



EZ - Ride Suspension

Part # 12921

1992 - 1998 Chevy or GMC 2500 (8 lug)

Pick up or Suburban 4WD

Torsion bar key front leveling kit

<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
12904-01	Torsion bar keys	2
TCI-R25	Rear add-a-leafs	2
CB38	Hardware bag	1
P98	Rear clevis mounts	2
12921INST	Instruction manual (customer copy)	1
12921INST	Instruction manual (installer copy)	1
WARNINGDECAL	Warning decal	1
MIRRORHANGER	Rear view mirror hanger	1

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 representatives @ (801) 280-2777.

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

Make sure to use loctite on all new and OE hardware associated with this installation.

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.

Installation manual

2" Suspension system

with rear add-a-leafs

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sj12162011rev.02

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 OE 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.

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.

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

Limited lifetime warranty

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

Important information that needs to be read before installation begins:

Tuff Country EZ-Ride Suspension requires that a proper torsion bar unloading tool be used when performing this installation. If you do not have one, please contact your local GM dealer to purchase one from them.

Tuff Country recommends NOT installing the Torsion Bar Keys in conjunction with another aftermarket lifted suspension system. If the Torsion Bar Keys are installed with another aftermarket lifted suspension system your Warranty will be void.

New longer front and rear shocks are recommended after this suspension system has been installed and the front and rear shocks need to be ordered as a separate part #. If you have not already ordered your front and rear shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your front and rear shocks. Tuff Country recommends installing a 18" fully extended nitrogen gas shock in the front and a 30" fully extended nitrogen gas shock in the rear.

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.

Hardware bag CB38 includes:

<u>Description</u>	<u>Quantity</u>
CB381 (3/8" x 6" centering bolt)	2
38FN (3/8" fine nut)	2

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.

Recommended tools selection:

Torque wrench
Standard socket set
Standard wrench set
Metric socket set
Metric wrench set
Tape measure
Hydraulic floor jacks
Torsion bar unloading tool

Please follow instructions carefully:

Before installation begins, measure from the center of the hub, to the bottom of the fender well, and record measurements below.

Pre-installation measurements:

Driver side front: _____

Passenger side front: _____

Driver side rear: _____

Passenger side rear: _____

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

2. Working on the driver side, remove the shock from the OE location. The shock may be discarded but save the upper and lower hardware. **Special note: New longer front shocks are recommended after this suspension system has been installed and the front shocks need to be ordered as a separate part #. If you have not already ordered your front shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your front shocks. Tuff Country recommends installing a 18" fully extended nitrogen gas shock in the front.** Repeat procedure on the passenger side.

3. Working on the driver side and using a proper torsion bar removal tool. **Special note: Tuff Country EZ-Ride Suspension requires that a proper torsion bar unloading tool be used when performing this installation. If you do not have one, please contact your local GM dealer to purchase one from them.** Carefully remove the torsion bar bolt and block. Set the torsion bar bolt and block aside. Remove the torsion bar unloading tool from the cross member.

4. Working on the driver side, tap the torsion bar forward until the torsion bar key can be removed. Remove and discard the torsion bar key.

5. Locate the new torsion bar key and install into the vehicle. Tap the torsion bar back into the torsion bar cross member until it seats properly into the new torsion bar key. Using the torsion bar unloading tool, adjust the new torsion bar key up high enough so that the torsion bar block and bolt can be re-installed.

6. Locate the torsion bar bolt and block and install. Adjust the bolt so that there is at least a 1/4" of thread past the torsion bar block. After the completion of the installation, if more height is needed, adjust the bolt to achieve the proper height. **Special note: For each 1/4" of adjustment on the bolt equals 1" of height.**

Special note: If the torsion bar bolt is over adjusted, ride quality issues will occur and over adjusting the bolt is not recommended.

7. Working on the driver side, measure from the bump stop to the lower control arm. This measurement should not exceed 1/2". If you have more than a 1/2", the torsion bar bolt will need to be lowered until our measurement is less than a 1/2".

Repeat step # 2 - 7 on the passenger side.

8. Locate the new shocks. **Special note: New longer front shocks are recommended after this suspension system has**

been installed and the front shocks need to be ordered as a separate part #. If you have not already ordered your front shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your front shocks. Tuff Country recommends installing a 18" fully extended nitrogen gas shock in the front. Install the proper bushings and sleeves into each end of the new shock. **Special note: Make sure to use a lithium or moly base grease prior to inserting the new lower shock bushings and sleeves into the new lower shock eyelet. This will increase the life of the bushing as well as prevent squeaking.** Working on the driver side, install the new shock into the OE location and secure using the OE hardware. Make sure to use thread locker or loctite and torque to 55 ft. lbs on the upper and lower hardware. Repeat procedure on the passenger side. **Special note: Tuff Country EZ-Ride Suspension highly recommends that the shocks are installed with shock boots. If shock boots are not installed, damaged my occur to the piston of the new shock.**

9. Carefully lower the front of the vehicle to the ground.

10. Block the front tires of the vehicle so the vehicle is stable and can't roll forward. Safely lift the front of the vehicle and support the frame with a pair of jack stands. Place a jack stand on both the driver and passenger side. Next, remove the tires and wheels from both side.

11. Working on the driver side, remove the shock from the OE location. The shock may be discarded but save the upper and lower hardware. Repeat procedure on the passenger side. **Special note: New longer rear shocks are recommended 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 rear shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your rear shocks. Tuff Country recommends installing a 30" fully extended nitrogen gas shock in the rear.**

12. Place a pair of hydraulic floor jacks under the rear differential. Carefully raise up on the hydraulic floor jacks until they make contact with the rear differential.

13. Working on the driver side, remove the u-bolts from the OE location. Save the OE u-bolts, hardware and u-bolt plates. Repeat procedure on the passenger side.

14. 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.

15. Working on the driver side and using a pair of "C" channel vise grips, clamp the rear springs together. Place one towards the front of the centering bolt and one towards the rear. **Special note: Make sure not to clamp the over load.** Repeat procedure on the passenger side.

16. Carefully remove the centering bolt and discard. **Special note: Once the centering bolt has been removed, the over load will fall out. Save the over load.** Repeat procedure on the passenger side.

17. Locate the new rear add-a-leaves. Also, locate the new 3/8" centering bolts and nuts from hardware bag CB38. Working on the driver side, install the new add-a-leaf between the OE spring and the overload. Secure using the new 3/8" centering bolt and nuts. Tighten the new centering bolt until all the springs come together and torque to 40 ft lbs. **Special note: Tuff Country does not**

recommend using an air gun to tighten the nut all the way down. Once the springs are starting to come together, Tuff Country recommends using a hand wrench to finish tightening the nut. If an air gun is used to tighten the centering bolt all the way down, the centering bolt may strip causing the springs to come apart. Repeat procedure on the passenger side.

18. Working on the driver side and using a die grinder, carefully cut off the excess thread from the new centering bolt. Repeat procedure on the passenger side.

19. Carefully raise up on the hydraulic floor jacks until the axle meets the springs. Working on the driver side, secure the axle to the OE spring using the OE u-bolts, u-bolt hardware and u-bolts plates. Torque to **110 ft lbs**. Repeat procedure on the passenger side.

20. Locate the new rear shocks. **New longer rear shocks are recommended 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 rear shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your rear shocks. Tuff Country recommends installing a 30" fully extended nitrogen gas shock in the rear.** Working on the new shocks, install the new bushings and proper sleeves that are packaged with the new shocks into the lower mount and install the new bushing and clevis mount into the upper eyelet of the new shock. **Special note: Make sure to use a lithium or moly base grease prior to installing the new bushings and sleeves into the eyelets of the new shocks. This will help with the life of the bushings as well as prevent squeaking.**

21. Locate the OE upper and lower shock mounting hardware. Working on the driver side, install the new shock using the upper and lower hardware. Make sure to use thread locker or loctite and torque the upper hardware to **16 ft lbs** and lower hardware to **65 ft lbs**. Repeat procedure on the passenger side. **Special note: Tuff Country highly recommends installing shock boots onto the new shocks. If shocks boots are not installed, damage may occur to the piston of the new shock. If you have not already ordered your new shocks boots, please contact Tuff Country or your local Tuff Country dealer and order some new shock boots. Tuff Country offers, dark blue, light blue, gray, black, red or yellow shock boots.**

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

23. Check and double check to make sure that all steps were performed properly and check again.

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

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: _____

Congratulations, installation complete!

Special note: After the completion of the installation, Tuff Country EZ-Ride Suspension recommends taking the vehicle to an alignment shop and having a proper front end alignment performed.

Tuff Country EZ-Ride Suspension recommends that a complete re-torque is done on all bolts associated with this suspension system. 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. Neglect of following these steps could cause brackets to come loose and cause serious damage to the suspension system and to the vehicle.

Tuff Country EZ-Ride Suspension packages (2) sets of instruction sheets with this box kit. (1) is for the installer and (1) is for the customer. The (1) for the customer has some post installation procedure literature and it is the installers responsibility to make sure that the customer receives a copy of the installation manual along with the literature.

If you have any questions or concerns, please feel free to contact Tuff Country or your local Tuff Country dealer.