CE-9900TJR & CE-9900TJRA JEEP TJ WRANGLER & LJ UNLTD. REAR ANTIROCK® SWAY BAR INSTALLATION INSTRUCTIONS & TECHNICAL MANUAL

ROCK JOCK® BY JOHN CURRIE

Fits

- 1997-2006 Jeep TJ and LJ (Unlimited)
- Instructions are illustrated with this kit being used in conjunction with a RockJock 4" lift kit, a 1" body lift, 15" x 8 1/2" wheels with a 4 1/2" backspacing and 35" x 12.50" tires. Another recent combination we have used is a RockJock 4" lift kit, a 1" body lift, 15" x 8 1/2" wheels with a 3 1/4" backspacing and 35" x 11.50" tires. This combination yielded nearly the same results.

Kit Includes

1) CE-9902J.....45" Antirock® Bar
1) CE-9900TJR-BR.....RH frame bracket
1) CE-9900TJR-BL.....LH frame bracket
2) CE-99003-JK.....Steel Antirock® Arms
2) CE-9901D.....Antirock® Bushings - white
1) CE-9901RD2.....14" long threaded end link rod
2) CE-99006.....Sway Bar End Link Rod End (RH)
2) CE-99006L.....Sway Bar End Link Rod End (LH)
2) EE-51NST.....½"-20 Thin Nylock Nut
2) EE-51NS.....½"-20 Nylock Nut
2) EE-51NF.....½"-20 Jam Nuts (RH Thread)
2) EE-51NFLHP.....½"-20 Jam Nuts (LH Thread)
1) CE-99005.....Antirock® Arm Hardware Kit
2) EE-5164CH8.....1/2"-20 X 4" Long Bolt
4) EE-50WSAEH.....1/2" Flat Washer
4) EE-3712RW.....3/8"-16 X 1" Thread Forming Screws
2) CE-9900TJR-SP.....11/16" o.d. x 1/2" i.d. x 2.45" Long Spacer
2) RJ-720301-101.....Antirock® Arm Decal Set

Required Tools

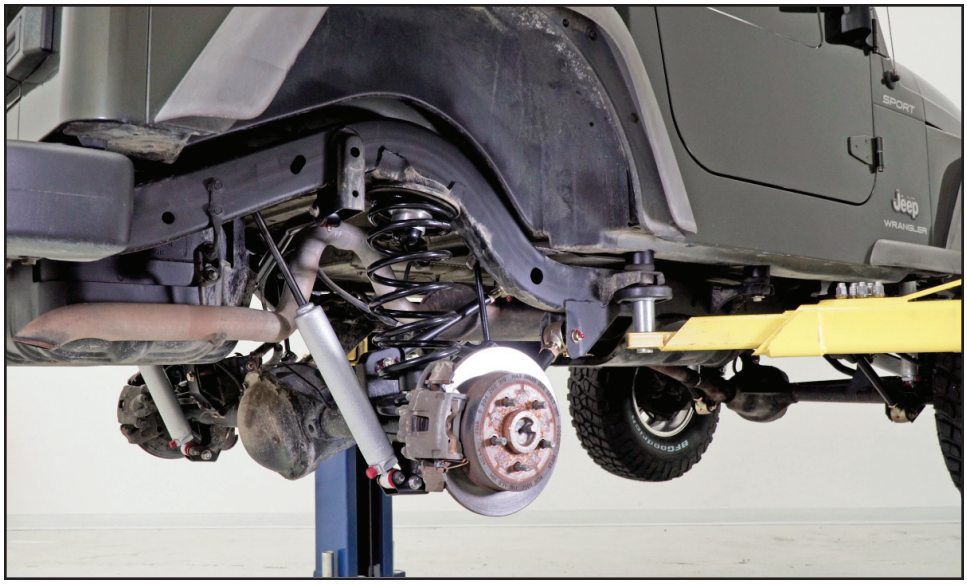
- Complete set of hand tools.

General Information

The Antirock® off road sway bar kit replaces the stock Jeep TJ and LJ (Unlimited) rear sway bar and is designed to be run in conjunction with the RockJock Antirock® front sway bar or the stock front sway bar. The object of the Antirock® sway bar system is to balance the front and rear suspension when the vehicle is off road resulting in better, more consistant traction. This sway bar is designed to be left connected while on and off road. On the road, the Jeep will have more body roll than stock. Adjustable sway bar links allow for minor preload adjustments. The sway bar itself is of a torsion bar style design and is made out of 4340 alloy steel. This matches the quality that is commonly used in off road racing today.

Step 1

Jack the rearend of your vehicle up and safely and securely put it on jackstands. Ensure the vehicle's stability before beginning work, then go ahead and remove the back wheels & tires.



Step 2

Remove the 2 bolts (one per side) that attach the factory sway bar end links to the inside of the frame rail.

Step 3

Next, remove the 2 bolts per side that hold the sway bar bushing clamps to the front of the axle housing tubes.

You may now remove and discard the entire factory rear sway bar as an assembly, as well as it's hardware.

Step 4

Locate and carefully pop the plastic rivets out that attach the plastic inner fender liners to the body. Save all of the rivets for reuse.

Step 5

Remove the liners and set aside.

Step 6

Install the sway bar bushings into the frame brackets with a mallet. You will notice a dogleg in the bracket. The bushing end of the bracket doglegs inward, and the bushing should go on the outboard side of the bracket (see the photo for Step 7 for further clarification if necessary).

Step 7

Tap one of the brackets with bushing installed onto the sway bar as shown.
You'll want 3/4" of sway bar spline visible outboard of the bushing.

Step 8

Note which bracket you have installed onto the sway bar - driver or passenger. Again the dogleg goes inward and the bushing angles toward the back of the vehicle.
Install the bar into the back of the vehicle from the side that corresponds to the bracket that you've installed onto the sway bar. Install above the frame rail, above the top back corner of the gas tank and in front of the body mount puck. You may install an arm on the end of the bar to assist in maneuvering the assembly. Slide the bar in until it reaches the other side, and the bracket reaches the side of the frame rail where you are working.

Step 9

Install one of the 1/2"-20 x 4 1/2" bolts, with a washer under it's head, thru the large slotted hole in the bracket. Insert one of the 11/16" O.D. spacers thru the hole in the frame and then another washer and a stover nut on the inside of the frame. Snug up, but do not tighten.

TECH TIP

IMPORTANT!!!

If you do not have a 1" body lift - you will need to follow the steps in this Tech Tip!

NOTE: the following photos were taken when this TJ was brand new. We are finding that this many years later the body pucks have rotted and/or settled and even performing this procedure may still not provide enough clearance!

Step 1

With Step 9 complete, rotate the brackets upward and make a mark where the bar contacts the body pinch weld - that is preventing fitment.

Step 2

Measure from a soild point, such as the back panel of the body tub, to the mark you made.

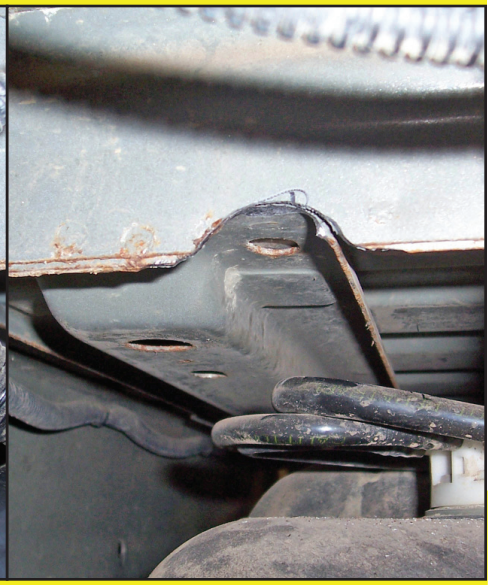
Go to the other side of the vehicle and replicate this mark.

Step 3

Using your marks as centerlines, grind and arc in the pinch weld that is larger than the diameter of the sway bar torsion bar, so that the bar is able to nest into this arc.

You will have to test fit and grind as needed.

The finished arc should look like the picture to the far right.



TECH TIP CONTINUES

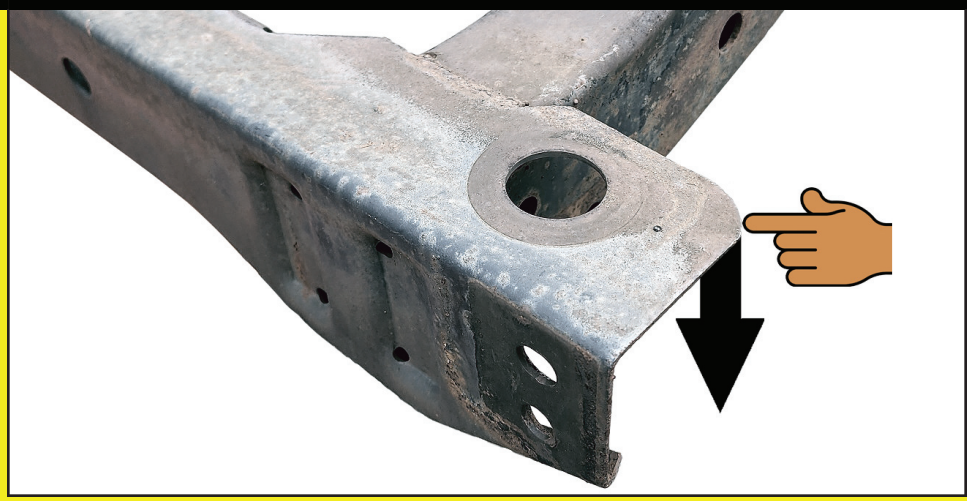
TECH TIP

Step 4

In an increasing amount of cases, again, due to vehicle age, it is being reported that the corners of the rear frame crossmember, where the rear-most body pucks sit - are bent downward - thus lowering the body.

It's being noted that vehicles with aged, collapsing factory rubber body pucks, in conjunction with this possible frame bend issue appear to have zero clearance for the rear sway bar upon inspection.

Obviously all rectifiable - but be aware!



Step 10

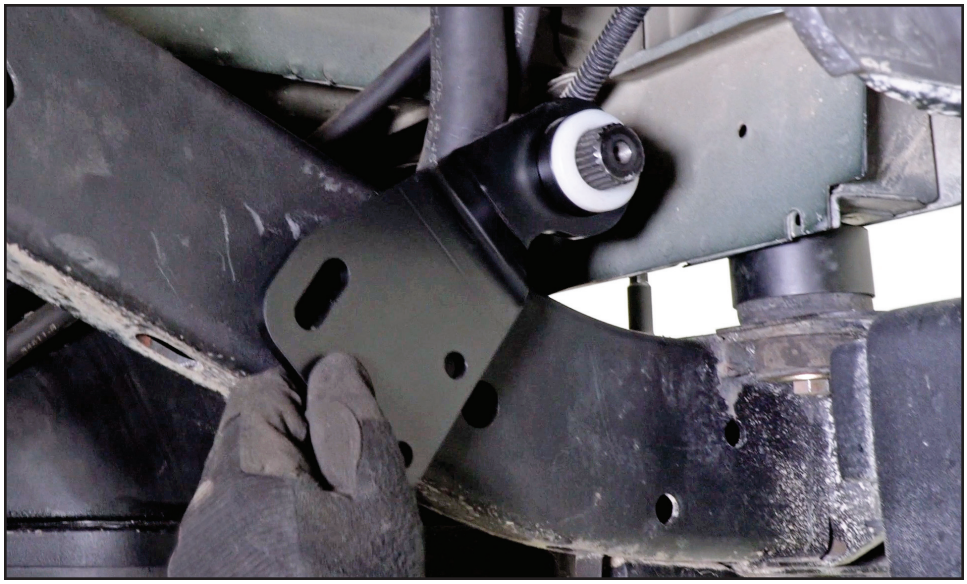
At this time, if you haven't already installed a sway bar arm, do so now. Newer kits include a flat head allen bolt and aluminum washer for this location (see below).

Step 11

Now that one bracket is anchored to the frame, you can tap the other bracket onto the sway bar from the other side.

Step 12

Again, drive the bracket on until you have 3/4" of sway bar splines exposed.



Step 13

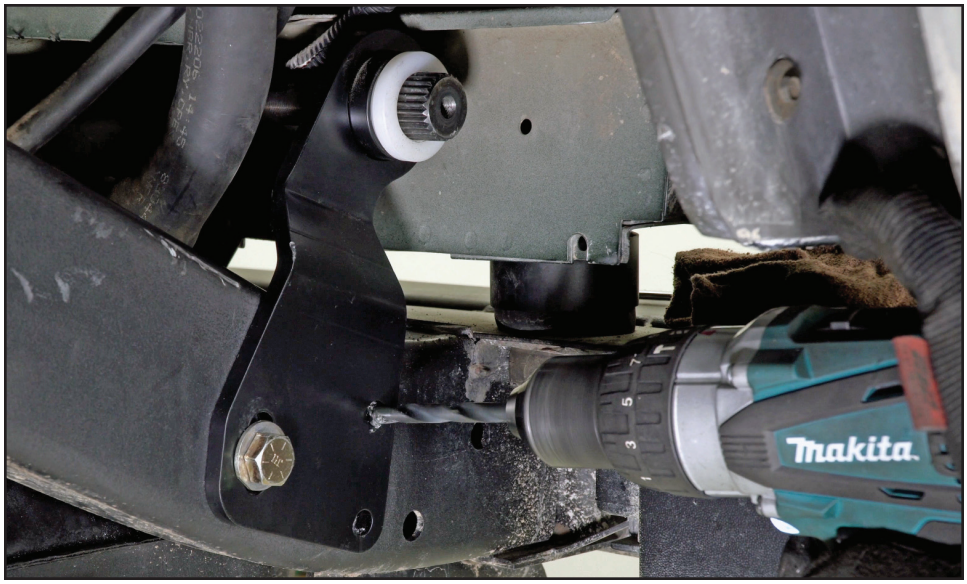
Repeat the process of installing the 1/2"-20 x 4 1/2" bolt, spacer and hardware thru the large, slotted hole in the bracket. Snug, but do not tighten. Right now, with the 1/2" bolts snugged, you are able to move the bar around in the chassis for optimum fitment in your application. You can raise or lower it via the slotted holes in the brackets, and/or tip the entire unit forward or backward. You may notice the need to grind a vertical radius in the body pinch weld for bar clearance.

Once you have attained an optimum fitment that you are satified with, go ahead and torque the two 1/2" bolts to 85 ft. lbs.

Step 14

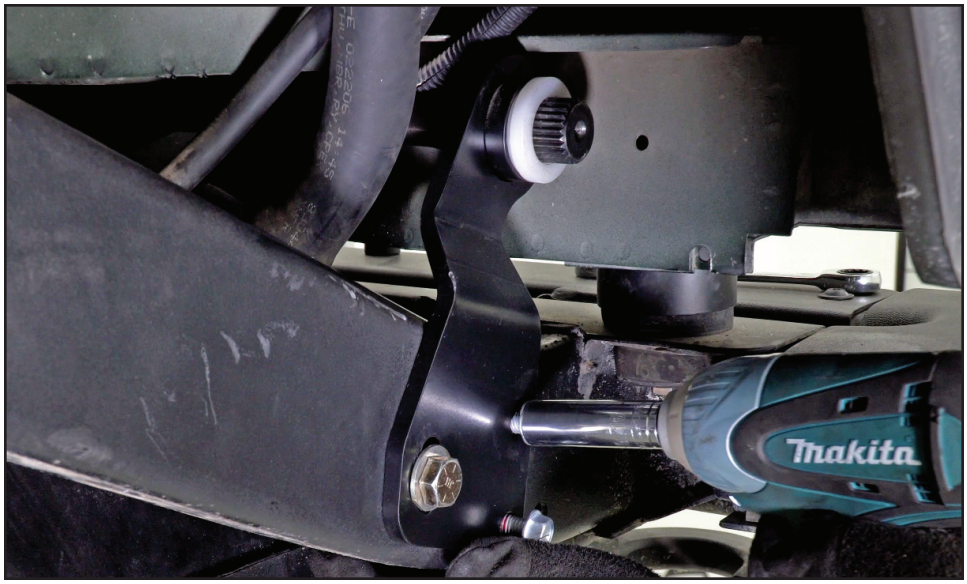
Now that the brackets are tight, go back and, using the brackets as a template, center punch all 4 of the small holes into the frame (2 per side) with a 3/8" transfer punch.

Step 15
Pilot drill and then drill all 4 holes (2 per side) out with a 5/16″ drill bit.



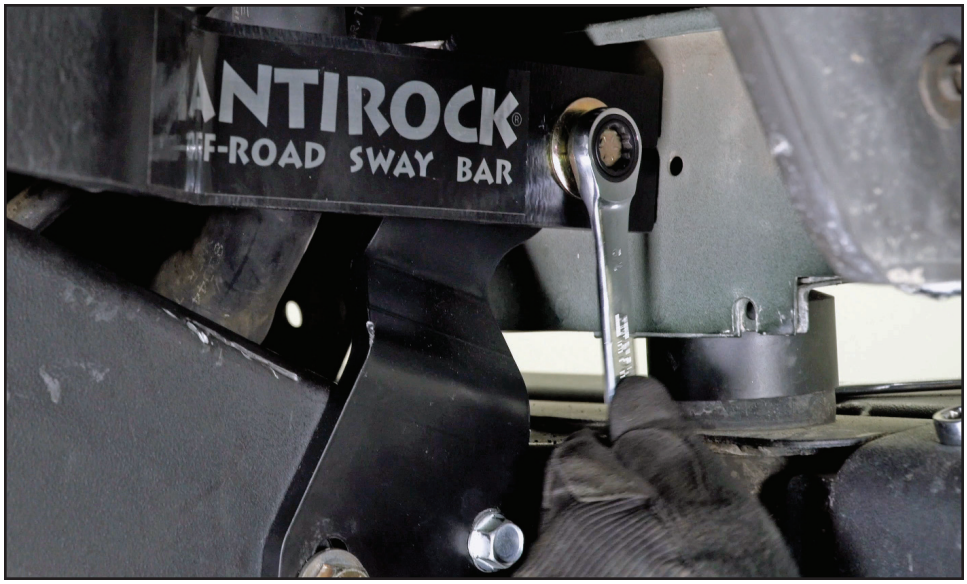
Step 16
Locate the four 3/8″-16 x 1″ thread forming screws. Apply red loctite to all 4 screws.

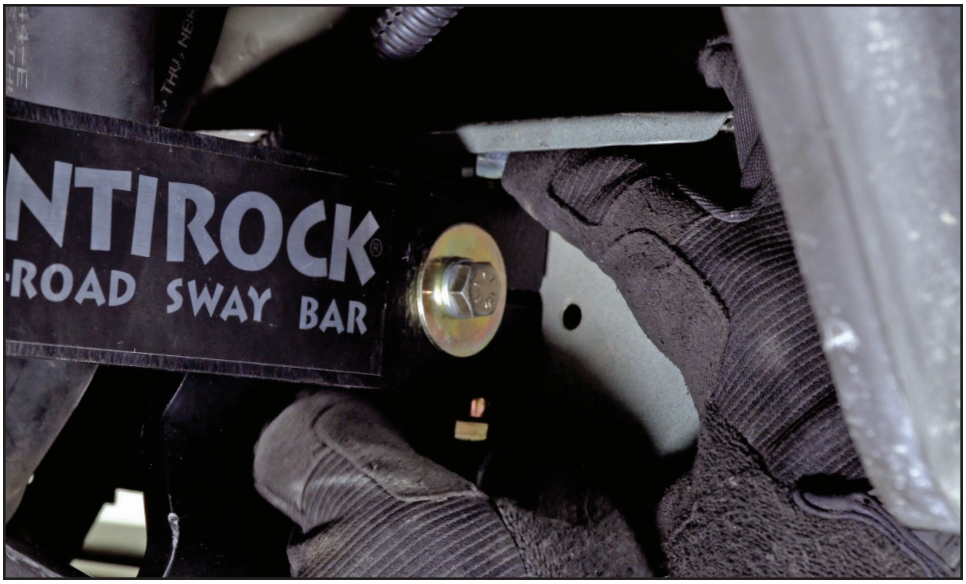
Step 17
Install the 2 bolts per side and torque to 35 ft. lbs.



Step 18

You may now install the second sway bar arm using the supplied allen bolt and aluminum washer.



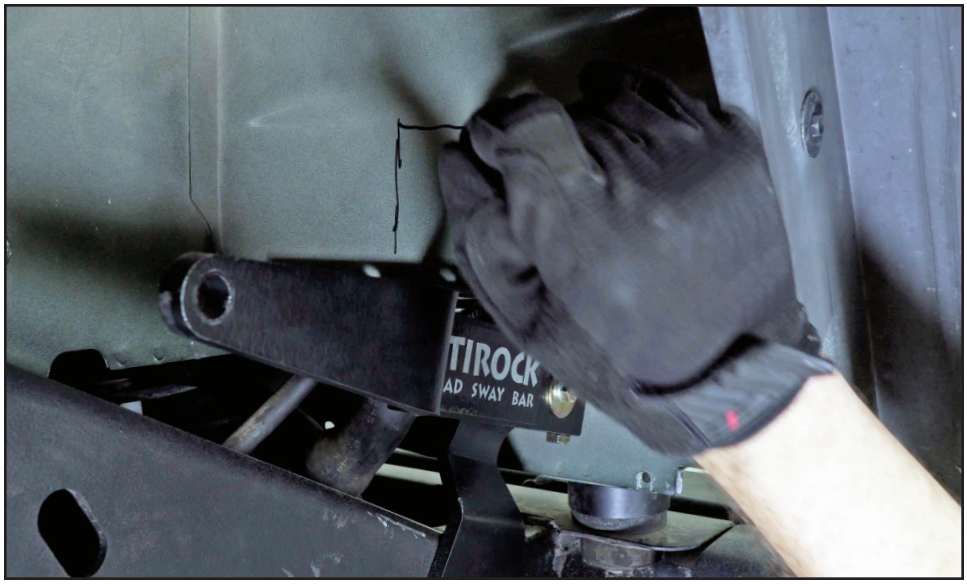


Step 19

Now go back and install the 3/8"-24 x 2 1/2" sway bar arm pinch bolts and 3/8"-24 nyloc nuts on both sides. Torque to 35 ft. lbs.

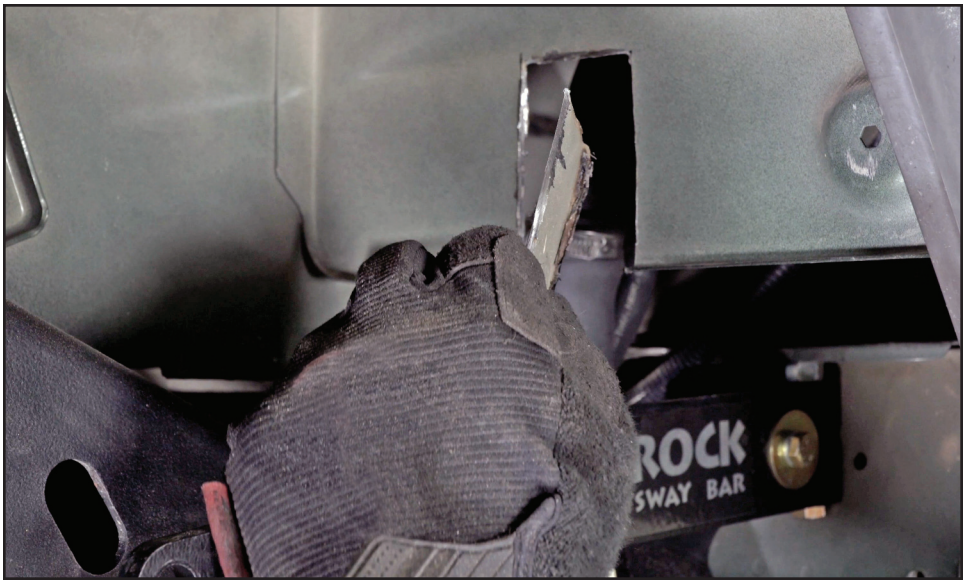
Step 20

Now we'll address clearancing the body for sway bar arm up travel. Push the driver's side sway bar arm up until it hits the body for a reference point. Now, with a marker, draw a box about 2 1/2" upward from the arm and around 1 1/2" wide.



Step 21

Lower the sway bar arm down out of the way and go ahead and cut the sheetmetal with an airsaw or sawzall to remove the box that you drew with the marker.

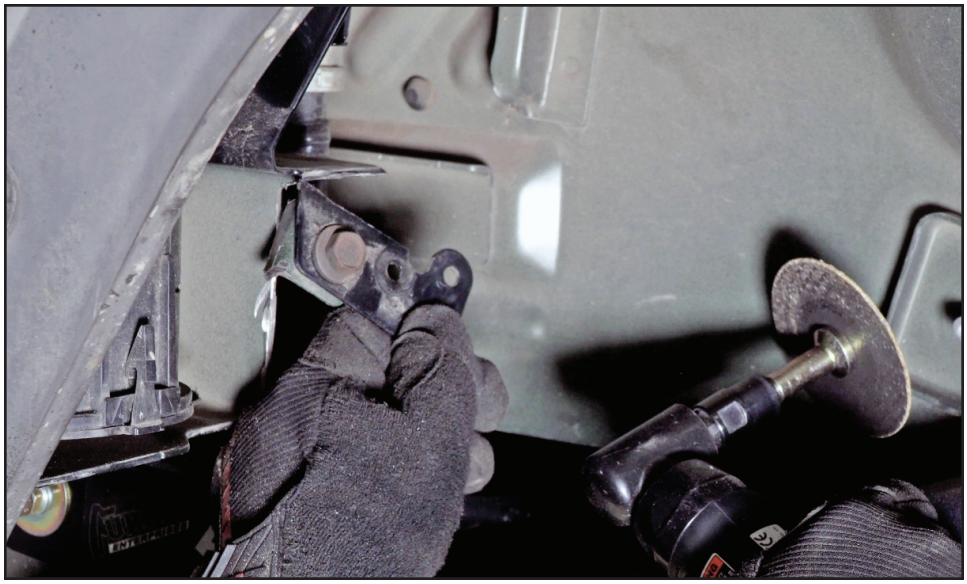


Step 22

Upon removing the piece of sheetmetal, you should have something that looks like this.

Step 23

Depending upon year of the vehicle, you will find a variety of things in the passenger's side inner wheelwell. Our example here was a 2006 year model and, upon raising the sway bar arm upward to check clearance, all we had to do was trim the end off of this bracket, as shown.
On some years, and depending upon the state the vehicle was headed for after manufacture, you may find the smog system's charcoal canister in here, and, in some cases, you will have to relocate it out of the way.



Step 24

Now we'll reinstall the plastic inner fender liners, with only a few rivets, to hold the liners in place for reference.

Step 25

Repeat the sway bar arm travel marking process on the plastic liners. You'll want to trim the liners enough to match your trimming of the metal underneath.

Step 26

After marking, remove the liners and cut and remove the area out that you have marked.

Step 27

Now you may reinstall the fender liners and all of their rivets.

Step 28

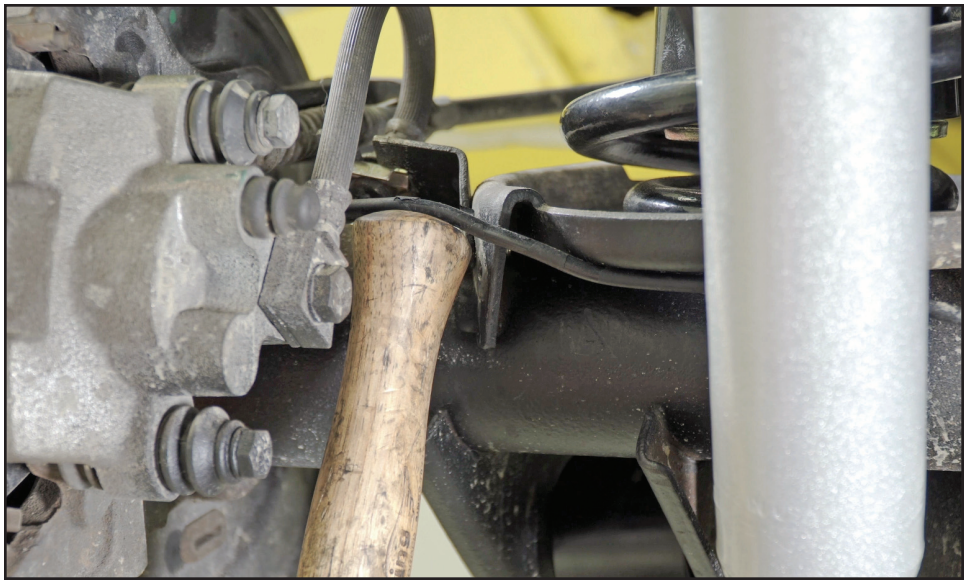
We went ahead and cleaned up the cut in the plastic with sander.

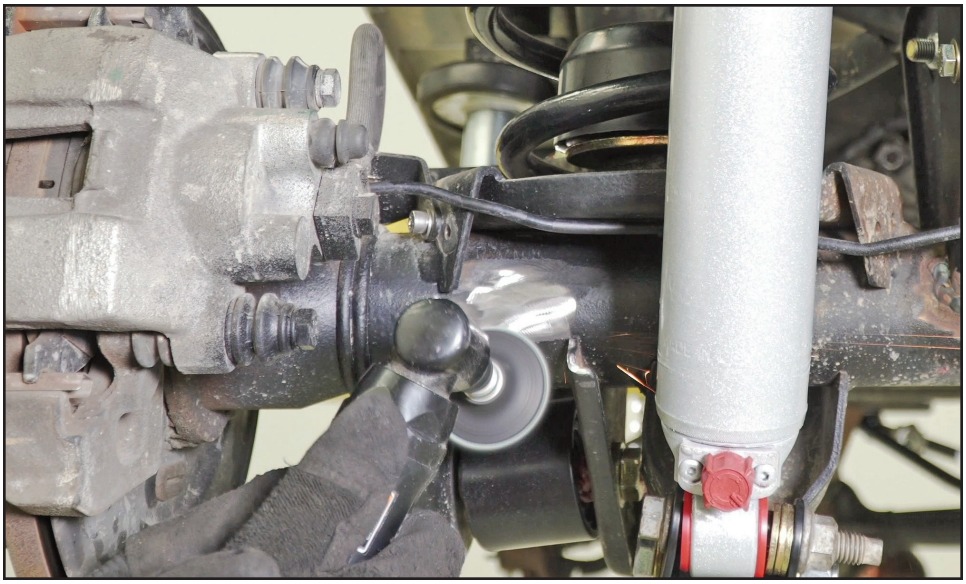
Step 29

Cycle the arms one last time to make sure all of your clearancing efforts have been successful.

Step 30

On most vehicles, you will need to put a bend in the hard brake line to clear off the back of the axle tube for mounting of the sway bar link tabs. We just, gently, pushed the lines upward until we gained the space we needed.



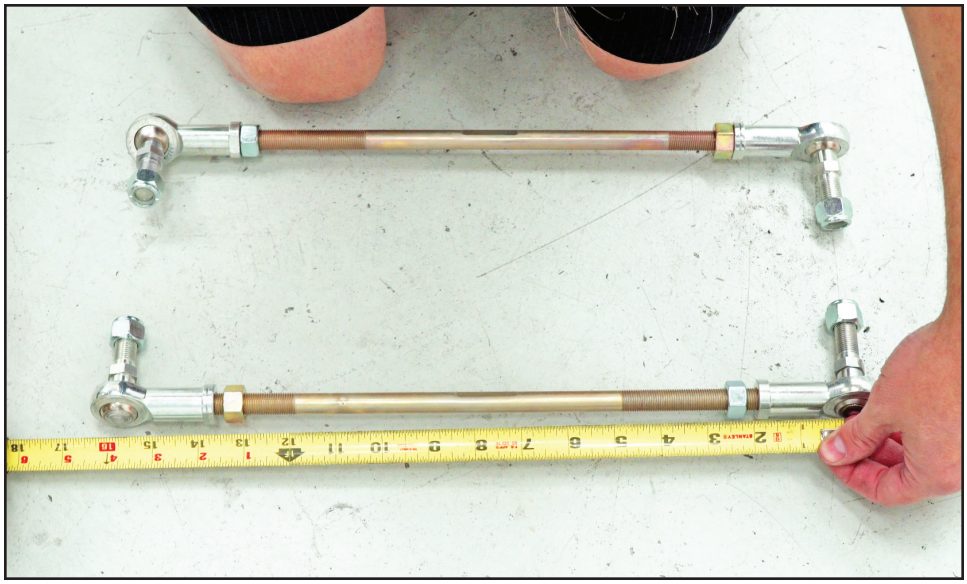


Step 31

With a sander clean off the area of the axle tubes shown, on both sides, to bare metal, to prepare a weld area for the new sway bar link tabs.
As a rule of thumb - the tabs usually end up being about 43 1/2" apart C-C, so account for that during this sanding.

Step 32

Next, assemble the rear sway bar links as shown. For an initial setting, adjust the links to 17.5" center to center of the rod ends.

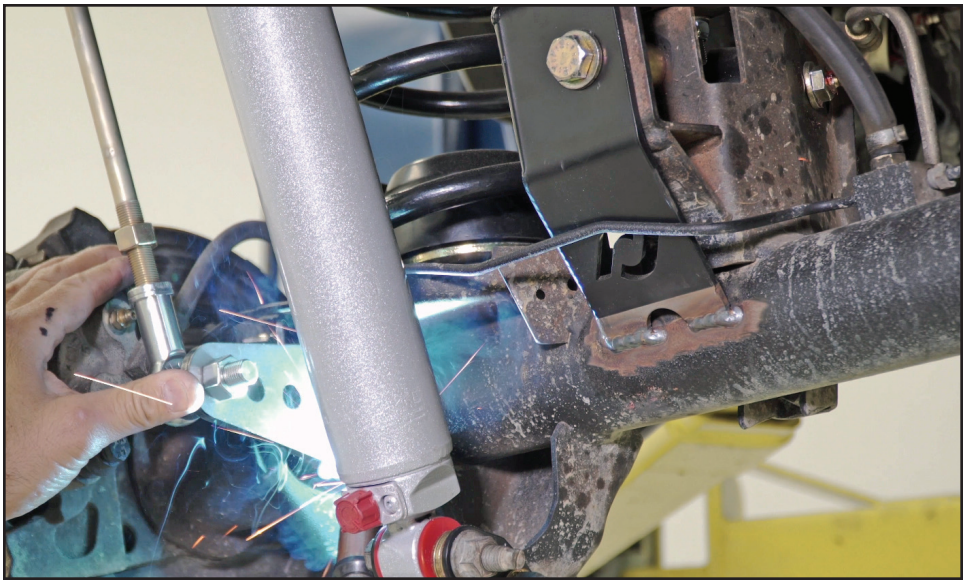


Step 33

Install the top of the sway bar links into the arms from the inboard side of the arms. Tighten with a 5/8" and 3/4" wrench or socket.

NOTE: at the beginning of this manual, we offer tire and wheel spec recommendations. Depending upon your chosen wheel size, wheel backspace, tire bulge, and lift amount - this nut may try to come into contact with your tire sidewall. In most cases, you can adjust the vertical links so that this nut ends up higher and as the tire comes at it during articutation, the tire is never able to catch up to it to touch it.

For reference, the last vehicle we built here had ~2 3/4" gap between this nut and the tire.



Step 34

Install the sway bar link mounting tabs onto the bottoms of the new links into the outboard-most holes on the tabs (as shown). Note the heims are outboard of the axle tabs. Then, using the link as a guide, position the tab onto the back of the axle housing. You'll want the link straight up and down when viewed from the back of the vehicle, and you'll want the tab to be pointing straight out the back. The 3 holes in the tab should be level to the ground with the vehicle at **ride height**. Once you have achieved good positioning, go ahead and tack weld the tabs in place.

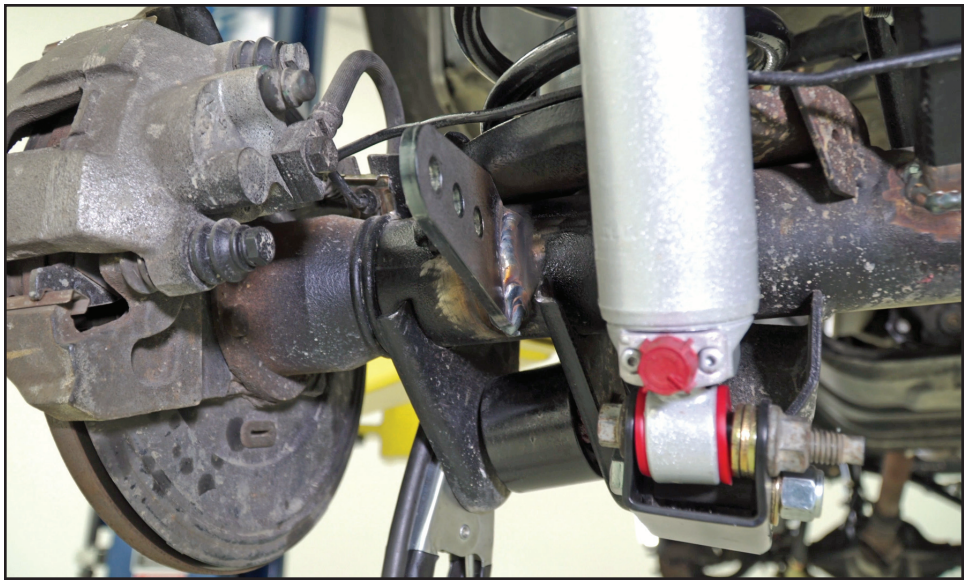
NOTE: the tabs end up being around 43 1/2" C-C, from side to side - but vehicles vary - so check!

Step 35

You'll need to fully weld the tabs into place, but you'll need to do it very slowly so as not to warp the axle housing!

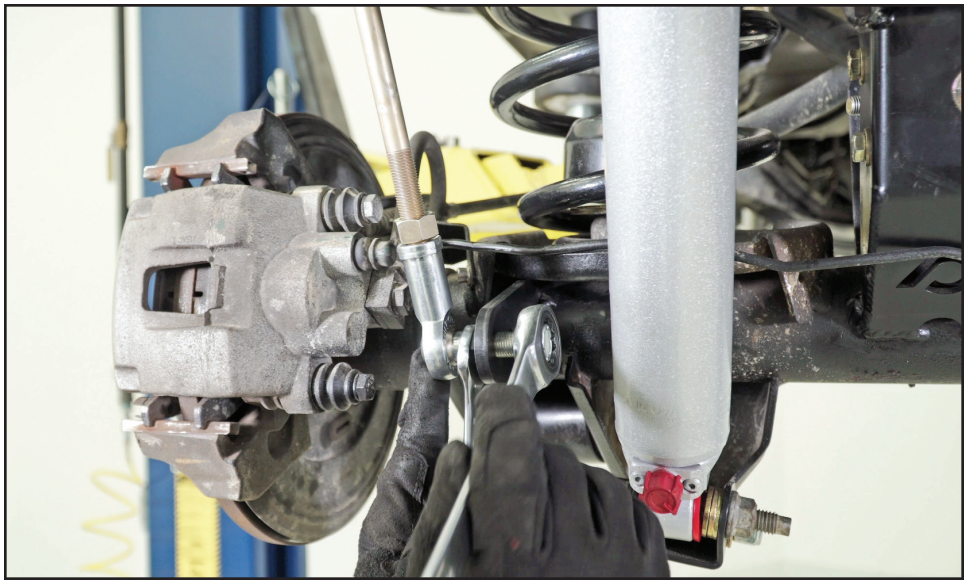
Weld a very small amount on each side and then allow to completely cool before going back and adding more weld.

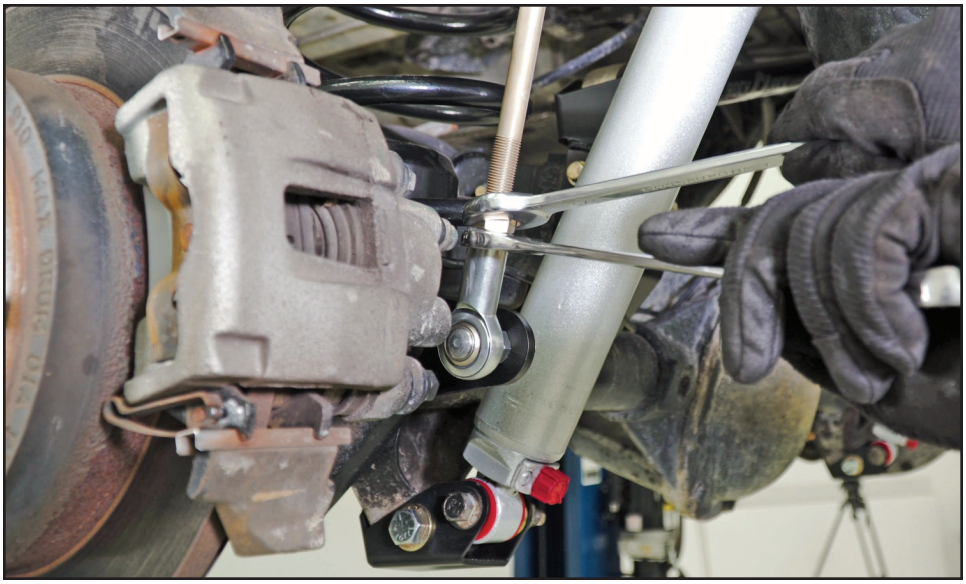
The finished, welded tabs should look like this.



Step 36

You may now install the heim joints into the axle tabs, again, with the heims outboard of the tabs. Tighten with a 5/8" and 3/4" wrench or socket.





Step 37

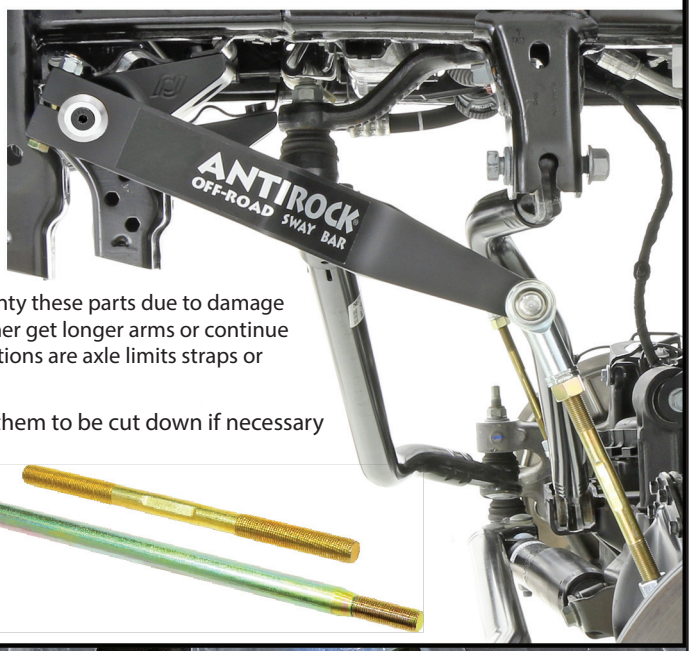
Finally, move the link rods around with an 11mm wrench, via the flat in the middle of the link rod, to relieve any preload on the links that may have developed. Once you have neutralized the links, go ahead and tighten the jam nuts with a 19mm wrench on the heims and a 3/4" wrench on the jam nuts.

⚠ CALIFORNIA PROP 65 WARNING

WARNING: These products can expose you to chemicals including Chromium, Lead, Lead Compounds, Nickel (Metallic), Nickel Compounds, Diisonyl and Di(2-ethylhexyl) Phthalates (DEHP)(DINP) which are known to the State of California to cause cancer or birth defects or other reproductive harm. **For more information, visit www.P65warnings.ca.gov**

Proper Antirock® Adjustment

To correctly adjust a **front** or **rear** Antirock sway bar and determine how long the end links should be, we recommend the following process. You will need to determine how much suspension up travel and down travel that your vehicle has. Once you have those numbers, you will add them together to determine total overall travel. For example, if your vehicle has 4" of up travel and 8" of down travel, adding those number together, you get 12" of overall travel. Next, you'll need to find the midway point of your suspension travel, so, 12 divided by 2 is 6. So, the 6" point is the midway point of your vehicle's travel. You'll then need to set the axle at the 6" point – so the midway point of it's travel. When the axle is at the midway point of it's travel – this is the **ONLY** time the Antirock arms should ever be level. So, now that your axle is set to the midway point, go ahead and level the Anitrock arms. Next, measure center to center from the link mounting hole in the end of the Antirock arm, to the link mounting hole on your differential housing. This dimension is your mandatory link length for your specific vehicle build.



It is very important that, upon down travel, the link rod and the arm never become a straight line (see diagram to the right of a safe angle). If they do, you are in danger of them flipping upside down toward, the bumper, and not returning upward to their original location. If this situation does occur, the link rods and or the Antirock arms may be destroyed. RockJock **does not** warranty these parts due to damage caused by improper set up! If you foresee this being an issue, you'll need to either get longer arms or continue to adjust the link length (or both), until this situation can never occur. Other options are axle limits straps or shorter shocks that limit the axle's down travel.

Available Link Rods: feature long, trimmable RH & LH threads allowing them to be cut down if necessary for an exact fit in your application. See our website for exact specs.

CE-9901RD3	6.5" long Antirock sway bar link rod
CE-9901RD4	8.5" long Antirock sway bar link rod
CE-9901RD5	10.5" long Antirock sway bar link rod
RJ- 517200-1	12.5" long Antirock sway bar link rod
CE-9901RD2	14" long Antirock sway bar link rod
RJ- 253200-1	15.5" long Antirock sway bar link rod