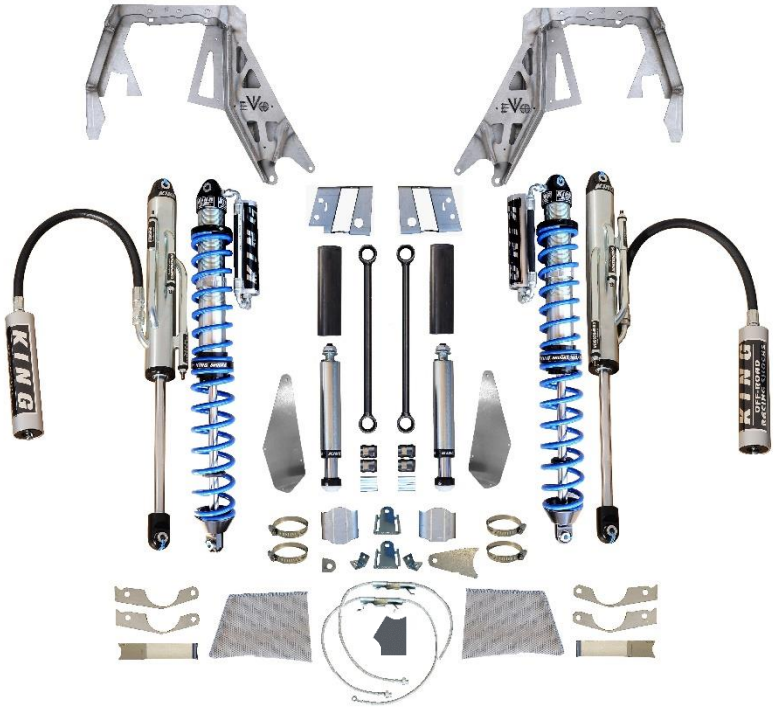
EVO Manufacturing

Jeep Wrangler JL/JLU and JT Gladiator

JL/JLU/JT Front Double Throwdown

EVO-3092B-S60



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.

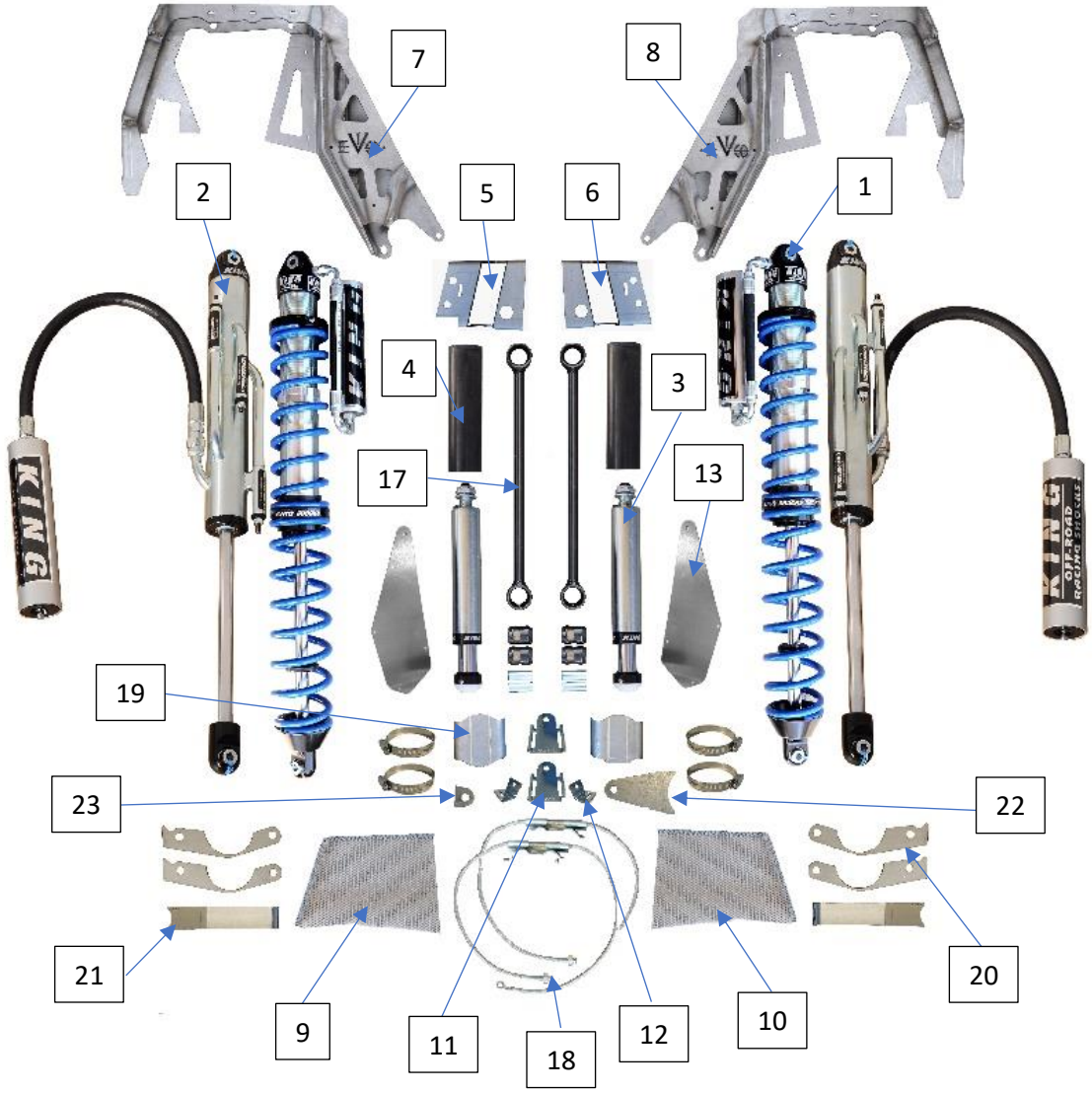
All supplied bolts torqued according to chart at end of instruction.

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.

Parts included: Table below shows Jeep Wrangler JL/Jeep Gladiator JT Double Throwdown.

Description	#	Quantity
Evo Spec 2.5” Front Coilover Pair	1	1
EVO Spec 3 Tube Bypass Pair	2	1
EVO Spec King 2.0 Air Bump	3	2
King 2.0 Air Bump Sleeve	4	2
Driver Steering Box Frame Plate	5	1
Pass Steering Box Frame Plate	6	1
Driver Double Throwdown Tower	7	1
Pass Double Throwdown Tower	8	1
Driver Aluminum Mesh	9	1
Passenger Aluminum Mesh	10	1
Coilover Reservoir Mount	11	2
Lower Reservoir Mount	12	2
Front Coilover Block Off Plate	13	2
Hardware Bag	14	1
Swaybar Poly Bushing	15	4
Swaybar Bushing Tube	16	4
Front Swaybay Link	17	2
Front Brakeline Pair	18	1
Axle Side Airbump Pad	19	2
Axle Side Shock Tabs	20	4
Shock Tie in Gusset	21	2
Driver Side Swaybar Bracket	22	1
Passenger Side Swaybar Bracket	23	1
Axle Side Hardware Bag	24	1



Recommended Tools:

- Welder
- Rivet Tool
- Drill and bit
- Welding materials
- Welding safety equipment
- Impact with standard sockets
- Sawzall/Cut off wheel, plasma torch or similar
- Masking Tape

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 threadlock 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.

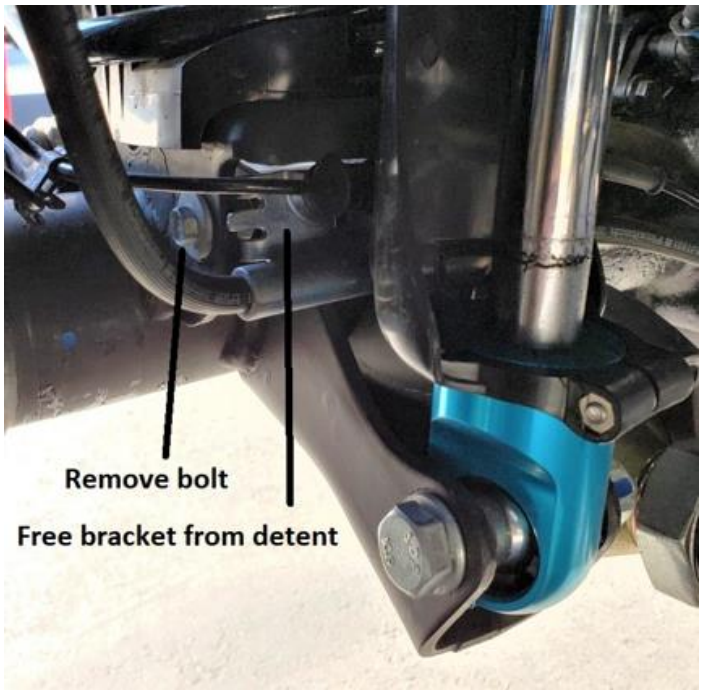
1. Disconnect battery terminals.

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.

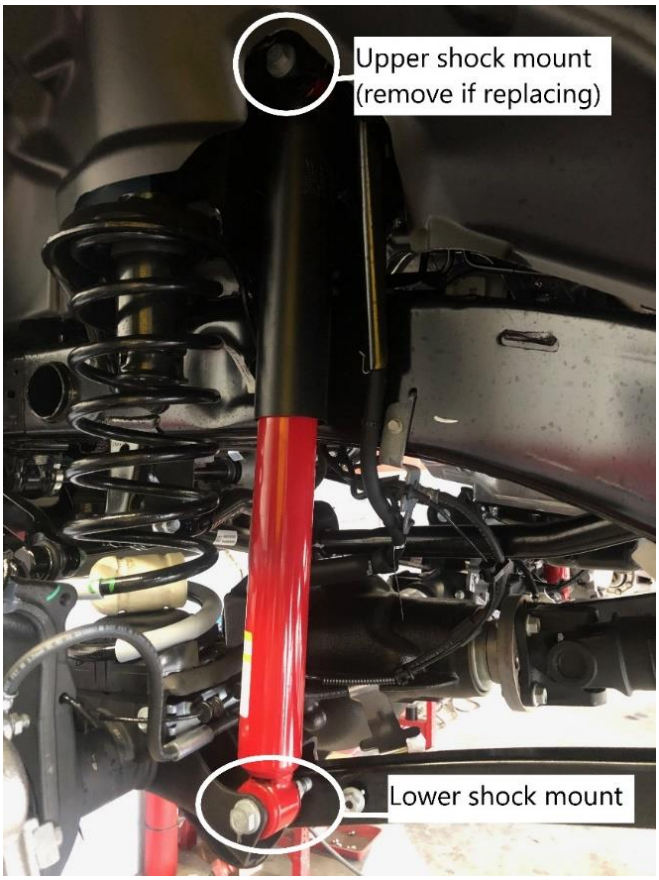
4. Remove front wheels/tires.

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

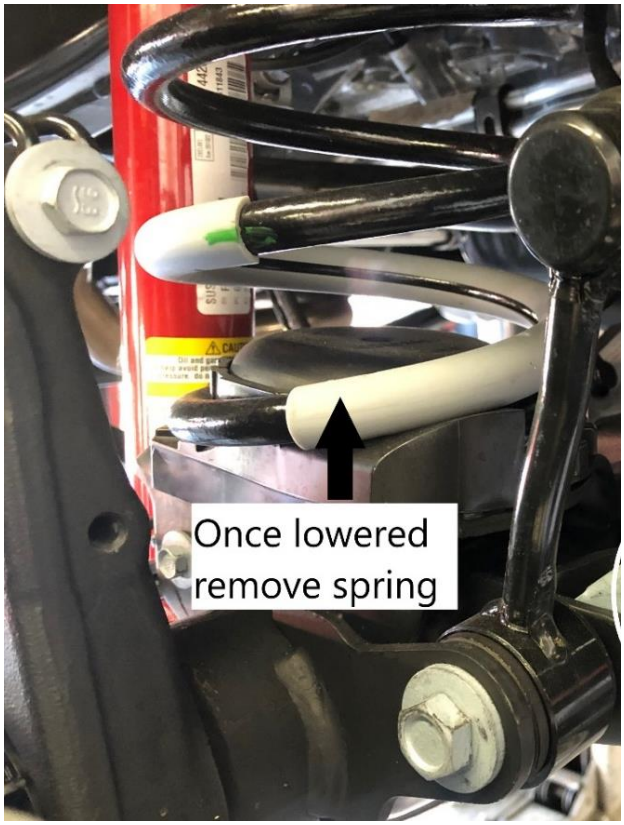


6. Support axle with jacks and remove front sway bar end links from vehicle. (upper stud end on sway bar link has hex key on end of the stud to prevent rotation while removing nut).

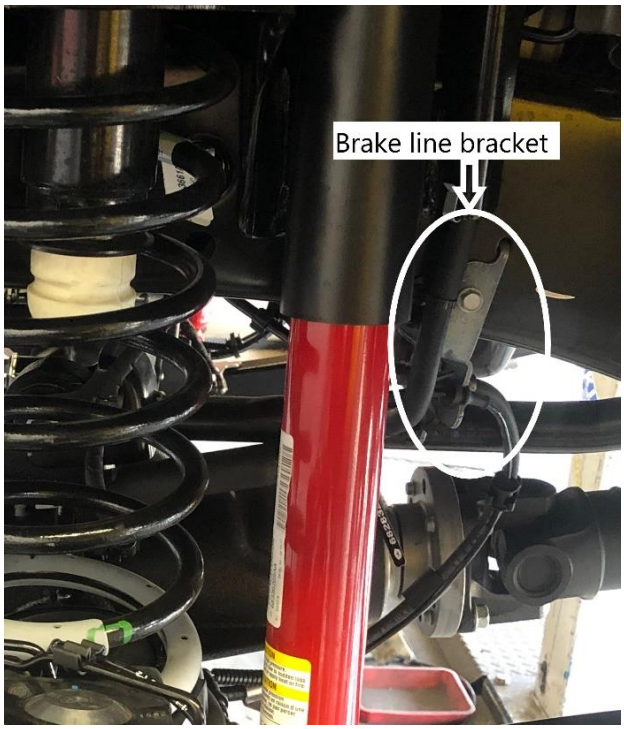
7. Remove both driver and passenger side front shocks.



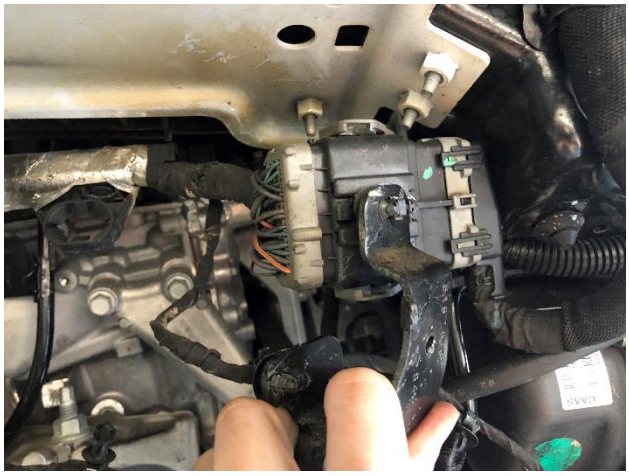
8. Lower front axle until springs can be removed. Remove front springs and upper/lower coil isolators.



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



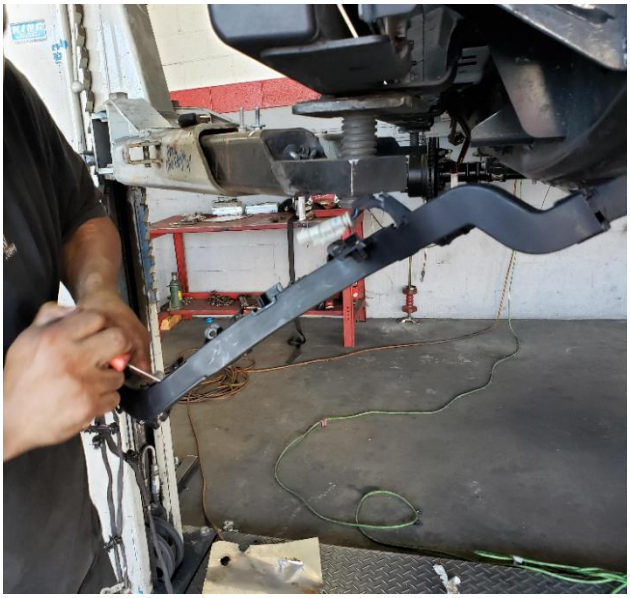
10. Unplug the fog light connection located near the front bumper.



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.

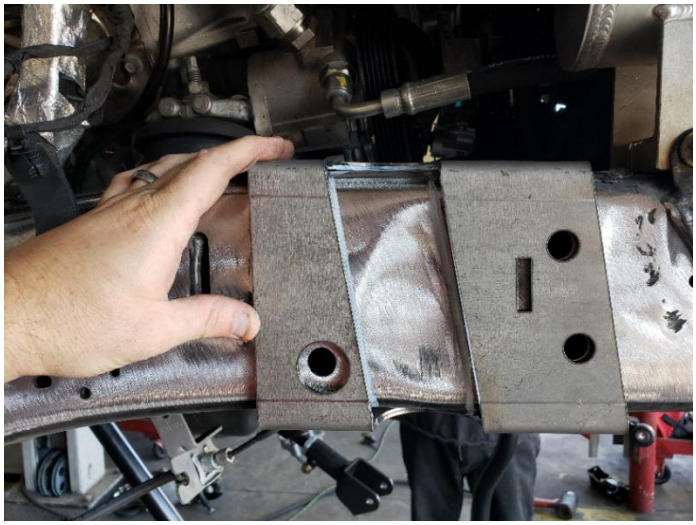
If installing airbump:

20. Line up airbump bracket using the holes in the frame. (use preexisting holes for placement reference)

21. Once placed onto correct part of frame, use a paint marker or something similar to mark the inside cutout of the airbump bracket. (pictured)

22. Once holes are lined up and marks are made, remove bracket and cut into frame following the marked lines.

Wear proper safety equipment.



23. Place the airbump bracket onto the frame using frame holes as placement reference.

24. Loosely insert bumpstop tube into the airbump bracket. There should be approximately 5/8” of the tube hanging below the frame, use picture as reference. Tack to hold in place.

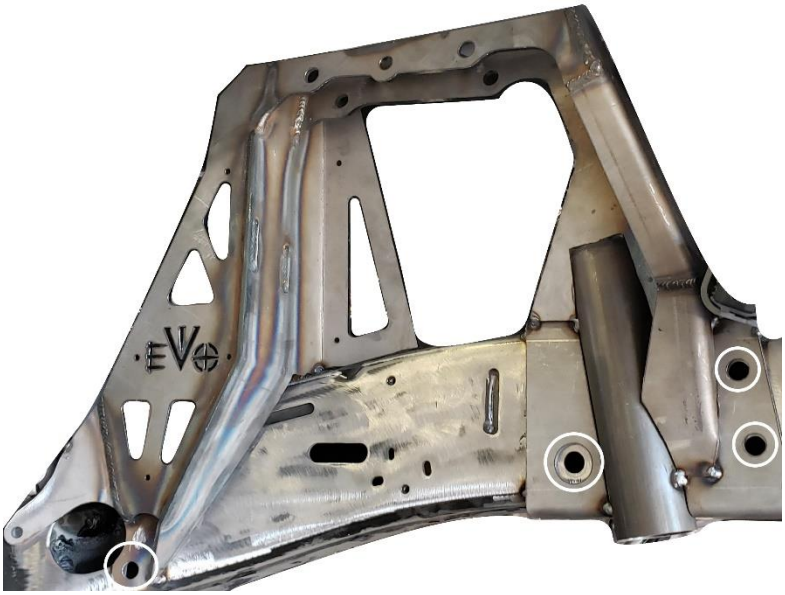
Note: Airbump is not installed at this time.

25. Trim/remove factory inner fender liner as needed. You can purchase the EVO-3099 inner fender liner separately if preferred.

26. At the bolt holes circled in picture, make sure the double throwdown bracket holes are concentric. Drill rearmost hole using a 9/32” bit.

27. Mark on DTD tower where sanding is required to contour to the frame.

28. Sand DTD tower to contour to the frame so that all gaps between the tower and frame are weldable.

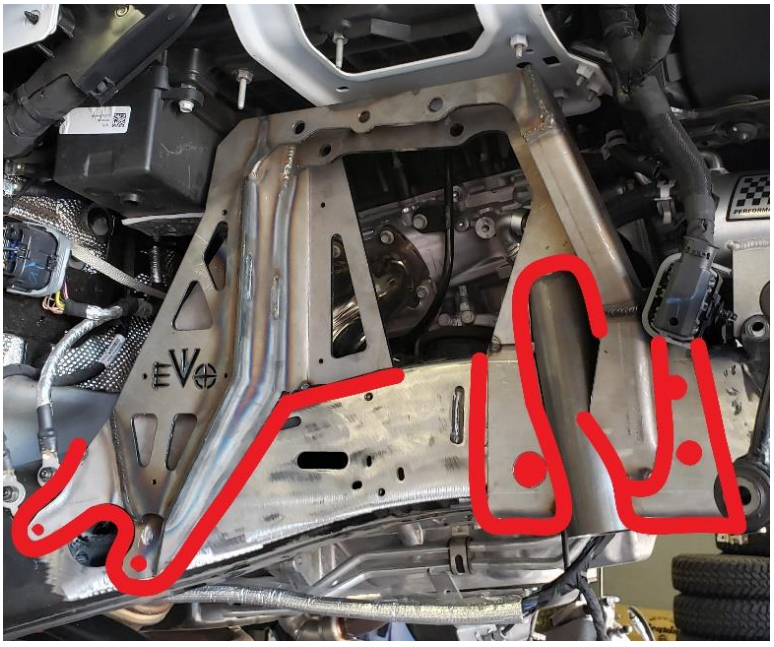


29. Place contoured tower back into position and install supplied bolts. If preferred fitment is achieved, tack weld (multiple locations) into place.

It is not recommended to fully weld at this point. Verify that nothing contacs shock tower. If so, re-adjust tower or clearance back of tower.

30. Weld all points of contact to the frame and frame bracket. Make sure to weld on the underside of frame and anywhere on the back side that you can reach.

Factory steering box bolts will need to be reinstalled on the driver side airbump bracket's forward most holes. **DO NOT weld bolts to bracket.**



31. If painting/color scheme, backing plates and backing vents, do so now.

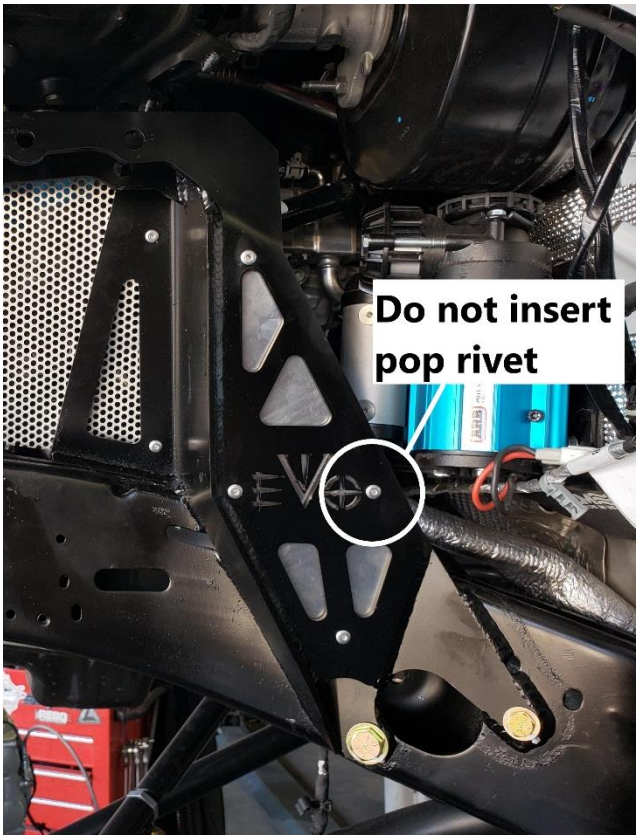
32. Insert backing plates into pockets in tower from behind the DTD bracket.

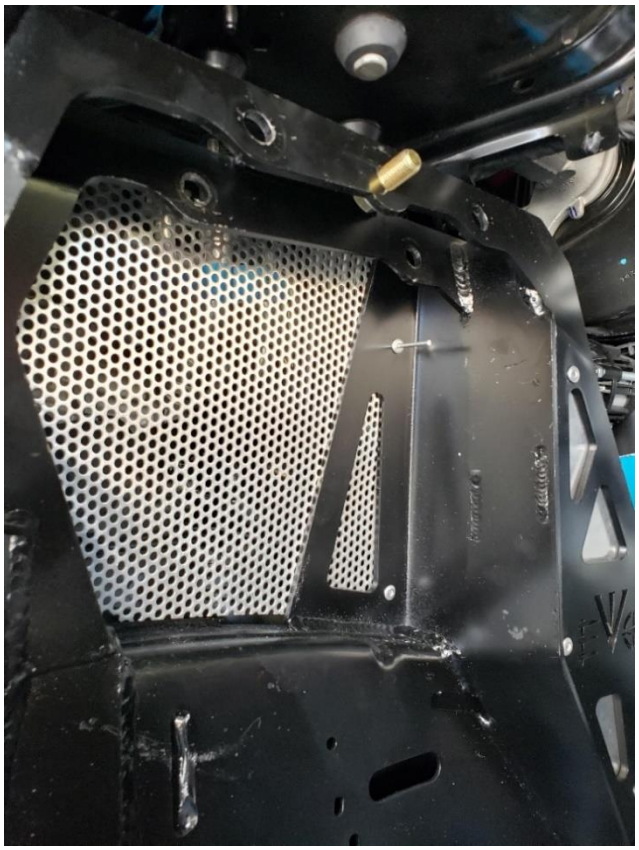
33. Align holes in towers with backing plate.

34. Insert supplied 3/16” pop rivets. Using a rivet tool, complete rivet installation on both towers. On the forward most hole of the **mesh** backing plates, use the supplied 1/4 -20 nuts and bolts.

35. On plate behind “EVO” insert pop rivets once holes in bracket and plate are lined up. Leave the rearmost hole open (circled in above picture) for later use.

Note: Holes may need to be clearance drilled with 3/16” bit.





36. Install coilovers without springs and bypass shock into DTD tower using the supplied M12 hardware. Coilover should be in rear of the vehicle, bypass should be in the front.

37. Remote reservoirs on the coilover and triple bypass should face each other.

38. Install airbumps, make sure airbumps are empty of gas and completely compressed.

39. Grinding/barrel sanding the inside of airbump tube may be necessary. Start with light grinding the inside of the tube from the bottom and work your way up about 1". Grinding above inner lip not required.

40. Use supplied hardware to install the reservoir bracket and hose clamps, mounting the shock reservoir to the main coilover/bypass bracket.

41. Using supplied 10-24 bolt/nut and #10 washers install supplied L brackets into the main bracket using the rearmost hole located where the backing plate sits. (one without pop rivet)

42. Use the supplied 1 1/16”-3” ID hose clamp to mount the bypass shock’s remote reservoir to the L bracket.

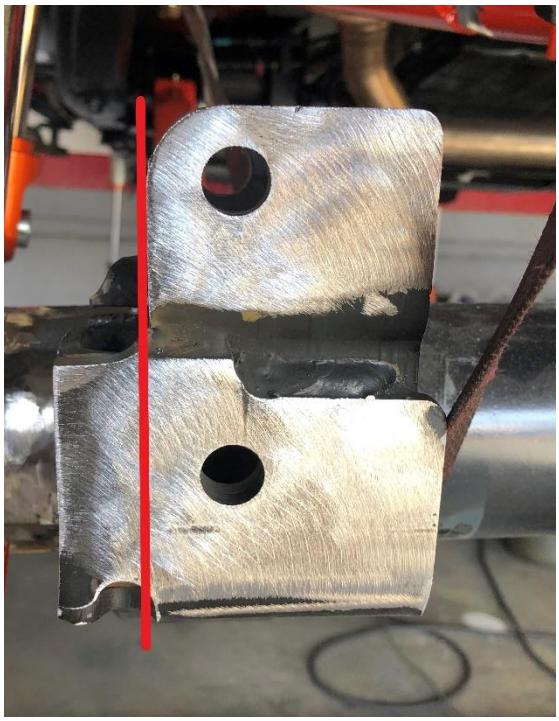
For aftermarket axles: This instruction was performed on a Spicer UD 60 axle already installed onto a Jeep, your axle may vary. This instruction is a general guide for installing the AXLE BRACKETS onto an aftermarket axle, your application may require modifications for installation.

1. Cut/torch all coil, sway bar and shock brackets off of axle.

2. Grind down until smooth with axle tube.

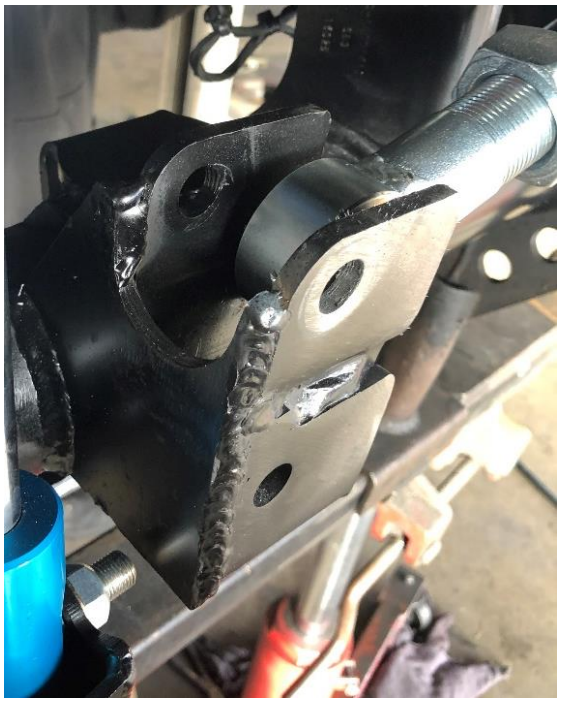
3. Clearance the trackbar bracket to clear the shock mount brackets. Use the top larger radius/bolt hole side of trackbar bracket as reference.

4. Remove any excess material on left side of cut line in picture.



5. Once trackbar material is removed, insert the supplied trackbar reinforcement plate and weld in.

6. Allow welds to cool and insert trackbar into pocket, insert supplied M12 bolt but do not tighten bolt at this time.



Axle side shock brackets come unwelded:

Using masking tape, mask off the lower portion of the shock shaft and shock mount.

Use one of the supplied bolts to loosely fasten the two shock brackets to the masked off shock/bypass and place the backing plate as pictured.

7. Tack in multiple places, remove from reservoir and weld fully.

8. Weld all points of contact between two of the axle side shock tabs and shock tab tie in gusset. The gusset should overlap the shock tabs, with shock tabs flush with sides of gusset. (use picture for reference)

9. Repeat process for other shock mount.

Remove masking tape from reservoir.

10. Install 3 of the control arms (best to not have all 4 installed at this time).

11. Jack axle to approximate ride height (9” from bottom of frame to top of axle tube) and set axle to about 5-5.5 degrees of negative castor.

12. Place shock mount axle brackets on the axle from the bottom up and as close to axle C's as possible. Make sure to leave enough room to insert/remove shock mounting hardware.

13. Install both the coilovers (no springs installed) and bypass shocks into axle shock mount using supplied M12 hardware.

14. Manipulate/Jack axle to full bump or where shocks are fully compressed.

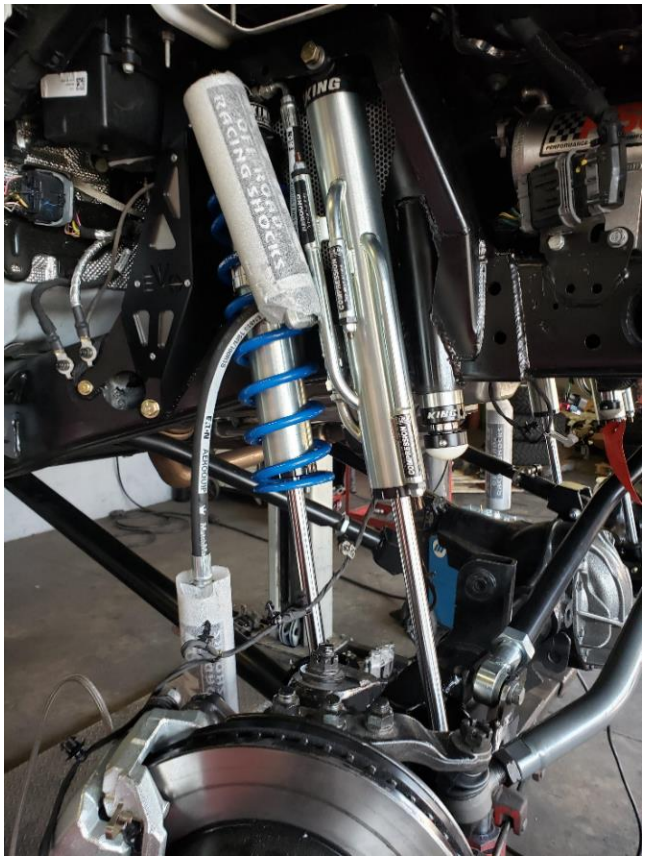
15. When both shocks are bottomed out and bump stop is fully compressed. Tack the axle shock brackets in place.

16. Droop axle until airbump pad can be placed directly under airbump.

17. Install and tack airbump pads in place.

18. Fully droop and uninstall shocks from axle mount and fully weld brackets on. Support axle carefully.

Do not weld near exposed shock shafts.

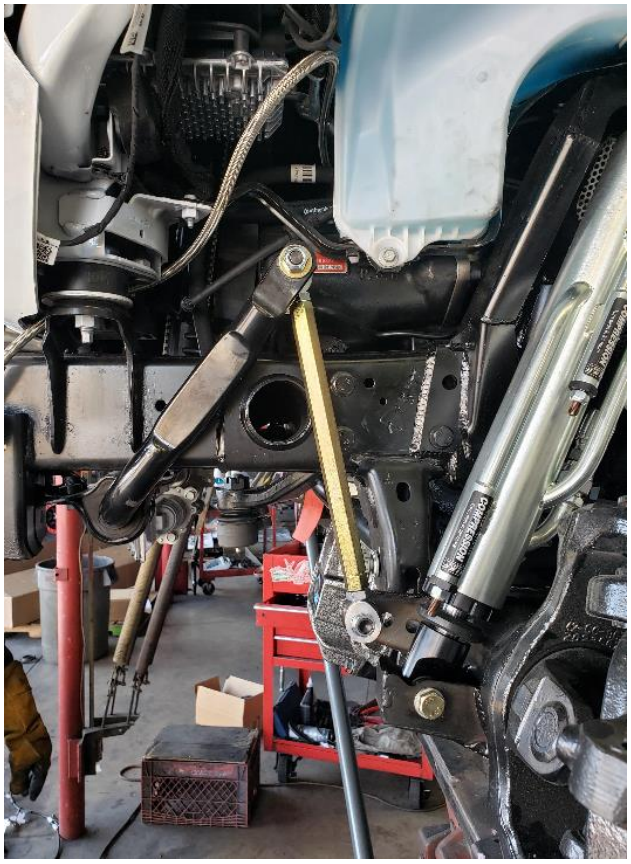


19. Tack sway bar mounting bracket on the passenger side edge of the axle trackbar bracket. Do not fully weld, may need to readjust later.

20. On driver side, use longer sway bar bracket. Driver/Passenger sway bar brackets should be in similar location for easy swaybar link installation when axle is level. Tack in place. Use picture as reference.

Do not fully weld at this time, may need to adjust placement later in installation.

43. Make sure that every bracket on the frame is tacked/welded on.
44. Install swaybar endlinks to the inside of factory swaybar (may need to make adjustments to factory swaybar).
45. Cycle axle up and down to full bump and full droop making sure no suspension component/steering component rubs and that suspension fully cycles. Turn wheels to right and left when suspension is fully up/tucked and when suspension is fully down/drooped.
46. May need to clearance the front body mount.
47. While suspension is fully extended adjust sway bar endlinks and swaybar brackets as necessary.



Verify that all brakelines, wiring and other components do not hyperextend or come into contact with anything. Longer brakelines may be required. May need to make minor adjustments.

Remove all vital components at axle and fully weld all brackets once preferred fitment is achieved. Let welds cool and fully paint all bare metal. Reinstall all shocks, coilovers, swaybars, trackbar and control arms. Once vehicle is on the ground under its own weight, torque all bolts to spec using chart at bottom of instruction.

48. Install springs and add 150 PSI of nitrogen back into the shocks.
49. Turn spanner nut, compressing the spring until the distance of the threaded portion between the shock end cap and the spanner is approximately 1.5” to 2”. This should yield approximately 4” of lift.
50. Adjust distance as needed for desired ride height. Every vehicle is different, Passenger side will need slightly more.

Turning spanner may require a pin or spanner tool.

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

51. Double check welds.

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

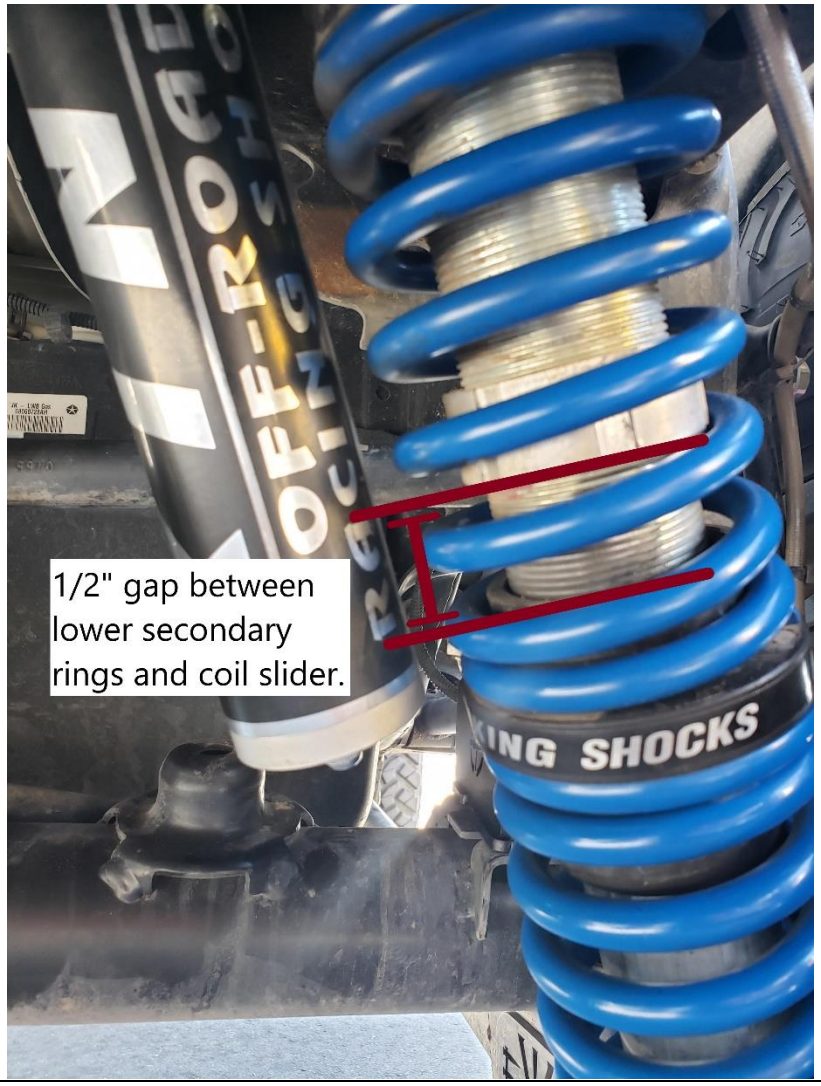
Spring compression applied with the coil nut on top of the springs will VARY between all vehicles and may be different at all 4 corners. This is due to added and or removed weight to the vehicle. The fact that all 4 corners have different weights from the factory, added accessories and or removing factory 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 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