



EZ - Ride Suspension

PART NUMBER : 55905
1999 — 2003 TOYOTA TUNDRA
5" SUSPENSION SYSTEM
PARTS LIST:

<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
55900-01	Driver Side Spindle	1
55900-02	Passenger Side Spindle	1
55905-03	Rear brake proportioning valve bracket	1
55905-04	Front upper strut spacers	2
55905-05	Driver side differential drop bracket	1
55905-06	Passenger side differential drop bracket	1
55905-07	Driver side sway bar drop bracket	1
55905-08	Passenger side sway bar drop bracket	1
55905-09	One piece lower sub frame	1
55905-10	Steering shaft extension bracket	1
55905-11	Passenger side rack and pinion support bracket	1
BL401	4" Rear lifted blocks	2
5U-243S	9/16" x 2 1/2" x 10 5/8" rear U-bolt	4
916NW	9/16" U-bolt high nuts and washers	1
55905NB	Hardware bag	1
55905SL	Poly and sleeve bag	1
95505	Rear extended brake line	1
55905INST	Instruction sheet	1

Special note: This suspension system will ONLY work on vehicles that have front ABS. If the vehicle that you are working on does not have front ABS, and you would still like to install this part #, you must purchase an ABS plug for the new spindles. Please contact Tuff Country or your local Tuff Country dealer and order (2) of a part # 54900-13.

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.

INSTALLATION MANUAL TOYOTA TUNDRA 5" SUSPENSION SYSTEM 1999—2003 PART # 55905

sj071904rev.01

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.

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 or consequential damages. Any part or product returned for warranty claim must be returned through the dealer of the distributor from whom it was purchased. Tuff Country reserves the right to examine all parts returned to it for warranty claim to determine whether or not any such part has failed because of defect in material or workmanship. The obligation of Tuff Country under this warranty shall be limited to repairing, replacing or crediting, at its option, any part or product found to be so defective. Regardless of whether any part is repaired, replaced or credited under this warranty, shipping and/or transportation charges on the return of such product must be prepaid by the customer under this warranty.

Important information that needs to be read before installation begins:

Special note: This suspension system will ONLY work on vehicles that have front ABS. If the vehicle that you are working on does not have front ABS, and you would still like to install this part #, you must purchase an ABS plug for the new spindle. Please contact Tuff Country or your local Tuff Country dealer and order (2) of a part # 54900-13.

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.

The stock front strut is re-used in the front end of the new suspension system. New longer rear shocks are needed after this suspension system has been installed and the rear shocks need to be ordered as a separate part #. If you have not already ordered your new rear shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your new rear shocks. Tuff Country recommends running a 26" fully extended nitrogen gas shock in the rear.

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 55905NB Includes:

<u>Description</u>	<u>Quantity</u>
5/16" x 1" bolt	3
5/16" x 1 1/2" bolt	2
5/16" flat washer	10
5/16" lock washer	5
5/16" unitorque nut	5
3/8" x 1 1/2" bolt	4
3/8" flat washer	14
3/8" unitorque nut	10
3/8" lock washer	10
3/8" fender washer	4
1/2" x 1 1/2" bolt	2
1/2" flat washer	4
1/2" unitorque nut	2
1/2" lock washer	2
9/16" x 2 1/2" bolt	2
9/16" flat washer	6
9/16" lock washer	2
3/4" x 4 1/2" bolt	2
3/4" x 5" bolt	2
3/4" flat washer	8
3/4" unitorque nut	4
12 mm unitorque nut	1
12 mm lock washer	1

Hardware Bag 55905SL Includes:

<u>Description</u>	<u>Quantity</u>
S10075 (.750" X .562" X 1.275")	1
S10076 (.750" X .625" X 2.565")	1
S10077 (2" OD X .625" ID washers)	2
S10082 (.875" X .562" X 2.080")	2
MO2382 (Poly bushing)	2
MO3354 (Poly bushing)	2
PB2408 (Poly bushing)	4
PB8297 (Stem mount shock bushing)	4
COTTER-02	2
WIRE TIE	2
LUBE (poly lube packs)	2

Hardware Bag 916NW Includes:

<u>Description</u>	<u>Quantity</u>
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.

Please Follow Instruction 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 the passenger side. Next, remove the front wheels and tires from both sides.

2. Working on the front of the vehicle, remove the stock upper and lower skid plates from the stock location. Save the stock upper skid plate and the stock hardware for later re-installation. The stock lower skid plate and stock lower skid plate hardware may be discarded.

3. Working on the driver side, remove the stock hardware from the stock sway bar end link and save the stock hardware for later re-installation. Repeat procedure on passenger side.

4. Working on the driver side, remove the stock sway bar from the stock frame location and save the stock hardware for later re-installation. Repeat procedure on passenger side. Set the stock sway bar a side for later re-installation.

5. Working on the driver side, remove the stock ABS line from the stock spindle. Save the stock hardware for later re-installation. Also, remove the stock ABS line from any other attaching points on the stock spindle and the stock upper control arm. Tie the stock ABS line up and out of the way in the fender well. Repeat procedure on the passenger side.

6. Working on the driver side, remove the stock brake line bracket from the stock attaching point on the stock spindle. Save the stock hardware for later re-installation. Repeat procedure on the passenger side.

7. Working on the driver side, remove the (2) stock attaching bolts that connect the stock brake caliper to the stock spindle. 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 rear portion of the stock fender well. **Special note: Take special care not to kink or over extend the stock brake line.** Repeat procedure on the passenger side.

8. Working on the driver side, remove the stock rotor from the stock location and set a side for later re-installation. Repeat procedure on the passenger side.

9. Working on the driver side, remove the stock grease cap right in the middle of the stock hub assembly. Set the stock grease cap a side for later re-installation. Repeat procedure on the passenger side.

10. Working on the driver side, remove the stock cotter pin, lock cap and the stock nut that connects the stock axle to the stock hub assembly. Save the stock cotter pin, lock cap and the stock nut for later re-installation. Repeat procedure on the passenger side.

11. Working on the driver side upper ball joint that connects the stock spindle to the stock upper control arm, remove the stock cotter pin and discard. Loosen the stock castle nut but do not remove completely. Carefully separate the stock upper ball joint from the stock upper control arm. Repeat procedure on the passenger side.

12. Working on the driver side, remove the stock cotter pin and castle nut that secures the stock outer tie rod to the stock lower ball joint plate. Set the stock cotter pin and castle nut a side for later re-installation. Carefully separate the stock outer tie rod from the stock lower ball joint plate. **Special note: Take special care not to damage the stock outer tie rod dust boot.** Repeat procedure on the passenger side.

13. Working on the driver side, remove the (4) stock bolts that connect the stock lower control arm ball joint plate to the stock spindle. Save the stock hardware for later re-installation. Repeat procedure on the passenger side.

14. Working on the driver side, move back to the stock castle nut that connects the stock upper ball joint to the stock spindle and remove completely. The stock castle nut may be discarded. Set the stock spindle a side for further instructions. Repeat procedure on the passenger side.

15. Working on the driver side, scribe a mark on the stock strut indicating the driver side. This will allow you to

re-install the driver side strut back into the stock location at a later step. Repeat procedure on passenger side.

16. Working on the driver side, remove the (3) stock upper nuts that hold the stock strut assembly into the stock upper pocket. Save the stock hardware for later re-installation. **Special note: DO NOT remove the stock upper center nut that holds the stock strut into the stock location. If the nut is removed, a coils spring compressor is going to be needed to replace the stock strut.** Repeat procedure on passenger side.

17. Working on the driver side, remove the stock lower bolt that holds the stock strut into the stock location and save the stock hardware for later re-installation. Repeat procedure on passenger side. Set the driver and passenger side stock struts a side for later re-installation.

18. Working on the passenger side, remove the stock hardware that connects the stock rack and pinion hi pressure and return lines to the stock rack and pinion. Save the stock hardware for later re-installation.

19. Working on the driver side, carefully tie the stock rack and pinion to the stock sway bar mount. Repeat procedure on the passenger side. **Special note: This is done so that when the rack and pinion is removed from the stock location it will be up out of the way when the stock rear cross member needs to be cut.**

20. Working on the driver side, scribe a mark on the stock steering shaft flange and the stock rack and pinion flange. This is done so proper alignment is maintained when the new steering shaft extension bracket is installed the stock steering shaft flange and the stock rack and pinion flange.

21. Working on the driver side, remove the stock steering shaft flange from the stock rack and pinion flange. Save the stock hardware for later re-installation.

22. Working on the driver side, remove the stock hardware that connects the stock rack and pinion to the stock rear cross member. Save the stock hardware for later re-installation.

23. Locate the center stock bolt that connects the stock rack and pinion to the stock rear cross member. Remove and discard the stock bolt.

24. Working on the passenger side, remove the stock upper mounting bolt that connects the stock rack and pinion to the stock mounting location. The stock bolt may be discarded.

25. Working on the passenger side, remove the stock lower mounting all thread nut that connects the stock rack and pinion to the stock rear cross member. Save the stock lower mounting nut for later re-installation.

26. Locate and remove the stock nut that connects the stock front differential rear mounting point to the stock rear cross member. The stock nut may be discarded.

27. Working on the driver side, remove the stock cam bolts that secure the stock lower control arm to the stock front and rear lower control arm mounting points. Set the stock lower control arm and the stock cam bolts a side for later re-installation. Repeat procedure on the passenger side.

28. Working on the driver side, measure from the stock rear lower control arm mounting point towards the inside of the vehicle 3 1/4". Scribe a mark on the stock rear cross member. Using a suitable cutting tool, carefully cut the stock rear cross member. **Special note: Tuff Country does not recommend using a torch when making this cut. Tuff Country recommends using a sawzall to make this cut. Also, take special care not to cut any lines, hoses or wires.**

Illustration # 1

29. Working on the passenger side, measure from the stock rear lower control arm mounting point towards the inside of the vehicle 5 1/2". Scribe a mark on the stock rear cross member. Using a suitable cutting tool, carefully cut the stock rear cross member. **Special note: Tuff Country does not recommend using a torch when making this cut. Tuff Country recommends using a sawzall to make this cut. Also, take special care not to cut any lines, hoses or wires.** The stock rear cross member that was cut out may be discarded.

Illustration # 1

30. Working on the stock front drive line, remove the stock front drive line from the stock front differential and the stock transfer case. Set the stock front drive line and hardware a side for later re-installation. **Special note: When removing the stock front drive line from the vehicle, take special care that the slip yoke on the stock front drive line does not come apart. If the slip yoke comes apart and it does not get re-installed back into the stock location, it may cause the stock front driveline to be out of balance.**

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

32. Working on the driver side, remove the (3) stock bolts that connect the stock front differential drop bracket to the stock front differential. Save the stock hardware for later re-installation. Next, remove the stock front differential drop bracket from the stock front cross member and save the stock hardware for later re-installation. The stock front driver side differential drop bracket may be discarded.

33. Working on the passenger side, remove the (2) stock bolts that connect the stock front differential drop bracket to the stock front differential. Save the stock hardware for later re-installation. Next, remove the stock front differential drop bracket from the stock front cross member and save the stock hardware for later re-installation. The stock front passenger side differential drop bracket may be discarded.

34. Disconnect all the stock wiring and hoses that are attached to the stock front differential so that the stock front differential can be removed from the vehicle. Carefully lower down on both hydraulic floor jacks at the same time allowing the front differential to be removed from the vehicle.

35. Locate the new driver side differential drop bracket. Locate (2) PB2408 poly bushings and (1) S10082 crush sleeve from hardware bag 55905SL. Install the new poly bushings into the new driver side differential drop bracket. Next, install the new anti crush sleeve into the newly installed poly bushings. **Special note: Make sure to use a lithium or moly base grease prior to inserting the new bushings into the new driver side differential drop bracket. This will increase the life of the bushings as well as prevent squeaking.**

36. Locate the (3) stock driver side front differential bolts that were removed in step # 32. Also, locate (3) new 9/16" flat washers from hardware bag 55905NB. With the front differential out of the vehicle, secure the new driver side differential drop bracket to the stock front differential using the stock hardware and the new 9/16" flat washers. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite.**

Illustration # 2

37. Locate the new passenger side differential drop bracket. Locate (2) PB2408 poly bushings and (1) S10082 crush sleeve from hardware bag 55905SL. Install the new poly bushings into the new passenger side differential drop bracket. Next, install the new anti crush sleeve into the newly installed poly bushings. **Special note: Make sure to use a lithium or moly base grease prior to inserting the new bushings into the new passenger side differential drop bracket. This will increase the life of the bushings as well as prevent squeaking.**

38. Locate the (2) stock passenger side front differential bolts that were removed in step # 33. Also, locate (2) new 9/16" flat washers from hardware bag 55905NB. With the front differential out of the vehicle, secure the new passenger side differential drop bracket to the stock front differential using the stock hardware and the new 9/16" flat washers. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite.**

Illustration # 3

39. Locate the driver side stock hardware that connected the stock front differential drop bracket to the stock front cross member that was removed in step # 32. Also, locate the passenger side stock hardware that connected the stock front differential drop bracket to the stock front cross member that was removed in step # 33. At the same time, carefully raise up on both hydraulic floor jacks that are holding the stock front differential until the new driver and passenger side differential drop bracket can be attached to the stock front cross member. Secure the new driver and passenger side differential drop brackets to the stock front cross member using the stock hardware. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite. Also, the stock over size washers needs to be inverted. Make sure to invert the stock over size washer before installation.**

**Illustration # 2 / Driver side
Illustration # 3 / Passenger Side**

40. Carefully remove both hydraulic floor jacks from under the front differential.

41 Reconnect all the wiring and hoses that were removed from the stock front differential in step # 35.

42. Locate (2) 3/4" x 4 1/2" bolts, (2) 3/4" x 5" bolts, (8) 3/4" flat washers and (4) 3/4" unitorque nuts from hardware bag 55905NB. Also, locate the new one piece lower sub frame. Install the new one piece lower sub frame into the stock front and rear lower control arm pockets and secure using the new 3/4" x 5" bolts into the front location and the new 3/4" x 4 1/2" bolts and hardware into the rear location. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite. Also, when installing the new one piece lower sub frame, make sure that the rear mounting stud on the rear portion of the front differential seats properly into the new one piece lower sub frame.**

**Illustration # 4 / Front location shown
Illustration # 5 / Rear location shown**

43. Locate (1) 1/2" x 1 1/2" bolt, (2) 1/2" flat washers, (1) 1/2" lock washer and (1) 1/2" unitorque nut from hardware bag 55905NB. Working on the driver side, secure the newly installed one piece lower sub frame to the newly installed driver side differential drop bracket and secure using the new 1/2" x 1 1/2" bolt and hardware. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite. Also, when installing the new driver side differential drop bracket to the new one piece lower sub frame, make sure that the new driver side differential drop bracket is installed towards the inside of the new differential tabs on the new one piece lower sub frame.**

44. Locate (1) 1/2" x 1 1/2" bolt, (2) 1/2" flat washers, (1) 1/2" lock washer and (1) 1/2" unitorque nut from hardware bag 55905NB. Working on the passenger side,

secure the newly installed one piece lower sub frame to the newly installed passenger side differential drop bracket and secure using the new 1/2" x 1 1/2" bolt and hardware. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite. Also, when installing the new passenger side differential drop bracket to the new one piece lower sub frame, make sure that the new passenger side differential drop bracket is installed towards the inside of the new differential tabs on the new one piece lower sub frame.**

45. Locate the new 12 mm unitorque nut and 12 mm lock washer from hardware 55905NB. Secure the stock front differential rear mounting point to the newly installed one piece lower sub frame the new 12 mm unitorque nut and lock washer. Torque to **64 ft lbs.**

Illustration # 6

46. Move back to the new 3/4" x 4 1/2" bolts and the new 3/4" x 5" bolts that secure the new one piece lower sub frame to the stock front and rear lower control arm pockets and torque to **130 ft lbs.**

47. Move back to the driver side differential drop bracket and torque the (3) stock bolts to **116 ft lbs.** Also, torque the stock hardware that connects the new driver side differential drop bracket to the stock front cross member to **101 ft lbs.**

48. Move back to the passenger side differential drop bracket and torque the (2) stock bolts to **116 ft lbs.** Also, torque the stock hardware that connects the new passenger side differential drop bracket to the stock front cross member to **101 ft lbs.**

49. Working on the driver side, torque the new 1/2" x 1 1/2" bolt and hardware that connects the new driver side differential drop bracket to the new one piece lower sub frame to **75 ft lbs.** Repeat procedure on the passenger side.

50. Locate the stock driver and passenger side lower control arms and the stock driver and passenger side cam bolts that were removed in step # 27. Working on the driver side, install the stock lower control arm into the newly installed one piece lower sub frame and secure using the stock cam bolts. **Do not tighten at this point.** Repeat procedure on the passenger side.

Illustration # 7

51. Working on the driver side of the stock rack and pinion, remove the stock bushing and sleeve from the stock location. The stock bushing and sleeve may be discarded.

52. Locate (2) MO2382 rack and pinion bushings and (1) S10076 rack and pinion sleeve from hardware bag 55905SL. Working on the driver side of the stock rack

and pinion, install the new bushings and sleeves into the stock rack and pinion. **Special note: Make sure to use a lithium or moly base grease prior to inserting the new bushings into the stock rack and pinion. This will increase the life of the bushings as well as prevent squeaking.**

53. Working on the center of the stock rack and pinion, remove the stock bushing and sleeve from the stock location. The stock bushing and sleeve may be discarded.

54. Locate (2) MO3354 rack and pinion bushings and (1) S10075 rack and pinion sleeve from hardware bag 55905SL. Working on the center of the stock rack and pinion, install the new bushings and sleeves into the stock rack and pinion. **Special note: Make sure to use a lithium or moly base grease prior to inserting the new bushings into the stock rack and pinion. This will increase the life of the bushings as well as prevent squeaking.**

55. Working on the driver side inner frame rail, carefully cut the front corner of the stock sway bar mounting bracket. See photo # 11 for proper cut line and measurements. **Special note: Tuff Country does not recommend using a torch when making this cut. Tuff Country recommends using a die grinder to make this cut. The stock gas line runs on the inside of the stock frame rail, take special care not to cut the stock gas lines. Also when making this cut, take special care not to cut into the stock frame rail. Clean up any exposed slag from the trimming performed in this installation step.**

Illustration # 8

56. Locate the new driver side steering shaft extension bracket and the stock steering shaft hardware that was removed from step # 21. Working on the driver side, install the new steering shaft extension bracket to the stock steering shaft using the stock hardware. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite. Also, make sure to line up the alignment marks that were made in step # 20.**

Illustration # 9

57. Locate the stock passenger side lower rack and pinion all thread nut that was removed from step # 25, (1) 9/16" x 2 1/2" bolt, (1) 9/16" lock washer from hardware bag 55905NB. Also, locate the new rack and pinion support bracket. Remove and re-install the stock rack and pinion mounting bracket in the upside down position around the stock rack and pinion. Secure the upper part of the bracket with the stock all thread nut. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite. Also, make sure to install the rack and pinion support bracket between the upper stock mounting point, lower mounting point to the new one piece sub frame and the stock rack and pinion mounting bracket. Secure the bottom part of the stock bracket to the newly installed one piece**

lower sub frame using the new 9/16" x 2 1/2" bolt and hardware. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite.**

Illustration # 10

58. Locate (1) 9/16" x 2 1/2" bolt, (1) 9/16" flat washer and (1) 9/16" lock washer from hardware bag 55905NB. Working on the center of the stock rack and pinion, secure the center of the stock rack and pinion to the newly installed one piece lower sub frame using the new 9/16" x 2 1/2" bolt and washers. **Special note: Do not tighten at this point and make sure to use thread locker or lock tite.**

Illustration # 11

59. Locate the stock driver side rack and pinion hardware that was removed from step # 22. Also, locate (2) S10077 over size washers from hardware bag 55905SL. Working on the driver side of the stock rack and pinion, secure the stock rack and pinion to the newly installed one piece lower sub frame using the stock hardware and the new over size washers. **Special note: Do not tighten at this point and make sure to use thread locker or lock tite. See photo # 14 for proper over size washer placement.**

Illustration # 11

60. Locate (2) 5/16" x 1 1/2" bolts, (4) 5/16" flat washers, (2) 5/16" lock washers and (2) 5/16" unitorque nuts from hardware bag 55905NB. Working on the driver side, install the stock rack and pinion flange to the previously installed steering shaft extension bracket and secure using the new 5/16" x 1 1/2" bolts and hardware. **Special note: Do not tighten at this point and make sure to use thread locker or lock tite. Also, make sure that the marks that were made in step # 20 on the stock steering shaft flange and the stock rack and pinion flange are lined up.**

Illustration # 12

61. Working on the passenger side, torque the stock upper all thread nut that connects the stock rack and pinion to the stock rear cross member to **85 ft lbs**. Also, torque the new 9/16" x 2 1/2" bolt that connects the stock rack and pinion to the newly installed one piece lower sub frame to **95 ft lbs**.

62. Working on the center of the stock rack and pinion, torque the new 9/16" x 2 1/2" bolt that connects the stock rack and pinion to the newly installed one piece lower sub frame to **95 ft lbs**.

63. Working on the driver side, torque the stock hardware that connects the stock rack and pinion to the newly installed one piece lower sub frame to **110 ft lbs**.

64. Working on the driver side, torque the stock hardware that connects the stock steering shaft to the new steering shaft extension bracket to **18 ft lbs**. Also, torque the new 5/16" x 1 1/2" bolts that connect the new

steering shaft extension bracket to the stock rack and pinion to **18 ft lbs.**

65. Locate the stock front drive line and the stock hardware that was removed from step # 30. Re-install the stock front drive line back into the stock location using the stock hardware. Torque the stock hardware to **30 ft lbs.** **Special note: When re-installing the stock front drive line from the vehicle, take special care that the slip yoke on the stock front drive line does not come apart. If the slip yoke comes apart and it does not get re-installed back into the stock location, it may cause the stock front driveline to be out of balance.**

66. Locate the stock driver side spindle that was removed from step # 14. Working on the stock driver side spindle, carefully remove the inner stock oil seal from the stock spindle. **Special Note: Take special care not to damage the stock oil seal during removal.** Set the stock oil seal a side for later instructions.

67. Working on the stock driver side spindle, carefully press out the stock hub assembly from the stock spindle. **Special Note: Tuff Country highly recommends that this step be performed by a capable installer or technician. If special care is not taken, the stock hub assembly, ABS speed sensor rotor or bearing spacer may be damaged. If the stock hub assembly, ABS speed sensor rotor or bearing spacer are damaged a new hub assembly, ABS speed sensor or bearing spacer will need to be purchased from your local dealer.** Once the stock hub assembly has been pressed out, set the stock hub assembly, ABS speed sensor rotor and bearing spacer a side for later instructions.

68. Working on the stock driver side spindle, remove the (4) stock bolts holding the stock dust cover to the stock driver side spindle. Set the stock bolts and dust cover a side for later instructions. Also, at this time remove the outer stock oil seal from the stock spindle. **Special note: Take special care not to damage the stock oil seal during removal.** Set the stock oil seal a side for later instructions. The stock spindle may be discarded.

69. Locate the new driver side spindle. Locate the stock outer oil seal, the (4) stock bolts and the stock dust cover that were removed in step # 68. Install the stock outer oil seal to the new spindle. **Special note: Take special care not to damage the stock oil seal during installation.** Next, install the stock dust cover to the new driver side spindle using the stock hardware. **Special note: Make sure to use thread locker or lock tite.** Torque the stock hardware to **13 ft lbs.**

70. Locate the stock hub assembly, the stock ABS speed sensor rotor and bearing spacer that were removed from step # 69. Carefully press the stock hub assembly into the new driver side spindle. **Special note: Tuff Country highly recommends that this step be**

performed by a capable installer or technician. If special care is not taken, the stock hub assembly or new driver side spindle may be damaged. If the stock hub assembly or the new driver side spindle are damaged, new parts will need to be purchased. Re-install the stock ABS speed sensor and bearing spacer into the new driver side spindle. **Special note: Tuff Country highly recommends that this step be performed by a capable installer or technician. If special care is not taken, the stock ABS speed sensor or bearing spacer may be damaged. If the stock ABS speed sensor rotor or bearing spacer are damaged, new ABS speed sensor rotor or bearing spacer will need to be purchased.**

71. Locate the stock inner oil seal that was removed from step # 66. Carefully re-install the stock inner oil seal to the new driver side spindle. **Special note: Take special care not to damage the stock oil seal during installation.** Set the new driver side spindle a side for later re-installation.

72. Repeat steps 63 — 71 for the passenger side spindle.

73. Locate the new driver side spindle. Remove the new upper ball joint castle nut and set a side for later installation. Working on the driver side, carefully slide the stock drive shaft into the new driver side spindle. Secure the new driver side spindle to the stock upper control arm and finger tight the new upper ball joint castle nut that was removed earlier in this step.

Photo # 13

74. Locate the (4) stock bolts that connected the stock lower control arm ball joint plate to the stock spindle that were removed from step # 13. Secure the stock lower control arm ball joint plate to the new driver side spindle using the stock hardware. **Special note: Make sure to use thread locker or lock tite.** Torque to **39 ft lbs.**

Photo # 14

75. Locate the stock cotter pin and castle nut that connected the stock outer tie rod to the stock lower ball joint plate that was removed in step # 12. Secure the stock outer tie rod to the stock lower ball joint plate using the stock castle nut. Torque to **67 ft lbs.** Making sure that the hole in the stock castle nut and the stock outer tie rod line up, install the stock cotter pin.

Photo # 15

76. Locate (1) new cotter pin from hardware bag 55905SL. Working on the driver side, torque the new upper castle nut that connects the upper ball joint to the stock driver side upper control arm. Torque to **80 ft lbs.** Making sure that the hole in the new castle nut and the new upper ball joint are lined up, install the new cotter pin. **Special note: If the new cotter pin can not be installed because the hole in the new castle nut does not line up with the new ball joint, DO NOT loosen**

the new castle nut so that the cotter pin can fit, tighten the new castle nut some more so that the new cotter pin can be installed.

77. Locate (1) new wire tie from hardware bag 55905SL. Working on the driver side, install the new wire tie to the new upper ball joint boot on the new driver side spindle.

78. Locate the stock cotter pin, stock lock cap and the stock nut that was removed in step # 10. Working on the driver side, secure the stock drive shaft to the stock hub assembly using the stock nut. **Special note: Make sure to use thread locker or lock tite.** Torque to **174 ft lbs.** Next, install the stock lock cap and the stock cotter pin.

Photo # 16

79. Locate the stock grease cap that was removed in step # 9. Working on the driver side, re-install the stock grease cap into the stock location.

Photo # 17

80. Repeat steps 73 — 79 for the passenger side spindle.

81. Locate the new driver and passenger side sway bar drop brackets. Also, locate (4) 3/8" x 1 1/2" bolts, (8) 3/8" flat washers, (4) 3/8" unitorque nuts and (4) 3/8" lock washers from hardware bag 55905NB. Working on the driver side, install the new driver side sway bar drop bracket to the stock frame mount location and secure using the new 3/8" x 1 1/2" bolts and hardware. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite.** Repeat procedure on the passenger side.

Illustration # 18

82. Locate the stock sway bar and the stock hardware that was removed from step # 4. Working on the driver side, install the stock sway bar to the newly installed sway bar drop brackets and secure using the stock hardware. **Special note: Do not tighten at this point. Make sure to use thread locker or lock tite.** Repeat procedure on the passenger side.

Illustration # 19

83. Locate the stock sway bar end link hardware that was removed from step # 3. Working on the driver side, install the stock sway bar to the stock lower control arm using the stock hardware. **Special note: Make sure to use thread locker or lock tite.** Torque to **22 ft lbs.** Repeat procedure on the passenger side.

84. Locate the stock rotors that were removed from step # 8. Working on the driver side, re-install the stock rotor to the stock hub assembly. Repeat procedure on the passenger side.

85. Locate the stock hardware that attached the stock brake caliper to the stock spindle that was removed from

step # 7. Working on the driver side, carefully untie the stock brake caliper that was tied in the stock fender well and attach the stock brake caliper to the new driver side spindle. **Special note: Make sure to use thread locker or lock tite.** Torque to **90 ft lbs.** Repeat procedure on the passenger side.

Photo # 20

86. Locate the stock ABS line hardware that connected the stock ABS line to the stock spindle that was removed from step # 5. Working on the driver side, attach the stock ABS line to the newly installed spindle using the stock hardware. **Special note: Make sure to use thread locker or lock tite.** Torque to **71 in lbs.** Repeat procedure on the passenger side.

Photo # 21

87. Locate the stock brake line bracket and hardware that was attached to the stock spindle. Working on the driver side, attach the stock brake line bracket to the newly installed spindle using the stock hardware. **Special note: Make sure to use thread locker of lock tite. See photo # 26 for proper stock brake line placement.** Torque to **10 ft lbs.** Repeat procedure on the passenger side.

Photo # 22

88. Locate (2) new front upper strut spacers. Locate the stock hardware that connected the stock strut into the stock location that was removed from step # 16. Locate the stock driver side strut that was removed in step # 17. Working on the driver side strut, install the new front upper strut spacer to the stock strut using the stock hardware. **Special note: Make sure to use thread locker or lock tite.** Torque to **38 ft lbs.** Repeat procedure on the passenger side strut.

89. Locate (6) 3/8" unitorque nuts, (6) 3/8" flat washers and (6) 3/8" lock washers from hardware bag 55905NB. Working on the driver side, install the stock driver side strut into the stock upper location, secure using the new 3/8" hardware. **Special note: Make sure to use thread locker or lock tite.** Torque to **38 ft lbs.** Repeat procedure on passenger side.

Illustration # 23

90. Locate the stock lower hardware that attached the stock strut to the stock lower control arm that was removed from step # 17. Working on the driver side, install the lower eyelet of the stock strut into the stock location using the stock hardware. **Special Note: Make sure to use thread locker or lock tite. Also, make sure that the bolt is installed from the back of the vehicle to the front. The stock nut needs to be towards the front of the vehicle.** Torque to **85 ft lbs.** Repeat procedure on the passenger side.

Illustration # 24

91. Move back to the newly installed driver side sway bar drop brackets and torque the stock and new hardware to

18 ft lbs. Repeat procedure on the passenger side.

92. Locate the stock passenger side rack and pinion hi pressure and return line hardware that was removed in step # 18. Locate the new passenger side rack and pinion hi pressure and return line relocation bracket. Also, locate (1) 5/16" x 1" bolt, (2) 5/16" flat washers, (1) 5/16" unitorque nut and (1) 5/16" lock washer from hardware bag 55905NB. Working on the passenger side, install the new relocation bracket to the passenger side of the stock rack and pinion using the stock hardware. **Special note: Make sure to use thread locker or lock tite. Do not tighten at this point.** Next, secure the stock rack and pinion hi pressure and return line to the newly installed relocation bracket and secure using the new 5/16" x 1" bolt and hardware. **Special note: Make sure to use thread locker or lock tite.** Torque the stock and new hardware to **14 ft lbs.**

93. Locate the stock upper skid plate and the stock upper skid plate hardware that was removed in step # 2. Install the stock upper skid plate into the stock location and secure using the stock hardware. **Make sure to use thread locker or lock tite** and torque to **18 ft lbs.**

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

95. With the weight of the vehicle on the ground, working on the driver side, torque the stock cam bolts that attach the stock front lower control arm to the newly installed one piece lower sub frame to **96 ft lbs.** Repeat procedure on the passenger side.

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

Front End Installation Complete:

Rear End Installation:

97. 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 rear wheels and tires from both sides.

98. Using a pair of hydraulic floor jacks, place one hydraulic floor jack on the driver side of the rear axle and one on the passenger side.

99. Working on the driver side, remove the stock shock from the stock upper and lower location. The stock shock and the stock upper hardware may be discarded. Save the stock lower hardware for later re-installation. **Special Note: New longer rear shocks are needed, if you have not already ordered your new rear shocks, please contact Tuff Country or your local Tuff Country dealer and order the proper shocks. Tuff**

Country recommends using a 26" fully extended nitrogen gas shock. Repeat procedure on passenger side.

100. Working on the passenger side of the rear axle, remove the stock brake proportioning valve bracket from the stock location and save the stock hardware for later re-installation.

101. Working on the driver side, remove the stock rear brake line from the stock upper and lower location. Save the stock upper brake line clip for later re-installation. The stock brake line may be discarded. **Special note: Brake fluid will drain out, so place something under the vehicle to catch the fluid as it drains out.**

102. Working on the driver side, remove the stock u-bolts from the stock location and discard the stock u-bolts and u-bolt hardware. Set the stock upper bump stop and lower u-bolt plate a side for later re-installation. Repeat procedure on the passenger side.

103. Carefully lower down on both hydraulic floor jacks at the same time approximately 4.5". Take special care not to kink on over extend any brake lines and/or hoses.

104. Locate (2) new 4" lifted blocks. Working on the driver side, install the new 4" lifted block between the stock spring assembly and the stock axle. **Special note: The new 4" lifted block has a slight taper to it, make sure that when you install the new block that you install it with the taper going towards the front of the vehicle.** Repeat procedure on the passenger side.

105. Carefully raise up on both hydraulic floor jacks at the same time until the new 4" lifted rear blocks seat properly to the stock rear springs.

106. Locate (4) 9/16" x 2 1/2" x 10 5/8" square u-bolts. Locate the (8) new 9/16" U-bolt high nuts and (8) new u-bolt harden washers from hardware bag 916NW. Also, locate the stock upper bump stops and the stock lower U-bolt plates that removed in step # 102. Working on the driver side, install the stock upper bump stop, lower U-bolt plate and the new U-bolts into the stock location and secure using the new high nuts and harden U-bolt washers. Torque to **115 ft lbs.** Repeat procedure on the passenger side.

Illustration # 25

107. Carefully remove both hydraulic floor jacks from under the vehicle.

108. Locate (1) new rear brake proportioning valve bracket. Also, locate the stock rear brake proportioning valve bracket hardware that was removed in step # 100. Install the new rear brake proportioning valve bracket to the stock location using the stock hardware. **Special note: Make sure to use thread locker or lock tight.**

Illustration # 26

109. Locate (2) 5/16" x 1" bolts, (2) 5/16" lock washers, (4) 5/16" flat washers and (2) 5/16" unitorque nuts from hardware bag 55905NB. Install the stock rear brake proportioning valve bracket to the newly installed rear brake proportioning valve bracket using the new 5/16" x 1" bolts and hardware. **Special Note: Make sure to use thread locker or lock tite.** Torque the stock hardware to **12 ft lbs** and the new 5/16" hardware to **18 ft lbs.**

Illustration # 26

110. Locate the new rear brake line. Also, locate the stock rear clip that was removed from step # 101. Install the new rear brake line to the stock rear axle mount and torque to **26 ft lbs.** Install the upper part of the new brake line to the stock location on the inner frame rail and torque to **26 ft lbs.** Next, install the stock rear clip back into the stock location on the stock upper mount.

111. Locate the new rear shocks. **Special Note: New longer rear shocks are needed once this suspension system has been instead and the new rear shocks need to be ordered as a separate part #. If you have not already ordered your new rear shock, please contact Tuff Country or your local Tuff Country dealer and order your new rear shocks. Tuff Country recommends using a 26" fully extended nitrogen gas shock in the rear of your vehicle.** Locate (4) new 3/8" x 1 1/2" fender washers from hardware bag 55905NB. Also, locate (4) PB8297 front upper shock bushings. Install the new bushings and proper sleeves into the lower eyelet of your new shocks. **Special note: The new bushings and sleeves are supplied with your new shocks. Also, make sure to use a lithium or moly base grease prior to inserting the new bushings and sleeves into the new shocks. This will increase the life of the bushings and will help prevent squeaking.** Install the new shock boots onto the new shocks. **Special note: The new shock boots are not included with this suspension system and the new shock boots need to be ordered as a separate part #. If you have not already ordered your new shock boots, please feel free to contact Tuff Country or your local Tuff Country dealer and order your new shock boots.** Install the new fender washer and upper shock bushing onto the stud of the new shocks. Working on the driver side, install the new shock into the stock upper location, install the new upper shock bushing and new fender washer and secure the new shock into the stock upper location using the new nut. **Special note: The new upper shock nut is supplied with your new shocks. Do not tighten at this point.** Repeat procedure on the passenger side.

112. Locate the stock rear lower shock hardware that was removed in step # 99. Working on the driver side, install the new shock into the stock lower location using the stock hardware. Torque the lower stock hardware to **65 ft lbs.** and torque the stock upper nut to **18 ft lbs.**

113. Re-install the tires and wheels and safely lower the vehicle to the ground.

114. With the new rear brake line being replaced, brake fluid drained out. Top of the brake fluid with the proper brake fluid and bleed the brakes. Refer to the owners manual for proper instruction on how to bleed the brake lines.

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

Congratulations, installation complete.

If you have any question or concerns about the installation, please do not hesitate to call one of technicians @ (801) 280 — 2777.

Take the vehicle directly to an alignment shop for a proper front end alignment

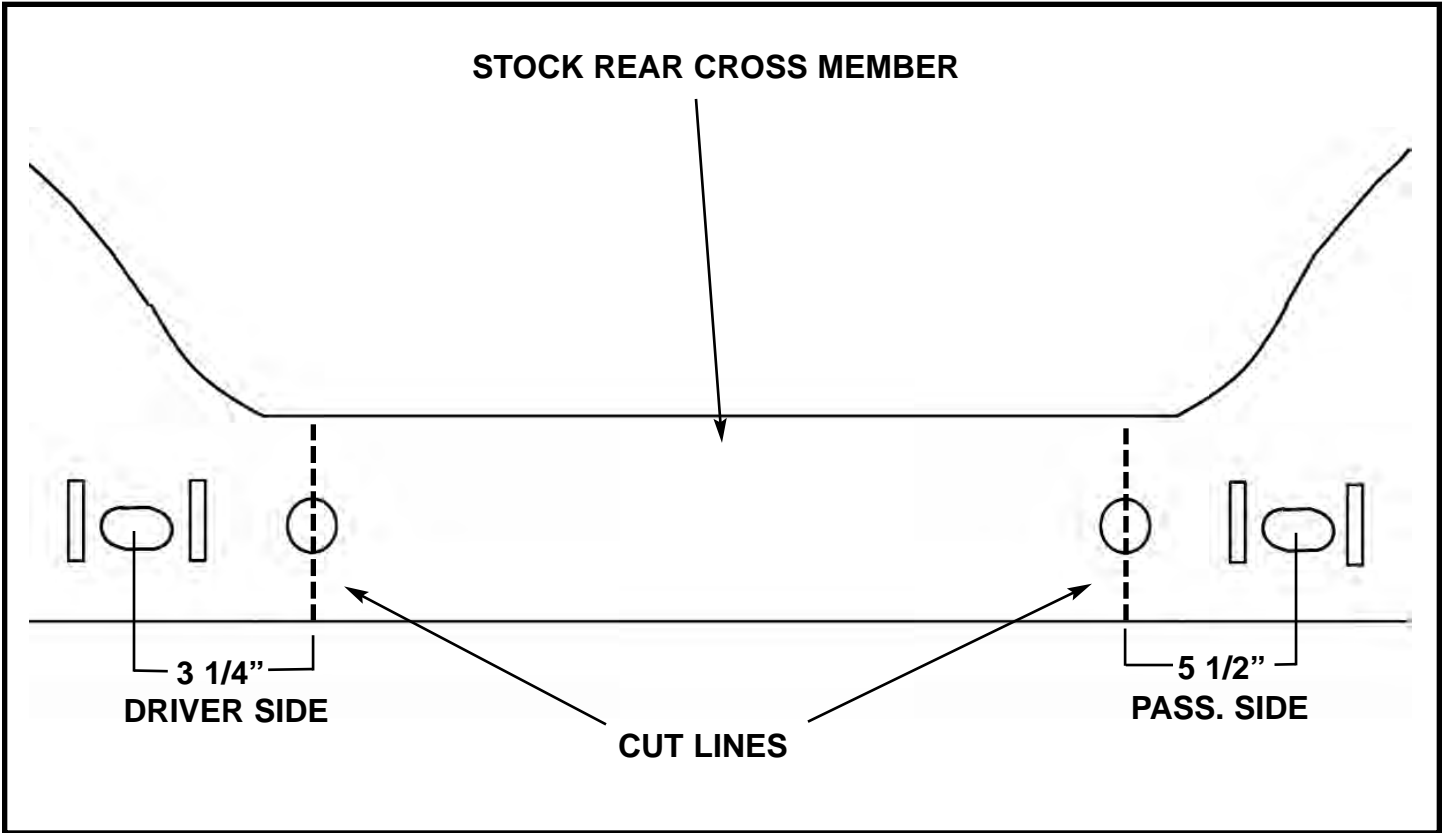


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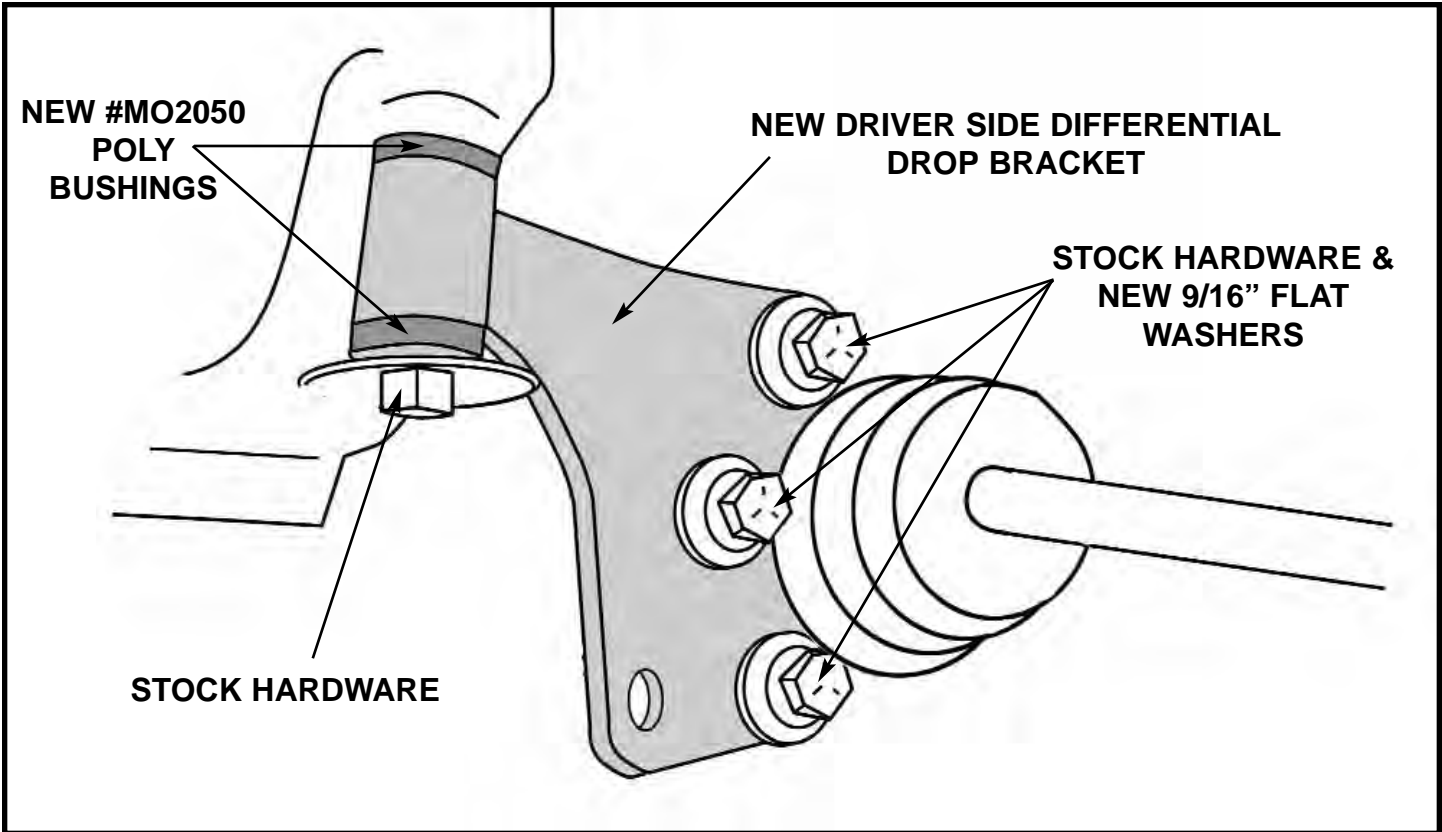


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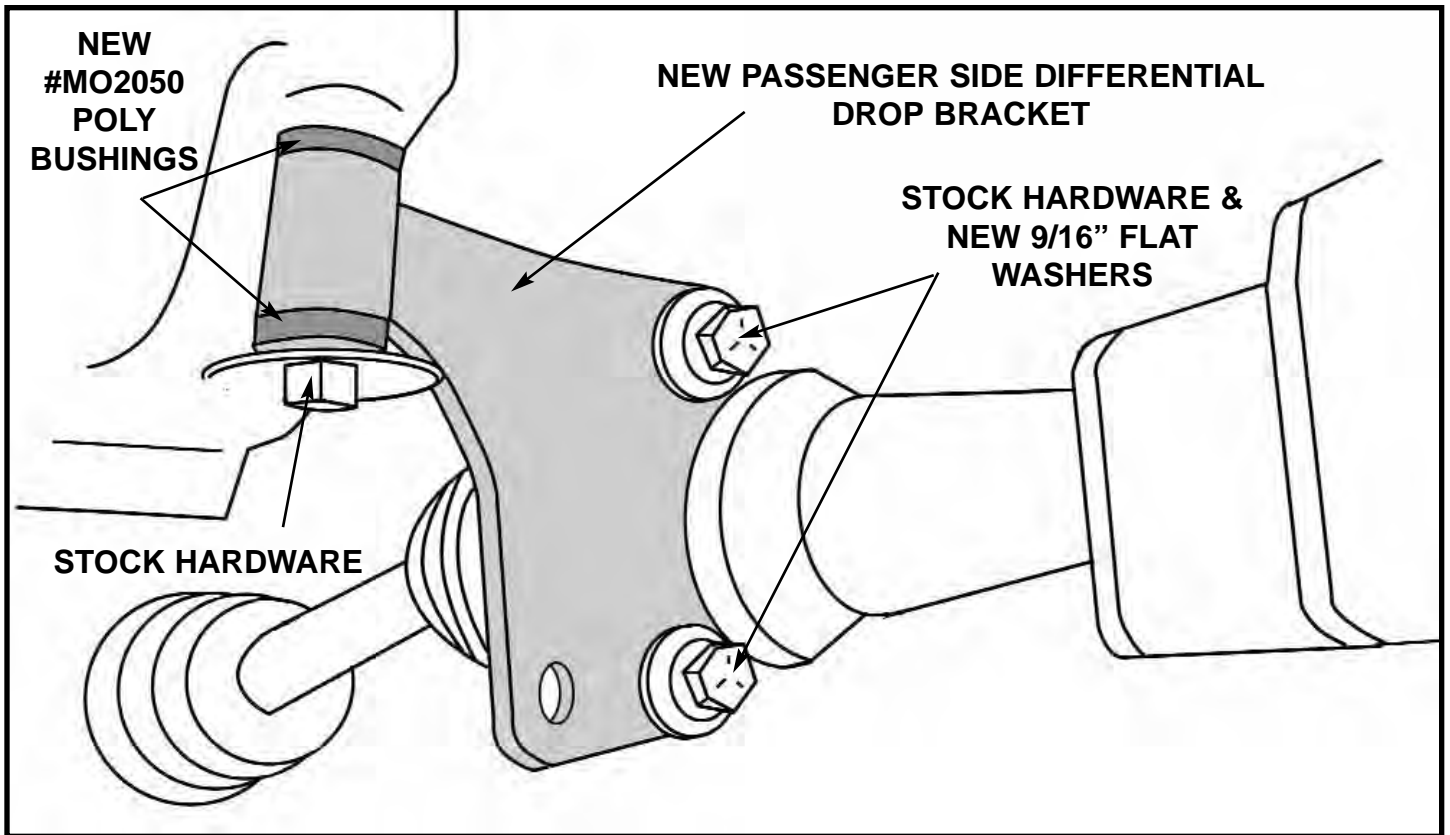


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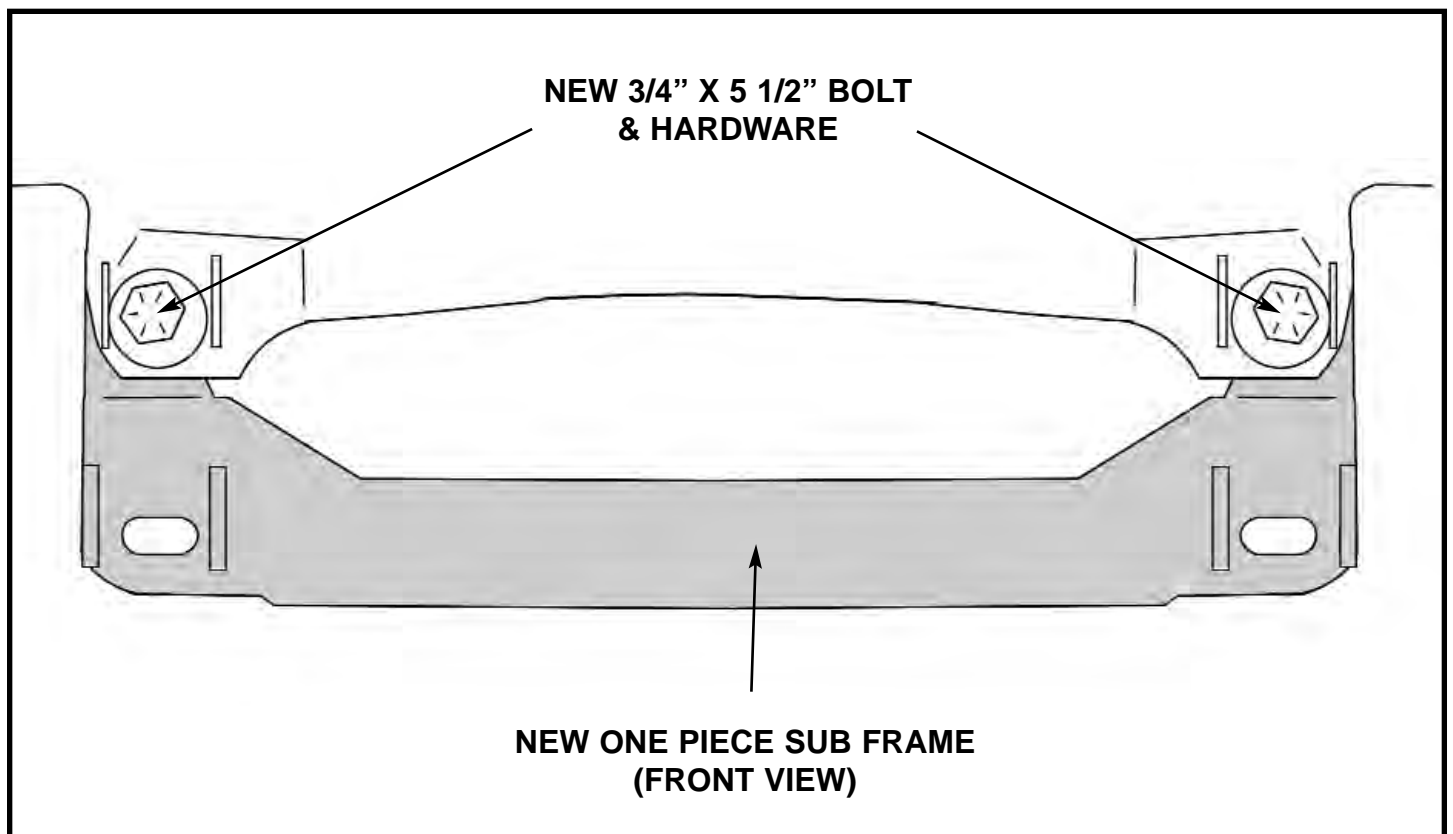


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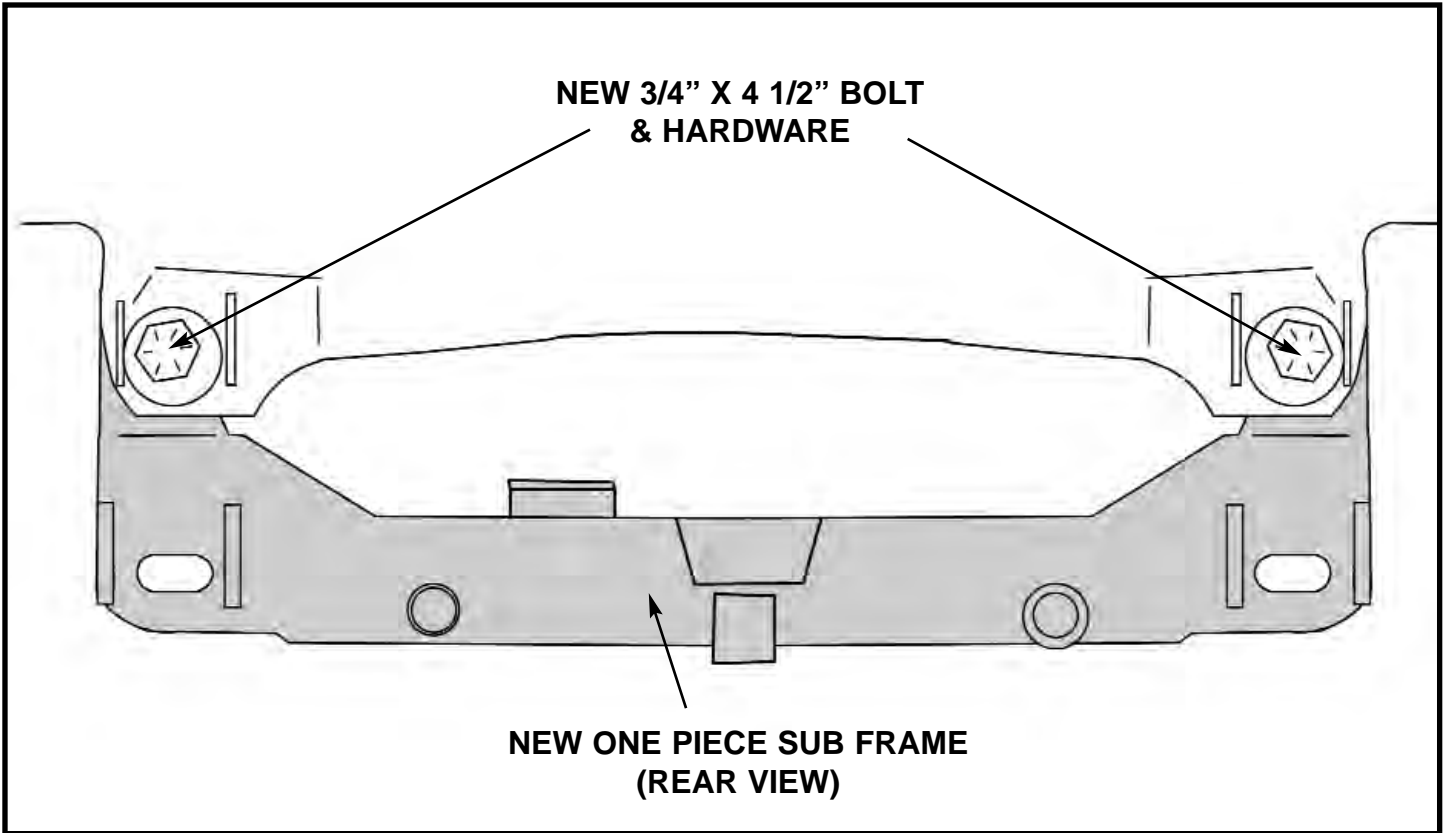


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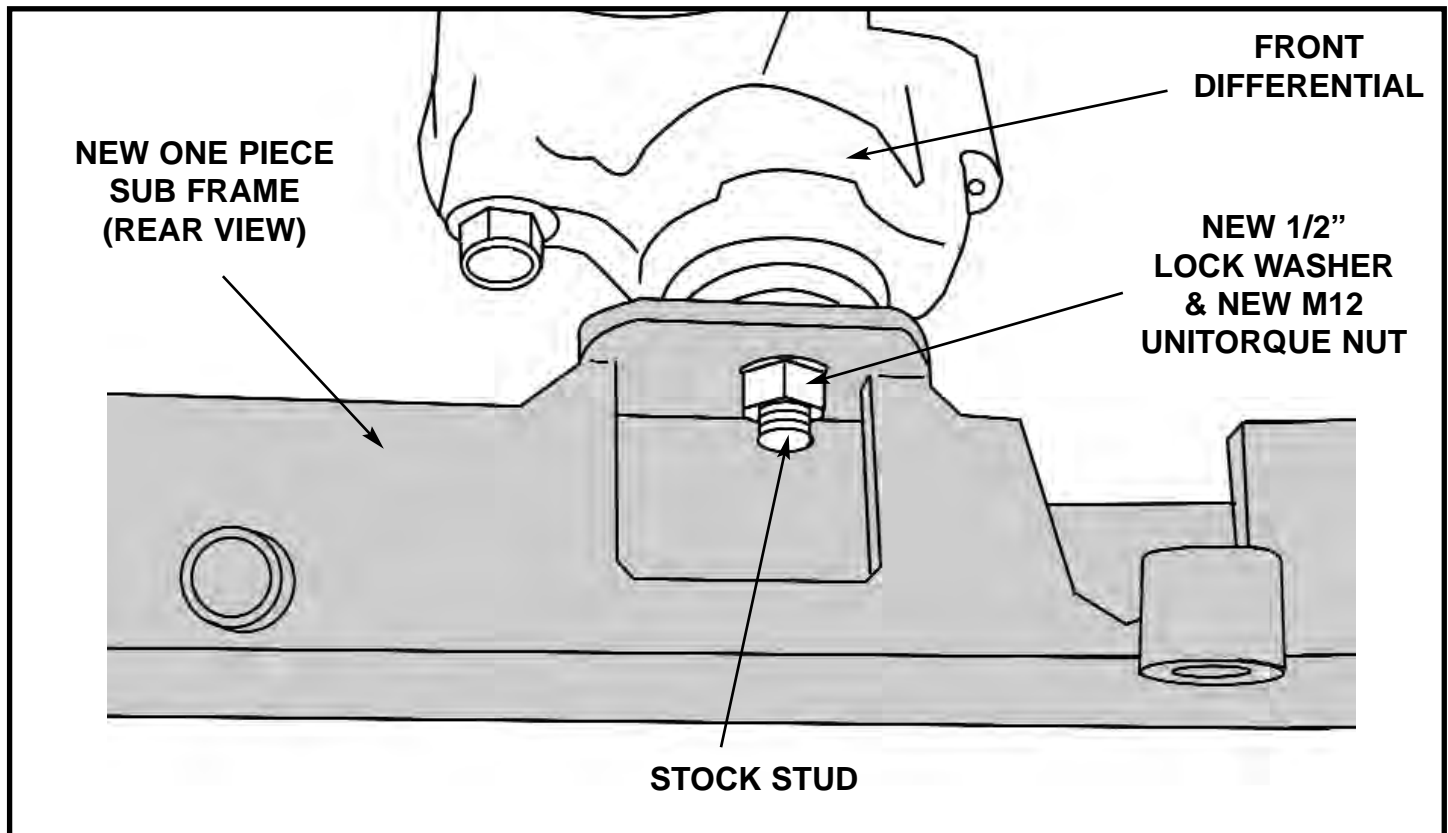


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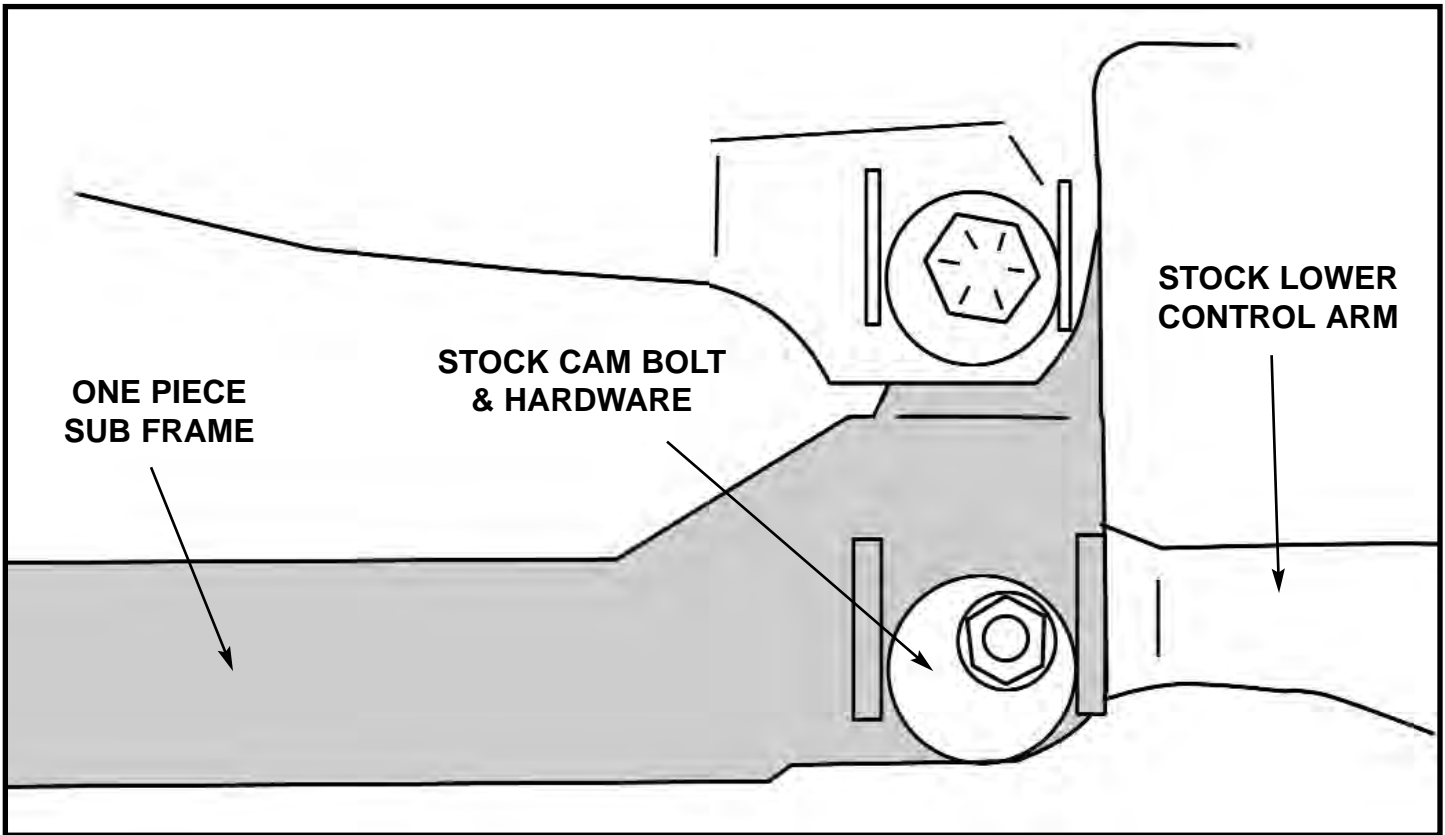


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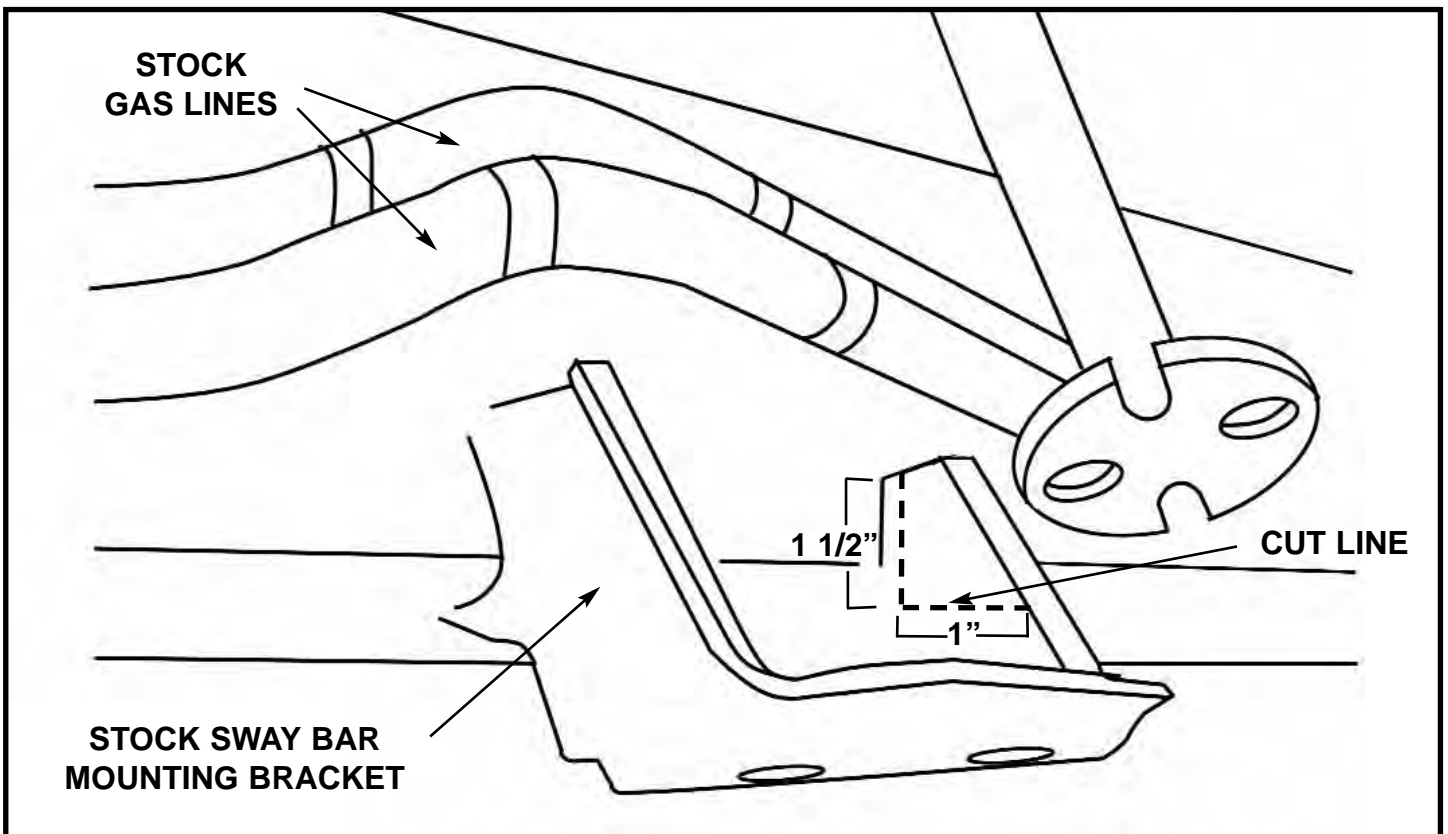


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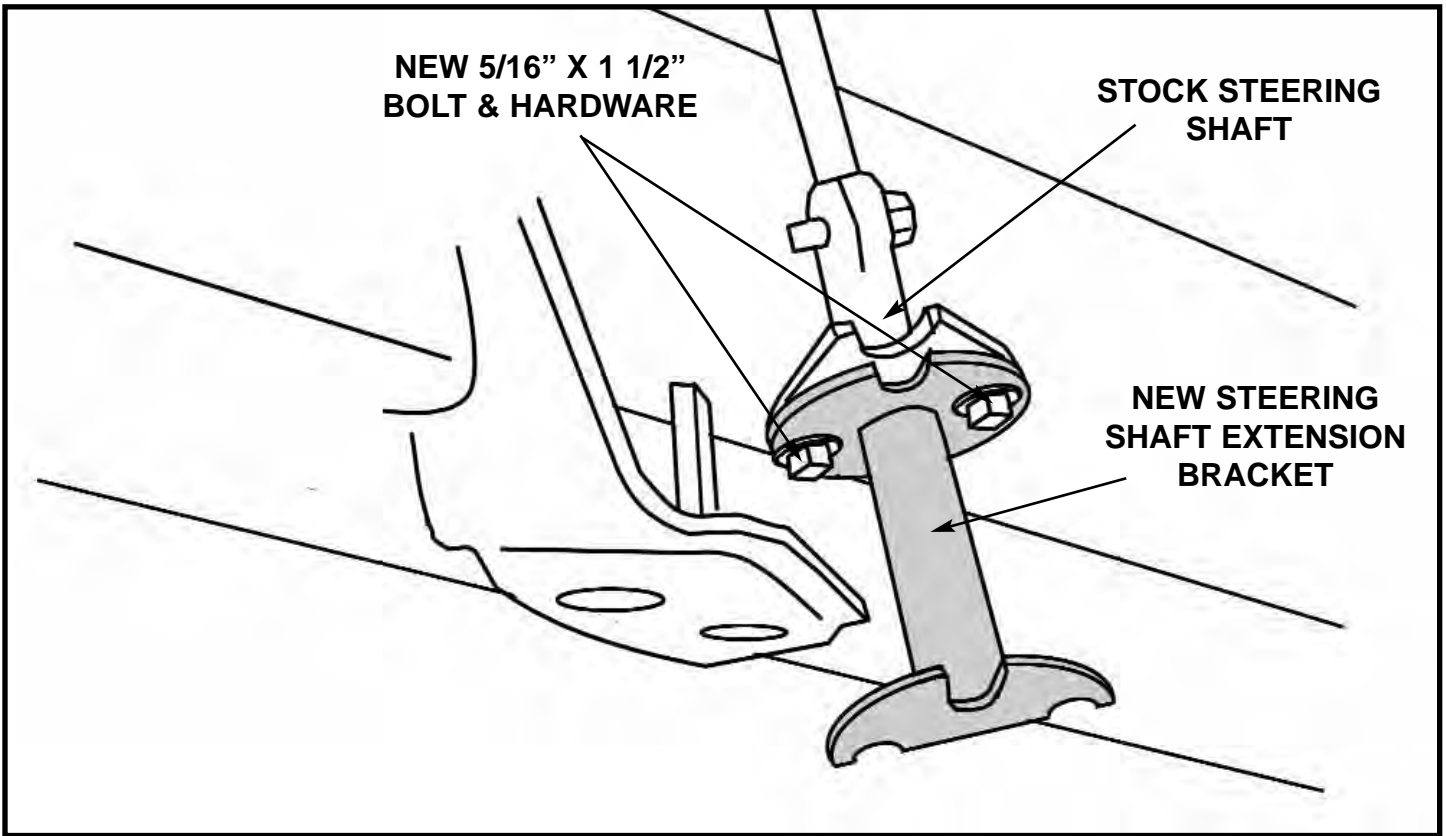


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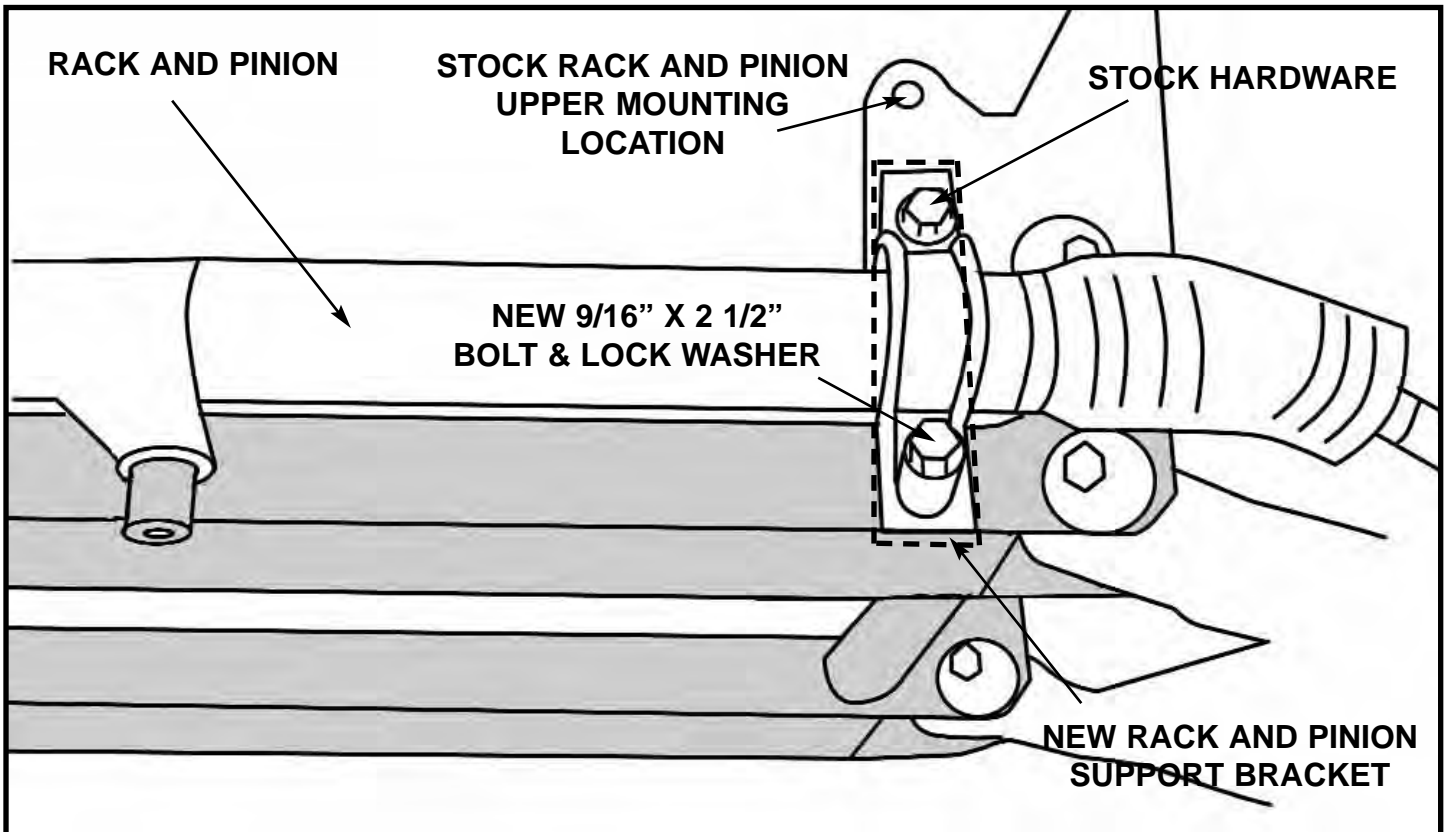


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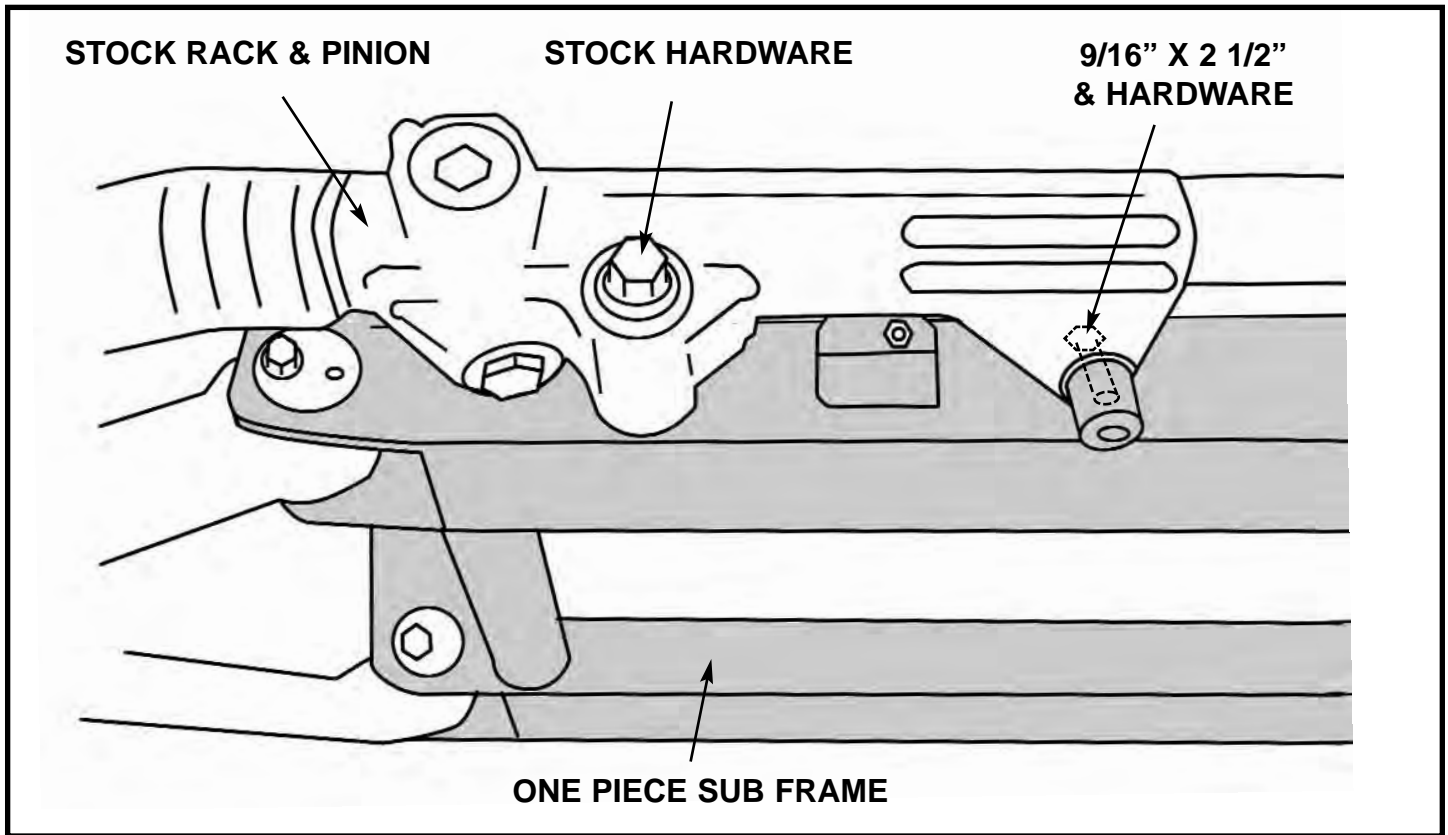


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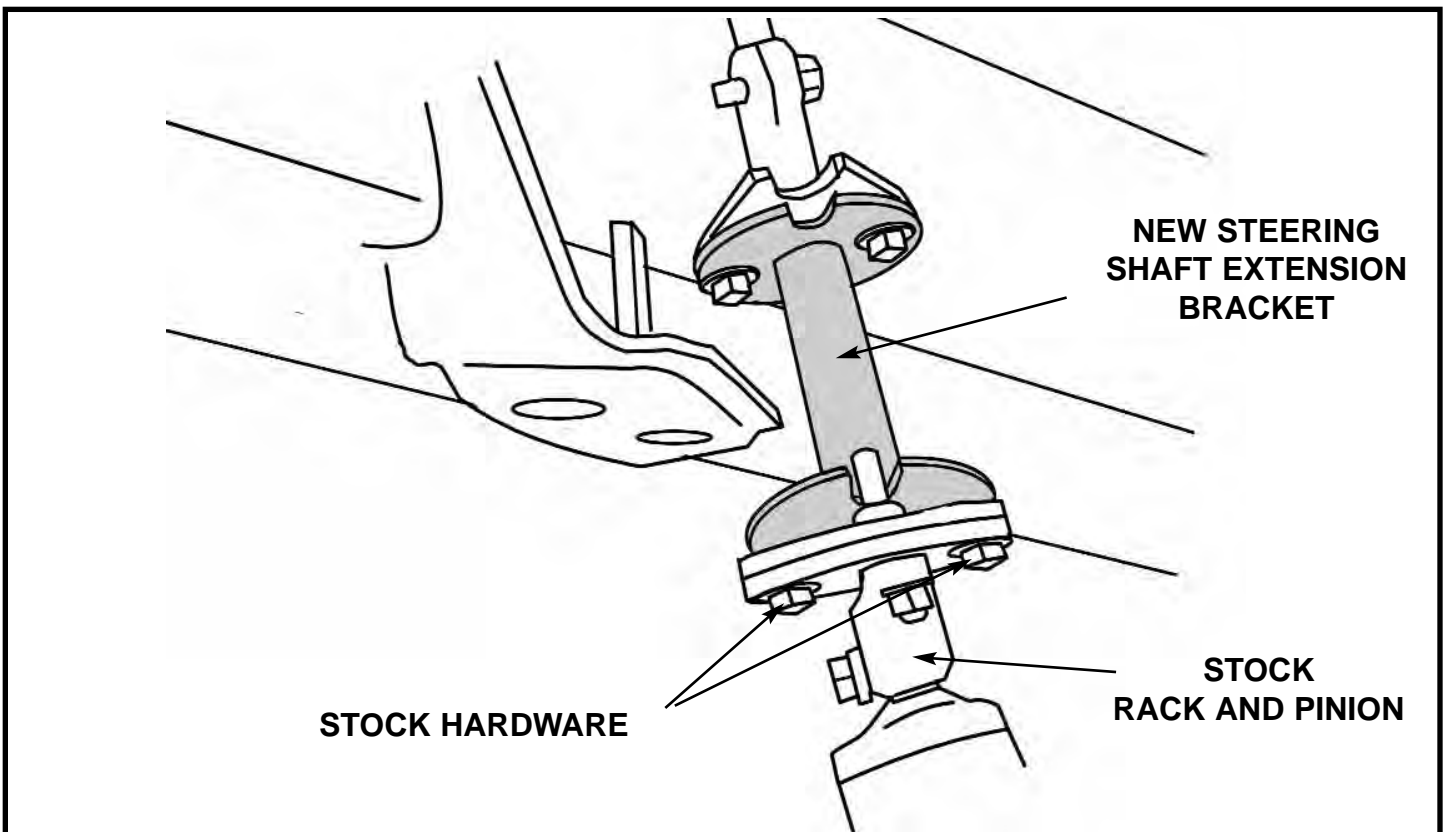


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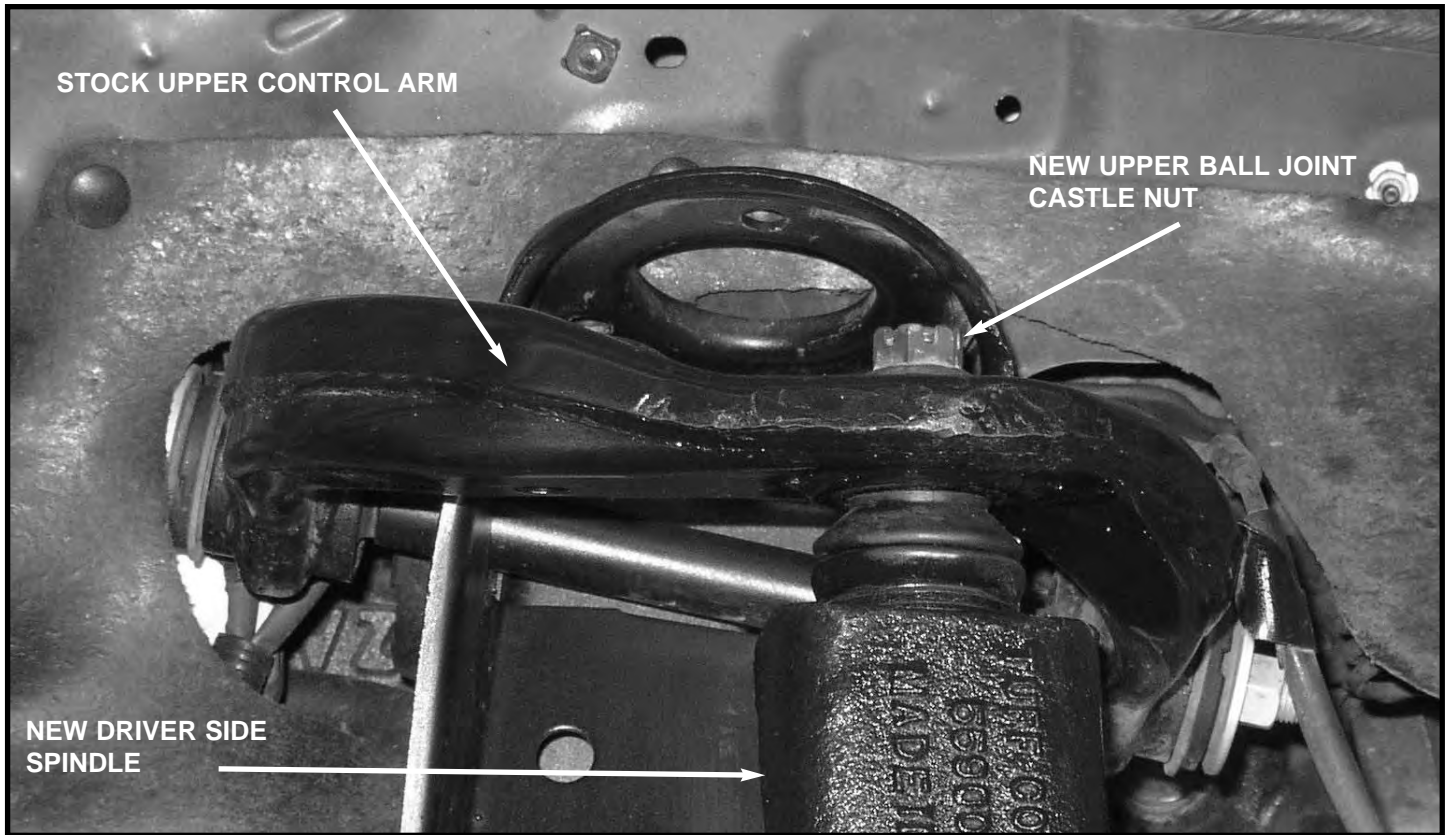


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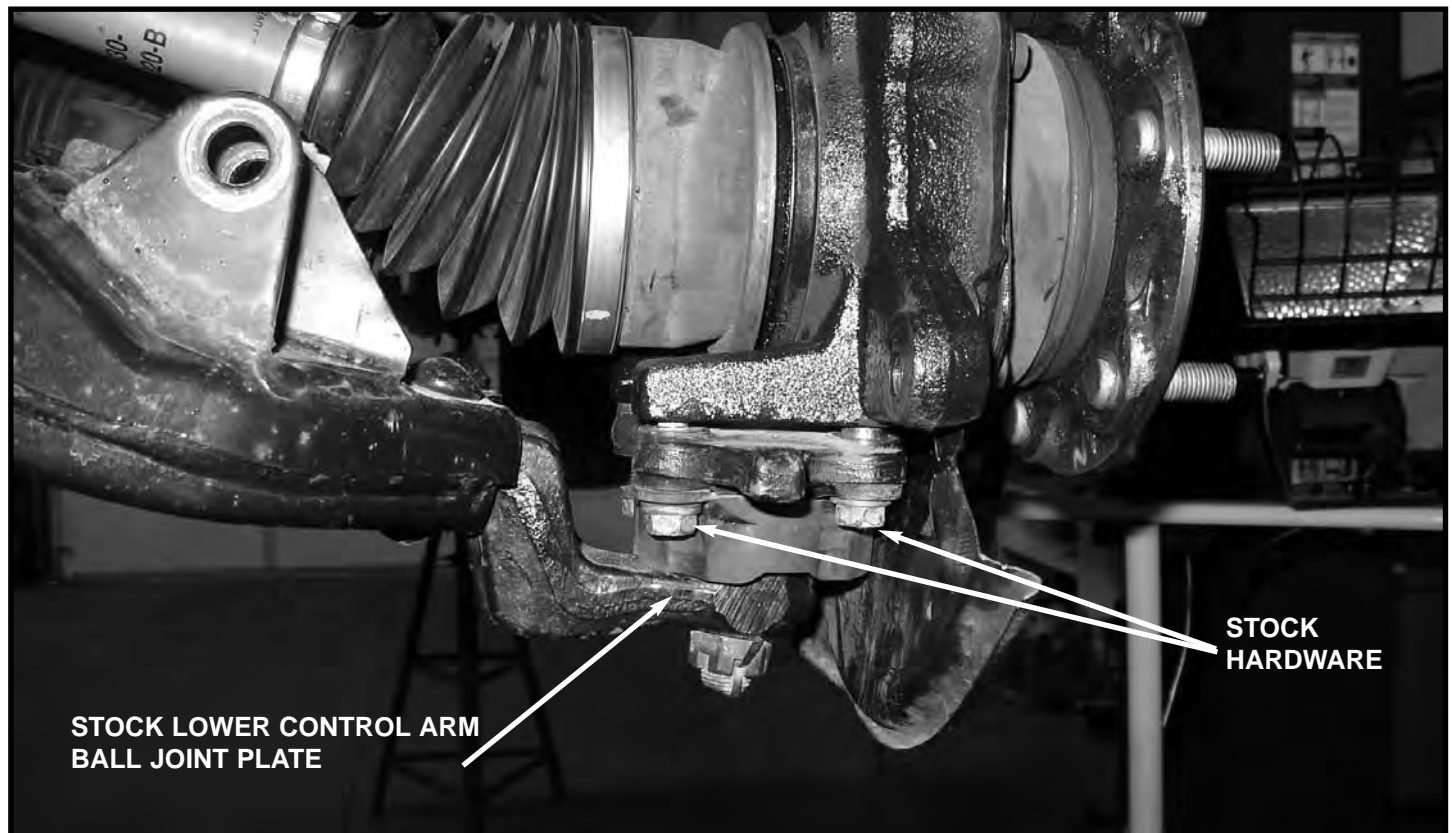


PHOTO # 14



PHOTO # 15

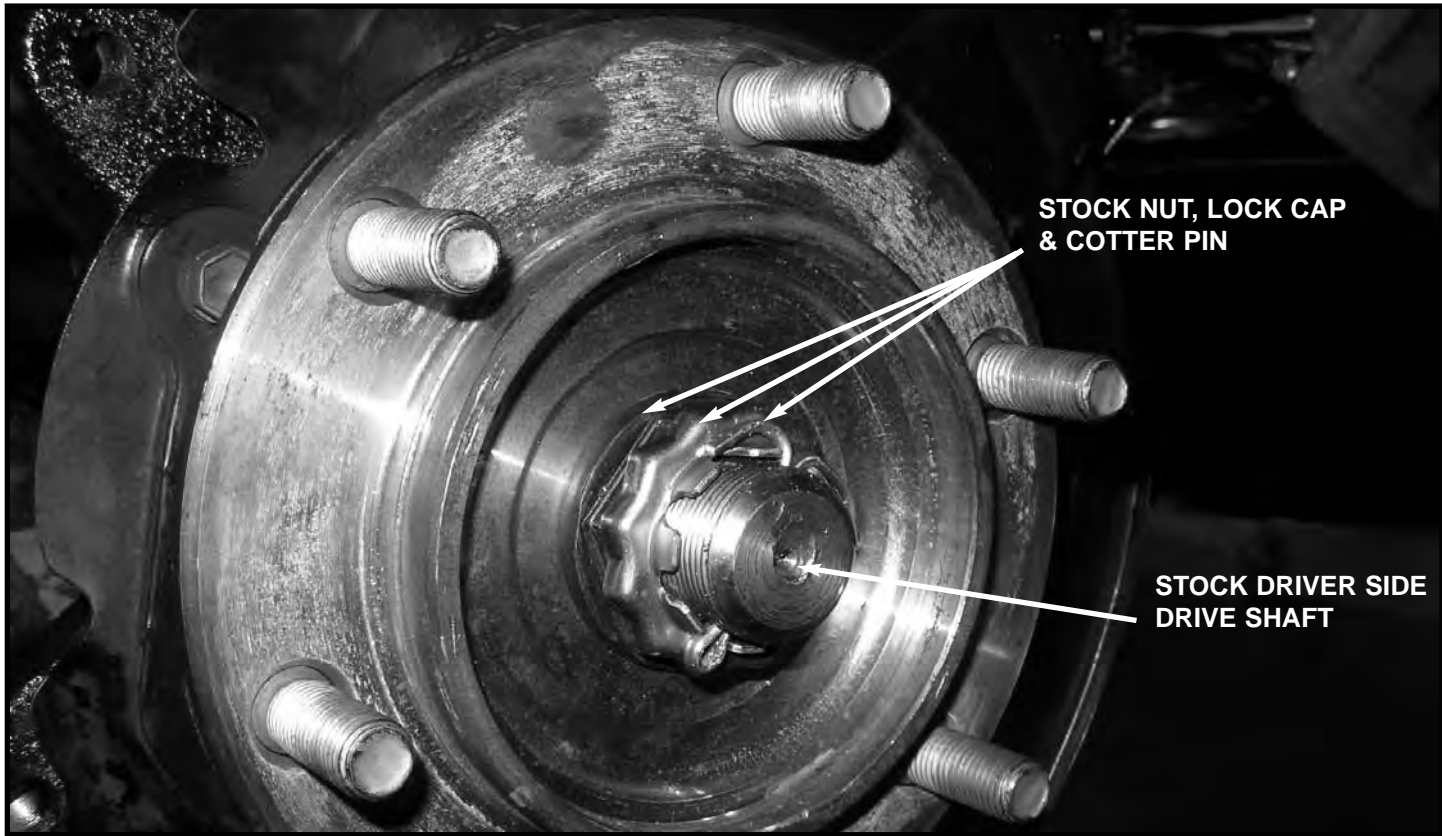


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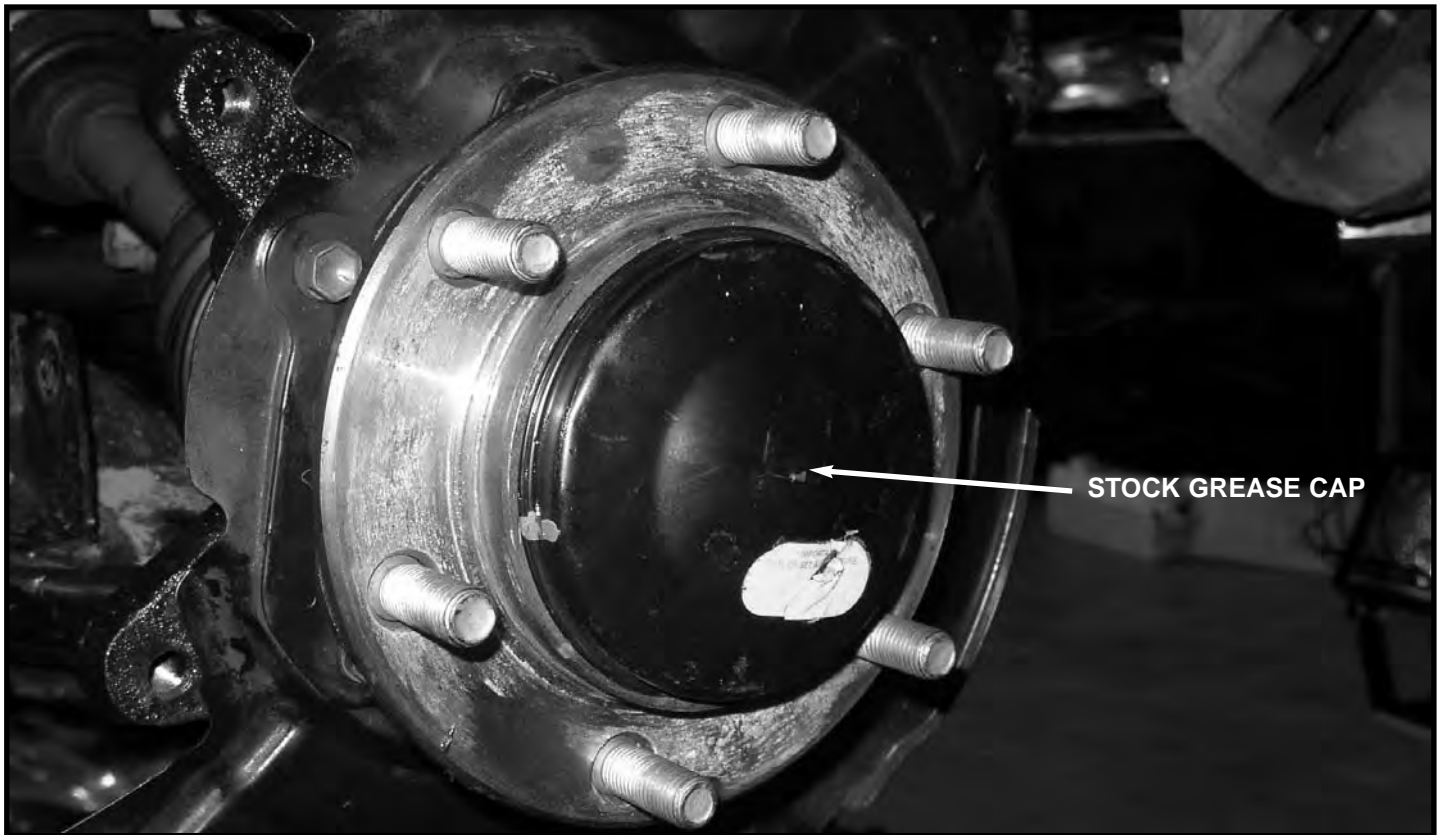


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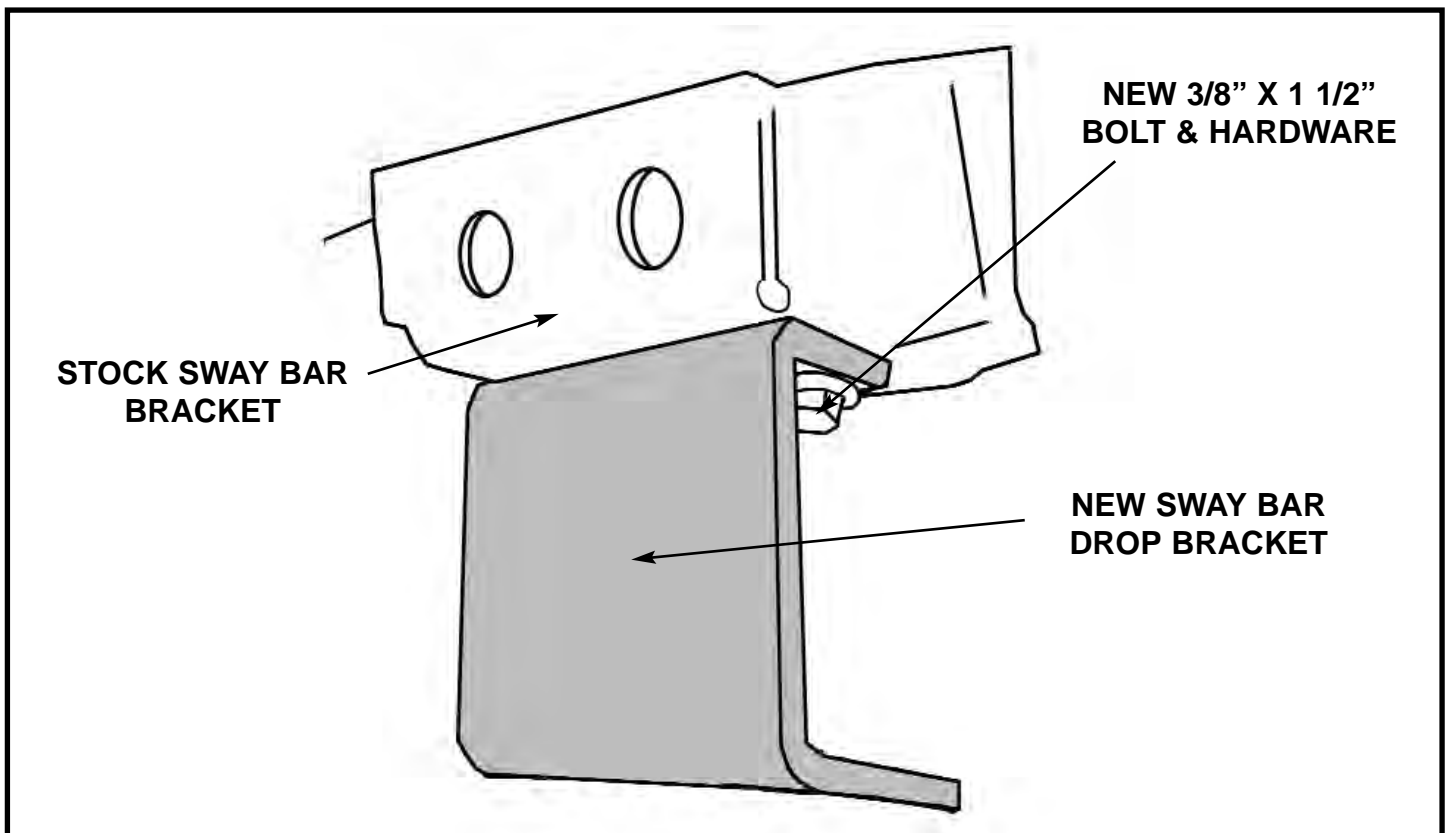


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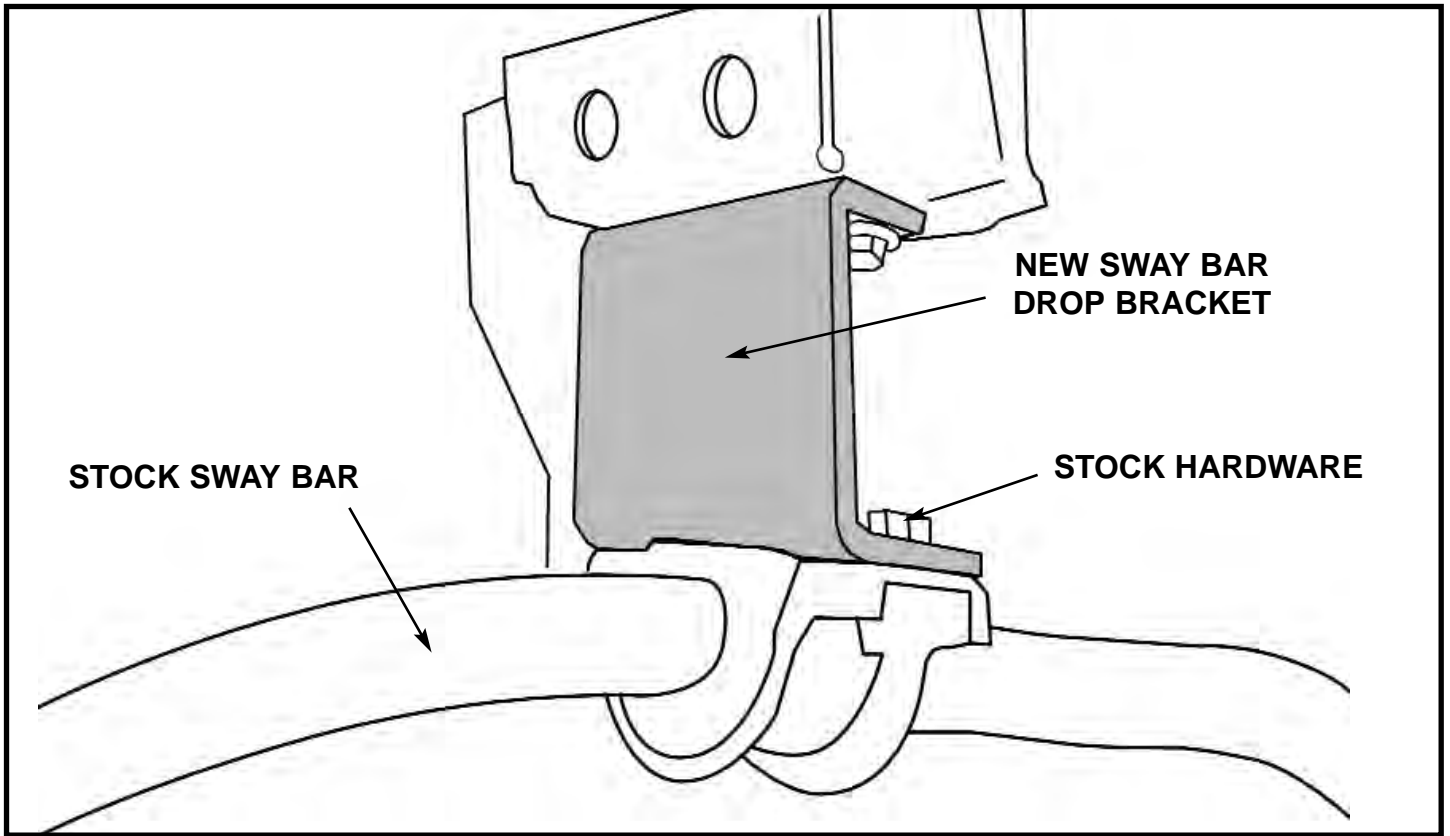


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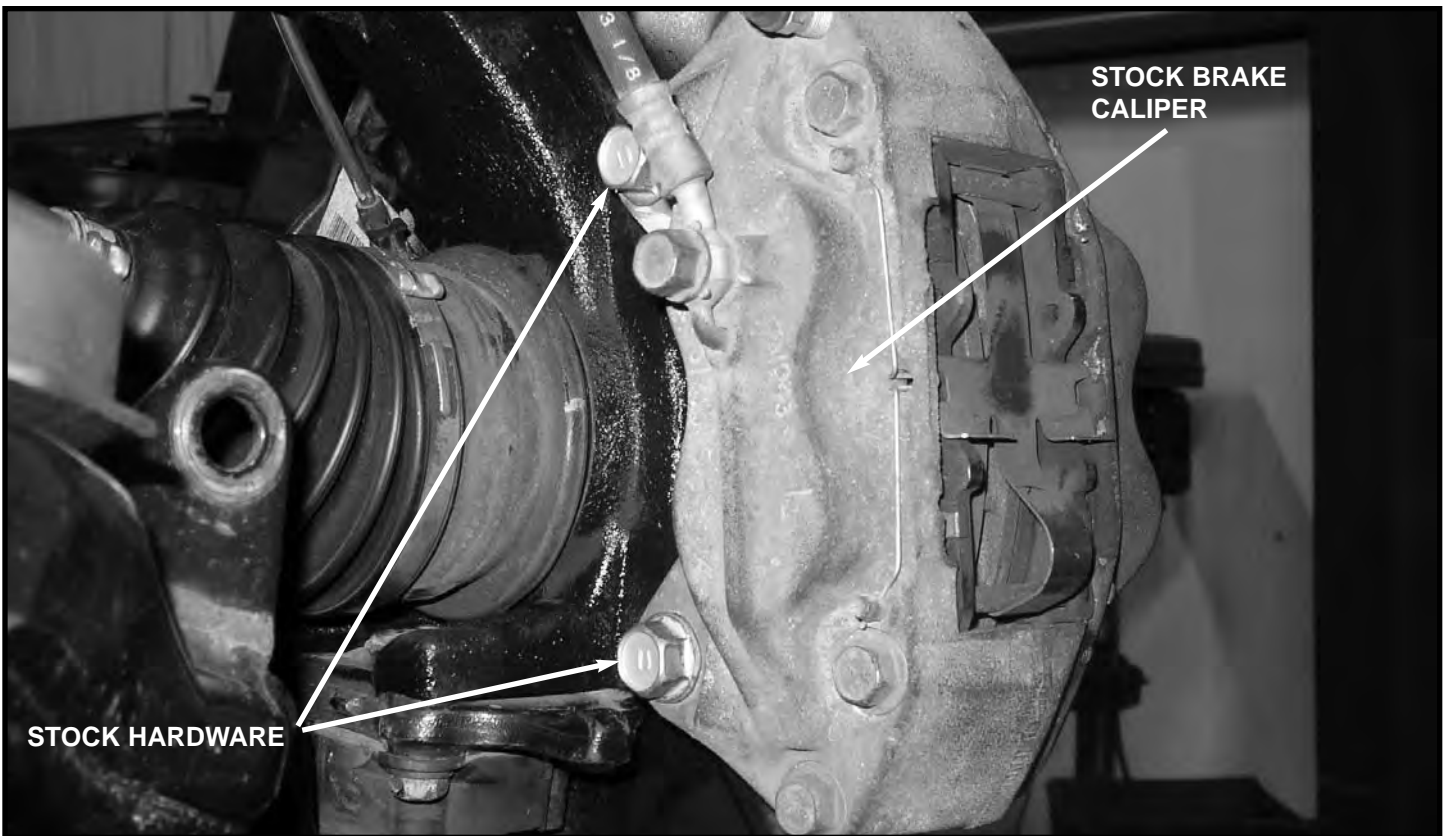
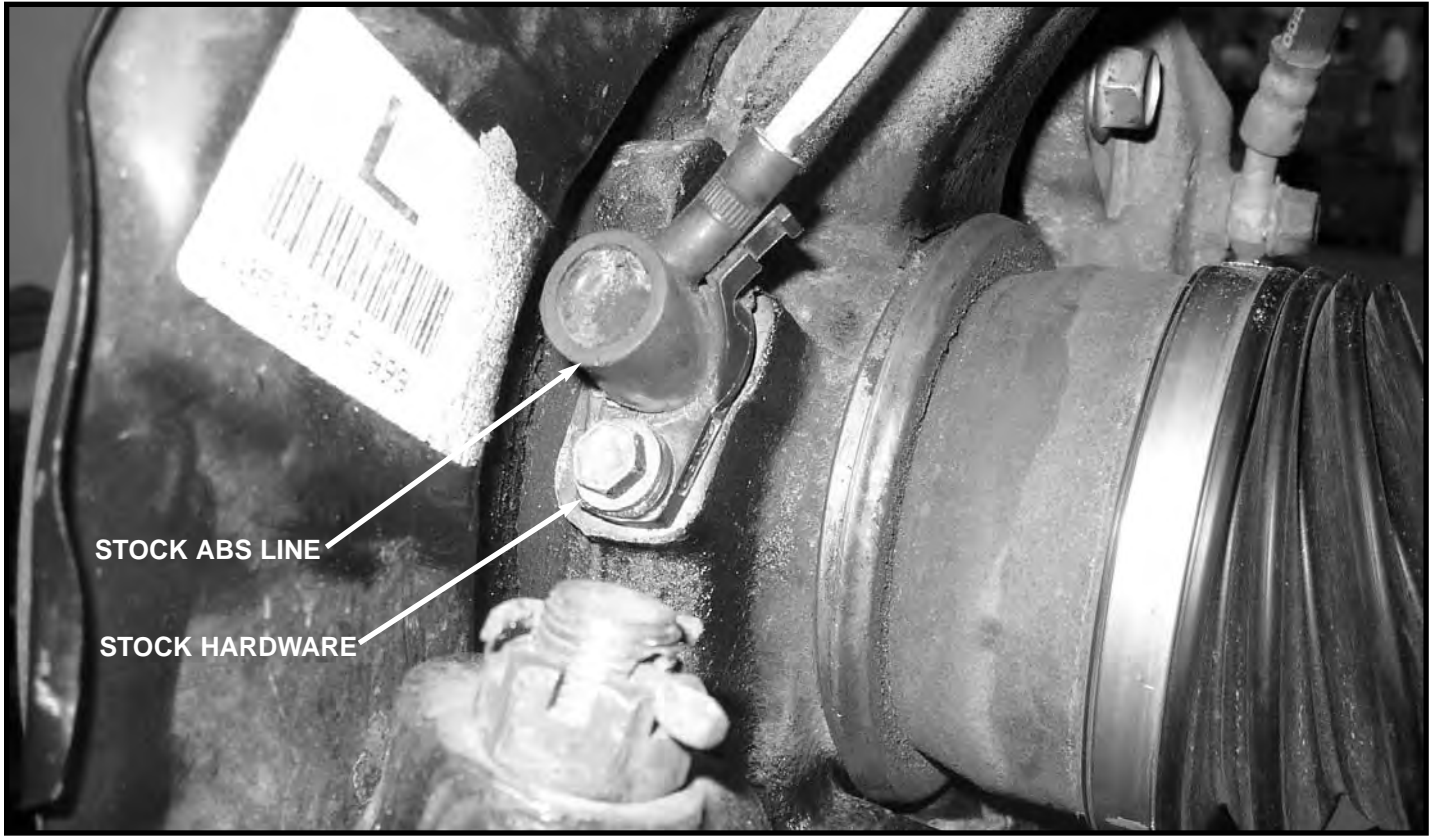


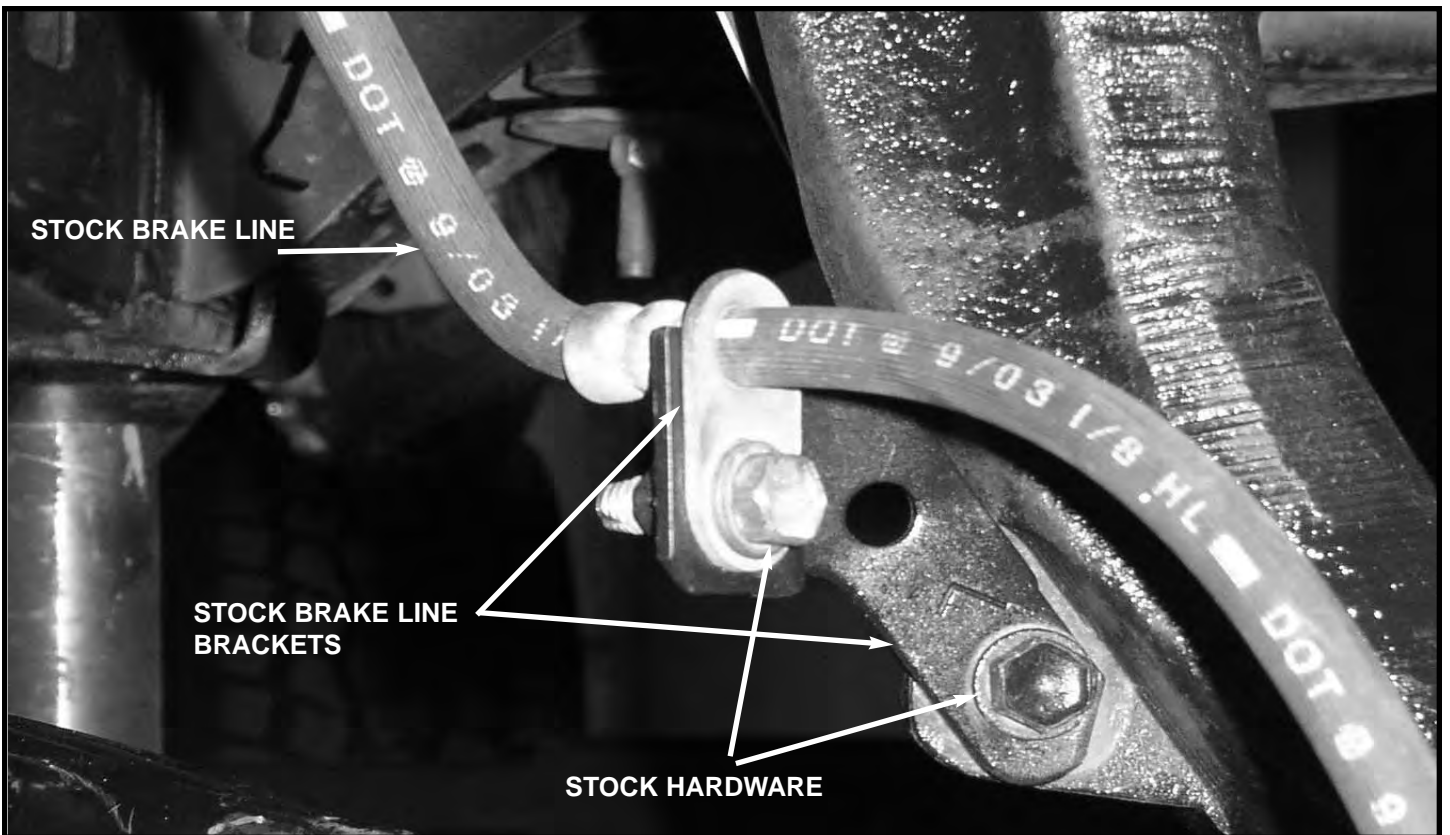
PHOTO # 20



STOCK ABS LINE

STOCK HARDWARE

PHOTO # 21



STOCK BRAKE LINE

STOCK BRAKE LINE
BRACKETS

STOCK HARDWARE

PHOTO # 22

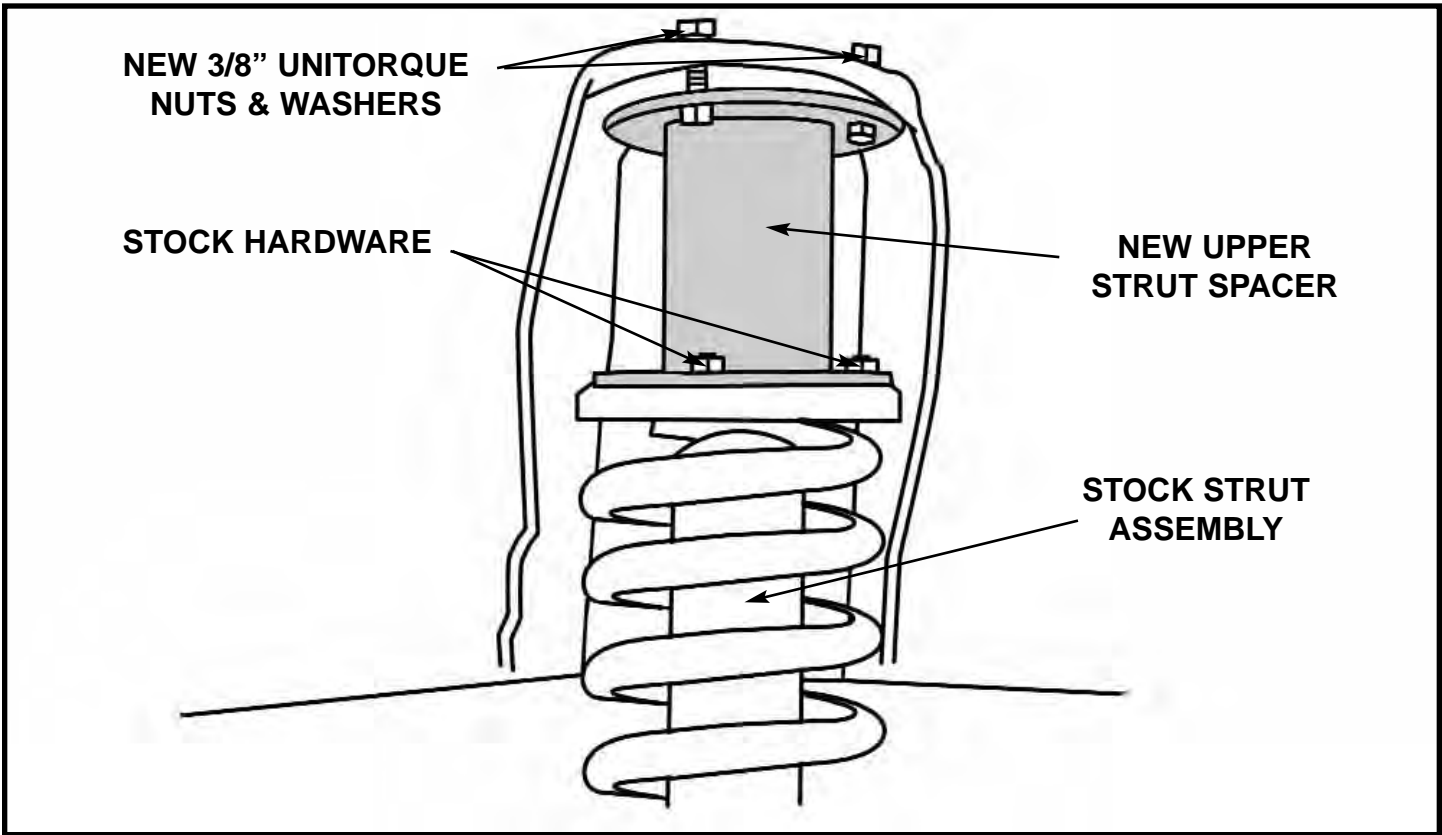


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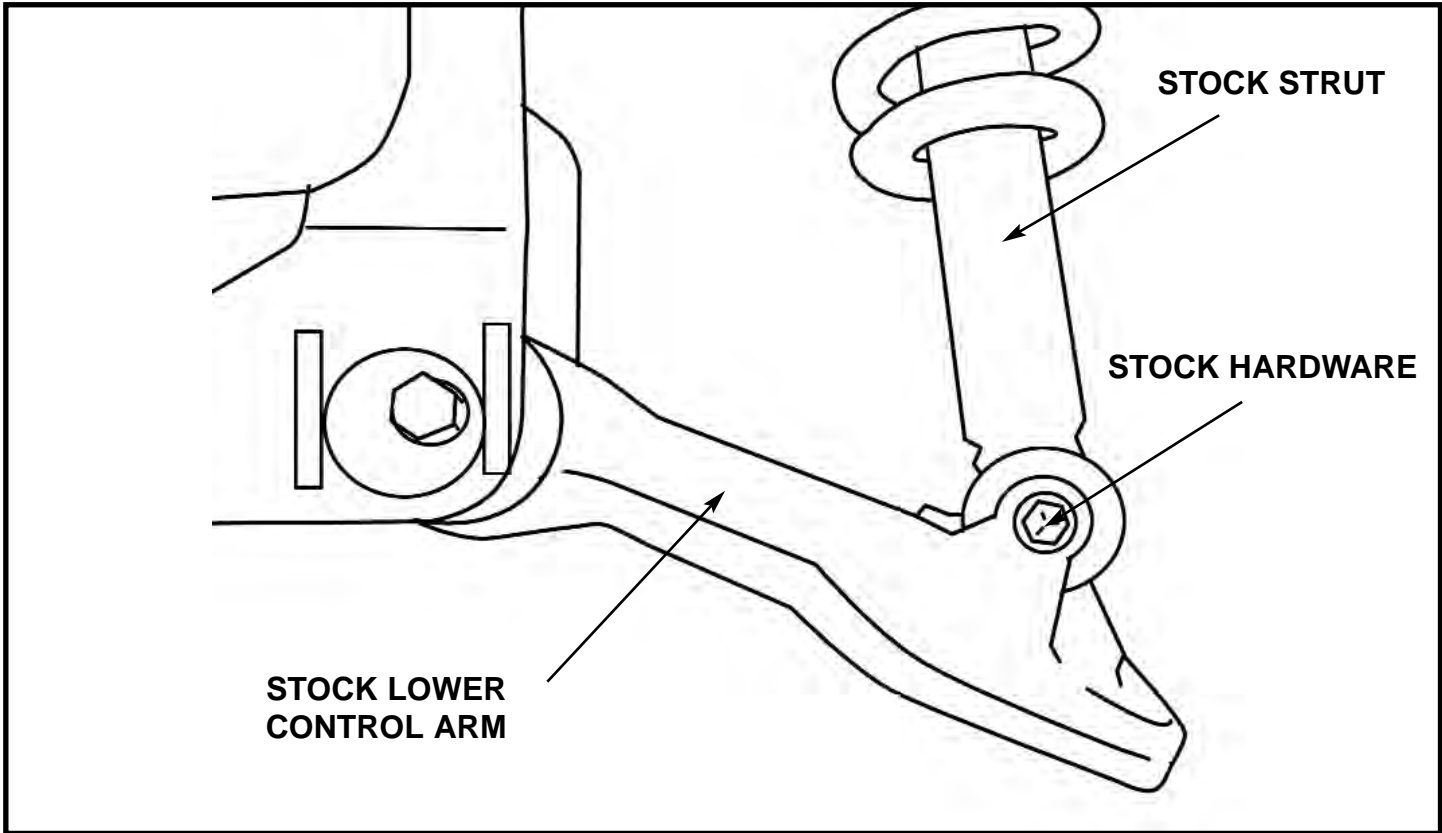


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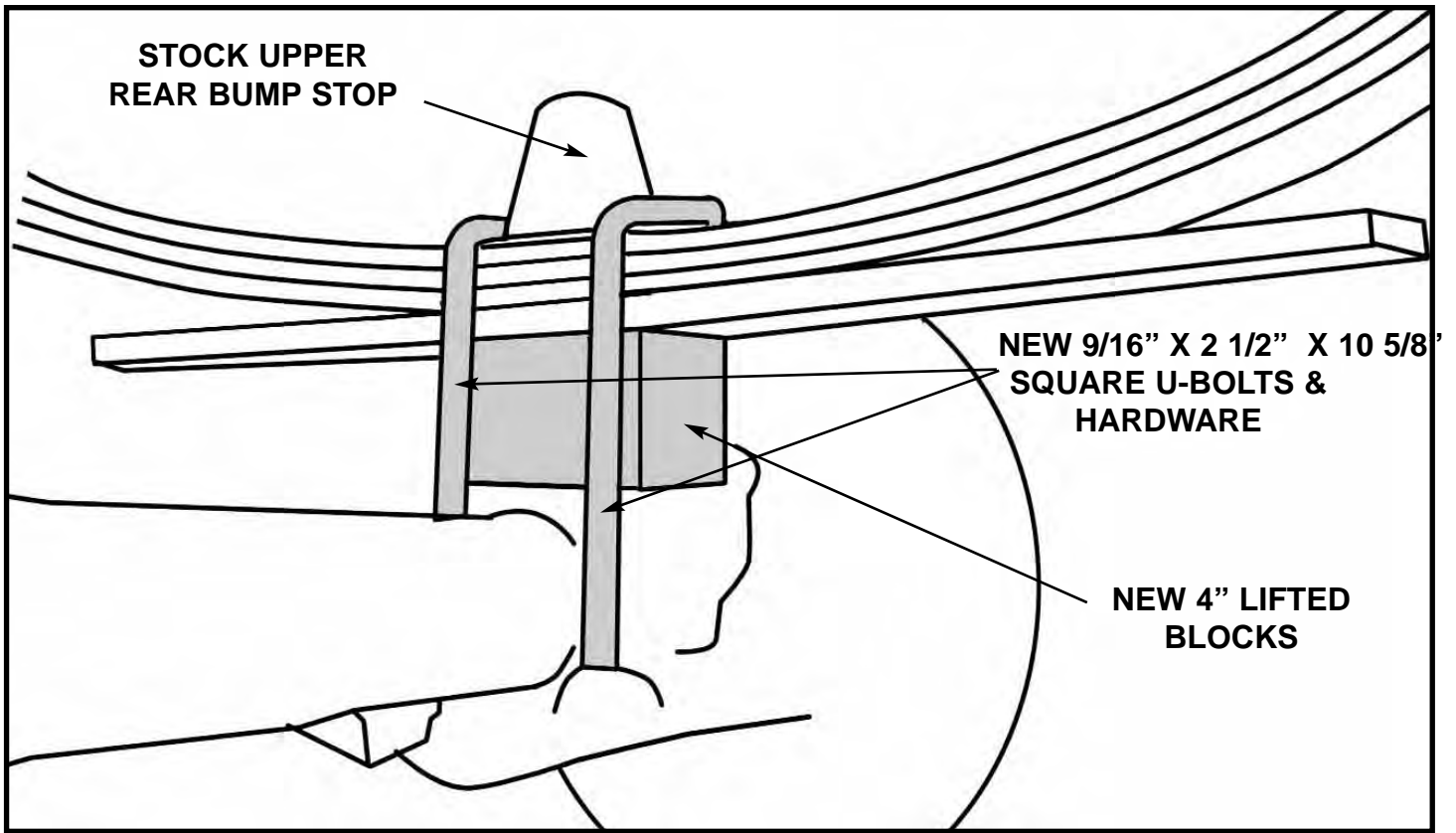


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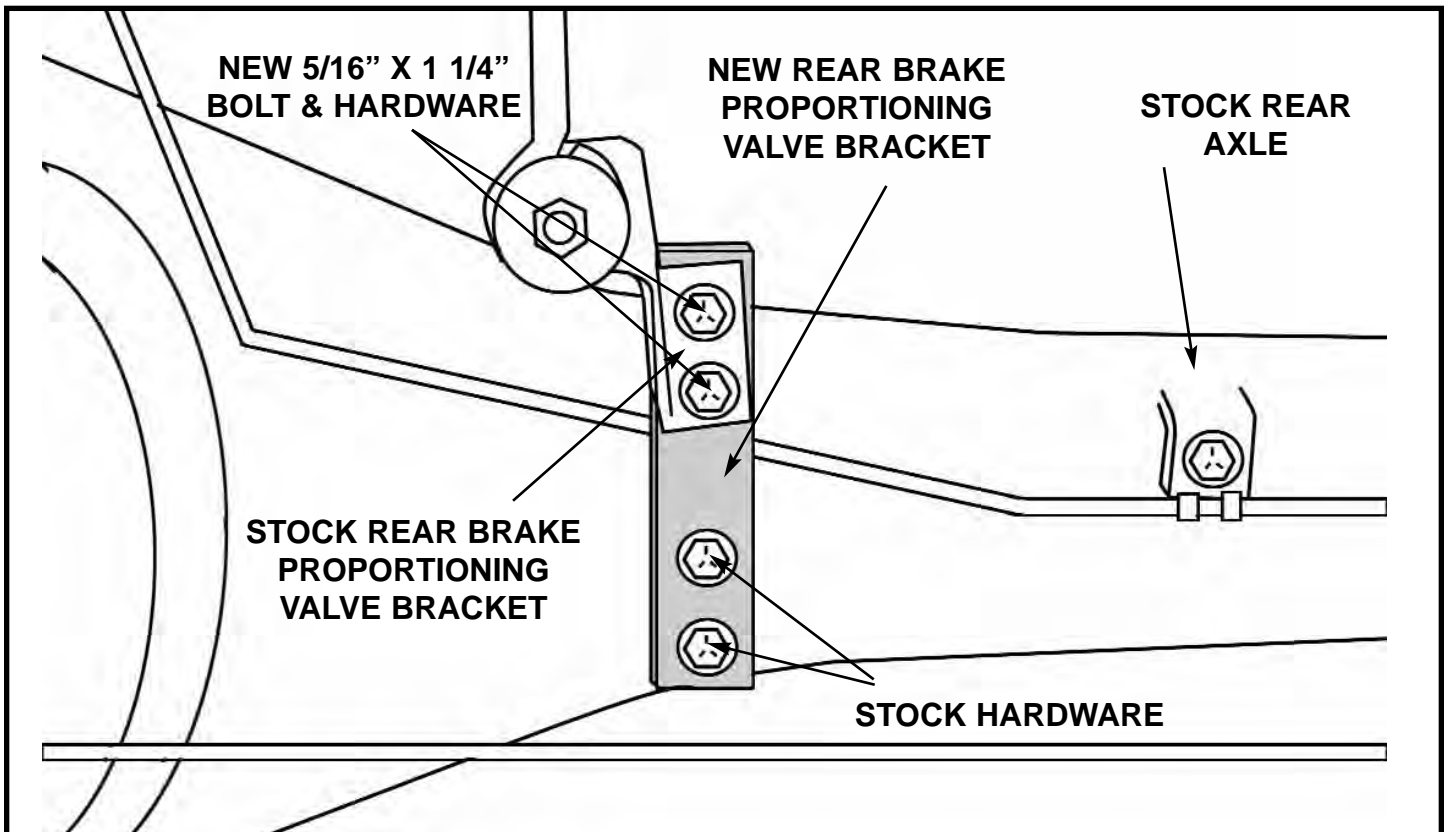


ILLUSTRATION # 26



55900-01 / Qty 1



55900-02 / Qty 1



55905-03 / Qty 1



55905-04 / Qty 2



55905-05 / Qty 1



55905-06 / Qty 1



55905-07 / Qty 1



55905-08 / Qty 1



55905-09 / Qty 1



55905-10 / Qty 1



55905-11 / Qty 1