



Installation manual
Torsion bar key front leveling kit
1999 - 2008
Chevy or GMC 2500/3500 HD 4WD
Part # 12904

sj120507rev.01

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<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
12904-01	Torsion bar keys	2
12904-02	Front lower shock relocation bracket	2
12904INST	Instruction manual (customer copy)	1
12904INST	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.

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 lock tite on all new and stock 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.

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.

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.

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.

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: _____

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: _____

Torsion bar key 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 passenger side.

2. Working on the driver side, remove the stock shock from the stock lower mounting location and save the stock hardware. Now remove the stock lower shock bracket from the stock lower control arm. Save the stock hardware. The stock shock bracket may be discarded. 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 stock torsion bar bolt and block. Set the stock torsion bar bolt and block aside. Remove the stock torsion bar unloading tool from the stock cross member.

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

5. Locate the new torsion bar key and install into the stock location. Tap the stock 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 stock torsion bar block and bolt can be re-installed.

6. Locate the stock torsion bar bolt and block and install into the stock location. Adjust the stock bolt so that there is at least a 1/4" of thread past the stock torsion bar block. After the completion of the installation, if more height is

needed, adjust the stock bolt to achieve the proper height. **Special note: For each 1/4" of adjustment on the stock bolt equals 1" of height.**

Special note: If the stock 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 stock bump stop to the stock lower control arm. This measurement should not exceed 1/2". If you have more than a 1/2", the stock torsion bar bolt will need to be lowered until our measurement is less than a 1/2".

Repeat step # 3 - 7 on the passenger side.

8. Locate the new lower shock relocation bracket and the stock hardware. Working on the driver side, install the new lower shock bracket to the stock lower control arm and secure using the stock hardware. **Make sure to use thread locker or lock tite and torque to 45 ft lbs.** Repeat procedure on the passenger side.

9. Locate the stock lower shock mounting hardware. Working on the driver side, install the stock shock to the newly installed lower shock relocation bracket and secure using the stock hardware. **Make sure to use thread locker or lock tite and torque to 65 ft lbs.** Repeat procedure on the passenger side.

10. Carefully lower the vehicle to the ground.

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.