INSTALLATION INSTRUCTION RS84452

Rev B

Rancho Suspension System — RS64452B

Front Lower Adjustable Control Arm Upgrade

Fits 2013 – 2010½ RAM 2500 4WD

⚠ 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.

Rancho Adjustable Control Arms may increase articulation and wheel travel.

Do not install without appropriate extended length shocks, brake lines, brake line brackets, bump stop extensions, sway bar end links, track bars, and drive shafts.

Failure to install these Rancho Adjustable Control Arms along with appropriate components 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.

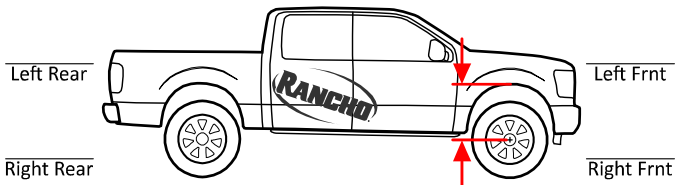
This suspension system will enhance the off-road performance of your vehicle. It will handle differently; both on and off-road, from a factory equipped passenger car or truck. Failure to drive this vehicle safely may result in serious injury or death to the driver and passengers. ALWAYS WEAR your seat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

Parts List

PART #	DESCRIPTION	QTY
RS884501BR	Front Lower Control Arm – Passenger Side	1
RS884501BL	Front Lower Control Arm – Driver Side	1
RS84452	Instructions	1

1) ☐ Park vehicle on a level surface. Set the parking brake and chock front wheels.

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



COIL SPRING REMOVAL – (SEE NOTE BELOW)

Control arms can be replaced with the vehicle on the ground at ride height, or with vehicle raised on jack stands or vehicle hoist. To perform installation with vehicle on the ground, skip to next section "CONTROL ARM PREPARATION".

1) ☐ If equipped, remove the front skid plate.

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.

4) ☐ Remove the sway bar upper nut, retainer and cushion as shown in Illustration 2.

5) ☐ Support the front axle with a floor jack. Secure the axle to the jack to keep it from rotating.

6) ☐ Mark the front differential yoke and drive shaft for installation reference. Separate the drive shaft from the differential.

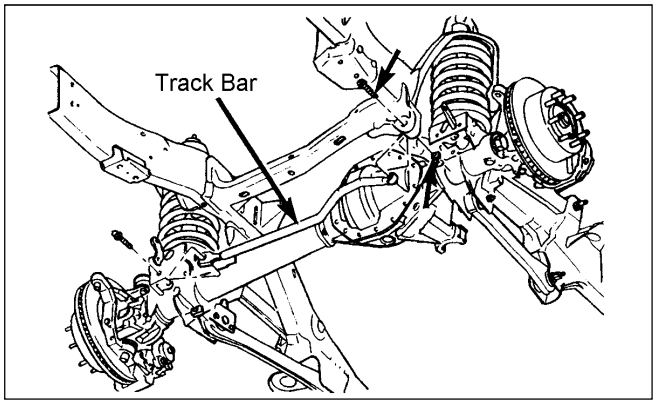


Illustration 1

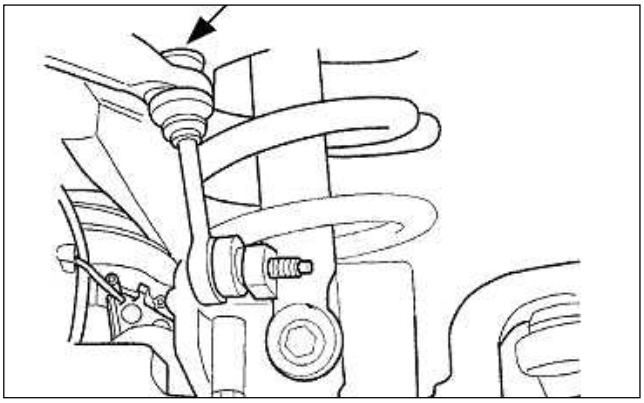


Illustration 2

7) ☐ Remove the mounting bolts holding the front brake hoses to the axle brackets. Disconnect the front differential vent hose.

8) ☐ Remove the lower shock bolt from the axle bracket. See Illustration 3.

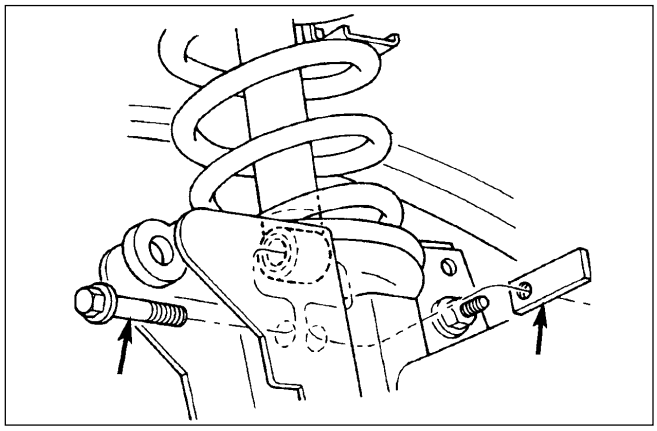


Illustration 3

9) ☐ Mark the lower control arm cam adjusters and axle brackets for installation reference.

10) ☐ Loosen the lower control arm bolts.

NOTE: On some applications, the upper control arm bolts cannot be removed completely because of interface with the exhaust system. Cut the bolts out by sliding the bolts to one side and cutting off the bolt head. Two new replacement bolts (M14-2.0X150 CL10.9) and four washers will have to be purchased separately.

CAUTION! During the next steps, the axle may shift or rotate with control arms removed. Secure axle to jack and add support under pinion.

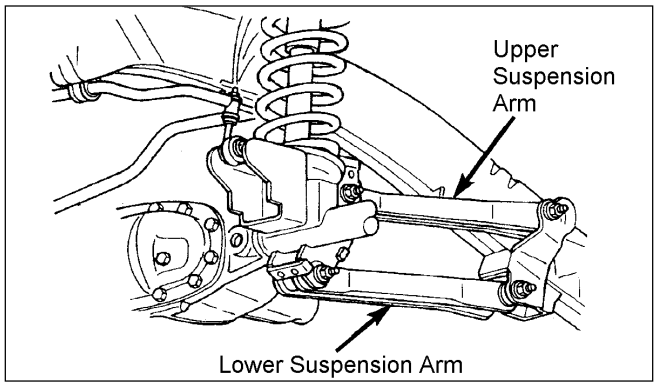


Illustration 4

11) ☐ Remove the upper control arms. See Illustration 4.

12) ☐ Mark the coil spring and axle pad for installation reference.

13) ☐ Carefully lower the axle until the coil springs are free from the upper mounts. 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.**

CONTROL ARM PREPARATION

1) ☐ Using a bench vise, press serrated washers onto sleeve. See Illustration 5 and Illustration 6.

Note: if washer will not press all the way onto sleeve, chamfer the edge of the sleeve lightly (.02”-.03”) and deburr with a file or grinder.

2) ☐ Press sleeve into bushing of lower control arms RS884501BL and RS884501BR.

3) ☐ Press serrated washer onto other side of sleeve. See Illustration 5 and Illustration 6.

4) ☐ Adjust new lower control arms to desired length.

Start with OE length and adjust as needed for desired alignment, pinion angle and axle position.

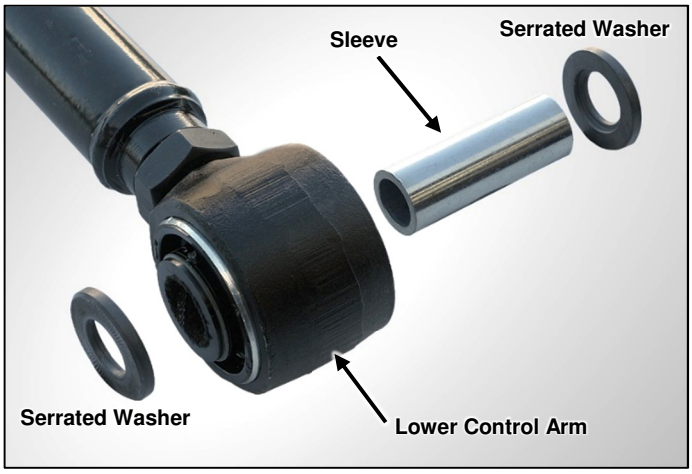


Illustration 5

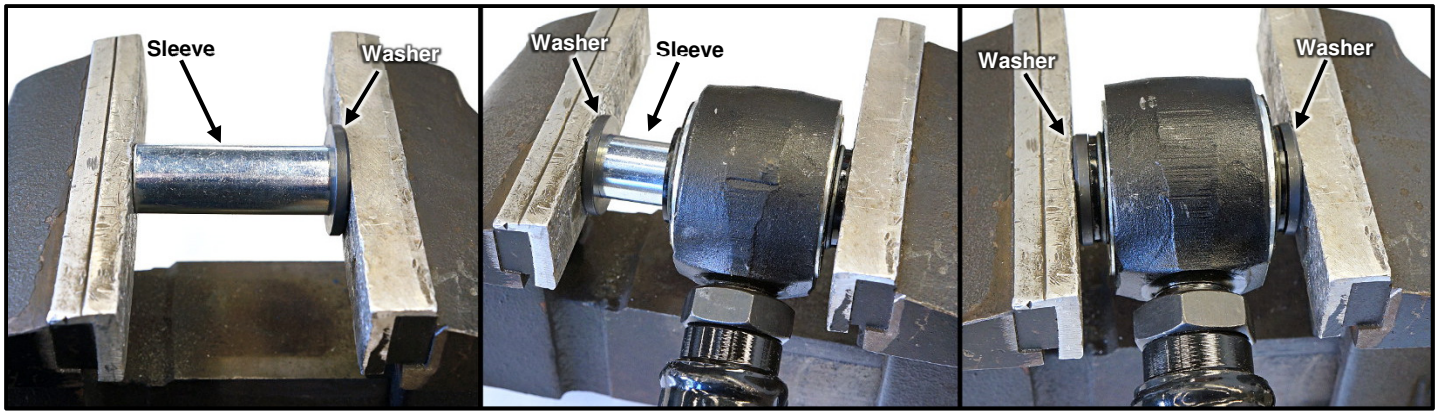


Illustration 6

CONTROL ARM INSTALLATION

1) ☐ If removed, loosely re-attach upper control arms to the frame and axle brackets.

NOTE: To provide nut exposure for tightening, install two washers on the new upper link bolt then install the original nut.

2) ☐ Mark the lower control arm cam adjusters and axle brackets for installation reference.

CAUTION! During the next steps, the axle may shift or rotate with control arms removed. Secure axle to jack and add support under pinion.

3) ☐ Remove the OE lower control arms.

4) ☐ Loosely attach new lower control arms to the frame and axle brackets with the original hardware. See Illustration 7.

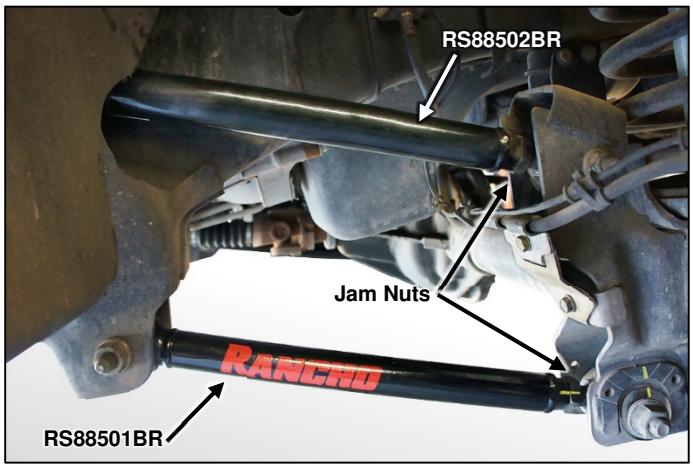


Illustration 7

NOTE: If reinstalling OE upper control arm, tighten and torque on the ground at ride height.

5) ☐ Install thread lock and tighten the upper control arm bolts to 120 lb-ft.

6) ☐ Install thread lock, align reference marks and tighten the lower control arm bolts to 160 lb-ft.

7) ☐ Tighten jam nuts to 150 lb-ft

If working on the ground at ride height, skip to section "FINAL CHECKS AND ADJUSTMENTS"

COIL SPRING INSTALLATION

1) ☐ Using a quality spring compressor, compress left coil spring.

2) ☐ Insert left coil spring between the driver side axle pad and upper mount. Align spring with reference marks. Remove spring compressor.

3) ☐ Compress right coil spring.

4) ☐ Insert right coil spring between the passenger side axle pad and upper mount. Align spring with reference marks. Remove spring compressor.

5) ☐ Carefully raise front axle. Do not lift vehicle off frame supports.

6) ☐ Attach shock to axle bracket with the original hardware. Tighten bolt to 100 lb-ft.

7) ☐ Align reference marks and reattach the front drive shaft with the original hardware. Apply thread lock and tighten bolts to 21 lb-ft.

8) ☐ Re-attach brake line brackets and any disconnected wiring and hoses.

9) ☐ Re-attach the end link to the sway bar with the original retainers, bushings, and nut. Tighten to 20 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) ☐ Check for adequate clearance (1/8" minimum) between the front driveshaft and the exhaust crossover pipe at full droop. If applicable, exhaust may require modification to clear driveshaft. See Illustration 8.

Illustration 8

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

4) ☐ Attach track bar to frame mount using OE hardware. Torque the track bar bolt to 165 lb-ft.

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

5) ☐ If OE upper control arm was reused, torque the upper control arm bolts to 120 lb-ft.

FINAL CHECKS AND ADJUSTMENTS

Perform next three checks with the suspension at maximum extension (full droop), at ride height, and at full articulation (one side at full droop, the other side compressed).

1) ☐ 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) ☐ Check for adequate clearance (1/8" minimum) between the front driveshaft and the exhaust crossover pipe at full droop. If applicable, exhaust may require modification to clear driveshaft. See Illustration 8.

3) ☐ Ensure that the vehicle brake system operates correctly. Verify that each hose and wire allows for full suspension movement.

4) ☐ Readjust headlamps.

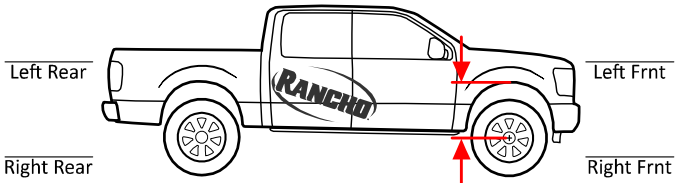
5) ☐ Center steering wheel and axle.

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

Alignment Specifications:

Caster	4.0° ±.75°
Camber (fixed angle)	-0.25°
Toe-In, Total	1.0° – 0.05°

7) ☐ 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.

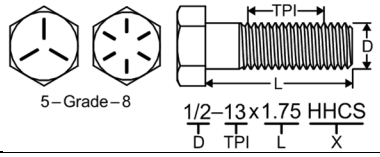


Torque Specs

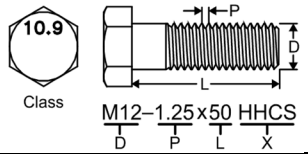
Upper Control Arm	120 lb-ft
Lower Control Arm	160 lb-ft
Control Arm Jam Nuts	150 lb-ft
Front Drive Shaft Flange	21 lb-ft
Lower Shock Mount	100 lb-ft
Drag Link Adjuster Clamp	45 lb-ft
End Link Upper Mount	20 lb-ft
Brake Line Bracket to Axle	15 lb-ft
Track Bar	165 lb-ft.

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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