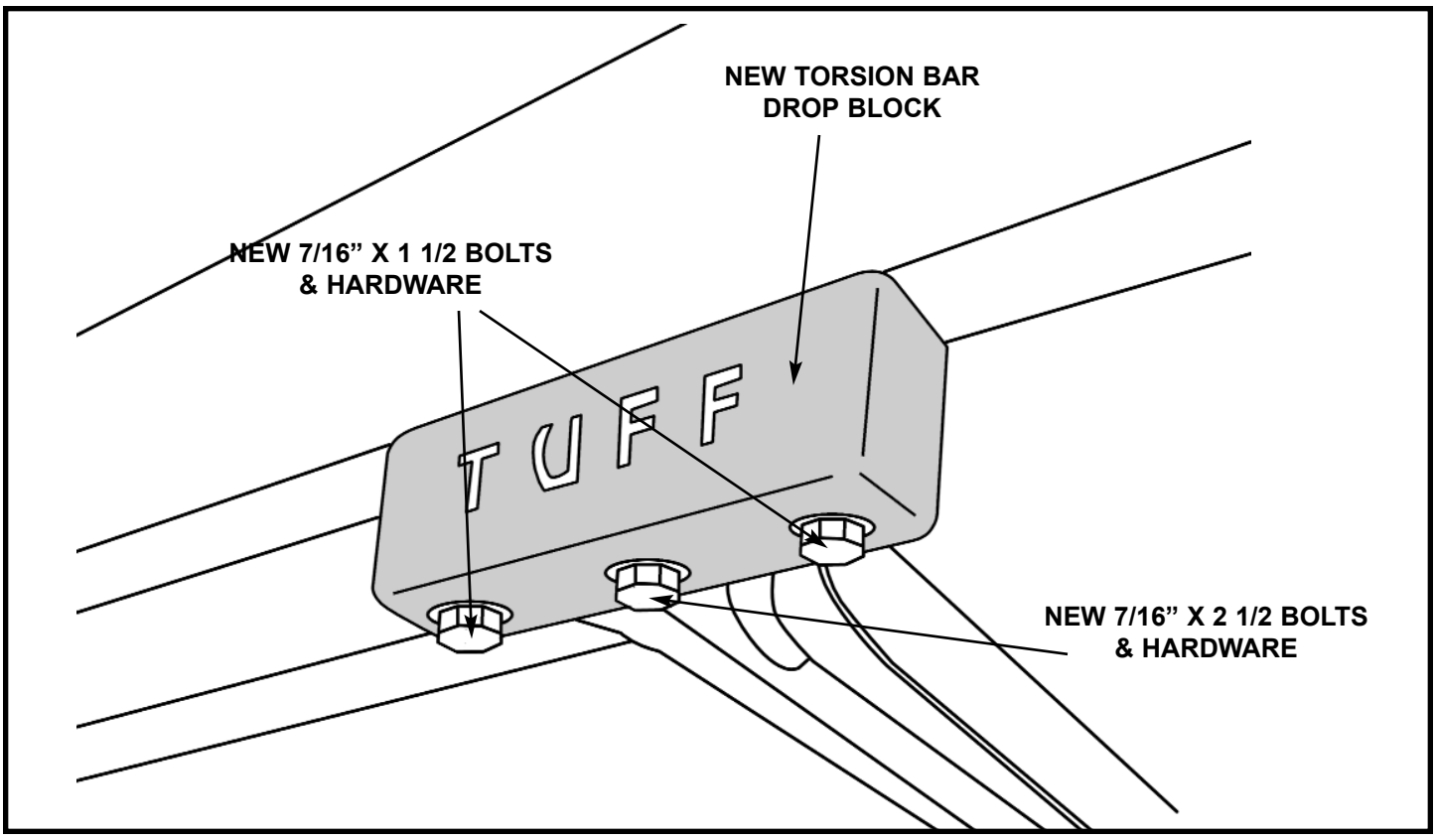

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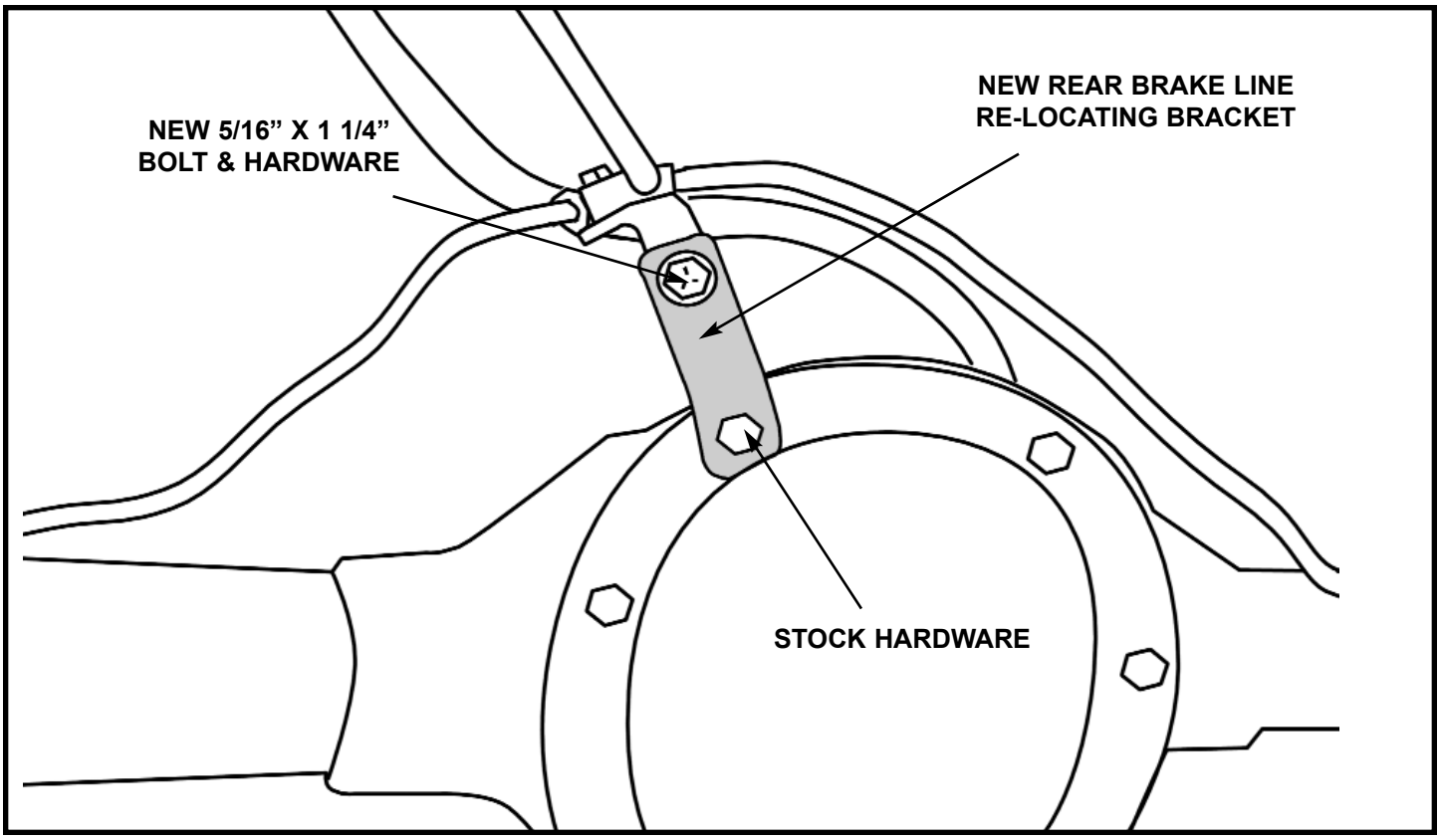

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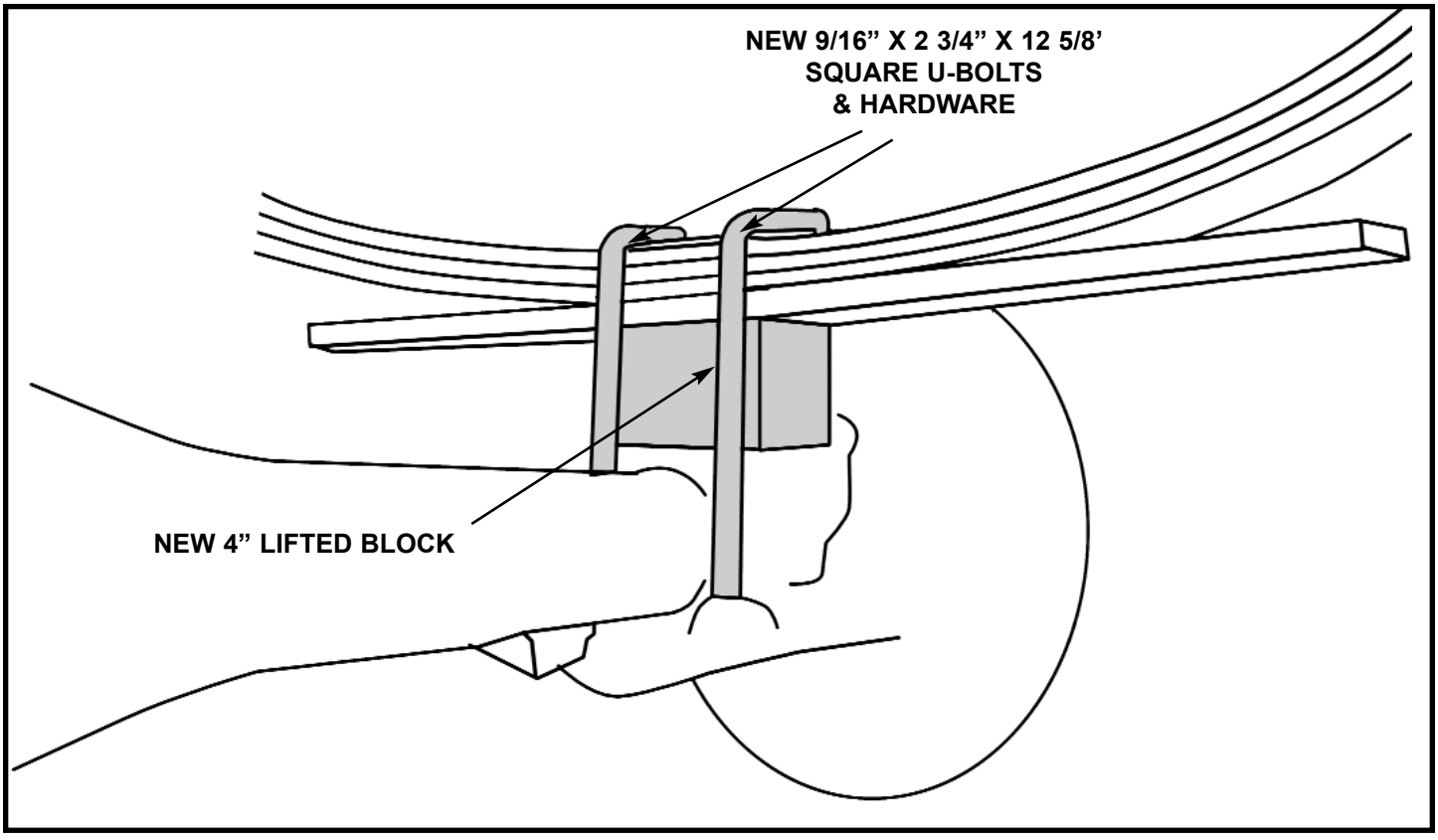

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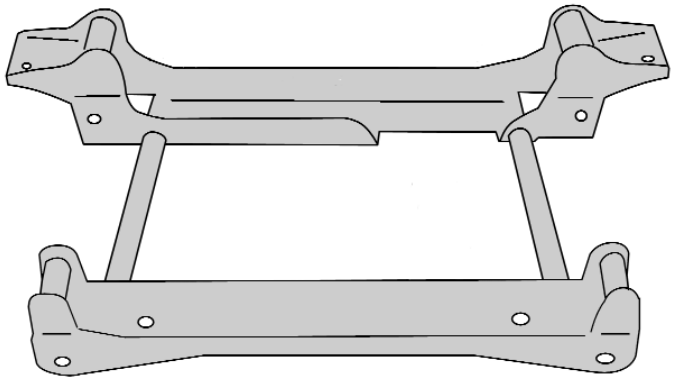
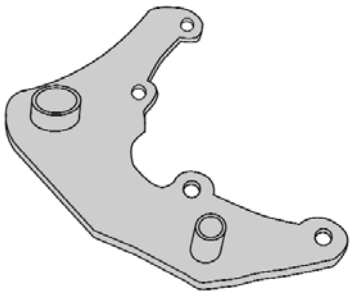
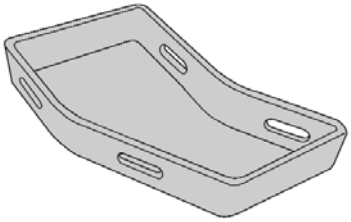


ONE PIECE LOWER SUB FRAME
14810-01 / QTY 1



DRIVER SIDE DIFFERENTIAL
RELOCATION BRACKET
14810-03 / QTY 1



PASSENGER SIDE
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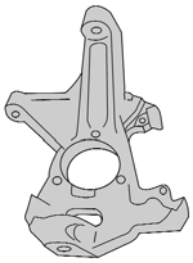
14810-04 / QTY 1

TORSION BAR DROP BRACKETS
14810-05 / QTY 2



PASS. SIDE SPINDLE
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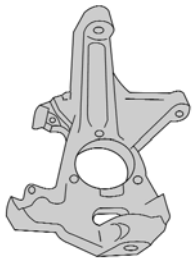

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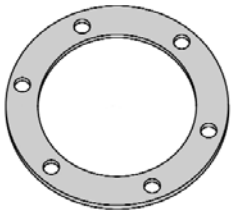

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