# FRONT SUSPENSION

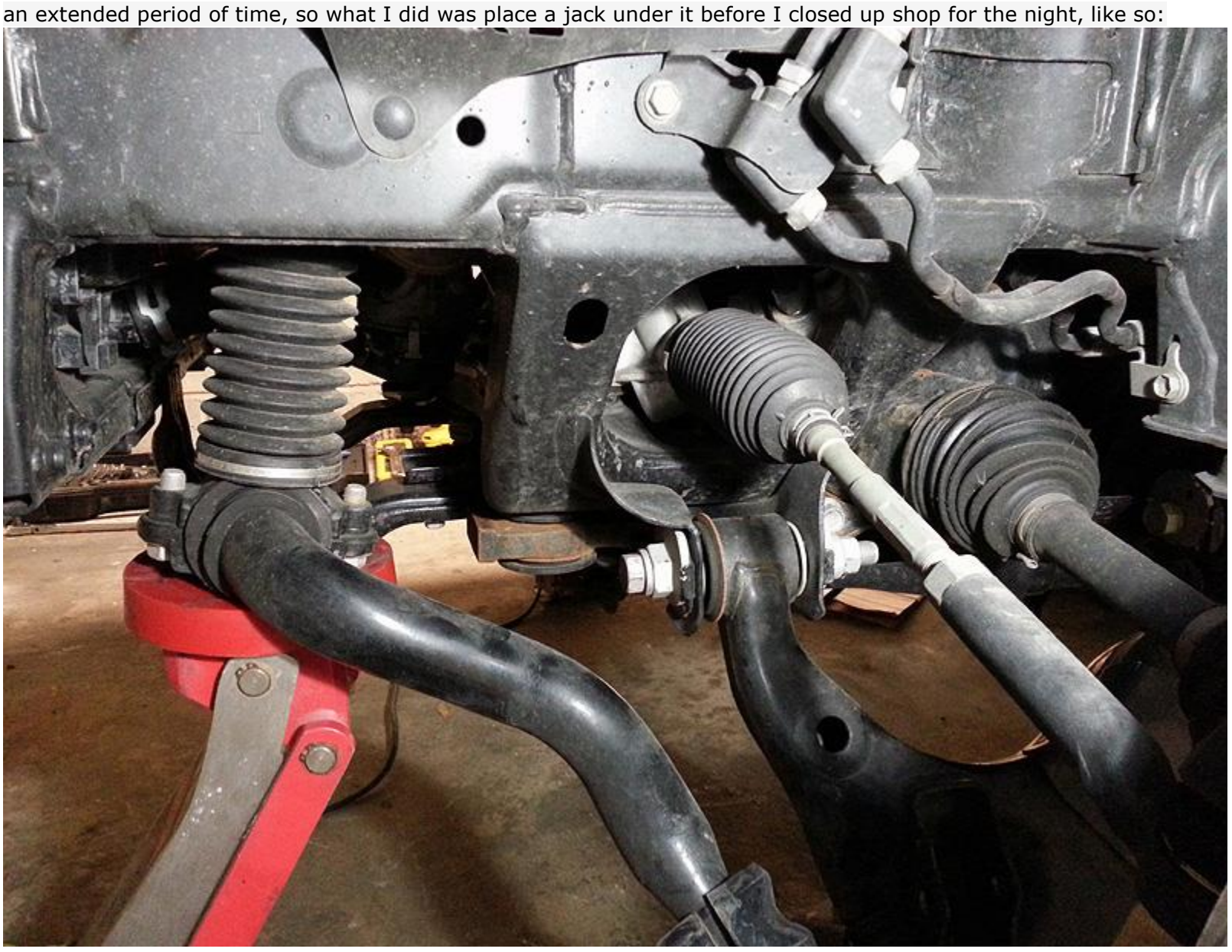
**Step 1:**
Before you raise your vehicle onto jack stands and take off the front wheels, remove the front skid. Now, with the vehicle still on the ground, locate the passenger side KDSS bracket (the bracket that is bolted to the LCA) and remove the two bolts; next, remove the two bolts from the driver side KDSS bracket.

Note, you should try your best to briskly remove each bolt because the KDSS sway bar has some tension on it and will want to push against the bracket while you are removing the bolts; so you probably want to avoid having the brackets pressing on the threads of the bolts for too long. It helps to have an impact wrench to quickly zip them off, though it is not required; personally, I just removed them by hand with a ratchet.

After the bolts are out, you will see that the KDSS piston slowly extends downwards and eventually stops. Now put the brackets and bolts aside for installation later. BTW, there's a left and a right, so don't mix it up; but if you do mix it up even after I told you not to, it's no big deal because they are marked "L" and "R", lol.

**Step 2:**
Go back to the Antman/Sp8Ball write up and follow steps 1 through 10.

**Step 3:**
After the vehicle is up on jack stands, you might want to consider supporting the KDSS piston if you plan to take forever and a day to finish the front end installation (like I did, lol). I am honestly not sure if it is bad or not to leave the KDSS piston in the fully extended position for an extended period of time, so what I did was place a jack under it before I closed up shop for the night, like so:



You will see that when you start jacking it up the piston will kind of resist, but rest assure it will compress just fine, so don't worry. I compressed the piston only about half way (roughly to the position where it would be with the sway bar connected and the tires on the ground). Note, I had it hanging completely downwards for a few hours at a time and all seems well afterwards; so if you work quickly, you probably don't even need to bother. I was just paranoid about leaving it like that over the course of 2-3 days and possibly busting a seal or something.

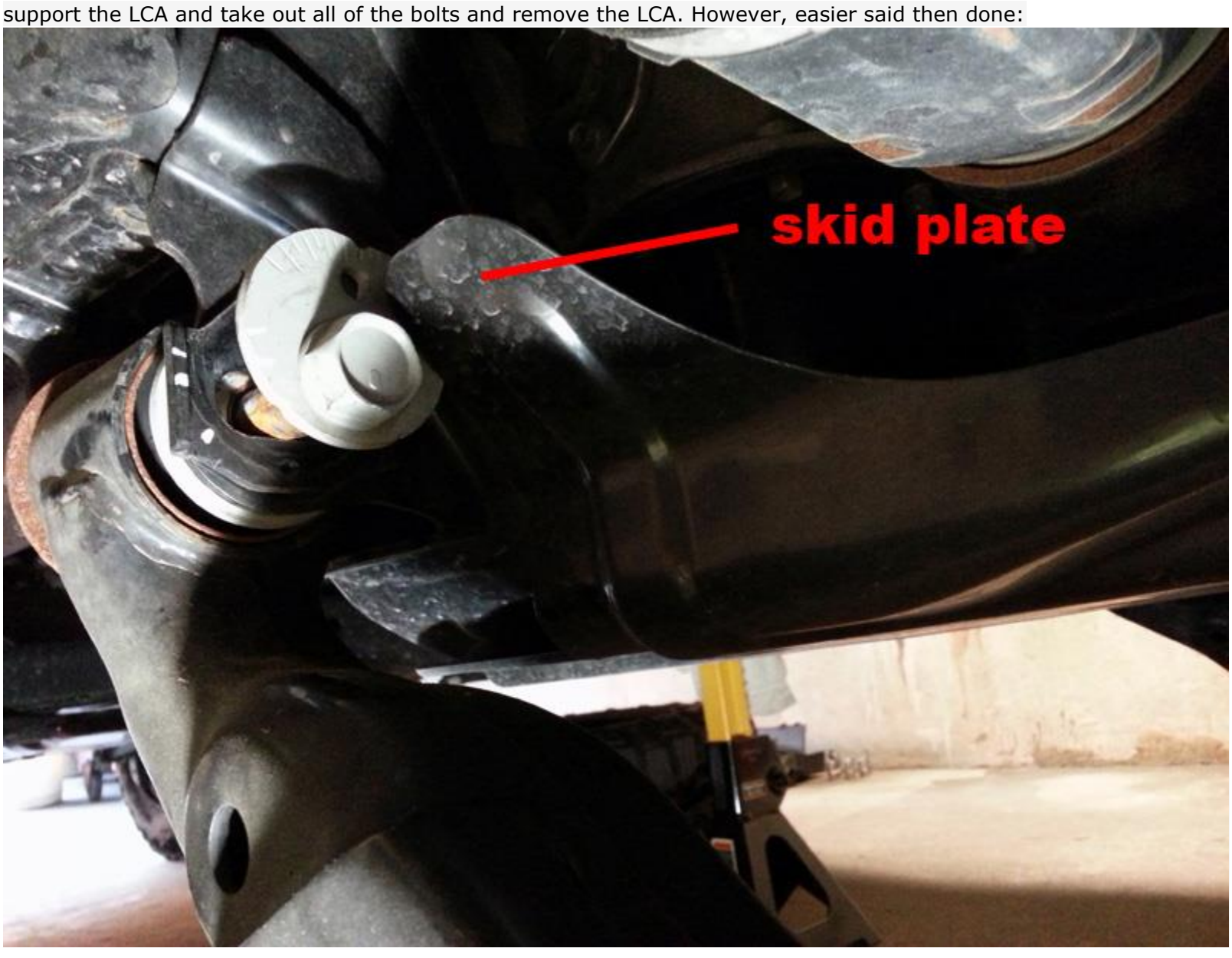
Another member here has informed me that the front KDSS piston boot actually popped off while he left it hanging down, so maybe it would be a great idea to support it with a jack once you remove the brackets.

**Step 4:**
This is kind of an optional (you will see why you might need to do this later), so while I recommend doing this step to make your life easier, it might not be entirely necessary. Locate your LCA adjustment cam bolts and mark all of them, like so:


You need to mark the plate's position because you want to get the alignment back to as close as possible afterwards. Now with the bolts marked, loosen each bolt a few turns (just enough for the LCA to rotate freely). This helps you with the next few steps, such as you not needing to pry the LCA downwards to get the shock out because the LCA will just drop freely.

**Step 5:**
Go back to the Antman/Sp8Ball write up and follow steps 11 through 17.

**Step 6:**
Okay, now for the optional stuff I was talking about earlier...if you are in a region that uses a lot road salt and/or otherwise prone to rust issues you might want to consider this. Remember those cam bolts I told you to mark earlier? Now go ahead and loosen them completely, support the LCA and take out all of the bolts and remove the LCA. However, easier said then done:




So now that you know the factory mid-skid plate prevents one of the bolts from coming out, go ahead and crawl under and remove that first before you do this step.

OR you can just leave the skid alone and rotate the cam bolt until it clears the skid and remove it that way, like another member here pointed below. Why didn't I think of that, lol.

Once you remove everything, you will see how much rust accumulates in there:

This was only after ONE winter for me, and not even 10k miles! I've read all to often on here about these very bolts being seized on for good and requiring lots of work to chop them off and replace the bushings, so this might be a valuable preventative maintenance step for some of you guys.

**Step 7:**

Clean up all the rust with a wire brush like so:

Then coat only the shaft of the bolt with your favorite anti-seize like so:


Remember to try to clean out the inner sleeves of the bushings as well and then reinstall the LCA and cam bolts loosely (loose enough so that the LCA can still swing up and down freely).

**Step 8:**
Go back to the Antman/Sp8Ball write up and follow steps 11 through 24, but DO NOT complete step 24 just yet! Just get the jack into position and ready for raising the LCA and stop.

**Step 9:**
Now depending on the shock/spring combo you are installing you might run into clearance issues between the KDSS pipes bolted to the frame and the coil spring when raising the shock back up into position, like so:


If you notice that the coil starts hitting the KDSS pipes, what you need to do rotate the adjustment cam bolts on the LCA so that the LCA extends outwards to you. This will give you just enough clearance to raise the shock back into position without interference, like so:


**Step 10:**
Go back to the Antman/Sp8Ball write up and follow steps 25 through 30. Note, I discovered a discrepancy in torque value between the FSM and the write up, so I went with the FSM. Not sure if Antman purposely wanted it a bit tighter or not. In particular, I am talking about the two bolts that hold the ball joint to the spindle, the FSM calls for 118 ft*lbf.

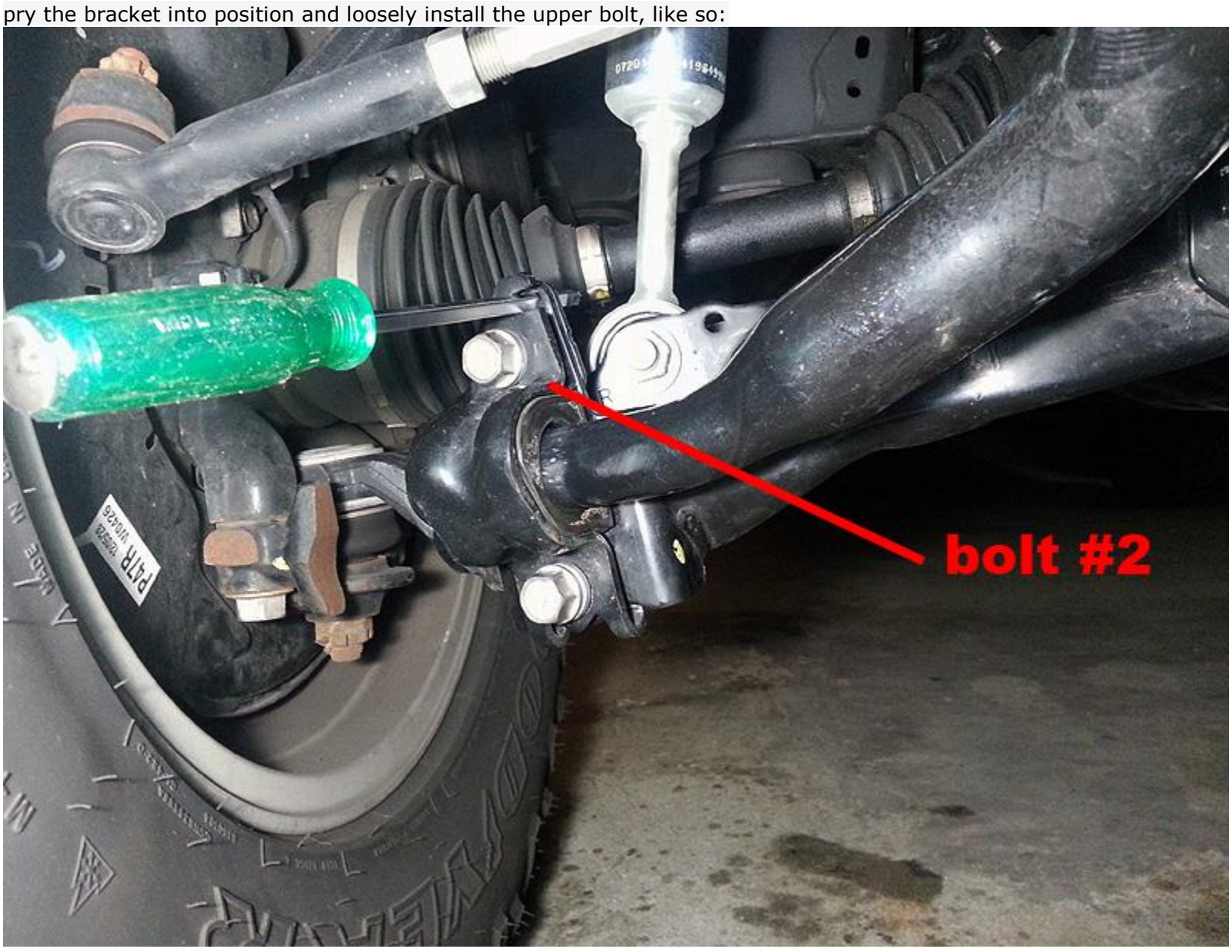
**Step 11:**
Now with that all done and the vehicle back down on the ground, here comes the fun part...reattaching the KDSS bar! This is how it should sit before you being this step:

This would be a good time to remove the rubber bushings and clean up the sway bar ends and the inside surface of the rubber bushings, like so:

**Step 12:**

Place a jack under the KDSS piston and slowly raise it up to align the passenger side bracket to the LCA. Once you get the bottom bolt hole to line up, loosely install the lower bolt first, like so:

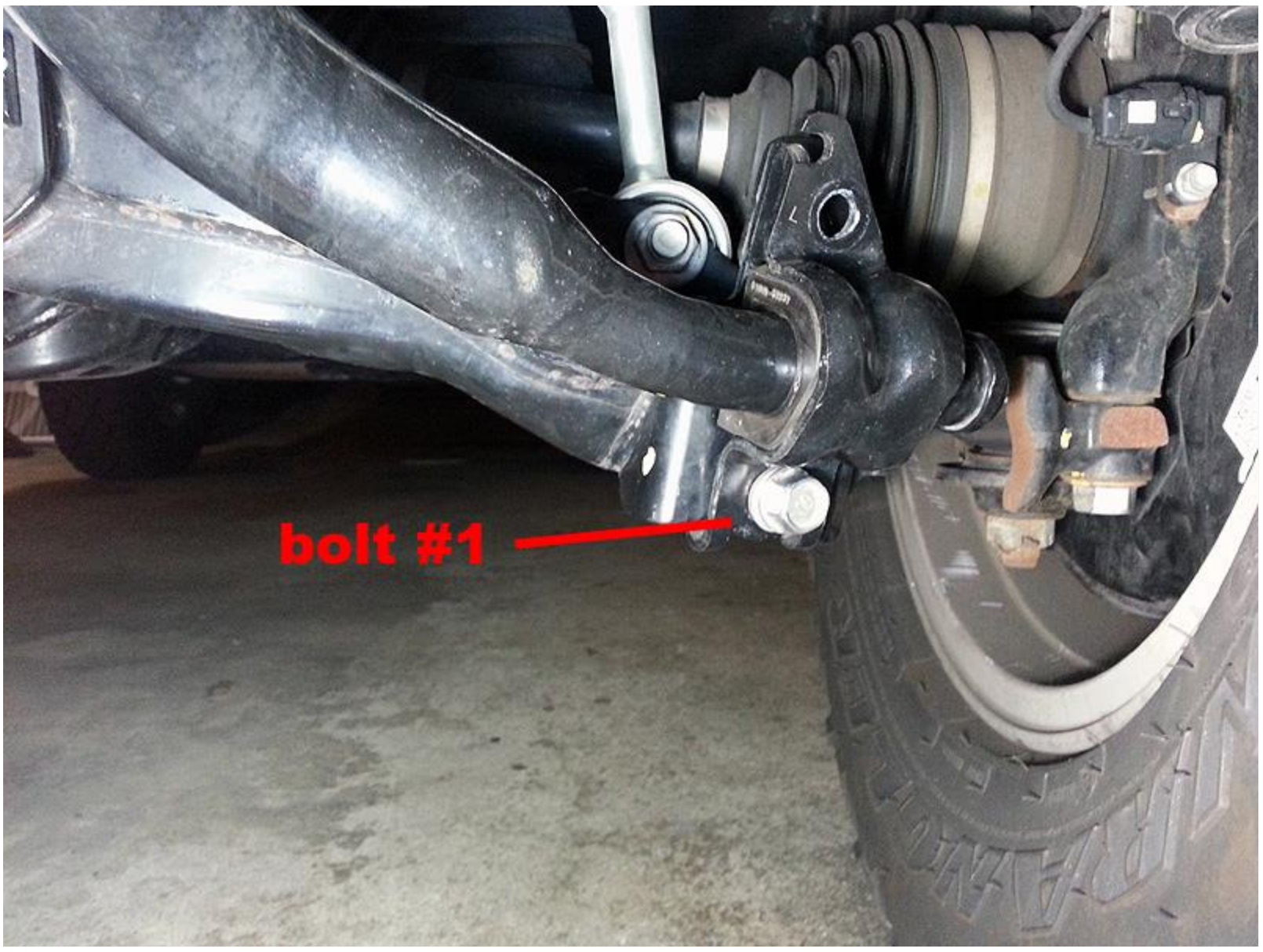

Now play around with the jack height to get the upper tab to line up as close as possible, then shove a punch or screwdriver into the hole and pry the bracket into position and loosely install the upper bolt, like so:



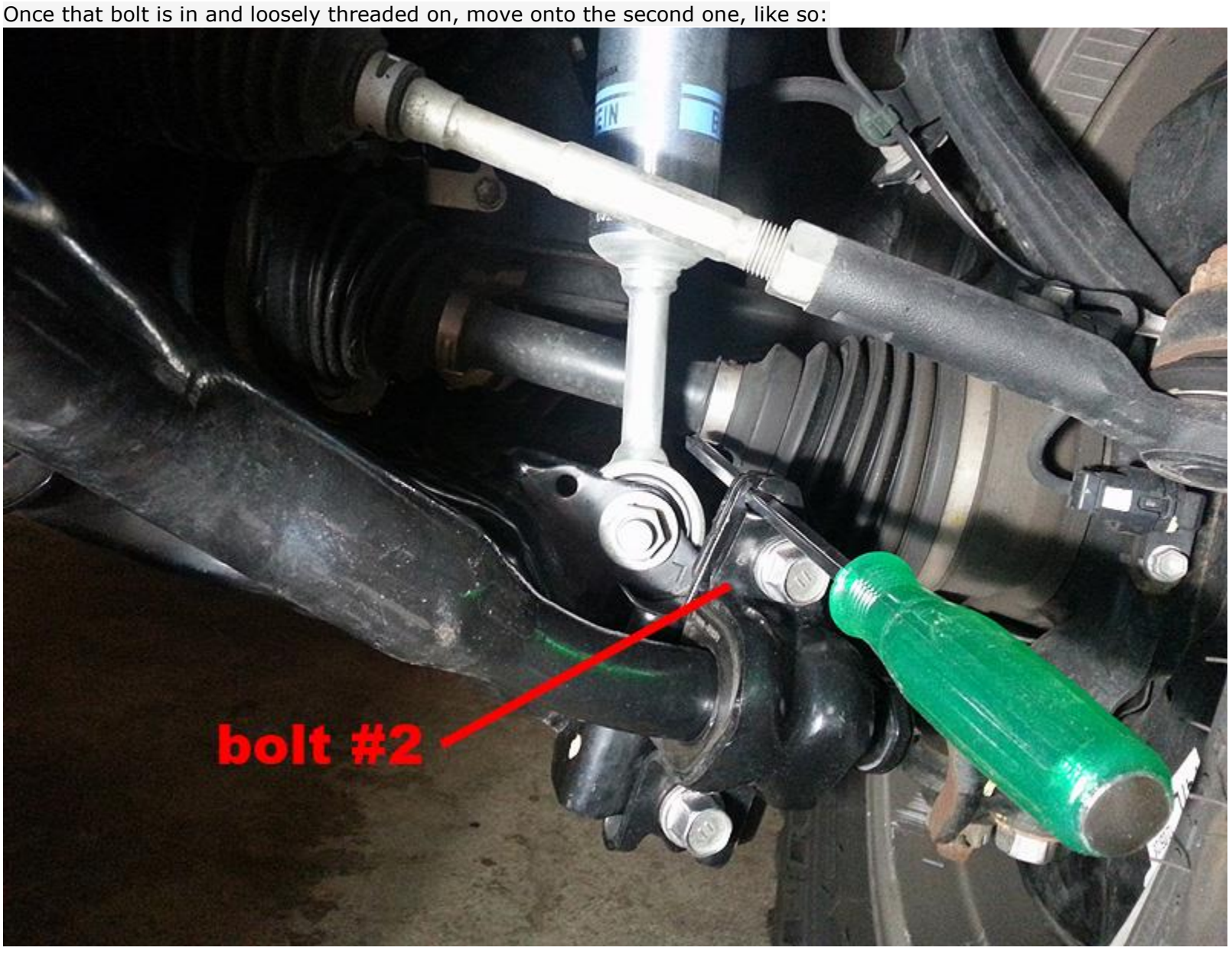

Once bolt bolts are in, and you are sure you didn't cross thread them, tighten the bolts down only enough to leave about a 1/8" gap between the LCA and the bracket.

**Step 13:**

Now onto the driver side bracket, you basically repeat the same process by playing around with the jack height and position to align the bracket. This side you might need to have a helper to help you push the jack towards the vehicle in order to get the bracket close enough to start threading the bolts. At this point, the KDSS piston has a natural tendency to tilt outwards to the front of the vehicle making the gap between the bracket and the LCA huge. Start with the first bolt, like so:




Once that bolt is in and loosely threaded on, move onto the second one, like so:




After you get both bolts in, tighten them down only enough to leave a small gap like the passenger side. Now lower the jack completely and with the wheels still on the ground, then torque down the 4 KDSS bracket bolts to 55 ft*lbf.

**Step 14:**

Go under and align the adjustment cam bolts back to where you marked them, and torque those bolts to spec (129 ft*lbf). Afterwards, put back all of the skid plates you removed and stand back and admire your work because you're done!

Now for the obligatory shot of the front suspension looking all pretty and new: