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## **INSTALLATION INSTRUCTIONS FOR: JL7099 2018 & Up 4 DOOR JL WRANGLER 3.5" SUPER-FLEX SHORT ARM UNIVERSAL KIT**

### **Application Notes:**

1. The front engine crossmember must be removed and will not be reinstalled due to drive shaft clearance.
2. Front driveshaft must be removed from front differential to allow for proper droop during installation.
3. It may be necessary that a front CV drive shaft be used in conjunction with this lift on either 2 or 4 door models. 2 Door models may also require a CV rear drive shaft.
4. Used in conjunction with the following kits: JL7102 3.5" Fixed Arm Kit, JL7142 3.5" Standard Kit, and JL7147 3.5" Superflex Kit

### **Safety Warning:**

Suspension systems or components that enhance the off-road performance of your vehicle may cause it to handle differently, on and off-road, than it did from the factory. Care must be taken to prevent loss of control or vehicle rollover during sudden maneuvers. Failure to drive the vehicle safely may result in serious injury or death to driver and passengers. We recommend you always wear your seat belt, drive safely and avoid quick turns and other sudden maneuvers. Constant maintenance is required to keep your vehicle safe. Thoroughly inspect your vehicle before and after every off-road use.

### **Installation Warning:**

**All procedures described in these instructions were performed while the vehicle was properly supported on a vehicle lift. Use caution when supporting the vehicle as removing and installing parts will change the vehicle center weight. Rubicon Express recommends that chassis support jacks are always used at the front and rear of the vehicle during the installation of a suspension system.**

We recommend that certified technicians perform the installations of our products. Attempts to install these products without knowledge or experience may jeopardize the safety of the vehicle. These instructions only cover the installation of our products and may not include factory procedures for disassembly and reassembly of factory components. Read instructions from start to finish and be sure all parts are present before disassembling the vehicle. Included instructions are guidelines only for recommended procedures and in no way are meant to be definitive. Installer is responsible to insure a safe and controllable vehicle after performing modifications. Do not perform test drives on public roads with partially completed installations. Always double and triple check your work before use.

**ESP WARNING NOTE: The 2018 Jeep Wrangler JL is equipped an Electric Stability Program (ESP). This system is designed to help control the vehicle in times of uncertain traction conditions and roll stability. Due to the complex nature of this program Rubicon Express strongly suggest that after lifting the vehicle it is returned to the dealer for a computer "flash" to re address tire size and proper ESP control settings. Rubicon Express also recommends that you become familiar with the ESP controls and how the different level of settings can help you to keep better control of your vehicle.**

**WHEEL NOTICE: If using factory wheels it will be necessary to purchase 1.5" wheel spacers to provide proper clearance to suspension components. Otherwise aftermarket wheels with 4.5" back space measurement will be required.**

### **REQUIRED TOOLS:**

Basic mechanics' hand tools	Jack Stands
Vehicle Hoist (Optional)	Floor Jacks
Wheel Chocks for Ground Installation	

**KIT CONTENTS:**

- 1 JL7099 Universal Kit
- 1 RM43013 Front Coil Shim
- 1 RM43014 Rear Coil Shim
- 2 RM60164 3.5" Front Coil Spring
- 2 RM60166 3.5" Rear Coil Spring
- 1 RE1151 Rear Sway Bar End Link Kit
- 3 RE1301 2" Front Lower Bump Stop Kit
- 2 70-0374501800 3/8" x 4 1/2" Hex Bolt Gr. 8
- 1 RE1303 2" Rear Bump Stop Pad
- 1 RE1479 Block Off Plates
- 1 RE1612 Rear Track bar Bracket

## **PRE INSTALLATION NOTE:**

Control arm bushings are pre-lubed during initial assembly at Rubicon Express. As general maintenance the control arm bushings should be lubed with a silicone base grease as needed. Silicone base grease can be purchased at your local auto parts store.

The Super-flex joints are also pre-lubed during initial assembly at Rubicon Express. As general maintenance the super-flex joints should be greased as needed and the outer spanner nut tightened on the joint. Any type of grease will work on the Super-flex joints. Spanner nut tools are available through Rubicon Express (RE3771 & RE3772) if needed for tightening of the joints.

## **INSTALLATION OVERVIEW**

The installation process can be broken down into the following tasks:

1. Installation of front control arms, track bar, coil springs and bump stops, shocks, sway bar links.
2. Installation of rear control arms, track bar bracket, bump stops, coil springs, shocks, and sway bar links
3. Final detailing, adjustments, and alignment.

## **Step 1 – Front arm and component installation**

- A. With the vehicle and axle properly supported, prepare the front end suspension component installation by removing the following items; shocks, sway bar links, and track bar. These items will not be reinstalled on the vehicle.
- B. Lower the axle and remove both coil springs.

### **Front arm Installation**

- A. If installing with (JL7102) with fixed arms, refer to (RE3721) instructions.
- B. If installing with (JL7147) with super-flex arms, refer to (RE3722 and RE3723) instructions.



**Photo # 1**



**Photo # 2**

## Front bump stops and coil springs (Photos 1 and 2)

- A. Remove stock coil springs.
- B. Place the front bump stop (RE1301) in the center of the coil spring and raise the small diameter end of the Rubicon Express coil into the upper spring bucket and over the lower spring cup and bump stop. Install front coil shim (RM43013) between the upper isolator and the coil bucket on the passenger side only. Then raise the axle to seat the upper mount and rotate the coil to properly index in the lower mounts. Be sure to realign upper isolator tabs with holes in the upper coil bucket.

**NOTE:** If the axle cannot be dropped far enough from the frame due to brake line or ABS wire length to install the coil springs remove the bump stop and insert it into the coil. Then slide the coil over the stock axle mount and re-install the bump stop bolts. **(PHOTO # 1)**

**NOTE:** If installing kit with 37" tires on JL Sport edition, use, RE1301, and long bolt.

## Front Track bar

- A. If installing adjustable track bar, refer to (RE1674) instructions.
- B. If installing HD track bar, refer to (RE1683) instructions.

## Shocks and sway bar links/disconnects

- A. See supplied instruction sheet for the front sway bar link / disconnect information (RE1152 or RE1136). This kit contains all parts necessary to be used on a Jeep Rubicon model with factory electronic disconnect as well as Sport and Sahara Jeep models.

## Step 2 – Rear arm and component installation

- A. With the vehicle and axle properly supported prepare the rear end suspension component installation by removing the following items; shocks, sway bar links, and track bar at the frame only (loosen the track bar bolt at the axle). The shocks and sway bar links will not be reinstalled on the vehicle.
- B. Remove the emergency brake cable bracket from under the body. Discard the factory bracket.
- C. Lower the axle and remove both coil springs. The rubber isolators will come out with the coil and must be reinstalled with the new coil springs.

**NOTE:** Factory isolators must be installed in the same orientation as they are removed.



**Photo # 3**

### **Rear track bar bracket and factory track bar (photo 3)**

- A. With the track bar removed from the factory track bar bracket, install (RE1612) with supplied hardware. Do not to tighten 1/2" bolt at this time.
- B. Insert the 9/16" X 3 1/2" bolt and long spacer in the top hole. Insert the 9/16" X 3 1/2" bolt and short spacer in the bottom hole. The track bar will be mounted toward the rear of the vehicle. **(Photo 3)**

### **Rear Arms**

If installing with upper and lower arms with (JL7147 3.5" Super-flex Kit), refer to (RE3724 and/or RE3725) instructions.

**Note:** It will be necessary to re-adjust the upper arms during the final check to properly set the pinion angle.

### **Rear bump pads, coil springs, and sway bar links**

- A. Remove stock coil springs.
- B. Install the two bump pads (RE1303) on top of the axle housing using the supplied 3/8" hardware. Reinstall both factory isolators and rear coil shim (RM43014) between the upper isolator and the coil bucket on the passenger side only. Be sure to realign upper isolator tabs with holes in the upper coil bucket.

**NOTE:** Factory isolators must be installed in the same orientation as they are removed.

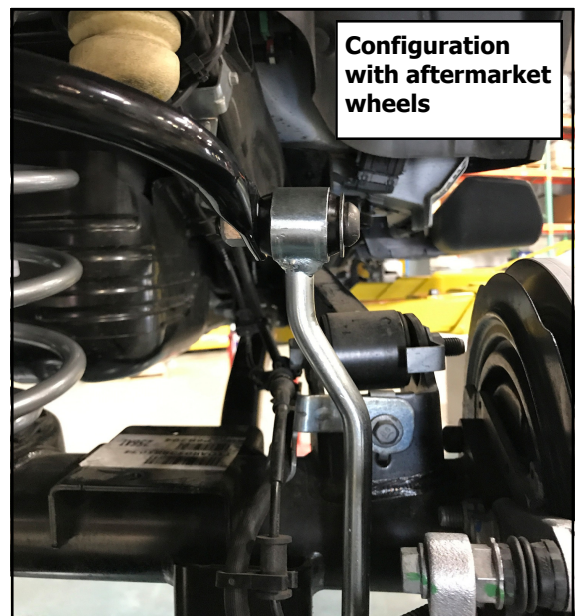


- C. Place the rear coils up into the upper mount and over the lower mount. Raise the axle into place just enough to keep the coil spring from falling out. Be sure to realign upper isolator tabs with holes in the upper coil bucket
- D. Install the replacement rear anti-sway bar end links (RE1151) in place of the previously removed factory anti-sway bar end links as follows:
  - 1. For vehicles using factory 17" wheels, secure to the sway bar and rear axle using the supplied **1/2" X 2 1/4"** button head bolts and hardware. Be sure the bend in sway bar end links is at the top and facing toward inside of vehicle and the bolt heads are facing in toward frame. **(Photo 4)**
  - 2. For vehicles using aftermarket wheels with 4.75" of backspacing, secure to the sway bar and rear axle using the supplied **1/2" X 2 1/4"** button head bolts and hardware. Be sure the bend sway bar end links is at the top and facing toward outside of vehicle and the bolt heads are facing toward outside of vehicle. **(Photo 5)**

**NOTE:** If installing 37" tires on JL sport edition, and do not want to trim install (RE1301) on top of (RE1303) with provided hardware.



**(Photo # 4)**



**(Photo # 5)**

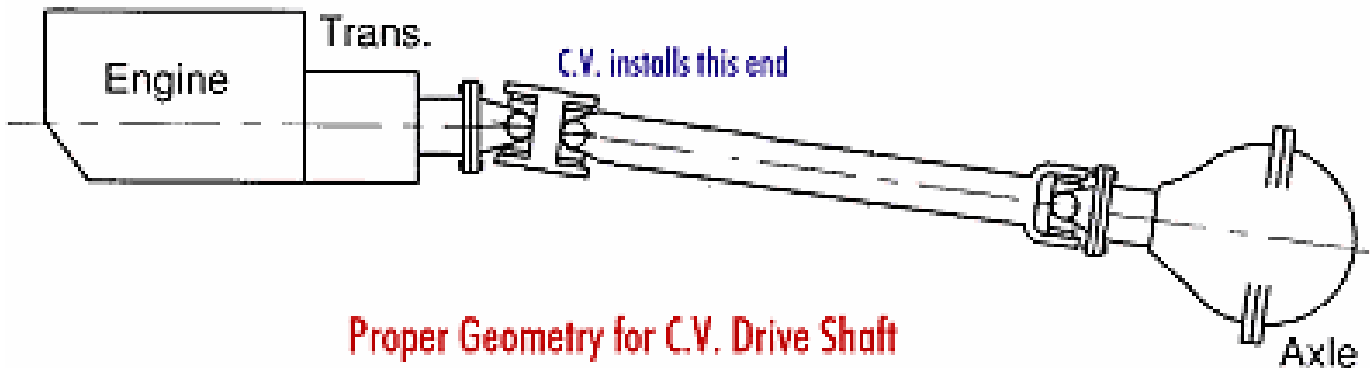
## **Shocks**

- A. Depending on what shocks have been purchased with the suspension kit it may be necessary to reuse the sleeves from the stock shocks. If this is necessary be sure to lubricate the sleeves during removal and most importantly during re-installation.

## **Step 6 - Final details and adjustments**

- A. Install wheels, verify all coils are properly seated shocks installed and lower the vehicle.
- B. Check the front track bar for axle center, adjust as necessary.
- C. Tighten all control arm and track bar rubber bushing hardware. Use factory specs where factory bolts are used.

- D. Manually disable the factory ESP system before the first test drive. (Refer to owners manual for the disable procedure) Note the location of steering wheel while driving in a straight line and any driveline vibrations.
- E. Adjust drag link to center the steering wheel. NOTE: Centering the steering wheel is highly critical for proper ESP function. Minimum factory caster and maximum factory toe-in is the recommended initial setting for alignment (see Troubleshooting as well).
- F. Adjust upper control arms if necessary for proper front castor angle and rear pinion angle. NOTE: Shown below is a diagram of proper pinion angle for a CV style drive shaft (see Troubleshooting as well).



- G. Retighten all bolts after 50 miles and again after every off road excursion.
- H. After all adjustments have been made, Rubicon Express recommends that your local Jeep dealership “flash” the computer to adjust for proper tire size and ESP control settings.

## **TROUBLESHOOTING**

### **Rear driveline:**

Acceleration vibration: Caused by the pinion being too high in relation to the transfer case output shaft. Adjust upper control arm to lower pinion accordingly.

Deceleration vibration: Caused by the pinion being too low in relation to the transfer case output shaft. Adjust upper control arm to raise pinion accordingly.

### **High speed wobble:**

It is a condition where front tires will shimmy after hitting a bump. Avoid bias ply tires and wheels with excessive offset. Check for worn or loose parts. In most cases a reduction of positive castor will eliminate this condition.



## **RUBICON EXPRESS ADVANTAGE LIFETIME WARRANTY**

### ***Notice to Owner, Operator, Dealer and Installer:***

Vehicles that have been enhanced for off-road performance often have unique handling characteristics due to the higher center of gravity and larger tires. This vehicle may handle, react and stop differently than many passenger cars or unmodified vehicles, both on and off-road. You must drive your vehicle safely! Extreme care should always be taken to prevent vehicle rollover or loss of control, which can result in serious injury or even death. Always avoid sudden sharp turns or abrupt maneuvers and allow more time and distance for braking! Rubicon Express reminds you to fasten your seat belts at all times and reduce speed! We will gladly answer any questions concerning the design, function, maintenance and correct use of our products.

Please make sure that the Dealer / Installer explains and delivers all warning notices, warranty forms and instruction sheets included with Rubicon Express product.

Application listings in this catalog have been carefully fit checked for each model and year denoted. However, Rubicon Express reserves the right to update as necessary, without notice, and will not be held responsible for misprints, changes or variations made by vehicle manufacturers. Please call when in question regarding new model year, vehicles not listed by specific body or chassis styles or vehicles not originally distributed in the USA.

Please note that certain mechanical aspects of any suspension lift product may accelerate ordinary wear of original equipment components. Further, installation of certain Rubicon Express products may void the vehicle's factory warranty as it pertains to certain covered parts; it is the consumer's responsibility to check with their local dealer for warranty coverage before installation of the lift.

### ***Warranty and Return Policy:***

Rubicon Express warrants its full line of products to be free from defects in workmanship and materials for the life of the product. Rubicon Express's obligation under this warranty is limited to repair or replacement, at Rubicon Express's option, of the defective product. Any and all costs of removal, installation, freight or incidental or consequential damages are expressly excluded from this warranty. Rubicon Express is not responsible for damages and / or warranty of other vehicle parts related or non-related to the installation of Rubicon Express product. A consumer who makes the decision to modify his vehicle with aftermarket components of any kind will assume all risk and responsibility for potential damages incurred as a result of their chosen modifications.

Warranty coverage does not include consumer opinions regarding ride comfort, fitment and design. Warranty claims can be made directly with Rubicon Express or at any factory authorized Rubicon Express dealer.

### ***Claims not covered under warranty:***

- Parts subject to normal wear; this includes bushings\*, shock absorbers, driveshafts, ball joints, tie rod ends and heim joints.
- Discontinued products at Rubicon Express's discretion.
- Finish after 90 days.

Rubicon Express accepts no responsibility for any altered product, improper installation, lack of or improper maintenance or improper use of our products.

**\*Rubicon Express PT-MEG Super-Ride bushings are covered by the Rubicon Express Advantage Lifetime Warranty, and will be replaced in the event of failure for the life of the product.**