



EVO Manufacturing

### **EVO-3029B JL Rear Bolt-on Coilover Kit NV2514**



#### **READ BEFORE INSTALLATION:**

Caution: This kit requires drilling and cutting of both metal and plastic. Wheel backspacing adjustments may be required. Due to so many variations and combinations of ACTUAL tire sizes, wheel widths, tire inflation pressures etc. By purchasing this kit, you are starting the next level of performance. To install this kit requires work and finesse. This high-quality system will truly enhance your vehicle to another level. Cutting and Grinding required. EVO MFG recommends this installation be performed by a trained professional. Always use approved safety gear/glasses and weight approved jack/jack stands. Having a parking brake cable tool is suggested.

### **Installation with Short/Mid Arm Suspension Systems:**

Use with short/mid control arms (EVO MFG Enforcer Arms or other) **requires** additionally EVO-3030R Rear Limit Strap Kit (sold separately). **Factory Rear Driveshaft compatible on 4 Door JLUs.**

### **Installation with Long Arm Suspension Systems:**

Use with Long Arm kits (EVO MFG JLU High Clearance Long Arm or other) **does not** require limit straps, **Factory Rear Driveshaft compatible on 4 Door JLUs.**

Re-torque all bolts after first 100 miles High Clearance Fenders recommended \*Re-torque all bolts every 3000 miles and after every off-road use

Always wear approved safety gear and glasses while performing installations.

Loosely install all bolts in each component before fully tightening any associated bolts.

Tighten all factory bolts to factory specifications. Tighten all supplied bolts according to table at end of instruction.

1. Safely park vehicle on level ground.
2. Chalk front wheels
3. Carefully lift rear of vehicle with jack by frame until tire leave the ground by a few inches minimum.
4. Carefully and securely set vehicle on weight approved jack stands. It is important that the vehicle is high enough that the tires are at least few inches from the ground as the axle will need to be lowered to remove and install parts.
5. Remove rear wheels.
6. Rubicon Models: At differential, carefully pull outward on red clip at axle disconnect until stops. It should move out about a 1/8". Then depress clip and disconnect clip/connection.
7. Remove breather hose from differential connection. **Vehicle wiring and hoses vary, make sure all wires, hoses, lines etc from frame to axle are freed up giving ample length to move axle downward as needed before proceeding, verify wiring/hoses etc do not get stretched while lowering axle during this installation.**
8. Remove bolt from both driver and passenger side brake line bracket at axle on rear upper control arm bracket. Free bracket from its detent.
9. Support axle with jacks and remove rear sway bar end links from vehicle. (upper stud end has hex key on end of stud to prevent movement while removing nut).
10. Remove rear trackbar bolt at axle.
11. Remove both driver and passenger side shocks.
12. Lower axle until springs can be removed. Remove rear springs and upper coil isolators.
13. Remove 2 rear bolts on both side of frame behind factory shock tower that hold on factory rear bumper support.

14. At rear axle, disconnect parking brake cable from axle. With cables loose of axle, route cables below frame crossmember and reconnect to rear axle.



15. Install EVO rear brake line bracket to axle as shown with supplied hardware.
16. Install factory brake line bracket to EVO Bracket as shown with factory hardware.
17. Install rear bumpstop extensions to axle pad on both side with supplied 5/16" hardware. Bolts top down, nuts on bottom. Slant in bumpstop extension should lean top forward.



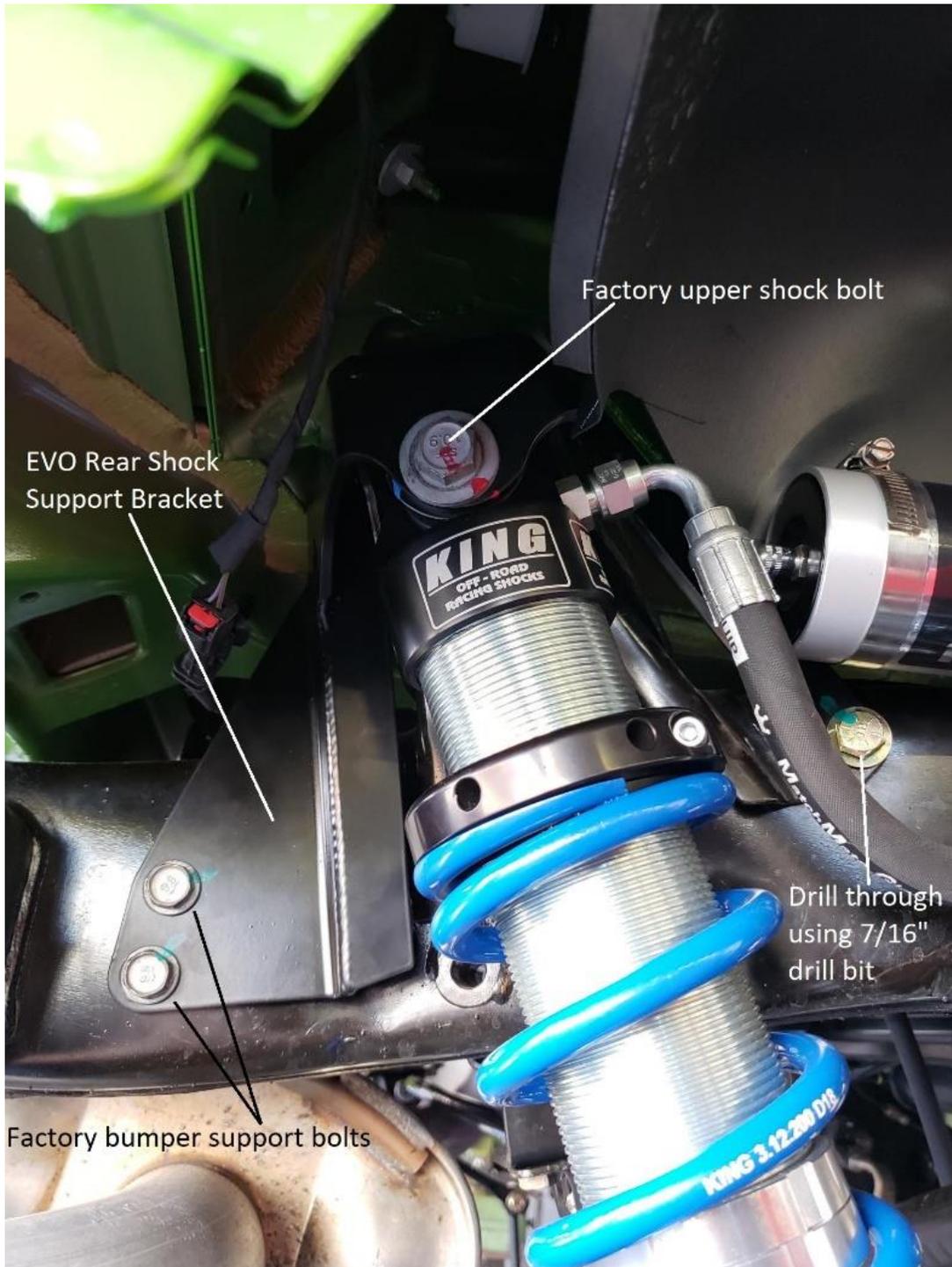
18. Remove rear trackbar bolt at axle. Move trackbar down under/out of factory bracket. Swing trackbar above axle bracket. **Slide the EVO MFG bracket tab INTO the factory axle trackbar bracket while at same time inserting trackbar into the new higher location/pocket on the EVO Bracket. Bracket will need to slide from passenger side to driver side to insert tab into bracket.** At lower original bolt mounting location, insert supplied crush sleeve into bracket and loosely install factory bolt at this location. Loosely Install supplied bolt at new trackbar location. Loosely install supplied U Bolt at axle tube. On driver side of bracket with bracket loosely installed, drill 15/32" hole through factory bracket. Install supplied 7/16" hardware. Torque all bracket bolts. Do not torque trackbar bolt at this time. This should be done one ground at ride height later.



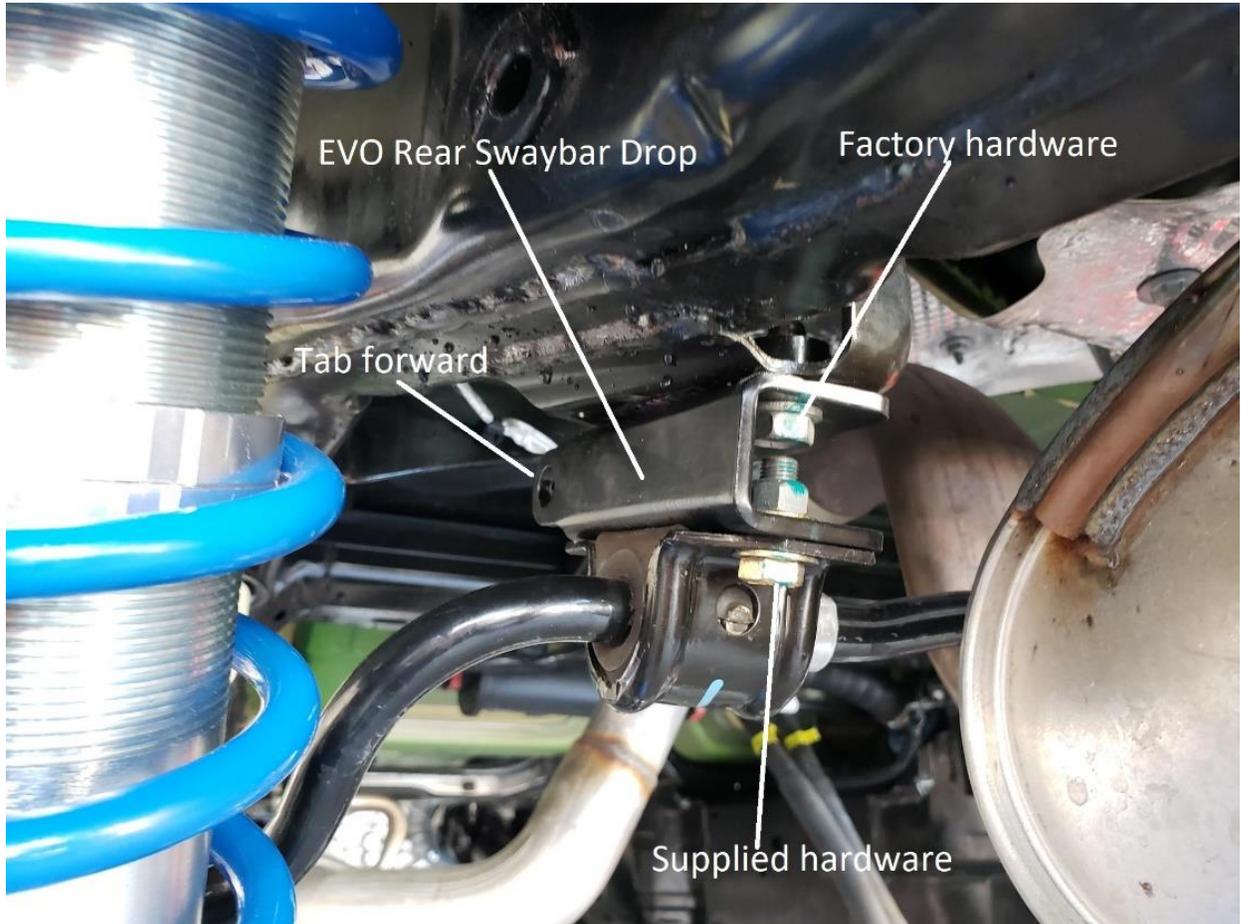
19. At rear upper shock mount at passenger frame. Using a cutting tool (if removing) or a chisel/hammer: cut off or bend in rear section of pinch seam as shown giving clearance for bracket to pass. Use touch up paint if needed.



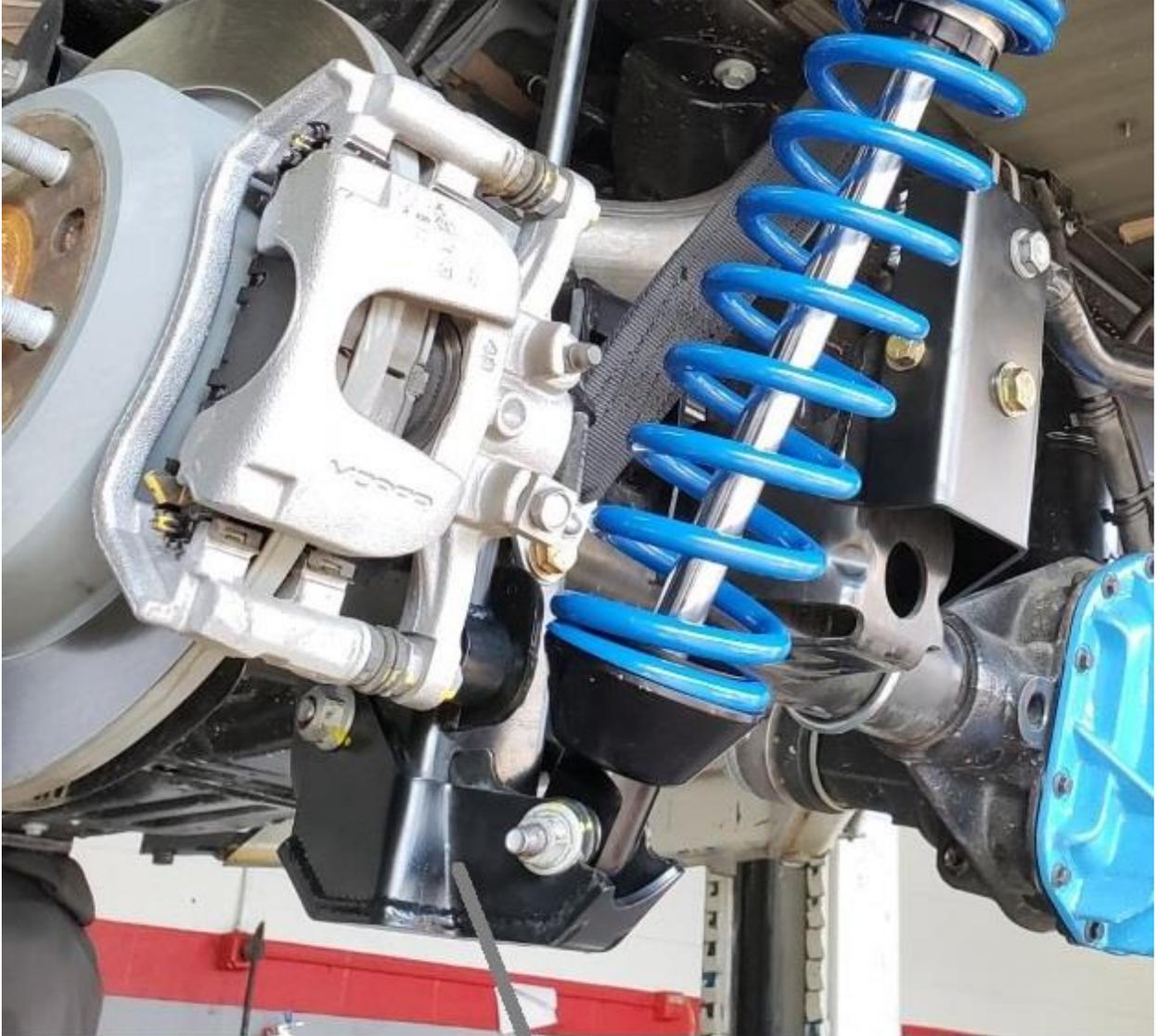
20. Insert rear coilover support tower over factory rear shock mount at frame.
21. Loosely reinstall the 2 rear bolts. Reinstall or discard bumper support bracket.
22. Using a long 7/16" drill bit, on front side of tower drill through frame at forward hole. Drill through both sides of frame.
23. Install supplied 7/16 x 4" bolt washer and nut completely through frame.
24. Repeat rear shock support bracket steps on opposite side.



25. Remove the 4 bolts holding swaybar to frame.
26. Lower swaybar and insert supplied EVO Swaybar drop brackets (1/2" hole tab should point toward the front of vehicle) between frame and swaybar dropping swaybar down. Use factory hardware to hold bracket to frame and supplied 3/8" hardware to mount swaybar to EVO bracket. Do so on both driver and passenger sides.



27. If installing with EVO JLU High Clearance Long Arm kit SKIP THIS STEP. Remove lower control arm bolt from axle. Slide EVO Rear shock skid over axle bracket and loosely reinstall factory control arm bolt. Repeat on opposite side



**EVO Rear Lower Shock Skid**

28. Install rear coilovers using factory hardware on both top and bottom. Reservoir hose should exit forward of the shocks. Coilovers are side specific. The larger top shock spacer should be mounted on the frame/inside of the shock with reservoir exiting the shock towards the front of the vehicle.



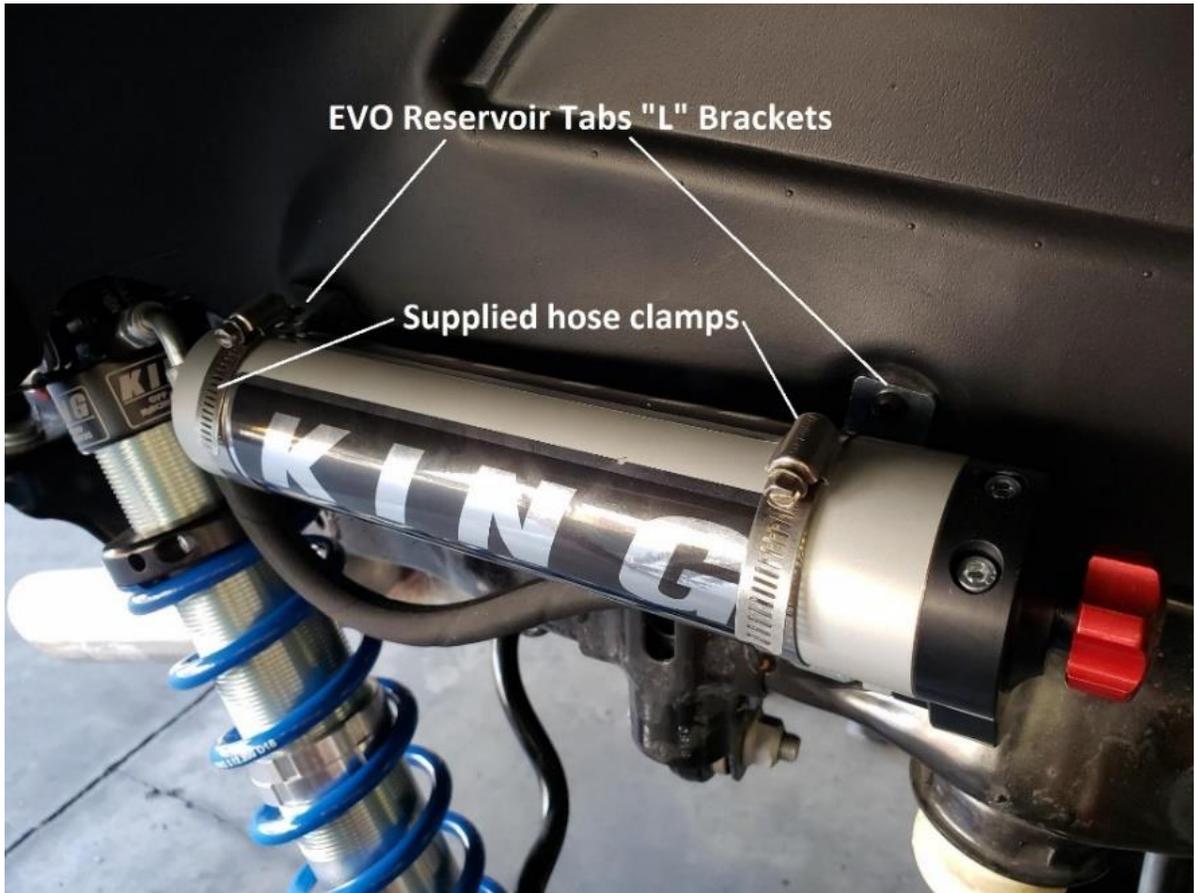
29. Install lower shock into axle mount/EVO Shock skid with factory bolts.  
30. Assemble supplied swaybar end links using a light oil (WD40 or similar). Press bushing into link. Then press inner sleeve into bushings.

31. Install swaybar links on outside of swaybar and inside of axle tab (if EVO Long Arm, mount lower swaybar link on tire side of tab) using both factory bolts and supplied M12 hardware. Upper bolt should be installed from the tire side towards frame (nut on inside of swaybar).



32. Using supplied reservoir mounts (L shaped brackets), remove plastic wheel well clips forward of shock on bottom sides revealing 2 holes which are visible in the body wheel well sheet metal.  
33. Install supplied reservoir mounts to body with supplied 1/4" hardware.

34. Lift reservoir to mounting brackets. Using supplied hose clamps insert clamp through slot then around reservoir and tighten clamp.



35. Reconnect all disconnected wiring and breather hoses. Verify adequate length of all wiring/hoses at full drop of suspension and adjuster as needed.
36. Torque all bolts to factory specifications, torque all supplied bolts to table below.
37. Install wheels.
38. Carefully set vehicle on its own weight.
39. Torque lug nuts to factory specifications.
40. Once vehicle is on ground under its own weight. Access lift requirement/adjustment needed ("I would like it 1" higher/lower"). If changes in lift need to be made. Carefully lift vehicle up by front frame until tires leave the ground, extending suspension fully and carefully set on jack stands. Using Allen wrench, loosen set screw on coil nut, do not remove set screw.
41. Using a spanner tool or other turn coil up to lower the body or turn down to raise the body. At this point additional lift will be roughly 1 to 1 on your previous assessment of lift. Moving coil nut 1" will roughly raise or lower the body the same distance. Most setups will have the coil nut threaded down between roughly 1-2 inches.
42. Tighten coil nut set screw.
43. Carefully lift vehicle, remove jack stands lower vehicle down to the ground.
44. Reassess lift need and adjust accordingly using same steps as previous.

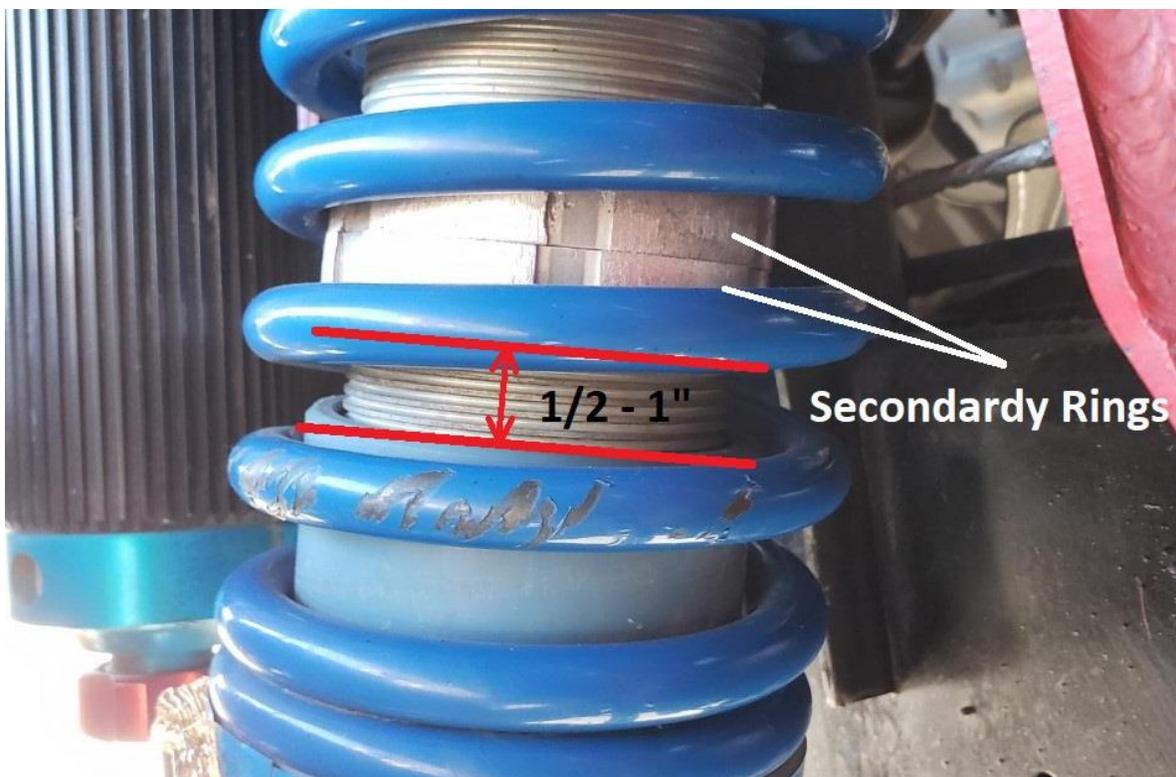
## Set-Up and General Coilover Notes:

Please read before and after installation. Included are things you should know before and after installation of coilovers and some final setup tips to maximize the performance advantages of coilovers. Coilovers can tend to make some sliding sounds while driving. We are stepping into race car parts and some level of sound is to be expected. Once final adjustments have been made on spring compression and the vehicle is at a lift/ride height that you are satisfied with. Rotate the top and bottom springs so that that each end of the top and bottom coil that rest on the coil slider are 180 degrees opposite each other. This will help balance the coil slider evenly and alleviate some of the associate noises. If this is unsatisfactory for your needs, there are aftermarket spring sliders that can be purchased additionally that will help alleviate this noise. Please give us a call for information on this accessory product. Spring compression applied with the coil nut on top of the springs will VARY between all vehicles and may be different at all 4 corners. This is due to added and or removed weight to the vehicle. The fact that all 4 corners have different weights from the factory, added accessories and or removing factory components all play a part in the vehicles corner weight and are always varying. Do not be afraid to adjust each coilover spring nut differently on each corner. We recommend if 3" or more spring compression/preload is needed to achieve your desired lift height, our HD Coilover Spring set should be used, they are sold separately, contact EVO MFG for more information. Lastly the passenger side is heavier and will require slightly more spring compression.



Achievable lift height will vary between each vehicle due to the added and/or reduced weight of the vehicle. Additionally, actual lift is subjective. All Jeeps come from the factory with different heights based on accessories and spring packages etc. General lift increases are made by an average and/or an understanding of what a 3" or 4" lift etc. should be. Therefore in order to achieve the desired height you are looking for, spring changes may be needed and are sold separate to our standard kit. We have done extensive testing on these kits with many variables and know we have an excellent spring package straight out of the box, but your vehicle and/or needs may vary and therefore a spring change may be needed to accomplish your desired setup.

Once the desired right height is achieved, lower the 2 secondary coil rings (2 silver rings inside the top coil spring) so that there is a  $\frac{1}{2}$ " gap between the bottom of the secondary rings and coil slider. The 2 secondary coil rings can be moved by a tap with a flat head screw driver against the machined groove to break the 2 loose from each other. Once loose, thread them down paying attention that there is a rubber O-ring between that will need to be pushed/rolled down as well. Set the lower ring at about  $\frac{1}{2}$ "-1" distance from the coil slider, tighten the 2 secondary rings towards each other with flathead screw driver and tap of a hammer. This  $\frac{1}{2}$ "-1" is a rough dimension and can be adjusted to your liking and additional payload carrying requirements.



Size	Recommended Torque											
	Grade 2		Grade 5		Grade 8		18-8 S/S		Bronze		Brass	
	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine
<b>#4*</b>	-	-	-	-	-	-	5.2	-	4.8	-	4.3	-
<b>#6*</b>	-	-	-	-	-	-	9.6	-	8.9	-	7.9	-
<b>#8*</b>	-	-	-	-	-	-	19.8	-	18.4	-	16.2	-
<b>#10*</b>	-	-	-	-	-	-	22.8	31.7	21.2	29.3	18.6	25.9
<b>1/4</b>	4	4.7	6.3	7.3	9	10	6.3	7.8	5.7	7.3	5.1	6.4
<b>5/16</b>	8	9	13	14	18	20	11	11.8	10.3	10.9	8.9	9.7
<b>3/8</b>	15	17	23	26	33	37	20	22	18	20	16	18
<b>7/16</b>	24	27	37	41	52	58	31	33	29	31	26	27
<b>1/2</b>	37	41	57	64	80	90	43	45	40	42	35	37
<b>9/16</b>	53	59	82	91	115	129	57	63	53	58	47	51
<b>5/8</b>	73	83	112	128	159	180	93	104	86	96	76	85
<b>3/4</b>	125	138	200	223	282	315	128	124	104	102	118	115
<b>7/8</b>	129	144	322	355	454	501	194	193	178	178	159	158
<b>1†</b>	188	210	483	541	682	764	287	289	265	240	235	212