



## EZ - Ride Suspension

PART NUMBER : 22821  
 1997 FORD F250  
 2.5" SUSPENSION SYSTEM

### PARTS LIST:

Part #	Description	Qty.
F2502-05	Rear Twin "I" Beam Axle Pivot Drop Bracket	1
F2502-06	Front Twin "I" Beam Axle Pivot Drop Bracket	1
TCI-R22	Rear Add-a-Leafs	2
5U-2510S	9/16" x 3" x 10" Square U-bolts	4
CB716	Hardware Bag	1
916NW	Hardware Bag	1
CB38	Hardware Bag	1
CAM1NB	Hardware Bag	1
F2507NB	hardware Bag	1
22821INST	Instruction Sheet	1

**Special Note:** This box kit includes the front and rear twin "I" beam axle pivot drop brackets, the front U-bolts, rear add-a-leafs and all necessary hardware. Tuff Country EZ-Ride Suspension offers two styles of progressive rate add-a-leaf springs packs for the front end, a gas engine spring and a diesel engine spring. If you have not already ordered your front spring, please contact Tuff Country or your local Tuff Country dealer and order (2) 82200 (Gas Engine Spring) or (2) 82201 (Diesel Engine Spring). Longer front and rear shocks will be needed once the suspension system has been installed.

Refer to the end of the installation manual for a description of the parts included.

Congratulations on your selection to purchase a Tuff Country EZ-Ride Suspension System. We at Tuff Country are proud to offer a high quality product at the industries most competitive pricing. Thank you for your confidence in us, and our product.

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 representative @ (800) 288-2190.

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

## INSTALLATION MANUAL 1997 FORD F250 2.5" SUSPENSION SYSTEM PART # 22821

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### IMPORTANT CUSTOMER INFORMATION

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

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

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

It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use. Also, after the original installation, Tuff Country EZ-Ride Suspension also recommends having the alignment check every 6 months to ensure proper tracking, proper wear on tires and front end components. Tuff Country EZ-Ride Suspension take no responsibility for abuse, improper installation or improper suspension maintenance.

It is the customers/installers responsibility to read and understand all steps before installation begins. OEM manual should be used as a reference guide.

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.

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.

It is the responsibility of the customer or the mechanic to wear safety glasses at all times when performing this installation.

LIMITED LIFETIME WARRENTY

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.

Hardware Bag CB716 Includes:

Disription	Quantity
7/16" x 6" Rear Centering Bolts	2
7/16" Fine Nuts	2

Hardware Bag 916NW Includes:

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

Hardware Bag CB38 Includes:

Disription	Quantity
3/8" x 6" Rear Centering Bolts	2
3/8" Fine Nuts	2

Hardware Bag CAM1NB Includes:

Disription	Quantity
9/16" x 3 1/2" Cam Bolts	2
Cam Washers	4
9/16" Uitorque Nuts	2

Hardware Bag F2507NB Includes:

Disription	Quantity
9/16" x 1 1/2" Bolts	10
9/16" Uitorque Nuts	10
9/16" Flat Washers	20

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 representative @ (800) 288-2190.

Drilling Required: Due to the inconsistencies and different variations in Ford's mounting location for the stock twin "I" beam axle pivot drop brackets, the new twin "I" beam axle pivot drop brackets will require (3) 9/16" holes drilled into each bracket prior to installation.

**Special Note:** Tuff Country EZ-Ride Suspension recommends running a 33" x 12.50" tire for maximum tire clearance. Note: This tire size is not 100% accurate due to variations in wheel width, wheel off set, tire diameters and driving habits.

**Please Follow Instruction Carefully**

Before installation begins, drive and check to make sure there are no uncommon sounds and or frame damage. Also at this time measure from the center of the hub to the bottom of the fender well and record measurements below.

**Pre Installation Measurements:**

Driver Side Front: \_\_\_\_\_

Passenger Side Front: \_\_\_\_\_

Driver Side Rear: \_\_\_\_\_

Passenger Side Rear: \_\_\_\_\_

At the end of the installation take the same measurements and compare to the pre-installation measurements.

**Post Installation Measurements:**

Driver Side Front: \_\_\_\_\_

Passenger Side Front: \_\_\_\_\_

Driver Side Rear: \_\_\_\_\_

Passenger Side Rear: \_\_\_\_\_

**Front End Installation:**

1. To begin installation, block the rear tires of the vehicle so that the vehicle is stable and can't roll backwards. Safely lift the front of the vehicle and support the frame with jack stands. Place a jack stand on both the driver and passenger side. Next, remove the wheels and tires from both sides.

2. Working on the driver side, remove the stock shock from the stock upper and lower mounting point and save the stock hardware for later re-installation. The stock shock may be discarded. **Special Note: New longer front shocks are needed after the completion of the installation. If you have not already ordered your front shocks, please contact Tuff Country or your local Tuff Country dealer and order part # 61231.** Repeat procedure on the passenger side.

**Special Note:** If the vehicle that you are working on is not equipped with a stock front sway bar, please skip to step # 4

3. Working on the driver side, disconnect the stock sway bar from the stock frame mount and save the stock hardware for later re-installation. Repeat procedure on the passenger side.

4. Place a pair of hydraulic floor jacks under the front twin "I" beam axle.

5. Working on the driver side, remove the stock U-bolts from the stock location. The stock U-bolts and hardware may be discarded. Place the stock upper and lower U-bolt plates a side for later re-installation.

6. Working on the stock front twin "I" beam axle pivot drop bracket, remove the stock bolt that connects the stock front twin "I" beam axle to the stock front twin "I" beam axle pivot drop bracket and discard the stock hardware.

7. Carefully lower down on the hydraulic floor jacks that are supporting the front twin "I" beam axle approximately 4". **Special Note: Take special care not to kink or over extend any brake lines and or hoses.** This will allow enough room for the new front progressive rate add-a-leafs spring packs and new front twin "I" beam axle pivot drop bracket to be installed into the stock location.

8. Next, remove the stock front twin "I" beam axle pivot drop bracket from the stock location and discard the stock front twin "I" beam axle pivot drop bracket and hardware.

9. Working on the driver side, place a pair of "C" clamp vise grips on each side of the stock centering bolt. Carefully remove the stock centering bolt and nut and discard. Carefully remove the "C" clamp vise grips that are holding the stock springs together. **Special Note: Be very carefully when removing the "C" clamps, because the stock springs are under tension and can be dangerous.**

10. Locate (1) new front progressive rate add-a-leaf spring pack and remove the centering bolt that is holding the progressive rate add-a-leaf spring pack together. The bolt and nut may be discarded.

11. Before installing the new front progressive rate add-a-leaf spring packs into the stock spring assembly, make sure to cut off the tape that is holding the teflon insert to the main leaf.

12. Locate (1) 7/16" x 6" centering bolt and (1) 7/16" centering bolt nut from hardware bag CB716. Working on the driver side, install the new front progressive rate add-a-leaf spring pack to the bottom of the stock spring assembly. **Special Note: The new progressive add-a-leaf spring pack has a bend on one end of the main leaf, the bend on the main leaf needs to be installed towards the front of the vehicle.** Secure the new front progressive rate add-a-leaf spring pack to the stock spring assembly using the new 7/16" centering bolt and nut. Torque to 42 ft lbs. **Special Note: To make installation easier use a pair of "C" clamps to help bring the new front progressive rate add-a-leaf**

spring pack and the stock spring assembly together as one. Also, Tuff Country E-Z Ride Suspension does not recommend using any air tools when installing the new front progressive rate add-a-leafs into the stock spring assembly. If air tools are used, the new centering bolt may strip, causing the stock spring assembly to come apart. With a suitable cutting tool, cut off the extra thread from the new centering bolt.

13. Locate the new front twin "I" beam axle pivot drop bracket, (5) 9/16" x 1 1/2" bolts, (10) 9/16" flat washers and (5) 9/16" unitorque nuts from hardware bag F2507NB. Secure the new front twin "I" beam axle pivot drop bracket into the (2) upper stock holes using the new 9/16" x 1 1/2" bolts and hardware. Torque to **120 ft lbs.** Make sure to use thread locker or locktite on these bolts. Using the (3) stock holes in the stock cross member as a guide, carefully drill (3) 9/16" holes into the new front twin "I" beam axle pivot drop bracket. Secure the new front twin "I" beam axle pivot drop bracket to the front cross member using the new 9/16" x 1 1/2" bolts and hardware. Torque to **120 ft lbs.** Make sure to use thread locker or locktite on these bolts.

See Illustration # 1

14. Carefully raise up on both hydraulic floor jacks that are supporting the front twin "I" beam axle until the stock front twin "I" beam axle seats properly with the newly installed front progressive rate add-a-leaf spring pack.

15. Locate the upper and lower U-bolt plates that were removed from step # 5, (2) 9/16" x 3" x 10 1/2" square U-bolts, (4) 9/16" U-bolt high nuts and (4) 9/16" U-bolt washers from hardware bag 916NW. Working on the driver side, install the stock upper and lower U-bolt plates into the stock location and secure the newly installed front progressive rate add-a-leaf spring pack and stock spring assembly to the stock front twin "I" beam axle using the new 9/16" x 3" x 10 1/2" square U-bolts and hardware. Torque to **110 ft lbs.**

16. Locate (1) 9/16" x 3 1/2" cam bolt, (2) cam washers and (1) 9/16" unitorque nut from hardware bag CAM1NB. Carefully raise up on the hydraulic floor jack that is supporting the front twin "I" beam axle until the front twin "I" beam axle seats properly into the new front twin "I" beam axle pivot drop bracket. Secure the stock front twin "I" beam axle to the new front twin "I" beam axle pivot drop bracket using the new 9/16" x 3 1/2" cam bolt and hardware. Make sure to use thread locker or locktite. Torque to **115 ft lbs.** Special Note: For now, adjust the new cam bolt to the center position. After the completion of the installation, take the vehicle directly to an alignment shop for a proper front end alignment.

See Illustration # 2

17. Carefully remove both hydraulic floor jacks from under the stock front twin "I" beam axle.

18. Place a pair of hydraulic floor jacks under the rear twin "I" beam axle.

19. Working on the passenger side, remove the stock U-bolts from the stock location. The stock U-bolts and hardware may be discarded. Place the stock upper and lower U-bolt plates a side for later re-installation.

20. Working on the stock rear twin "I" beam axle pivot drop bracket, remove the stock bolt that connects the stock rear twin "I" beam axle to the stock rear twin "I" beam axle pivot drop bracket and discard the stock hardware.

21. Carefully lower down on the hydraulic floor jacks that are supporting the rear twin "I" beam axle approximately 4". Special Note: Take special care not to kink or over extend any brake lines and or hoses. This will allow enough room for the new front progressive rate add-a-leafs spring packs and new rear twin "I" beam axle pivot drop bracket to be installed into the stock location.

22. Next, remove the stock rear twin "I" beam axle pivot drop bracket from the stock location and discard the stock rear twin "I" beam axle pivot drop bracket and hardware.

23. Working on the passenger side, place a pair of "C" clamp vise grips on each side of the stock centering bolt. Carefully remove the stock centering bolt and nut and discard. Carefully remove the "C" clamp vise grips that are holding the stock springs together. Special Note: Be very carefully when removing the "C" clamps, because the stock springs are under tension and can be dangerous.

24. Locate (1) new front progressive rate add-a-leaf spring pack and remove the centering bolt that is holding the progressive rate add-a-leaf spring pack together. The bolt and nut may be discarded.

25. Before installing the new front progressive rate add-a-leaf spring packs into the stock spring assembly, make sure to cut off the tape that is holding the teflon insert to the main leaf.

26. Locate (1) 7/16" x 6" centering bolt and (1) 7/16" centering bolt nut from hardware bag CB716. Working on the passenger side, install the new front progressive rate add-a-leaf spring pack to the bottom of the stock spring assembly. Special Note: The new progressive add-a-leaf spring pack has a bend on one end of the main leaf, the bend on the main leaf needs to be installed towards the front of the vehicle. Secure the new front progressive rate add-a-leaf spring pack to the stock spring assembly using the new 7/16" centering bolt and nut. Torque to **42 ft lbs.** Special Note: To make installation easier use a pair of "C" clamps to help bring the new front progressive rate add-a-leaf

spring pack and the stock spring assembly together as one. Also, Tuff Country E-Z Ride Suspension does not recommend using any air tools when installing the new front progressive rate add-a-leaves into the stock spring assembly. If air tools are used, the new centering bolt may strip, causing the stock spring assembly to come apart. With a suitable cutting tool, cut off the extra thread from the new centering bolt.

27. Locate the new rear twin "I" beam axle pivot drop bracket, (5) 9/16" x 1 1/2" bolts, (10) 9/16" flat washers and (5) 9/16" unitorque nuts from hardware bag F2507NB. Secure the new rear twin "I" beam axle pivot drop bracket into the (2) upper stock holes using the new 9/16" x 1 1/2" bolts and hardware. Torque to **120 ft lbs.** **Make sure to use thread locker or locktite on these bolts. Using the (3) stock holes in the stock cross member as a guide, carefully drill (3) 9/16" holes into the new rear twin "I" beam axle pivot drop bracket.** Secure the new rear twin "I" beam axle pivot drop bracket to the rear cross member using the new 9/16" x 1 1/2" bolts and hardware. Torque to **120 ft lbs.** **Make sure to use thread locker or locktite on these bolts.**

**See Illustration # 3**

28. Carefully raise up on both hydraulic floor jacks that are supporting the rear twin "I" beam axle until the stock rear twin "I" beam axle seats properly with the newly installed front progressive rate add-a-leaf spring pack.

29. Locate the upper and lower U-bolt plates that were removed from step # 19, (2) 9/16" x 3" x 10 1/2" square U-bolts, (4) 9/16" U-bolt high nuts and (4) 9/16" U-bolt washers from hardware bag 916NW. Working on the passenger side, install the stock upper and lower U-bolt plates into the stock location and secure the newly installed front progressive rate add-a-leaf spring pack and stock spring assembly to the stock rear twin "I" beam axle using the new 9/16" x 3" x 10 1/2" square U-bolts and hardware. Torque to **110 ft lbs.**

30. Locate (1) 9/16" x 3 1/2" cam bolt, (2) cam washers and (1) 9/16" unitorque nut from hardware bag CAM1NB. Carefully raise up on the hydraulic floor jack that is supporting the rear twin "I" beam axle until the rear twin "I" beam axle seats properly into the new rear twin "I" beam axle pivot drop bracket. Secure the stock rear twin "I" beam axle to the new rear twin "I" beam axle pivot drop bracket using the new 9/16" x 3 1/2" cam bolt and hardware. **Make sure to use thread locker or locktite.** Torque to **115 ft lbs.** **Special Note: For now, adjust the new cam bolt to the center position. After the completion of the installation, take the vehicle directly to an alignment shop for a proper front end alignment.**

**See Illustration # 4**

31. Carefully remove both hydraulic floor jacks from under the stock rear twin "I" beam axle.

**Special Note: If the vehicle that you are working on does not have a stock front sway bar, please skip to step # 33**

32. Locate the stock sway bar mounting hardware that was removed from step # 3. Working on the driver side, install the stock sway bar back into the stock location and secure using the stock hardware. Torque to **35 ft lbs.** Repeat procedure on the passenger side. **Special Note: If you are not able to re-install the stock sway bar to the stock mounting point, you may have to perform this step once the weight of the vehicle is on the ground.**

33. Locate the new front shocks and the stock hardware that was removed in step # 2. Working on the driver side, install the new longer shock into the stock upper and lower location and secure using the stock hardware. Repeat procedure on the passenger side. **Torque the upper and lower hardware to proper torque specifications. Refer to the torque setting sheet at the end of the installation manual.**

34. Check and double check to make sure that all steps were performed properly. Check and double check to make sure that all stock and new hardware is torque to proper torque specifications. **Special Note: Refer to the owners manual and the torque setting sheet at the end of the installation manual.**

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

36. If you were not able to install the stock sway bar to the new front sway bar drop brackets in step # 32, perform this step once the weight of the vehicle is on the ground.

**Congratulations, Front End Installation Complete**

**Rear End Installation:**

37. 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 tires and wheels from both sides.

38. 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.

39. Working on the driver side, remove the stock shock from the stock upper and lower mounting points and save the stock hardware for later re-installation. The stock shocks may be discarded. **Special Note: New longer rear shocks are needed after the completion**

of the installation. If you have not already ordered your new rear shocks, please contact Tuff Country or your local Tuff Country dealer and order part # 61261. Repeat procedure on passenger side.

40. Working on the driver side, remove the stock U-bolts from the stock location. Set the stock U-bolts, hardware and upper U-bolt plate a side for later re-installation. Repeat procedure on the passenger side.

41. Carefully lower down on both hydraulic floor jacks at the same time allowing enough room for the new rear add-a-leaves to be installed. **Special Note: Make sure not to over extended any brake lines or hoses when lowering axle.**

42. Locate (2) new rear add-a-leaves, (2) new 3/8" centering bolts and nut from hardware bag CB38. Working on the driver side, place a pair of "C" clamps around the rear springs about 2" from the stock spring clamps. Carefully remove the stock rear centering bolt and discard. Install the new rear add-a-leaf into the stock spring assembly. Secure the new rear add-a-leaf to the stock spring assembly using the new 3/8" center bolt and nut. **Special Note: The new rear add-a-leaf should be installed into the stock spring assembly in progression in order. Also, the new rear add-a-leaf has an off set centering bolt hole, the longer end of the new add-a-leaf needs to be installed towards the rear of the vehicle. Tuff Country EZ-Ride Suspension recommends not using any air tools when installing the new rear add-a-leaves into the stock spring assembly. If air tools are used the centering bolt may strip, causing the stock spring assembly to come apart. Torque the new centering bolt and nut to 35 ft. lbs. With a suitable cutting tool, cut off the excess thread from the new centering bolt. Repeat procedure on passenger side.**

See Illustration # 5

43. Carefully raise up on both hydraulic floor at the same time until the rear axle seat properly with the stock spring assembly and the newly installed rear add-a-leaf.

44. Locate the stock rear U-bolts, U-bolt hardware and the upper U-bolt plate that was removed from step # 40. Working on the driver side, install the stock U-bolts and upper U-bolt plate into the stock location and secure using the stock U-bolt hardware. Torque to 120 ft lbs. Repeat procedure on the passenger side.

45. Locate the new rear shocks and the stock shock hardware that was removed from step # 39. Working on the driver side, install the new shock into the stock upper and lower location and secure using the stock hardware. **Torque the upper and lower hardware to proper torque specifications. Refer to the torque setting sheet at the end of the installation manual. Repeat procedure on the passenger side.**

46. Carefully remove both hydraulic floor jacks from under the rear axle.

47. Check and double check to make sure that all steps were preformed properly. Check and double check to make sure that all stock and new hardware is torque to proper torque specifications. **Special Note: Refer to the owners manual and the torque setting sheet at the end of the installation manual.**

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

## Congratulations, Installation Complete

Once the installation is complete, take the vehicle directly to an alignment shop for proper front end alignment

**Special Post Installation Procedure: Make sure that the new mounting hardware that connects the new twin "I" beam axle pivot drop brackets to the stock location are check every 3000 miles for proper torque, if these bolts are not properly torqued, they will loosen up and could cause serious damage to the new twin "I" beam axle pivot drop brackets and or vehicle. Tuff Country EZ-Ride Suspensions take no responsibility for improper installation or improper post installation procedure.**

If you have any questions and or concerns, please feel free to contact Tuff Country EZ-Ride Suspension. (801) 280-2777

## 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.

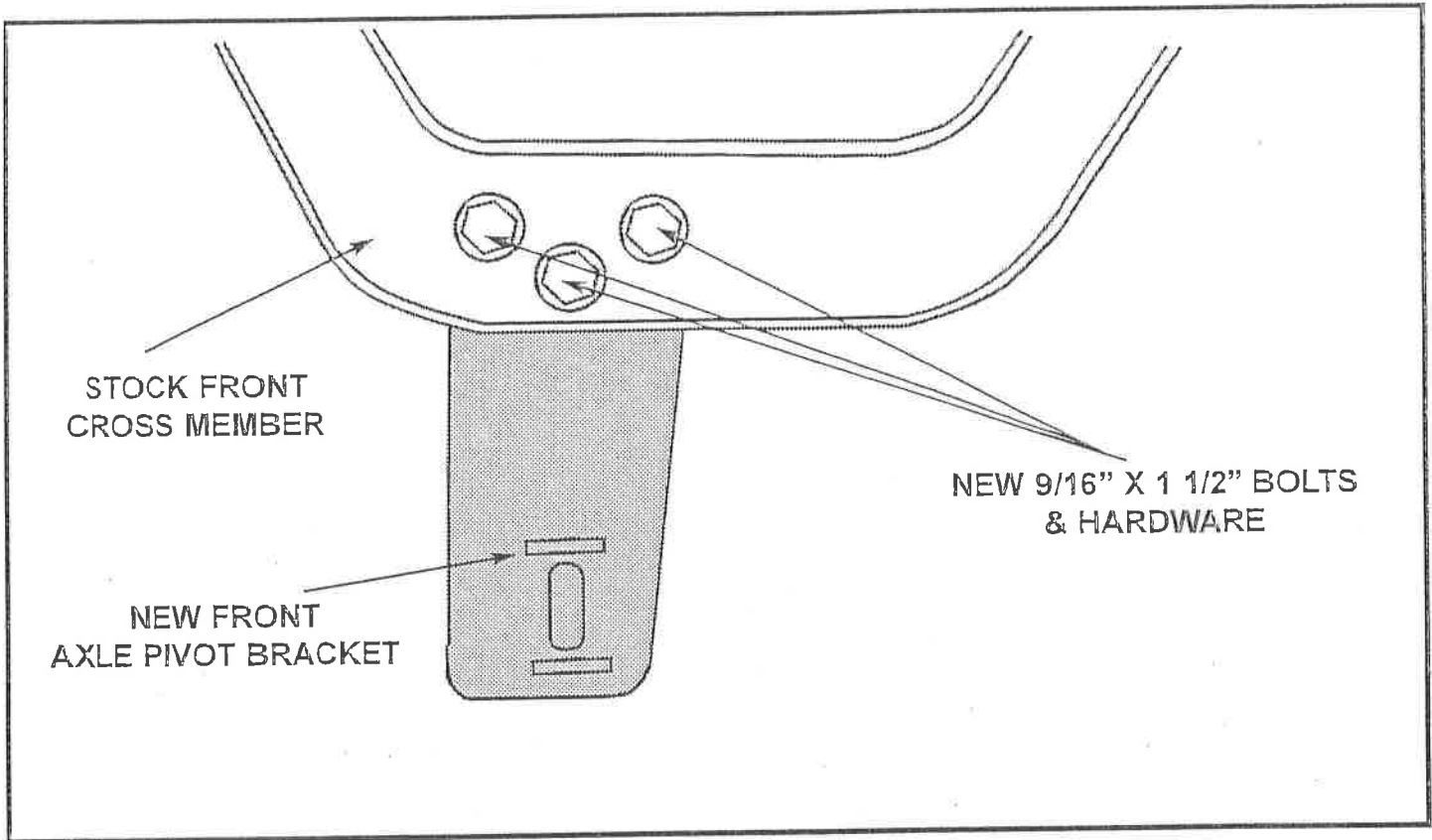


ILLUSTRATION # 1

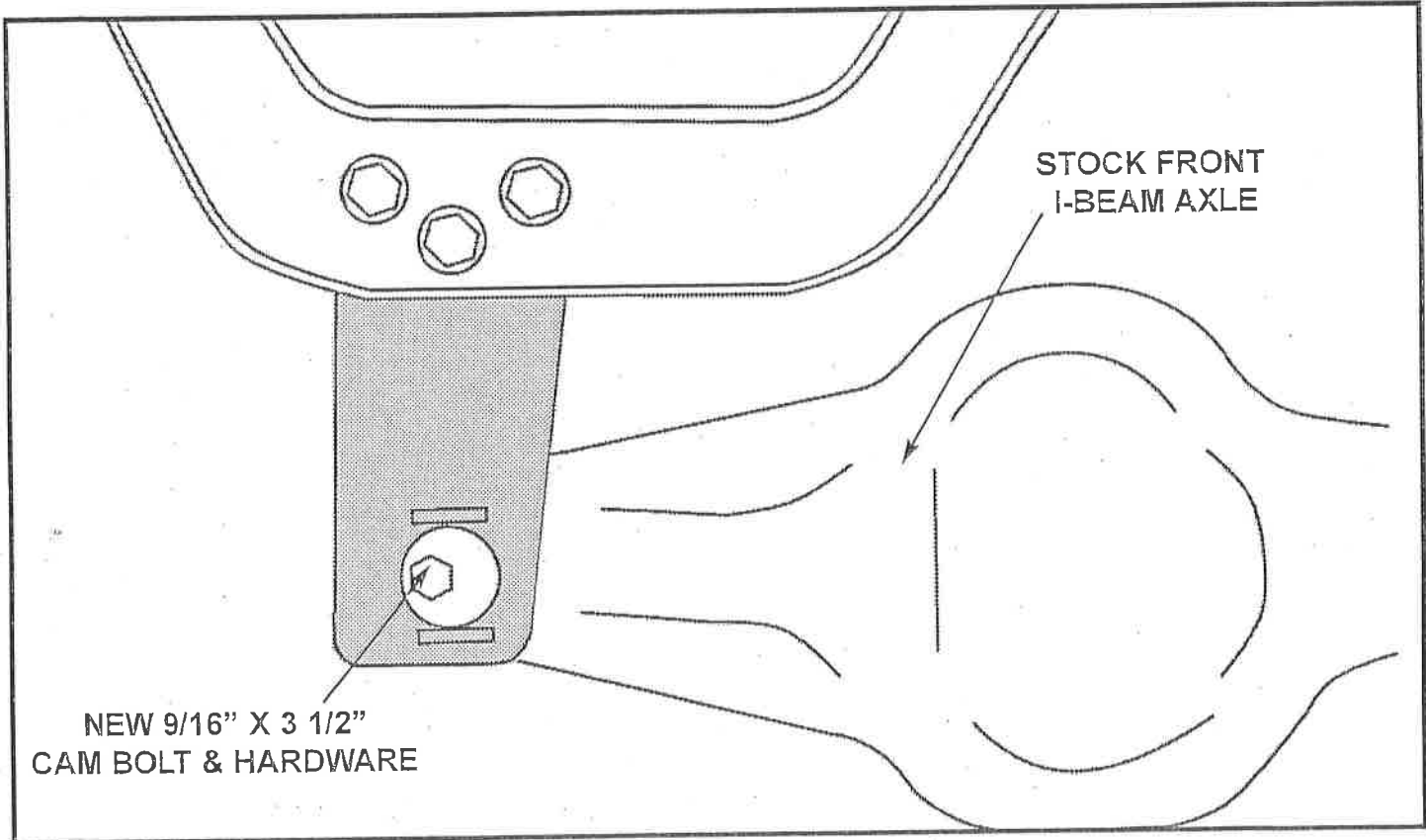


ILLUSTRATION # 2

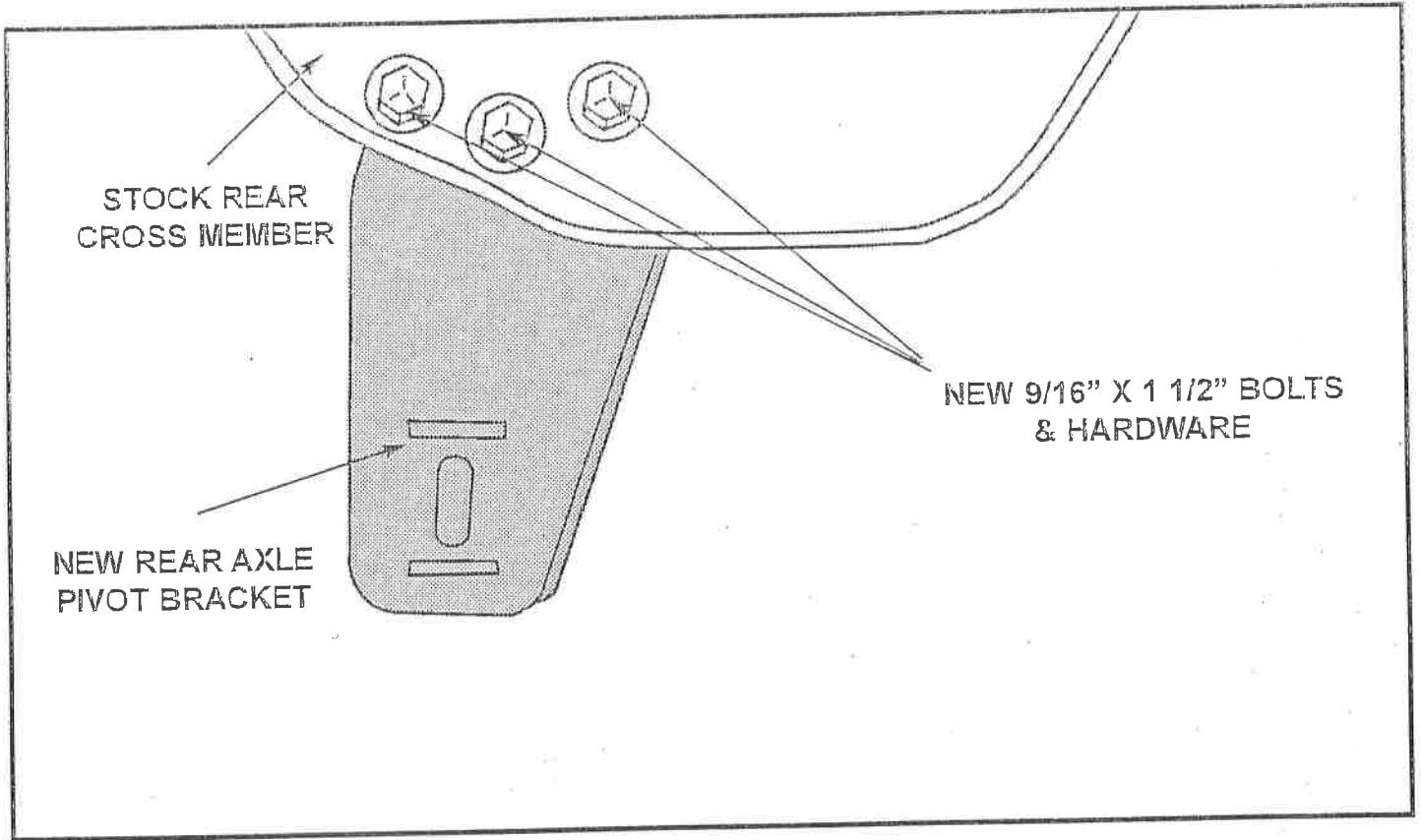


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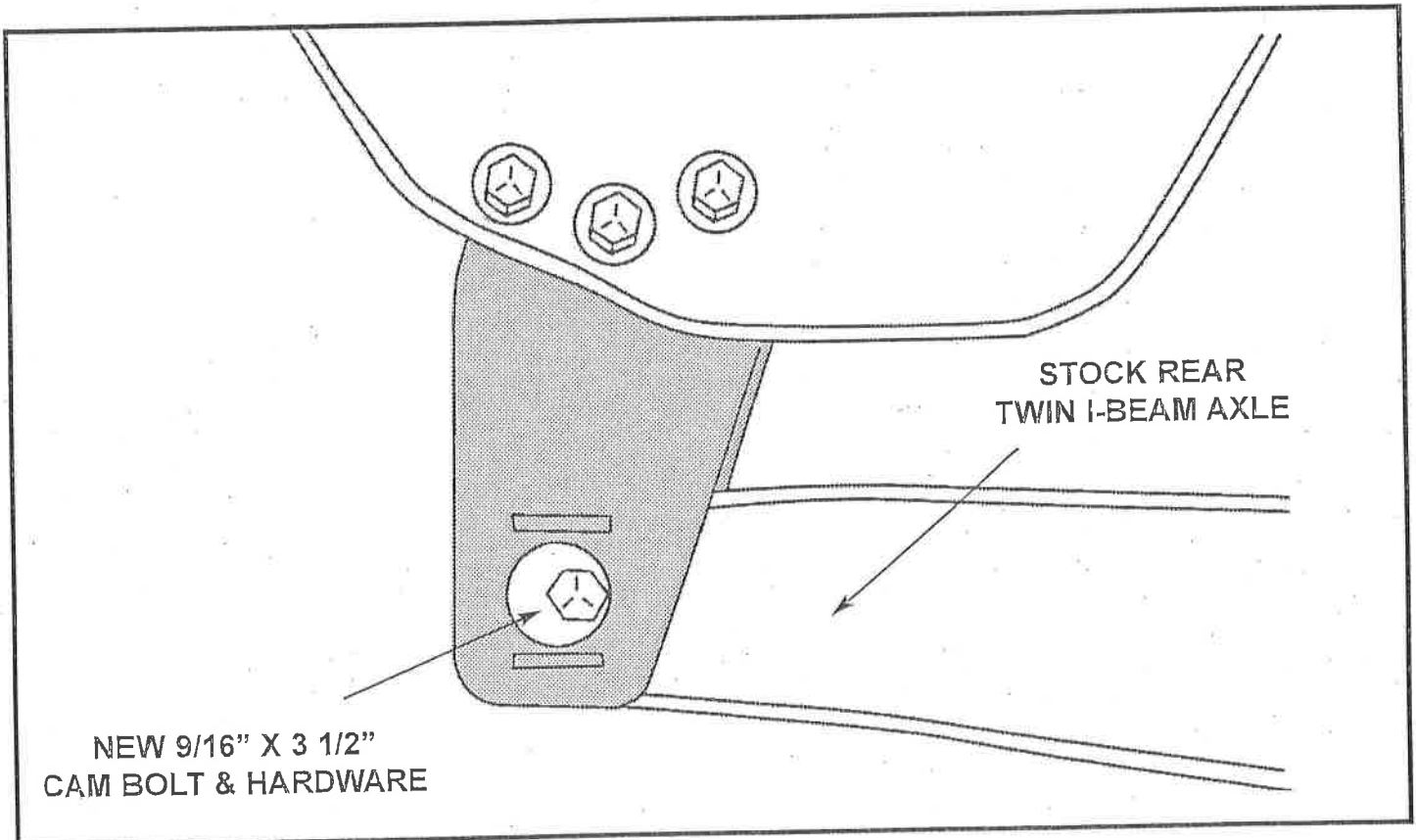


ILLUSTRATION # 4



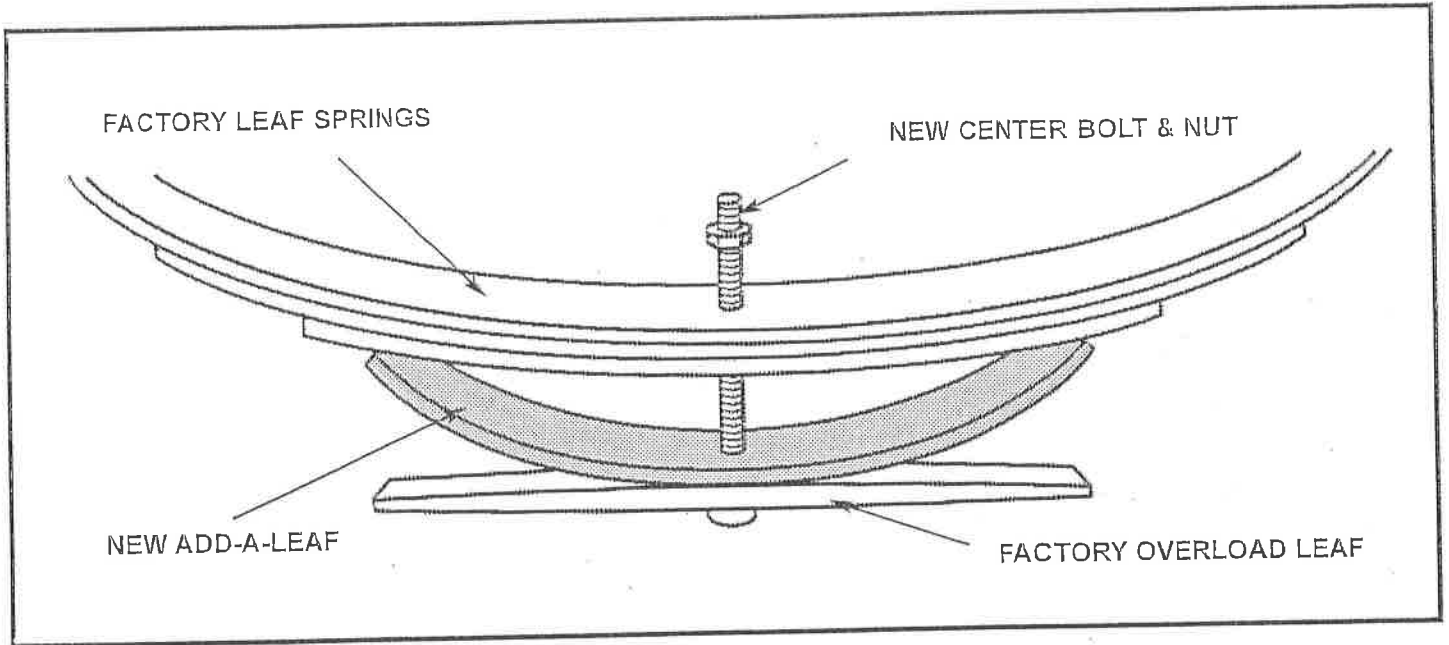


ILLUSTRATION # 5

