

INSTALLATION INSTRUCTIONS

89554 Rev A



For Rancho Suspension System RS66554B:

2017-2011 Ford F250 / F350 Super Duty 4x4*

*F350 requires additional rear kit RS886503 or RS886502 to be purchased separately. See table below.

DIESEL ONLY — will not work on gas engines due to exhaust clearance issues.

SINGLE REAR WHEELS ONLY — with or without auxiliary spring

ATTENTION: vehicles comes equipped with two models rear riser blocks,
model one= 1.80" tall and model two= 3.60" tall

Year	Model	Rear Kit(S)
Ford - Pickup (3/4 Ton) 4WD (F Series)		
2017-2011	F-250 Superduty 4WD w/ Automatic Transmission & Diesel Engine- Exc. All Wheel Drive.	RS66552B-4 ¹
Ford - Pickup (1 Ton) 4WD (F Series)		
2017- 2011	F-350 Superduty 4WD w/ Automatic Transmission & Diesel Engine- Exc. All Wheel Drive	
	Without Auxiliary Spring	RS886503 ²
	With Auxiliary Spring	RS886502 ²

¹ Included in RS66552B

² Must be purchased separately



⚠ 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.

I. 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:

II. **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.

III. PRE-INSTALLATION WARNINGS and INSTRUCTIONS

⚠ WARNING: Only the following rim/tire size may be used with this suspension system: BFGoodrich® All-Terrain™ 35x12.5R20/D tire on a 20" wheel with 6.25. 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.

IV. 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.

V. 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.

VI. 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 2017-2011	REAR 2016-2011	REAR 2017
RS999044 ^{XL}	RS999261 ^{XL}	
RS7044	RS7261	
RS55044	RS55261	RS55036A
RS5044	RS5261	

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.

- Ford Service Manual
- Steering Arm Puller T64P-3590-F
- Torque Wrench (406 FT-LB capacity)
- 1/2" Drive Ratchet and Sockets
- 1/2" Drive Breaker Bar
- Combination Wrenches
- Heavy Duty Jack Stands
- Hydraulic Floor Jack (2)
- Wheel Chocks (wooden blocks)
- Center Punch
- Hammer
- Wire Brush (to clean bracket mounting surfaces)
- Tape Measure
- Safety Glasses**--Wear safety glasses at all times

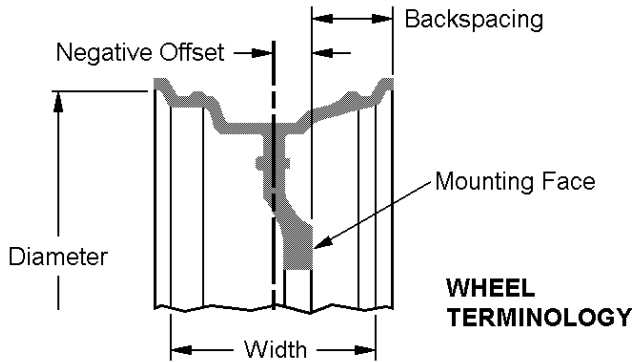
J. It is extremely important to replace coil springs, CV flanges, and front drive shaft/pinion relationships as original. Be sure to mark left/right, front/rear, and indexing of mating parts before disassembly. A paint marker or light colored nail polish is handy for this.

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 a BFGoodrich® All-Terrain™ BFGoodrich® All-Terrain™ 35x12.5R20/D tire on a 20" wheel with 6.25 of backspacing. Larger tire sizes or different wheels may require trimming to clear fender wells and front bumper. Before installing any other combination, consult your local tire and wheel specialist. Actual tire size varies by manufacturer



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.

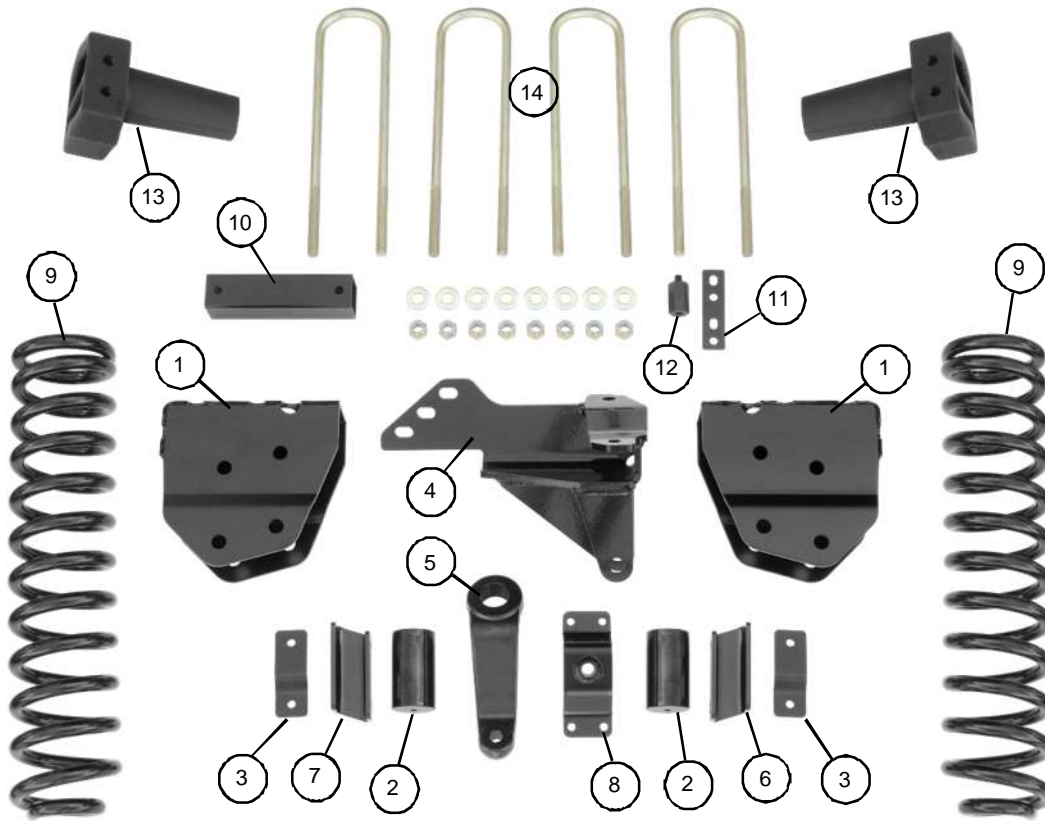
O. The lifespan of Rancho products depends on many factors. Improper use, abuse or harsh use in general may compromise the integrity of the suspension system and significantly reduce its lifespan. The suspension system is also subject to wear over time. Have the suspension system regularly inspected 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. Red Components are for illustration purposes only. Red components might not be available.

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

1/2-13x1.75 HHCS D T L X G = Grade Marking (bolt strength) D = Nominal Diameter (inches) T = Thread Pitch (threads per inch)		Grade 5 Grade 8 L = Length (inches) X = Description (hex head cap screw)		M12-1.25x50 HHCS D T L X P = Property Class (bolt strength) D = Nominal Diameter (millimeters) T = Thread Pitch (thread width, mm)		P L = Length (millimeters) X = Description (hex head cap screw)	
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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.



PARTS LIST

ITEM	P/N	DESCRIPTION	QTY
	RS66554B-1	Box 1 of 3	
	RS94180	Information Pack	1
	RS780281	Rancho Decal	1
	RS89554	Instructions	1
	RS94119	Consumer/Warranty Information	1
	RS94177	Warning Sticker	1
1	176675B	Radius Arm Drop Bracket	2
	RS860720	Hardware Kit – Rad. Arm Drop Brkt.	1
	RS770237	M18-2.50X120 HHCS	4
	RS770118	M18 - 2.5 Nyloc Nut	4
	RS770123	M18 Washer	8
	RS770134	M12-1.25X30 HHCS	2
	RS7643	M12-1.25 Nyloc Nut	2
	RS7915	M12 washer	4
	RS420101	Sleeve-1.00X.752.75	4
2	RS176325	Bump Stop Spacer	2
	860516	Hardware Kit – Bump Stop Spacer	1
	RS770127	M8-1.25 x 25 HHCS	2
	RS603112	M8-1.25 Nylock Nut	2
	RS770128	8mm Washer	3
	RS42702	Thread Lock	2
	136763624	Tie Wrap	6
3	RS176599	Brake Line Bracket	2
4	RS176762B	Track Bar Bracket	1
	RS860517	Hardware Kit – Track Bar Bracket	1
	RS770129	M14-2.0 x 80 HHCS	3
	RS7877	M14-2.0 Stover Nut	3
	RS770109	M14 Washer	6
	RS7855	Cotter Pin	1
	RS42702	Thread Lock	2
5	RS7790	Pitman Arm	1
6	RS176597	Sway Bar Drop Bracket - Left	1
7	RS176598	Sway Bar Drop Bracket - Right	1

ITEM	P/N	DESCRIPTION	QTY
	RS860675	Hardware Kit – Sway Bar Bracket	1
	RS770080	M10-1.50 x 30 HHCS	4
	RS7657	M10-1.50 Nylock Nut	4
	RS770064	M10 Washer	8
	RS770125	M8-1.25 x 130 HHCS	2
	RS603112	M8-1.25 Nylock Nut	2
	RS770118	M18-2.5 Nylock Nut	1
	RS7733	5/16 USS Washer	2
	RS7642	5/16 SAE Washer	2
8	RS176842B	Single Steering Stabilizer Bracket	1
	RS8303	U-Bolt Bracket Kit	1
	RS7417	U-Bolt 5/16-18 X 1.26	2
	RS7733	Washer, 5/16 USS	4
	RS7768	Nut, 5/16-18 Nylock	4
	RS66554B-2	Box 3 of 3	
9	RS819B	Coil Spring	2
	RS66554B-3	Box 4 of 3	
10	RS176223	Carrier Bearing Spacer	1
11	RS176600	E-Brake Bracket	1
	RS860681	Axle Vent / E-Brake Hardware Kit	1
12	RS176602	Axle Vent / Brake Line Spacer	1
	RS770127	M8-1.25 x 25 HHCS	1
	RS603112	M8-1.25 Nylock Nut	1
	RS770128	8mm Washer	2
	RS42702	Thread Lock	2
	RS860678	U-Bolt Hardware Kit	1
	RS770233	M16-2.0 Nylock Nut	8
	RS770087	5/8 Washer	8
	RS860482	Hardware Kit – Carrier Bearing Spacer	1
	RS420051	Sleeve	2
	RS770111	7/16-14 x 3.5 HHCS	2
	RS7726	7/16 SAE Washer	2
	RS860278	Block Kit	1
13	RS15111	Cast Offset Riser Block	2
14	RS740030	U-Bolt M16-2.0 x 3.25 x 15.1	4

FRONT SUSPENSION

VEHICLE PREPARATION

- 1) Park the vehicle on a level surface. Set the parking brake and chock rear wheels.
- 2) Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 1
- 3) Disconnect the track bar from the driver side frame bracket. See Illustration 2.
- 4) Disconnect the sway bar end links from the sway bar. See Illustration 3.
- 5) Raise the front of the vehicle and support the frame with jack stands. Remove front wheels and set them aside.
- 6) Remove bump stop from cup shaped bracket. Remove bracket from frame rail.
- 7) Separate the brake hose brackets from the frame rail.
- 8) Disconnect the ABS sensor wire from the lower spring seat and the radius arm.
- 9) If equipped with auto hubs, disconnect the vacuum hose from the axle hub and frame.
- 10) Repeat steps 6 through 9 for the other side.

RADIUS ARM REMOVAL & INSTALLATION

- 1) Support the front axle with two floor jacks, one under each coil spring.
- 2) Remove the front shock absorbers. Carefully lower the axle enough to relieve the tension on the coil springs.

⚠ 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.

- 3) Using a ratchet and deep socket remove the bolt that holds the lower spring seat to the axle. See Illustration 4. Remove the coil spring and lower seat as an assembly. Repeat for other side.

- 4) Support both radius arms with jack stands. Remove the rear mounting bolts and lower the radius arms out of the frame brackets.

CAUTION: Always support at least one radius arm with a jack stand to keep the axle from rotating downward.

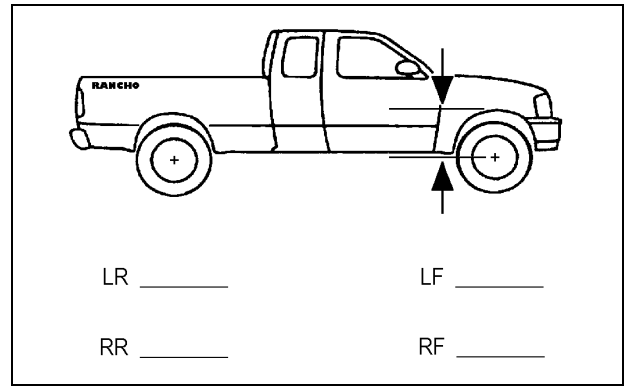


Illustration 1

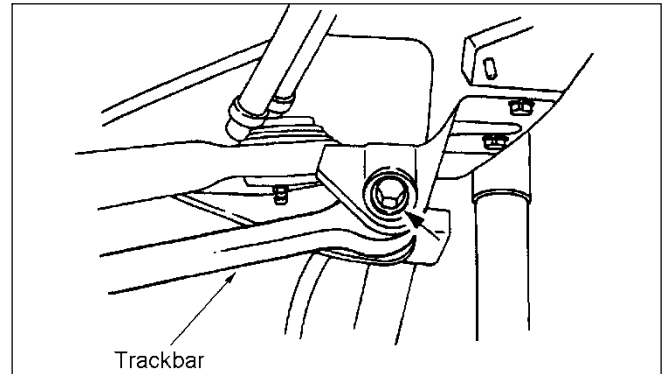


Illustration 2

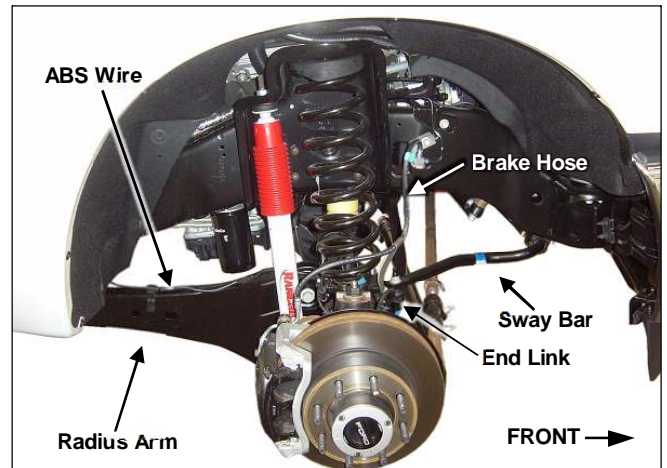


Illustration 3



Illustration 4

5) Install Rancho drop bracket RS176675B in frame bracket. Loosely attach with 12mm hardware from kit RS860720. See Illustration 5.

6) Insert sleeves into drop bracket and line up with mounting holes. Attach drop bracket with 18mm hardware from kit RS860720. See Illustration 5. Tighten 12mm hardware to 70 ft lbs. Tighten 18mm hardware to 200 ft lbs.

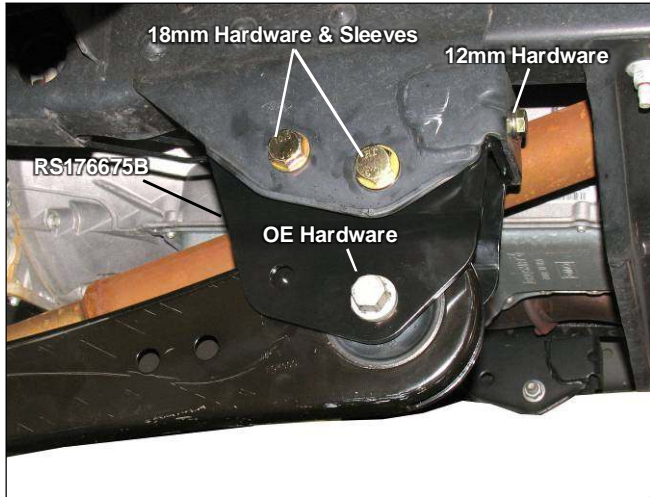


Illustration 5

7) Lift radius arms into drop brackets. Install with OE hardware. Do not tighten until vehicle is at normal ride height.

COIL SPRING INSTALLATION

1) Install original rubber isolator on top of coil spring RS819B. Align pigtail and install lower spring seat on bottom of coil spring.

2) Lower axle if needed to give enough clearance to install coil spring assembly

3) Insert coil spring assembly into upper bracket and onto front axle. Reattach lower spring seat using thread lock on bolt and torque to 95 ft. lbs.

4) Repeat steps 1 through 3 for the other side.

5) Carefully raise axle until springs are snug. Install new Rancho front shock absorbers.

CAUTION: Do not lift the vehicle off of jack stands.

6) Reattach the brake line lower brackets to the lower spring seats. If applicable, reconnect the vacuum hose to the axle hub.

NOTE: Readjust vacuum hose clips as necessary.

7) Reconnect the ABS wires to the lower spring seat. Attach wires to radius arms with tie wraps. Illustration 6.

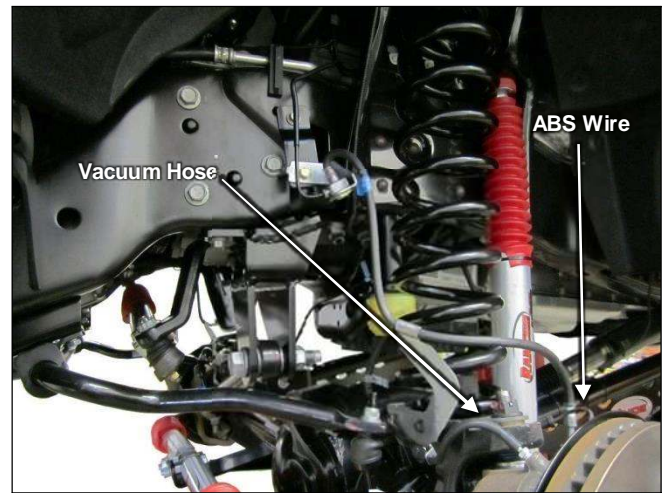


Illustration 6

BRAKE HOSE DROP BRACKET INSTALLATION

1) Attach brake hose to drop bracket RS176599 with the hardware from kit RS860516. See Illustration 7.

NOTE: On 2016-2011 models the anti-rotation tab catches the front of the bracket.

On 2017 models the anti-rotation tab catches in the hole of the bracket.

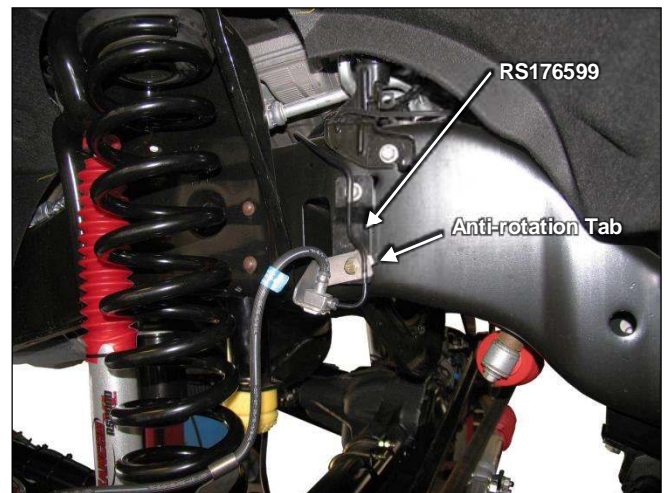


Illustration 7

2) Carefully straighten metal brake line to allow drop bracket RS176599 to attach to the frame rail. Brake line may need to be removed from plastic clips.

3) Using the original bolt and location, attach brake hose drop bracket RS176599 to the frame rail. Tighten nuts and bolts to 32 ft. lbs.

4) Repeat for other side.

BUMP STOP SPACER & SWAY BAR DROP BRACKET
INSTALLATION

- 1) Insert bump stop spacer RS176325 between frame rail and previously removed OE bump stop bracket. See Illustration 8. Align tab on bracket with hole in spacer. Place flat on OE bracket toward coil. Using the 8 mm bolt and smaller washer from kit RS860675 attach bump stop bracket to spacer and frame rail. Torque to 23 ft. lbs.
- 2) Install the larger washer and 8mm nut on top. Tighten nut.

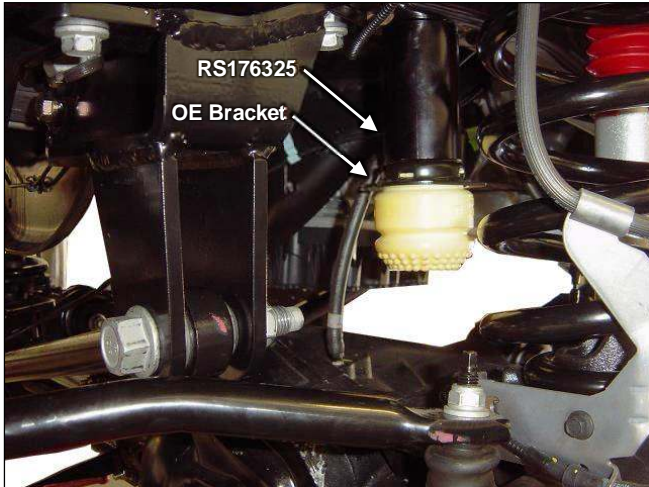


Illustration 8

- 3) Insert bump stop into bracket.
- 4) Disconnect sway bar from the frame at the two front mounting points. Reusing the OE mounting hardware, connect sway bar drop bracket RS176597 to the OE sway bar mounting holes on the frame. Repeat for right side using RS176598.

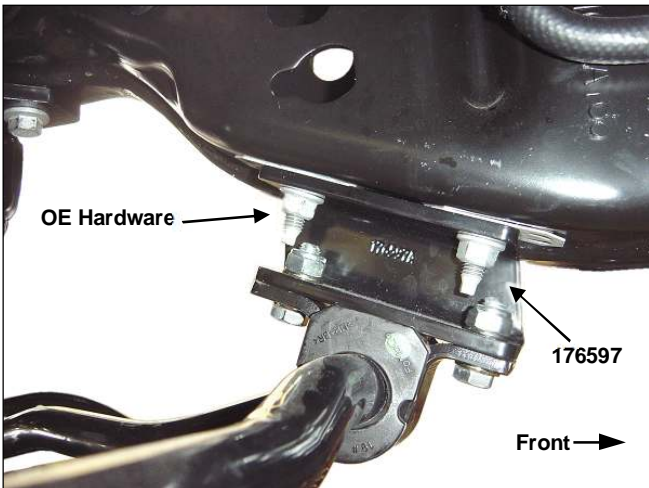


Illustration 9

- 5) Using the M10 mounting bolts and nuts from kit RS860675, attach OE sway bar bracket to drop bracket RS176597. Install bolts from bottom. Refer back to Illustration 9. Repeat for right side.
- 6) Tighten nuts and bolts on both sides to 45 ft. lbs.

TRACK BAR BRACKET & PITMAN ARM REMOVAL

- 1) Remove the two mounting bolts holding the track bar bracket to the driver side frame rail. See Illustration 10. **DO NOT USE IMPACT WRENCH (nut clips)!**
- 2) Remove the nuts and bolts attaching the track bar bracket to the cross member. See Illustration 11. Remove the track bar bracket.

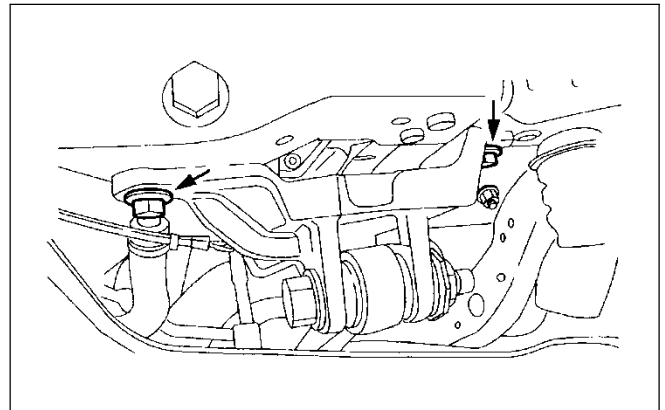


Illustration 10

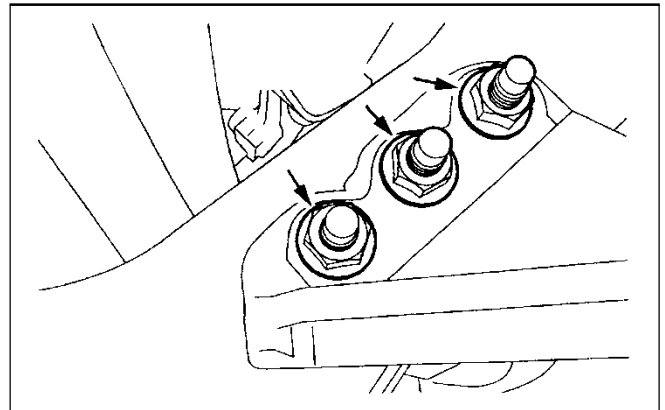


Illustration 11

- 3) Center the steering wheel and secure. Remove the cotter pin and castellated nut from the drag link ball stud at the pitman arm.
- 4) Using steering arm puller T64P-3590-F, separate the pitman arm from the drag link. See Illustration 12.

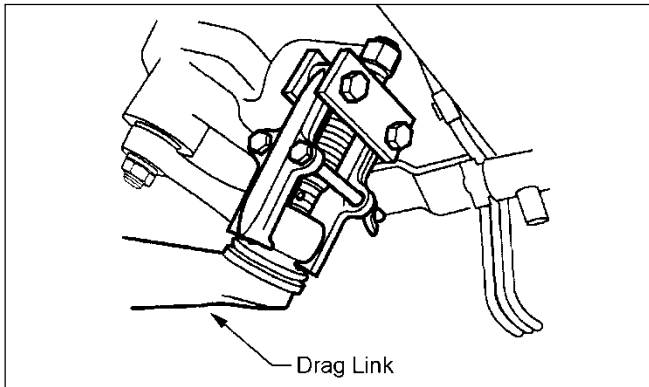


Illustration 12

- 5) Remove the nut from the steering gear sector shaft. Remove the pitman arm using steering arm puller T64P-3590-F.

PITMAN ARM AND STEERING STABILIZER INSTALLATION

⚠ WARNING

PROPER INSTALLATION OF THE PITMAN ARM IS CRUCIAL

1. Use a calibrated torque wrench. Follow OEM torque requirement of 350 ft.-lbs.
 2. Use of Red Loctite 271 or equivalent is required.
 3. Recheck the torque setting within 30 days.
 4. Do this procedure annually or after every off-road use.
- FAILURE TO FOLLOW ABOVE PROCEDURES WILL VOID ALL WARRANTIES.**

- 1) Install new pitman arm RS7790 on the sector shaft in the same position as the original arm. See Illustration 13. Apply thread lock and tighten the sector shaft nut to 350 ft.-lbs.

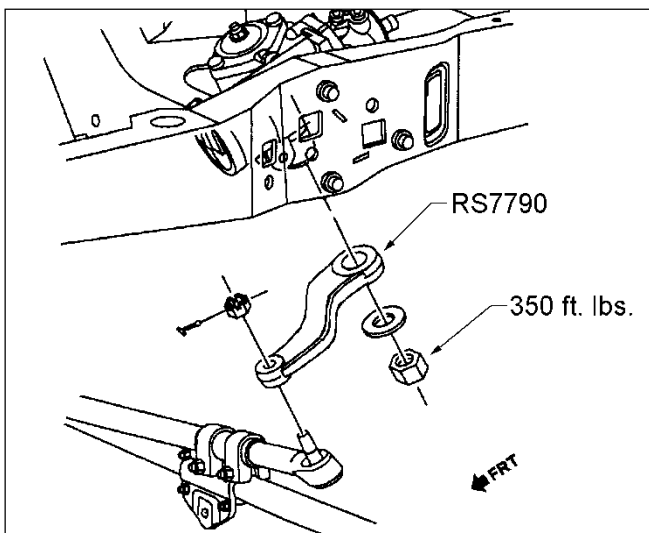


Illustration 13

- 2) Remove nut and bolt from drag link positioner clamp and slide clamp off of adjuster barrel clamp. See Illustration 14.

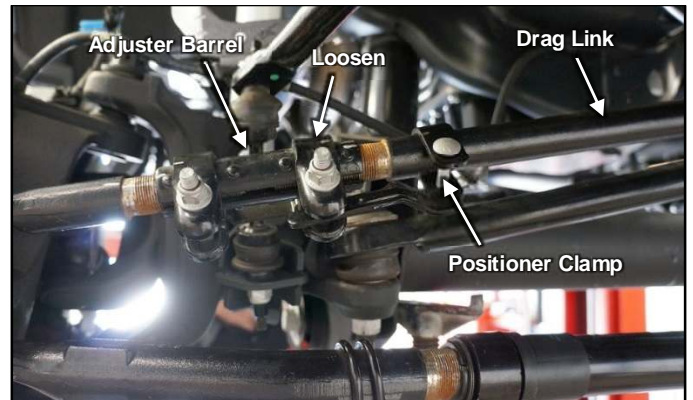


Illustration 14

- 3) Loosen drag link adjuster barrel inner clamp and rotate drag link 180°. See Illustration 14

- 4) Attach the drag link to the new pitman arm. Tighten the castellated nut to 148 ft. lbs. and install a new cotter pin.

- 5) Tighten adjuster barrel inner clamp to 41 ft. lbs.

- 6) Slide drag link positioner clamp back over adjuster barrel clamp and partly install bolt. Mark where bolt contacts drag link.

- 7) Move clamp and grind a small recess in the drag link at mark. Grind just enough to install bolt in clamp. See Illustration 15.

- 8) Reinstall drag link positioner clamp and torque to 13 ft. lbs.



Illustration 15

- 9) Using U-Bolts and hardware from kit RS8303, install steering stabilizer bracket RS176842 on top of drag link with tapered hole over OE stabilizer mount. See Illustration 16.

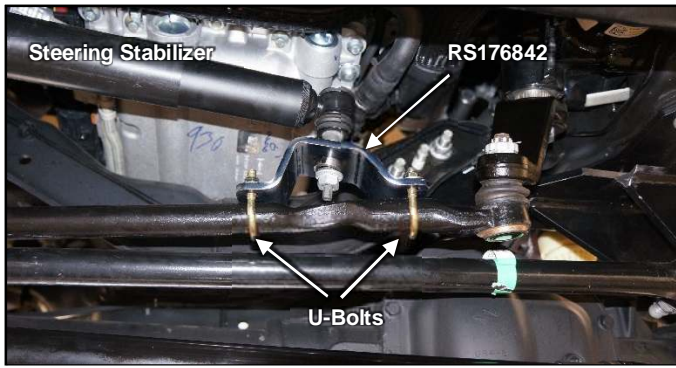


Illustration 16

TRACK BAR BRACKET INSTALLATION

1) Attach new track bar bracket RS176762B to the frame and crossmember with the original bolts. See Illustration 17 and Illustration 18. Tighten the nuts and bolts to 129 ft. lbs.

DO NOT USE IMPACT WRENCH ON OE NUT CLIPS! Check for interference between bracket and frame rivet. Some grinding may be required for proper installation. See Illustration 17

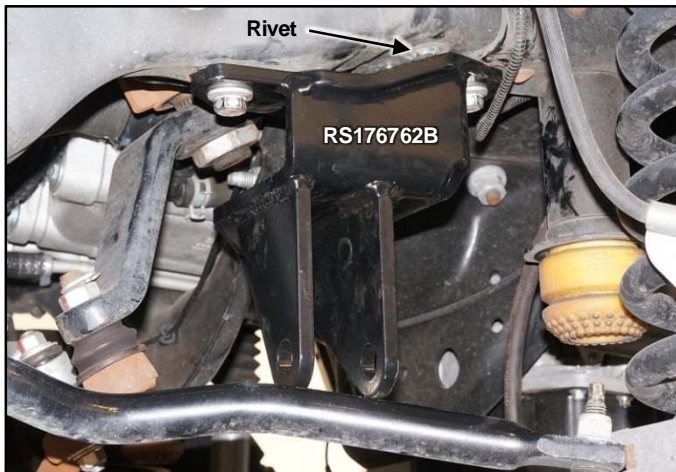


Illustration 17



Illustration 18

2) Install front wheels and lower the vehicle to the ground. Tighten lug nuts to 165 ft. lbs.

3) Attach track bar to bracket RS176449B with the original hardware. Tighten bolt to 406 ft. lbs.

4) Reattach sway bar end links to sway bar. Torque to 32 ft. lbs.

5) Tighten radius arm bolts to 222 ft. lbs.

REAR SUSPENSION

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

2) Support the rear axle assembly with a hydraulic jack. Remove both rear shock absorbers. Do not reuse OE shock absorbers.

3) For vehicles with rear sway bars, disconnect end links from sway bar to aid riser block installation.

4) Disconnect emergency brake line bracket from frame. See Illustration 19. Keep the mounting bolt and guide for later use.

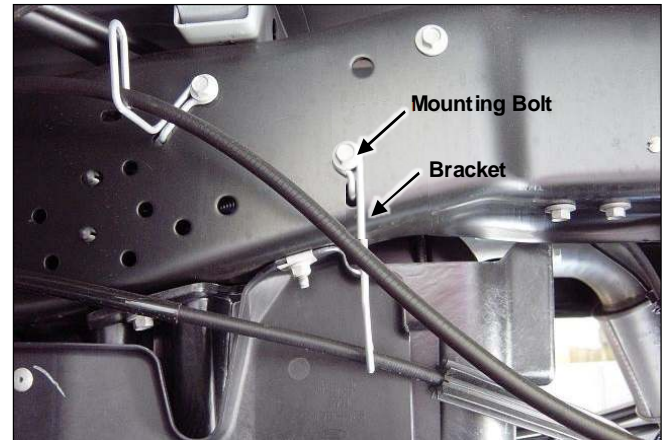


Illustration 19

5) Disconnect axle vent at the axle connection point. See Illustration 20

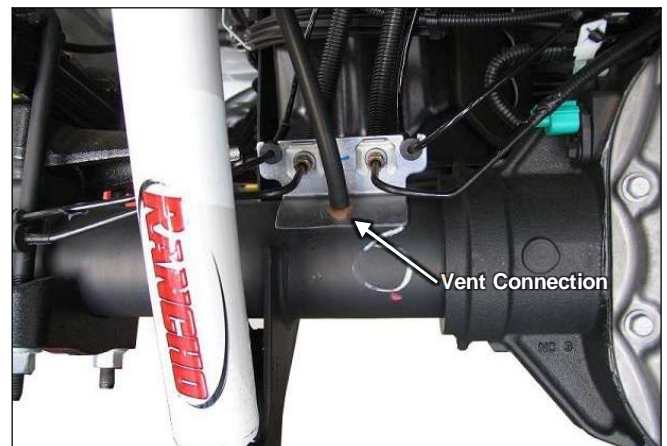


Illustration 20

SPACER BLOCK INSTALLATION

- 1) Remove the U-bolt retaining nuts on the passenger side of the vehicle only. See Illustration 21. Remove the U-bolts.

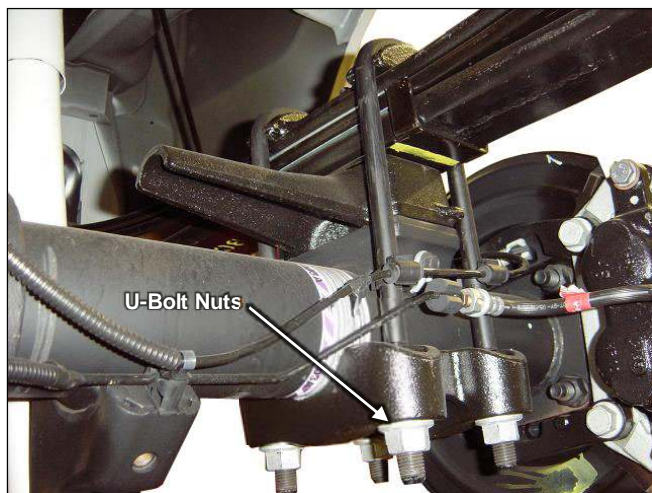


Illustration 21

- 2) Carefully lower the rear axle and remove the OE riser block.

⚠ 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.

- 3) FOR F250 REAR KIT RS66552B-4:

Place spacer block RS15111 on the axle pad and align cast pin of block in the alignment hole on OE axle pad. See Illustration 22.



Illustration 22

- 4) FOR F350 REAR KIT REAR 886502 & 886503:

Insert pin 10480 into the alignment hole on OE axle pad. Place spacer block 15107 on the axle pad.

Install OE riser block on top of spacer block 15107. Align the pin on the bottom of the OE block with the hole on 15107. See Illustration 23.

ATTENTION: OE riser block is only used with Rancho aluminum block 15107. DO NOT RE-USE OE RISER BLOCK WITH RANCHO CAST STEEL BLOCK 15111

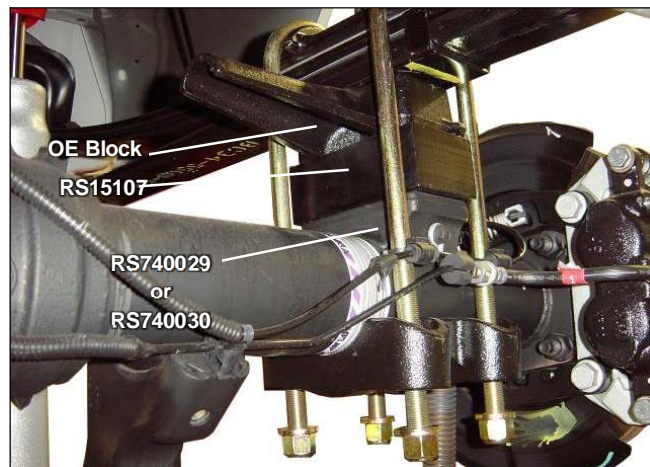


Illustration 23

- 5) Carefully raise the rear axle until the riser block makes contact with the leaf spring. Align pin on bottom of spring with center or REAR hole in block.

- 6) Attach the axle to the spring with supplied U-bolts, and the hardware from kit RS860678. Do not torque until both sides are installed. See Illustration 22 and Illustration 23.

- 7) Repeat steps 1 through 6 for other side. Tighten the nuts evenly in a cross-type pattern to 148 ft. lbs. Reattach ABS line clips to U-Bolts.

AXLE VENT SPACER AND E-BRAKE BRACKET INSTALLATION

- 1) Attach axle vent spacer RS176602 to the axle. Connect axle vent with bracket to axle vent spacer RS176602. See Illustration 24.

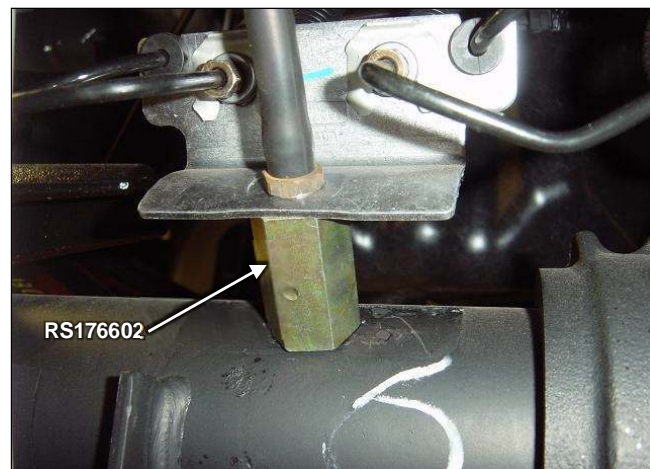


Illustration 24

- 2) Attach emergency brake line drop bracket RS176600 to the frame using OE bolt and mounting hole. Connect the OE brake line bracket to the drop bracket using the 8mm hardware from kit RS860681. Tighten nuts and bolts to 23 ft. lbs. See Illustration 25.

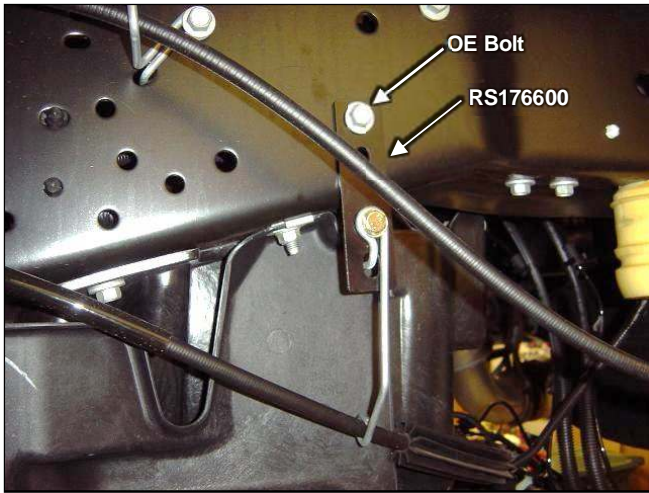


Illustration 25

- 3) Reconnect end links to sway bar (if applicable). Tighten nuts to 52 ft. lbs.
- 4) Install new Rancho rear shock absorbers.

CARRIER BEARING BRACKET INSTALLATION (IF APPLICABLE)

- 1) For vehicles with a two-piece driveshaft, support the driveshaft and remove the bolts from the carrier-bearing bracket. See Illustration 26.

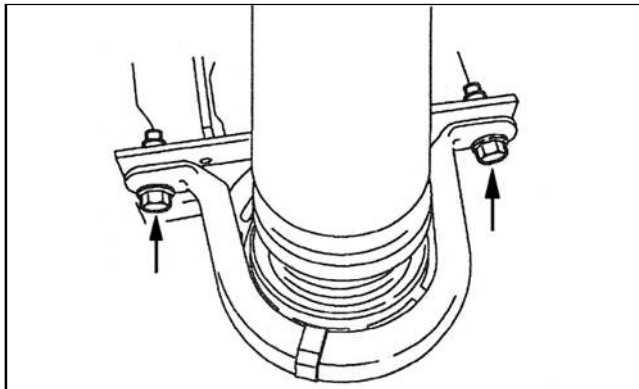


Illustration 26

- 2) Insert carrier-bearing spacer RS176223 between the bearing bracket and body mount. See Illustration 27.



Illustration 27

- 3) Place the two sleeves from kit RS860482 inside the bearing spacer over the mounting holes.
- 4) Reattach the carrier-bearing bracket with the hardware from kit RS860482. Tighten the bolts to 47 ft. lbs.
- 5) Install rear wheels and lower vehicle to the ground. Tighten lug nuts to 165 ft. lbs.

FINAL CHECKS & ADJUSTMENTS

- 1) 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.
- 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) Ensure that the vehicle steering and brake systems operate correctly.
- 4) Center steering wheel and axle

The steering wheel must be centered to ensure that the ESP system operates correctly.

Slowly drive vehicle 50-100 ft to settle suspension.

To center the steering wheel, remove nut and bolt from drag link positioner clamp and slide clamp off of adjuster barrel clamp. Refer back to Illustration 14.

Loosen drag link adjust sleeve clamp bolts and turn the drag link adjustment sleeve in desired direction. Tighten adjuster barrel clamps to 41 ft. lbs. Install and torque positioner clamp bolt bolts to 13 ft. lbs.

If positioner clamp does not align with adjuster clamp, rotate clamp on adjuster to align.

- 5) Readjust headlamps. Have vehicle aligned at a certified alignment facility.
- 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 28.

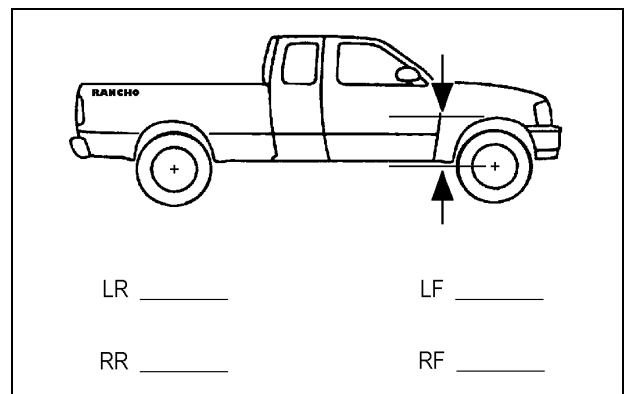


Illustration 28