



**Installation manual**

**Long arm kit**

**2003-12 Ram 2500-3500**

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**Part # 30942**

sj09032010rev.01

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**2003 - 20% Ram 2500-3500**

**Long arm kit**

<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
30940-01	Cross member bracket shim	4
30940-02	DS & PS rear mounts	2
30940-09	Upper control arm	2
30940-12	Driver side lower control arm	1
30940-13	Passenger side lower control arm	1
HEIM-01	Large heim joint	2
HEIM-02	Small heim joint	2
30942PL	Hardware bag	1
34000PL2	Hardware bag	1
30940NB1	Hardware bag	1
30940INST	Instruction manual	2
MIRRORHANGER	Rear view mirror hanger	1
WARNINGDECAL	Warning decal	1

**Important customer information:**

Tuff Country EZ-Ride Suspension highly recommends that a qualified or a certified mechanic performs this installation.

**It is the responsibility of the customer/installer to wear safety glasses at all times when performing this installation.**

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.

**Special note: The stock lower control arm mounting points will be cut off during this installation and the stock brackets would need to be welded back to the frame if you desire to return your vehicle back to stop. If you do not want to cut off the stock brackets, please box up the kit and return it to whom you purchased it from.**

Congratulations on your selection to purchase a Tuff Country EZ-Ride Suspension System. We at Tuff Country EZ-Ride Suspension are proud to offer a high quality product at the industries most competitive pricing. Thank you for your confidence in us and our product.

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.

Please see the end of the installation manual for a picture of the hard parts that are included in this suspension system.

### 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:

This kit will work on vehicles with no lift or up to 6" of lift.

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.

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.

Make sure to use thread locker or loctite on all new and stock hardware associated with the installation of this suspension system.

Hardware bag 30942PL includes:

<u>Description</u>	<u>Quantity</u>
MO2617 (poly bushing)	8
S10059 (.875" x .563" x 2.370" sleeve)	2
S10205 (.875" x .563" x 2.630" sleeve)	2
LUBE (poly lube pack)	2

Hardware bag 30940NB1 includes:

<u>Description</u>	<u>Quantity</u>
9164B (9/16" x 4" bolt)	6
9168B (9/16" x 8" bolt)	4
12WA (1/2" USS flat washer)	20
916UN (9/16" unitorque nut)	10
12112B (1/2" x 1 1/2" bolt)	4
716WA (7/16" USS flat washer)	8
12UN (1/2" unitorque nut)	4

Hardware bag 34000PL2 includes:

<u>Description</u>	<u>Quantity</u>
M20409 (poly bushing)	4
S10224 (1.025" x .708" x 2.630")	2

**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**

**Please follow instructions carefully:**

**Long arm installation:**

1. Working on the driver side, remove the stock sway bar from the stock sway bar end link. Save the stock sway bar end link hardware for later re-installation. Repeat the procedure on the passenger side. Now remove the stock sway from the stock end links and let the stock sway bar hang.

**Step # 1 needs to be performed with weight of the vehicle on the ground. If this step is not performed with the weight of the vehicle on the ground, damage will occur to the stock sway bar end links.**

2. 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 vehicle with a pair of jack stands. Place a jack stand on both the driver and the passenger side. Next, remove the front wheels and tires from both sides.

3. Place a pair of hydraulic floor jacks under the front differential. Place one on the driver side and one on the passenger side. Carefully raise up on both hydraulic floor jacks until they make contact with the front differential.

4. Working on the driver side, remove the stock or after market lower control arm from the stock location from the front axle and frame bracket. The lower control arm and the frame mounting hardware may be discarded. Save the stock axle mounting hardware for later re-installation. Repeat procedure on the passenger side.

5. Working on the driver side, remove the stock or after market upper control arm from the stock frame mount and axle location. The stock hardware may be discarded. Repeat procedure on the passenger side. **Special note: Due to clearance issues with the stock exhaust, the passenger side upper control arm frame mounting hardware will need to be cut off. Carefully cut the stock bolt and discard the stock hardware.**

6. Working on the driver side carefully cut off the stock lower control arm rear bracket. **Special note: Make sure not to cut into the stock frame rail.** Once the bracket has been cut away, clean and dress up any exposed metal.

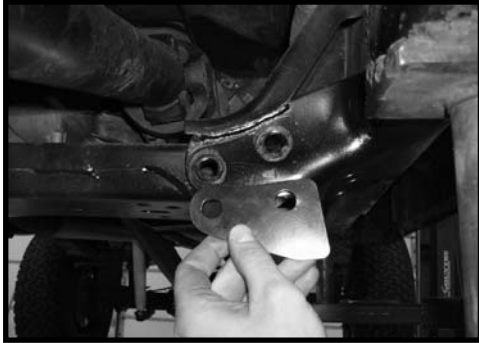


7. Place a hydraulic floor jack in the middle of the transmission cross member. Carefully raise up on the hydraulic floor jack until it makes contact with the cross member.

8. Working on the driver side, remove and discard the (2) stock bolts holding the transmission cross member into the stock location.



9. Locate the new rear long arm bracket and (2) cross member bracket shims. Locate (2) 9/16" x 8" bolts, (4) 1/2" USS flat washers and (4) 9/16" unitorque nuts from hardware bag 30940NB1. Working on the driver side, install the new rear long arm bracket to the new location on the frame and the side of the transmission cross member. Secure using the new shims and new 9/16" x 8" bolts and hardware. **Do not tighten at this point. Special note: We want to install the new shims between the legs of the new brackets and the transmission cross member. Make sure we do this on the front and back side of the cross member.**



10. Working on the driver side, holding the new bracket up to the frame rail and carefully drill (2) 1/2" holes into the bottom of the frame rail using the holes in the new bracket as a guide.



11. Locate (2) 1/2" x 1 1/2" bolts, (4) 7/16" USS flat washers and (2) 1/2" unitorque nuts from hardware bag 30940NB1. Working on the driver side, secure the new bracket to the bottom of the frame rail using the new 1/2" x 1 1/2" bolts and hardware. Make sure to use thread locker or loctite and torque to **55 ft lbs.**



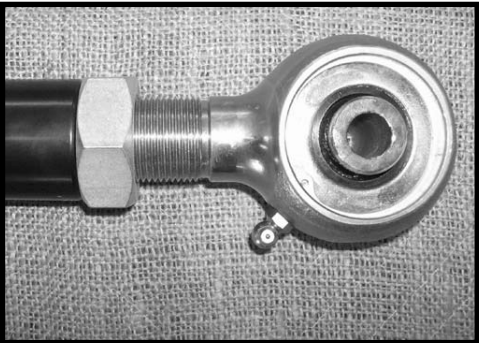
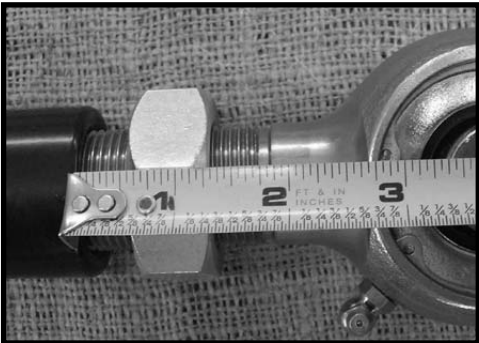
12. Working on the driver side, move back the new 9/16" x 8" bolts holding the legs of the new bracket to the transmission cross member and add some thread locker or loctite and torque to **85 ft lbs.** Now remove the hydraulic floor jacks from under the transmission cross member.

13. Repeat step's 6 - 12 on the passenger side.

14. Locate the new longer lower control arms. Also, locate (4) MO2617 poly bushings and (2) .875" x .563" x 2.630 crush sleeves from hardware bag 30942PL. Install the new bushings and sleeves into the new longer lower control arms. **Special note: Make sure to use a fair amount of lithium or moly base grease before installing the new bushings and sleeves into the front main eyelets. This will increase the life of the bushing as well as help prevent squeaking. Also, if the vehicle that you are working was manufactured in 2010, different bushing and sleeves will be installed. Locate (4) M20409 control arm bushings and (2) S10224 sleeves from hardware bag 34000PL2 and install them into the new longer lower control arms.**

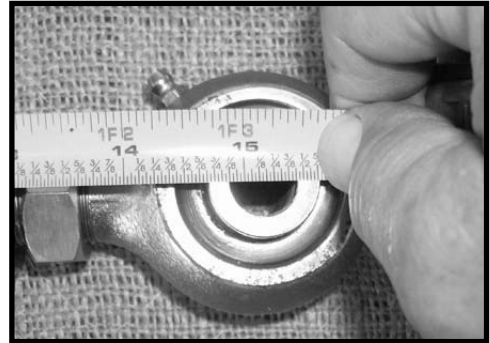


15. Locate (2) large heim joints. Install the large heim joints into the driver and passenger longer control arms. Measure from the leading edge of the new lower control arm to the heim joint housing. We want this measurement to be 3". Once we are at 3", tighten the locking nut so that the heim joint will not move. **Special note: Make sure to use a fair amount of anticease on the threads. If this is not done, the new long arm will not perform properly. Also, make sure that the sert fitting on the heim joint is in the upward position when installed in the vehicle.**



16. Locate (4) MO2617 poly bushings and (2) .875" x .563" x 2.370 crush sleeves from hardware bag 30942PL. Also, locate the new upper control arms. Install the new bushings and sleeves into the new upper control arms. **Special note: Make sure to use a fair amount of lithium or moly base grease before installing the new bushings and sleeves into the new upper control arms. This will increase the life of the bushing as well as help prevent squeaking.**

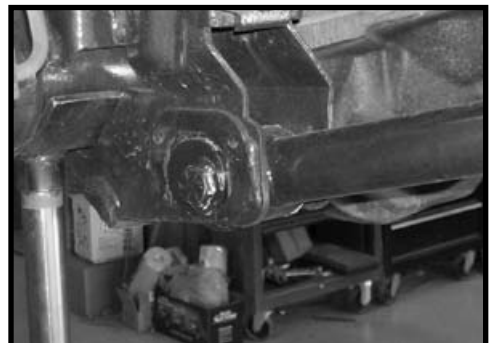
17. Locate the (2) small heim joints. Install the small heim joints into the new upper control arms and screw in until the center to center measurement on the upper control arm is 15 1/8". Then tighten the locking nut so that the heim joint will not move. **Special note: Make sure to use a fair amount of anticease on the threads. If this is not done, the new long arm will not perform properly. Also, make sure that the sert fitting on the heim joint is in the upward position when installed in the vehicle.**



18. Locate (1) 9/16" x 4" bolt, (2) 1/2" USS flat washers and (1) 9/16" unitorque nut from hardware bag 30940NB1. Install the new driver side lower control arm into the newly installed rear lower control arm bracket and secure using the new 9/16" x 4" bolt and hardware. **Do not tighten at this point.**

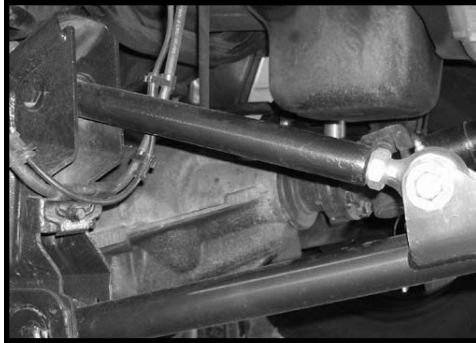


19. Locate the stock cam bolts and hardware. Install the new longer lower control arm to the axle mount and secure using cam bolts and hardware. For now, center the cam bolt and torque to **95 ft lbs.** Move back to the new mounting hardware that is securing the new longer lower control arm to the rear mount and add some thread locker or loctite and torque to **95 ft lbs.**



20. Locate (2) 9/16" x 4" bolt, (4) 1/2" USS flat washers and (2) 9/16" unitorque nut from hardware bag 30940NB1. Also, locate the new upper control arm. Working on the driver side, install the new upper control arm into the stock axle pocket

and secure using the new 9/16" x 4" bolt and hardware. **Do not tighten at this point.** Now install the upper control arm to the tabs on the new longer lower control arm and secure using the new 9/16" x 4" bolt and hardware. Add some thread locker or loctite on the new upper control arm hardware and torque to **95 ft lbs.**



21. Repeat steps 18 - 20 on the passenger side.
22. Carefully remove the hydraulic floor jacks from under the front differential.
23. Install the tires and wheels and carefully lower the vehicle to the ground.
24. Once the vehicle is on the ground, re-install the sway bar end link back to the sway bar and secure using the hardware. **Make sure to use thread locker or loctite.**

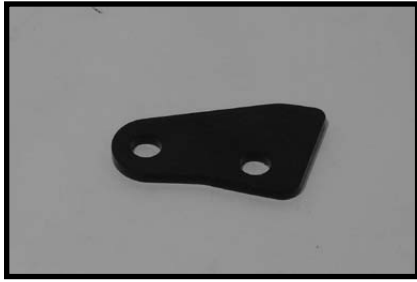
**Congratulations, installation complete!**

**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. If the alignment shop has any questions on the alignment, please tell them to call our Tech Department.**

**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.**



**30940-01 / Qty. 4**  
Cross member  
bracket shims



**30940-02 / Qty. 2**  
DS & PS rear lower  
control arm mounts



**30940-12 / Qty. 1**  
DS lower control arm



**30940-13 / Qty. 1**  
PS lower control arm



**30940-09 / Qty. 2**  
Upper control arm



**HEIM-01 / Qty. 2**  
**HEIM-02 / Qty. 2**  
Large and small Heim joints