



**Installation manual**

1 1/2" rear add-a-leaf

2003 - 2008

Dodge Ram 2500 / 3500

Part # 82450

sj052108rev.01

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**1 1/2" rear add-a-leaf**

| <u>Part #</u> | <u>Description</u> | <u>Qty.</u> |
|---------------|--------------------|-------------|
| TCI-R24       | Rear add-a-leaf    | 2           |
| CB12          | Hardware bag       | 2           |
| 82450INST     | Instruction sheets | 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.

**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. |

**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.

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 stock hardware associated with 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:

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.

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 representatives @ (801) 280-2777.

Recommended tools selection:

- Cut off wheel
- Torque wrench
- Standard socket set
- Standard wrench set
- Metric socket set
- Metric wrench set
- Tape measure
- Hydraulic floor jacks

Hardware bag CB12 includes:

| <u>Description</u>                | <u>Quantity</u> |
|-----------------------------------|-----------------|
| CB121 (1/2" x 6" centering bolts) | 2               |
| 12FN (1/2" fine nut)              | 2               |

**Rear add-a-leaf installation:**

**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 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 rear:** \_\_\_\_\_

**Passenger side rear:** \_\_\_\_\_

1. To begin installation, remove the stock front end links from the stock location and save the stock hardware. Now, 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 wheels and tires from both sides.

2. 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.

3. Working on the driver side, remove the stock shock from the stock axle mount location. Save the stock hardware. The upper mount does not need to be removed, let the shock hang. Repeat procedure on the passenger side.

4. Working on the driver side, remove the (2) rear u-bolts. Save the rear u-bolts and hardware. Set the stock upper u-bolt plate aside. Repeat procedure on passenger side.

5. Lower down on both hydraulic floor jacks at the same time until the stock springs separate from the stock rear axle. Lower down approximately 4". **Special Note: Make sure not to over extended any brake lines or hoses when lowering axle.**

6. Place a pair of "C" clamps on both sides of the new centering bolts and tighten until the "C" clamps hold the stock springs together. Remove the stock centering bolts that connect the stock together and discard. Carefully remove the "C" clamps from the stock springs. **Special note: Take special care when removing the "C" clamps because the springs are under tension.**

7. Locate the new rear a-a-leaf. Also, locate (2) 1/2" x 6" bolts and (2) 1/2" fine nuts from hardware bag CB12. Working on the driver side, install the new add-a-leaf between the stock over load and the stock spring assembly. Secure using the new 1/2" centering bolts and nuts. For now, just get the nuts

started. Then using a pair of "C" clamp vise grips, carefully bring the new add-a-leaf and stock spring assembly together. Once the new add-a-leaf and the stock springs have been brought together, tighten the new 1/2" centering bolts to 54 ft lbs. **Special note: Using a die grinder, carefully cut off the excess thread on the centering bolts so that the upper u-bolt plate can be installed properly.**



8. Repeat step # 5 - 7 on the passenger side.

9. Carefully raise up on both hydraulic floor jacks at the same time until the rear axle makes contact with the stock spring assemblies.

10. Locate the u-bolts, u-bolt hardware and upper u-bolt plates. Working on the driver side, secure the new rear add-a-leaf and the stock spring assembly to the rear axle and secure using the u-bolts, u-bolt hardware and upper u-bolt plates. Torque to **120 ft lbs**. Repeat procedure on the passenger side.

11. Locate the stock lower shock hardware. Working on the driver side, secure the stock shock into the stock lower shock mounting point and secure using the stock hardware. Make sure to use thread locker or loctite and torque to **85 ft lbs**. Repeat procedure on the passenger side.

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

13. Check and double check to make sure that all steps have been performed properly and check again.

14. Install the tires and wheels and 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.**

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

**After completion of the installation, Tuff Country EZ-Ride Suspension highly recommends that the installer informs the customer that whenever they have their vehicle lifted in the air by the frame rail, the front sway bar end links need to be disconnected from the stock sway bar. If this is not done, damage will occur to the stock front end links.**