



Installation manual
2.5" Front leveling kit
2005 - 2016 Ford
F250/F350 Super Duty
Part # 22970

sj03022012rev.06

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2.5" Front leveling kit

<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
22970-01	Front spacer	2
22970-02	Front isolator	2
22970INST	Instruction sheet	1
MIRRORHANGER	Rear view mirror hanger	1
WARNINGDECAL	Warning decal	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 representative @ (800) 288-2190.

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

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 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.

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 recommends a 33x12.50 tire package once part # 22970 has been installed. If larger than a 33x12.50 tire is installed in conjunction with part # 22970; Tuff Country assumes no liability and the warranty will be VOID.

Tuff Country EZ-Ride Suspension packages (1) set of instruction sheets with this box kit. This instruction sheet is for the installer. We also package some post installation procedure literature and it is the installers responsibility to make sure that the customer receives a copy of 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.

New longer front shocks are needed 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 EZ Ride Suspension recommends running a 23" fully extended nitrogen gas shock. Also, the new shock boots are sold as a separate part #. If you have not already ordered your new shock boots, please contact Tuff Country or your local Tuff Country dealer and order your new shock boots.

Special note: After the completion of the installation, the front axle may not be centered under the vehicle. If this is the case on the vehicle that you are working on, a new adjustable track bar relocation bracket is recommended. If you have not already ordered your new adjustable track bar relocation bracket, please contact Tuff Country or your local Tuff Country dealer and order part # 22971 for vehicles manufactured between 2005 - 2007 or part # 22972 for vehicles manufactured between 2008 - 2012.

Recommended tools selection:

Torque wrench
Standard socket set
Standard wrench set
Metric socket set
Metric wrench set
Tape measure
Hydraulic floor jacks

Please follow instruction 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: _____

Special note: Tuff Country highly recommends installing this kit with the front tires on. DO NOT remove the front tires until after the installation is complete.

1. To begin installation, block the rear tires of the vehicle so that the vehicle is stable and can't roll backwards. Place a block on the driver side and the passenger side.

2. Working on the driver side, remove the hardware from upper shock location and discard. Remove the hardware from the bottom of the shock and save. The shock may be discarded. **Special note: New longer front shocks are needed 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 EZ Ride Suspension recommends running a 23" fully extended nitrogen gas shock.**

3. Working on the driver side, remove the sway bar from the frame mount, save the hardware. Repeat procedure on the passenger side. Let the stock sway bar hang.

4. Working on the driver side, remove the brake line bracket from the front axle and save the hardware. Repeat procedure on the passenger side.

5. Working on the driver side, scribe a mark on the coil spring and another mark on the lower coil spring plate. This is done so that the coil spring can be installed back into the same location. Repeat procedure on the passenger side.

6. Place a pair of hydraulic floor jacks under the frame rails. Place one on the driver side and one on the passenger side. With help from a buddy, carefully raise up on both hydraulic floor jacks at the same time until the coil spring comes out of the upper coil spring location. Keep raising up on the vehicle until the new coil spring spacer and the new isolator can be installed.

7. Locate the new coil spring spacers and the new isolators. Working on the driver side, install the new coil spring spacer on top of the coil spring. Then install the new isolator on top of the newly installed coil spring spacer. Repeat procedure on the passenger side.

8. Working on the driver side, hold the coil spring into the stock location. **Special note: Refer to the alignment marks that were made in step # 5.** Carefully lower down on the hydraulic floor jack until the stock coil spring, the new coil spring spacer and the isolator seat properly into the upper coil spring bucket. Repeat procedure on the passenger side. Once the weight of the vehicle is back on the ground, remove both hydraulic floor jacks from under the vehicle.

9. Working on the driver side, re-install the brake line bracket into the OE location using the OE hardware. Make sure to use loctite and torque to **12 ft lbs.** Repeat procedure on the passenger side.

10. Working on the driver side, re-install the sway bar back into the OE location using the OE hardware. Make sure to use thread loctite. **Do not tighten at this point.** Repeat procedure on the passenger side. Once the driver and passenger side is re-installed, torque the hardware to **22 ft lbs.**

11. Locate the new front shocks. **Special note: New longer front shocks are needed once 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 new front shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your new front shocks. Tuff Country recommends installing a 23" fully extended nitrogen gas shock in the front end of your vehicle.** Install the new bushings and proper sleeves into each end of the new shocks. **Special note: The new bushings and sleeves are supplied with your new shocks. Also, make sure to use a lithium or moly base grease prior to inserting the new bushings and sleeves into the new shocks. This will increase the life of the bushings and will help prevent squeaking.** Install the new shock boots onto the new shocks. **Special note: The new shock boots are not included with this suspension system and the new shock boots need to be ordered as a separate part #. If**

you have not already ordered your new shock boots, please feel free to contact Tuff Country or your local Tuff Country dealer and order your new shock boots. Once the new shock boots have been installed, working on the driver side, install the new shock into the upper location. Install the new washer and the new front upper shock bushing onto the stud of the new shock and torque the new nut to **28 ft lbs**. Repeat procedure on the passenger side.

12. Working on the driver side, secure the newly installed front shock into the lower location and secure using the stock hardware. Make sure to use loctite and torque to **45 ft lbs**. Repeat procedure on the passenger side.

13. Once the installation is complete, you may now install your new tires and wheels.

Special note: After the completion of the installation, the front axle may not be centered under the vehicle. If the is the case on the vehicle that you are working on, a new adjustable track bar relocation bracket is recommended. If you have not already ordered your new adjustable track bar relocation bracket, please contact Tuff Country or your local Tuff Country dealer and order part # 22971 for vehicles manufactured between 2005 - 2007 or part # 22972 for vehicles manufactured between 2008 - 2012.

Special note: Due to different wheel and tire combinations, contact on the front brake line may occur on the tire or wheel. If this is the case on the vehicle that you are working on, modification may be necessary to relocation the stock front brake line.

Check and double check to make sure that all steps were performed properly. Once the installation is complete take your vehicle directly to an alignment center for a proper front end alignment.

Congratulations Installation Complete

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.

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

