EVO Manufacturing

Jeep Wrangler JK/JL/JLU and JT Gladiator

JL/JL/JLU/JT Front Coil Over Fabrication Tower

EVO-3206

JL/JT SHOWN. JK INSTRUCTION WILL FOLLOW SAME PRODURE. SLIGHT VARIANCE TO TOWER SHAPE/LOOK, OTHERWISE SAME

Before starting installation procedure please read http://evomfg.com/Returns-Warranties-Shipping

CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL AND KEEP FOR FUTURE REFERENCE. IF YOU HAVE ANY QUESTIONS ABOUT THE PRODUCT CALL EVO MANUFACTURURING. FAILURE TO FOLLOW GUIDELINES COULD RESULT IN MALFUNCTION OF PARTS OR INJURY. PLEASE HAVE A TRAINED PROFESSIONAL ASSIST WITH OR INSTALL ALL PRODUCTS. INSTALLING EVO MFG PRODUCTS OR KITS DEMANDS SPECIFIC KNOWLEDGE, TOOLS AND EXPERIENCE. GENERAL KNOWLEDGE OF HOW TO USE LATER SPECIFIED TOOLS AND/OR LIMITED EXPERIENCE WITH EVO MFG PRODUCTS MAY NOT BE ENOUGH TO PROPERLY COMPLETE THESE TASKS. SOME OF EVO MFG PRODUCTS MAY REQUIRE TWO OR MORE PEOPLE TO INSTALL SAFELY AND CORRECTLY. DO NOT ATTEMPT ALONE, ALWAYS ENLIST THE HELP OF TRAINED PROFESSIONAL WHEN NEEDED.

Notes: Set Up Before installation

This kit requires drilling and cutting/grinding of both metal and plastic.

This kit also requires welding, disconnect all battery terminals before starting. Reinstall at end of installation

Kit requires 6 ft of 1" wide high temp wrap sleeving, you will have to purchase high temperature wrap sleeving separately from kit.

Wheel backspacing adjustments WILL be required.

EVO MFG recommends this installation be performed by a trained professional.

Always use approved safety gear/glasses and weight approved jack/jack stands.

Keep all mounting bolts loose (installed but not torqued) we will torque later at the end of complete installation

READ BEFORE INSTALL:

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.

It is generally a good idea to apply liquid thread lock to all threaded bolts.

ALWAYS wear safety glasses and other approved safety gear when working on a vehicle.

All supplied bolts torqued according to chart at end of instruction.

It is recommended all installation be performed by a trained professional. Some modification may have to be done.

Paint all unfinished surfaces after install is complete.

Recommended Tools:

- Welder
- Welding materials
- Welding safety equipment
- Impact with standard sockets
- Sawzall/Cut off wheel, plasma torch or similar
- Barrel/Drum Sander
- Shock Nitrogen Charge System
- Paint
- Fabrication Talent

Safety Steps for installation

- For installing EVO MFG products always use wheel chokes to block rear tires from rolling.
- Always make sure you have everything necessary ready before install.
- If you have to, carefully lift front of vehicle by front frame rails extending suspension until tires leave the ground, place frame on approved jack stands for vehicle. Verify all lines/wires are not over extended.
- Remove tires if needed for easier install.
- Make sure to wear safety equipment (eye protection, hand protection, foot protection etc.) at all times during installation.
- Make sure all safety precautions have been taken.
- Always check and replace any part of vehicle that is warn or broken before starting install.
- Do not mix anything EVO with weaker alternatives.
- It is generally a good idea to apply liquid thread lock to all bolts.
- Tighten included hardware to torque specifications in bottom table unless it is otherwise specified, factory bolts should be torqued to factory Jeep specifications.

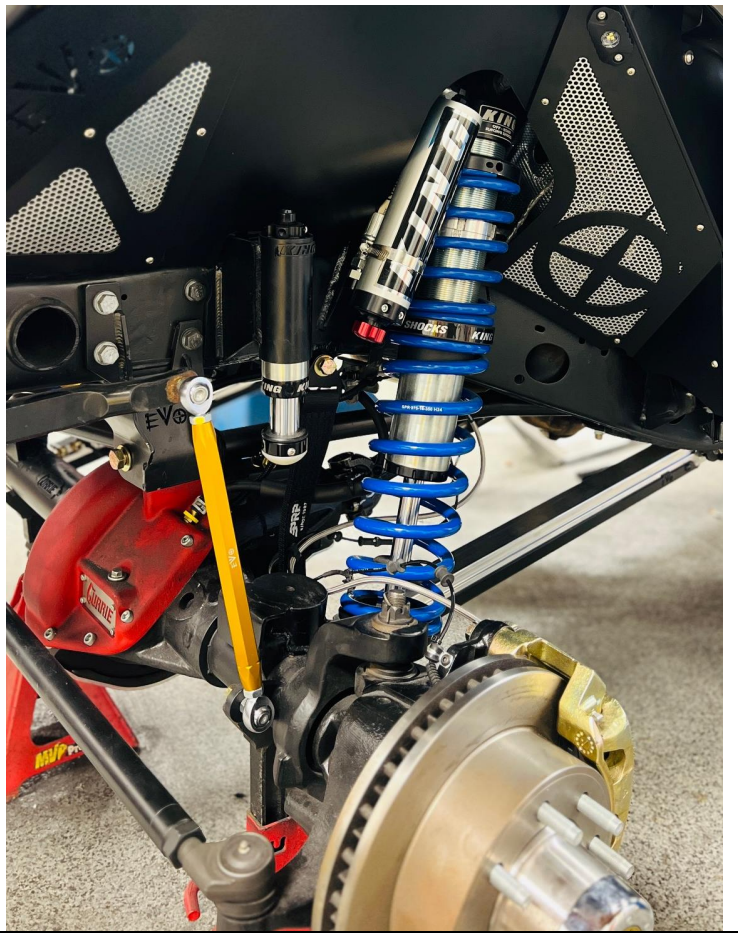
Caution: This kit requires welding. Welding creates a very bright arc that should not be looked at without an approved protective shield and clothing. Welded surfaces and areas in their vicinity will be very hot for a long period of time after welding. Please use caution. All welding should be performed by a professional. MIG welding is the preferred method. Remove/ Uninstall shocks prior to welding.

By purchasing this kit you are starting the next level of performance. To install this kit it requires work and finesse. This high quality system will truly enhance your vehicle to another level. Cutting, Welding, and Grinding required; not bitching and moaning. This is a toy, it should be fun!

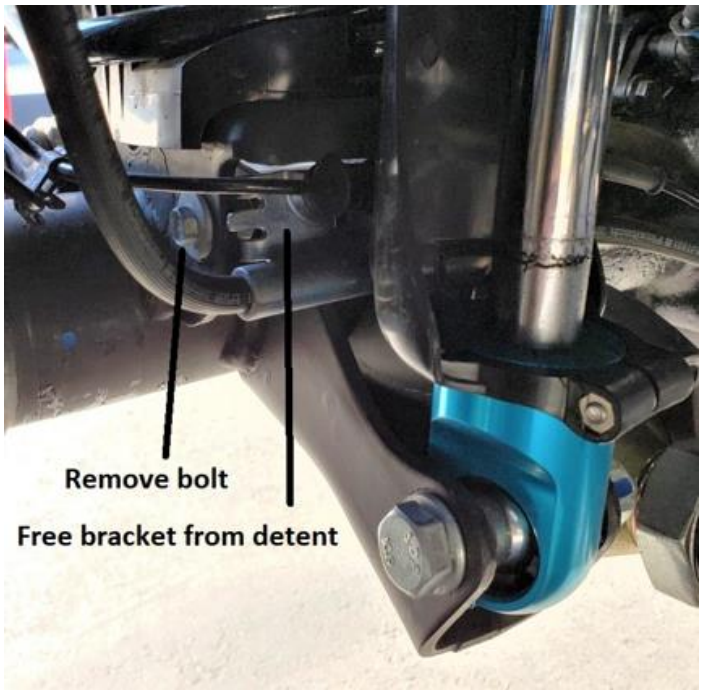
INSTALL:

After parking Jeep on a flat surface, chalk wheels and engage parking brake.

1. Disconnect battery terminals.
2. Carefully lift front of vehicle with jack by frame until tires leave the ground by a few inches minimum.
3. 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.
4. Remove front wheels/tires.

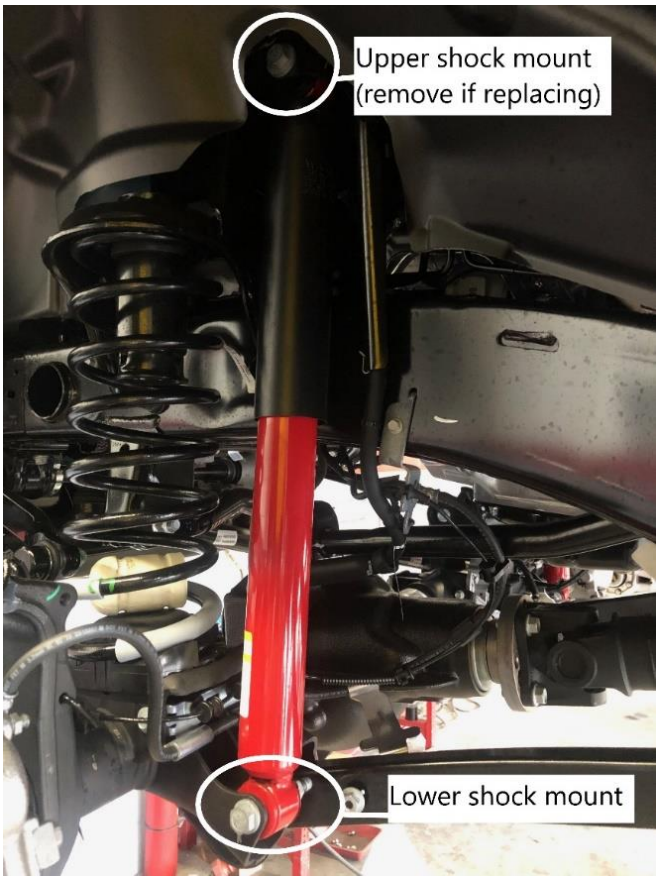


5. Remove bolt from both driver and passenger side brake line bracket at axle. Free bracket from its detent.

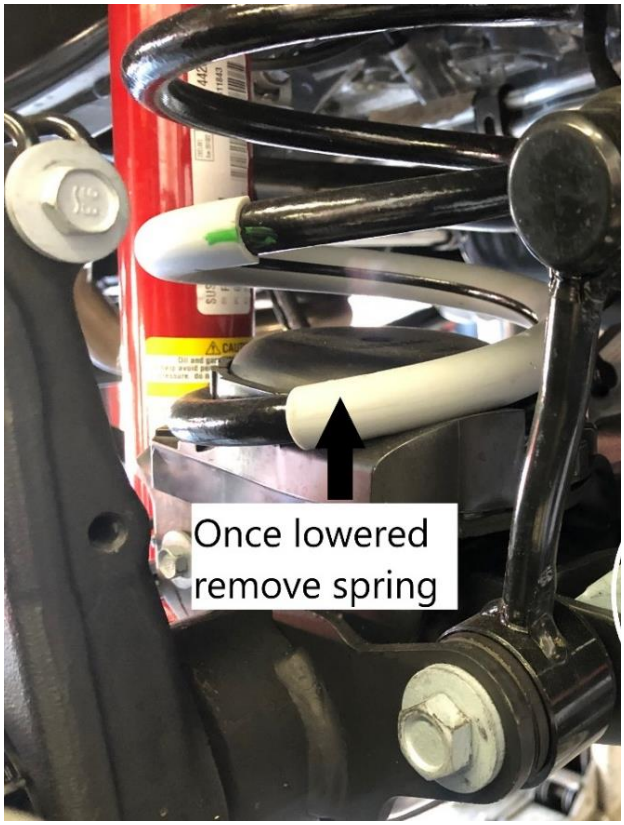


6. Support axle with jacks and remove front sway bar end links from vehicle. (upper stud end on sway bar link has hex key on end of the stud to prevent rotation while removing nut).

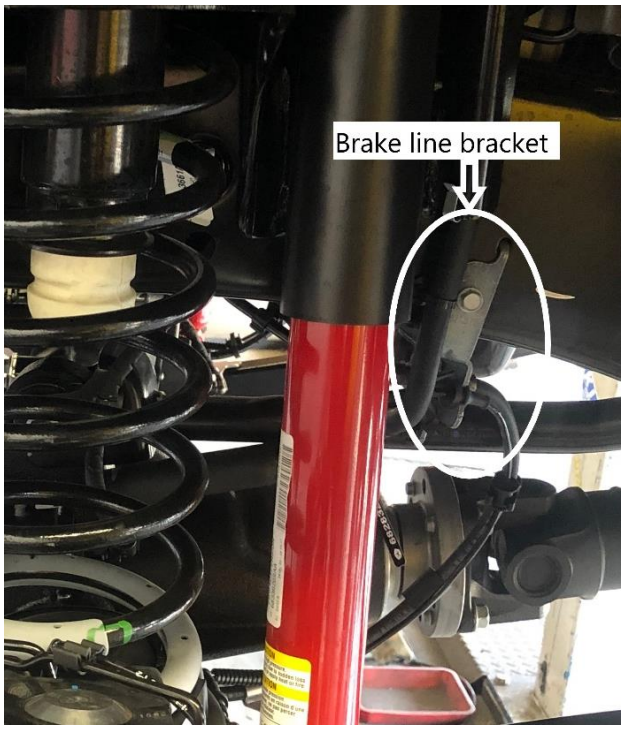
7. Remove both driver and passenger side front shocks.



8. Lower front axle until springs can be removed. Remove front springs and upper/lower coil isolators.



9. Unbolt brake line bracket from frame, do not damage line.

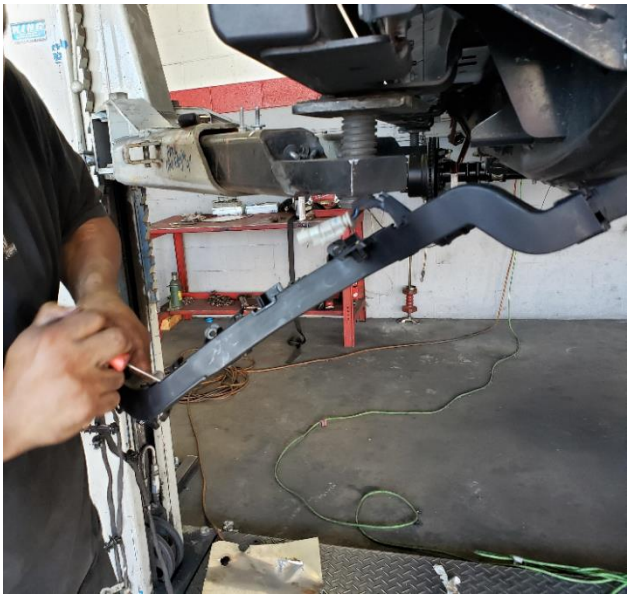


10. Unplug the fog light connection located near the front bumper.

11. Unplug main harness connection.

12. Remove plastic track holding wires from the tabs inserted into frame on passenger side.

13. Remove wires from plastic track and tuck wires behind frame.



14. Wrap the wires in a heat shield. Start wrapping the wires about half way between the motor mount and radiator. You can cut off access heat wrap after the upper control arm mount.

15. Route wrapped wires underneath motor mounts.

16. We recommend aluminum heat wrap, specific for automotive applications. This does not come in the kit, you will need to supply this on your own.

17. Reconnect the fog light connection and computer connection.

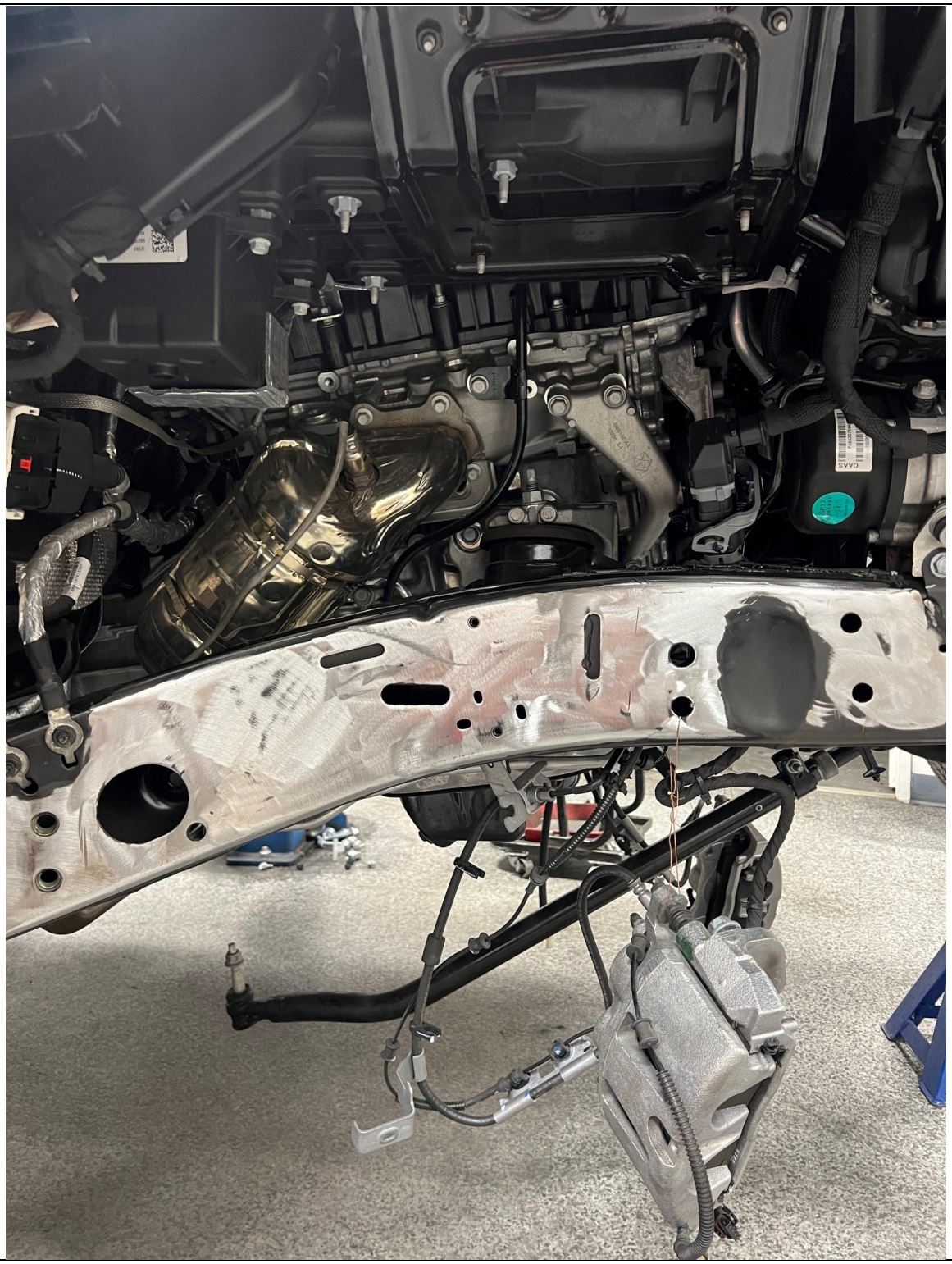
Make sure wires are retained and out of the way where nothing will come into contact with them while cutting/welding or while suspension is cycling.

Use the 1” ID loop clamps and ¼” self tapping screws supplied in kit to retain heat wrapped wires in place.	

18. Cut coil/shock tower off of frame using plasma cutter, torch, cut off wheel and/or reciprocating saw.

There are delicate components in the vicinity of these parts that can be easily damaged, such as wiring and brake lines. Move/remove and use a fire-retardant blanket/shield to protect/cover these components during cutting.

19. Grind/sand frame where brackets have been cut off until a flush smooth finish is achieved. Do not cut into frame rails or gouge metal.
20.

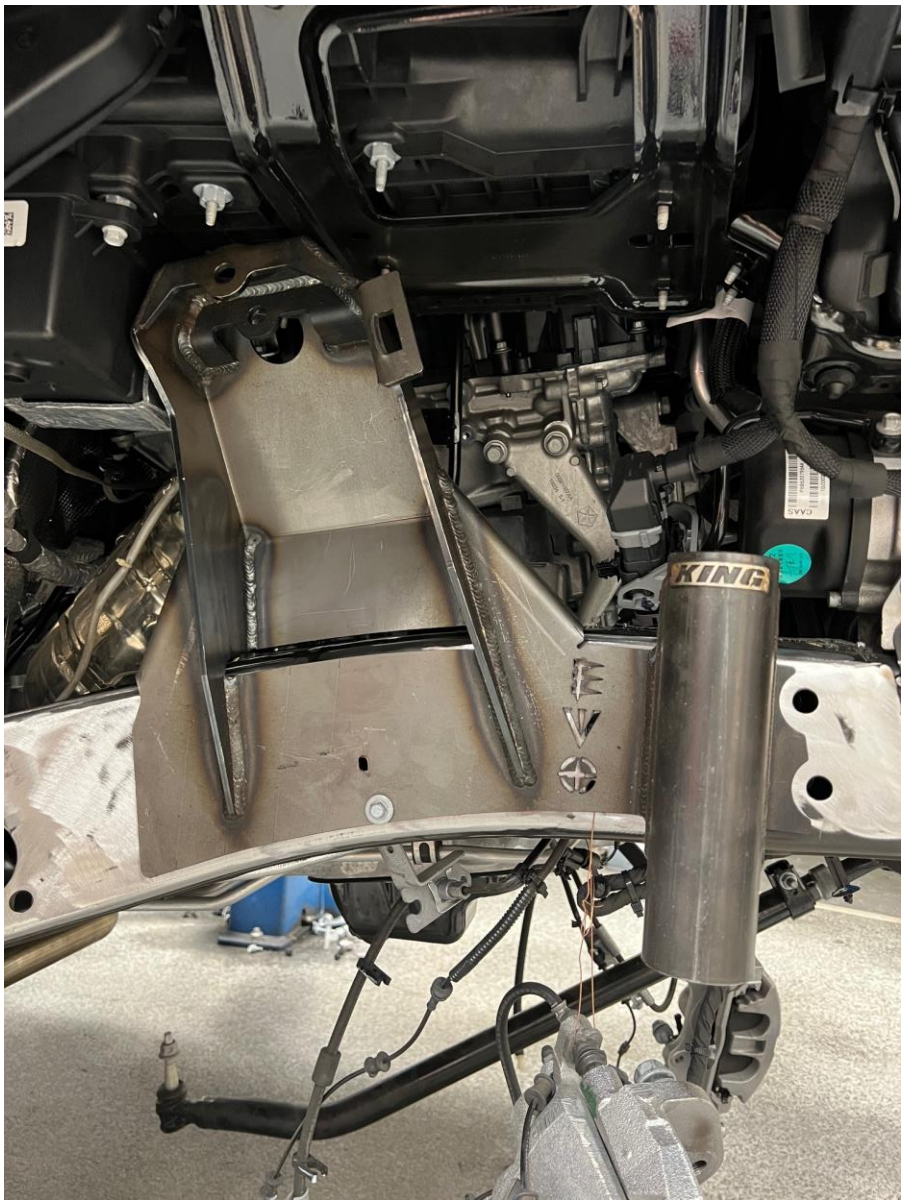


Installing Tower:

21. Bring EVO Fabrication tower to frame. Using the existing brakeline bolt, install brakeline bolt through EVO tower into frame hole and align top tower to frame connection and radius on forward of tower with frame holes/steering box bolts. This will locate the tower. Adjust as needed, some variance is expected.

Once fitted. TACK in Place at multiple locations

Wear proper safety equipment.



REPEAT TOWER INSTALL STEPS NO OPPOSITE SIDE

CYCLE Suspension:

Shock and Suspension will need to moved up and down multiple times over and over to verify locations of components and clearances of set up

22. Remove coils from Coil over shock. Reinstall lower coil cone to shaft (this should remain on shock to accommodate the cone thickness)

23. Discharge Gas from Shreader valve on end of reservoir. NOTE Charge after install ~150 PSI Nitrogen is standard

24. Install Fully compressed Coil over to tower with no springs (or one spring) and lower spring cone on.

25. Install Lower shock tab to lower shock

26. Compress Suspension/bring suspension axle up to full compress. Typically with 2-4" gap between bottom of frame to top of axle tube. This is installer set based on build/setup: axles, tire size, oil pan clearance etc.

27. With Coil over Compressed and Suspension located at full compression.

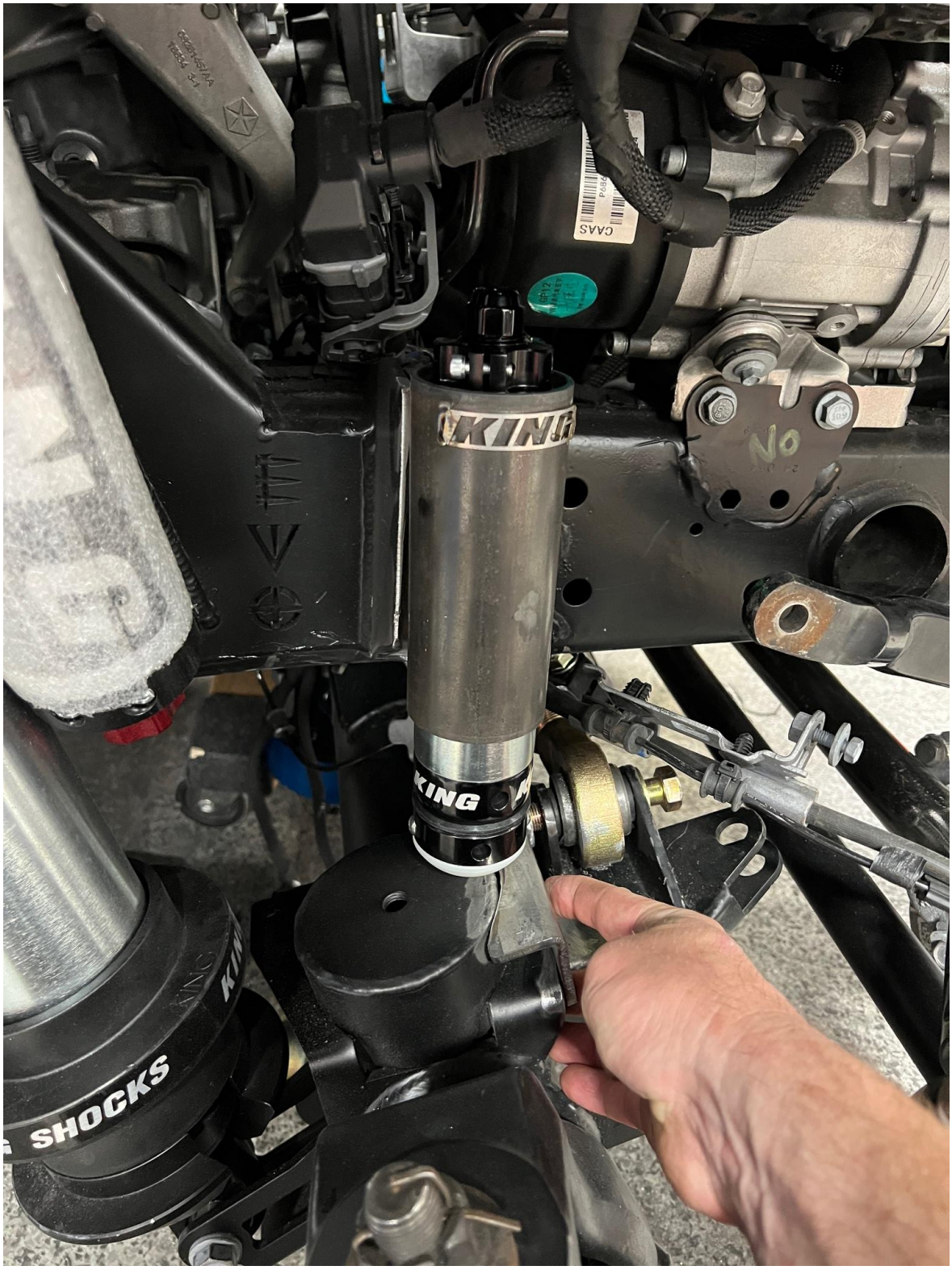
28. Bring lower shock mount over to axle tube.

Note: Lower shock bracket is made with extra length for applications. Some/Most will likely require this bracket to be shortened. Do so as needed for clearance (brakes at full turn). Adjust length and location as needed.

29. At full suspension compression. Discharge nitrogen from shreader valve in air bump. Fully compress Airbump and locate on axle.

ONCE SHOCK AND AIRBUMP ARE LOCATED ON AXLE. TACK WELD LOWER SHOCK BRACKET AND AIRBUMP IN PLACE

VERIFY LOCATION. CYCLE SUSPENSION UP AND DOWN. TURN WHEEL HUBS LEFT AND RIGHT. ARTICULATE AXLE ETC.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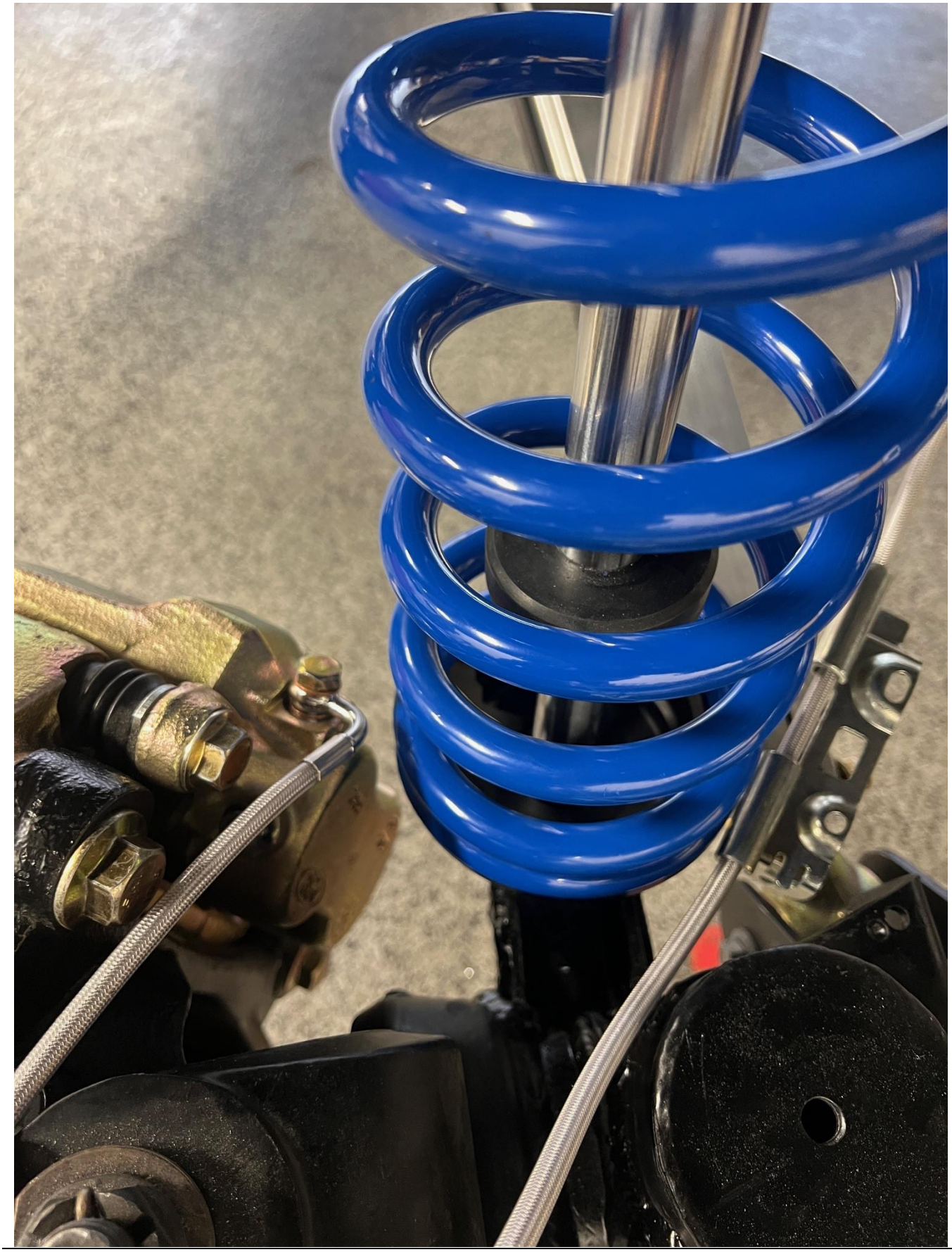
SHOCKS

NOTE IN THIS INSTALL LOWER SHOCK BRACKETS WERE SHORTEND TO ~3.5” FROM BOLT CENTER TO AXLE TUBE. DO SO AS YOU SEE FIT FOR YOUR BUILD, AXLE WIDTH, BRAKE ETC.



ONCE LOCATIONS ARE CONFIRMED AND BRACKETS ARE TACKED IN PLACE

REMOVE SHOCK AND AIRBUMP FROM VEHICLE

VERIFY WIRES AND DELICATE ITEMS ARE ISOLATED AND OR MOVED

WELD ALL BRACKETS TO FRAME AND AXLE

PAINT EXPOSED METAL

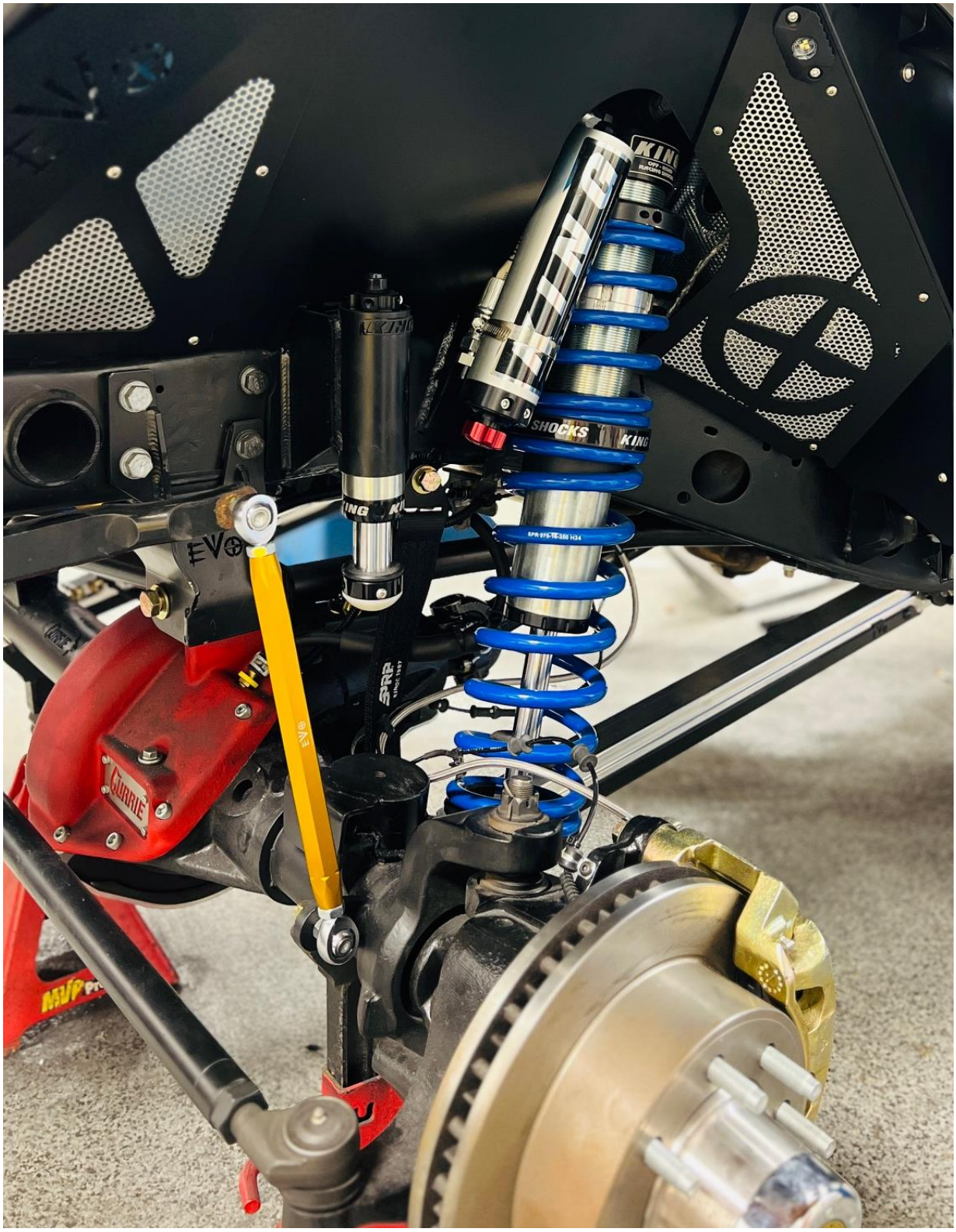
CHARGE COILOVER WITH NITROGEN (150 PSI IS STANDARD)

CJHARGE AIRBUMP (70-100 PSI IS STANDARD)

ASSEMBLE SPRINGS TO COILOVER (SHORTER LENGTH TOP, LONGER BOTTOM)

INSTALL COILOVER TO TOWER AND AXLE USING M12 HARDWARE

INSTALL AIRBUMP TO WELDED SLEEVE. (SOME HEAT WARP TO SLEEVE CAN HAPPEN FROM WELDING, THIS SLEEVE MAY REQUIRE SOME BARREL SANDING TO LOWER 1” INSIDE)



INSTALL SWAYBAR LINKS, BRAKELINES, RESERVOIR

30. Install springs and add 150 PSI of nitrogen back into the shocks.

31. Turn spanner nut, compressing the spring until the distance of the threaded portion between the shock end cap and the spanner is approximately 1.25” to 2”. This should yield approximately 3-4” of lift.

    ALL BUILDS WILL VARY

32. Adjust distance as needed for desired ride height. Every vehicle is different, Passenger side will need slightly more. May need to do a few times to achieve desired height.

Turning spanner may require a pin or spanner tool.

Tighten all spanner pinch bolts once preferred suspension adjustments are complete.

Set-Up and General Coilover Notes:

Please read **before and after** installation: Included are things you should know before and after installation of coil overs and some final setup tips to maximize the performance advantages of coilovers.

Coil overs 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 coil over spring nut differently on each corner.

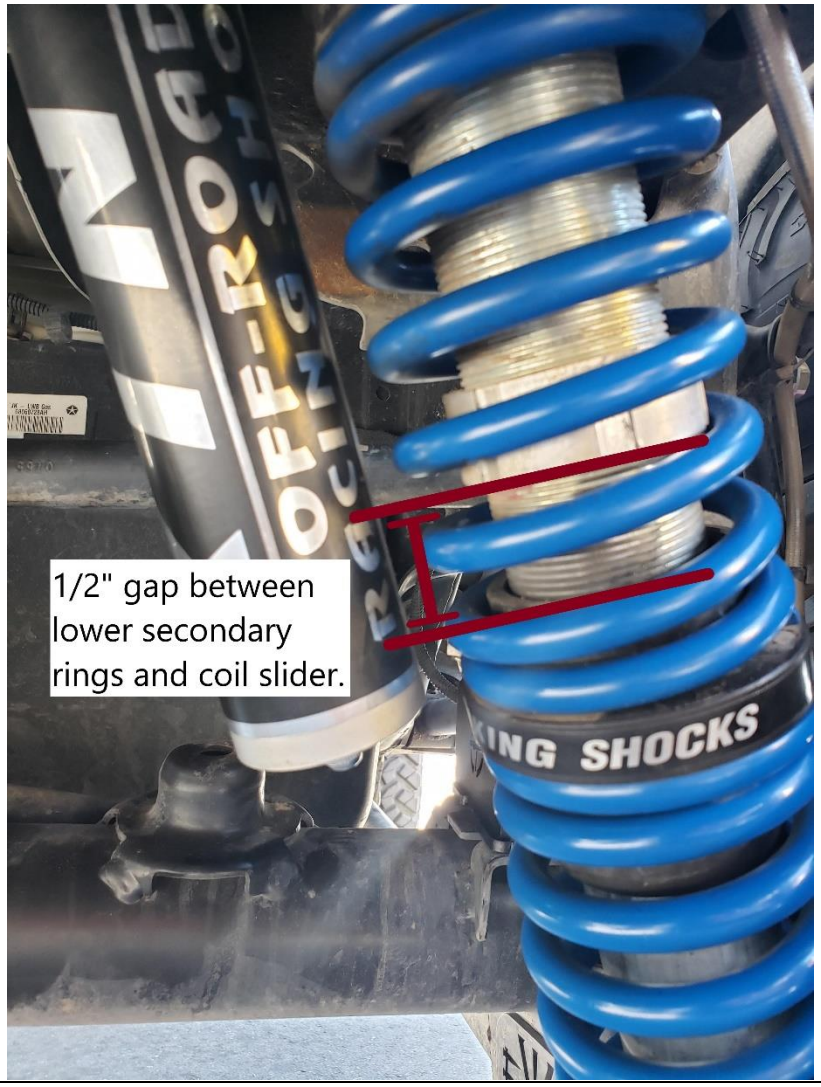
We recommend if 3" or more spring compression/preload is needed to achieve your desired lift height, our HD Coil over Spring set should be used, they are sold separately, contact EVO MFG for more information. Lastly the passenger side is heavier and will require slightly more spring compression.

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.

GENERAL RULE: YOU CAN VARY FROM THIS

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 ½" 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 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 ½"-1" is a rough dimension and can be adjusted to your liking and additional payload carrying requirements.



- Tighten all bolts securing purchased parts to specified locations.
- After completing installation using provided instructions, go through all steps again to make sure nothing was missed, not tightened or improperly assembled.
- Some components may need to be purchased separately.
- Check turn signals, headlights, fog lights (if applicable), taillights, blinkers and windshield wipers.
- Adjust mirrors, speedometer and headlights if needed.
- Make sure all gauges are fully operational.
- Drive the vehicle slowly for a couple minutes, looking and listening for abnormal noises while driving. After modification of a vehicle there will be differences in driving experiences and capabilities, be mindful of that.
- Inspect and Retorque all Bolts after 500 miles of competed installation and regularly thereafter.
- Some modification may be required.

Recommended Torque:

Size	Grade 2		Grade 5		Grade 8		18-8 S/S	
	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine
#4*	-	-	-	-	-	-	5.2	-
#6*	-	-	-	-	-	-	9.6	-
#8*	-	-	-	-	-	-	19.8	-
#10*	-	-	-	-	-	-	22.8	31.7
1/4	4	4.7	6.3	7.3	9	10	6.3	7.8
5/16	8	9	13	14	18	20	11	11.8
3/8	15	17	23	26	33	37	20	22
7/16	24	27	37	41	52	58	31	33
1/2	37	41	57	64	80	90	43	45
9/16	53	59	82	91	115	129	57	63
5/8	73	83	112	128	159	180	93	104
3/4	125	138	200	223	282	315	128	124
7/8	129	144	322	355	454	501	194	193
1†	188	210	483	541	682	764	287	289