

**SIMPLY SUPERIOR.**

**4 DOOR MODELS**

**J-SPEC SUSPENSION SYSTEM**

**2018-2025 JEEP WRANGLER JL 1.5"**

**JSPEC2150**

**2 DOOR MODELS**

**J-SPEC SUSPENSION SYSTEM**

**2018-2025 JEEP WRANGLER JL 2.25"**

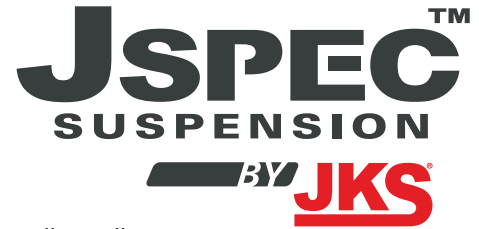
**JSPEC2150**

[www.jksmfg.com](http://www.jksmfg.com) | [tech-jks@ridefox.com](mailto:tech-jks@ridefox.com) | 517-278-1226

RV. 042125

## GETTING STARTED

Read all warnings, instructions, notes and cautions before you begin the installation.



## WHO SHOULD INSTALL THIS?

We recommend that this system be installed by a professional mechanic. The installer will need professional knowledge of special tools required for installation as well as assembly and disassembly procedures.

## STAYING SAFE AND LEGAL

- If you fail to drive your lifted and modified vehicle safely it may result in serious injury or death.
- Exercise caution: A lifted vehicle is at greater risk for rollovers or loss of control, especially during abrupt maneuvers.
- Always wear your seat belt, reduce your speed and avoid sharp turns.
- Never operate your vehicle under the influence of drugs or alcohol.
- Consult local and state laws for the legality of your ride height.

## BEFORE YOU BEGIN INSTALLATION

- Needed items: OE service manual for your vehicle, safety glasses, and any special tools as indicated in these instructions as well as the following tools: assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands.
- Ride Height: Measure the initial ride height of your vehicle prior to installation. Final ride height may vary depending on the factory height of your vehicle.
- Tires and rims: Larger tire and rim combinations can increase leverage and cause additional stress to suspension, steering, and related components. When installing larger than OE tires and rims, the following components should be inspected for wear every 2500-5000 miles: ball joints, tie rod ends, wheel bearings, track bar bushings, pitman arm.
- Drive line vibrations: Some vehicles may experience drive line vibration after installation of this suspension system. Possible remedies for this include: tuning angles, replacement of slider on shaft, lengthening or truing of shaft, and/or replacing u-joints.
- Installation without a hoist: We recommend completing the rear alterations first if no hoist is available.



### TRACTION CONTROL COMPLIANT

In an effort to reduce the risk of rollover crashes the National Highway Traffic Safety Administration (NHTSA) established the Federal Motor Vehicle Safety Standard (FMVSS) No. 126 requiring all new passenger vehicles under 10,000 lbs GVWR include an electronic stability control (ESC) system as standard equipment. Effective August 2012 this law requires aftermarket products to be compliant with these same standards.

**VISIT 560PLUS.COM FOR MORE INFORMATION!**

## THANK YOU FOR CHOOSING JSPEC SUSPENSION

### TIRE FITMENT

#### SPORT & SAHARA MODELS

33x12.50 on 17x8 with 4.5-5" backspacing no rubbing  
35x12.50 on 17x8 with 4.5-5" backspacing rubbing  
under articulation will occur

#### RUBICON MODELS

35x12.50 on 17x8 with 4.5-5" backspacing no rubbing  
37x12.50 on 17x8 with 4.5-5" backspacing  
under articulation rubbing may occur

### SPECIAL TOOLS REQUIRED

Torque Wrench  
Die Grinder with carbide bur (LCA cam install)

### INSTALLATION TIME

Approximately 4-5 hours



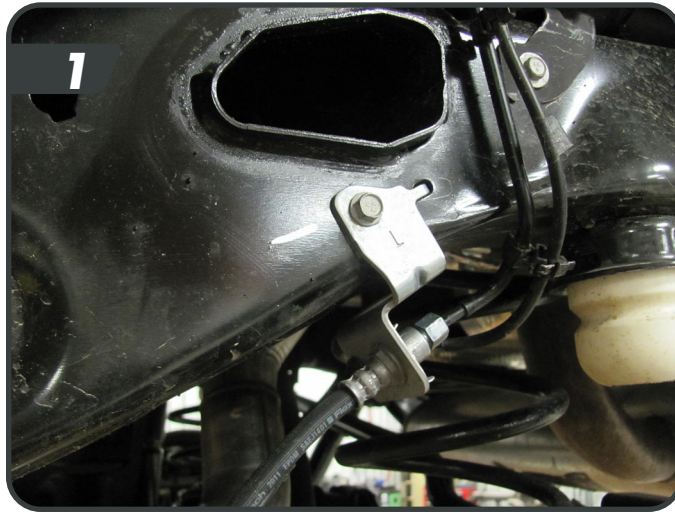
## 01. PRE-INSTALLATION

a. Measure from the center of the wheel up to the bottom edge of the wheel opening.

	Drv	Pass
Front	<input type="text"/>	<input type="text"/>
Rear	<input type="text"/>	<input type="text"/>

## 02. REAR DISASSEMBLY

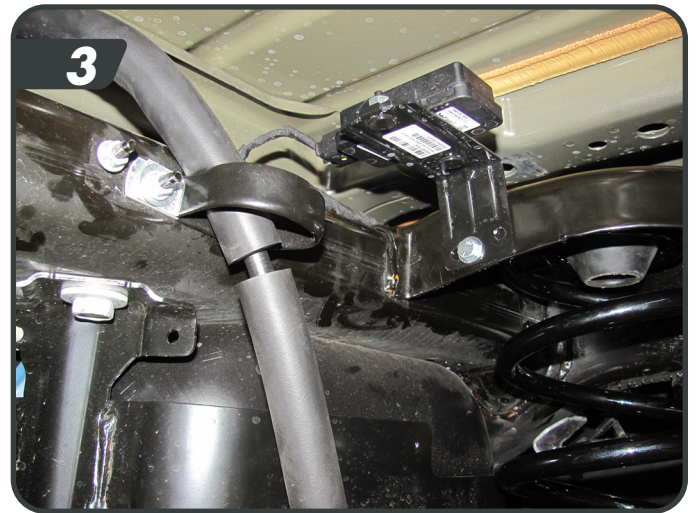
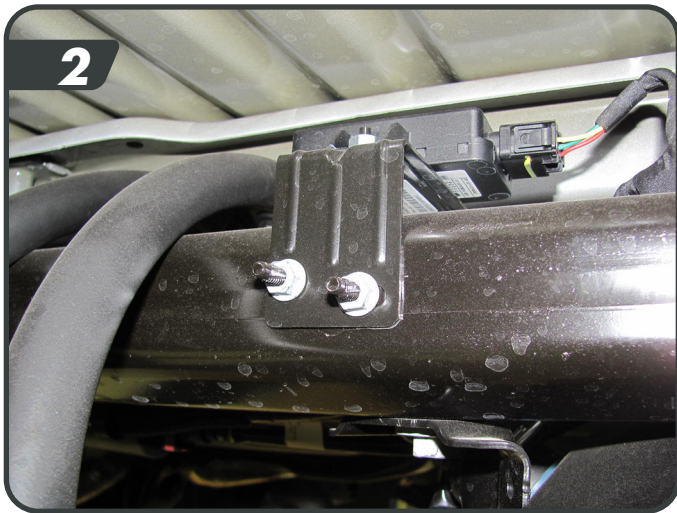
- a. Disconnect the track bar at the axle with the vehicle still on the ground using a 21 mm socket. Save bolt and nut tab.
- b. Raise and support the vehicle with jack stands positioned in front of the lower suspension arm brackets. Remove the tires.
- c. Remove the bolts holding the brake lines to the frame (10mm) [1].



- d. Remove the (2) bolts holding the TPMS ECU sensor to the rear crossmember (10mm) [2].

**Note: Some models may not be equipped with a TPMS ECU in this location. No action is required in this case.**

- e. Relocate the sensor using the provided ¼" hardware in bolt pack J170. Using the provided cable clamp, insert the passenger side parking brake cable and reattach where the sensor was located using the original nut.[3].



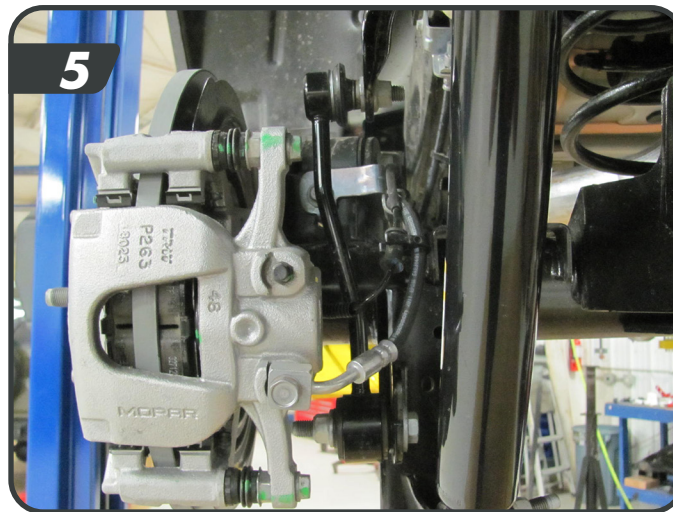
- f. Rubicon models: Disconnect the locker wires from the differential.

- g. Remove "W" bracket securing both emergency cables (15mm). The bracket is located above the driveshaft and is not easily visible. The bracket will not be re-used.[4]

**Note: some models may not be equipped with this bracket. No action is required in this case.**



- h. Remove the sway bar links from the axle and sway bar (18mm) [5]



- i. Remove the rear inner fender liners by removing the 3 bolts (8mm) to gain access to the upper shock bolt [6].



- j. Support the axle with a jack under the center of the differential and remove the shocks from the frame and axle (18mm), save hardware [7].



- k. Lower the axle enough to remove the factory springs. Note the orientation of the upper spring isolators. Make sure there is adequate slack on all brake lines.

**Note: Some models may require the parking brake cables be disconnected at the wheel to gain adequate slack.**

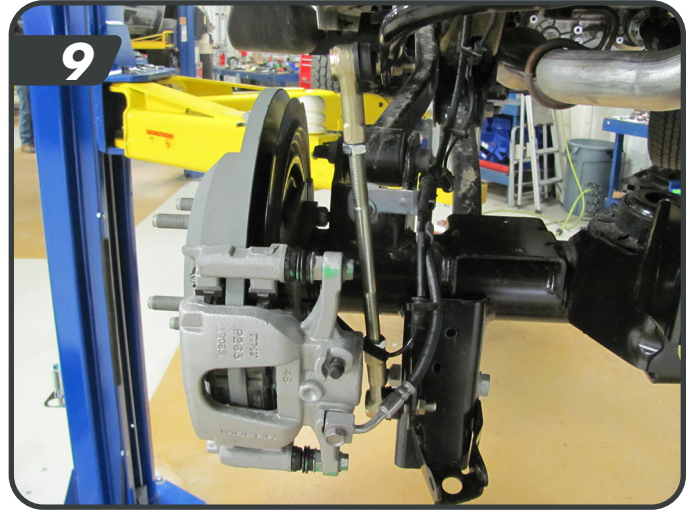
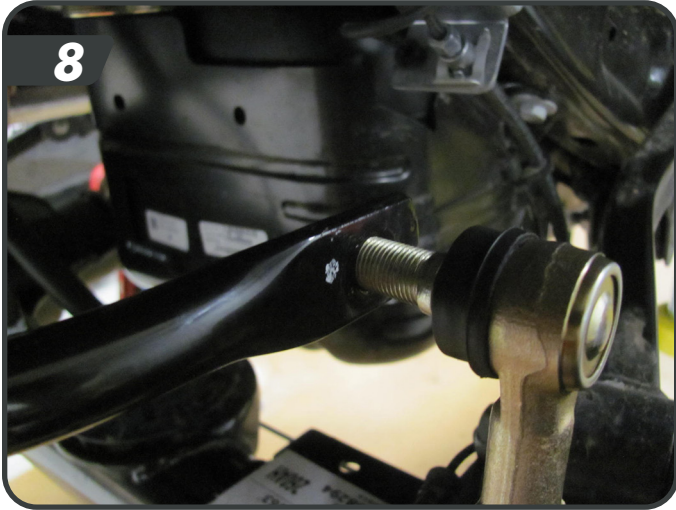
## 03. REAR INSTALLATION

### COIL SPRINGS, SWAY BAR LINKS, BUMP STOPS

**Rear bump stop spacers will require bolt pack J170**

- a. Install the shorter pair of JSPEC coils springs with the tighter windings on top into the rear of the vehicle with the orientation similar to stock. The upper isolators have a locating pin that fits into a hole in the frame. Raise the axle to compress the springs enough to hold them in place.
- b. Set the length of the provided rear sway bar links with the booted joints to 11-<sup>3</sup>/<sub>4</sub>" between the ball stud centers and install to the outside of the sway bar and axle mount [8,9]. Torque to 72 ft-lbs.

*Note: Sway bar hole will be tight, it may require being enlarged just slightly to get the stud to push through. A round file or rotary bit can be used.*



- c. Install the rear bump stop spacers on the axle. Fasten the bump stop spacer to the axle with the 5/16" x 1-1/4" bolts, nuts and washers. Torque bolts to 15 ft-lbs. (1/2") [10]

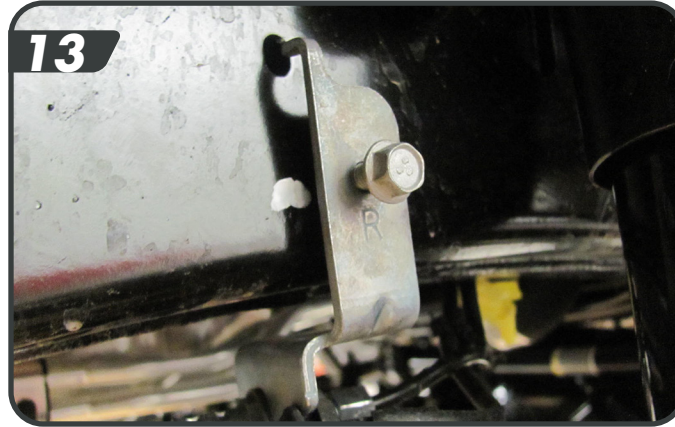


- d. The rear shocks should be installed with the body up and the black roost guard down. The longer shocks will be used in the rear.
- e. Attach the shock to the frame and axle mount with the original hardware. Torque upper bolts to 74 ft-lbs and the lower bolts to 81 ft-lbs. Re-install inner fender liners.
- f. Re-attach the brake line brackets to the frame using the factory hardware. If the emergency brake cables were disconnected, reconnect at this time.
- g. Rubicon models: Reattach the locker wire harness to the differential.

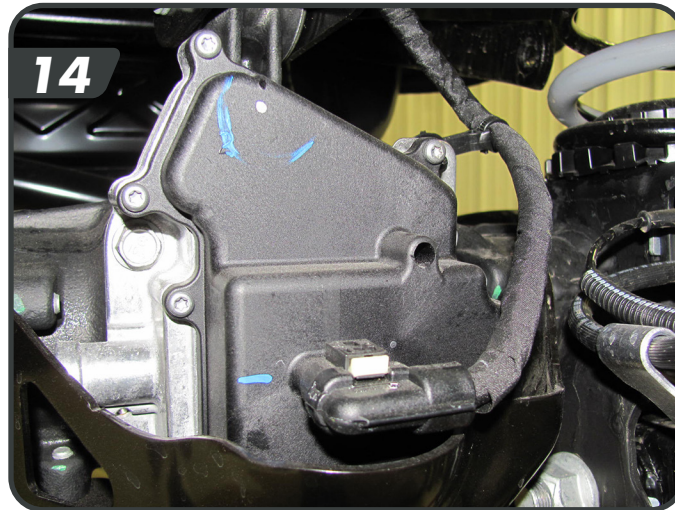
- h. Mount the tires and lower the vehicle to the ground.
- i. Install the rear track bar with the factory bolt.  
*Tip: Use an assistant to push on the body of the vehicle to help align the track bar in the bracket.*
- j. Torque the axle side track bar bolt to 74 ft-lbs plus 60 degrees.

## 04. FRONT DISASSEMBLY

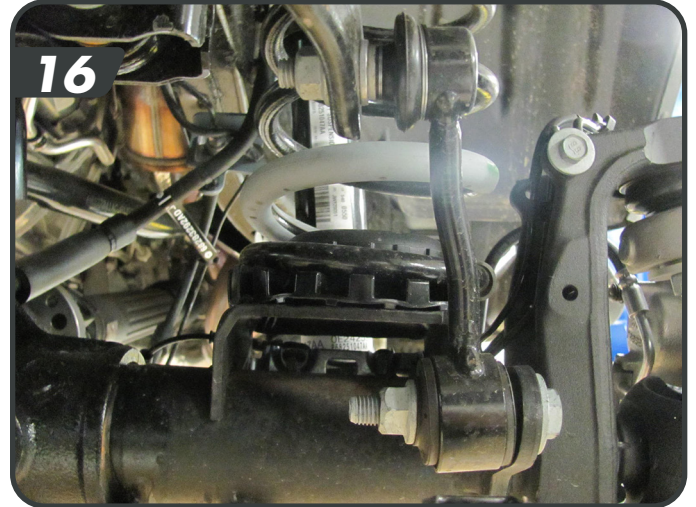
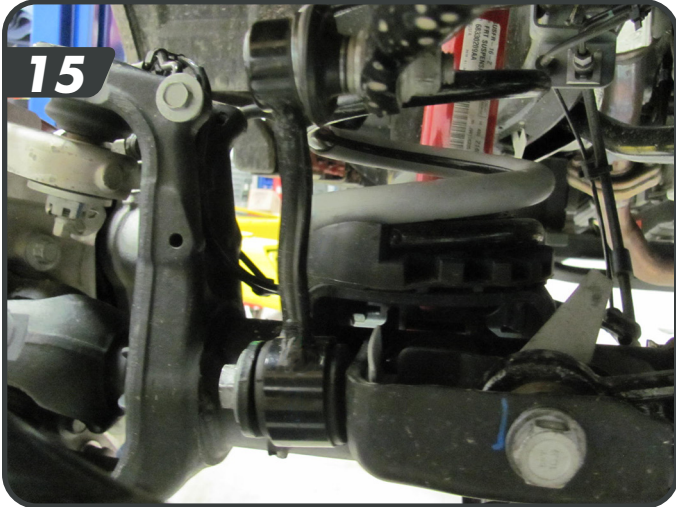
- a. Disconnect the front track bar (21mm) from the axle. Save bolt and nut tab.
- b. Raise the vehicle and support the frame with jack stands behind the front lower control arm pockets.
- c. Remove the wheels.
- d. Disconnect the front brake line brackets from the frame rails (10mm) [13].



- e. Rubicon models: Disconnect the front locker wires from the differential.
- f. All Models: Disconnect the front axle disconnect wiring harness and pull out the (2) push pins that mount the harness to the axle [14].



g. Disconnect the sway bar links from the axle and sway bar (18mm). Discard links, save lower hardware [15,16].



h. Remove the 4 bolts mounting the front driveshaft to the pinion flange (15mm). This is done to ensure the driveshaft does not bind when removing the coil springs. [17]



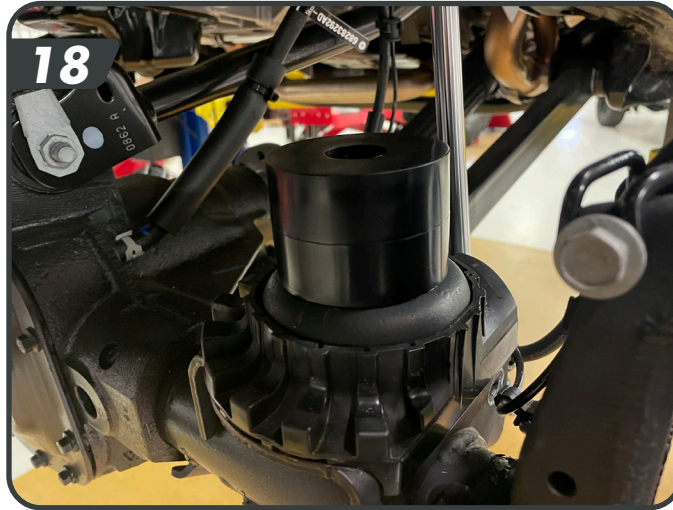
- i. Support the front axle with a hydraulic jack. Remove the front shocks from the vehicle using a 18mm socket for the top and 18mm socket and wrench on the bottom. Save lower hardware.
- j. Lower the front axle and remove the coil springs. As the axle is lowered, verify all brake and electrical wires have enough slack and the driveshaft doesn't bind.

## 05. FRONT INSTALLATION

### FRONT BUMP STOP & COIL SPRING

**Front bump stops will require bolt pack J130**

- a. Place the provided bump stop extension inside one of the JSPEC front coil springs. Install the front springs with the bump stop extension [18]. Make sure the spring is seated properly in the axle mount and the top isolator hasn't moved from the stock position.



- b. Attach the bump stop extension to the axle through the hole in the center of the spring perch. Access to the nut can be obtained from the front of the spring perch. Another option is to remove the brake line bracket temporarily to gain access to attach the nut from the rear of the spring perch. Torque to approximately 29 ft-lbs.
- c. Repeat the spring and bump stop installation on the other side of the vehicle.
- d. Install the new front shocks with the body up and the bushings oriented so that the body is further away from the vehicle. Make sure the longer side of the bushing is toward the frame.



- e. The lower mount will be installed with the shaft offset away from the body.



- f. Torque the upper bolts to 80ft-lbs and the lower bolts to 75 ft-lbs.
- g. Re-install front driveshaft using OE hardware and thread locker. Torque bolts to 89 ft-lbs.

## QUICKER DISCONNECT INSTALLATION

**Quicker Disconnects will require bolt pack J127**

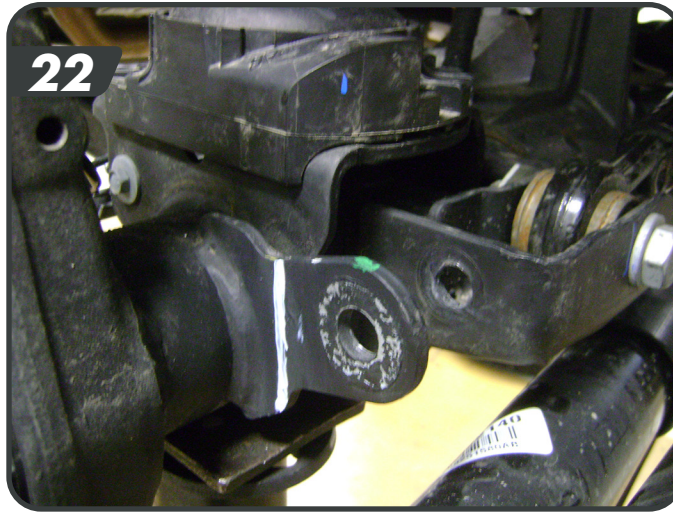
### ALL MODELS

- h. Adjust the length of the quicker disconnects to 9" center to center. This is a good starting point and can be fine tuned once the vehicle is on the ground if needed.
- i. Insert the longer sleeves into the upper bushing and slide the polyurethane spacer onto the upper sleeve so it will mount towards the swaybar.
- j. 2024 Models: Use the larger ID sleeves that will accommodate 14mm hardware
- k. Using the provided 12mm x 75mm bolts, washers, and nuts loosely fasten the sway bar links to the sway bar with the bolts going from the outside towards the frame [21].
- l. 2024 Models: Use the larger 14mm hardware found in bolt pack J172

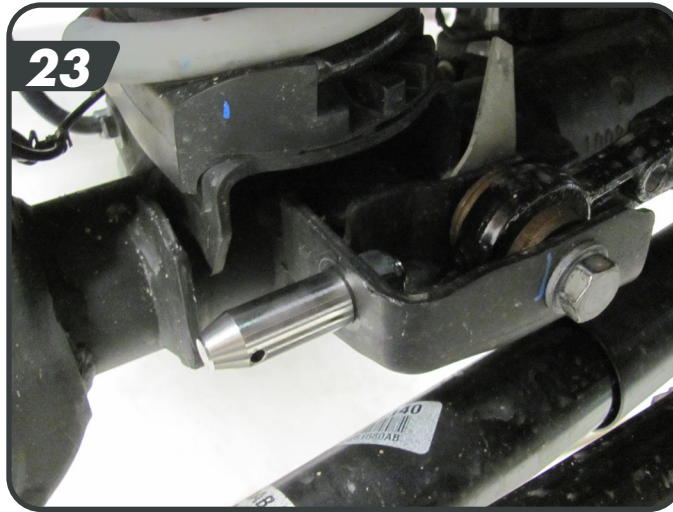


### NON-RUBICON MODELS

- m. The passenger side mount will need to be cut to provide access for the disconnect post. Cut the mount off vertically just past the weld on the bracket [22]. This should be about 1-1/4" from the center of the hole.



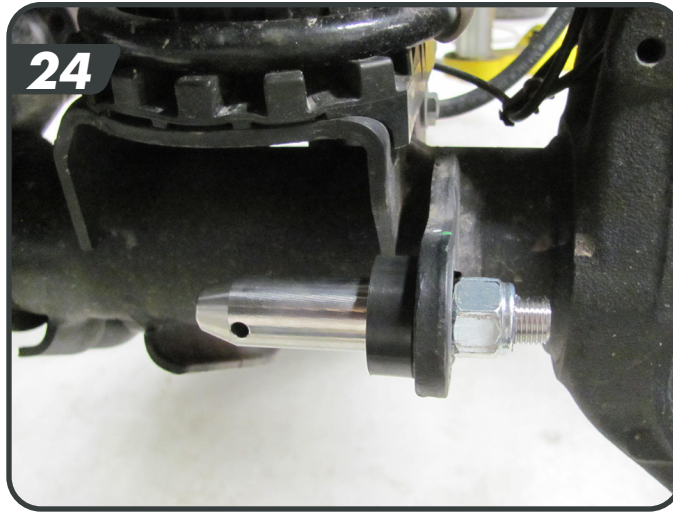
- n. Install the shorter passenger side post on the side of the track bar mount at the sway bar link mount location with it pointing outboard [23]. Fasten with the ½" nylock nut and tighten to 64 ft-lbs.



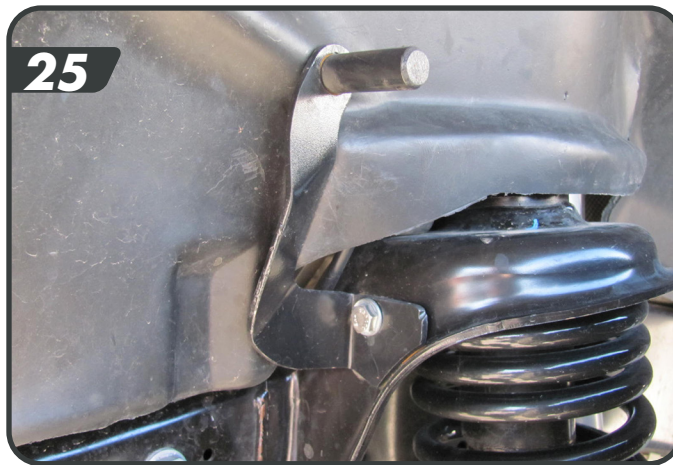
- o. Install the longer disconnect post on the driver side axle sway bar link mount with it pointing inboard [24]. Fasten with the ½" nylock nut and tighten to 64 ft-lbs. Tighten the post with the pin hole parallel to the ground. Slide the polyurethane spacer on the pin up against the axle tab.

*Note: Apply a drop or spray of lubricant before threading on the nut. (Anti-seize, Oil, or Graphite all work)*

*Note: A small screwdriver or punch inserted into the pin hole will keep the post from turning as you tighten it.*



- p. The kit comes with disconnect retention brackets to hold the links when the links are disconnected. Install the retention brackets using the provided 5/16" bolts into the factory hole in the front of the coil bucket [25]. These are designed to slightly interfere with the edge of the coil bucket to hold them in place.

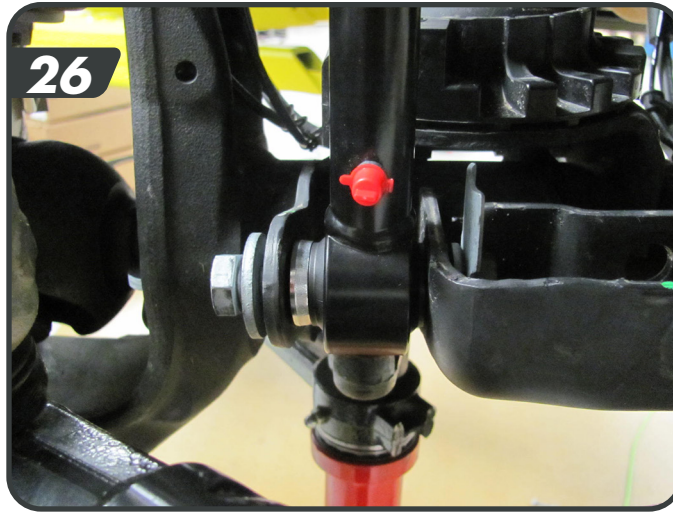


- q. Slide the ends of the disconnects over the retention bracket posts. Insert click pins to secure. These quicker disconnects can be more easily attached with the vehicle at ride height.
- r. Torque the quicker disconnect to sway bar mounting bolts to 79 ft-lbs.

## RUBICON MODELS

**Rubicon models have a factory electronic disconnect system. Follow these steps to solid mount your sway bar links.**

- s. Set the sway bar into disconnect mode for ease of installation of the links to the axle.
- t. Locate the 1-1/4" sleeve and insert it into the passenger side disconnect bushing.
- u. Insert the 1/4" thick spacer and disconnect into the original sway bar link location. It may be necessary to slightly open up the link opening for ease of assembly.
- v. Fasten the link to the axle with the original hardware. [26] Adjust the length as necessary to ensure the links do not bind at full droop, depending on the shocks being installed.



- w. Install the remaining longer sleeve on the driver side and slide the polyurethane spacer onto the sleeve so it will mount towards the axle mount tab. Install the quicker disconnect to the inboard side of the axle tab with the original sway bar link hardware.

*Note: If the link length was adjusted for the passenger side, match the length on the driver side link.*

- x. Torque the upper bolts to 79 ft-lbs and OE lower bolts to 59 ft-lbs

## FRONT CAM LOCK INSTALLATION

***If not installing optional JKS control arms, use the following steps to install the provided alignment cams.***

- y. With the front axle still supported with a jack, loosen all 4 lower control arm bolts. Remove the passenger's side lower control arm bolt at the axle. The lower control arm mounts are setup with cam stops so they can be changed to slots for alignment cams.
- z. Place the alignment cam between the stops on the axle so that the new bolt hole is rearward. Mark the area that needs to be removed.
- aa. Using a die grinder with a carbide burr (preferred), remove the area marked on both sides of each control arm axle mount. [27]



- ab. Re-install the control arm to the axle with the factory bolt with cam lock washers. Rotate the cam lock so that the bolt will be as far back in the slot as possible (most rearward setting = max caster). [28] Snug the cam hardware so that the cams are retained within the stops. Final torque will be completed with the weight of the vehicle on the suspension.

*Note: Use of a jack on the axle may help to align the cams. Wait for final cam placement until the other side is complete.*



- ac. Repeat cam bolt installation on the driver's side.

## 06. FINAL FRONT INSTALLATION STEPS

- a. Reinstall the front track bar into the axle side mount with the OE hardware. Do not tighten at this time.
- a. Rubicon models: Reattach the locker wire harness to the differential.
- b. All models: reattach front brake line brackets to the frame and reattach front axle disconnect harness clips.
- c. Install the wheels and torque to the lug nuts to 130 ft-lbs.
- d. Lower the vehicle to the ground and bounce the vehicle to settle the suspension. Torque the front lower control arm bolts at the axle and at the frame to 103 ft-lbs plus 145 degrees. Make sure the cam locks are set so the control arm mounting bolt is in the rear of the slot the the cams are within the axle tabs.
- e. Attach the front track bar to the axle with the OE hardware. Have an assistance turn the steering wheel to aid in aligning the track bar bolt. Take measurements to check if the axle is centered. Make an adjustment to the track bar equal to half of the distance the axle is shifted to one side. Torque the frame side track bar bolt to 52 ft-lbs plus 115 degrees and the axle side track bar bolts to 52 ft-lbs plus 155 degrees.
- f. Verify tire clearance, trim the front bumper side trim pieces as shown if necessary on your model. [29]



- g. Double check all hardware for proper torque.
- h. Lubricate all grease zerk fittings using common wheel bearing grease or equivalent.  
**Caution:** Rubber bushings must never be lubricated as doing so will impair performance and longevity.
- i. Have a front end alignment performed to center steering wheel.
- j. Check all fasteners after 500 miles and at regularly scheduled maintenance intervals.

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## 07. STICKER INSTALLATION

***Sticker installation should be performed when the temperature is above 60° F.***



- a. Clean the areas thoroughly with rubbing alcohol to remove any buildup.
- b. Carefully place the sticker in the desired location.
- c. Rub gently to secure, then press firmly for 30 seconds.

# KIT CONTENTS

## JSPEC2150 MAIN BOX KIT

### Rear Bolt Pack

Part No.	Qty	Description
J170	1	Bolt pack - Rear TPMS and Bumpstop
	1	1/4"-20 x 3/4": hex bolt
	1	1/4"-20 prevailing torque nut
	2	1/4" SAE flat washer
	1	Cable clamp
	4	5/16"-18 x 1-1/4" Socket Head Bolt
	4	5/16"-18 Serrated Flange Lock Nut
	4	5/16" SAE Washer

### Sway Bar Quicker Disconnects

Part No.	Qty	Description
03317	1	Disconnect Retention Bracket - Drv
03318	1	Disconnect Retention Bracket - Pass
03006	1	Female
03007	1	Male
M00475-BK-01	2	Spherical Bushing
7050R	2	Grease Zerk Cap
7607	2	Grease Zerk
36264	1	5/8 Jam nut
J127	1	Bolt Pack - Quicker Disconnects
	2	12mm-1.75 x 75mm bolt
	2	12mm-1.75 x 75mm prevailing torque nut
	4	12mm flat washer
	2	5/16"-18 x 3/4" bolt
	2	5/16"-18 prevailing torque nut
	4	5/16" SAE flat washer
03005	2	Quick Pin (2001CP)
M03212-BK-01	3	Offset Polyurethane Spacer
A1046	1	03013 Stud w/ nut
A1044	1	03018 Stud w/ nut
65	2	3/4" X 1.65" Sleeve
J172	1	Bolt Pack - 2024 JL 14mm Sway Bar Link
	2	14mm-2.00 x 80mm Bolt - Class 8.8
	2	14mm-2.00 Prevailing Torque Nut
	4	14mm Flat Washer - Clear Zinc
149	2	.750 x 0.095 x 1.680 DOM Sleeve

## Rubicon Fixed Mount Hardware

Part No.	Qty	Description
65	1	3/4" X 1.65" Sleeve
162	1	3/4" x 1.25" Sleeve
01499	1	1/4" Spacer

## JSPEC2150 MAIN BOX KIT (CONT.)

### Front Alignment Cams

Part No.	Qty	Description
03326	4	Front alignment cam washer

### Bump Stop Extensions

Part No.	Qty	Description
3296-STN	2	2" Front Bump Spacer
J130	1	Bolt Pack - Front Bump
	2	3/8"-16 x 2-1/2" bolt
	2	3/8" USS washer
	2	3/8" flange lock nut
03891	2	2" Rear Bump Spacer

### Rear Sway Bar Links

Part No.	Qty	Description
TRE502	4	Rod End with nut
03065	2	Connecting Rod
N12FJ	4	1/2" Jam Nut

### Coil Springs

Part No.	Qty	Description
034130R	2	Front Coil Spring
034136R	2	Rear Coil Spring

# Installation Instructions

## Fox 2.5 Performance Series Shock Absorbers

FOX98624154/ FOX98624155/ FOX98624157

### **Read and understand all instructions and warnings prior to installation of product and operation of vehicle.**

It's recommended that this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known.

### **INSTALLATION INSTRUCTIONS**

1. Park vehicle on a clean, flat, and level surface. Block the wheels for safety.
2. Remove old shocks from the vehicle. Retain OE hardware.

*Note: If this installation is being performed on a hoist, or with the axle hanging, the axle must be well supported. Keep all hardware that is removed.*

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#### **» FRONT INSTALLATION**

3. The front shocks will be installed with the bushings oriented so that the body is further away from the frame of the vehicle. The shock should be installed with the body up. Make sure the longer half of the bushing is toward the frame.



4. The lower mount will be installed with the shaft offset away from the body, as shown below.



5. Tighten upper mount hardware to 80 ft-lbs and lower mount hardware to 75 ft-lbs.

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## » REAR INSTALLATION

6. Rear shocks should be installed with the body up and the black roost guard down.
7. Tighten upper mount hardware to 80 ft-lbs and lower mount hardware to 75 ft-lbs.
8. Be sure to check clearance of the shock through full wheel travel to ensure there is no contact between the shock and any other part.
9. Recheck all fasteners after 500 miles of driving.



## INSTALLATION INSTRUCTIONS

**Product: Front Lower Control Arms**

**Part Number: JKS1621**

**Applications: Wrangler JL, 2018 (front only); JT Gladiator, 2020**

517-278-1226 • jks@ridefox.com • www.jksmfg.com  
491 W. Garfield Avenue, Coldwater, MI 49036



### Welcome

CONGRATULATIONS on purchasing a set of new Control Arms from JKS Manufacturing. We are committed to providing you with the best products available and your satisfaction is our first priority.

PLEASE READ these Installation Instructions carefully, and save them for future reference, as they contain important installation and maintenance information.

### Important

**SUSPENSION COMPONENTS THAT HAVE RUBBER BUSHINGS must be tightened with vehicle on level ground and at normal ride height. The springs must be supporting weight of vehicle when the hardware is torqued.**

**RUBBER BUSHINGS MUST NEVER BE LUBRICATED, as doing so will impair performance and longevity.**

**COMPATIBLE WITH original 4-link suspension configuration and vehicle ride height up to 4.5".**

**REFER TO FACTORY SERVICE MANUAL for information and procedures not covered in these instructions.**

### Tools Required

- Hydraulic Floor Jack and Jack Stands
- Metric Socket Wrench Set
- Torque Wrench
- Heavy Duty Ratchet Strap
- Cut of wheel or equiv.

*\* Asterisk denotes tools that are not required for some applications. Thoroughly read instructions first to determine which tools will be required for your application.*



### ATTENTION INSTALLER

Install control arms one at a time for easiest alignment of mounting hardware.

### Installation

- ❑ 1. REMOVE ORIGINAL LOWER SUSPENSION ARM
  - Raise and support the vehicle chassis with jack stands positioned in rear of the front lower suspension arm brackets.
  - Raise the front axle housing back into position and support with a hydraulic jack. HINT: The axle housing should be evenly supported and the suspension at normal ride height. Do not attempt removal or installation with the suspension extended, or the axle drooped, as this will place tension on suspension arm mounting hardware.
  - Remove the brake line control arm bracket from the control arm and brake line. These will not be re-used.



- Remove the lower suspension arm bolt and nut from the axle mount. Retain the original mounting hardware.
- Remove the bolt and nut from the chassis rail bracket. Retain the original mounting hardware.
- Remove the original lower suspension arm from the vehicle.
- The factory shock bolts will need to be cut shorter to clear the larger JKS control arms. Using a cut off wheel, leave about 1/4" of threads past the nut and cut off the bolt



- Proceed to step 2. Complete installation on one side before starting other side.

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## □ 2. INSTALL CONTROL ARM

- Establish control arm orientation. The arms should be mounted so that the bend goes inward (away from the tire) and the end closest to the bend mounts to the frame.



- Mount the control arm to the frame rail bracket. Install the original mounting bolt and nut. Finger tighten the bolt. DO NOT torque mounting hardware until instructed.
- Mount the control arm to the axle housing bracket. Install the original mounting bolt and finger tighten the nut. DO NOT torque mounting hardware until instructed.

**HINT:** If mounting bolt is difficult to install due to misalignment of Control Arm bushing with mounting bracket, either (1) adjust height of axle housing with hydraulic jack, (2) move axle housing into position with a heavy-duty ratchet strap, or (3) temporarily disconnect track bar until mounting holes align.

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## □ 3. TIGHTEN MOUNTING HARDWARE

- Once both Control Arms have been properly installed, lower the vehicle to the ground until coil springs are supporting the full weight of vehicle.
- Using a torque wrench, tighten all mounting hardware to 207 ft-lbs.

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## □ 4. POST-INSTALLATION INSTRUCTIONS

- Installing the new longer lower control arms will affect the vehicle alignment by adding more caster. This may also slightly affect the steering wheel position, making it off-center. It is important that the steering wheel is centered to avoid adverse affects on the vehicle's electronic stability control (ESC) system. JKS recommends having the alignment check by a qualified alignment shop.
- Check mounting hardware for proper torque.
- Check hardware after 500 miles of use.

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Revision Date 5/15/2019