INSTALLATION INSTRUCTION RS89130B

Rev A

Jeep Wrangler JL Diesel 2” Rubicon, 3.5” NON-Rubicon
Progressive Coil System

RS66130BR5K – Includes *RS5000X* Shocks
RS66130BR9K – Includes *RS9000XL* Shocks

Fits 2021 – 2018 Jeep Wrangler JLU (4-Door) Diesel Models

*The addition of aftermarket bumpers, sliders, winches, etc. will net differences in lift height

— Fits 4-Door Diesel Models ONLY —

Pictured with:
Sendel S38 LOCKER 17” x 9” -12 wheels
Milestar PATAGONIA M/T LT315/70R17 tires

⚠ 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.

⚠ 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: Only the following wheel / tire size may be used with this suspension system: Milestar® PATAGONIA M/T LT315/70R17, 17" x 9" -12 wheel (4.5" backspacing).

Use of any other rim/tire combination increases the risk of a roll-over and/or accident, resulting in severe personal injury or death.

⚠ 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 lift 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 lift 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 characterizes and drive accordantly.

IMPORTANT NOTES

A. Before installing this system, have the vehicle's alignment and frame checked by a certified technician. The alignment must be within factory specifications and the frame of the vehicle must be sound (no cracks, damage or corrosion). Have all suspension, steering and driveline components inspected and replaced if worn or damaged

B. The components of Rancho's suspension system are designed as a single integrated system. To avoid compromises in terms of safety, performance, durability or function, do not install a body lift kit with Rancho's suspension system or interchange parts from this system with components from another manufacturer. Use of other components will result in the forfeiture of any type of warranty on the vehicle/suspension system.

C. Some components required for the installation of this kit may need to be purchased separately. See "*SPECIFICATIONS & REQUIREMENTS*" on next page of this manual.

D. Compare the contents of this system with the parts list in these instructions. If any parts are missing, contact the Rancho Technical Department at 1-800-325-886.

E. Do not powder-coat or plate any of the components in this system. To change the appearance of components, automotive paint can be applied over the original coating.

F. Each hardware kit in this system contains fasteners of high strength and specific size. Do not mix hardware kits or substitute a fastener of lesser strength. See bolt identification table at end of instruction.

G. Install all nuts and bolts with a flat washer. When both SAE (small OD) and USS (large OD) washers are used in a fastener assembly, place the USS washer against the slotted hole and the SAE washer against the round hole.

H. Apply a drop of thread locking compound to all bolts during installation. ⚠ CAUTION: Thread locking compound may irritate sensitive skin. Read warning label on container before use.

I. Unless otherwise specified, tighten all nuts and bolts to the standard torque specifications shown in the table at end of instruction. USE A TORQUE WRENCH for accurate measurements.

J. Do not weld anything to these components, and do not weld any of these components to the vehicle unless specifically stated in the instructions Welding on a vehicle creates an electrical charge throughout the body and frame. Disconnect the vehicle's battery prior to any welding. Place welding ground clamps as near as possible to the weld. Never use a vehicle suspension component as a welding ground point.

K. It is extremely important to replace coil springs, axle flanges, and drive shaft/pinion relationships as original. Be sure to mark left/right, front/rear, and indexing of mating parts before disassembly. A paint marker or light colored nail polish is handy for this.

L. Suspension components that use rubber or urethane bushings should be tightened with the vehicle at normal ride height unless otherwise specified. This will prevent premature failure of the bushing and maintain ride comfort.

M. Some of the service procedures require the use of special tools designed for specific procedures. If you do not know how to safely use any of these tools, or do not have them, stop the project and consult a qualified mechanic. See "*Tools and Supplies*" on next page of this manual

N. The required installation time for this system is approximately 4 to 5 hours for two people. Check off the box (☐) at the beginning of each step when you finish it. Then when you stop during the installation, it will be easier to find where you need to continue from.

O. Important information for the end user is contained in the consumer/installer information pack. If you are installing this system for someone else, place the information pack on the driver's seat. Please include the installation instructions when you finish.

P. The lifespan of Rancho products depends on many factors. Improper use, abuse or harsh use in general may compromise the integrity of the suspension system and significantly reduce its lifespan. The suspension system is also subject to wear over time. Have the suspension system regularly inspected and maintained by qualified mechanics. If the inspection reveals any damage or excessive wear, no matter how slight, immediately replace or repair the component. The suspension system must be regularly maintained in order to optimize its safe and efficient use. The more severe the conditions under which the suspension system is operated, the more often it must be inspected and maintained.

Q. If any component breaks or bends, contact your local Rancho dealer or Rancho for replacement parts or, contact the Rancho Technical Department at 1-800-325-886.

Thank you for purchasing the best suspension system available. For the best-installed system, follow these instructions. If you do not have the tools or are unsure of your abilities, have this system installed by a certified technician. RANCHO IS NOT RESPONSIBLE FOR DAMAGE OR FAILURE RESULTING FROM AN IMPROPER INSTALLATION

The driver of this suspension system recognizes and agrees that there are risks inherent in driving a vehicle with a lifted 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.

SPECIFICATIONS & REQUIREMENTS

Shock Absorbers

New Rancho shock absorbers must be used and are included with this kit.

Do not reuse OE shock absorbers

⚠WARNING Use of the wrong shock absorbers can cause damage to vehicle without the damage being visible to you, resulting in loss of vehicle control and an accident

Required Rancho shock absorbers (included wit kit)

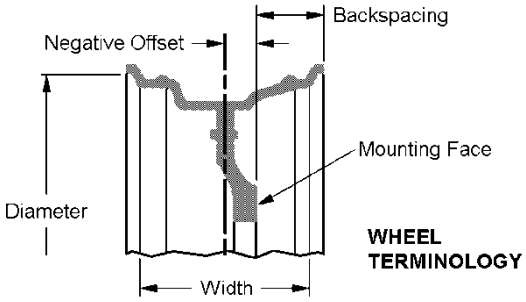
Front	Rear
RS55065	RS55066
RS999065	RS999066

Wheels and Tires

This suspension system was developed using the following tire & wheel combination:
Tire: Milestar® PATAGONIA M/T LT315/70R17
Wheel: Sendel S38 LOCKER 17" x 9" -12 wheel (4.5" backspacing)
Total backspacing 5.8"
Maximum total backspacing is 6.8". Before installing any other combination, consult your local tire and wheel specialist.

Compatible With OE Wheels	Development Tire Size[2] (Actual)	Wheel Size (Backspacing)
Yes[1] OE Tires ONLY	LT315/70R17 (34.7"x12.7")	17x9 (4.5")

[1] OE wheels compatible with stock size tires only.
[2] Requires removal of front bumper plastic side trim.



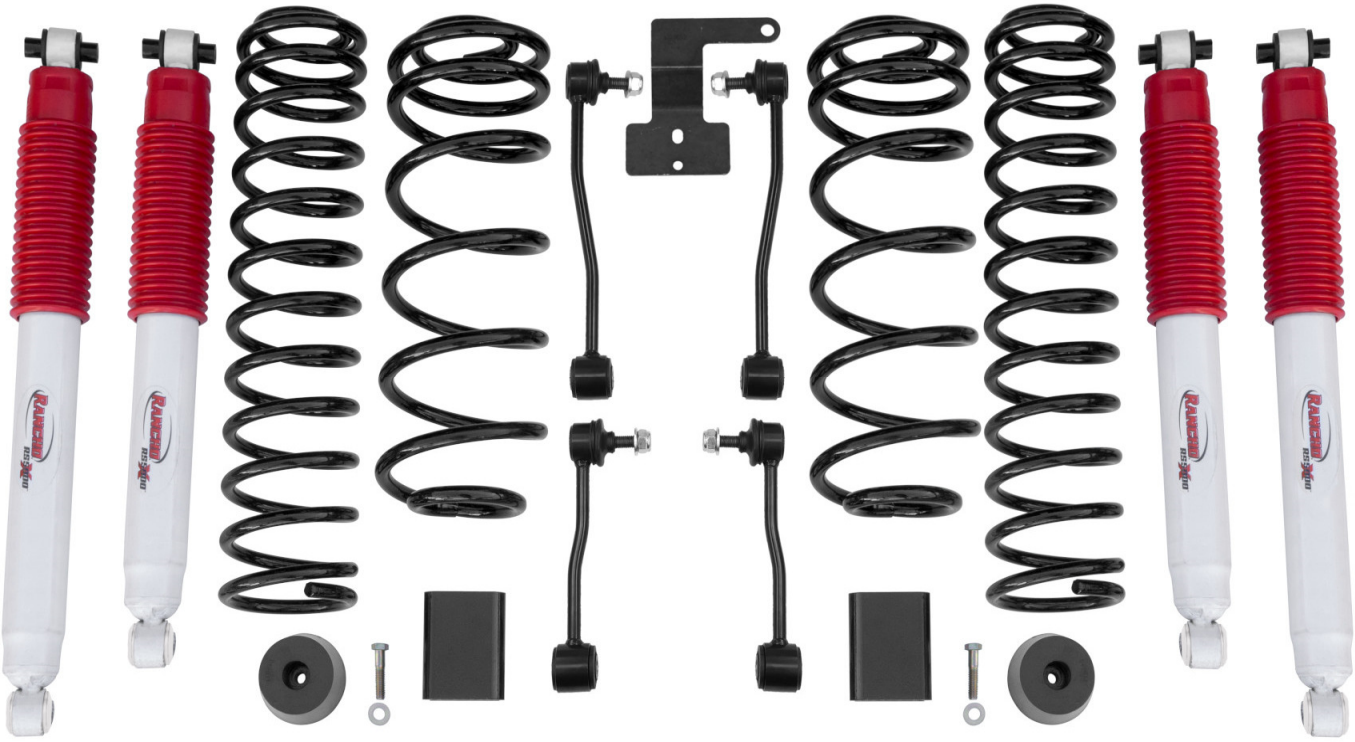
WHEEL TERMINOLOGY

Recommended Components and Modifications *(MUST BE PURCHASED SEPARATELY)*

RS62118B Rancho Control Arm Geometry Correction Brackets
— Corrects control arm alignment geometry to factory specs eliminating the need for adjustable control arms or cam bolts for caster correction

Tools and Supplies *(BECAUSE OF VEHICLE VARIATIONS, THIS MAY NOT BE A COMPLETE LIST)*

Jeep Service Manual
Hydraulic Floor Jack
Heavy Duty Jack stands
Wheel Chocks (Wooden Blocks)
Torque Wrench (250 FT-LB capacity)
3/8" and 1/2" Drive Ratchet and Socket Sets
Combination Wrenches (9/16" & METRIC: 10, 13, 15, 18, 19, 21, 24)
Metric Allen Wrenches
Wire Brush (to clean mounting surfaces)
Body Clip Removal Tool
Hammer
Pliers
File
Red LocTite
Penetrating Lube (to aid removal of corroded and frozen hardware)
Safety Glasses--
Wear safety glasses at all times



Parts List

PART #	DESCRIPTION	QTY
RS66130BR5-1 RS66130BR9-1	**Box 1 – Front Components**	**1**
RS889B	Coil Spring - Front	2
RS176802	Bump Stop Spacer – 3" Front	2
RS176443	Bump Stop Spacer – 2" Front	2
RS860851	Sub Assy, Front Bump Stop	1
RS603602	HHCS 3/8-16 X 1.75	2
RS7604	Nut 3/8-16 Nylock	2
RS603508	Washer 3/8 SAE	4
RS176962	Sway Bar End Link, Front 7.4"	2
RS860874	Sub Assy, USS Washer	1
RS7719	Washer, ½" USS	1
RS89130B	Instructions	1
RS94180	Information Pack	1
RS94177	Rollover Warning Label	1
RS94119	Consumer/Warranty Information	1
R-RM0082-1112	Warranty Tag	1
RS780281	Rancho Decal - Color	1
RS780294	Red Rancho Die Cast Decal	1
RS780294B	Black Rancho Die Cast Decal	1

Included with RS66130BR5

RS55065	RS5000X Shock - Front	2

Included with RS66130BR9

RS999065	RS9000XL Shock - Front	2

PART #	DESCRIPTION	QTY
RS66130BR5-2 RS66130BR9-2	**Box 2– Rear Components**	**1**
RS890B	Coil Spring - Rear	2
RS176900	Sway Bar End Link, Rear 10.8"	2
RS176906B	Bump Stop Spacer - Rear	2
RS860830	Sub Assy - Rear Bump Stop	1
RS770127	HHCS M8-1.25X20MM	4
RS770128	Washer M8	8
RS603112	Nut M8-1.25 Nylock	4
RS860850	Sub Assy, E-Brake Bracket	1
RS176905	E-Brake Brkt	1
RS770304	HHCS, M12-1.50 X 25MM	1
RS7915	Washer M12	1
RS603112	Nut M8-1.25 Nylock	1
RS770128	Washer M8	1

Included with RS66130BR5

RS55066	RS5000X Shock - Rear	2

Included with RS66130BR9

RS999066	RS9000XL Shock - Rear	2

FRONT SUSPENSION

— ALL KITS —

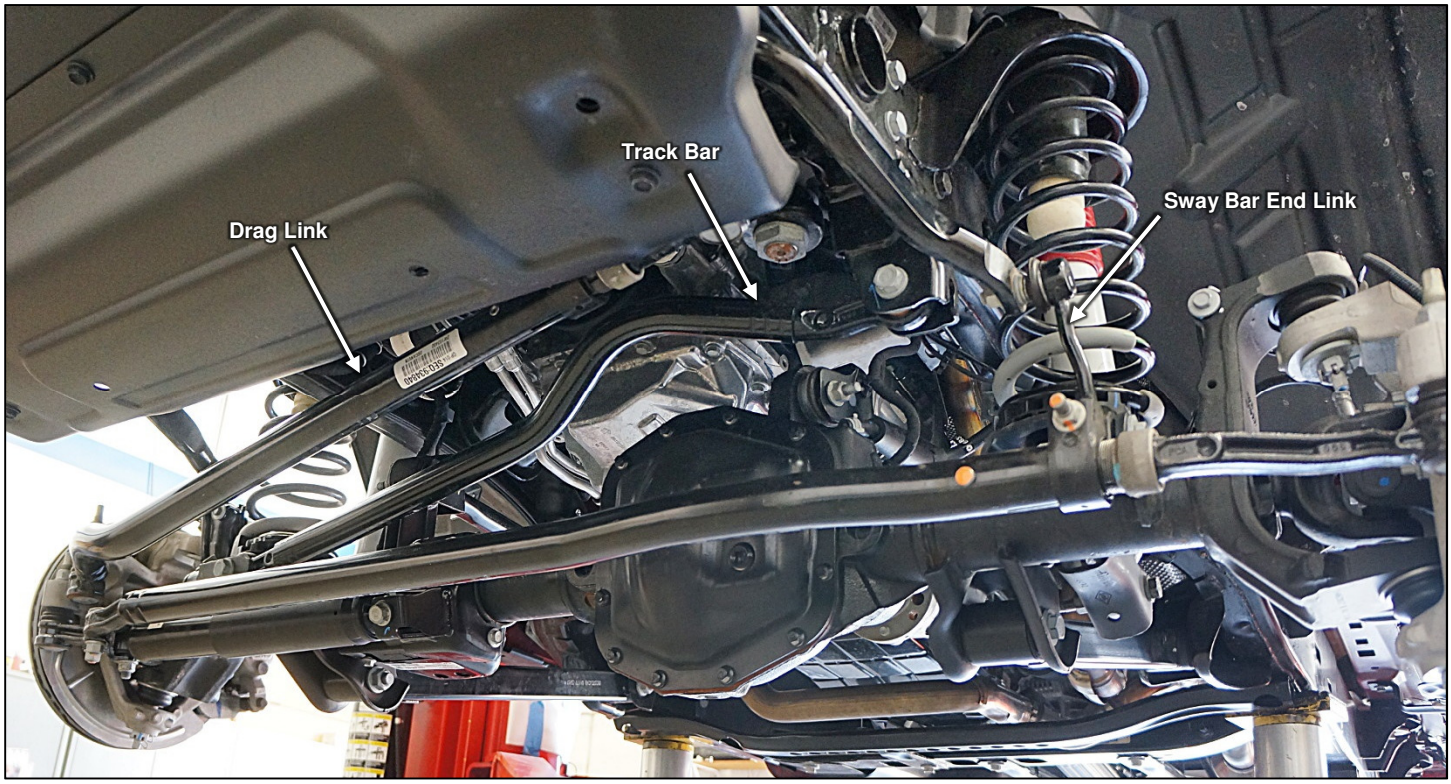


Illustration 1

SHOCK ABSORBER & COIL SPRING REMOVAL

1) ☐ Park vehicle on a level surface. Set the parking brake and chock rear wheels. Disconnect the negative ground cable from the battery.

2) ☐ Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 2.

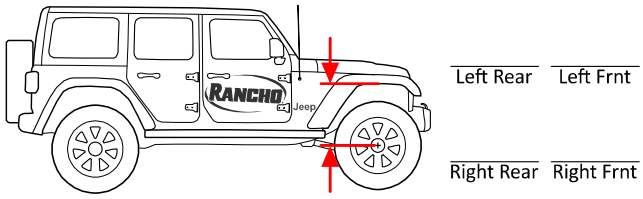


Illustration 2

3) ☐ Loosen track bar bolt at axle. Remove track bar bolt at frame. See Illustration 1.

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

5) ☐ Remove the sway bar end links. To avoid mixing the different thread pitches used, thread nuts back onto ball stud and mounting bolt and save bolt and nut for later use.

6) ☐ Remove heat shields and loosen, but do not remove, upper and lower control arm bolts. See Illustration 4.

Illustration 3

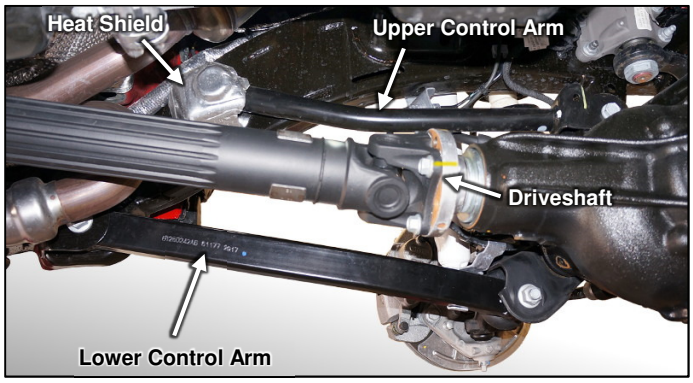


Illustration 4

7) ☐ Remove nut and separate the brake hose brackets from the lower control arms. See Illustration 3.

8) ☐ Remove bolt and separate the brake hose brackets from the axle. See Illustration 3.

9) ☐ Disconnect any vent hoses.

10) ☐ Disconnect any electrical wiring from the axle by sliding out the plug lock and pulling plug out. Detach wire clips from axle and upper control arms. See Illustration 5.

CAUTION: DO NOT PULL BY WIRES!

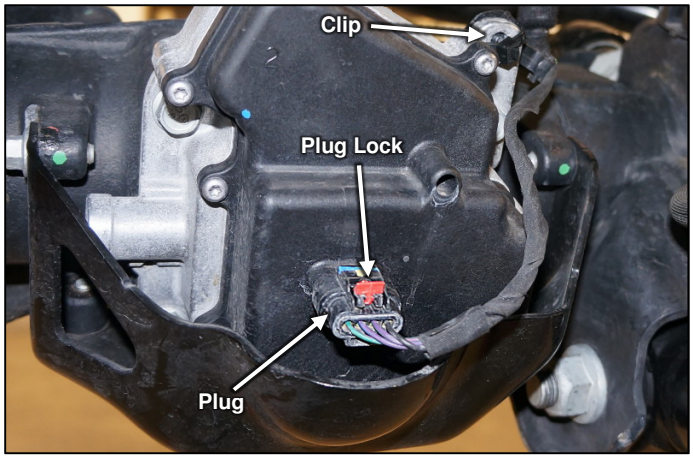


Illustration 5

11) ☐ Reference mark the drive shaft to the front pinion flange (at axle). Disconnect the drive shaft from the pinion flange. Support drive shaft with a tie wrap or wire. See Illustration 4.

Take care not to damage driveshaft CV boot at transfer case.

12) ☐ Support the front axle with a floor jack.

13) ☐ Remove the shock absorber lower nut and bolt.

14) ☐ Remove the shock absorber upper bolt. Remove the front shock absorber.

DO NOT REUSE ORIGINAL SHOCK ABSORBERS.

15) ☐ Carefully lower the front axle and remove the coil springs. Push down on axle if necessary.

⚠ **WARNING: Do not allow the axle to hang by any hoses or cables. You could damage the hose or cable, without this damage being visible to you, resulting in sudden and unexpected failure and an accident.**

BUMP STOP SPACER, COIL SPRING & SHOCK ABSORBER INSTALLATION

NOTE: Use 3" bump stop RS176802 for NON-Rubicon models, and 2" bump stop RS176443 for Rubicon models or if using taller aftermarket fenders.
Taller bump stop is to prevent tires rubbing on fenders.

1) ☐ Install original rubber isolator in driver side upper coil mount. Align and insert the isolator's alignment pins into the holes in the mount.

Check that rubber pins are inserted by feeling top of upper spring mount. See Illustration 6.

2) ☐ Place bump stop spacer inside the coil spring 889B.

3) ☐ Lower axle if required and insert the spring with bump stop spacer into the upper pocket and onto the axle pad. Align pigtail with groove in axle pad. See Illustration 6.

⚠ **WARNING: Do not allow the axle to hang by any hoses or cables. You could damage the hose or cable, without this damage being visible to you, resulting in sudden and unexpected failure and an accident.**

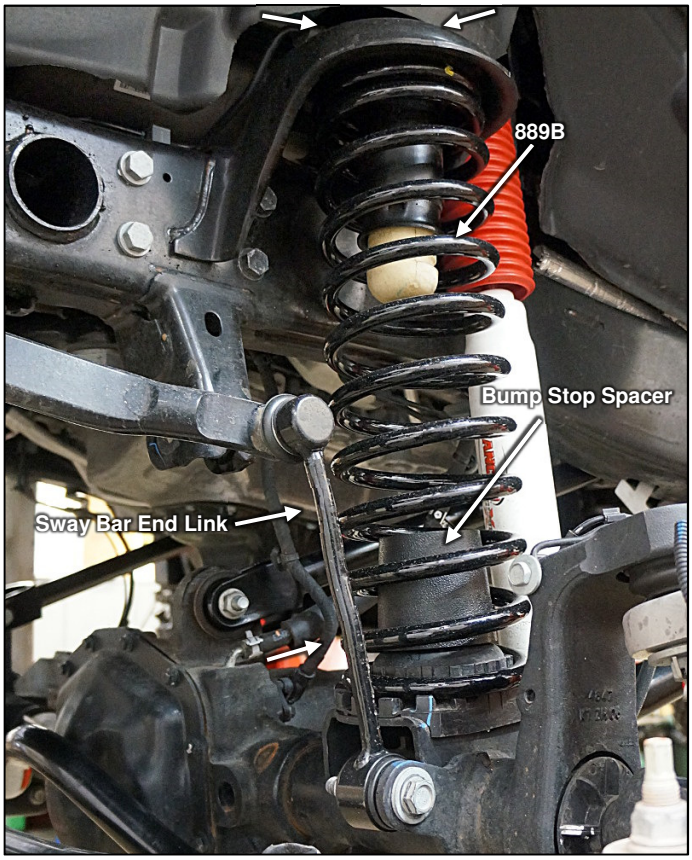


Illustration 6

5) ☐ Attach the bump stop spacer to the axle pad with 3/16" hardware from bag RS860851. Torque to 20 lb-ft.

6) ☐ Repeat steps 1 through 5 for the passenger side.

7) ☐ Install new Rancho shock absorber RS55065 or RS999065 on the upper mount using OE bolt. Torque to 80 lb-ft.

NOTE: Front shocks are the shorter shocks.

8) ☐ Raise front axle and re-attach the brake line bracket to the axle using original hardware.

ATTENTION: Be careful when raising axle not to lift vehicle off jack stands. Because of the internal rebound bumper in the shock, the coils will have to be compressed several inches to attach shock.

9) ☐ Attach shock lower mounts to axle brackets with the original hardware. Torque to 75 lb-ft.

10) ☐ Lower axle and allow to hang on shock absorbers.

11) ☐ Align driveshaft and pinion flange using previously made marks, and reattach using OE hardware and blue Loctite. Torque to 81 lb-ft.

12) ☐ Reattach vent hose and electrical wiring if necessary.

13) ☐ Reattach brake line brackets to control arms.

14) ☐ Bend bracket up about ½-1" so avoid stretching brake and ABS lines. See Illustration 7.

SWAY BAR END LINK INSTALLATION.

End link ball stud and lower mounting bolt each use a different thread pitch. Be careful not to mix them!

1) ☐ Attach sway bar end links RS176962 to sway bar using supplied nut. Torque to 60 lb-ft.

2) ☐ Attach driver sway bar end link to axle bracket with the OE hardware and ½" USS washer (sub assy. RS860874) under the head of the bolt. Torque to 60 lb-ft. See Illustration 6 and Illustration 8.

3) ☐ Attach passenger side sway bar end link to axle bracket with the OE hardware. Torque to 60 lb-ft.

REMOVE BUMPER TRIM (IF REQUIRED)

Remove the bumper side trim if installing larger than 33" tires.

1) ☐ Remove the seven screws and one clip holding the trim to bumper. See Illustration 9 and Illustration 10.

2) ☐ Repeat for other side.

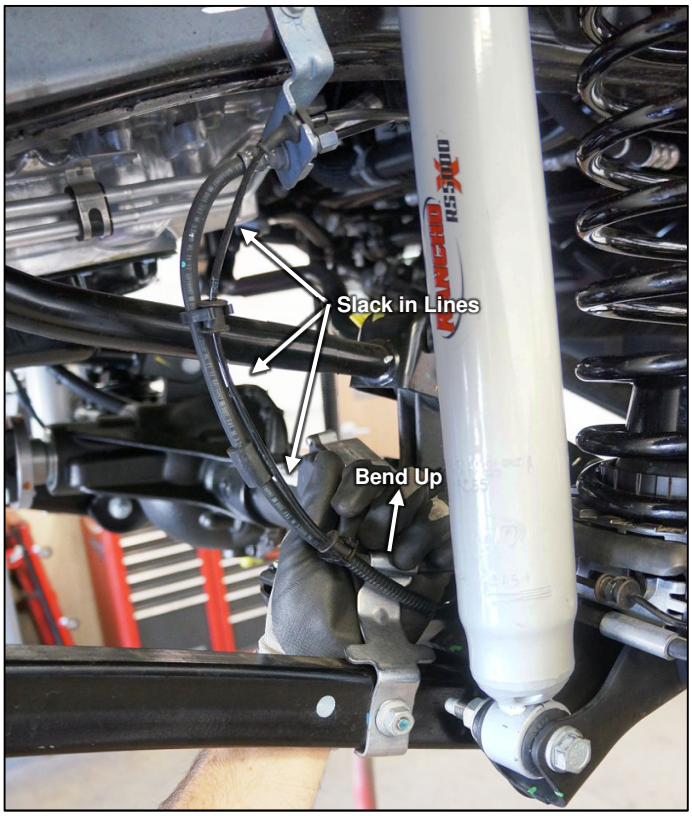


Illustration 7

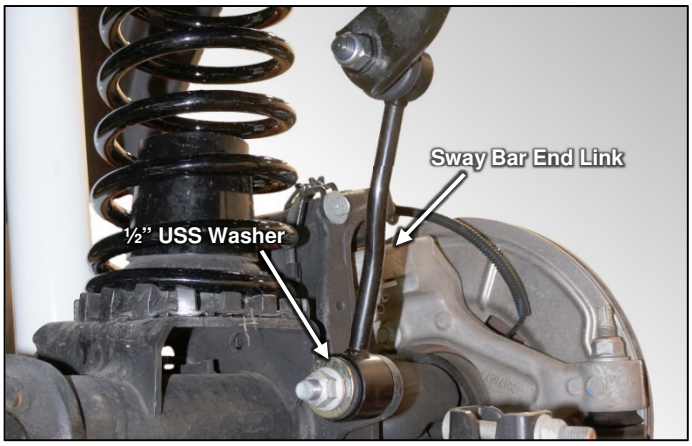


Illustration 8

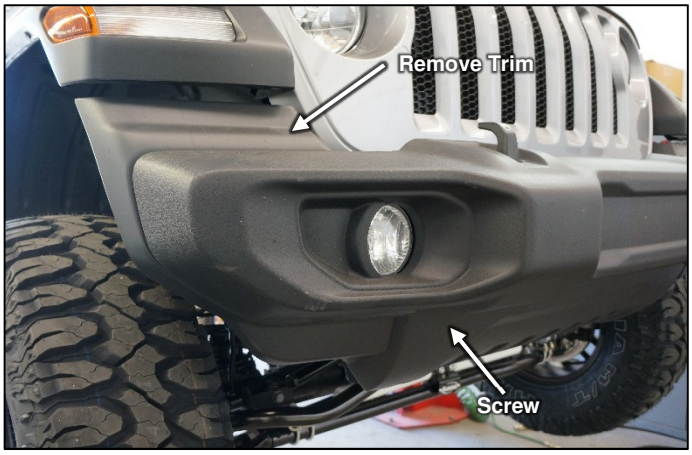


Illustration 9

LOWER VEHICLE

1) ☐ Turn the front wheels completely left then right. Verify adequate tire, wheel, brake hose and ABS wire clearance. Inspect steering and suspension for tightness and proper operation.

2) ☐ With the suspension at maximum extension (full droop), inspect and rotate all axles and drive shafts. Check for binding and proper slip yoke insertion. The slip yoke should be inserted a minimum of one inch into the transfer case and/or transmission.

3) ☐ Install front wheels and lower vehicle to the ground. Tighten lug nuts to 130 lb-ft.

4) ☐ Torque lower control arm mounting hardware to 190 lb-ft.

5) ☐ Torque upper control arm mounting hardware to 80 lb-ft.

6) ☐ Re-install heat shields to upper control arm frame mounts.

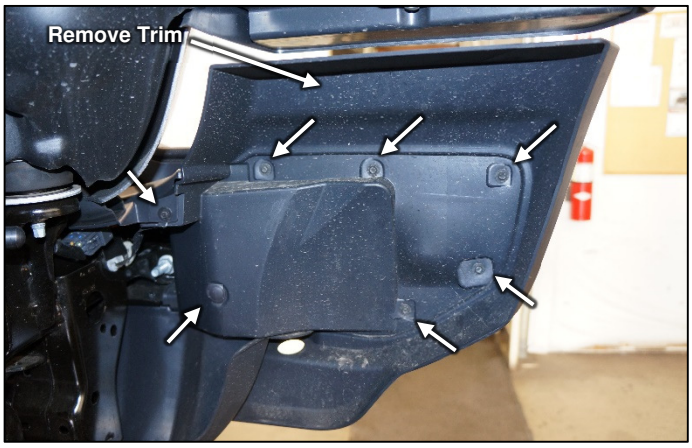


Illustration 10

7) ☐ Install track bar bolt at frame. Torque upper and lower track bar bolts to 110 lb-ft.

Note: If track bar does not align with bracket, have an assistant slowly turn steering wheel to align holes.

REAR SUSPENSION

SHOCK ABSORBER & COIL SPRING REMOVAL

1) ☐ Loosen, track bar bolt at frame. Remove track bar bolt at axle.

2) ☐ Chock front wheels. Raise the rear of the vehicle and support the frame with jack stands. Remove the rear wheels.

3) ☐ Remove bolts and separate the brake line brackets from the axle. See Illustration 11.

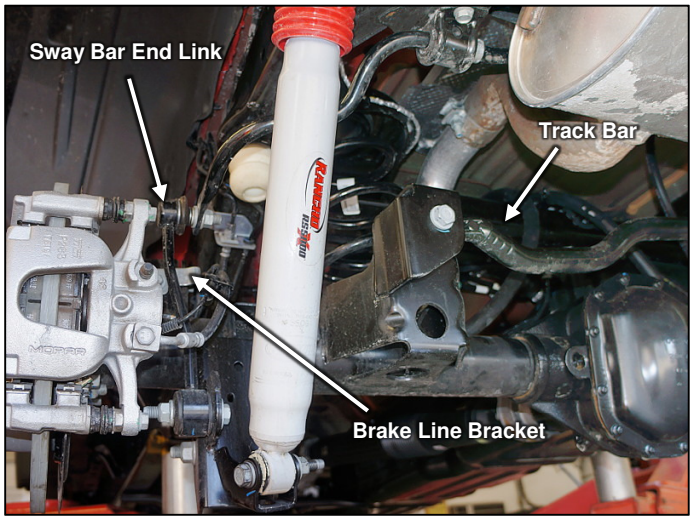


Illustration 11

4) ☐ Loosen, but do not remove, upper and lower control arm bolts.

5) ☐ If necessary, disconnect any vent hoses and electrical wiring from the axle. Unclip wiring harness from frame cross member.

6) ☐ Remove the bolt attaching the brake parking cable bracket to the body. Bracket is located above the fuel filler and evap lines. See Illustration 12.

Illustration 12

7) ☐ Remove the parking brake cable hook from the loop at the brake. Use vise-grip pliers attached to the hook, NOT THE CABLE. See Illustration 13.

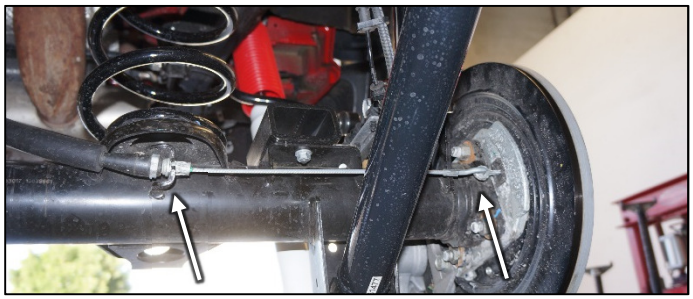


Illustration 13

ATTENTION: Do not push parking brake inner cable into housing. Doing so can cause the parking brake cable to become disconnected from the lever mechanism under the center console of the vehicle. Try to keep slight tension on the inner cable while performing steps 7-10.

If parking brake does not activate after reinstalling cable, repeat step 7, reattach cable to lever, then repeat step 10.

8) ☐ Remove the parking brake cable housing from the axle. Squeeze the tabs on the end of the housing with pliers and pull housing from axle.

9) ☐ Re-rout the parking brake cables under the fuel filler and evap lines, and under the frame cross member. See **Error! Reference source not found.**.

10) ☐ Reattach the parking brake cable housing to the axle, then the cable hook to the loop at the brake. Use vise-grip pliers to pull loop out and a second pair of vise-grip pliers on cable hook.

11) ☐ Remove plastic cover at rear of fender well to gain access to upper shock mount. See Illustration 14.

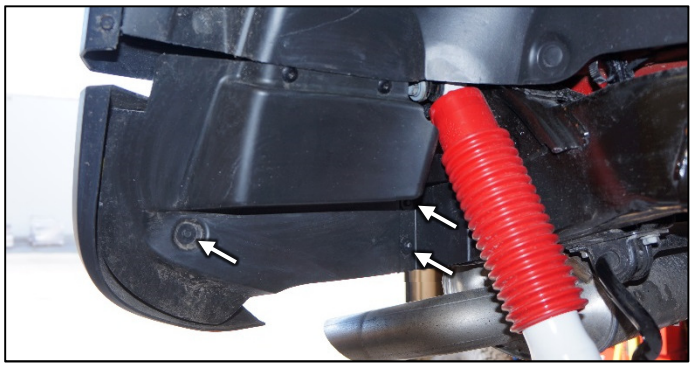


Illustration 14

12) ☐ Support the rear axle with a floor jack.

13) ☐ Remove the lower shock mounting nut and bolt from the axle bracket. Remove the shock absorber upper mounting bolt and remove the shock absorber.

14) ☐ Remove the sway bar end links. To avoid mixing the different thread pitches used, thread nuts back onto ball stud and mounting bolt and save for later use.

15) ☐ Carefully lower the rear axle until the coil springs are free from the upper mount seat. Remove the coil springs.

⚠ WARNING: Do not allow the axle to hang by any hoses or cables. You could damage the hose or cable, without this damage being visible to you, resulting in sudden and unexpected failure and an accident.

COIL SPRING & SHOCK ABSORBER INSTALLATION

1) ☐ Lower axle enough to fit coils into mounts.

2) ☐ Place driver side OE isolator in upper mount with alignment pin inserted in hole of upper mount.

3) ☐ Align pigtail with groove in isolator and push coil RS890B up into upper isolator. While still pushing up on coil, align bottom of coil over lower mount and raise axle to hold coil in place. Make sure coil is seated on upper isolator and upper isolator is aligned and seated in upper mount.
Coil will push up against fuel tank when installing, but will move away as axle is raised.

4) ☐ Repeat steps two and three for passenger.

5) ☐ Attach new Rancho RS55066 or RS999066 rear shocks to the upper mounting brackets with the original bolts. Tighten bolts to 80 lb-ft.

6) ☐ Raise axle and attach shocks to the axle brackets with the original hardware. Torque the shock absorber lower mounting bolts to 75 lb-ft.

ATTENTION: Be careful when raising axle not to lift vehicle off jack stands. Because of the internal rebound bumper in the shock, the coils will have to be compressed several inches to attach shock.

7) ☐ Reattach brake line brackets to axle.

8) ☐ Reattach vent hose and electrical wiring if necessary.

9) ☐ Reattach any wire clips so wires are held up without being pulled tight.

10) ☐ Reinstall plastic cover at rear of fender well. See Illustration 14.

SWAY BAR END LINK INSTALLATION.

End link ball stud and lower mounting bolt each use a different thread pitch. Be careful not to mix them!

1) ☐ Attach ball stud of new end links RS176900 to sway bar with supplied nut. Torque to 60 lb-ft.

2) ☐ Attach end links to axle brackets with OE hardware. Torque to 60 lb-ft.

LOWER VEHICLE

1) ☐ With the suspension at maximum extension (full droop), inspect and rotate all axles and drive shafts. Check for binding and proper slip yoke insertion. The slip yoke should be inserted a minimum of one inch into the transfer case and/or transmission.

2) ☐ Install rear wheels and lower vehicle to the ground. Tighten lug nuts to 130 lb-ft.

3) ☐ Torque the lower control arm bolts to 90 lb-ft.

4) ☐ Torque the upper control arm bolts at frame to 120 lb-ft. and the axle mount to 95lb-ft.

5) ☐ Torque track bar hardware at frame and axle bracket to 90 lb-ft.

6) ☐ Reconnect the battery ground cable.

BUMP STOP BRACKET INSTALLATION

1) ☐ Using the original holes on the axle pad, attach bump stop bracket RS176906B to the axle with supplied 8mm hardware. Torque to 20 lb-ft. See Illustration 15.

The holes in the bracket are offset to match the offset holes in the axle pad.

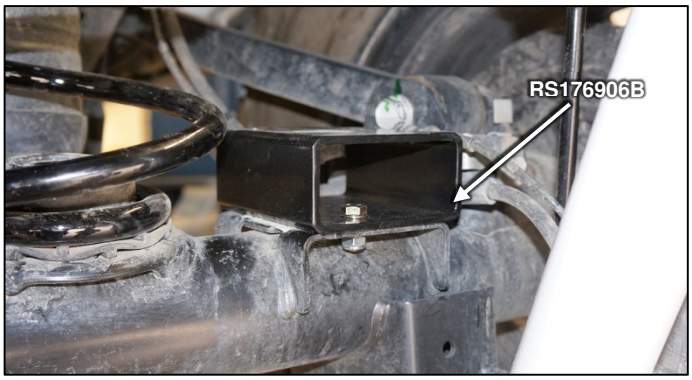


Illustration 15

FINAL CHECKS & ADJUSTMENTS

1) ☐ Turn the front wheels completely left then right. Verify adequate tire, wheel, brake hose and ABS wire clearance. Inspect steering and suspension for tightness and proper operation.

2) ☐ Ensure that the vehicle brake system operates correctly. If new brake hoses were installed, verify that each hose allows for full suspension movement.

3) ☐ Readjust headlamps.

4) ☐ Center steering wheel.

The steering wheel must be centered to ensure that the vehicles Electronic Stability Control (ESC) system operates correctly.

To center the steering wheel loosen drag link adjuster clamp bolt and turn the drag link adjuster in desired direction. See Illustration 16.

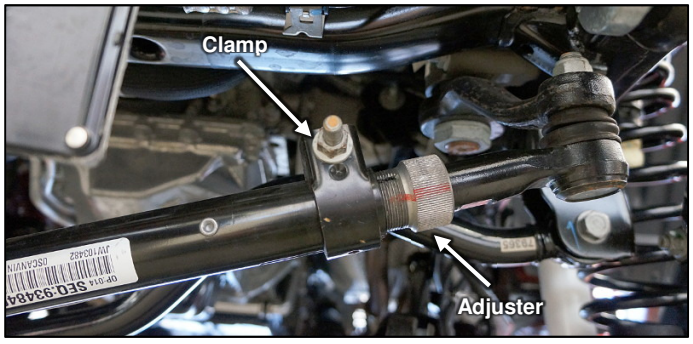


Illustration 16

5) ☐ Have vehicle aligned to manufacturer's specifications.

Alignment Specifications:

Caster	4.8° ± 1.0°
Camber (fixed angle)	-0.25° ± 0.37°
Toe-In, Each Wheel	0.0° – 0.12°
Toe-In, Total	0.0° – 0.20°
Thrust Angle	0° - 0.25°

6) ☐ Park the vehicle on a level surface. Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 17.

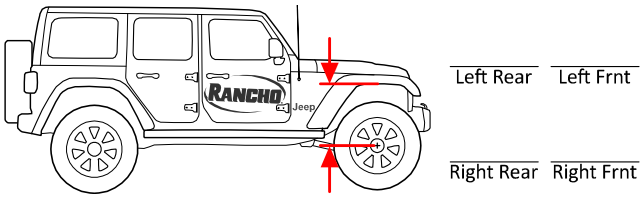


Illustration 17

Torque Specs

Front Components

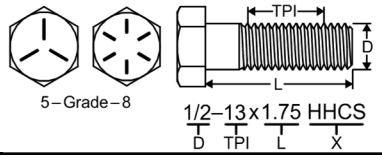
Upper Control Arm	80 lb-ft
Lower Control Arm	190 lb-ft
Brake Line Bracket to Lower Control Arm	15 lb-ft
Control Arm Adjuster Jam Nut	150 lb-ft
Front Bump Stop Spacer	20 lb-ft
Shock Absorber Upper Mount	80 lb-ft
Shock Absorber Lower Mount	75 lb-ft
Front Drive Shaft to Pinion Flange	81 lb-ft
Sway Bar End Link	60 lb-ft
Track Bar	110 lb-ft
Drag Link Adjustment Sleeve Clamp	26 lb-ft
Wheels (Lug Nuts)	130 lb-ft.

Rear Components

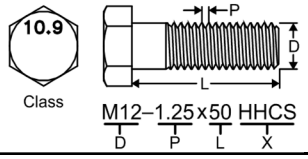
Upper Control Arm to Axle	95 lb-ft
Upper Control Arm to Frame	120 lb-ft
Lower Control Arm (all)	90 lb-ft
Rear Bump Stop Spacer	20 lb-ft
Shock Absorber Upper Mount	80 lb-ft
Shock Absorber Lower Mount	75 lb-ft
Track Bar	90 lb-ft
Sway Bar End Link	60 lb-ft
Wheels (Lug Nuts)	130 lb-ft

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



D = Nominal Diameter
TPI = Threads Per Inch
P = Pitch (Thread Width, mm)
L = Length
X = Decription (Hex Head Cap Screw)



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