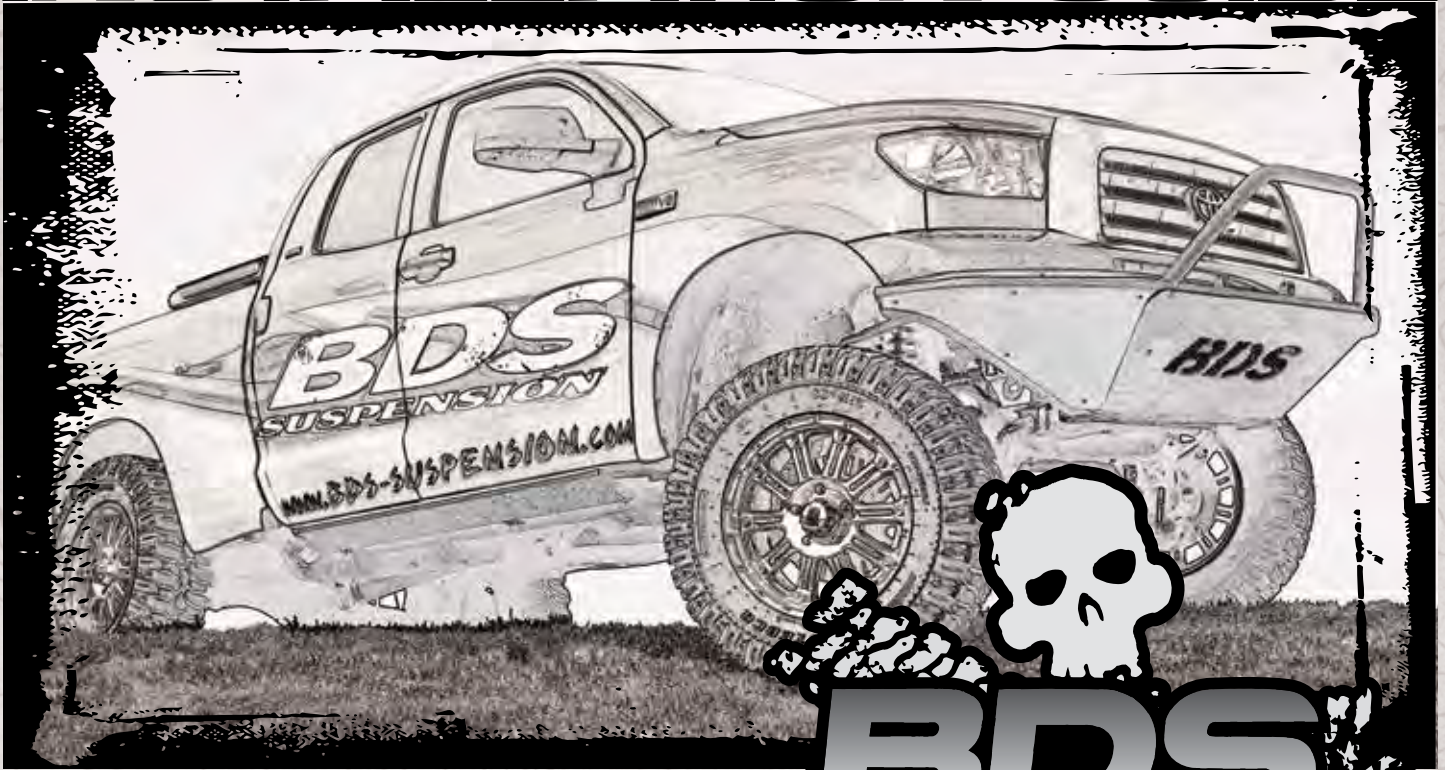


# INSTALLATION GUIDE



Part#: 128408, 123409



**HARDCORE LIMITED LIFETIME WARRANTY**

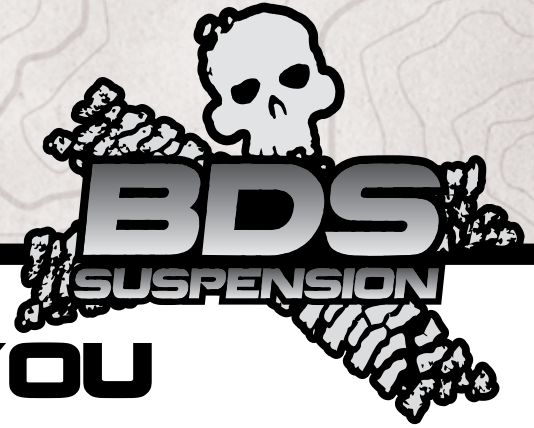
## Toyota Tundra Recoil Traction Bar System

Rev. 111816

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

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

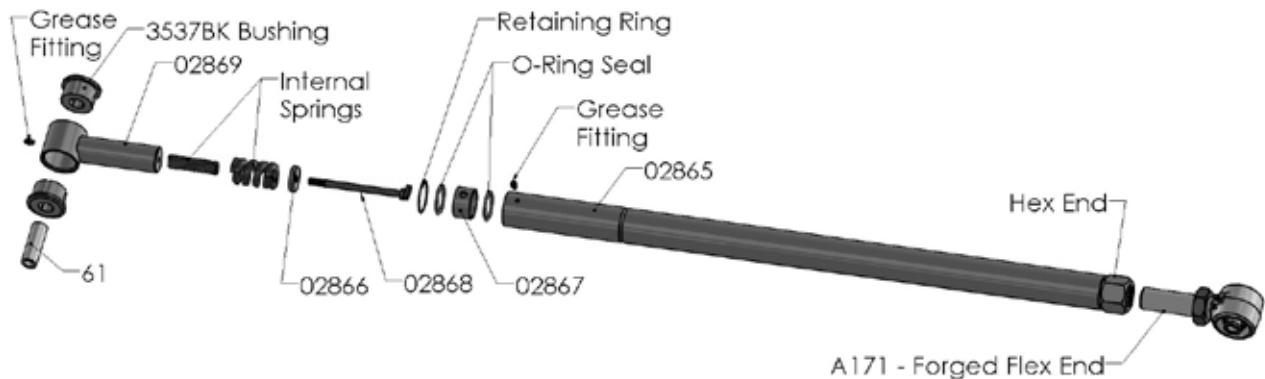
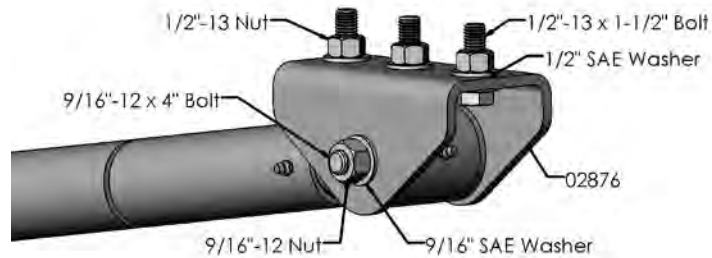
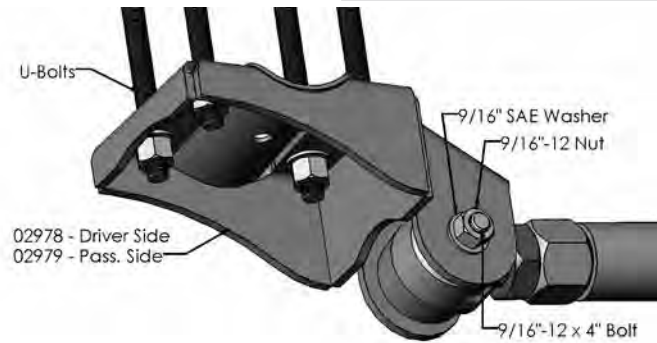
# CONTENTS OF YOUR KIT

## Box Kit 128408

Part #	Qty	Description
02876	2	Frame Bracket
02978	1	Driver Side Axle Bracket
02979	1	Passenger Side Axle Bracket
02910	2	Jam Nut Wrench
B1170	1	Bag Kit
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
977	1	Bolt Pack (Frame Mount)
	6	1/2"-13 x 1 1/2" Bolt - Grade 8
	12	1/2" SAE Washer
	6	1/2"-13 Prevailing Torque Nut

## 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	Light Rate Spring
9452K63	2	O-Ring
91985A231	1	Internal Retaining Ring
3537BK	2	Bushings
61	1	Sleeve
516	2	Grease Fitting
A171	1	Forged Flex Joint End

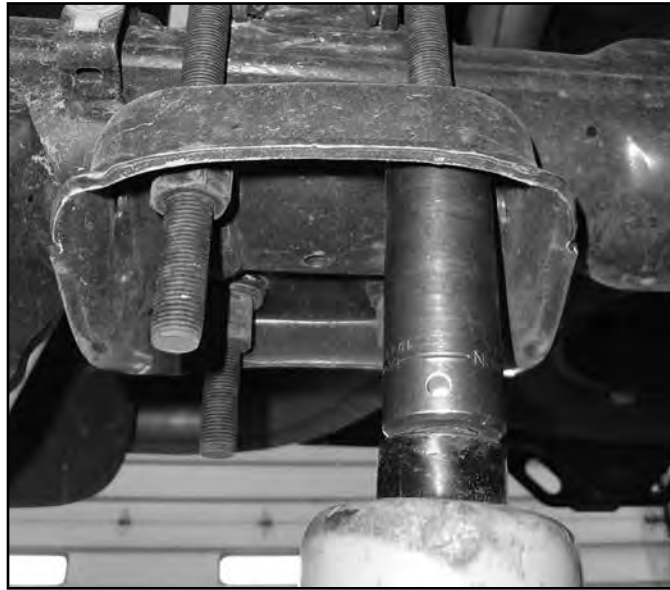


# INSTALLATION INSTRUCTIONS

## AXLE BRACKET INSTALLATION

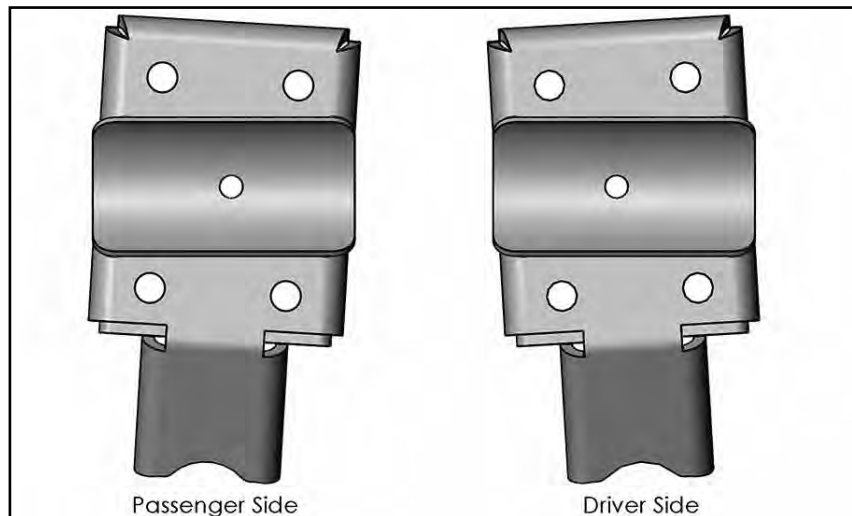
1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Starting on the driver side, raise the rear axle with a jack and support with a jack stand.
3. Remove the lower spring mount plate by loosening the 4 nuts on the U-bolts. If replacing old U-bolts, remove old and install new now.

**FIGURE 1**



4. Install the new lower driver side spring mount plate (02978) in place of the stock lower spring mount plate. Be sure that the mounting tabs on the bracket are facing towards the front of the vehicle. The new lower spring mount plates are side specific, ensure the axle tube orientation on the new lower spring mount plate matches the orientation of the factory lower spring mount plate (Figure 2).

**FIGURE 2**



5. Lower the driver side axle to the ground. With the weight of the vehicle on the rear axle, torque the U-bolts to 100-120 ft-lbs.
6. Repeat the lower spring mount installation on the passenger side. Reminder that the new lower spring mount plates are side specific, ensure the axle tube orientation on the new lower spring mount plate matches the orientation of the factory lower spring mount plate.

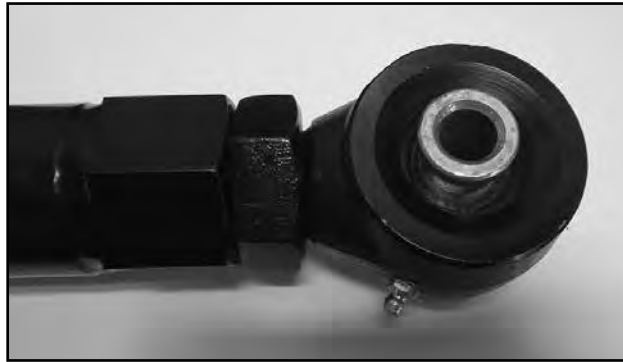
**FIGURE 3**



## TRACTION BAR INSTALLATION

7. 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 Recoil Traction Bar (02865) up to the jam nut as shown in Figure 4.

**FIGURE 4**



8. Attach the Recoil 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 Recoil Traction Bar so that the Forged Flex End (A171) is mounted to the axle bracket. Leave mounting hardware loose at this time.

**FIGURE 5**



9. Measure the length of the bar from the center of the bolt at the axle to the center of the eye on the Forged Flex End (A171). The length should be approximately 59-3/4" +/- 0.25". If not, press firmly on the traction bar slider end to seat the springs.

## FRAME BRACKET INSTALLATION

**! Caution** *After the axle bracket has been installed, the rest of the installation should be done with the weight of the vehicle on the rear axle.*

10. Starting on the driver's side, loosely attach the provided frame bracket (02876) with a 9/16" x 4" bolt, 9/16" nut and 9/16" SAE washer from Bolt Pack 964 to the Traction Bar Slider End (02869).

**FIGURE 6**



11. Raise the Recoil Traction Bar to the frame rails and position the bracket such that the holes in the bracket run down the center of the frame rail. If a rivet interferes with the bracket causing it to not sit flush along the frame, mark the rivet and grind off the rivet head and knock the rivet out.

**FIGURE 7**



12. After the rivet is ground off, raise the Recoil Traction bar back up to the frame rail. with the frame bracket attached. While holding the bracket in place, use the holes and center of the two slots in the frame bracket as a template, mark the locations to be drilled on the frame. Lower the Recoil Traction Bar assembly from the frame and remove the frame bracket. *Note: The ground off rivet can be used as one of the holes for the frame bracket.*



**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.**

13. Drill 9/16" holes at each of the three marks on the frame, a step bit is highly recommended.
14. Attach the frame bracket with three 1/2" x 1-1/2" bolts, 1/2" SAE washers, and 1/2" prevailing torque nuts from Bolt Pack 977. Torque the 1/2" bolts to 65 ft-lbs.



**Tip**

**While this system was designed and tested as a "bolt-on" kit, the 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**

15. Reattach the Recoil 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 8**



16. Repeat installation on the other side of the vehicle.
17. 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.
18. Check all hardware for proper torque.
19. Check hardware after 500 miles.

## TRACTION BAR ADJUSTMENT

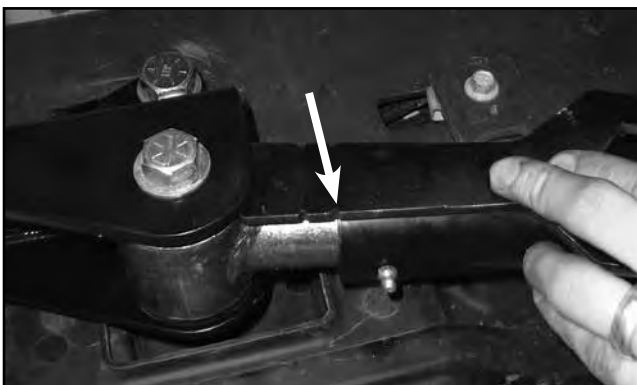
20. Loosen the jam nut at the frame end with the two provided wrenches. Utilize a 1/2" ratchet or breaker bar in the wrench if needed.

**FIGURE 9**

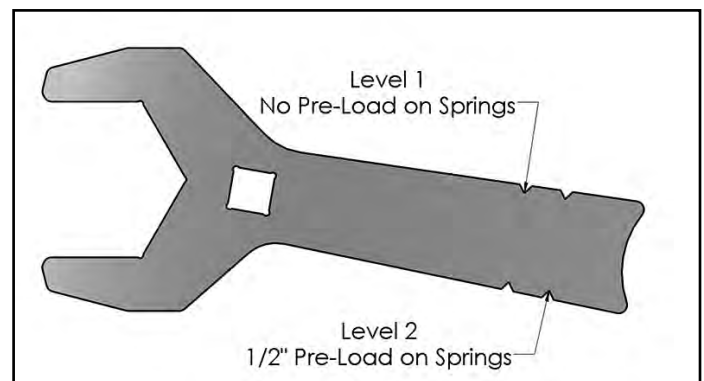


21. Use the levels on the wrench to gauge how much force is inputted into the Recoil Traction Bar. The wrench is designed to be used at the traction bar slider end as shown in Figure 10. Make sure the wrench is pressed firmly against the bushing / tube for an accurate measurement.

**FIGURE 10**



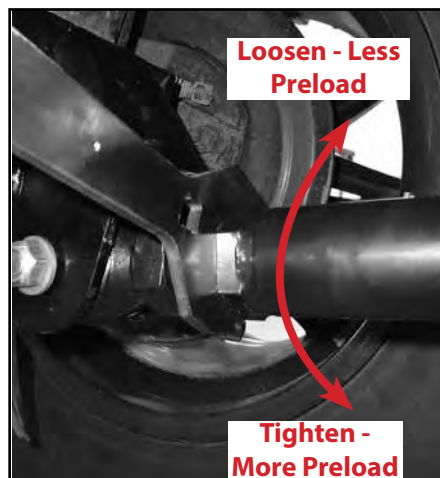
**FIGURE 11**



22. 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 be unthreaded from the Forged Flex End until the First*

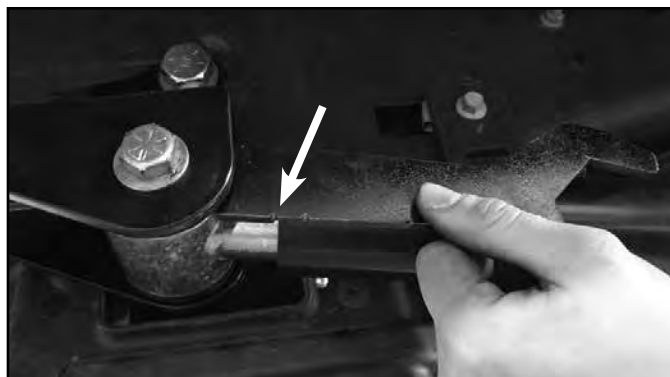
Level is reached on the wrench. At this point the dual coil spring setup are in contact and there is no preload in the springs.

**FIGURE 12**



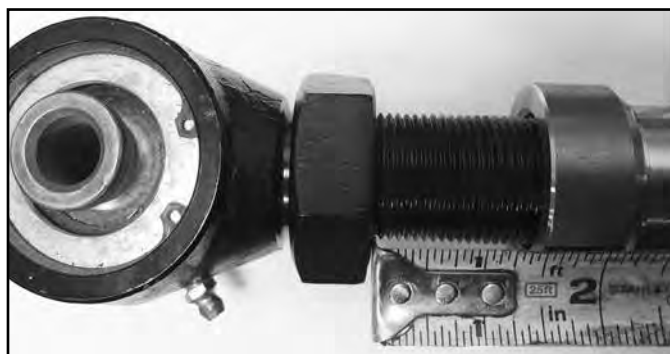
23. It is recommended when pulling or hauling heavy weights that Recoil Traction Bar be set at a minimum of the Second Level on the Jam Nut Wrench to help reduce axle wrap. The Second Level is 25% of the maximum force the springs output. The maximum amount of force that can be preloaded in the spring 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 13**



24. Utilize the Jam Nut Wrench to set a desired force setting (Minimum of the First Level). Depending upon suspension setups, different spring preload may need to be tried to find a good setup to reduce axle wrap. 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 14.*

**FIGURE 14**

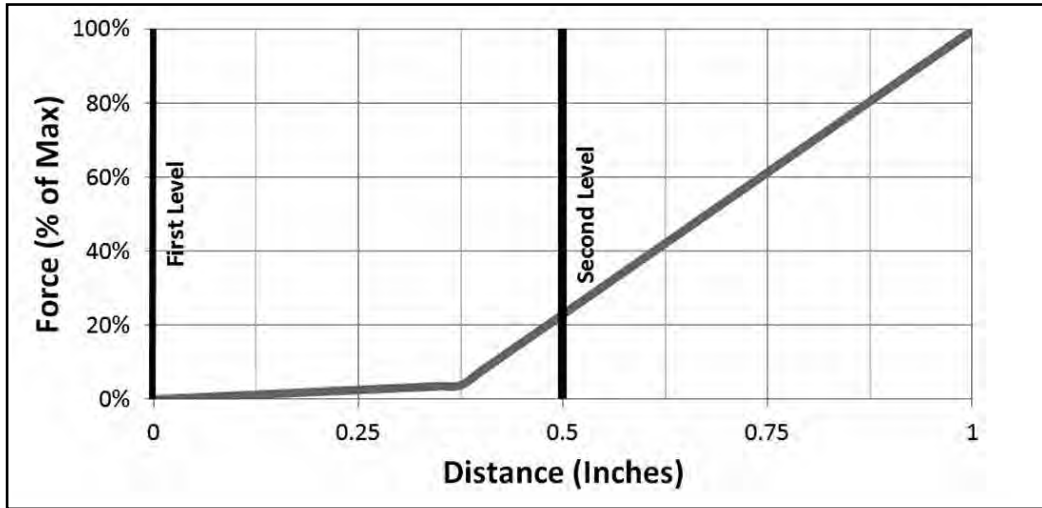


25. The dual coil spring setup is utilized to always create contact between both ends of the Recoil Traction Bar. Having dual coil spring setup allows the Recoil Traction Bar system to not affect suspension performance at a lower force as seen at the First Level, allowing greater articulation and less 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 15**



### **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.