

INSTALLATION INSTRUCTIONS

88056

Rev B

FOR RANCHO ROCK CRAWLER SUSPENSION SYSTEM **RS6506**: JEEP WRANGLER (TJ)

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 appropriate Rancho shock absorbers. Contact your local Rancho representative for the correct application.

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 1-800-5SHOCKS. 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. Do not use an impact wrench to tighten any of these bolts. They tend to over tighten smaller bolts and under tighten larger bolts. USE A TORQUE WRENCH!!

G. Rancho parts come with a protective coating. Do not 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.

H. Do not weld anything to these components, and do not

weld any of these components to the vehicle. 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
- ☒ Spring Compressor
- ☒ Pitman Arm Puller C-4150-A
- ☒ Steering Linkage Puller C-3894-A
- ☒ Drill Motor
- ☒ Drill assortment (1/8" to 1/2")
- ☒ Torque Wrench (250 FT-LB capacity)
- ☒ Hammer
- ☒ 1/2" Drive Ratchet and Sockets
- ☒ Combination Wrenches
- ☒ Allen Wrenches
- ☒ Torx Key Sockets
- ☒ Hacksaw
- ☒ File
- ☒ Large "C" Clamps and/or Bench Vise
- ☒ Hydraulic Floor Jack
- ☒ Heavy Duty Jack stands
- ☒ Wheel Chocks (Wooden Blocks)
- ☒ Molybdenum Grease or Anti Seize Compound
- ☒ Silicone Spray
- ☒ **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. 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.

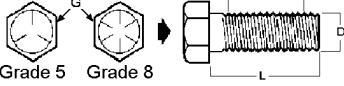
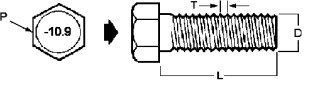
M. IMPORTANT information for the end user is contained in the consumer information pack. If you are installing this system for someone else, display the information pack by hanging it from the rear view mirror.

N. This suspension system was developed using the following tire and wheel combination: 33 x 12.50R-15 tire, 15" x 8" wheel with 3.75" of wheel backspacing. Before installing any other combination, consult your local tire and wheel specialist.

O. To achieve maximum articulation, **for rock crawling only**, disconnect the front sway bar end links. **DO NOT OPERATE THIS VEHICLE ON PUBLIC ROADS OR AT SPEEDS GREATER THAN 15 MPH WITH THE SWAY BAR END LINKS DISCONNECTED.**

P. Lubricate the following Rancho parts before installation, every 3000 miles, and before every off road use: the lower link bushings , the end link swivels, and the track bar end.

Q. 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	165FT-LB	210 FT-LB
3/4	185 FT-LB	280 FT-LB	M18	170 FT-LB	240FT-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)			M12-1.25x50 HHCS D T L X P = Property Class (bolt strength) D = Nominal Diameter (millimeters) T = Thread Pitch (thread width, mm)			
 Grade 5 Grade 8 L = Length (inches) X = Description (hex head cap screw)			 L = Length (millimeters) X = Description (hex head cap screw)			

PARTS LIST

P/N	DESCRIPTION	QTY.	P/N	DESCRIPTION	QTY.
130019	Rear Track Bar Bracket	1	860156	Spring Retainer Kit	1
170081	Right Brake Line	1	176087	Spring Clip	2
170082	Left Brake Line	1		3/8-16x1.0 HHTS	2
176080	Front Link	2		3/8-16x1.5 HHTS	2
176081	Rear Link	2	860157	Front Track Bar Hardware Kit	1
176082	Top Swivel, Front End Link	2	420086	Sleeve	1
176083	Center Section, Front End Link	2	520086	Bushing	2
176084	Bottom Socket, Front End link	2		3/4-16 Jam Nut	1
176085	Bracket, Front End Link	2	860158	Quick Pin Kit	1
176086	Track Bar	1	770057	Quick Pin Assembly	2
176088	Rear End Link	2	770071	Rubber Washer	4
176089	Front Bump Stop Perch	2	860159	Quick Disconnect Hardware Kit	1
420027	Rear Bump Stop Spacer	2	420084	Sleeve, Front End Link	2
602612	Track bar End (Ball joint)	1	545	Bushing	2
615	Front Coil Spring	2		1/2-20x2.75 HHCS	2
616	Rear Coil Spring	2		1/2-20x1.75 HHCS	2
7727	Pitman Arm	1		1/2-20 Nyloc Nut	4
860070	Shim Kit	1		1/2 SAE Washer	2
	Washer	16		1/2 USS Washer	6
860072	Rear Track Bar Relocation Kit	1		M10-1.50 Nut	2
420026	Sleeve	1	860160	Shift Relocation Kit	1
	7/16-14x1.0 HHCS	1	176090	Bracket	1
	7/16-14 Stover Nut	1		1/4-20x.75 BHCS	4
	7/16 SAE Washer	2		1/4 SAE Washer	4
	M12-1.75x70 HHCS	2		1/4-20 Nyloc Nut	4
	M12-1.75 Nut	2		Thread Lock	2
	SAE Washer	4	860161	Skid Plate Spacer Kit	1
	3/8-16x1.0 HHCS	1	176091	Skid Plate Spacer	6
	3/8-16 Stover Nut	1	176092	Skid Plate Shim	6
	3/8 SAE Washer	2		1/2 Cone Washer	6
860086	Gasket Kit	1		1/2-13x2.5 FSHCS	6
170078	Brake Line Gasket	4		M10-1.50x70 HHCS	2
860155	Rear End Link Hardware Kit	1		10mm Lock Washer	2
420088	Sleeve, Rear End Link	4	860218	Articulation Bushing Kit	1
545	Bushing	4	420080	Sleeve	8
	7/16-20x2.5 HHCS	4	520080	Bushing	16
	7/16-20 Stover Nut	4	88056	Instructions	1
	7/16 SAE Washer	2	94140	Consumer Information Pack	1
	7/16 USS Washer	6			

RANCHO LINK ASSEMBLY

BUSHING & SLEEVE INSTALLATION

- 1) ☒ Lubricate the outside diameter of two urethane bushings (part No. 520080) with a silicone spray or a mild solution of soap and water.
- 2) ☒ Press the lubricated bushings into one end of a new Rancho lower link (176080 or 176081) as shown in figure 1.
- 3) ☒ Lubricate the outside diameter of sleeve 420080 and the inside diameter of the installed urethane bushings. Press the sleeve into the bushings.

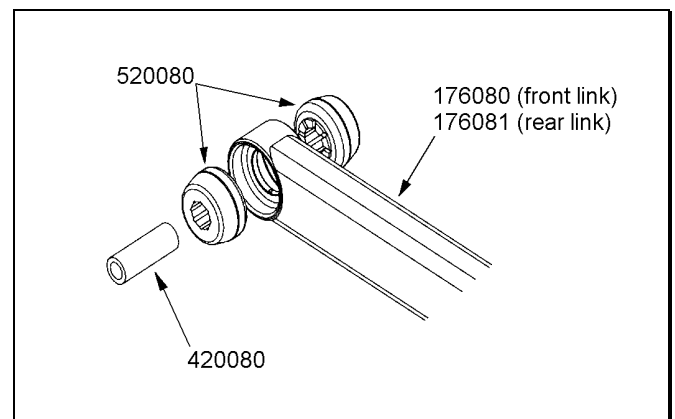


Figure 1

NOTE: It may be necessary to use a bench vise or C-clamp to press the bushings and sleeves into the lower links. Do not use a hammer.

- 4) ☒ Slowly apply grease to each end of the lower links (through the grease fitting) with a grease gun. Stop when

the grease begins to appear around the edges of the bushings. Do not force the bushings out of the link.

- 5) ☒ Repeat steps 1 through 4 for the remaining lower link ends, bushings, and sleeves.

FRONT SUSPENSION

TRACK BAR & COIL SPRING REMOVAL

- 1) ☒ Park vehicle on a level surface and set the parking brake. Center front wheels and chock rear wheels.
- 2) ☒ Utilizing a straight edge, measure the horizontal distance between the outer edge of each front tire and the vehicle body (at top edge of fender well).

Left Side: _____ Right Side: _____

- 3) ☒ Remove the cotter pin and nut from the ball stud end of the track bar at the frame rail bracket. Separate the ball stud from the bracket with the recommended puller tool. See figure 2.

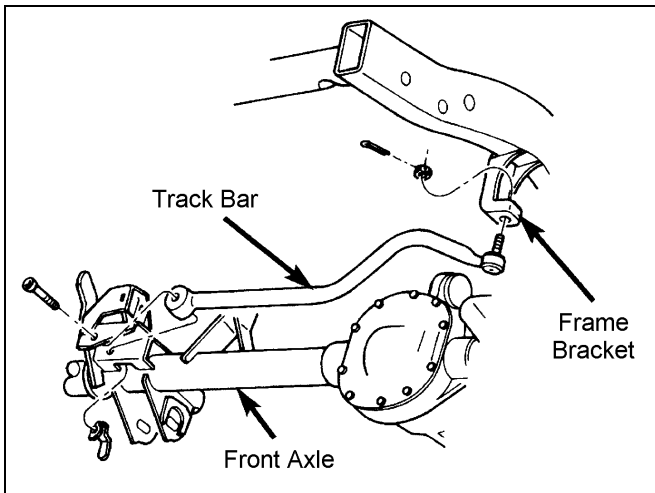


Figure 2

- 4) ☒ Remove the bolt and flag nut from the axle bracket. Remove the track bar.
- 5) ☒ From inside the engine compartment, remove the upper stud nut, retainer and grommet from both front shock absorbers.
- 6) ☒ Raise the front of the vehicle and support the frame with jack stands. Remove the front wheels and set them aside.
- 7) ☒ Position a floor jack under the front axle for support. Remove both front sway bar end links. See Figure 3.

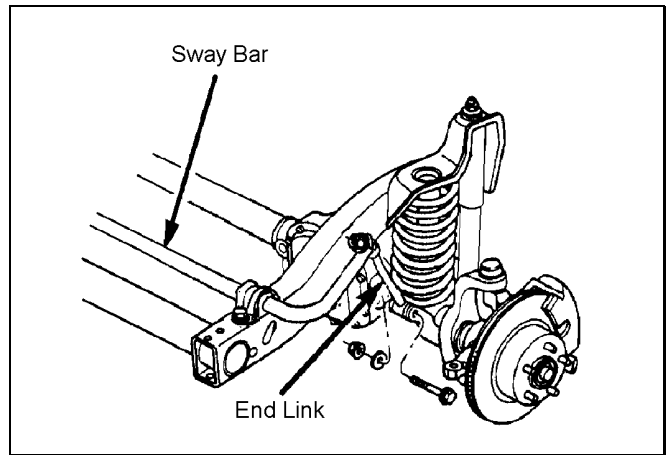


Figure 3

- 8) ☒ Lower axle and remove floor jack.
- 9) ☒ Remove the shock absorber lower nuts and bolts. Remove the front shock. **DO NOT REUSE ORIGINAL SHOCK ABSORBERS.**
- 10) ☒ Remove the rubber bump stop and bump stop mount from inside of the coil spring.
- 11) ☒ Remove the coil spring retainer bolt and retainer. Push down on the axle and remove the coil spring.
- 12) ☒ Repeat steps 9 through 11 for other side.

LOWER ARM REMOVAL & LINK INSTALLATION

- 1) ☒ Support the front axle with a floor jack.
- 2) ☒ Paint or scribe alignment marks on the adjustment cams and axle brackets for installation reference. See Figure 4.

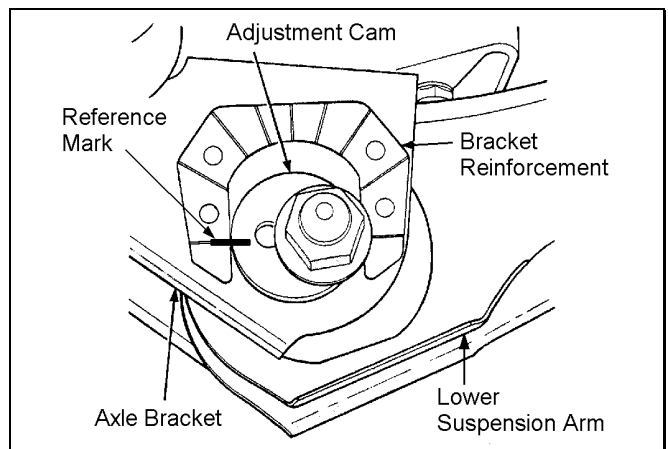


Figure 4

- 3) ☒ If equipped with ABS brakes, remove sensor wires and clamps from the inboard side of the lower arms. Save clamps for reuse.

NOTE: Remove and replace one suspension arm at a time.

4) ☒ Remove the nut, cam, and cam bolt from the axle bracket. Remove the nut and bolt from the frame bracket. Remove the lower suspension arm. See Figure 5.

5) ☒ Install new Rancho lower link 176080, along with four shims from kit 860070, to the frame and axle brackets as shown in figure 6. Use original hardware but do not tighten.

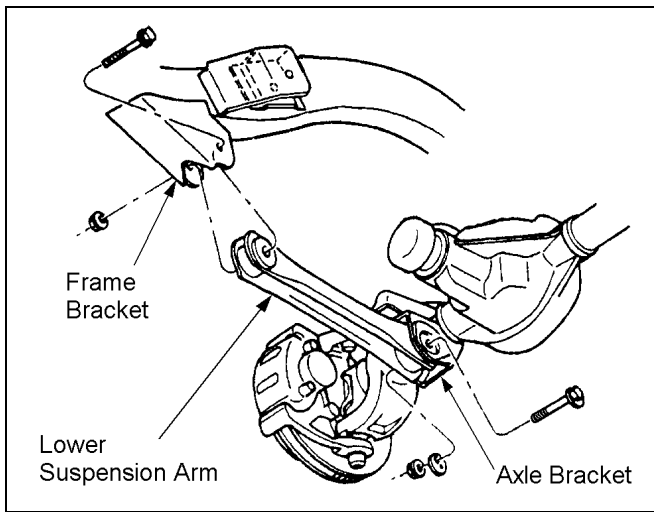


Figure 5

6) ☒ Repeat steps 4 and 5 for the other side.

7) ☒ If applicable, drill a 23/64" hole into each lower link and reinstall the ABS sensor wires. Use the original clamps.

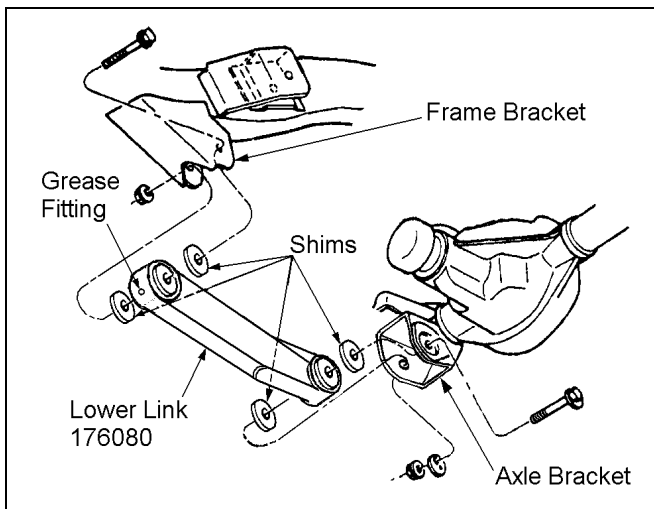


Figure 6

PITMAN ARM REPLACEMENT

1) ☒ Remove the cotter pin and 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) ☒ Center the steering wheel and mark the position of the original pitman arm. Remove the nut and washer from the steering gear shaft.

3) ☒ Remove the pitman arm from the steering gear with pitman arm puller C-4150-A.

4) ☒ Align and install new pitman arm 7727 on the steering gear shaft. Install the washer and nut. Tighten the nut to 185 ft. lbs.

5) ☒ Install the drag link ball stud to the pitman arm. Install the nut and tighten to 60 ft. lbs. Install a new cotter pin.

COIL SPRING INSTALLATION

1) ☒ Lower the front axle and remove the hydraulic floor jack.

2) Drill a 5/16" hole through the center of the coil spring axle pad. Attach the bump stop perch 176089 to the axle pad with the longer self-tapping screw from kit 860156.

3) ☒ Compress a new coil spring (615) to 16" in length. Use a quality spring compressor like the one shown in figure 7.

4) ☒ Place the rubber bump stop inside the compressed spring. Install the spring into the upper and lower spring pockets. Carefully remove the spring compressor.

5) ☒ Rotate spring so pig tail end fits back in spring pocket. Install NEW spring retainer and self-tapping screw from kit 860156. Tighten to 16 FT-LBS.

6) ☒ Reinstall the rubber bump stop.

7) ☒ Repeat steps 2 through 6 for other side.

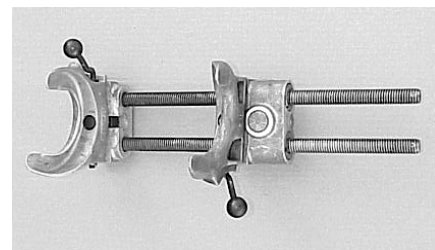


Figure 7

BRAKE HOSE REPLACEMENT

NOTE: To keep the brake bleeding process to just the front

calipers, do not allow the brake fluid to drain completely from the master cylinder reservoir.

- 1) ☒ Separate the left front brake hose from the brake tube and the 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 RS170082 to the caliper with NEW copper washers from kit RS860086, and the original bolt. See figure 8. Tighten the bolt to 23 ft.-lbs.

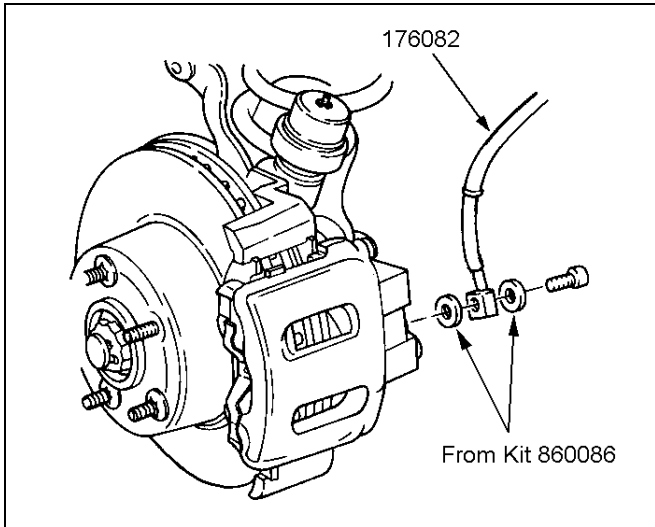


Figure 8

- 4) Attach the new brake hose to the frame and brake tube. Tighten securely.
- 5) Repeat steps 1 through 4 to install right front brake hose RS170081.
- 6) Refill the master cylinder reservoir with approved brake fluid and bleed the front brakes as follows:
 - Attach a clear hose to the right front caliper bleeder screw and immerse the other end into a container of clean brake fluid.
 - Loosen the bleeder valve on the caliper.
 - Have an assistant push the brake pedal down and then hold.
 - Tighten the bleeder valve and slowly release the pedal.
 - Repeat the procedure until all air is purged from the caliper.
 - Attach the hose and container to the left front caliper and repeat the bleeding process. Refill the brake master cylinder reservoir as necessary.

SWAY BAR END LINK ASSEMBLY

- 1) ☒ Apply silicone lubricant and press a bushing from kit 860159 into a front end link bottom socket (176084).

2) ☒ Apply silicone lubricant and press a sleeve from kit 860159 into the installed bushing.

3) ☒ Install a rubber washer (770071) onto each end of center section 176083.

4) ☒ Connect the bottom socket assembly to a top swivel (176082) with the center section. Insert a set of locking pins (770057) as shown in figure 9.

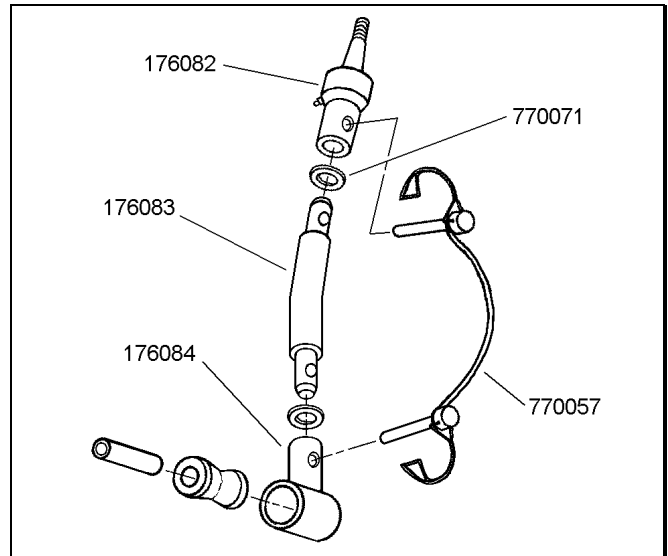


Figure 9

- 5) ☒ Grease the top swivel. Push down on the ball stud when applying grease for the first time. Stop when grease flows past ball.
- 6) ☒ Repeat steps 1 through 5 to assemble the other end link.

SWAY BAR END LINK & SHOCK INSTALLATION

- 1) ☒ Support the front axle with a floor jack.
- 2) ☒ Loosely attach end link bracket 176085 to the axle bracket with hardware from kit 860159. See figure 10.
- 3) ☒ Loosely attach a new end link assembly to the installed bracket with hardware from kit 860159.
- 4) ☒ Insert the top swivel of the link assembly into the sway bar. Install the supplied nut and tighten to 45 ft. lbs.



Figure 10

- 5) ☒ Drill a 17/64" hole in fender support as shown in figure 23.
- 6) ☒ Repeat steps 2 through 5 for other side.
- 7) ☒ Grind the passenger side axle bracket even with end link bracket 176085. See figure 11.



Figure 11

- 8) ☒ Install one retaining washer and grommet onto each new front shock absorber. Attach shocks to axle brackets. Tighten bolts to 23 FT-LBS.
- 9) ☒ Install front wheels and lower vehicle to the ground. Tighten lug nuts to 80--110 FT-LBS.
- 10) ☒ Position shock stud through upper mounting hole. Install upper shock grommet, retainer and nut. Tighten to 17 FT-LBS. Repeat for other side.
- 11) ☒ Tighten the sway bar lower link bolts to 70 FT-LBS.
- 12) ☒ Tighten the lower suspension arm to frame bracket nut and bolt to 130 FT-LBS (both sides).
- 13) ☒ Align the reference marks on the adjustment cams and lower arm axle brackets. Tighten nuts to 85 FT-LBS.
- 14) ☒ Apply grease to the new lower suspension arms

and the top swivel of the sway bar end links. DO NOT OVER GREASE!

TRACK BAR INSTALLATION

- 1) ☒ Install the jam nut from kit 860157 on the new track bar end (602612). Thread the end assembly into the new track bar (176086) until only four threads are exposed. Do not tighten the jam nut.
- 2) ☒ Apply silicone spray and press the bushings and sleeve from kit 860157 into the track bar assembly.
- 3) ☒ Loosely attach the new track bar to the axle bracket with the original bolt and flag nut.
- 4) ☒ Temporarily attach the track bar end to the frame rail bracket.
- 5) ☒ Repeat tire to fender well measurements (refer back to step 2 under **TRACK BAR REMOVAL**). If necessary, adjust the track bar end to duplicate the previously measured difference. Tighten the jam nut.
- 6) ☒ Tighten the track bar to axle bracket mounting bolt to 55 ft. lbs. and the ball stud nut to 65 ft. lbs. Install a new cotter pin.

REAR SUSPENSION

TRACK BAR & COIL SPRING REMOVAL

- 1) ☒ Chock front wheels. Disconnect and remove the rear sway bar end links.
- 2) ☒ Disconnect the track bar from the frame bracket. See figure 12.
- 3) ☒ Raise the rear of the vehicle and support the frame with jack stands. Remove the rear wheels.
- 4) ☒ Separate the track bar from the axle bracket. Remove the track Bar. See Figure 12.
- 5) ☒ Support the rear axle with a floor jack and remove the shock absorbers. DO NOT REUSE ORIGINAL SHOCK ABSORBERS.
- 6) ☒ Mark the orientation of the coil springs on the axle pads. Carefully lower the rear axle until the coil springs are free from the upper mount seat. Remove the coil springs.

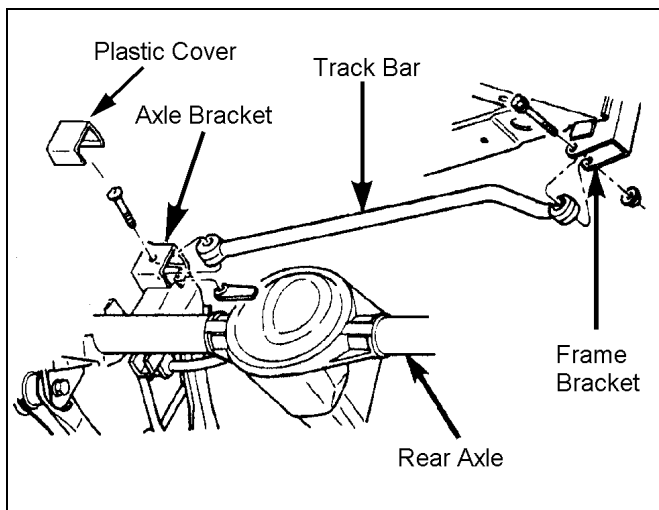


Figure 12

TRACK BAR BRACKET INSTALLATION

- 1) ☒ Place track bar bracket 130019 on top of the axle bracket as shown in figure 13. To properly align the bracket, insert a 12mm bolt from kit 860072 through both brackets.
- 2) ☒ Using the new bracket as a template, mark the two additional mounting holes on the axle bracket. Remove bracket and drill a 13/32" hole through the top of the axle bracket and 15/32" hole through the side.
- 3) ☒ Reinstall the track bar bracket and attach it to the axle with the sleeve and hardware from kit 860072. See Figure 13. Tighten to specifications.

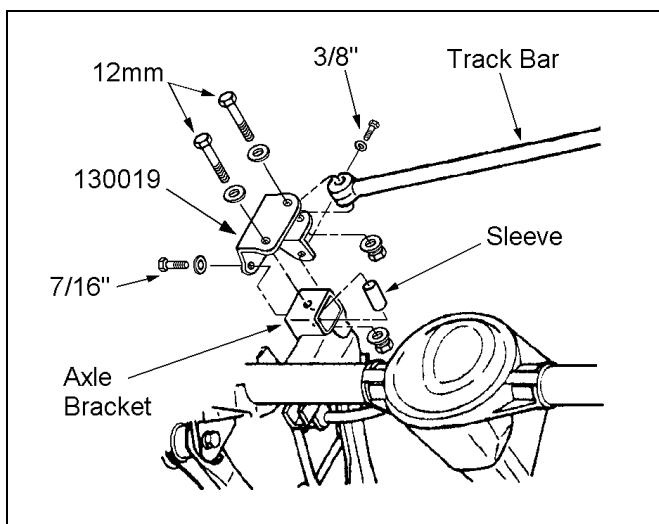


Figure 13

- 4) ☒ Insert track bar into track bar bracket and install the 14mm hardware from kit 860072.

NOTE: Do not attach the track bar to the frame bracket or tighten the mounting bolt at this time.

- 5) ☒ Bend gas tank skid plate away from track bar if necessary.

LOWER ARM REPLACEMENT

NOTE: Remove and replace one suspension arm at a time.

- 1) ☒ Support the rear axle with a hydraulic jack.
- 2) ☒ Remove the lower arm axle and frame mounting bolts. Remove the lower suspension arm.
- 3) ☒ Install a new Rancho lower suspension arm, along with four shims from kit 860070, to the frame and axle brackets. See figure 14. Use original hardware but do not tighten.

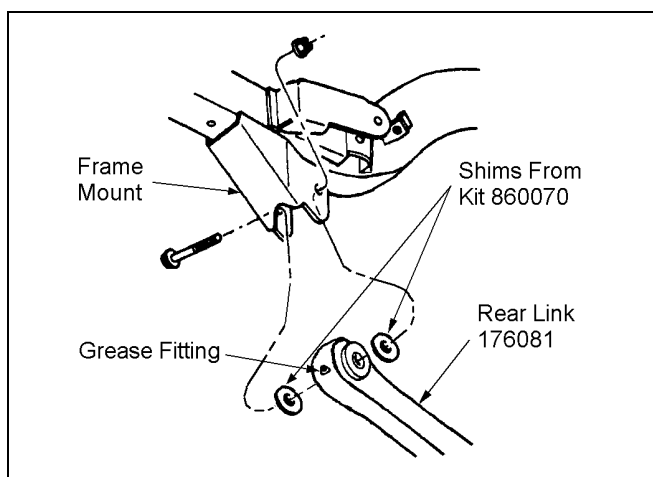


Figure 14

NOTE: Install two shims at each mounting point, one on either side of the bushing assembly. Also, position the arm so that the grease fittings are accessible.

- 4) ☒ Repeat steps 2 and 3 for the other side.

BUMP STOP SPACER & COIL SPRING INSTALLATION

- 1) ☒ Remove the rubber bump stop and bump stop bracket from the upper spring mount.
- 2) ☒ Insert Rancho spacer 420027 and reinstall the bracket with the 10mm hardware from kit 860161. Insert the bump stop into the bump stop bracket. See figure 15.
- 3) ☒ Repeat steps 1 & 2 for other side.
- 4) ☒ Lower rear axle and position the new coil springs onto the axle pads. Align springs with reference marks. Raise the axle until the springs seat in the upper mounts.

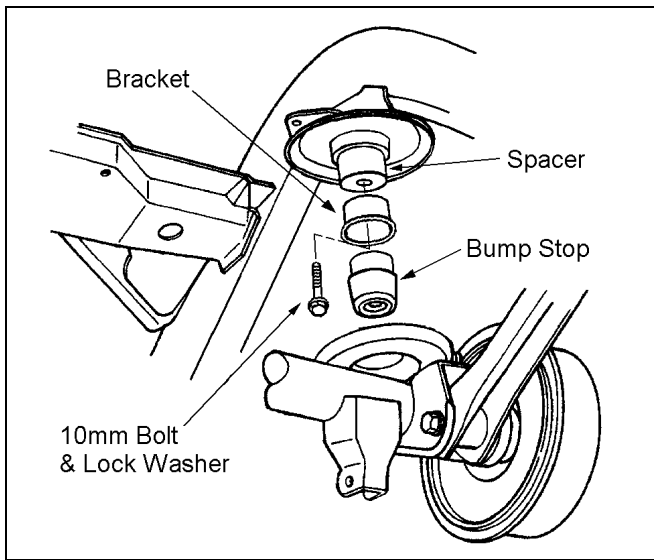


Figure 15

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

- 5) ☒ Install new Rancho rear shocks to the upper frame rail. Tighten mounting bolts to 23 FT-LBS.
- 6) ☒ Loosely attach shocks to the axle brackets.
- 7) ☒ Install wheels and lower vehicle to the ground. Do not remove wheel chocks. Tighten lug nuts to 80—110 FT-LBS.

SWAY BAR END LINK INSTALLATION

- 1) ☒ Apply silicone lubricant and press a bushing from kit 860155 into a new rear end link (176088).
- 2) ☒ Apply silicone lubricant and press a sleeve from kit 860155 into the installed bushing.
- 3) ☒ Repeat steps 1 and 2 to install the rest of the bushings and sleeves.
- 4) ☒ Attach the new end link assemblies to the frame brackets and rear sway bar with the hardware from kit 860155. See Figure 16. Tighten the end link mounting bolts to 40 ft. lbs.

NOTE: It may be necessary to enlarge the mounting holes in the sway bar and frame brackets to 7/16".

- 5) ☒ Place the track bar into the frame bracket and install the original hardware. Tighten the track bar mounting bolts to 74 ft. lbs.

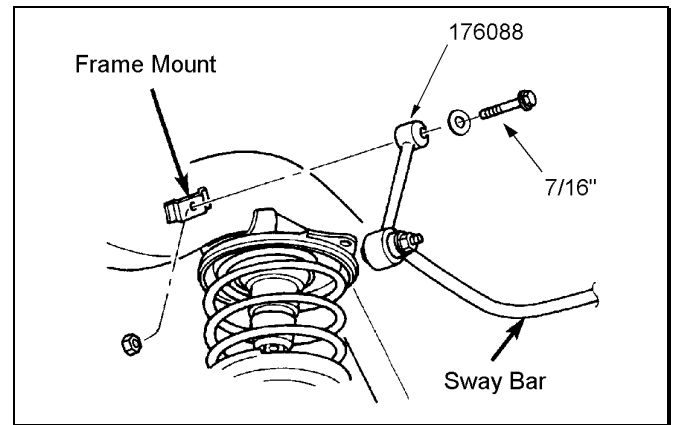


Figure 16

- 6) ☒ Tighten all lower arm pivot bolts to 130 ft. lbs. and the shock absorber to axle bracket bolts to 74 ft. lbs.
- 7) ☒ Grease new lower suspension arms until you see a slight amount of grease coming out of bushings. DO NOT OVER GREASE!

TRANSMISSION & TRANSFER CASE

CROSSMEMBER RELOCATION

- 1) ☒ Place the transmission in neutral. Support the transfer case crossmember/skid plate with a hydraulic jack. Loosen the 6 bolts holding the crossmember to the frame. See figure 17.

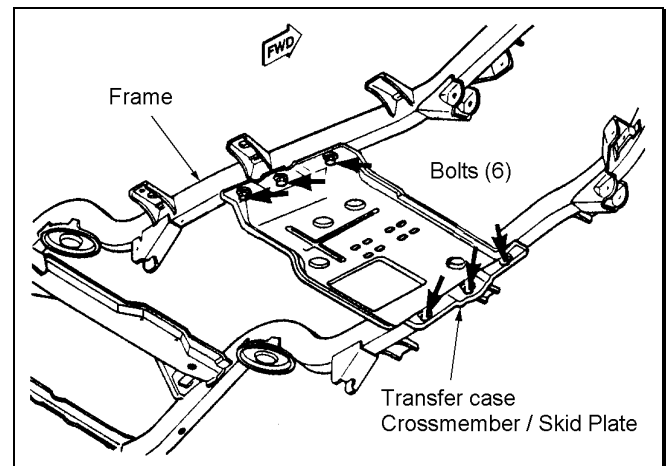


Figure 17

- 2) ☒ Remove the 3 bolts on one side and carefully lower the crossmember. Place 3 spacers from kit 860161 between the crossmember and the frame. The conical end of the spacer must fit over the mounting hole in the crossmember. For vehicles with an automatic transmission, add 3 shims. See figure 18.
- 3) ☒ Install a conical washer and apply thread lock to 3 flat head bolts from kit 860161. Insert a bolt through the

crossmember, each spacer, and into the frame. See figure 18.

- 4) ☒ Repeat steps 2 and 3 for the other side of the crossmember. Tighten all bolts to 45 FT-LBS.

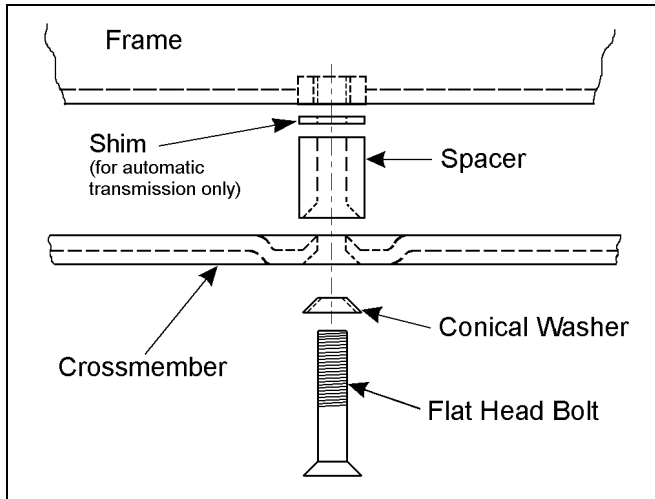


Figure 18

LINKAGE RELOCATION & ADJUSTMENT

- 1) ☒ Pull back carpet/mat to gain access to torque shaft bracket mounting screws. If necessary, loosen the screws attaching the console to the floor panel.
- 2) ☒ Remove the four screws that attach the torque shaft bracket to the floor pan. See figure 19.

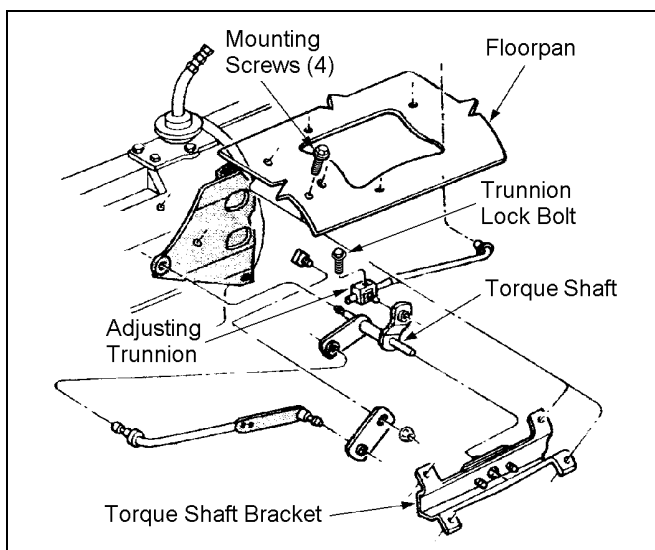


Figure 19

- 3) ☒ Slide the torque shaft bracket off the torque shaft, and remove the bearing plate & gasket.
- 4) ☒ Attach the shift relocating bracket 176090 to the torque shaft bracket as shown in figure 19. Use the hardware from kit 860160.

- 5) ☒ Attach the bearing plate, with gasket, to the shift relocating bracket. See figure 20.

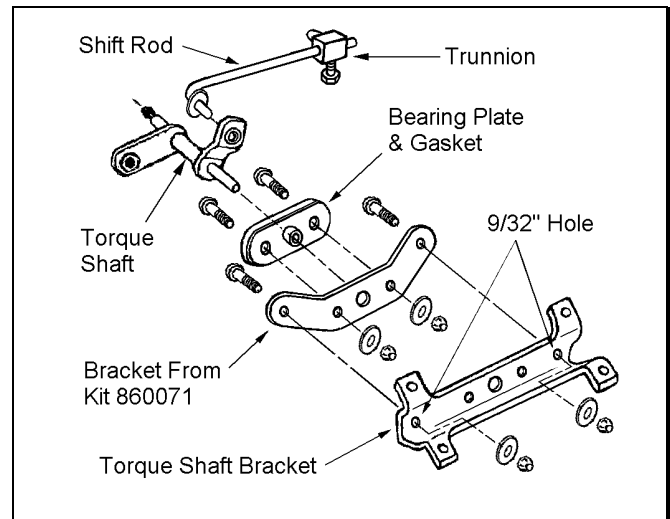


Figure 20

- 6) ☒ Insert the torque shaft into the bearing plate and reinstall the torque shaft bracket to the floor pan. Verify that the torque shaft is level and the shifting linkage moves without restriction. If necessary, file the end of the shift rod to provide adequate clearance.
- 7) ☒ Shift transfer case into 4L position and loosen lock bolt on adjusting trunnion.

NOTE: Be sure shift rod slides freely in trunnion.

- 8) ☒ Verify that transfer case range lever is fully engaged in 4L position. Tighten adjusting trunnion lock bolt.
- 9) ☒ Reinstall carpet/mat and tighten console mounting bolts.

FLOOR PAN MODIFICATION (MANUAL TRANS ONLY)

- 1) ☒ Move the seats to the full rearward position.
- 2) ☒ Pry up the shift boot and bezel from the floor console. See figure 21.
- 3) ☒ Remove the bolts attaching the console to the floor pan.

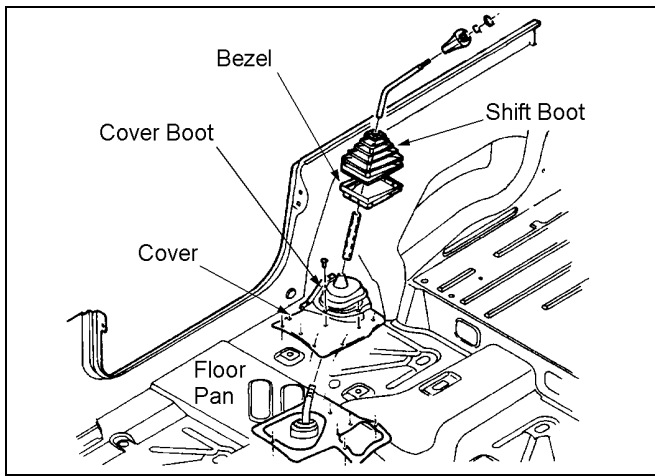


Figure 21

- 4) ☒ Lift the console upward and remove through the passenger door.
- 5) ☒ Remove the 4 screws attaching the cover boot to the cover. Slide the boot upward to expose the opening in the cover and floor pan.
- 6) ☒ Shift the transmission into 2nd and reverse. Verify a minimum of 1/8" clearance between the shift lever and floor pan. If necessary, enlarge the opening in the floor pan with a half round file.
- 7) ☒ Reposition the cover boot. Install one screw on the left side or 9 o'clock position.
- 8) ☒ Rotate the boot clockwise to match the increased floor pan opening. Mark and drill the three new mounting holes. See figure 22.



Figure 22

- 9) ☒ Reinstall the cover boot, console, and shift boot.

FINAL ASSEMBLY

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) ☒ Readjust headlamps. Have vehicle Aligned to manufacturer's specifications.

Alignment Specifications

ADJUSTMENT	PREFERRED	RANGE
Caster	7°	±1.0°
Camber (fixed angle)	-0.25°	±0.63°
Toe-In (each wheel)	0.15°	±0.15°
Thrust Angle	0	±0.15°

END LINK DISCONNECT PROCEDURE (FOR ROCK CRAWLING ONLY)

- 1) ☒ Remove the hitch pins and center sections from the front sway bar end links. Place center sections inside vehicle for safe storage.
- 2) ☒ Rotate the sway bar upward.
- 3) ☒ Connect the sway bar to the inside of the fender wells as shown in figure 23.



Figure 23

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.

RANCHO INDUSTRIES USA LIMITED WARRANTY

ABOUT OUR WARRANTY

Rancho Industries USA, warrants the listed products for the listed time period and/or mileage to the original retail purchaser against defect and wear-out when used on passenger cars and light trucks under normal operating conditions. The warranty does not apply to Rancho products which have been improperly applied or installed. The consumer will be responsible for removing from the vehicle and returning any defective item(s), transportation costs prepaid, to the dealer from which it was purchased or a Rancho Authorized Installer, and for reinstallation of the part upon return. A copy of the sales receipt is required for all warranty adjustments. Rancho Industries will, without charge, repair or replace at its option, defective products or component part(s).

In the case that the customer is unable to return to the original place of purchase or an Authorized Installer, the consumer may contact Rancho Industries at 1-800-5SHOCKS to obtain a Return Authorization Number prior to shipping. The consumer will be responsible for removing from the vehicle and returning any defective item(s), transportation cost pre-paid, to the following address: 6925 Atlantic Avenue, Long Beach, Ca 90805. A copy of the sales receipt is required for any warranty adjustments. Rancho Industries will, without charge, repair or replace at its option, defective products or component part(s). Such item(s) will be returned with transportation costs prepaid within the United States from Rancho Industries. The customer will be responsible for reinstallation.

Exclusions from this warranty are sales outside of the United States, the finish, any condition(s) caused by abnormal use or service, and product-specific limitations, if any, listed below.

THE LOSS OF USE OF THE PRODUCT, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS OR CONSEQUENTIAL DAMAGES ARE NOT COVERED. RANCHO INDUSTRIES RESERVES THE RIGHT TO CHANGE THE DESIGN OF ANY PRODUCT WITHOUT ASSUMING ANY OBLIGATION TO MODIFY ANY PRODUCT PREVIOUSLY MANUFACTURED.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS, WHICH EXTEND BEYOND THIS WARRANTY PERIOD. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE FACE HEREOF. SELLER DISCLAIMS IMPLIED WARRANTY OF MERCHANTABILITY.

THIS WARRANTY SHALL NOT APPLY TO ANY RANCHO PRODUCT WHICH HAS BEEN MODIFIED, CUSTOMIZED OR IMPROPERLY INSTALLED. WARRANTY DOES NOT APPLY TO ANY RANCHO COMPONENTS USED FOR RACING PURPOSES, OR RACE TYPE ACTIVITIES. WARRANTY DOES NOT APPLY TO ANY RANCHO INDUSTRIES RACING PRODUCTS.

The product, time periods and/or mileage under this warranty are as follows:

RS1000 / RS5000 / RS5600 / RS7000 / RS9000

LIMITED LIFETIME WARRANTY

Limited lifetime warranty on these Rancho shock absorbers. Rancho Industries warrants each new shock against factory defects in material and workmanship (except for finish, including the shock boot) for as long as the original retail purchaser owns the vehicle on which the units were originally installed.

RS4000 / AIR RANCHO / RC9000 REMOTE CONTROL

LIMITED 2 YEAR, 24,000 MILE WARRANTY

Limited 2 year, 24,000 mile warranty on these Rancho products. Rancho Industries warrants each new RS4000, Air Rancho shock and RC9000 Remote Control System against factory defects in material and workmanship

(except for finish, including shock boot) for the first to occur of 2 years or 24,000 miles after the date of purchase.

SUSPENSION COMPONENTS

LIMITED LIFETIME WARRANTY

Limited lifetime warranty on all of Rancho's suspension products. Rancho Industries warrants each new Suspension Component against factory defects in material and workmanship (except finish) for as long as the original retail purchaser owns the vehicle on which the products were originally installed.

PERFORMANCE BRAKES

LIMITED LIFETIME WARRANTY

Limited lifetime warranty on all of Rancho's performance brake products. Rancho Industries warrants each of its new brake pad and lining or remanufactured shoe and lining against factory defects in material and workmanship (except finish) for as long as the original retail purchaser owns the vehicle on which the products were originally installed. In addition, if during the ownership of your vehicle the Rancho Performance Brake friction material lining thickness wears to less than 1/32" of usable life the product will be exchanged. **THIS LIMITED WARRANTY DOES NOT COVER THE FOLLOWING:**

- Brake pads or shoes subjected to misuse, accident, neglect or lack of brake maintenance
- Police or taxi vehicles, race vehicles, any trailer towing applications, or vehicles used for governmental or commercial purposes
- Light trucks or vans over 8000 pounds gross vehicle weight
- Any part that is obsolete and is no longer available or supplied by Rancho

POWERFLOW EXHAUST

LIMITED LIFETIME WARRANTY

Limited lifetime warranty on all of Rancho's PowerFlow exhaust products. Rancho Industries warrants each of its exhaust products against factory defects in material and workmanship (except finish) for as long as the original retail purchaser owns the vehicle on which the products were originally installed. **THIS LIMITED WARRANTY DOES NOT COVER THE FOLLOWING:**

- Exhaust system parts that rust or are blown-out by faulty engine conditions
- Any component that has been modified, customized, or improperly installed
- Any part that is obsolete and is no longer available or supplied by Rancho

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Rancho Industries reserves the right to make changes in design, material and specifications or to make product changes as deemed necessary without prior notice. Obligations or liabilities will not be assumed with respect to similar products previously advertised.

WARRANTY DOES NOT APPLY TO ANY RANCHO COMPONENTS USED FOR RACING PURPOSES, OR RACING TYPE ACTIVITIES. WARRANTY DOES NOT APPLY TO ANY RANCHO INDUSTRIES RACING PRODUCTS.

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