89453 Rev C

INSTALLATION INSTRUCTIONS

For Rancho Suspension Systems: RS66453B

4.5" Radius Arm Kit - "DIESEL MODEL ONLY"

2014 Dodge Ram 2500 4WD

— FMVSS 126 Certified —

Fits OE 17" and up rims and spare
ONLY WITH OE TIRES

Shown & Tested with:
BFG KM2 37X12.5R20 Tires
Vision Fury Rims 20 x 9 x 5.5 Backspacing

⚠ 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:

I. **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 rim/tire sizes may be used with this suspension system: 37X12.5R20 tire, 20 x 9 x 5.5 Backspacing rim.

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.

WARNINGS AND INSTRUCTIONS AFTER INSTALLATION

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 (ten) 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).

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 substitute Rancho components with components manufactured by other companies. Use of other components will result in the forfeiture of any type of warranty on the vehicle/suspension system. New Rancho shock absorbers are required and must be purchased separately.

Front	Rear
RS999048	RS999048
RS7048	RS7048
RS5048	RS5048

C. 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.

D. 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 on page 4.

E. Compare the contents of this system with the parts list in these instructions. If any parts are missing, contact the Rancho Technical Department at 1-734-384-7804.

F. 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.

G. 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.

H. Unless otherwise specified, tighten all nuts and bolts to the standard torque specifications shown in the table on page 2. USE A TORQUE WRENCH for accurate measurements.

I. Some of the service procedures require the use of special tools designed for specific procedures. The following tools and supplies are recommended for proper installation of this system: If you do not know how to safely use any of these tools, stop the project and consult a qualified mechanic.

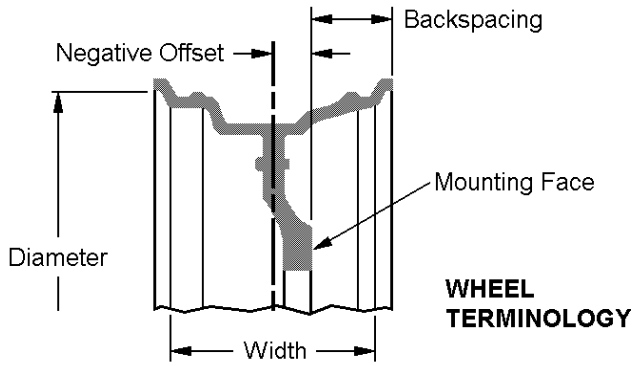
- ☐ Dodge Service Manual
- ☐ Pitman Arm Puller T64P-3590-F or equivalent
- ☐ Universal Gear Puller
- ☐ Bench Vise
- ☐ Drill motor
- ☐ Assorted Drills: 1/8" through 1/2"
- ☐ Torque Wrench (300 FT-LB capacity)
- ☐ 1/2" Drive Ratchet and Sockets
- ☐ Assorted Combination Wrenches
- ☐ Heavy Duty Jack Stands
- ☐ Wheel Chocks (wooden blocks)
- ☐ Hydraulic Floor Jack
- ☐ Center punch
- ☐ File
- ☐ Hammer
- ☐ Wire Brush (to clean bracket mounting surfaces)
- ☐ Black Enamel Paint
- ☐ Silicone Spray Lubricant
- ☐ Tape Measure
- ☐ **Safety Glasses** (wear safety glasses at all times)

J. It is extremely important to replace coil springs, CV flanges, and front 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.

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

L. The required installation time for this system is approximately 5 to 6 hours. 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.

M. This suspension system was developed using the following tire & wheel combination: 37X12.5R20 BFGoodrich KM2 tire, 20 x 9 x 5.5 backspacing wheel. Maximum total backspacing is 6.8". Before installing any other combination, consult your local tire and wheel specialist.



WHEEL TERMINOLOGY

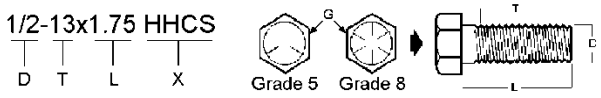
N. Important information for the end user is contained in the consumer/installer information pack. If you are installing this system for someone else, place the information pack on the driver's seat. Please include the installation instructions when you finish.

O. 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.

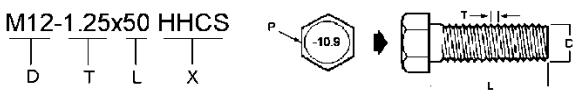
P. Vehicles equipped with two piece rear driveshaft may require and additional drive shaft carrier bearing spacer kit. If you experience drive-line vibration after installing this kit on a vehicle with a two piece rear driveshaft, please contact Rancho Technical Support at1-734-384-7804 and ask for:

RS176738	Carrier Bearing Spacer
RS860780	Sub Assy, Carrier Bearing Spacer Hdwr.

STANDARD BOLT TORQUE & IDENTIFICATION						
INCH SYSTEM			METRIC SYSTEM			
Bolt Size	Grade 5	Grade 8	Bolt Size	Class 9.8	Class 10.9	Class 12.9
5/16	15 FT-LB	20 FT-LB	M6	5 FT-LB	9 FT-LB	12 FT-LB
3/8	30 FT-LB	35 FT-LB	M8	18 FT-LB	23 FT-LB	27 FT-LB
7/16	45 FT-LB	60 FT-LB	M10	32 FT-LB	45 FT-LB	50 FT-LB
1/2	65 FT-LB	90 FT-LB	M12	55 FT-LB	75 FT-LB	90 FT-LB
9/16	95 FT-LB	130 FT-LB	M14	85 FT-LB	120 FT-LB	145 FT-LB
5/8	135 FT-LB	175 FT-LB	M16	130 FT-LB	165 FT-LB	210 FT-LB
3/4	185 FT-LB	280 FT-LB	M18	170 FT-LB	240 FT-LB	290 FT-LB



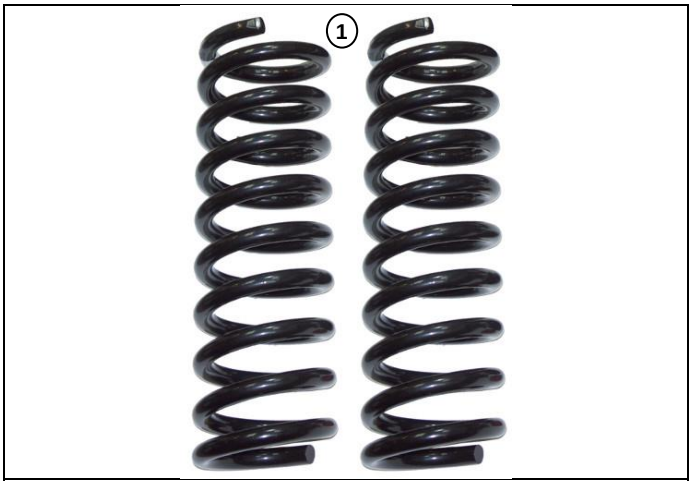
G = Grade Marking (bolt strength)
D = Nominal Diameter (inches)
T = Thread Pitch (threads per inch)
L = Length (inches)
X = Description (hex head cap screw)



P = Property Class (bolt strength)
D = Nominal Diameter (millimeters)
T = Thread Pitch (thread width, mm)
L = Length (millimeters)
X = Description (hex head cap screw)

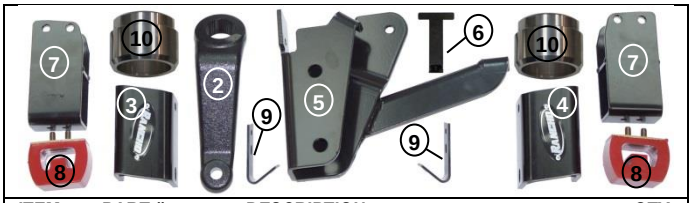
The driver of this suspension system recognizes and agrees that there are risks inherent in driving a vehicle with a lifted suspension system, including but not limited to the risk that you could be involved in an accident that would not occur in an unmodified vehicle. By his/her purchase and use of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

Box 1 of 5



ITEM	PART #	DESCRIPTION	QTY
	RS66453B -1	Box 1 of 5	1
1	RS831B	Front Coil Spring - 4.50" - Diesel	2

Box 2 of 5



ITEM	PART #	DESCRIPTION	QTY
	RS66453B-2	Box 2 of 5	1
2	RS77982	Pitman Arm	1
3	RS176729B	Swaybar Drop Brkt - Left	1
4	RS176730B	Swaybar Drop Brkt - Right	1
	RS860753	Sub Assy - Swaybar Drop Brkt.	1
	RS770080	HHCS, M10-1.50 X 30mm	4
	RS770259	Nut, M10-1.50 NyLock	4
	RS770064	Washer, M10	8
5	RS176725B	Front Track Bar Bracket	1
	RS860752	Sub Assy - Front Track Bar Brkt	1
	RS770261	HHCS, M18-2.50 X 90mm	2
	RS770118	Nut, M18-2.50 NyLock	2
	RS770123	Washer, M18	4
	RS420110	Spacer 1.25 X 1.01 X 1.37"L	1
	RS770142	HHCS, M10- 1.25 X 30mm	3
	RS770141	Nut, M10-1.25 TopLock	2
	RS770064	Washer, M10	10
6	RS176735	Flag Nut, M10-1.25	1
7	RS176373	Bump Stop Bracket - Front	2
	RS860534	Sub Assy, Front Bumpstop	1
8	RS1417	Bumpstop, 2 Stud	2
	RS7628	Nut, 5/16-24 NyLock	4
	RS7642	Washer, 5/16 SAE	4
	RS770022	HHCS, 3/8-24 X 3.00	4
	RS603508	Washer, 3/8 SAE	24
	RS7632	Nut, 3/8-24 NyLock	4
	RS860754	Sub Assy, Brake Line Bracket	1
9	RS176728	Brake Line Spacer Backet	2
	RS7906	HHCS, 1/4-20 X 1.00	2
	RS7710	Nut, 1/4-20 NyLock.	2
	RS7784	Washer, 1/4 SAE	4
10	RS176741	Coil Spring Locator	2
	RS860782	Sub Assy, Coil Spring Locator	1
	RS77032	Button Head Screw, 1/4-20 X .75	2
	RS7710	Nut, 1/4-20 NyLock.	2
	RS77841	Washer, 1/4 SAE	2

Box 3 of 5

ITEM	PART #	DESCRIPTION	QTY
	RS66453B-3	Box 3 of 5	1
11	RS176723B	Left Radius Arm	1
12	RS176724B	Right Radius Arm	1
	RS89452	Instructions, RS66453B	1
	RS94180	Information Pack	1

Box 4 of 5

ITEM	PART #	DESCRIPTION	QTY
	RS66453B-4	Box 4 of 5	1
13	RS176732	Rear Bump Stop Spacer - 3.00"	2
	RS860756	Sub Assy, Rear Bump Stop Spacer	1
	RS770080	HHCS, M10-1.50 X 30mm	4
	RS7657	Nut, 10mm - 1.50 NyLock	4
	RS770064	Washer, M10	8
14	RS176733	Rear Sway Bar Link Drop Bracket	2
	RS860757	Sub Assy, Sway Bar Endlink Brkt Hdwr	1
	RS770127	HHCS, M8- 1.25 X 20mm	2
	RS603112	Nut, 8mm - 1.25 NyLock	2
	RS770128	Washer, M8	4
	RS770247	HHCS, M12 X 1.75 X 25mm	2
	RS7807	Nut, 12mm - 1.75 NyLock	2
	RS7915	Washer, M12	4
15	RS176731B	Rear Track Bar Bracket	1
	RS860758	Sub Assy, Rear Track Bar Hdwr.	1
	RS420109	Spacer 1.00 X .56 X 2.13" L	2
	RS770138	HHCS, M10-1.25 X 35mm	3
	RS770141	Nut, M10mm-1.25 TopLock	2
	RS770064	Washer, M10	10
16	RS176735	Flag Nut, M10-1.25	1
	RS770043	HHCS, M14-2.00 X 100mm	1
	RS7877	Nut, M14-2.00 TOPLOCK	1
	RS770109	Washer, M14	2
17	RS176600	E-Brake Drop Bracket	1
	RS860781	Sub Assy, E-Brake Brkt Hdwr.	1
	RS770127	HHCS, M8mm-1.25 X 20mm	1
	RS603112	Nut, M8-1.25 NyLock	1
	RS770128	Washer, M8	2
	RS176738	Carrier Bearing Spacer	3
	RS860780	Sub Assy, Carrier Bearing Spacer Hdwr.	1
	RS770131	HHCS, M8-1.25 X 55mm	2
	RS770128	Washer, M8	2

Box 5 of 5

ITEM	PART #	DESCRIPTION	QTY
	RS66453B-5	BOX 5 OF 5.	1
18	RS832B	Rear Coil Spring - 2.5" Progressive	2

FRONT SUSPENSION

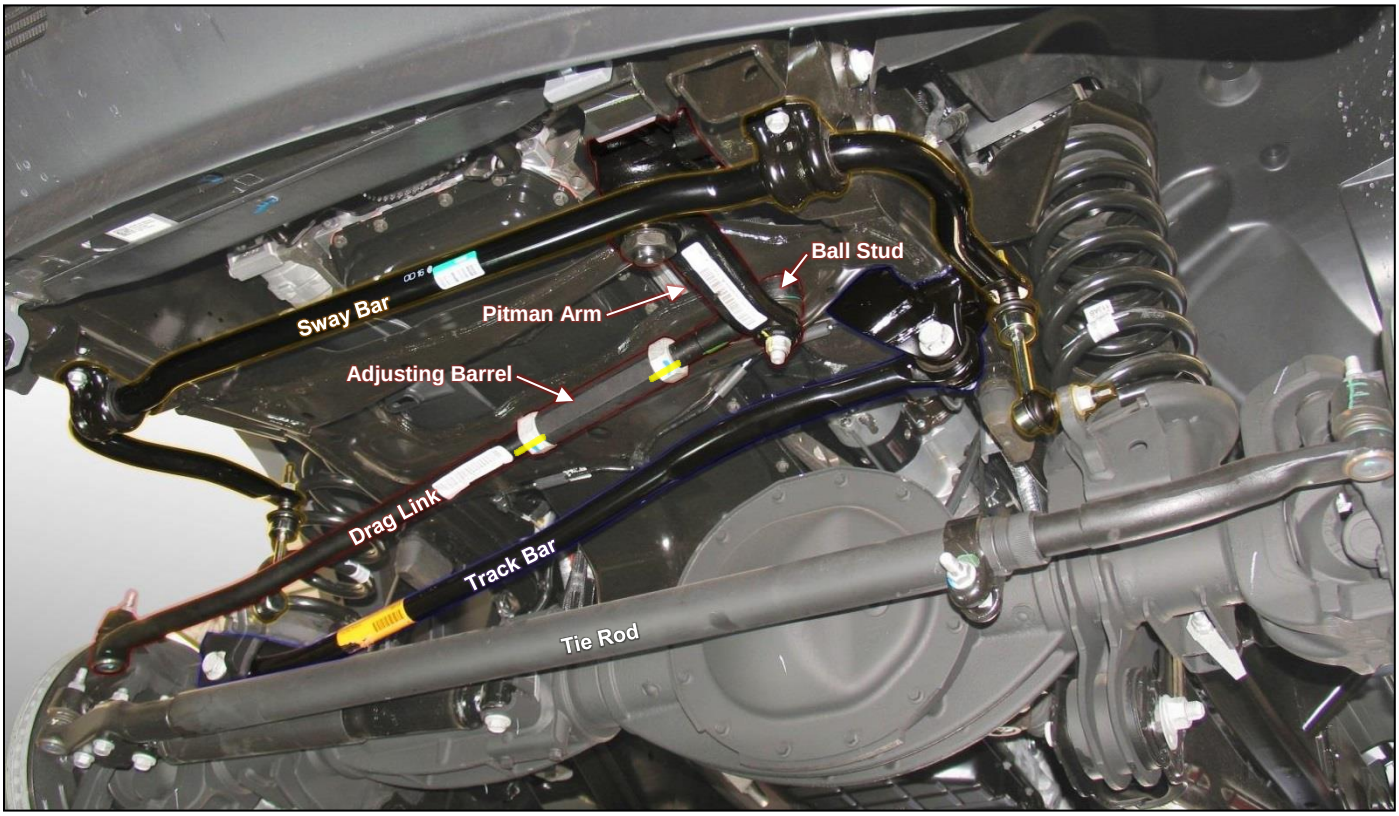


Illustration 1

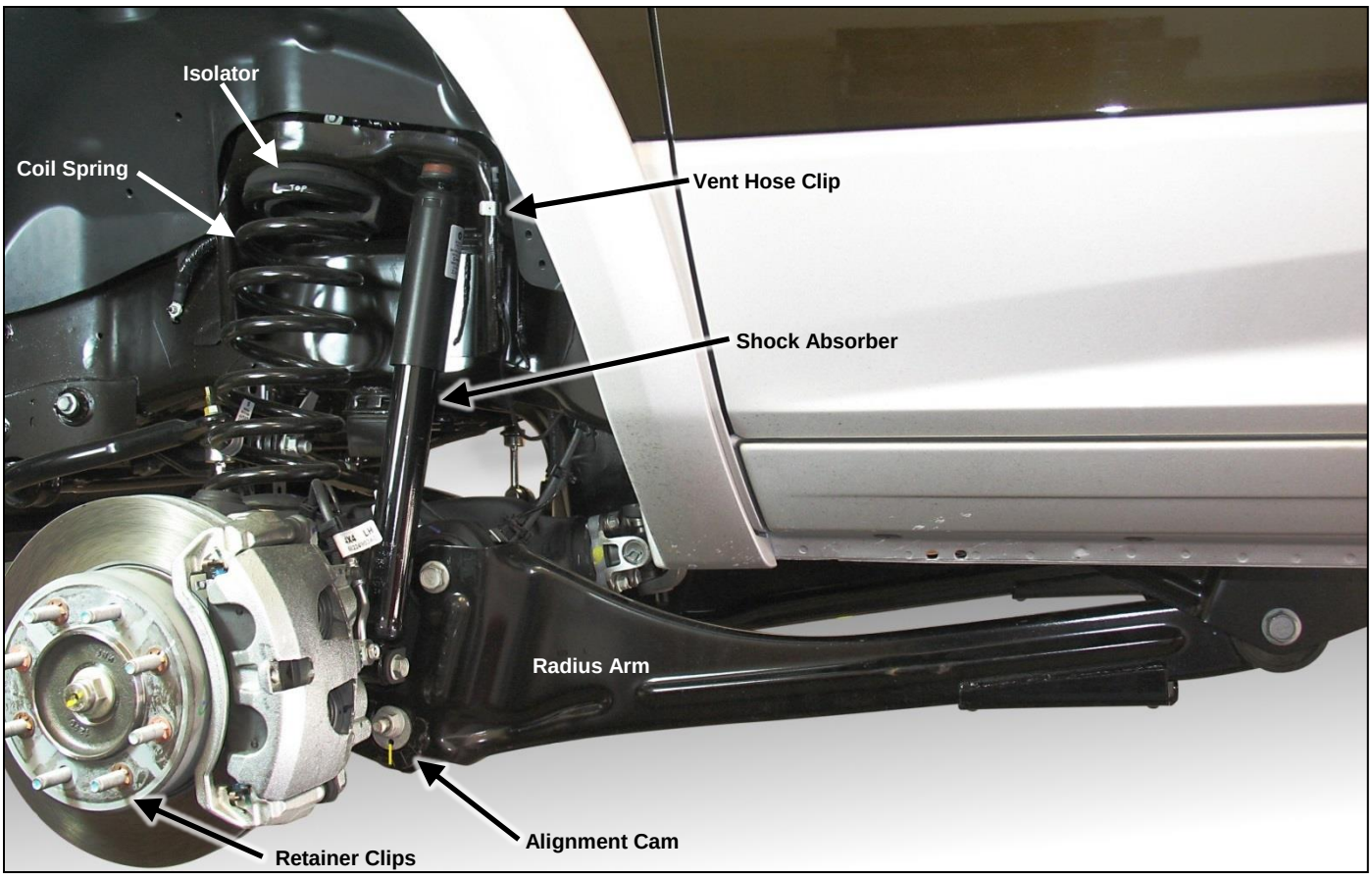


Illustration 2

VEHICLE PREPARATION & SWAY BAR REMOVAL

1) ☐ Park the vehicle on a level surface. Set the parking brake and chock the rear wheels. Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 3 **Record these measurements in the space provided below**.

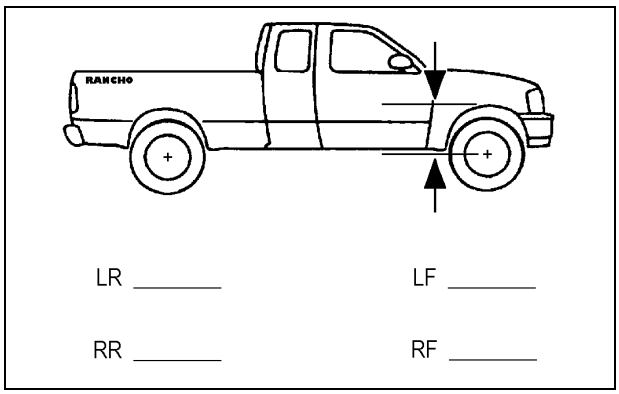


Illustration 3

2) ☐ Disconnect the track bar from the frame bracket. See Illustration 1.

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

ATTENTION: Leave 4" inches between radius arm frame mount and jack stand to allow clearance for radius arm drop brackets. See Illustration 4.

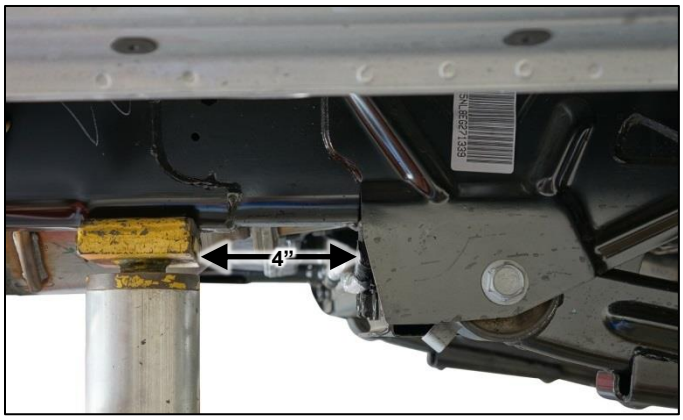


Illustration 4

PITMAN ARM & SWAY BAR REMOVAL

1) ☐ Mark and measure the position of the drag link adjusting barrel jam nuts, then loosen the jam nuts. See Illustration 1.

2) ☐ Remove the drag link ball stud nut at the pitman arm.

3) ☐ Using a pitman arm puller, separate the drag link from the pitman arm. See Illustration 1.

NOTE: Make sure puller jaws seat on pitman arm, not the boot retainer of the ball stud.

4) ☐ Mark the pitman arm and steering gear box shaft for installation reference. Remove the nut and washer from the pitman arm.

5) ☐ Using a pitman arm puller, remove the pitman arm.

6) ☐ Remove the sway bar mounts at the frame. See Illustration 1.

COIL SPRING & SHOCK REMOVAL

1) ☐ Support the front axle with two floor jacks, one under each coil spring.

2) ☐ Mark position of alignment cam bolts on radius arms. See Illustration 2.

3) ☐ Remove the mounting bolts holding the front brake hoses brackets to axle. There are 2 brackets on each side. See Illustration 5.

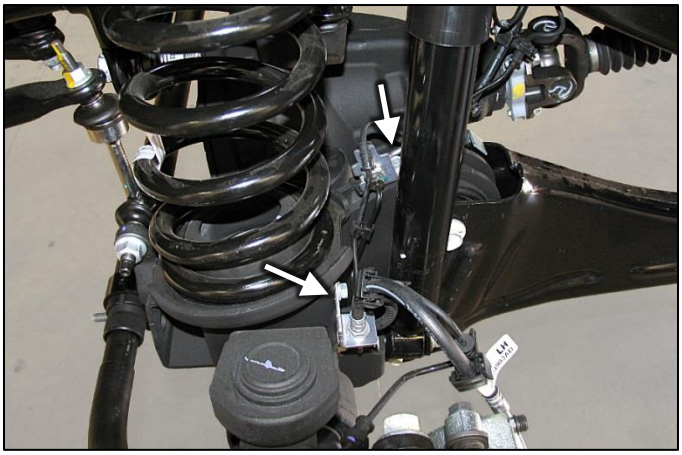


Illustration 5

4) ☐ Remove clip attaching wire to solenoid on passenger side of axle. See Illustration 6.

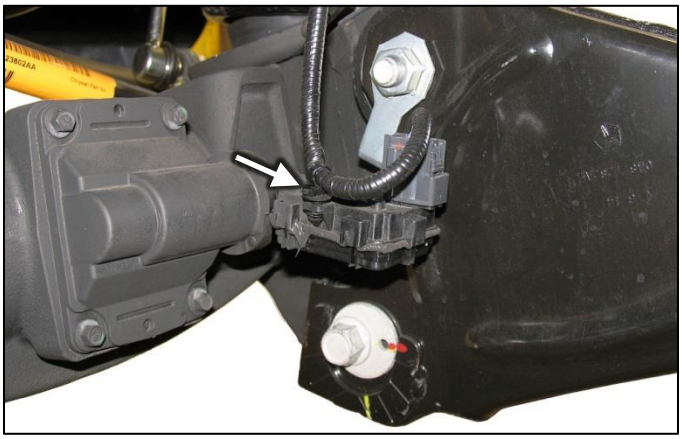


Illustration 6

5) ☐ Disconnect the front differential vent hose clip at driver side shock/spring mount tower, and plastic clip on inside of frame rail. See Illustration 2 and Illustration 7.

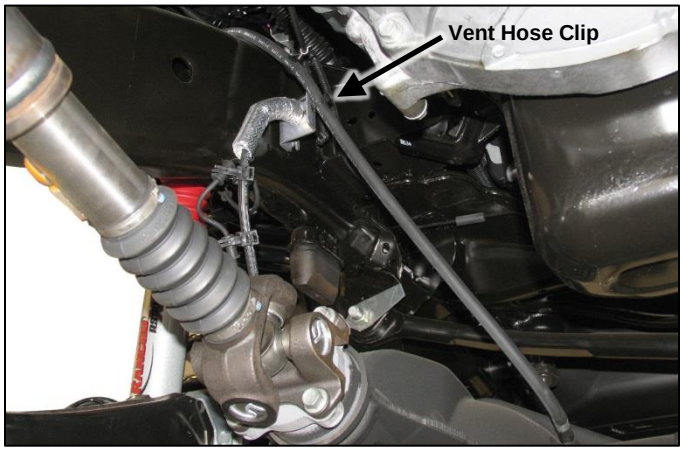


Illustration 7

6) ☐ Remove the front shock absorbers starting at the axle.

7) ☐ Carefully lower the axle enough to relieve the tension on the coil springs and remove coils.

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

RADIUS ARM REMOVAL AND INSTALLATION

Box RS66453B-3 (Box 3 of 5)

Left Radius Arm RS176723

Right Radius Arm RS176724

1) ☐ Support the jack point of both radius arms with jack stands. Remove the radius arm mounting bolts at the frame and lower the radius arms out of the frame brackets. See Illustration 8.

CAUTION: Always support at least one radius arm with a jack stand to keep the axle from rotating downward. Check driveshaft slip joint boot to prevent tearing.

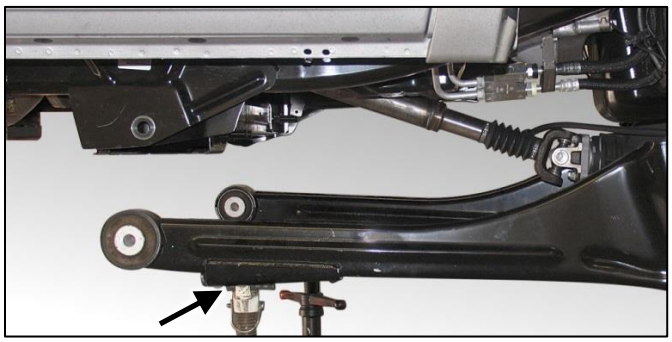


Illustration 8

2) ☐ Remove the driver side radius arm from the front axle.

3) ☐ Loosely attach the driver side radius arm RS176723B to the front axle on the driver side. Use the original hardware. Support driver side radius arm with jack stand.

4) ☐ Remove the passenger side radius arm from the front axle.

5) ☐ Loosely attach the passenger side radius arm RS176724B to the front axle on the passenger side. Use the original hardware.

6) ☐ Lift the radius arms into the frame brackets. Install the original bolts and nuts. Do not tighten until the vehicle is at normal ride height.

See Page 14

TRACK BAR BRACKET INSTALLATION

Box RS66453B-2 (Box 2 of 5)

Front Track Bar Bracket RS176725B

Hardware from Sub Assy RS860752

1) ☐ Place track bar bracket RS176725B over the OE track bar mount. Loosely install 10mm hardware from kit RS860752 in locations 1 and 2 to hold the bracket in place. See Illustration 9.

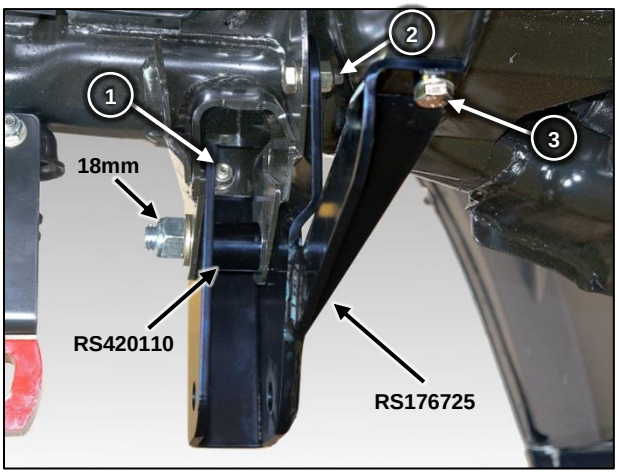


Illustration 9

2) ☐ Loosely install supplied 18mm hardware and spacer RS420110 at OE track bar mounting location. See Illustration 9.

3) ☐ Using the hole in the track bar bracket as a guide (location 3), enlarge the slot in the vehicle cross member to 13/32.

4) ☐ Insert flag nut RS176735 through the hole in top of the cross member and attach the track bar bracket to the cross member with 10mm hardware. Torque to 30 ft. lbs.

5) ☐ Torque remaining 10mm hardware to 45 ft. lbs. in the order numbered in Illustration 9. Do not tighten 18mm hardware.

BUMP STOP BRACKET INSTALLATION

Box RS66453B-2 (Box 2 of 5)

Bump Stop Brackets RS176373

Hardware from Sub Assy RS860534

1) ☐ Remove the bump stops from the frame brackets by hitting from the side with a hammer.

2) ☐ Drill a 13/32" hole through the center of each dimple in the frame brackets. See Illustration 10.

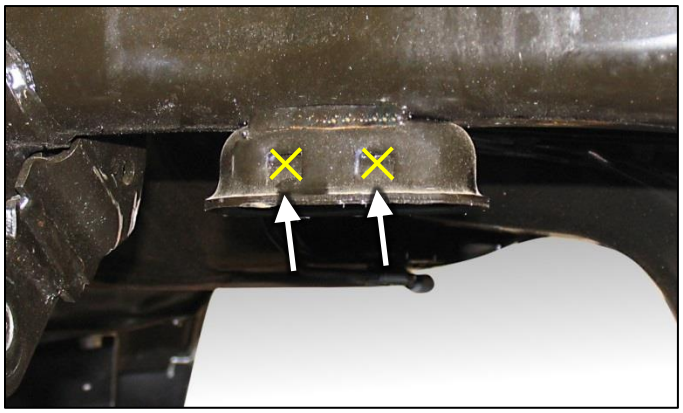


Illustration 10

3) ☐ Place bump stop bracket RS176373 over the frame bracket as shown in Illustration 11. Keep the chamfered corner of the bracket toward the rear.

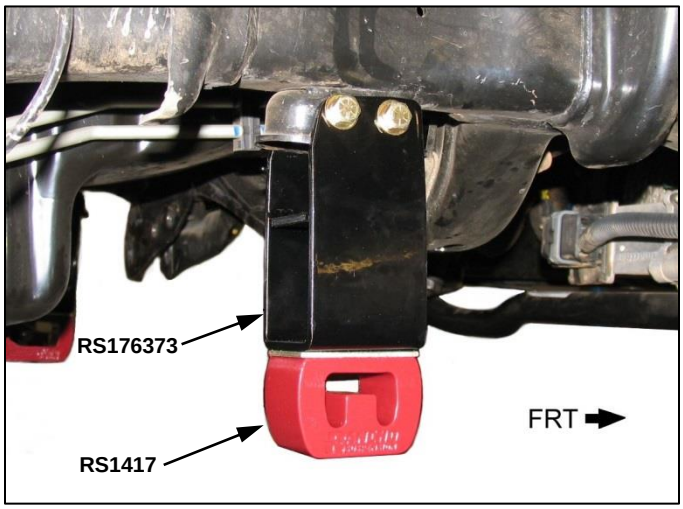


Illustration 11

4) ☐ Attach bump stop bracket RS176373 to the frame bracket with the 3/8" hardware from kit RS860534. Use two of the supplied 3/8" washers under each hole between the OE and new bump stop brackets. Tighten nuts and bolts to 30 ft. lbs.

5) ☐ Attach bump stop RS1417 to bracket RS176373 with the 5/16" hardware from kit RS860534. Tighten nuts to 20 ft. lbs.

COIL SPRING & SHOCK ABSORBER INSTALLATION

Box RS66453B-1 (Box 1 of 5)

Front Coil Springs RS831B

Box RS66453B-2 (Box 2 of 5)

Spring Positioner RS176741

Hardware from Sub Assy RS860534

New Rancho front shock absorbers

NOTE: Both springs will have to be rotated 90° clockwise (when looking from the top)

1) ☐ Remove the upper spring isolators and cut off locating tabs. See Illustration 12.

Illustration 12

2) ☐ Mark, center punch, and drill a ¼" hole on the outside of the upper spring mount dimple, ¼" from the lower edge of the dimple. De-bur inside of hole with a round or half-round file. See Illustration 13.

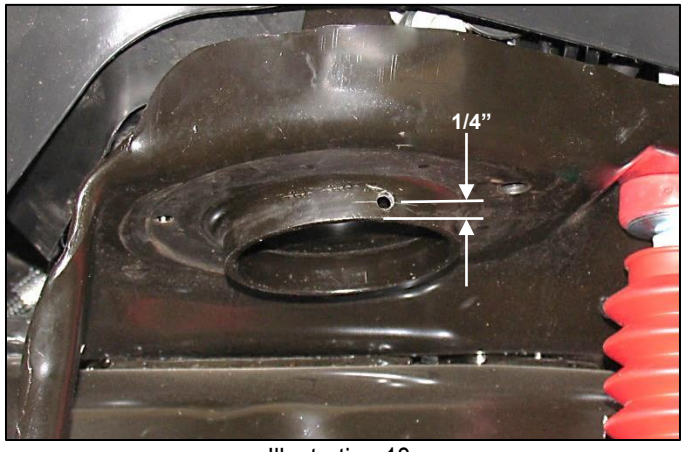


Illustration 13

3) ☐ Install spring positioner RS176741 into hole of upper spring mount. While holding positioner up against spring mount drill a ¼" hole through positioner using previously drilled ¼" hole as a guide.

4) ☐ Install spring positioner RS176741 using ¼" hardware supplied it kit RS8860782. Install with button head out, and washer under nut. See Illustration 14.

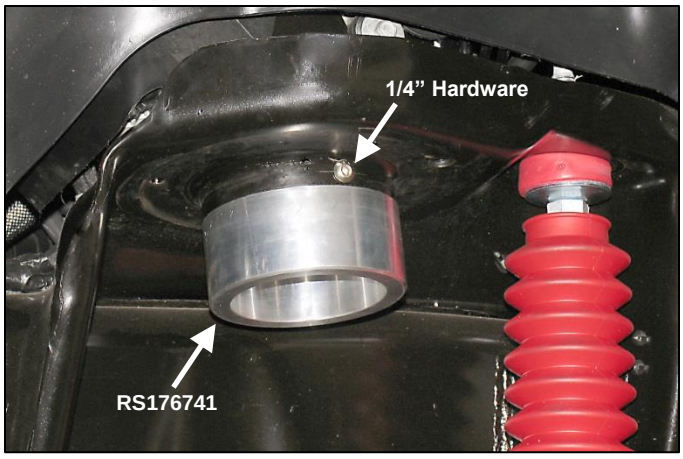
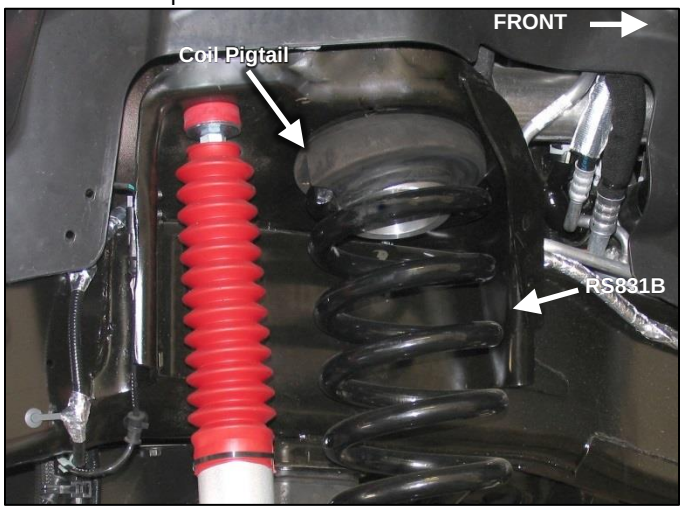


Illustration 14

5) ☐ Re-install the passenger side upper spring isolator with the coil stop to the rear of the vehicle. See Illustration 15.

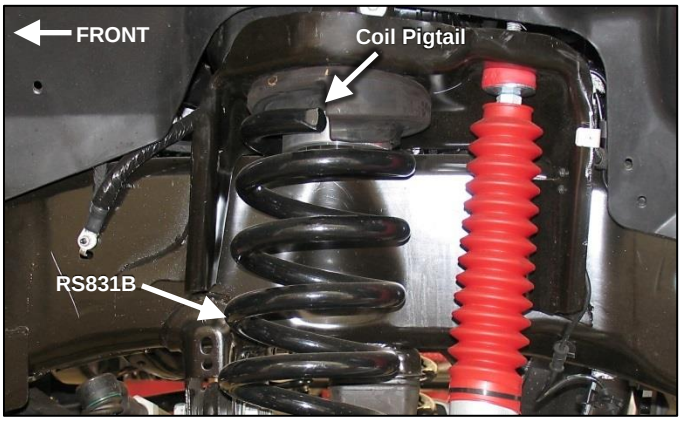


Passenger side coil spring after rotating 90° from OE position
Illustration 15

6) ☐ Place the passenger side spring RS831B in the lower and upper mounts. The top of the spring will have a small flat section on the edge. Align the upper pigtail to the isolator. See Illustration 15.

7) ☐ Raise the passenger side of the axle just enough to keep the spring from falling out.

8) ☐ Re-install the driver side upper spring isolator with the coil stop to the outside of the vehicle. See Illustration 16.



Driver side coil spring after rotating 90° from OE position
Illustration 16

9) ☐ Place the driver side spring RS831B in the lower and upper mounts. The top of the spring will have a small flat section on the edge. Align the upper pigtail to the isolator. See Illustration 16.

10) ☐ Raise the driver side of the axle just enough to keep the spring from falling out.

11) ☐ Install new Rancho shocks in the upper shock mounts.

12) ☐ Carefully raise the axle enough to install the shocks on the lower mounts. Attach with the OE hardware and torque to 120 ft. lbs.

13) ☐ Re-attach the OE brake line brackets to the axle spring mount using the OE hardware.

14) ☐ Install brake line brackets RS176728 to the axle radius arm mount using the OE hardware.

NOTE: Use loctite and take care not to strip out self-tapping screws used on brake line mounts.

15) ☐ Carefully re-shape brake line and attach the OE brake line bracket to RS176728 using ¼" hardware from kit RS860754. See Illustration 17.

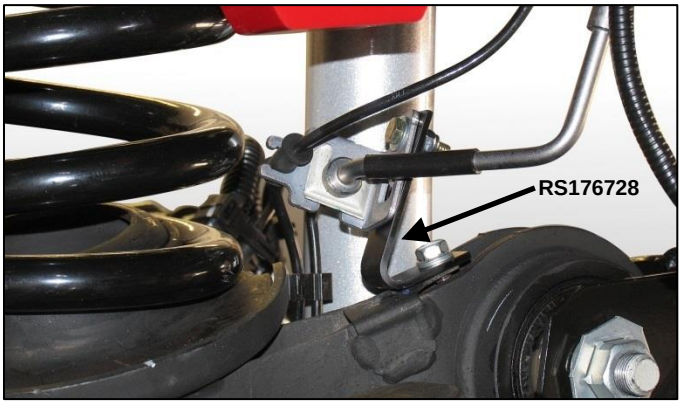


Illustration 17

16) ☐ Re-rout the axle vent hose under the frame rail and attach metal clip at OE location on shock/spring mount. See Illustration 18

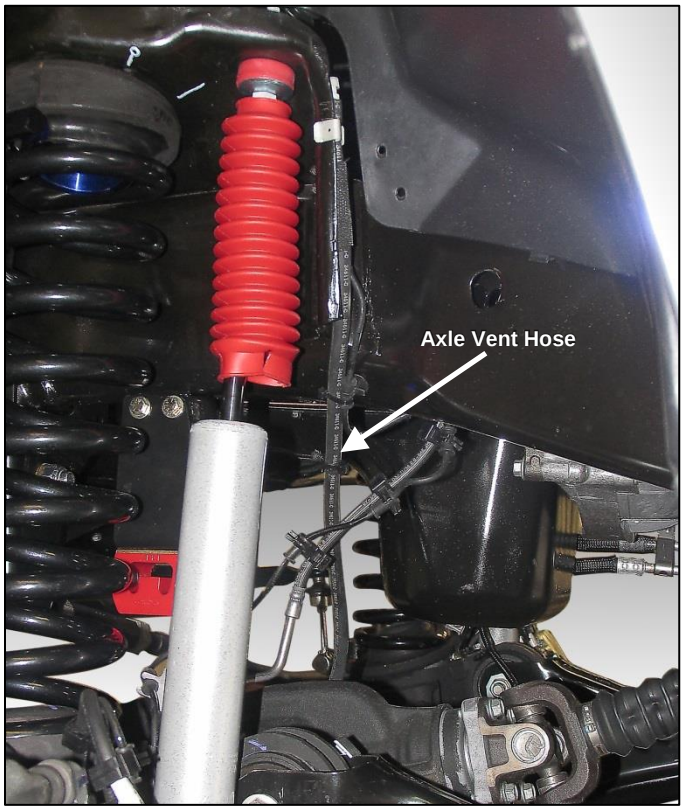


Illustration 18

PITMAN ARM AND DRAG LINK INSTALLATION

Box RS66453B-2 (Box 2 of 5)

Pitman arm RS77982

1) ☐ Using the reference marks on the OE pitman arm as a guide, attach new pitman arm RS77982 to the steering shaft. Install the OE lock washer and nut with Locktite. Tighten the nut to 225 ft. lbs.. See Illustration 20.

2) ☐ Remove tie rod end from the drag link adjusting barrel and trim off tab flush with the threads See Illustration 19.

Illustration 19

3) ☐ Re-install the tie rod end onto the adjusting barrel and adjust to the previous marks and measurement. Rotate the tie rod end out a half turn so the ball joint threads point up. See Illustration 20.

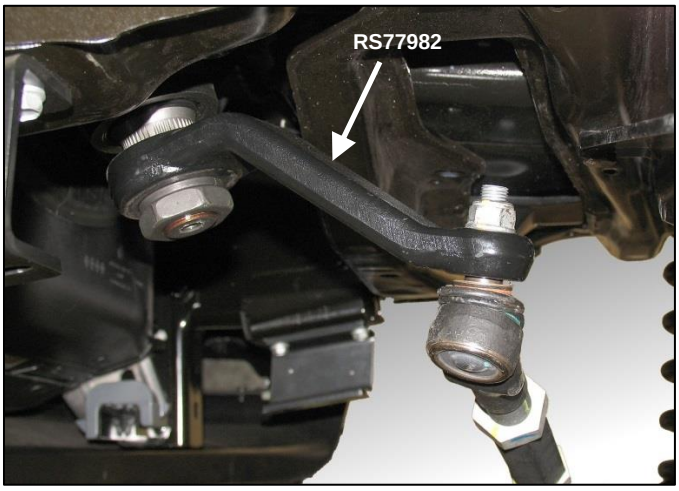


Illustration 20

4) ☐ Attach the drag link to the pitman arm with the OE nut. Torque nut to 65 ft. lbs.

5) ☐ Rotate the adjusting barrel down in the front 5 ½ turns to make drag link assembly shorter. Tighten jam nuts.

SWAY BAR DROP BRACKET INSTALLATION

Box RS66453B-2 (Box 2 of 5)

Front Sway Bar Drop Bracket RS17729B, RS176730B

Hardware from Sub Assy RS860753

1) ☐ Attach left sway bar drop bracket RS176729B to the driver side the frame with OE hardware. The Rancho logo will face out, and the sway bar will be offset to the front of the vehicle. See Illustration 21.

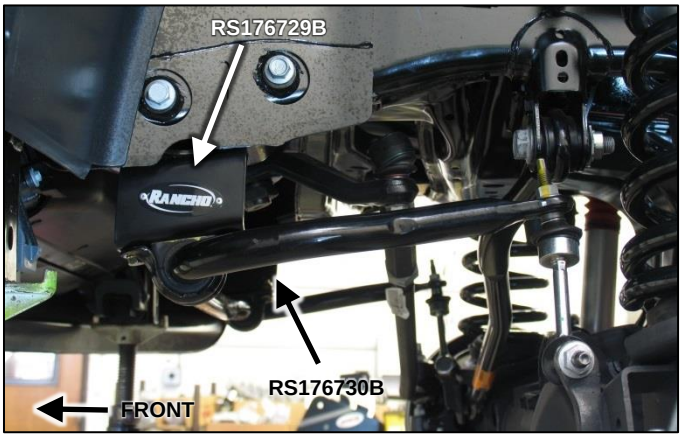


Illustration 21

2) ☐ Attach right sway bar drop bracket RS176730B to the passenger side the frame with OE hardware. The Rancho logo will face out, and the sway bar will be offset to the front of the vehicle. See Illustration 21.

3) ☐ Attach the sway bar to the drop brackets with 10mm hardware from kit RS860753. Torque hardware to 40 ft. lbs.

LOWER VEHICLE

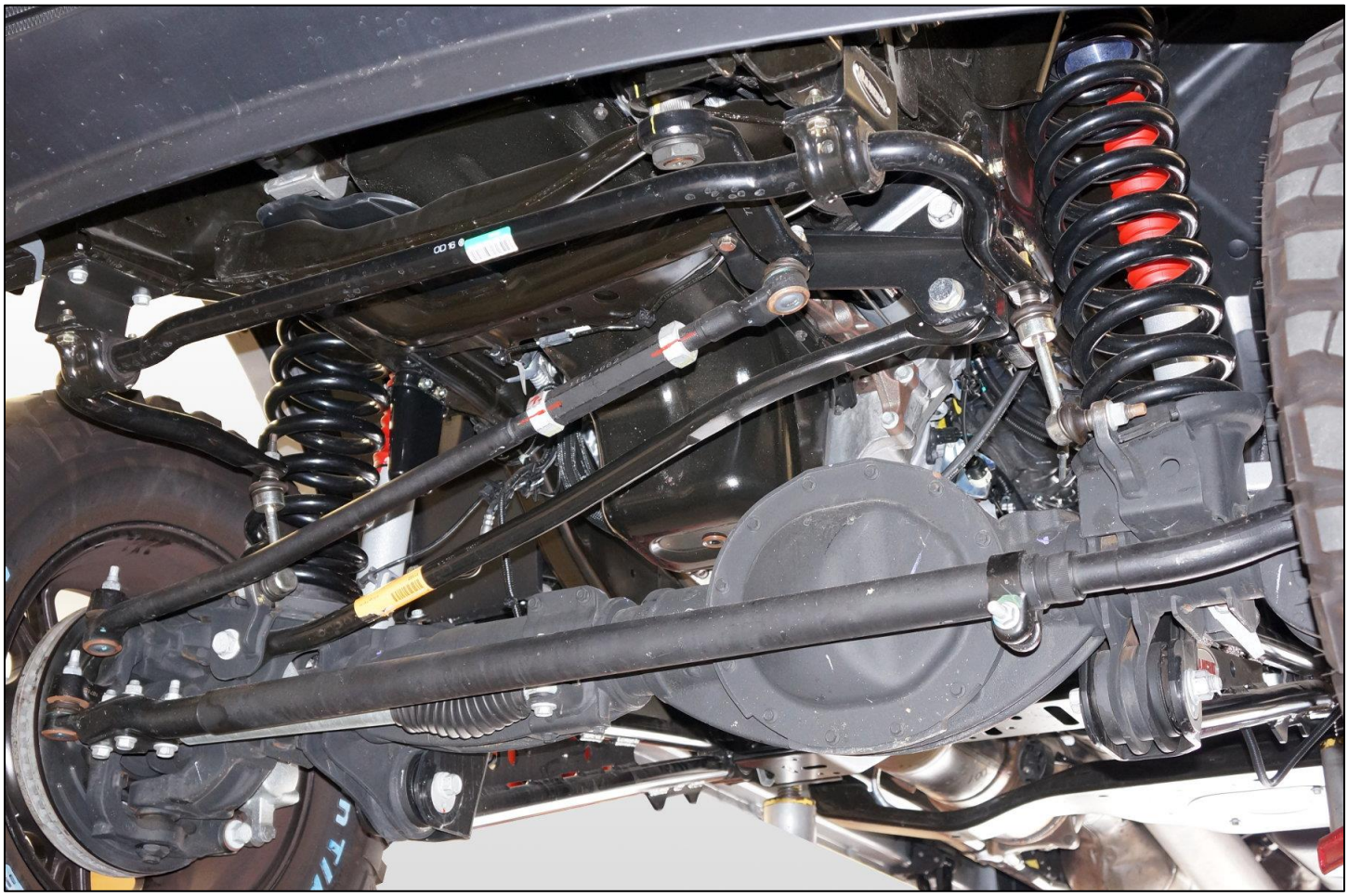
1) ☐ Install the front wheels and lower the vehicle to the ground. Tighten lug nuts to 140 ft. lbs.

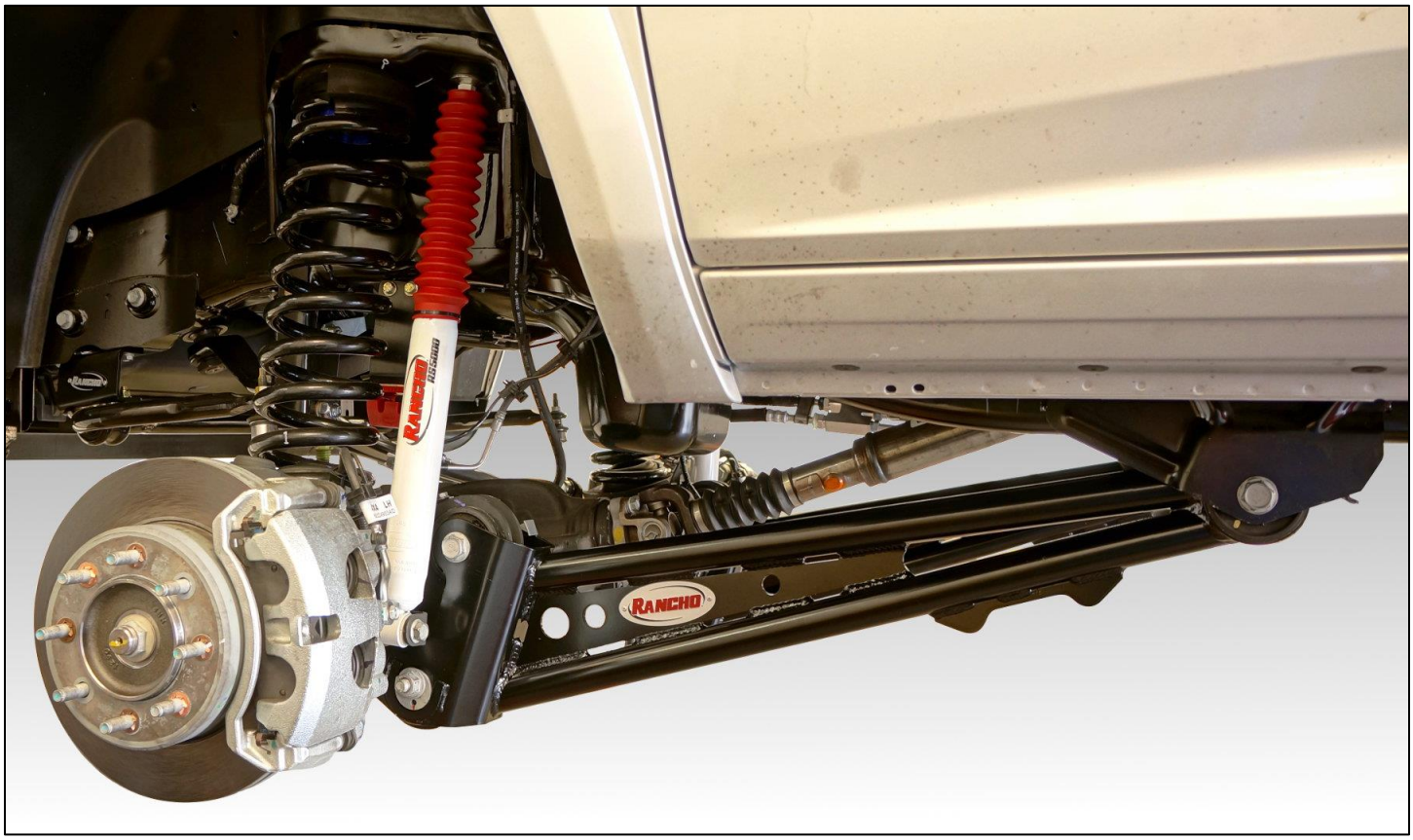
Note: If installing aftermarket wheels, remove rotor retainer clips from wheel studs to allow wheels to sit flush against rotor. See Illustration 1.

2) ☐ Attach track bar to bracket RS176725 with 18mm hardware from kit RS860752. Tighten both 18mm track bar and bracket bolts to 220 ft. lbs.

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

3) ☐ Tighten radius arm bolts at drop bracket to 220 ft. lbs.




RANCHO
RANCHO

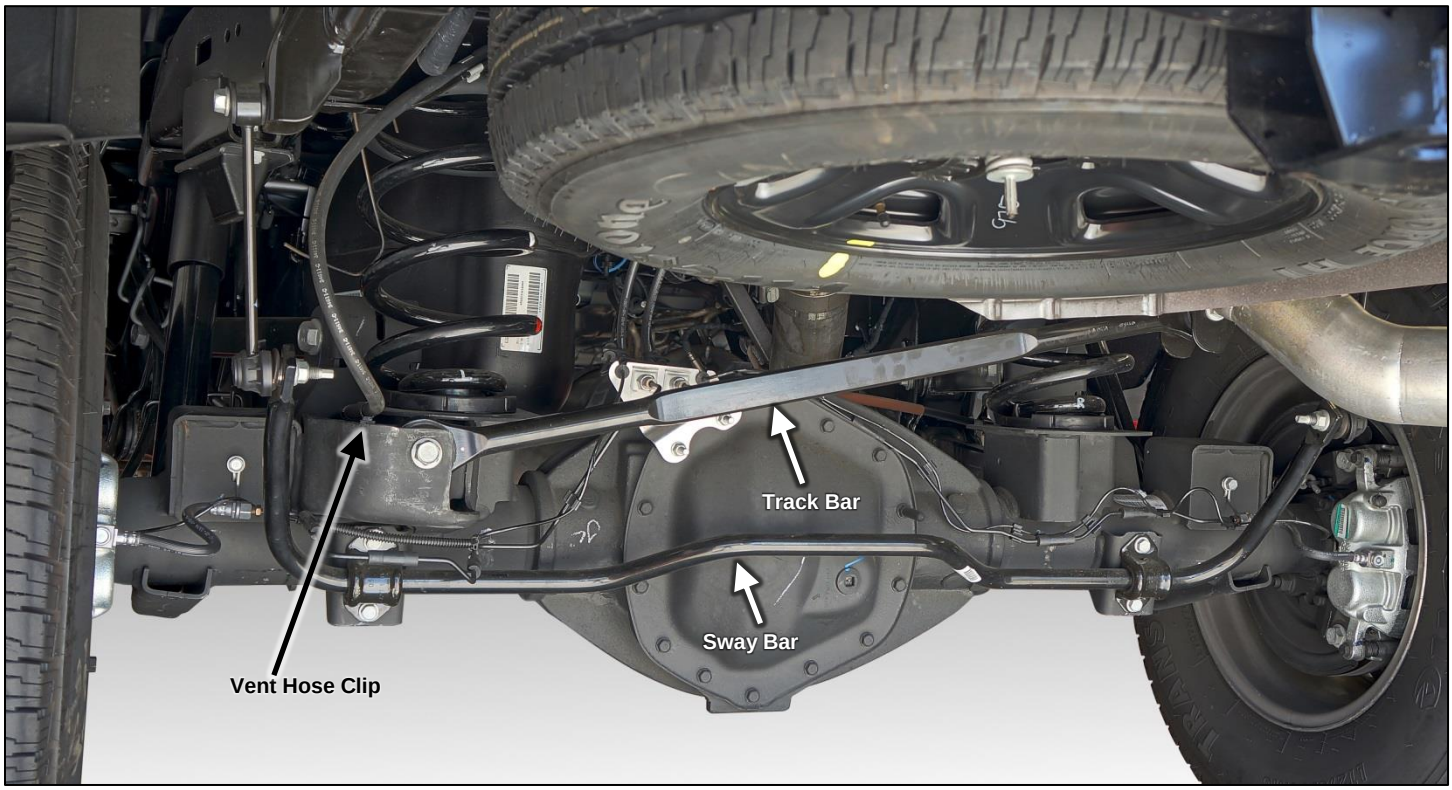


Illustration 22

SHOCK ABSORBER & COIL SPRING REMOVAL

1) ☐ Chock front wheels.

2) ☐ Remove axle vent line clip from the rear track bar axle mounting bracket. See Illustration 22.

3) ☐ Remove the bolt and nut holding the track bar to the rear axle. See Illustration 22.

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

5) ☐ Support the rear axle assembly with a floor jack.

6) ☐ Remove sway bar end links from frame brackets. See Illustration 22.

7) ☐ Mark location of lower coil spring isolators spring stop on lower coil mount and remove isolator from coil mount. See Illustration 23.

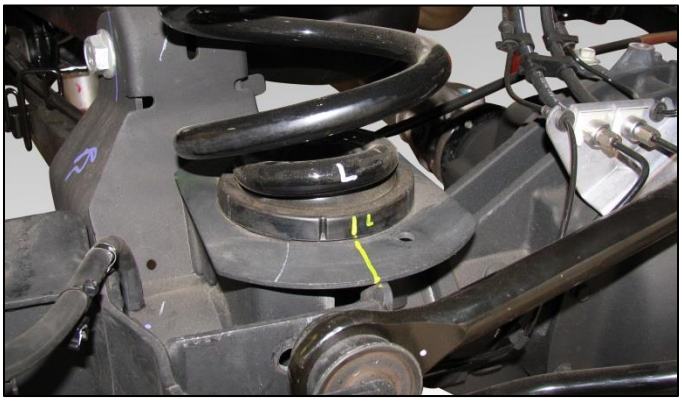


Illustration 23

8) ☐ Remove the upper and lower shock mounting bolts. Remove shock absorber.

9) ☐ Carefully lower the rear axle. Do not allow the axle to hang by any hoses or ABS cables.

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

10) ☐ Remove both coil springs and upper insulators from vehicle.

TRACK BAR BRACKET INSTALLATION

Box RS66453B-4 (Box 4 of 5)

Rear Track Bar Bracket RS176731B

Hardware from Sub Assy RS860758

1) ☐ Place track bar bracket RS176731 over OE track bar axle bracket. Install OE track bar bolt, OE flag nut and spacer RS420109 from kit RS860758 at original track bar mounting location. Do not tighten hardware at this time.

2) ☐ Loosely attach track bar bracket RS176731 at coil mount and bottom of bracket with 10mm hardware and flag nut RS176735. Use extra supplied M10 washers to fill gap between OE bracket and RS176731 if needed. See Illustration 24

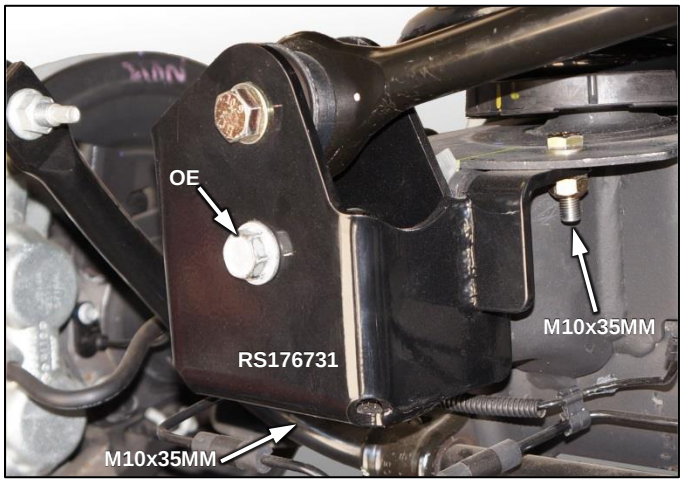


Illustration 24

3) ☐ Tighten lower 10MM track bar bracket hardware to 35 ft. lbs. Tighten remaining 10mm track bar hardware to 45 ft. lbs.

4) ☐ Using hole in track bar bracket RS176731 as a guide, drill a 13/32" hole through the OE track bar mount. Attach using remaining 10mm hardware from kit RS860758. Tighten to 45 ft. lbs. See Illustration 25.

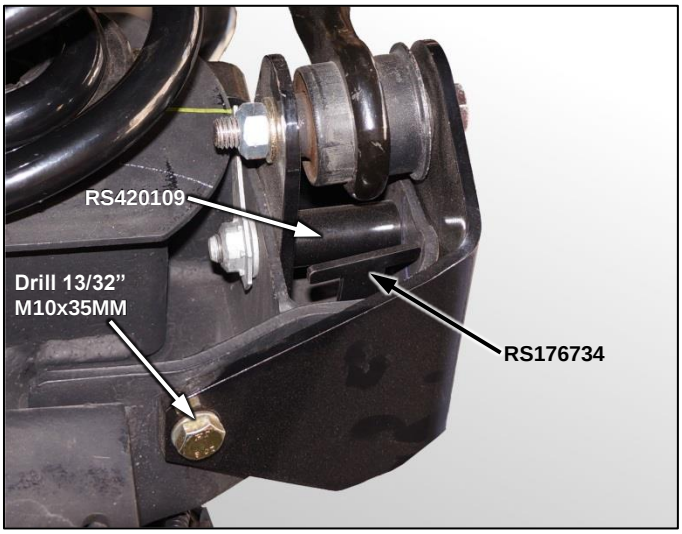


Illustration 25

COIL SPRING INSTALLATION

Box RS66453B-5 (Box 5 of 5)

Rear Progressive Coil Springs RS832B

New Rancho rear shock absorbers

1) ☐ Align lower coil spring isolator with mark.

2) ☐ Place original insulator on top of coil spring 832B, then raise the axle guiding the coils into the frame pockets.

3) ☐ Attach new Rancho shock absorbers to the upper and lower mounts. Torque to 120 ft. lbs.

SWAY BAR ENDLINK DROP BRACKET INSTALLATION

Box RS66453B-4 (Box 4 of 5)

Rear Sway Bar End Link Drop Bracket RS176733

Hardware from Sub Assy RS860756

1) ☐ Place sway bar end link drop bracket RS176733 over OE end link mounting bracket. See Illustration 26.

Illustration 26

2) ☐ Install with hardware from kit RS860757. Use 8mm hardware in top hole, and 12mm hardware in middle hole. Torque 8mm hardware to 20 ft. lbs., and 12mm hardware to 55 ft. lbs.

3) ☐ Attach sway bar end link to drop bracket RS176733 with OE hardware. Torque to 75 ft. lbs.

BUMP STOP DROP BRACKET INSTALLATION

Box RS66453B-4 (Box 4 of 5)

Rear Bump Stop Spacers RS176732

Hardware from Sub Assy RS860756

1) ☐ Remove bump stops from frame.

2) ☐ Attach bump stop spacer RS176732 to frame using OE hardware. See Torque hardware to 40 ft. lbs.

NOTE: On passenger side spacer, install and snug rear bolt first with spacer rotated to allow easier access to bolt.

3) ☐ Attach bump stop to spacers RS176732 using 10mm hardware supplied in kit RS860756. Torque hardware to 40 ft. lbs. Illustration 26.

E-BRAKE DROP BRACKET INSTALLATION

Box RS66453B-4 (Box 4 of 5)

E-Brake Drop Bracket RS176600

Hardware from Sub Assy RS860781

1) ☐ Attach e-brake drop bracket RS176600 to OE e-brake hanger using 8mm hardware from kit RS860781.

2) ☐ Attach e-brake drop bracket and hanger to frame using OE hardware. See Illustration 27.

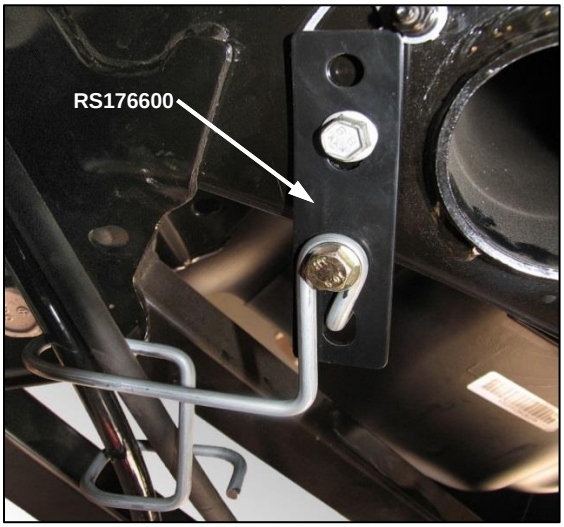


Illustration 27

LOWER VEHICLE

1) ☐ Install rear wheels and lower vehicle to ground. Tighten lug nuts to 140 ft. lbs.

Note: If installing aftermarket wheels, remove rotor retainer clips from wheel studs to allow wheels to sit flush against rotor. See Illustration 1.

2) ☐ Attach track bar to Rancho track bar bracket RS176731 using 14mm hardware supplied in kit RS860758. Torque both upper and lower 14mm track bar and bracket bolts to 120 ft. lbs.

CHECKS & ADJUSTMENTS

3) ☐ 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.

4) ☐ 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.

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

6) ☐ Readjust headlamps.

7) ☐ Center steering wheel. Have vehicle Aligned at a certified alignment facility.

8) ☐ Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 28**Record these measurements in the space provided below**.

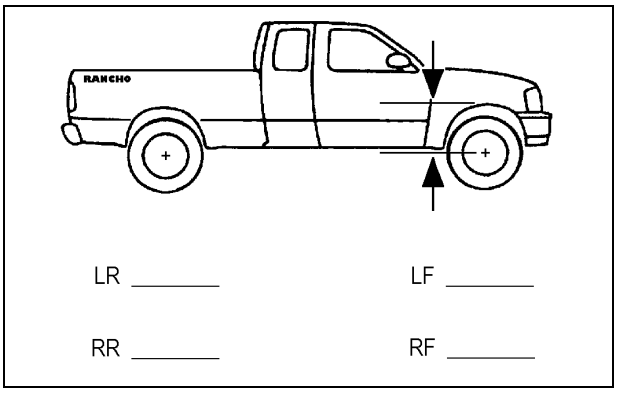
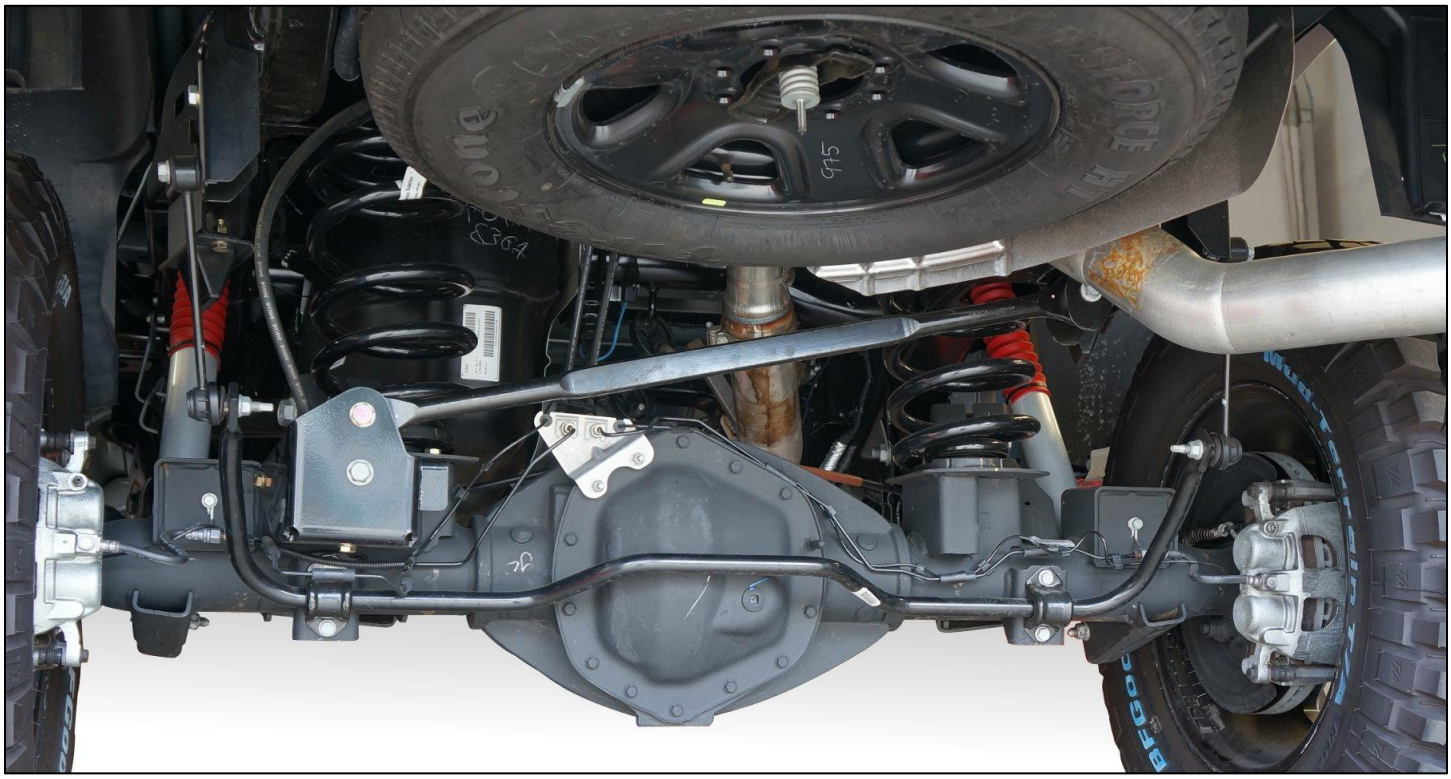


Illustration 28



NOTE: Vehicles equipped with two piece rear driveshaft may require and additional drive shaft carrier bearing spacer kit. If you experience drive-line vibration after installing this kit on a vehicle with a two piece rear driveshaft, please contact Rancho Technical Support at1-734-384-7804 and ask for:

RS6609

RS176738	Carrier Bearing Spacer
RS860780	Sub Assy, Carrier Bearing Spacer Hdwr.

Please retain this publication for future reference. See Important Note Q.