



LEVEL IT System (Includes RS5000X Front Shocks)

RS66351R5 – 2019-2011 Chevy Silverado / GMC Sierra 2500HD / 3500HD 2WD / 4WD

RS66350R5 – 2010-2001 Chevy Silverado / GMC Sierra 2500HD / 3500HD 2WD / 4WD

RS66300R5 – 2007-1999 Chevy Silverado / GMC Sierra 1500 4WD

Requires GM torsion bar unloading tool J-36202, J-42393 (2010 and older), or CH-48809 (all models)

READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION

⚠ WARNING: Carefully read, understand and follow the instructions provided in this manual, and keep it in a safe place for future reference. If you have any doubt whatsoever regarding the installation or maintenance of your Rancho suspension system, please see your retailer for assistance or advice. Failure to follow the warnings and instructions provided herein can result in the failure of the suspension system, or can cause you to lose control of your vehicle, resulting in an accident, severe personal injury or death.

These instructions should remain in the vehicle glove box for future reference



RS66351R5: 2019-2011 2500HD/3500HD

| P/N | DESCRIPTION | QTY |
|----------|---------------|-----|
| RS55378 | RS5000X Shock | 2 |
| RS176684 | Torsion Arm | 2 |
| RS89300 | Instruction | 1 |



RS66350R5: 2010-2001 2500HD/3500HD

| P/N | DESCRIPTION | QTY |
|----------|---------------|-----|
| RS55370 | RS5000X Shock | 2 |
| RS176683 | Torsion Arm | 2 |
| RS89300 | Instruction | 1 |



RS66300R5: 2007-1999 1500 4WD

| P/N | DESCRIPTION | QTY |
|----------|---------------|-----|
| RS55371 | RS5000X Shock | 2 |
| RS176682 | Torsion Arm | 2 |
| RS89300 | Instruction | 1 |

TORSION BAR KEY INSTALLATION

1) Park the vehicle on a level surface. Set the parking brake and chock rear wheels. Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 1.

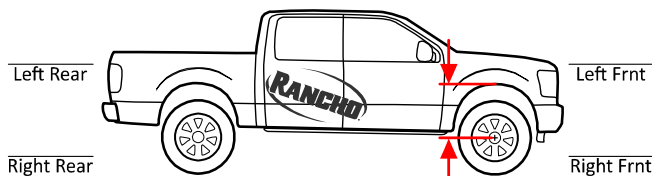


Illustration 1

2) Raise the front of the vehicle and support the frame with jack stands. Remove the front wheels and set them aside.

3) Mark and measure the exposed portion of threads of the torsion arm adjusting bolt. Make alignment marks on the torsion bars, the lower control arms, and the torsion keys. See Illustration 2.

Caution: Use care when handling the torsion bars in order to avoid chipping or scratching the coating. Damage to the coating will result in premature failure of the torsion bars.

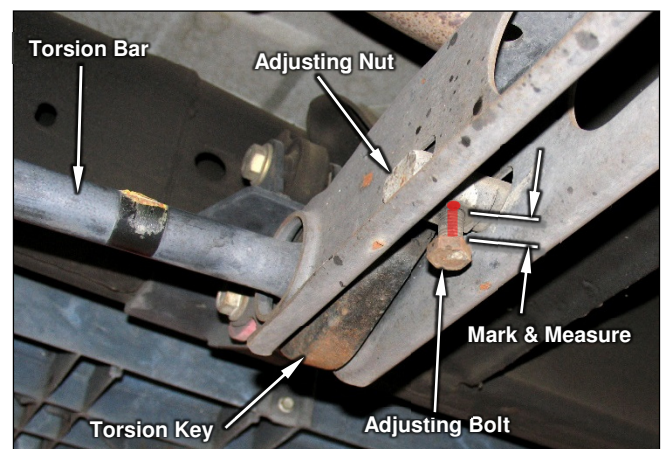


Illustration 2

4) Install the appropriate torsion bar unloading tool. Make sure top of tool is seated in hole in the top of the cross member, and the tip of the tools bolt is seated in divot of OE adjusting arm. Slowly Increase the tension on the torsion bar until adjusting nut is loose in cross member. See Illustration 3.

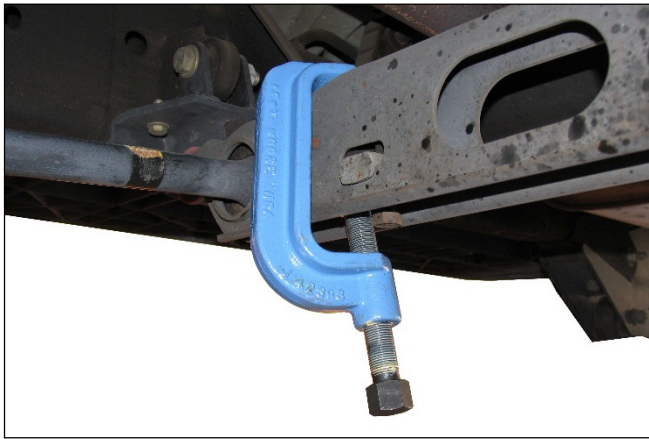


Illustration 3

5) Slide adjusting nut out of slot and remove the adjusting nut along with bolt. Relieve the tension on the torsion bar and remove the tool. See Illustration 4.

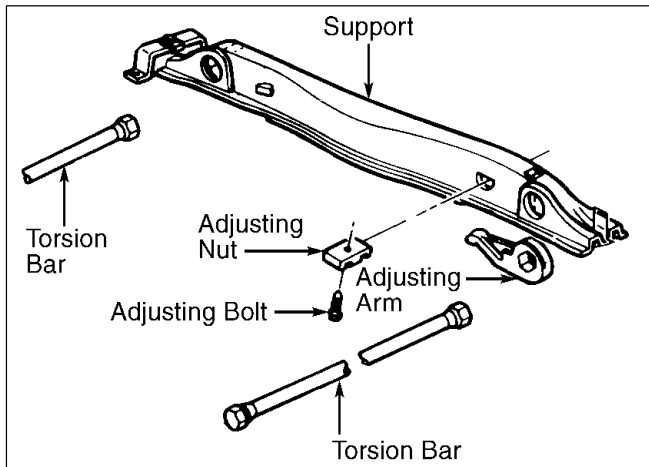


Illustration 4

6) Carefully slide the torsion bar forward and remove the torsion key.

CAUTION! Do not nick the CV boot with the torsion bar.

7) Remove OE torsion bar adjusting arm from cross member.

8) Hold the new Rancho adjusting arm in the cross member in the same location as removed OE adjusting arm. Slide the torsion bar back into the cross member until it seats properly into the new adjusting arm.

9) Using the torsion bar unloading tool, adjust the new torsion bar key up high enough so that the adjusting nut and bolt can be re-installed.

10) Slide adjusting nut and bolt into slot in cross member. Slowly relieve the tension on the torsion bar, making sure tip of adjusting bolt is seated in divot of torsion key. Remove the tool.

SHOCK INSTALLATION

1) Remove upper shock mounting nut or nuts, and any washer and bushing. See Illustration 5.

2) Remove lower shock mounting nut and bolt.

3) Remove shock and any remaining upper washer and bushing.

4) If applicable, Install supplied boot and upper shock washer and bushing onto new Rancho shock absorber.

5) Slide upper shock mounting stud(s) through upper shock mount. Install any upper shock bushings, washers, and nuts. Tighten to factory torque specifications.

6) Install lower shock mounting bolt and nut. Tighten to factory torque specifications.

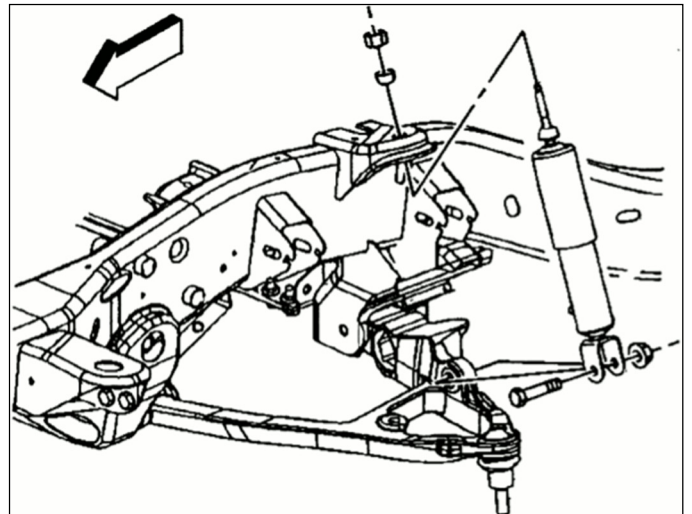
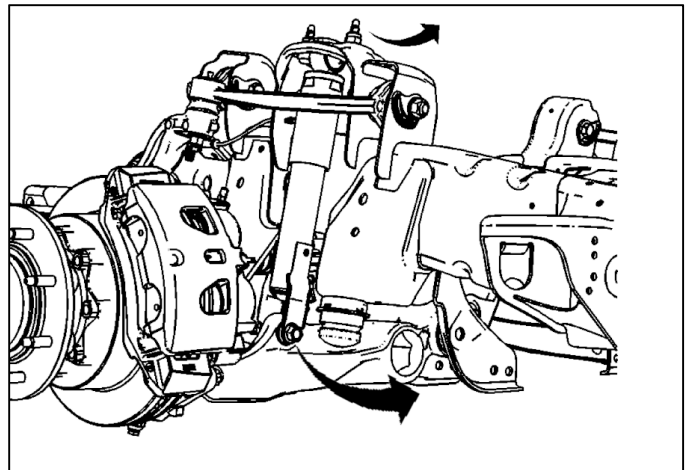


Illustration 5

7) Install front wheels and turn the front wheels completely left then right. Verify adequate tire, wheel, and ABS, brake, and vacuum line clearance and length.

8) Lower vehicle to ground. Tighten the lug nuts factory torque specifications.

FINAL ADJUSTMENTS

- 1) Drive vehicle at least 100 feet to settle front suspension.
- 2) Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 6.

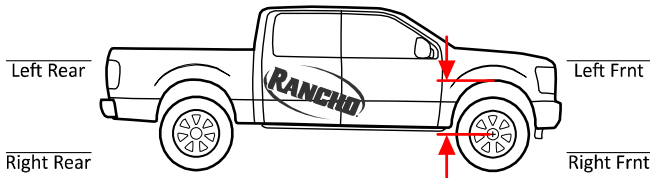


Illustration 6

- 3) Adjust torsion bar adjusting bolt to desired ride height. When adjusting ride height, one turn of the adjusting bolt will change ride height by ¼". Vehicle load, worn or overloaded components may yield different results.
- 4) Turn the front wheels completely left then right. Verify adequate tire, wheel, and brake hose clearance. Inspect steering and suspension for tightness and proper operation.
- 5) Ensure that the vehicle steering and brake systems operate correctly.
- 6) Readjust headlamps.
- 7) Have vehicle aligned at a certified alignment facility.

OE TORQUE SPECIFICATIONS

| | 2019-2011 | 2010-2001 | 2007-1999 |
|-------------------|-----------|-----------|-----------|
| Shock Upper Mount | 48 lb ft | 17 lb ft | 17 lb ft |
| Shock Lower Mount | 89 lb ft | 59 lb ft | 59 lb ft |
| Wheels (Lug Nuts) | 140 lb ft | 140 lb ft | 140 lb ft |

STANDARD BOLT TORQUE AND IDENTIFICATION

| INCH SYSTEM | | | METRIC SYSTEM | | | |
|-------------|-----------|-----------|---------------|-----------|------------|------------|
| Bolt Size | Grade 5 | Grade 8 | Bolt Size | Class 8.8 | Class 10.9 | Class 12.9 |
| 5/16 | 15 LB-FT | 20 LB-FT | M6 | 5 LB-FT | 9 LB-FT | 12 LB-FT |
| 3/8 | 30 LB-FT | 35 LB-FT | M8 | 18 LB-FT | 23 LB-FT | 27 LB-FT |
| 7/16 | 45 LB-FT | 60 LB-FT | M10 | 32 LB-FT | 45 LB-FT | 50 LB-FT |
| 1/2 | 65 LB-FT | 90 LB-FT | M12 | 55 LB-FT | 75 LB-FT | 90 LB-FT |
| 9/16 | 95 LB-FT | 130 LB-FT | M14 | 85 LB-FT | 120 LB-FT | 145 LB-FT |
| 5/8 | 135 LB-FT | 175 LB-FT | M16 | 130 LB-FT | 165 LB-FT | 210 LB-FT |
| 3/4 | 185 LB-FT | 280 LB-FT | M18 | 170 LB-FT | 240 LB-FT | 290 LB-FT |

| | | | | |
|------------------|-------------------------|---|-----------------------|-------------------------|
| <p>5-Grade-8</p> | <p>1/2-13x1.75 HHCS</p> | <p>D = Nominal Diameter TPI = Threads Per Inch P = Pitch (Thread Width, mm) L = Length X = Description (Hex Head Cap Screw)</p> | <p>10.9 Class</p> | <p>M12-1.25x50 HHCS</p> |
|------------------|-------------------------|---|-----------------------|-------------------------|

⚠ WARNING: READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION. Failure to follow the warnings and instructions provided herein can result in an accident, severe personal injury or death.

PRELIMINARY

This manual presumes that all persons installing this suspension system have a high level of mechanical training and experience, and have available to them all necessary tools and safety equipment. This manual is not and should not be construed as an exhaustive list of all required safety measures. Personnel should rely primarily on their training and experience, as well as on their own common sense.

This Manual is to be read as a supplement to, and must not be construed as a substitute for, the owner's manual and/or shop manual that originally accompanied the vehicle. Refer to such use, operation, maintenance and safety manuals as necessary, and especially after installation is complete, to insure proper vehicle operation.

The following terminology has been used in this Manual:

ACCIDENT: Any event which could cause personal injury or death to anyone installing or using the suspension system, as well as to passengers and bystanders, or otherwise may result in property damage.

PRE-INSTALLATION WARNINGS and INSTRUCTIONS

⚠ WARNING: This suspension system will enhance the off-road performance of your vehicle. It will handle differently; both on and off-road, from a factory equipped passenger car or truck. Failure to drive this vehicle safely may result in serious injury or death to the driver and passengers. ALWAYS WEAR your seat belts, REDUCE your speed, and AVOID sharp turns and other abrupt maneuvers.

- 1) Service and repair tasks require specialized knowledge, training, tools, and experience. General mechanical aptitude may not be sufficient to properly install this suspension system. If you have any doubt whatsoever regarding your ability to properly install the suspension system, please consult a qualified mechanic.
- 2) Your brake lines and fuel lines should remain undisturbed during and after installation. If you think you need to modify these components in any way, you are mistaken. You are installing the kit improperly and will be creating a significant risk of an accident. In case of any doubt, consult a qualified mechanic.
- 3) If any component does not fit properly, something is wrong. You are installing the kit improperly and will be creating a significant risk of an accident. Never modify any component of the vehicle or suspension system, except as instructed herein. Do not continue with installation until you have identified the problem.
- 4) Several of the procedures described herein require at least two (2) persons to safely complete the task. If you have any doubt about your ability to complete any operation by yourself, always ask for help from a qualified assistant.
- 5) Before starting any operation, confirm that all personal safety devices and safety equipment are in proper condition and position.
- 6) Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in an error in installation and/or serious injury.
- 7) Install only tires approved by the United States Department of Transportation ("DOT approved"). Make sure the rim and tire size are properly matched.
- 8) If any components of the vehicle or suspension system are damaged in any way during installation, immediately replace the component.
- 9) During installation, carefully inspect all parts of the vehicle and replace anything that is worn or damaged.

10) Nip points present the risk of the catching, lacerating, crushing and/or amputating fingers, hands, limbs and other body parts during operations. Always keep clear. Wear protective gloves.

11) Oil and hydraulic fluids are poisonous, dangerous to health and are known to the State of California to cause cancer, birth defects or other reproductive harm. Do not inhale vapors or swallow. Do not allow contact with the eyes or skin. Should any oil or fluids be swallowed or inhaled or come into contact with the eyes, immediately follow the safety precautions on the label or call a poison control center immediately. Should any of the oil or fluids contact your skin, immediately wash thoroughly.

12) Never install the suspension system if you are under the effects of alcohol, medications and/or drugs. If you are taking prescription or over the counter medication, you must consult a medical professional regarding any side effects of the medication that could hinder your ability to work safely.

AFTER INSTALLATION WARNINGS and INSTRUCTIONS

13) After installation is complete, drive the vehicle slowly in an area free from heavy traffic for at least three (3) miles. Likewise, before traveling on any highways or at a high rate of speed, drive the vehicle for ten (10) miles on side roads at moderate speed. If you hear any strange noise or feel unusual vibration, if a component of the suspension system is not operating properly, or if any warning lights illuminate or buzzers sound, stop the vehicle immediately. Identify the cause and take any necessary remedial action.

14) Confirm that all components of the vehicle, including all lights (headlights, turn signals, brake lights, etc.), linkages (accelerator, etc.), electrical switches and controls (windshield wipers and defoggers, etc.), and other warning devices (low tire pressure monitoring systems) are fully operational.

15) Your headlights will need to be readjusted before the vehicle is used on the roads. Consult the vehicle owners' manual.

16) The speedometer and odometer will need to be recalibrated after installation. See your dealer.

17) Confirm proper rear view and side view while seated in the driver seat. Install supplemental mirrors as necessary.

18) Your original low tire pressure monitoring system may be re-installed in your new wheels. However, if you choose to purchase a new system, see your dealer to have them properly calibrated. Proper tire pressure is critical to safe operation of the vehicle.

OPERATION

19) Because it has been modified, the vehicle will not handle, turn, accelerate or stop in the same manner as an unmodified vehicle. In addition, the crash protection systems designed in the vehicle may operate differently from an unmodified vehicle. For example, turning and evasive maneuvers must be executed at a slower rate of speed. Further, there is a greater risk that the vehicle could roll over. These differences could result in an increased possibility of an accident, personal injury or death. Learn the vehicle's operations and handling characteristics and drive accordingly.

⚠ The driver of this suspension system recognizes and agrees that there are risks inherent in driving a vehicle with a modified suspension system, including but not limited to the risk that you could be involved in an accident that would not occur in an unmodified vehicle. By his/her purchase and use of this suspension system, the user expressly, voluntarily and knowingly accepts and assumes these risks, and agrees to hold DRiV, Inc. and its related companies harmless to the fullest extent permitted by law against any resulting damages.



Rancho Technical Department 1-800-325-8886
www.gorancho.com