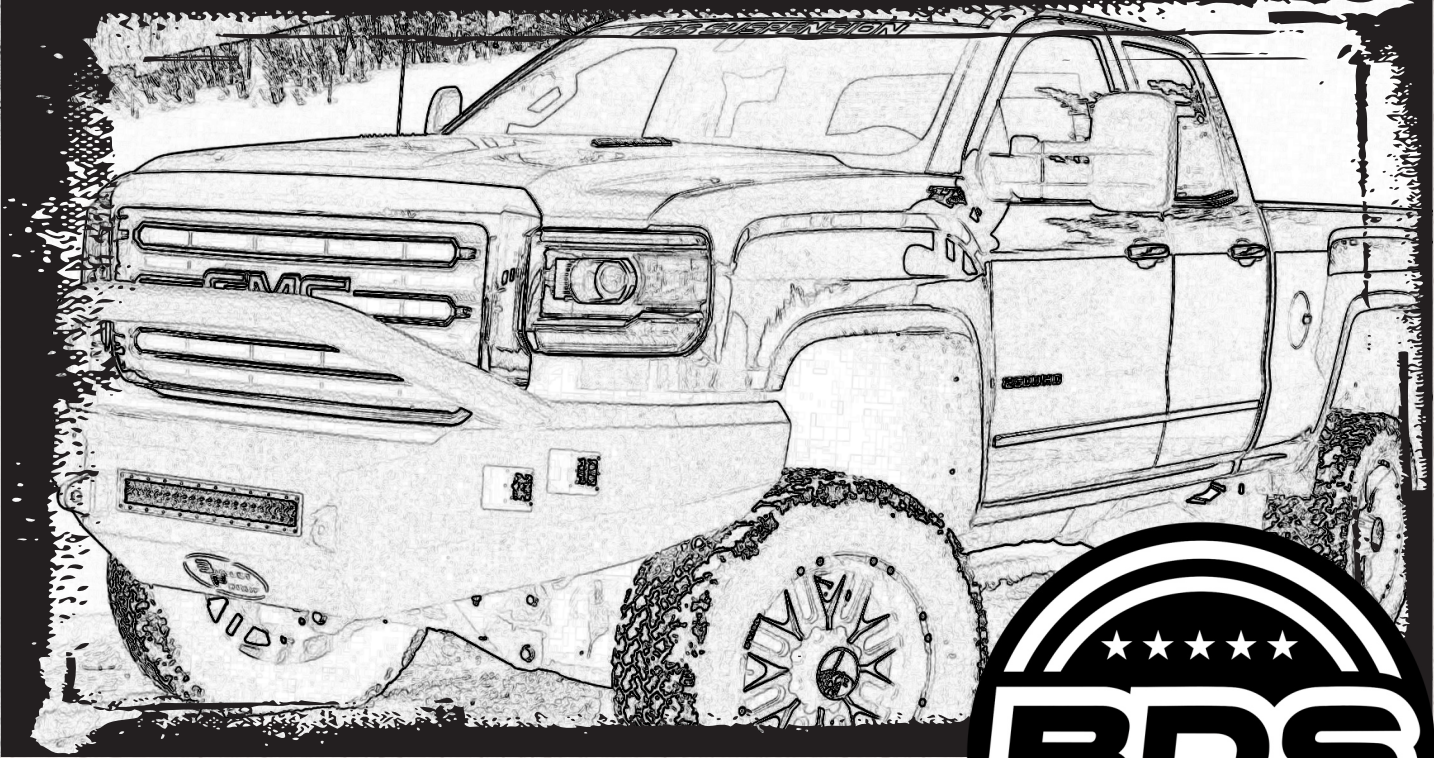


# INSTALLATION GUIDE



Part#: 121408, 123409



**HARDCORE LIMITED LIFETIME WARRANTY**

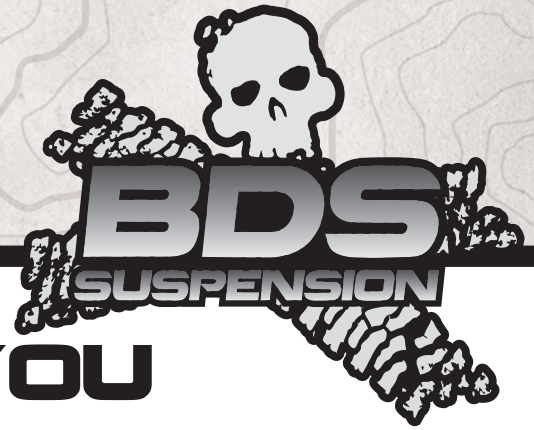
## **Chevy HD Recoil Traction Bar System**

Rev. 030520

491 W. Garfield Ave., Coldwater, MI 49036 • Phone: 517-279-2135

Web: [www.bds-suspension.com](http://www.bds-suspension.com) • E-mail: [tech-bds@ridefox.com](mailto:tech-bds@ridefox.com)

# Read And Understand All Instructions And Warnings Prior To Installation Of System And Operation Of Vehicle.



## THANK YOU

Your truck is about to be fitted with the best suspension system on the market today. That means you will be driving the baddest looking truck in the neighborhood, and you'll have the warranty to ensure that it stays that way for years to come. Thank you for choosing BDS Suspension!

### BEFORE YOU START

BDS Suspension Co. recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known.

### FOR YOUR SAFETY

Certain BDS Suspension products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. BDS Suspension Co. does not recommend the combined use of suspension lifts, body lifts, or other lifting devices. You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

### BEFORE INSTALLATION

Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.

Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.

Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.

Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.

Secure and properly block vehicle prior to installation of BDS Suspension components. Always wear safety glasses when using power tools.

If installation is to be performed without a hoist, BDS Suspension Co. recommends rear alterations first.

Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

### BEFORE YOU DRIVE

Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.

Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure. Longer replacement hoses, if needed can be purchased from a local parts supplier.

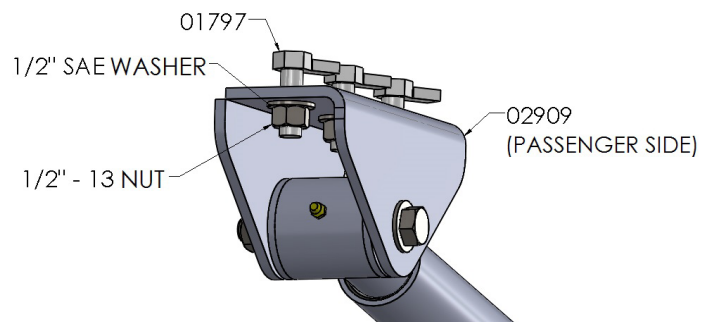
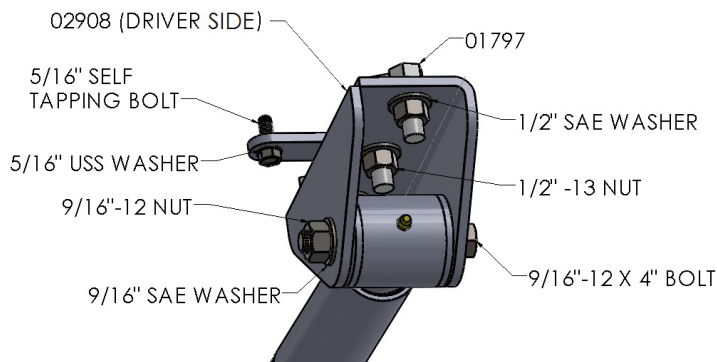
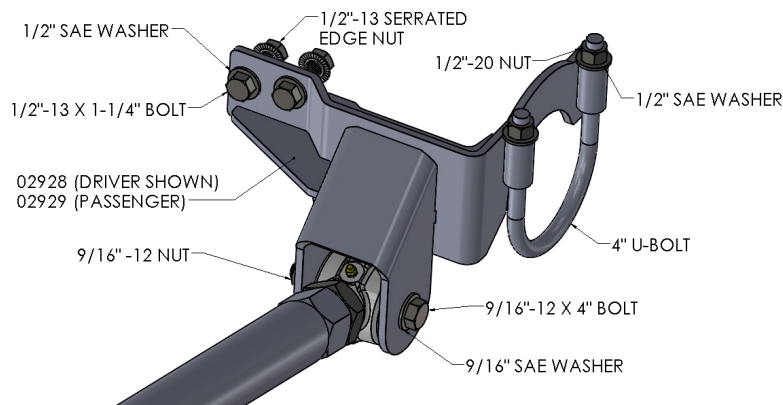
Perform head light check and adjustment.

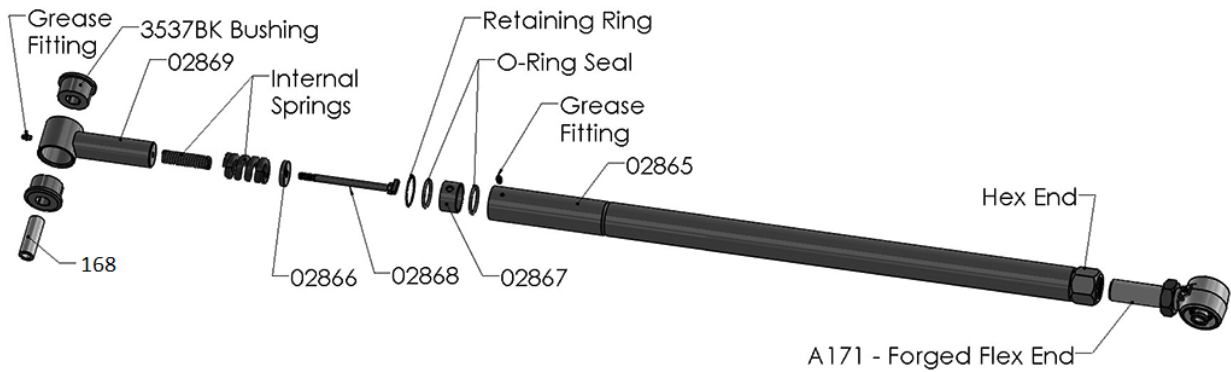
Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

# CONTENTS OF YOUR KIT

Box Kit 121408		
Part #	Qty	Description
02908	1	Frame Bracket - DRV
02909	1	Frame Bracket - PASS
02928	1	Axle Bracket - DRV
02929	1	Axle Bracket - PASS
124000534RB	2	1/2" x 4" x 5-3/4" Round U-bolt
02910	2	Jam Nut Wrench
B1154	1	Bag Kit
27031	1	Fish Wire
01797	6	Bolt Tab
964	1	Bolt Pack (Traction Bar Hardware)
	4	9/16"-12 x 4" Bolt Grade 8
	4	9/16"-12 Prevailing Torque Nut
	8	9/16" SAE Washer
965	1	Bolt Pack (Frame Brackets)
	1	5/16"-18 x 1" Self-Tapping Hex Head Bolt
	1	5/16" USS Washer
	6	1/2" SAE Washer
	6	1/2"-13 Nut (Non-Locking) - Grade 8
966	1	Bolt Pack (Axle Brackets)
	4	1/2"-13 x 1-1/4" Bolt Grade 8
	8	1/2" SAE Washer
	4	1/2"-13 Serrated Flange Lock Nut
	4	1/2"-20 Prevailing Torque Nut
342701	1	thread locker

Box Kit 123409		
Part #	Qty	Description
A255	2	Traction Bar Assembly
02865	1	Traction Bar
02866	1	Spacer Washer
02867	1	Bushing
02868	1	Guide Bolt
02869	1	Traction Bar Slider End
033001	1	Heavy Rate Spring
033002	1	Lite Rate Spring
9452K63	2	O-Ring
91985A231	1	Internal Retaining Ring
3537BK	2	Bushings
168	1	Sleeve
4138209	2	Flush Mount Grease Fitting
A171	1	Forged Flex Joint End





# INSTALLATION INSTRUCTIONS

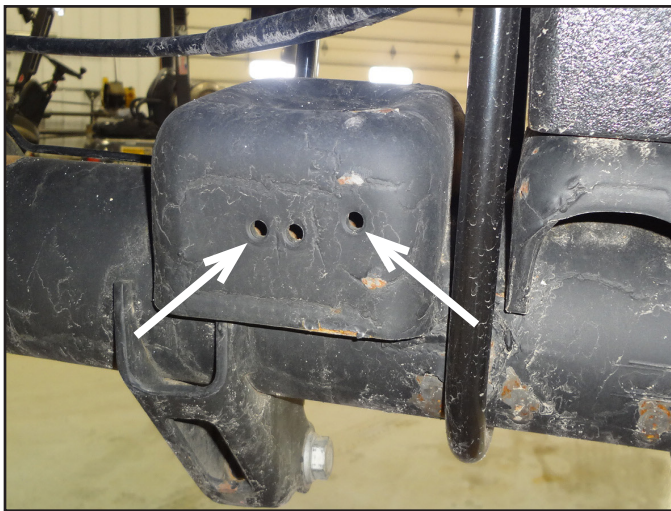
## AXLE BRACKET INSTALLATION INSTRUCTIONS

1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.

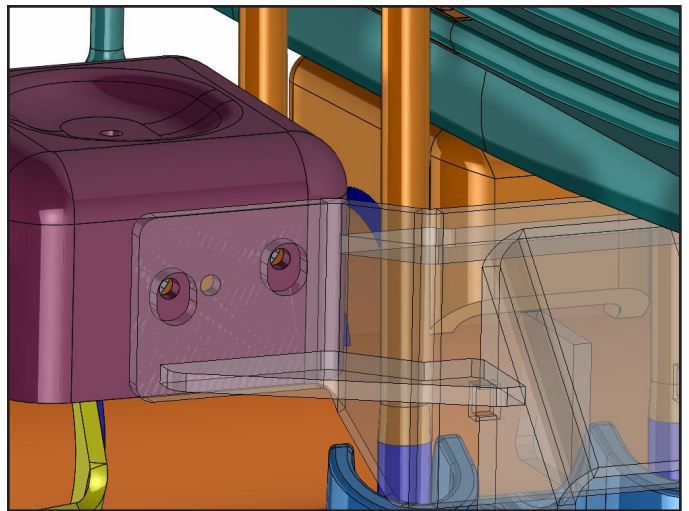
**! Caution** *This installation must be done with the weight of the vehicle on the rear axle. Do not raise the vehicle and allow the rear axle to hang.*

2. Starting on the driver side of the vehicle, locate the driver side axle mount (02928). The two slots in the axle mount will coincide with two holes on the bump stop bracket on the axle. Drill out these two holes to 9/16".

**FIGURE 1**



**FIGURE 2**



4. Using the provided 1/2" x 1-1/4" bolts, 1/2" SAE washers, and 1/2" serrated flange lock nuts from Bolt Pack 966, attach the axle mount to the bump stop bracket on the axle. Utilize a wrench to hold the nut behind the bump stop bracket and loosely tighten the 1/2" bolt.

**FIGURE 3**



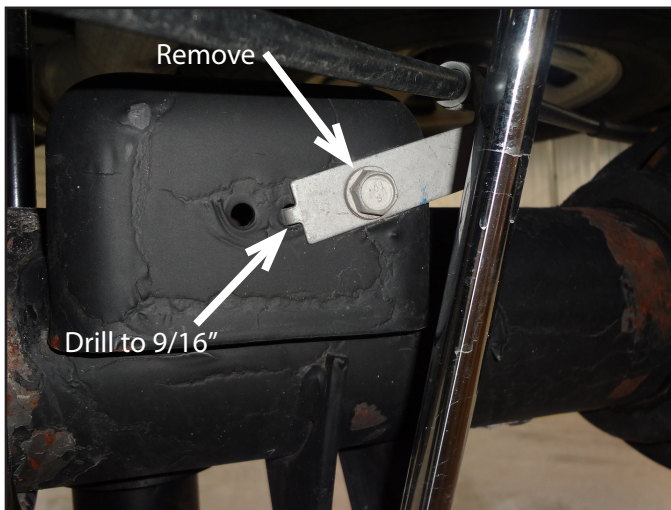
5. Locate the 1/2" U-bolt and install upwards around the axle and through the sleeves in the axle mount. Using the 1/2" fine thread nut and 1/2" SAE washer from Bolt Pack 966, loosely attach the U-bolt so that the axle mount clamps around the axle. Tighten the 1/2" bolts on the front of the bracket to 65 ft-lbs and tighten the 1/2" fine thread hardware on the U-bolts to 45 ft-lbs.

**FIGURE 4**

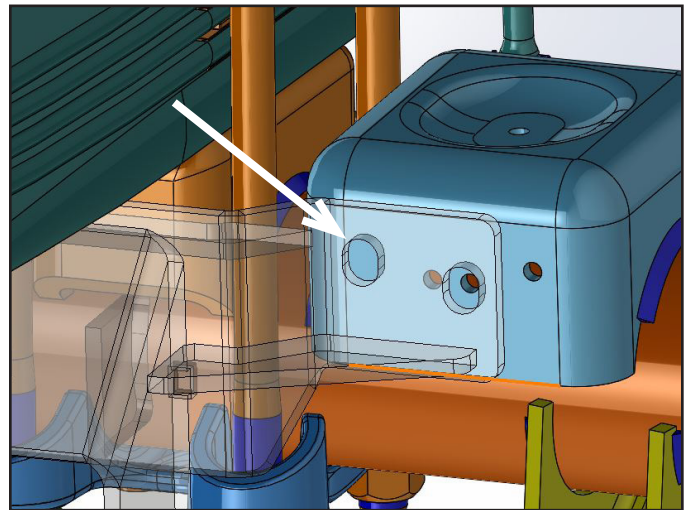


6. Repeat the installation on the passenger side (02929). The brake line bracket must first be removed from the passenger side bump stop bracket. Save hardware and bracket.
7. After the brake line bracket is moved, drill out the center hole to 9/16". Install the passenger side axle mount with the 1/2" x 1-1/4" bolt, 1/2" SAE washer and 1/2" serrated flange lock nut. Mark the location of the second hole in the axle mount bracket. Remove the bracket and drill out to 9/16". *Note: The rear shock may need to be removed to access the bolt for the brake line bracket and to drill the required holes.*

**FIGURE 5**



**FIGURE 6**



9. After the both holes are drilled out to 9/16", reinstall the bracket. Utilize a wrench to hold the serrated flange lock nut behind the bump stock bracket and loosely tighten the 1/2" bolt.
10. Locate the 1/2" U-bolt and install upwards around the axle and through the sleeves in the axle mount. Using the 1/2" fine thread nut and 1/2" SAE washer, loosely attach the U-bolt so that the axle mount clamps around the axle. Tighten the 1/2" bolts on the front of the bracket to 65 ft-lbs and tighten the 1/2" fine thread hardware on the U-bolts to 45 ft-lbs.
11. After the passenger side axle mount is installed, the brake line bracket can be trimmed or bent to clearance the axle bracket. The rear brake-line bracket can be reinstalled with the factory bolt.

**FIGURE 7**

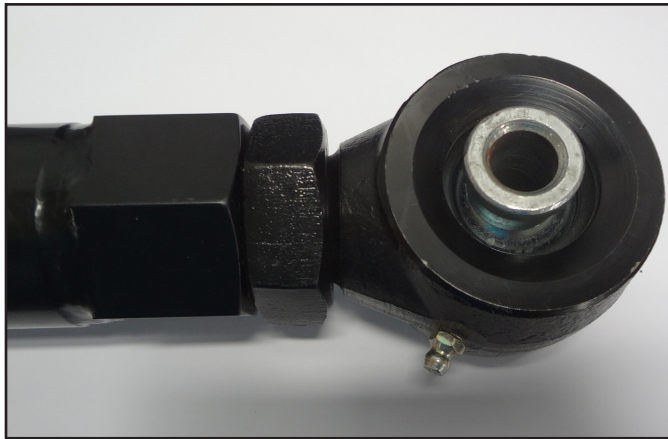


**Tip** *While this system was designed and tested as a “bolt-on” kit, the axle and frame bracket can also be tack welded to the vehicle. This would only be necessary if increased torque/leverage was consistently applied over the normal loads.*

## TRACTION BAR INSTALLATION

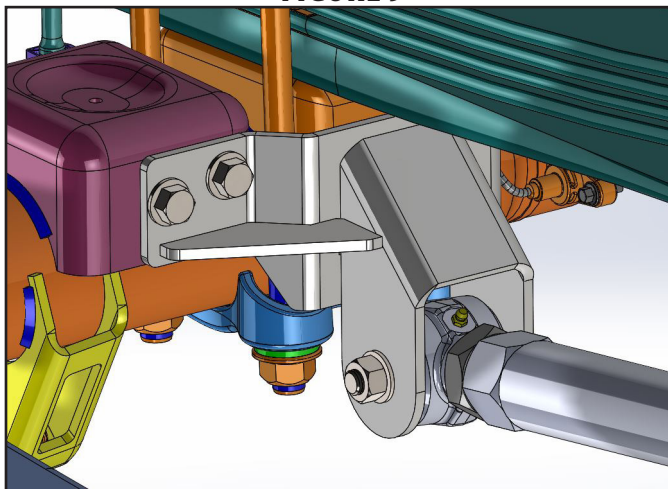
12. Check that the jam nut on the Forged Flex End (A171) is threaded in as far as it can go on the shaft of the Forged Flex End. Make sure the Forged Flex End is completely threaded into the Traction Bar (02865) up to the jam nut as shown in Figure 4.

**FIGURE 8**



13. Attach the Traction Bar to the axle bracket with a 9/16" x 4" bolt, 9/16" nut and 9/16" SAE washers from Bolt Pack 964. Install the traction bar so that the Forged Flex End (A171) is mounted to the axle bracket. Leave mounting hardware loose at this time

**FIGURE 9**

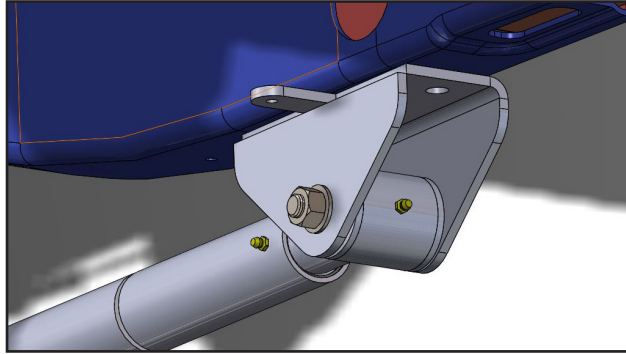


14. Measure the length of the bar from the center of the bolt at the axle to the center of the sleeve at the traction bar end (02869). The length should be approximately 60". If not, press firmly on the traction bar end to seat the springs.

## FRAME BRACKET INSTALLATION

- Starting on the driver's side, loosely attach the provided frame bracket (02908) with a 9/16" x 4" bolt, 9/16" nut and 9/16" SAE washer from Bolt Pack 964 to the Traction Bar End (02869) so that the tab is facing in towards the center of the vehicle.

**FIGURE 10**



- Remove the bolt attaching the skid plate to the frame on the driver side.

**FIGURE 11**



- Place the bracket up to the frame. The bracket will be angled on the frame, but the holes in the bracket should run down the center of the frame rails. While holding the bracket in place, mark the location of the frame bracket on the skid plate to be cut out in order to expose the frame rails (Figure 12). DO NOT cut out the tab on the driver side bracket, this will be used to support the skid plate. Lower the traction bar assembly out of the way to gain access to the skid plate. Cut the skid plate so that the frame bracket is in direct contact with the frame rails being careful not to cut the fuel tank or the frame (Figure 13).

**FIGURE 12**

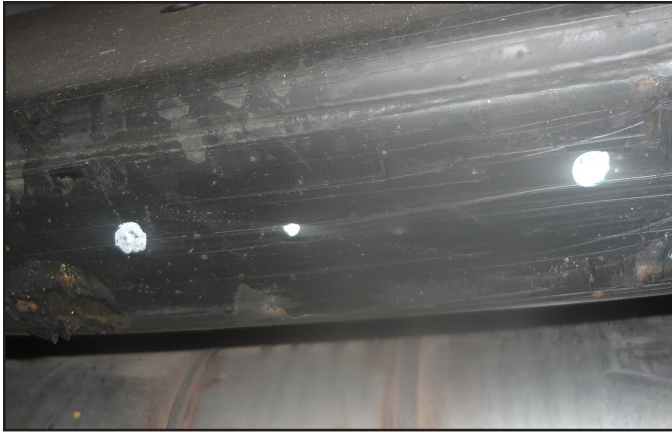


**FIGURE 13**

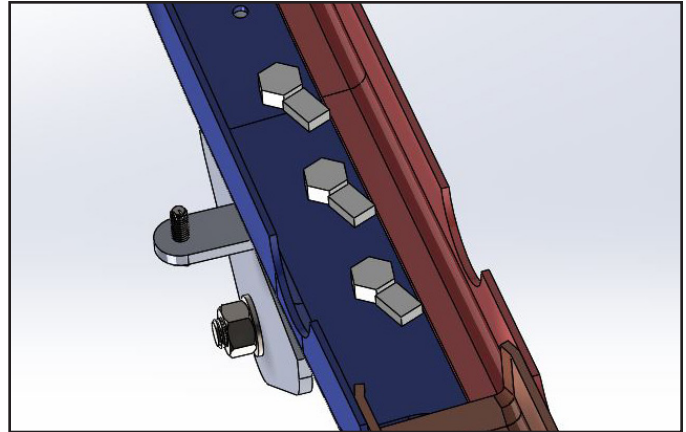


- Raise the traction bar back up to the frame rails. Position the bracket such that the holes in the bracket run down the center of the frame rail. While holding the bracket in place, use the hole and center of the two slots in the frame bracket as a template, mark the locations to be drilled on the frame. Mark the location of the hole in the tab of the frame bracket for the skid plate support. Lower the bracket/traction bar from the frame. Remove the traction bar from the frame brackets.

**FIGURE 14**



**FIGURE 15**



**Tip** *When marking the location to drill the holes, make sure Forged Flex End is threaded all the way in, the traction bar slider end is seated firmly on the springs, and the length of the Recoil Traction Bar is approximately 59-3/4" +/-0.25" eye to eye.*

19. Drill 9/16" holes at each of the three marks on the frame and drill a 3/8" hole through the skid plate, being careful not to hit the fuel tank.
20. Fish all three of the bolt tabs (01797) through the holes in the frame rail with the included bolt wire (27031) (Figure 16 & Figure 17). Apply thread locker to the bolt threads and attach to the frame bracket with the 1/2" SAE washer and 1/2" Non-Locking Nut from Bolt Pack 965 (Figure 18). Be sure the tab on the skid plate goes above the skid plate. Tighten the 1/2" hardware to 65 ft-lbs.

**FIGURE 16**



**FIGURE 17**



**FIGURE 18**



21. Attach the skid plate to the frame bracket with the 5/16" self-tapping bolt and 5/16" USS washer from Bolt Pack 965. The bolt should sandwich the skid plate with the tab. Tighten the 5/16" hardware to 15 ft-lbs.



**FIGURE 19**



22. Lightly grease the slider end of the traction bar by hand to work grease into the O-ring seals. The traction bar slider end may need to be pulled out a bit and rotated so the grease can fully be worked into the O-rings.
23. Reattach the traction bar to the frame brackets using the 9/16" x 4" bolt, nut and 9/16" SAE washer. Torque to 90 ft-lbs at the frame and axle brackets.

**FIGURE 20**



24. Repeat installation on the other side of the vehicle. The passenger side will not require trimming of the fuel tank skid plate.
25. Grease all bushings and the Recoil Traction Bar before use. Do not over grease the Recoil Traction Bar, it is recommended to grease the Recoil Traction Bar one pump of grease every 10,000 miles.

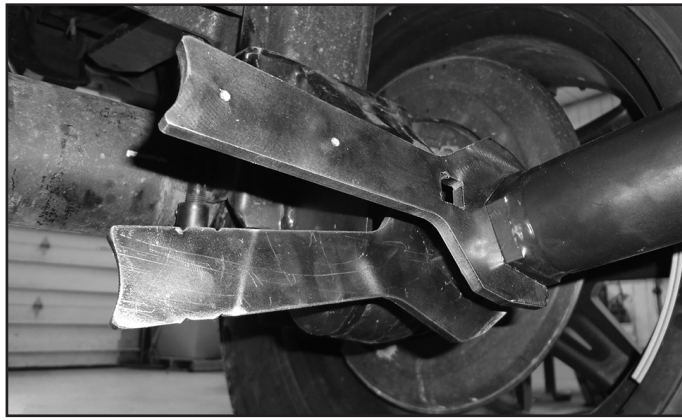
*Note: Traction bar frame end will need a needle nozzle to grease the flush mount grease fittings.*

26. Check all hardware for proper torque.
27. Check hardware after 500 miles.

## **TRACTION BAR ADJUSTMENT**

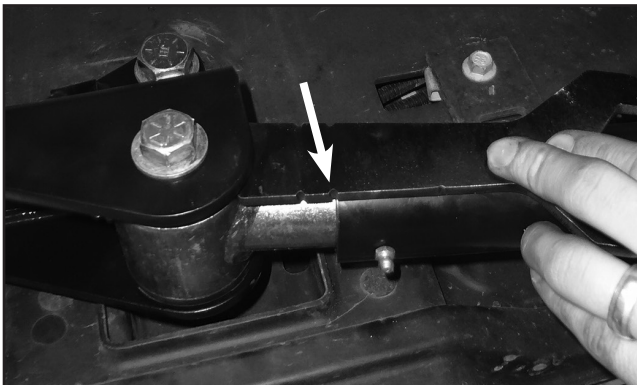
28. Loosen the jam nut at the axle end with the two provided wrenches. Utilize a 1/2" ratchet or breaker bar in the wrench if needed.

**FIGURE 21**

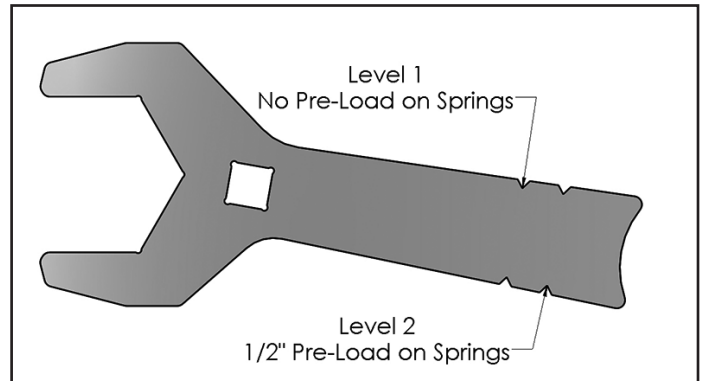


29. Use the levels on the wrench to gauge how much force is inputted into the Recoil Traction Bar. The wrench is designed to be used at the traction bar slider end as shown in Figure 22. Make sure the wrench is pressed firmly against the bushing / tube for an accurate measurement.

**FIGURE 22**

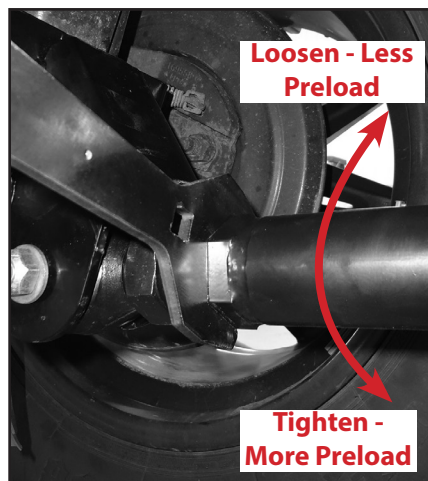


**FIGURE 23**



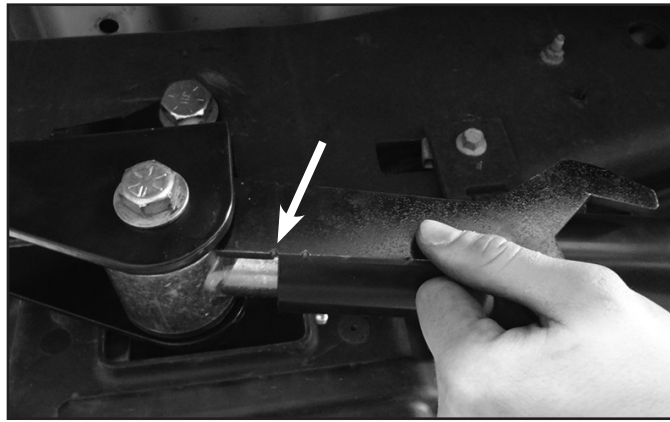
30. Utilizing the Levels on the wrench, spin the Recoil Traction Bar either clockwise to add more force into the dual coil springs setup to reduce axle wrap, or loosen the Recoil Traction Bar by spinning it counter clockwise in order to reduce the input the Recoil Traction Bar has on the suspension system. *Note: Depending upon lift height, the Recoil Traction Bar may need to unthreaded from the Forged Flex End until the First Level is reached on the wrench. At this point the dual coil spring setup are in contact and there is no preload in the springs.*

**FIGURE 24**



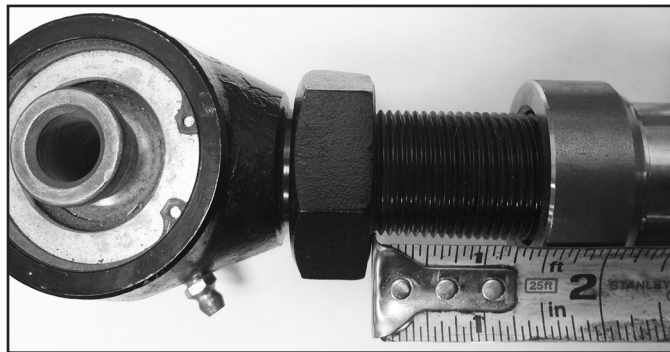
31. It is recommended when pulling or hauling heavy weights that Recoil Traction Bar be set at a minimum of the Second Level on the Jam Nut Wrench to help reduce axle wrap. The Second Level is 25% of the maximum force the springs output. The maximum amount of force that can be preloaded in the spring is 12 full rotations of the Recoil Traction Bar when starting at the First Level. This equals 1" of total preload in the dual coil spring setup in the Recoil Traction Bar. At this point, the dual coil spring setup creates a solid link between the frame and axle when in compression. DO NOT tighten the Recoil Traction Bar past this amount.

**FIGURE 25**



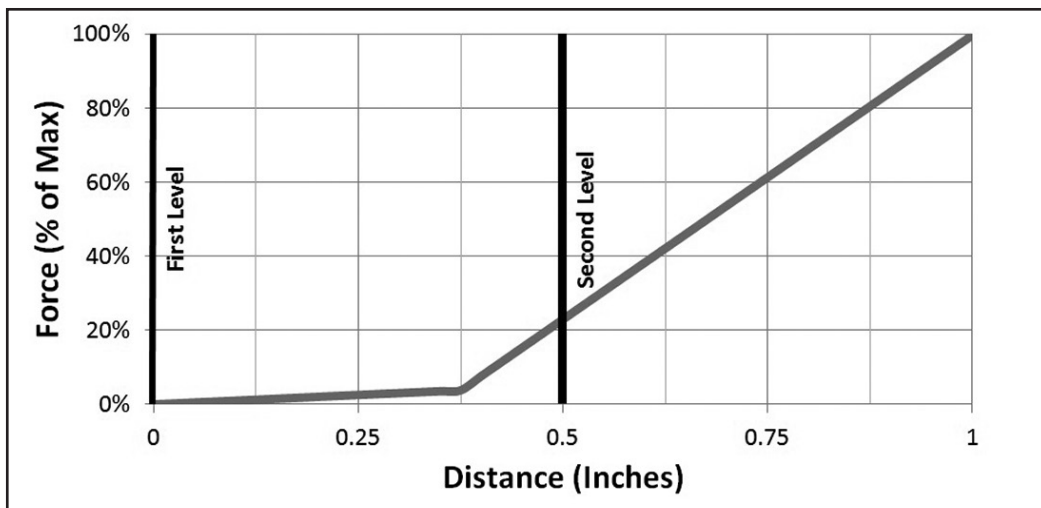
32. After the desired force is set, lock off the jam nut with the two provided Jam Nut Wrenches and repeat this process on the other Recoil Traction Bar. *Note: Never unthread the forged flex end past 1-1/2" of adjustment. This can cause thread damage and weaken the joint. See Figure 26.*

**FIGURE 26**



33. The dual coil spring setup is utilized to always create contact between both ends of the Recoil Traction Bar. Having dual coil spring setup allows the Recoil Traction Bar system to not affect suspension performance at a lower force as seen at the First Level, allowing greater articulation and less affect on the suspension system. As the Recoil Traction Bar is adjusted and the dual coil spring setup are compressed, a higher force is exerted on the axle in order to reduce axle wrap. Each Level below corresponds to the levels on the wrench, representing different amounts of force in the Recoil Traction Bar system. *Note: It is recommended to never fully compress the spring past the 1" of compression. This can be measured 1" from the First Level on the Jam Nut Wrench.*

**FIGURE 27**





## **WE WANT TO SEE YOUR RIDE!**

Grab photos of your BDS-equipped truck in action and send them in for a chance to be featured. Send it in to our Bad Ass Rides customer gallery at [bds-suspension.com/bar](http://bds-suspension.com/bar) and post them on the BDS Fan Page on Facebook at [facebook.com/BDSSuspensions](https://facebook.com/BDSSuspensions). Don't forget about your BDS swag! BDS offers t-shirts, hoodies, decals and more available on the BDS website or through your local BDS distributor.

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## **TIME TO HAVE SOME FUN**

### **Thank you for choosing BDS Suspension.**

For questions, technical support and warranty issues relating to this BDS Suspension product, please contact your distributor/installer before contacting BDS Suspension directly.