

INSTALLATION INSTRUCTION

Requires the following for a complete installation:

- ☐ OE frame bracket removal
- ☐ Transmission Crossmember Kit (see below).
- ☐ 2012 and later models equipped with 3.6l V6 engine need exhaust modification kit RS720003, or replacement front driveshaft (driveshaft / exhaust clearance issue).
- ☐ Optional front coil spring spacer kit RS70082 (for vehicles equipped with front accessories)
- ☐ Optional Rancho transmission skid plate adapter Kit RS6204 for 2007-2010 models
- ☐ Optional quick disconnect end link kit RS6756B optional for non-Rubicon models



Suspension System RS66105

Requires Transmission Crossmember Kit:

RS886101 - Fits 2007-2011

RS886102 - Fits 2012-Later



Fits 2007 - Present Jeep Wrangler (JK).

READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION

IMPORTANT NOTES!

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. Extreme care must be used to prevent loss of control or vehicle rollover during abrupt maneuvers. 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.

A. Before installing this system, have the vehicle's alignment and frame checked at a state approved facility. The alignment must be within factory specifications and the frame must be sound (no cracks, damage, or corrosion).

B. Do not install a body lift kit with Rancho's suspension system or interchange parts from this system with components from another manufacturer. Use the following Rancho shock absorbers with this system:

RS5000 / RS9000XL	
Front	Rear
RS5331	RS5332
RS999331	RS999332
RS7331	RS7330

C. Compare the contents of this system with the parts list in these instructions. If any parts are missing, including fasteners, contact the Rancho Technical Department at 1-734-384-7804. Each hardware kit in this system contains fasteners of high strength and specific size. Do not substitute a fastener of lesser strength or mix one hardware kit with another.

D. Apply **THREAD LOCKING COMPOUND** to all bolts during installation. One drop on the exposed threads of each bolt before installing the nut is sufficient to provide an adequate bond. **CAUTION:** Thread locking compound may irritate sensitive skin. Read warning label on container before use.

E. 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.

F. Unless otherwise specified, tighten all bolts to the standard torque specifications listed at the end of the note's section. **USE A TORQUE WRENCH** for accurate measurements.

G. Rancho parts come with a protective coating. Do not powder coat, chrome, cadmium, or zinc plate any of the components in this system. If you wish to change the appearance of components enamel paint can be applied over the original coating. Actual color of components may differ from illustrations.

H. If any component breaks or bends, contact your local Rancho dealer or Rancho for replacement parts.

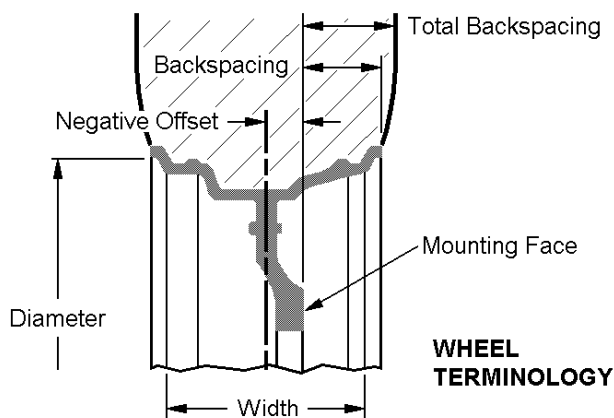
I. Some of the service procedures require the use of special tools designed for specific procedures. The following tools and supplies are recommended for proper installation of this kit. ☒

- ☐ Jeep Service Manual
- ☐ Pitman Arm Puller C-4150-A
- ☐ Steering Linkage Puller C-3894-A
- ☐ Torque Wrench (250 FT-LB capacity)
- ☐ Hammer
- ☐ 1/2" Drive Ratchet and Sockets
- ☐ Combination Wrenches
- ☐ 3/8-16 Tap
- ☐ Reciprocating Saw
- ☐ Die Grinder
- ☐ Right Angle Drill Motor
- ☐ File
- ☐ Hydraulic Floor Jack
- ☐ Heavy Duty Jack stands
- ☐ Lithium Grease (synthetic)
- ☐ Black Enamel Paint
- ☐ Silicon Lubricant
- ☐ Wheel Chocks (Wooden Blocks)
- ☐ Safety Glasses--Wear safety glasses at all times

J. It is extremely important to replace torsion bars, 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. This suspension system was developed using the following tire and wheel combination: BFG Mud Terrain™ 35x12.50R18/D tire on an 18" x 9" wheel with 4.5 inches of backspacing. Trimming for the rear tires is required. Before installing any other combination, consult your local tire and wheel specialist. Actual tire size varies by manufacturer. Total backspacing is 5.9 inches. OE tires will not fit this system.



M. The required installation time for this system is approximately 8 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.

N. When jack stands or a frame-contact type hoist is used, verify that the lifting pads are positioned properly to allow removal of the suspension arm frame brackets. If necessary provide additional support to keep the vehicle from tipping.

O. 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.

P. The RS66105 suspension system can only be installed on vehicles equipped with a Dana 44 rear axle in the JK factory configuration.

Q. 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.

R. During high articulation events, the front driveshaft may contact exhaust or transmission oil pan. A smaller diameter drive shaft is suggested for optimal performance.

Rancho recommends Powertrain Industries drives shafts:

2007 – 2011 Models:

Front drive shaft 2dr / 4dr Part Number	3194-1925
Rear drive shaft 4dr Part Number	3194-2750
Rear drive shaft 2dr Part Number	3194-0725

2012 – Newer Models

Front drive shaft 2dr / 4dr Part Number:	3194-2125
Rear drive shaft 2dr Part Number:	3194-0475
Rear drive shaft 4dr Part Number:	3194-2550

Powertrain Industries, Garden Grove, CA.

1-800-798-4585.

S. 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.

STANDARD BOLT TORQUE SPECIFICATIONS						
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
BOLT IDENTIFICATION						
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) -10.9 L = Length (millimeters) X = Description (hex head cap screw)						



RS66105 BOX 1 OF 3



RS66105 BOX 2 OF 3



RS66105 BOX 3 OF 3



RS886101



RS886102

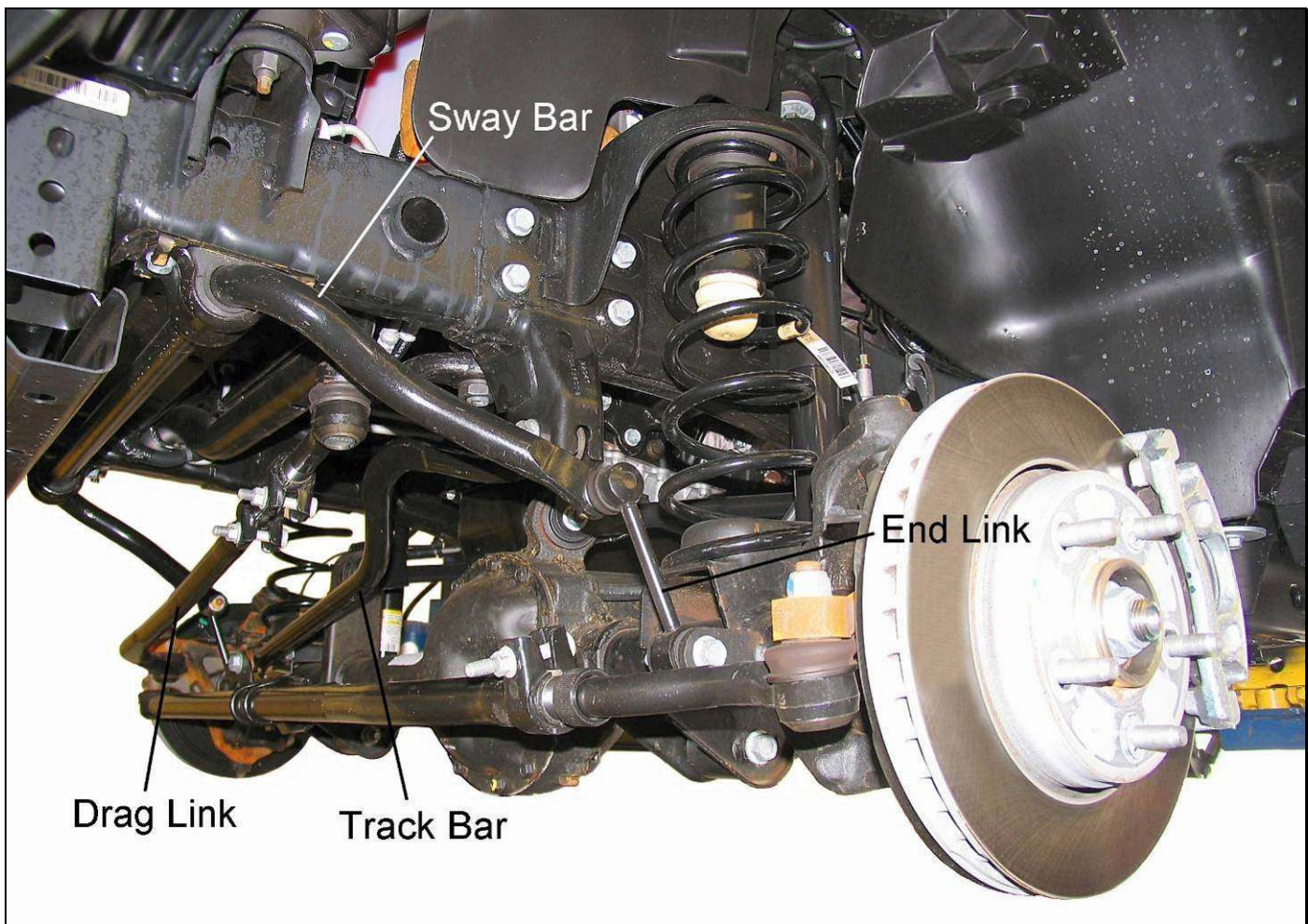
PARTS LIST

P/N	DESCRIPTION	QTY			
	Box 1 Of 3	1	RS860588	Suspension Arm Hardware Kit	1
RS176446	Left Front Arm	1		Washer, 9/16" Lock	1
RS176447	Right Front Arm	1		HHCS, M14-2.00 X 90	1
RS860588	Suspension Arm Hardware Kit	1		HHCS, M14-2.00 X 10	4
	Washer, 9/16" Lock	1		Nut, M14-2.00 Top Lock	4
	HHCS, M14-2.00 X 90	1		Washer, M14	8
	HHCS, M14-2.00 X 10	4	RS176649	Rear Upper Arm	2
	Nut, M14-2.00 Top Lock	4	RS176647	Articulation Bushing Rod End	2
	Washer, M14	8	RS860726	Rod End Hardware Kit	2
RS176448	Caster Link	2	RS770173	Jam Nut, 7/8-14	2
RS860589	Caster Link Hardware Kit	1	RS176466B	Left Rear Arm Bracket	1
RS602618*	Rod End*	2	RS176467B	Right Rear Arm Bracket	1
	Washer, M14	4	RS860591	Lower Arm Bracket Hardware Kit	1
	HHCS, M14-2.00 X 80	2	RS420069	Sleeve, 2.65"	1
	Jam Nut, 3/4-16	2	RS420071	Sleeve, 2.9"	1
	Nut, M14-2.00 Top Lock	2		HHCS, M10-1.25 X 25	2
	HHCS, M10-1.25 X 25	2		Nut 10-1.25 Top Lock	2
	Nut, M10-1.25 Top Lock	2		Washer, M10	4
	Washer, M10	4		HHCS, M12-1.75 X 10	2
RS176650B	Front Track Bar Axle Bracket	1		Nut, M12-1.75 Top Lock	3
RS860703	Front Track Bar Hardware Kit	1		Washer, M12	3
RS420067	Sleeve	1		HHCS, M12-1.75 X 30	1
P00932	Steering Stabilizer Hardware Kit	1		Washer, 1/2 USS	2
	HHCS, M14-2.0 X 80	1	RS860590	Nut Bracket Kit	1
	Washer, M14	2	RS176474	1/2-13 X 5.5 Nut Bracket	1
	Nut, M14-2.00 Top Lock	1	RS176137	1/2-13 X 4.0 Nut Bracket	1
	U-Bolt, 3/8-16X3.0	2		HHCS, 1/2-13 X 1.2	2
	HHCS, 3/8-16 X 1.0	2		Washer, 1/2 SAE	2
	Nut, 3/8-16 Nylock	6	RS176655B	Rear Track Bar Axle Bracket	1
	Washer, 3/8 SAE	8	RS860713	Rear Track Bar Hardware Kit	1
	HHTS, 3/8-16 X 1.5	2	RS481	Sleeve	1
	HHCS, M12-1.75 X 65	1		U-Bolt 3/8-16 X 3.5	1
	Nut, M12-1.75 Top Lock	1		Nut, 3/8-16 Nylock	2
	Washer, M12	2		Washer, 3/8 SAE	2
	U-Bolt/5/16-18 X 1.62	2		HHCS, M10-1.25 X 25	2
	Nut, 5/16-18 Nylock	4		Nut, M10-1.25 Top Lock	2
	Washer, 5/16 SAE	4		Washer, M10	4
RS7789	Pitman Arm	1		HHCS, M14-1.50 X 80	1
RS170110*	Brake Line, Front Left*	1		Nut, M14-1.50 Nylock	2
RS170113*	Brake Line, Front Right*	1		Washer, M14	3
RS176443	Front Bumpstop	2	RS176449B	Rear Swaybar End Link	2
RS860710	Front Bumpstop Hardware Kit	1	RS176478B	Rear Bump Stop	2
	HHTS, 3/8-16 X 1.5	2	RS860592	Rear End Link Hardware Kit	1
RS176088B	Front Sway Bar End Link	2	RS602611*	Spherical Rod End*	2
RS860412	Front End Link Hardware Kit	1	RS603111	Jam Nut, 5/8-18	2
RS448	Sleeve	4	RS545*	End Link Bushing*	2
RS545*	End Link Bushing*	4	RS448	Sleeve	2
	HHCS, M12-1.75 X 70	2	RS1755	Tube	2
	Nut, M12-1.75 Nylock	2		HHCS, M10-1.25 X 25	4
	Washer, 1/2 SAE	2		Nut, M10-1.25 Top Lock	4
	Washer, 1/2 USS	4		Washer, M10	8
RS89105	Instructions RS66105	1		BHCS, M12-1.75 X 70	2
RS94180	Information Pack	1		Washer, M12	8
RS860275*	Articulation Bushing Kit*	1		BHCS 12-1.75 X 45	2
RS520080	Articulation Bushing	16		HHCS, M8-1.25 X 20	4
RS420080	Sleeve, 2.5"	8		Washer, M8	8
RS520090	Articulation Bushing	8		Nut, M8-1.25 Nylock	4
RS420090	Sleeve, 2.25"	4		Washer, 1/2 USS	2
RS860613	Shim Kit	2		Nut, M12-1.75 Top Lock	4
RS7852	Shim	12		Box 3 Of 3	1
	Box 2 Of 3	1	RS822*	Front Coil Spring*	2
RS170111*	Brakeline Left Rear*	1	RS817*	Rear Coil Spring*	2
RS170112*	Brakeline Right Rear*	1			
RS176680	Left Lower Rear Arm	1			
RS176681	Right Lower Rear Arm	1			

Transmission Crossmember Kit RS886101 - Fits 2007-2011		
RS176460B	Transmission Cross Member 2007-2011	1

Transmission Crossmember Kit RS886102 - Fits 2012-Later		
RS176648B	Transmission Cross Member 2012-Later	1

*Service Part — may be purchased separately to replace worn components.
Contact the Rancho Technical Department at 1-734-384-7804 for replacement.

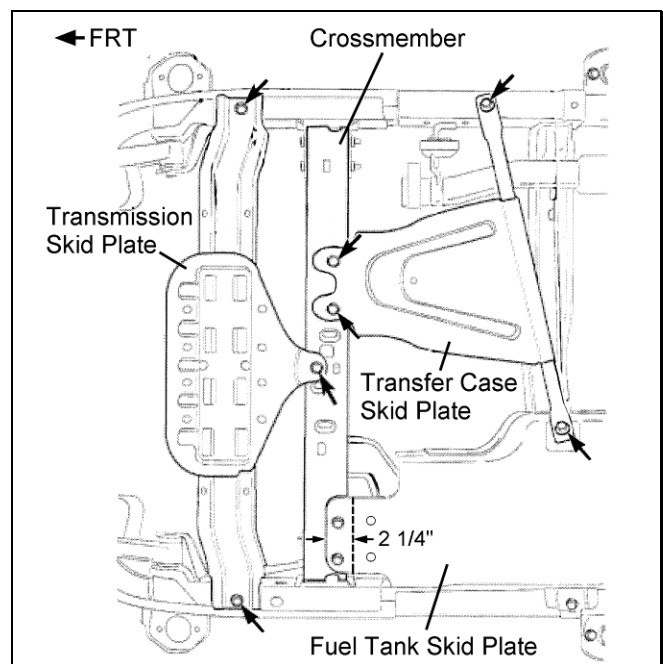


OE Front Suspension

FRONT SUSPENSION

TRANSMISSION CROSS MEMBER REPLACEMENT

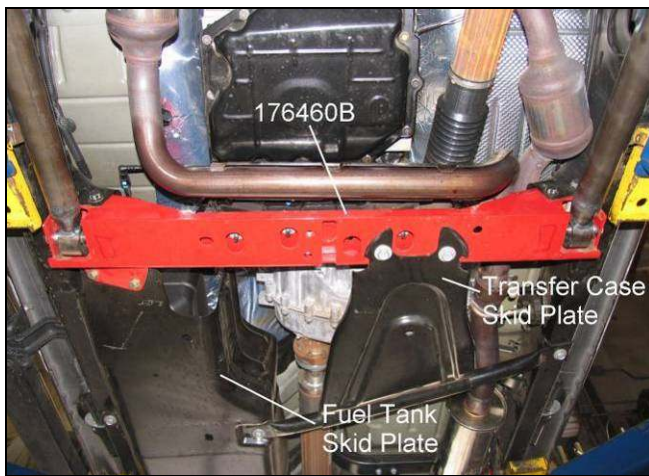
- 1) ☐ Park vehicle on a level surface. Set the parking brake and chock rear wheels. Disconnect the negative ground cable from the battery.
- 2) ☐ Remove the end link to axle bracket nut and bolt. Remove the ball stud nut at the sway bar. Remove the end link. Repeat for other side.
- 3) ☐ Remove the track bar to axle bracket nut and bolt.
- 4) ☐ Raise the front of the vehicle and support the frame with jack stands. See Important Note N on page 3. Remove the front wheels and set them aside.
- 5) ☐ Support the transmission with a jack. If equipped, remove the transmission and transfer case skid plates. See illustration 1.



Illus. 1

- 6) ☐ Cut 2 1/4 inches off the front of the fuel tank skid plate. Refer to illustration 1.

- 7) ☐ Remove nuts holding transmission mount to cross member.
- 8) ☐ Remove the cross member to frame bolts. Remove the cross member.
- 9) ☐ Insert new cross member RS176460B or RS176648B into frame brackets. Attach cross member to frame with the original hardware. See illustration 2.
- 10) ☐ Attach transmission mount to cross member with the original nuts. Attach fuel tank skid plate to cross member with the 10mm hardware from kit RS860589.
- 11) ☐ Attach transfer case skid plate with the original hardware. See illustration 2. Do not reinstall transmission skid plate.



Illus. 2

SHOCK ABSORBER & COIL SPRING REMOVAL

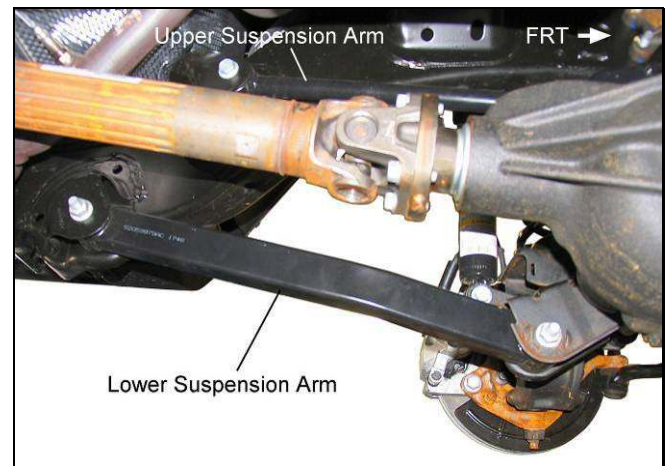
- 1) ☐ Remove the nut from the drag link at the pitman arm. Separate the drag link ball stud from the pitman arm with a puller tool. Do not use a pickle fork.
- 2) ☐ Reference mark front driveshaft. Disconnect front driveshaft from front axle.
- 3) ☐ Support the front axle with a jack. Remove the shock absorber upper nut, retainer, and bushing.
- 4) ☐ Remove the shock absorber lower nut and bolt. Remove the front shock absorber.
- 5) ☐ Repeat steps 7 and 8 for the other side. **DO NOT REUSE ORIGINAL SHOCK ABSORBERS.**
- 6) ☐ If necessary, disconnect any vent hoses and electrical wiring from the axle. Separate the brake hoses from the frame rails and axle by removing the bracket bolts.

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

CAUTION: Do not allow the front axle to hang by any hoses or cables.

SUSPENSION ARM REPLACEMENT

- 1) ☐ Support the front axle with a jack.
- 2) ☐ Remove the driver side upper suspension arm from the frame and axle brackets. Remove the driver side lower suspension arm from the frame and axle brackets. See Illustration 3.



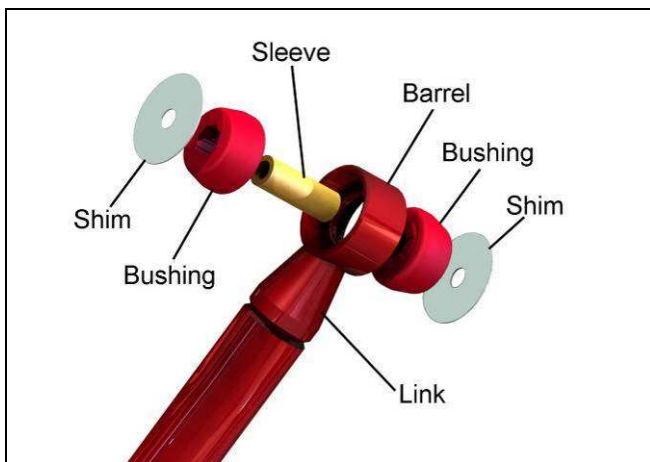
Illus. 3

- 3) ☐ Using a reciprocating saw and die grinder, cut off the lower suspension arm frame bracket even with the frame. See illustration 4. File or grind sharp edges and paint exposed metal.



Illus. 4

- 4) ☐ Lubricate two bushings and a sleeve from kit RS860275 with synthetic lithium grease. Insert bushings and sleeve into the front and rear barrels of left suspension arm RS176446B. See illustration 5.



Illus. 5

- 5) ☐ Apply a film of grease to the outside of the installed bushings. Place a shim from kit RS860275 against each bushing.
- 6) ☐ Attach the front barrel assembly (of the left suspension arm) to the driver side axle bracket with the original hardware. Attach the rear barrel assembly to the transmission cross member with the hardware from kit RS860588. See illustration 6. Tighten nuts and bolts to 130 ft. lbs.
- 7) ☐ Repeat steps 2 through 6 to install right suspension arm 176447B on the passenger side.

NOTE: To disconnect the upper suspension arm from the passenger side frame bracket, the mounting bolt may need to be cutoff or the exhaust removed.

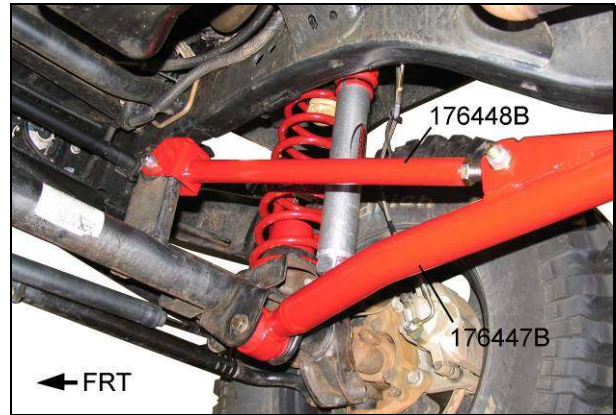


Illus. 6

CASTER LINK INSTALLATION

- 1) ☐ Thread jam nut (from hardware kit RS860589) completely onto rod end RS602618.
- 2) ☐ Thread rod end into caster link RS176448B. Adjust rod end until the mounting holes are 20.4 inches apart (center to center).

- 3) ☐ Attach caster link assembly to the axle with the original hardware and to the new suspension arm with the 14mm hardware from kit RS860589. See illustration 7. Tighten nuts and bolts to 75 ft. lbs.



Illus. 7

- 4) ☐ Center rod end and tighten jam nut.
- 5) ☐ Repeat steps 1 through 4 for the other side.

BUMP STOP SPACER, COIL SPRING & SHOCK ABSORBER INSTALLATION

- 1) ☐ Drill a 5/16" hole through the center of the coil spring axle pad. For ease of installation, tap the hole (3/8-16).
- 2) ☐ Install original insulator on top of coil spring RS822B. Place bump stop spacer RS176443 inside the coil spring.

NOTE: If you have a winch mounted to the front bumper, add spring spacer RS70082 (purchased separately) to compensate for the additional weight.

- 3) ☐ Insert the spring assembly into the upper pocket and onto the axle pad. See illustration 8. Align pig tail with groove in axle pad.
- 4) ☐ Attach the bump stop spacer to the axle pad with the self-tapping screw from kit RS860710.
- 5) ☐ Repeat steps 2 through 4 for the other side.
- 6) ☐ Install retaining washer and bushing on NEW shock absorber, insert shock into upper mounting hole. Install bushing, washer and nut. Tighten nut to 17 ft. lbs. Repeat for other side.



Illus. 8

- 7) ☐ Raise front axle and attach shock lower mounts to axle brackets with the original hardware. Tighten nuts and bolts to manufacturer's specifications.
- 8) ☐ Reattach vent hose and electrical wiring if necessary.

PITMAN ARM INSTALLATION

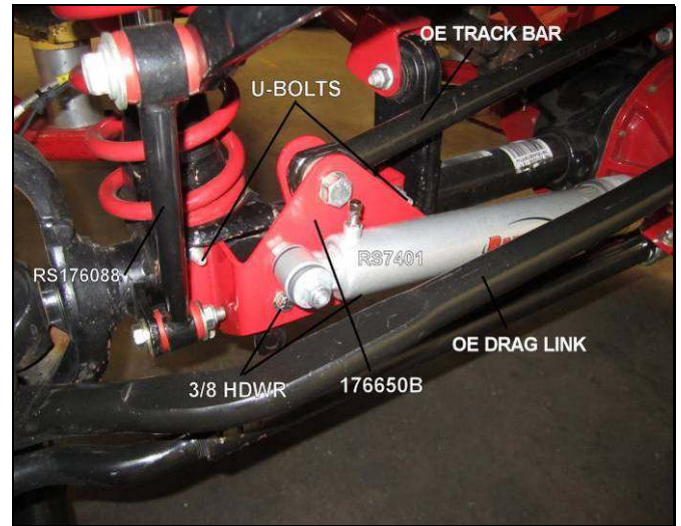
- 1) ☐ Center the steering wheel and mark the position of the original pitman arm. Remove the nut and washer from the steering gear shaft.
- 2) ☐ Remove the pitman arm from the steering gear with pitman arm puller C-4150-A.
- 3) ☐ Align and install new pitman arm 7789 on the steering gear shaft. Install the washer and nut. Tighten the nut to 185 ft. lbs.
- 4) ☐ Install the drag link ball stud to the pitman arm. Install the nut and tighten to 60 ft. lbs.
- 5) ☐ To reposition the front wheels, turn the drag link adjustment sleeve six to eight turns in (shorten). Adjustment sleeve bolts must face forward. See illustration 9.



Illus. 9

FRONT TRACK BAR AXLE BRACKET INSTALLATION

- 1) ☐ Insert track bar bracket RS176650B over the original track bar axle mount bracket. See illustration 10.



Illus. 10

- 2) ☐ Using the two existing holes, loosely attach the front edge of bracket RS176650B with the 3/8 hardware from kit RS860703.
- 3) ☐ Using the two U-Bolts, loosely attach the outside edge of bracket RS176650B with the hardware from kit RS860703.
- 4) ☐ Insert sleeve RS420067 into the bracket at the original track bar location. Install the original hardware.
- 5) ☐ Attach track bar to bracket RS176650B with the 14mm hardware from kit RS860703. Insert bolt from front and do not tighten until vehicle is at normal ride height.
- 6) Tighten OE bolt to 125 ft. lbs. Tighten the 3/8 bolts to 40 ft. lbs. and the two U-bolt nuts to 30 ft. lbs.

If unable to insert track bar bolt, install when on ground at ride height.

NOTE: Welding track bar bracket RS176650B to the axle bracket is recommended for extreme off-road use. Refer to "Important Note N" on page 3. Welding should be performed by a trained professional. Clean area of all paint/coating. Repaint cleaned area after welding.

SWAY BAR END LINK INSTALLATION

- 1) ☐ Apply silicone lubricant and press the supplied bushings into the upper and lower end links (RS176461B and RS176462B) or end link (RS176088B).

- 2) ☐ Apply silicone lubricant and press a supplied sleeve into each bushing.
- 3) ☐ For RS6756B, install a rubber washer from kit RS860580 on the lower end link. Connect upper and lower end links with the lynch pin from kit RS860580.
- 4) ☐ Attach end link assembly to sway bar and axle bracket with the supplied hardware. See illustration 11. Tighten nuts and bolts to 70 ft. lbs.



Illus. 11

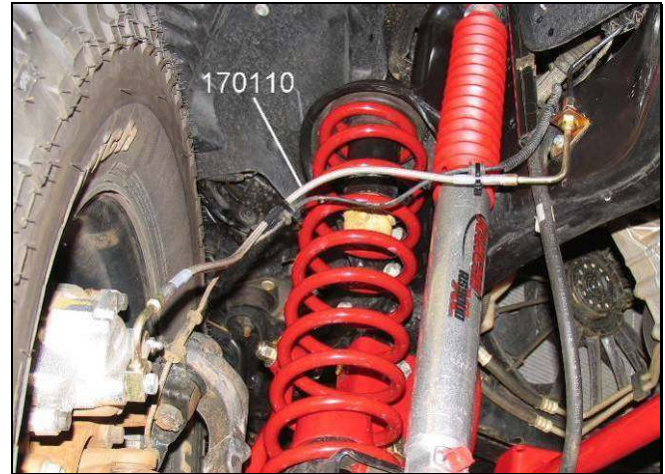
- 5) ☐ Repeat steps 1 through 4 for the other side.

BRAKE HOSE REPLACEMENT

NOTE: To keep the brake bleeding process to just the front brakes, do not allow the brake fluid to drain completely from the master cylinder reservoir.

- 1) ☐ Separate the driver side ABS line from the brake hose.
- 2) ☐ Separate the driver side brake hose from the brake tube and frame rail. Plug tube to prevent brake fluid leakage.

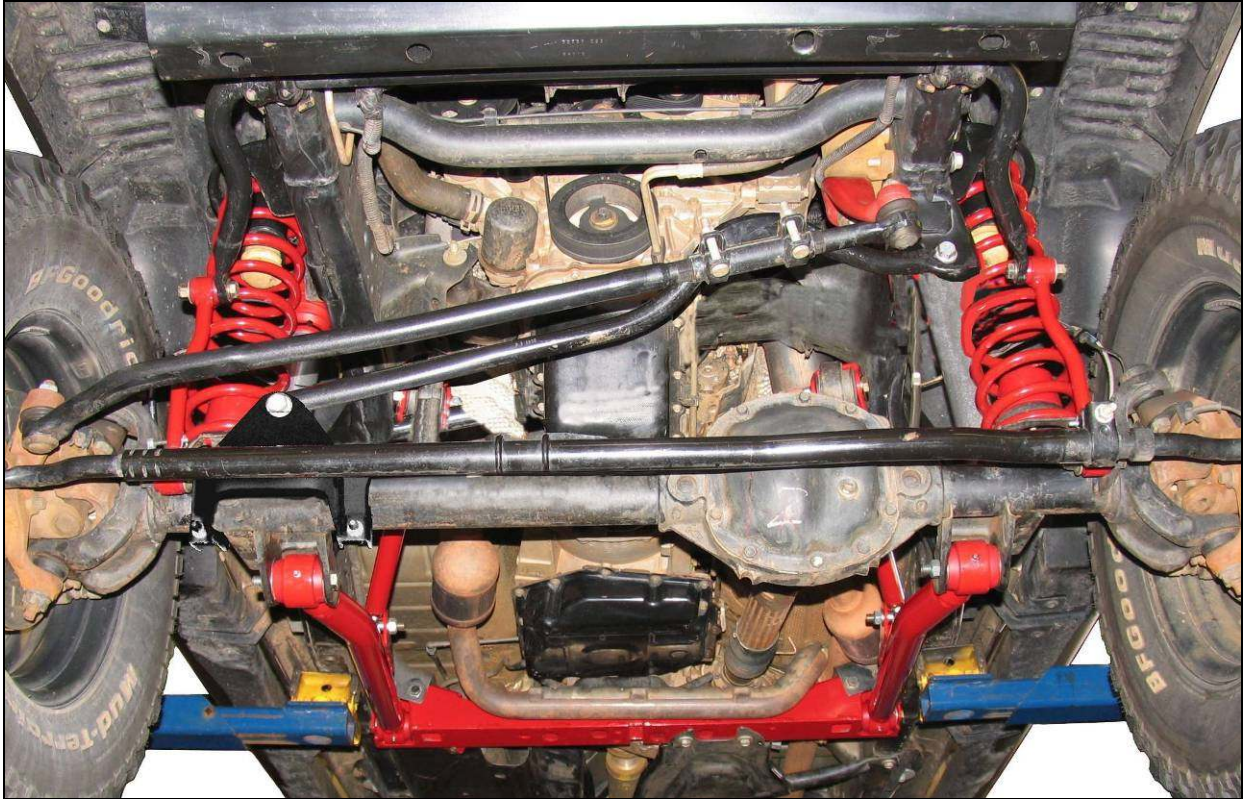
- 3) ☐ Remove the brake hose from the caliper. Discard copper washers.
- 4) ☐ Attach left brake hose RS170110 to the caliper with the supplied banjo bolt and washers.
- 5) ☐ Attach left brake hose to the frame rail with the original bolt. Attach brake tube to hose. Tighten brake tube fitting to 18 ft. lbs. See illustration 12.



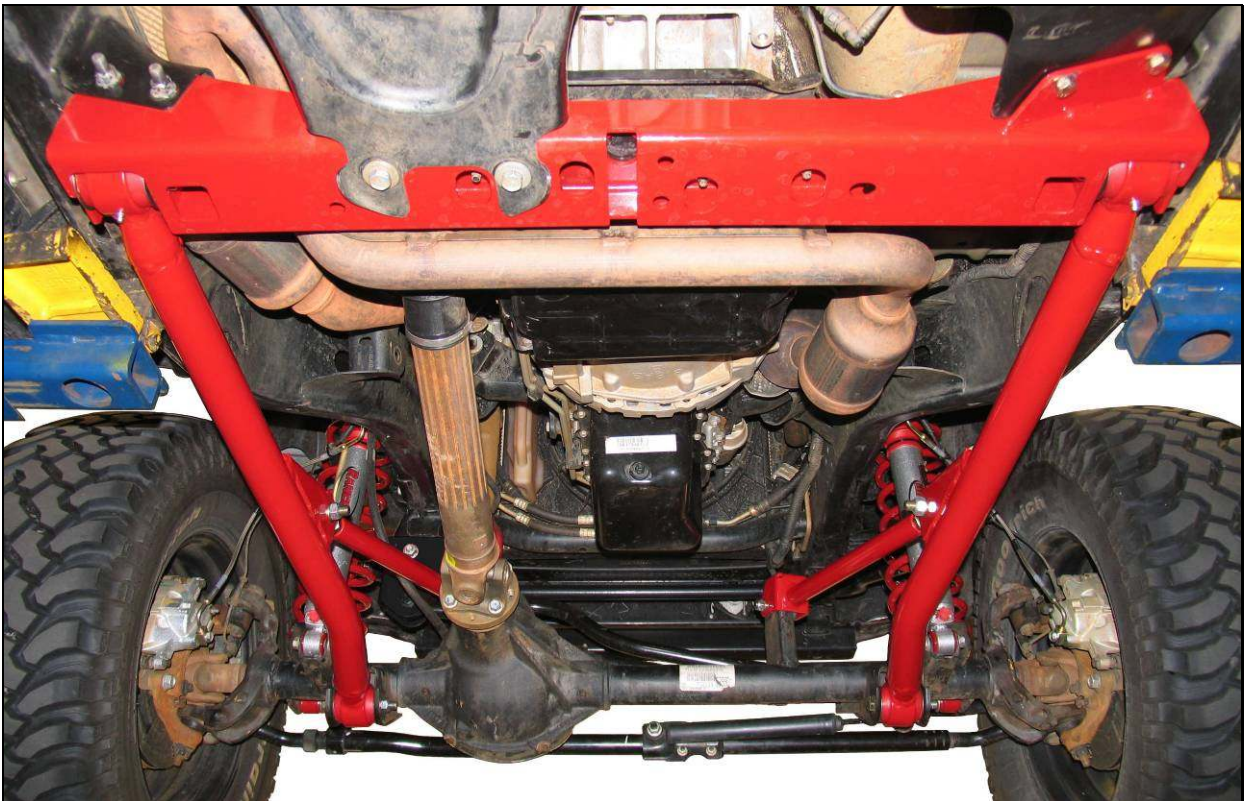
Illus. 12

- 6) ☐ Adjust the length and attach ABS wire to new brake hose with tie wraps.
- 7) ☐ Repeat steps 1 through 6 to install right brake hose RS170113 on the passenger side.
- 8) ☐ Bleed front brakes.
- 9) ☐ Install front wheels and lower vehicle to the ground. Tighten lug nuts to 80--110 ft. lbs.
- 10) ☐ Tighten the Track bar nut and bolt to 125 ft. lbs.

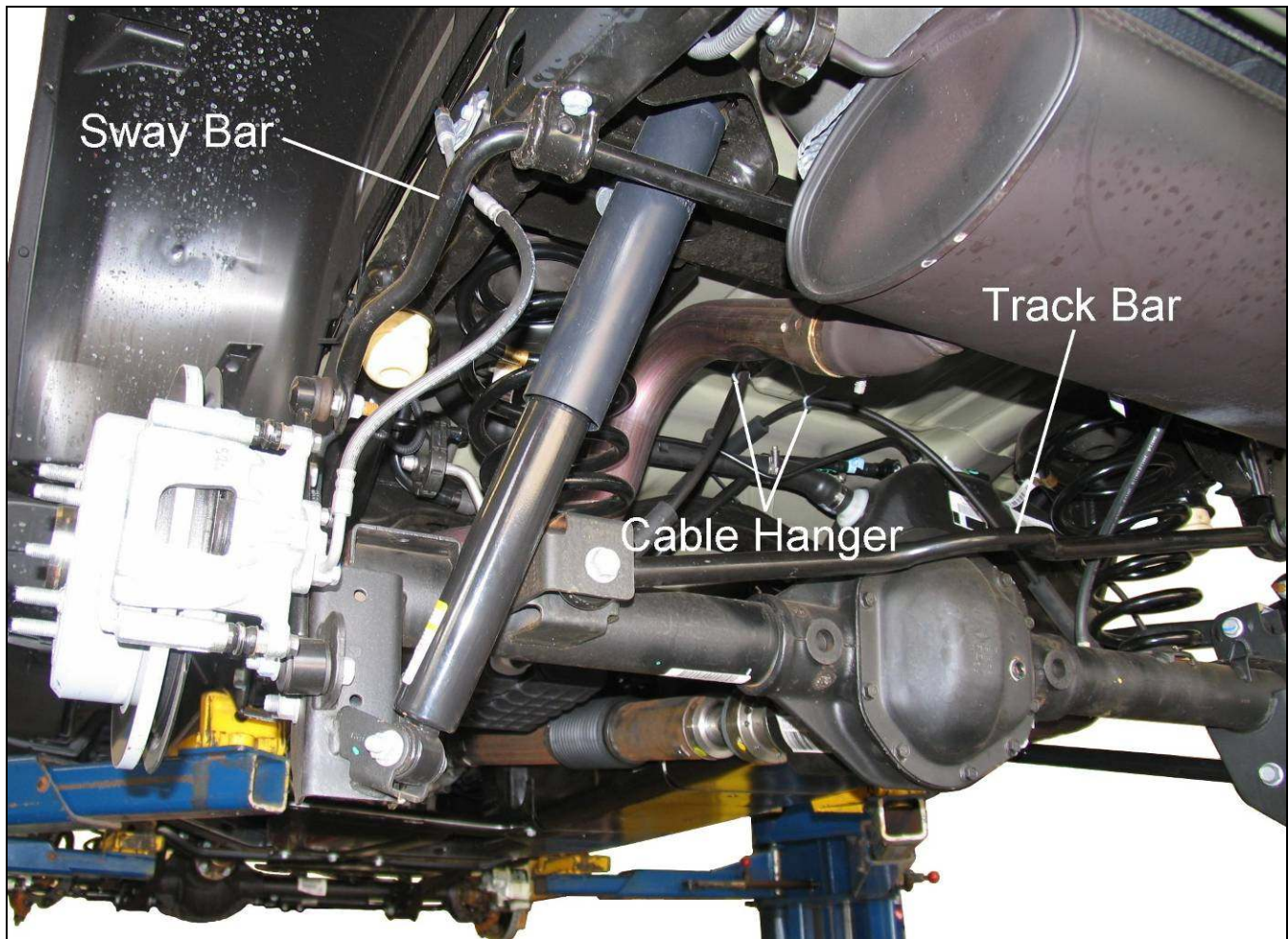
Installed Front Suspension



Front View



Rear View



Rear Suspension

REAR SUSPENSION

SHOCK ABSORBER & COIL SPRING REMOVAL

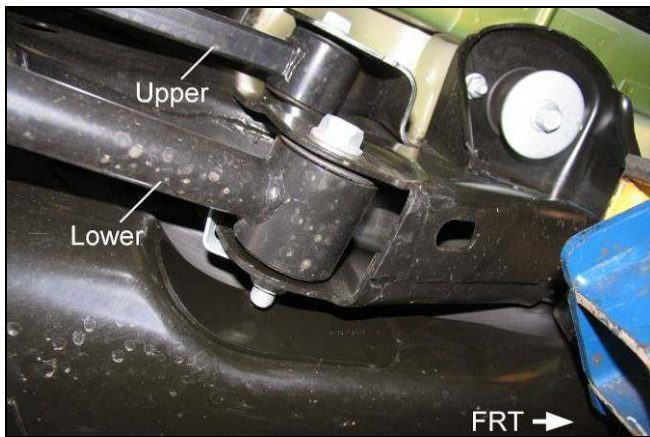
- 1) ☐ Disconnect track bar from axle bracket.
- 2) ☐ Chock front wheels. Raise the rear of the vehicle and support the frame with jack stands. See Important Note N on page 3. Remove the rear wheels.
- 3) ☐ Fully support the rear axle and drive shaft with adjustable jack stands. Remove the sway bar end links.
- 4) ☐ Remove bolts and separate the brake hoses from the frame rails. If necessary, disconnect any vent hoses and electrical wiring from the axle.
- 5) ☐ Remove the bolts from the brake cable hanger above the rear axle. Remove the hanger from the cables.
- 6) ☐ Remove the shock absorber upper mounting bolts. Remove the lower nut and bolt from the axle bracket. Remove the shock absorber.
- 7) ☐ Carefully lower the rear axle until the coil springs are free from the upper mount seat. Remove the coil

springs.

CAUTION: Do not allow the axle to hang by any hoses or cables.

SUSPENSION ARM REMOVAL

- 1) ☐ Remove the lower suspension arm nut and bolt from the axle bracket.
- 2) ☐ Remove the flag nut at the frame rail bracket. See illustration 13. Remove the lower suspension arm.



Illus. 13

- 3) ☐ Remove the upper suspension arm flag nut and bolt from the axle bracket.
- 4) ☐ Remove the flag nut and bolt at the frame rail bracket. Remove the upper suspension arm.
- 5) ☐ Repeat for other side.

SUSPENSION ARM BRACKET INSTALLATION

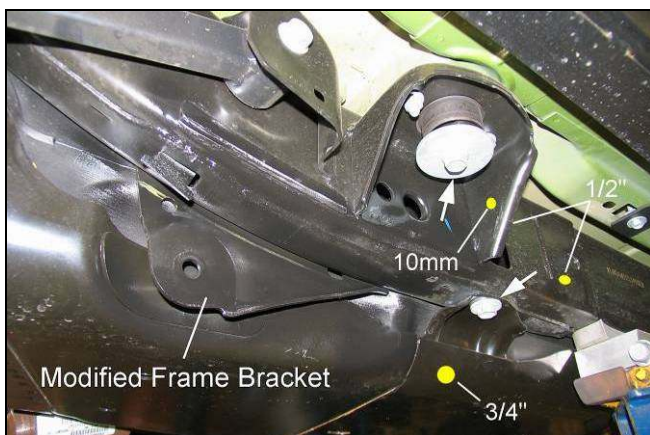
- 1) ☐ Using a die grinder and reciprocating saw, cut off the passenger side frame bracket as shown in illustration 14. File sharp edges and paint exposed metal.

CAUTION: The fuel tank is located next to the passenger side frame rail. Protect the tank by inserting a metal plate while cutting. Do not use a torch or plasma cutter.

- 2) ☐ Cut off the entire driver side frame bracket even with the bottom of the frame rail.

NOTE: Additional bracket removal may be required on the inside of the frame for proper fitment of left bracket RS176466B.

- 3) ☐ Loosen all fuel tank skid plate bolts. Push skid plate inward. Remove the bolts from the skid plate bracket and body mount. See illustration 14.



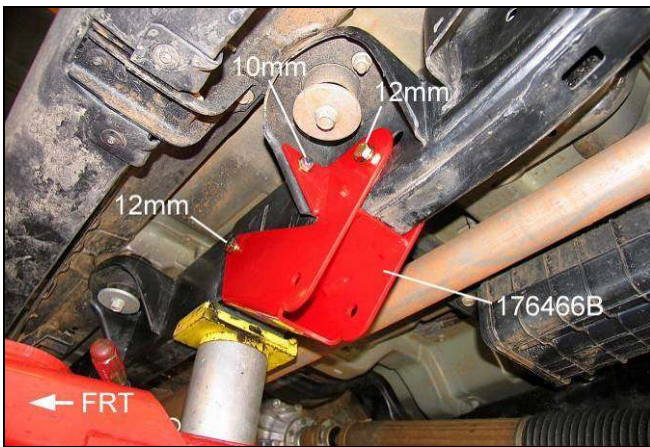
Illus. 14

- 4) ☐ Insert right suspension arm bracket RS176467B between the frame and skid plate bracket. Push bracket against frame and body mount.
- 5) ☐ Using bracket RS176476B as a template, mark the mounting hole locations on the frame and body mount. Mark the relief hole location on the skid plate for the suspension arm bolt. Remove bracket.
- 6) ☐ Drill two 1/2" holes into the frame, one 10mm hole through the body mount, and one 3/4" hole into the skid plate at the marked locations. See illustration 14. Do not drill completely through the frame or skid plate.
- 7) ☐ Attach right bracket RS176467B to the passenger side frame rail and body mount with the hardware from kits RS860590 and RS860591. See illustration 15. Use the longer nut bracket for the front hole and the shorter nut bracket for the rear hole.



Illus. 15

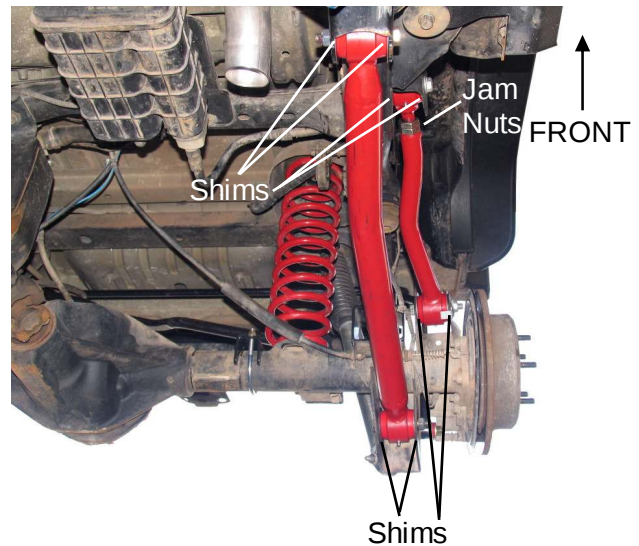
- 8) ☐ Reinstall bolts for body mount and skid plate. Tighten all nuts and bolts to specifications.
- 9) ☐ Place left suspension arm bracket RS176466B on the driver side frame rail. Push bracket against frame and body mount.
- 10) ☐ Using the bracket as a template, mark the mounting hole locations on the frame (front hole only) and body mount. Remove the bracket.
- 11) ☐ Drill a 10mm hole through the body mount and a 12mm hole through the inside and outside of the frame rail. Enlarge the inside hole to 18mm.
- 12) ☐ Attach left suspension arm bracket RS176466B to the driver side frame rail with the sleeves and hardware from kit RS860591. See illustration 16. Insert the shorter crush sleeve in the front hole. Install the larger washers on the inside. Tighten nuts and bolts to specifications.



Illus. 16

SUSPENSION ARM INSTALLATION

- 1) ☐ Lubricate bushings (RS520080) and longer sleeves (RS420080) from kit RS860275 with lithium grease. Insert bushings and sleeves into the barrels of lower rear suspension arms RS176680 and RS176681. See illustration 5.
- 2) ☐ Apply a film of grease to the outside of the installed bushings. Place a shim from kit RS860275 against each bushing.
- 3) ☐ Attach lower suspension arm RS176680 to left bracket RS176466B with bend closest to front, and grease fitting facing upward, using the 14mm hardware from kit RS860588. See illustration 17.
- 4) ☐ Attach lower suspension arm to axle bracket with the original hardware plus two greased shims. Grease fitting should face down.
- 5) ☐ Lubricate bushings (RS520090) and shorter sleeves (RS420090) from kit RS860275 with synthetic lithium grease. Insert bushings and sleeves into upper suspension arm RS176649 and rod end RS176647. See illustration 5.
- 6) ☐ Install two jam nuts from kit RS860726 on rod end RS176647. Thread completely onto stud. Use red Loctite on threads.
- 7) ☐ Apply anti-seize compound and thread rod end fully into upper suspension arm RS176649.
- 8) ☐ Insert two greased shims and attach the adjustable end of the upper suspension arm assembly to the frame bracket with the original hardware. See illustration 17.
- 9) ☐ Attach the bushing end to the axle bracket with the original hardware plus two greased shims.

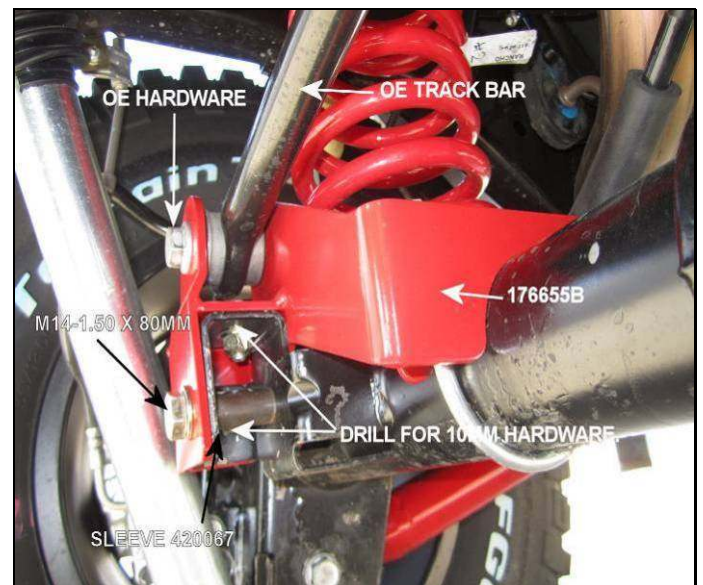


Illus. 17

- 10) ☐ Tighten the suspension arm bolts to 125 ft. lbs. Tighten jam nuts to 150 ft. lbs.
- 11) ☐ Repeat steps 1 through 9 for the driver side, using lower arm RS176681. Bending the fuel tank skid plate bracket may be necessary to provide clearance.

REAR TRACK BAR AXLE BRACKET INSTALLATION

- 1) ☐ Place track bar bracket RS176655B over the original rear axle bracket. The new bracket should fit on top over the original bracket.



Illus. 18

- 2) ☐ Insert the sleeve RS420067 from kit RS860713 and attach track bar bracket RS176655B to the rear axle bracket with the M14-1.50 X 80mm hardware through bottom OE hole. See illustration 18.

- 3) ☐ Using the U-Bolt from hardware kit RS860713, attach the top of bracket RS176655B to the rear axle tube using 3/8 washer and Nylock nuts. At this time just snug down attached hardware. Do not torque down.
- 4) ☐ Using a clamp to hold bracket RS176655B snug to axle bracket. Punch center mark for the two driller holes using bracket as template.
- 5) ☐ Drill both holes with 10mm drill (3/8 drill), and apply the 2 supplied M10-1.25 X 25mm bolts from hardware kit RS860713. Torque down all hardware at this time.
- 6) ☐ Insert OE track bar and reuse OE hardware in both ends, replace OE nut plate with lock nut on axle end.

NOTE: Do not tighten the original track bar bolt until the vehicle is at normal ride height. If unable to insert track bar bolt, install when on ground at ride height.

COIL SPRING & SHOCK ABSORBER INSTALLATION

- 1) ☐ Place the new coil springs (RS817B) onto the axle pads. Align upper pigtails towards the front of the vehicle. Raise the axle until the coil springs seat on the upper isolators. See illustration 19.

NOTE: When installing coil springs, make sure that the rubber isolator is positioned in the upper mount and the small egg-shaped coil end is at the bottom.



Illus. 19

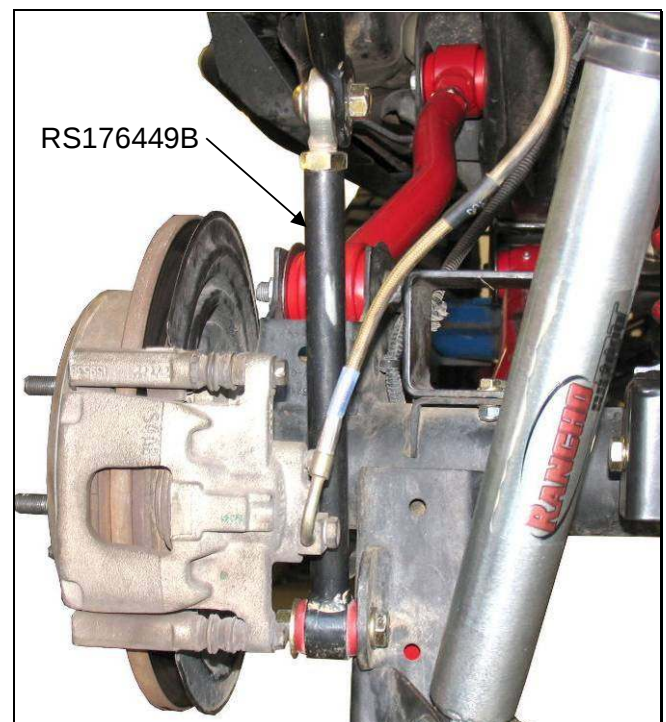
- 2) ☐ Attach new Rancho rear shocks to the upper mounting brackets with the original bolts. Tighten bolts to 23 FT-LBS.
- 3) ☐ Attach shocks to the axle brackets with the original hardware. Tighten the shock absorber lower mounting bolts to 74 ft. lbs.

BUMP STOP BRACKET INSTALLATION

- 1) ☐ Using the original holes on the axle pad, attach bump stop bracket RS176478B to the axle with the 8mm hardware from kit RS860592. See illustration 19. Tighten nuts and bolts to 23 ft. lbs.
- 2) ☐ Repeat for other side.

SWAY BAR LINK INSTALLATION

- 1) ☐ Install jam nut from kit RS860592 on spherical rod end RS602611. Insert rod end into end link RS176449B.
- 2) ☐ Lubricate a bushing and sleeve from kit RS860592 with silicone spray. Insert bushing then sleeve into end link assembly.
- 3) ☐ Attach end link assembly to axle bracket and sway bar with the 12mm hardware from kit RS860592. See illustration 20. Insert the button head bolt from the outside. Use the longer bolt and large washer on the axle bracket.
- 4) ☐ Tighten jam nut.
- 5) ☐ Repeat steps 1 through 4 for the other side.

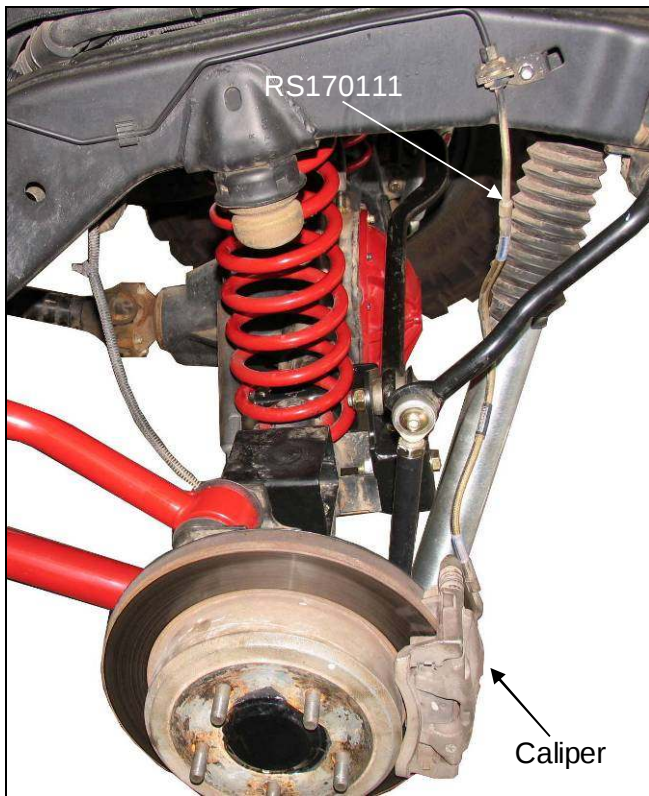


Illus. 20

BRAKE HOSE REPLACEMENT

NOTE: To keep the brake bleeding process to just the rear brakes, do not allow the brake fluid to drain completely from the master cylinder reservoir.

- 1) ☐ Separate the driver side brake hose from the brake tube and frame rail. Plug tube to prevent brake fluid leakage.
- 2) ☐ Remove the brake hose from the caliper. Discard copper washers.
- 3) ☐ Attach left brake hose RS170111 to the caliper with the supplied banjo bolt and washers. Banjo fitting must direct brake hose forward and up. Refer to illustrations 20 & 21. Tighten bolt to 23 ft. lbs.
- 4) ☐ Attach left brake hose RS170111 to the frame rail with the original bolt. Attach brake tube to hose. See illustration 21. Tighten brake tube fitting to 18 ft. lbs.



Illus. 21

- 5) ☐ Repeat steps 1 through 4 to install right brake hose RS170112 on the passenger side.
- 6) ☐ Bleed rear brakes.
- 7) ☐ Install rear wheels and lower vehicle to the ground. Tighten lug nuts to 80-110 FT-LBS.
- 8) ☐ Reconnect the battery ground cable.

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) ☐ 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 brake system operates correctly. If new brake hoses were installed, verify that each hose allows for full suspension movement.
- 4) ☐ Readjust headlamps. Have vehicle Aligned to manufacturer's specifications.

<u>ADJUSTMENT</u>	<u>PREFERRED</u>	<u>RANGE</u>
<u>CASTER</u>	<u>5.0°</u>	<u>±1.0°</u>
<u>CAMBER (FIXED ANGLE)</u>	<u>-0.25°</u>	<u>±0.63°</u>
<u>TOE-IN (EACH WHEEL)</u>	<u>0.15°</u>	<u>±0.15°</u>
<u>THRUST ANGLE</u>	<u>0</u>	<u>±0.25°</u>

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

FRONT END LINK DISCONNECT PROCEDURE (FOR ROCK CRAWLING ONLY)

- 1) ☐ Remove lynch pins from front sway bar end links. Separate upper links from lower links. Reinstall pins in lower links. For increased clearance, remove the upper links from the sway bar.
- 2) ☐ Rotate sway bar and end link upward. Insert upper link RS176461B into fender well opening. See illustration 22.

IMPORTANT NOTICE

WARNING: DO NOT OPERATE THIS VEHICLE ON PUBLIC ROADS OR AT SPEEDS GREATER THAN 15 MPH WITH THE SWAY BAR END LINKS DISCONNECTED.

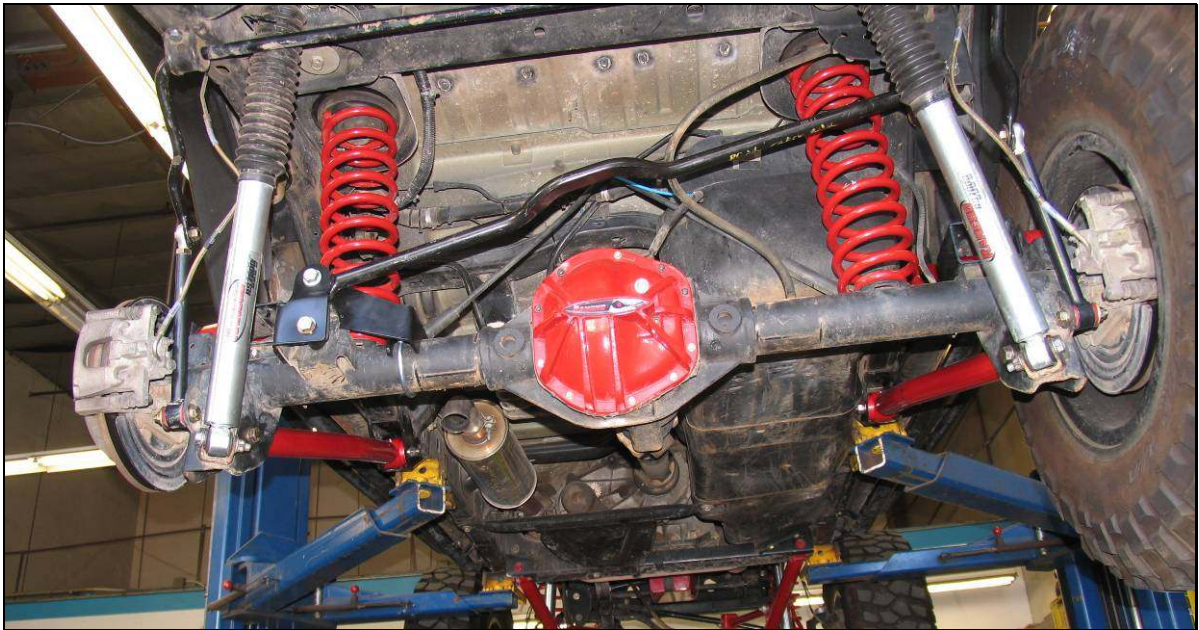


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Installed Rear Suspension



Front view



Rear View