

**SIMPLY SUPERIOR.**

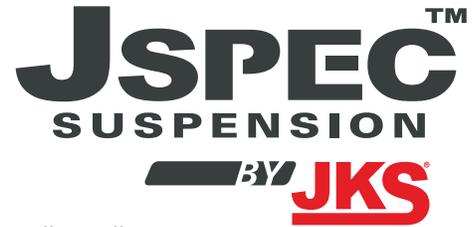
**3" J-KRAWL SUSPENSION SYSTEM  
2020-2024 JEEP JT GLADIATOR  
JSPEC1304**

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

RV. 091223

## 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](http://560PLUS.COM) FOR MORE INFORMATION!**

## THANK YOU FOR CHOOSING JSPEC SUSPENSION

### TIRE FITMENT

#### SPORT MODELS

**3.5" LIFT** - 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

**3.5" LIFT** - 35x12.50 on 17x8 with 4.5-5" backspacing no rubbing

#### RUBICON MODELS

**3.0" LIFT** - 37x12.50 on 17x8 with 4.5-5" backspacing will rub  
under extreme articulation

**3.0" Lift** - 37 x 12.50 with stock wheels will not rub fender.

### SPECIAL TOOLS REQUIRED

Torque Wrench

JKS1696 or equivalent jam nut wrench

### INSTALLATION TIME

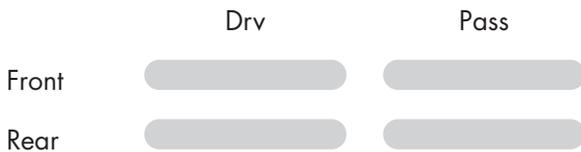
Approximately 6-8 hours

## BEFORE YOU BEGIN

The kit comes standard with front shocks intended for use with the factory front driveshaft. If an aftermarket dual cardan front shaft is used, front shocks up to 28" (2.5") or 29" (3.5") extended can be used.

## 01. PRE-INSTALLATION

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



## 02. REAR DISASSEMBLY

- a. Disconnect the track bar at the axle with the vehicle still on the ground using a 21mm 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 sway bar links from the axle and sway bar (18mm)
- d. Support the axle with a jack under the center of the differential and remove the shocks from the frame and axle (18mm), save hardware.

## 03. REAR INSTALLATION

### J-FLEX REAR CONTROL ARMS

#### **Perform control arm installation one side at a time to limit axle movement**

- a. 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.
- b. Remove the lower suspension arm bolt and nut from the axle housing bracket. Retain the original mounting hardware.
- c. Remove the bolt and flag nut from the chassis rail bracket. Retain the original mounting hardware.
- d. Remove the original lower suspension arm from the vehicle.
- e. Set the length of the lower control arms.
  - Determine the correct length for your application using factors such as:
    - Pinion Angle
    - Tire Clearance
    - Factory Length is 23-¾"
    - Max length is 25-½"
  - Set both control arms to the same length. Lengthening the lower arms will reduce pinion angle.
- f. Apply anti-seize lubricant to bolt threads of original mounting hardware.
- g. Mount the rubber bushing end of 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.
- h. Mount the control arm to the frame bracket with the grease fitting up. Install the original mounting bolt and flag nut. Finger tighten the bolt. DO NOT torque mounting hardware until instructed.

**HINT:** If mounting bolt is difficult to install due to misalignment of the control arm bushing with mounting bracket, either (1) adjust height of axle housing with hydraulic jack, or (2) move axle housing into position with a heavy-duty ratchet strap.

- i. Repeat installation steps on opposite side of vehicle, then continue on to the upper arms.
- j. Remove the upper suspension arm bolt and nut from the axle housing bracket. Retain the original mounting hardware.
- k. Remove the bolt and flag nut from the chassis rail bracket. Retain the original mounting hardware.
- l. Remove the original upper suspension arm from the vehicle.
- m. Set the length of the upper control arms.
  - Determine the correct length for your application using factors such as:
    - Pinion Angle
    - Tire Clearance
    - Factory length is 16-¼"
    - Max length is 18"
  - Set both control arms to the same length. Lengthening the upper arms will increase pinion angle.
- n. Apply anti-seize lubricant to bolt threads of original mounting hardware.
- o. Mount the rubber bushing end of 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.
- p. Mount the control arm to the frame bracket with the grease fitting down. [10] Install the original mounting bolt and flag nut. Finger tighten the bolt.

**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, or (2) move axle housing into position with a heavy-duty ratchet strap.

- q. Repeat installation of upper arm on opposite side of vehicle. All rear control arm bolts will be torqued when the full weight of the vehicle is on the ground.

## COIL SPRINGS, SWAY BAR LINKS, BUMP STOPS

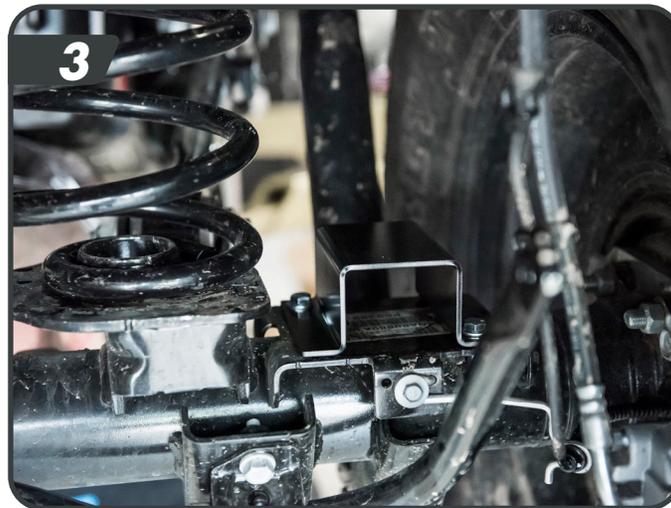
### Rear bump stop spacers will require bolt pack J106

- r. Install the shorter pair of JSPEC coils springs with the larger 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.
- s. 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 [1,2].

*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.*



- t. Install the rear bump stop spacers on the axle with slant cut facing forward. Fasten the bump stop spacer to the axle with the 5/16" x 7/8" bolts, nuts and washers. Torque bolts to 20 ft-lbs. (1/2") [3]



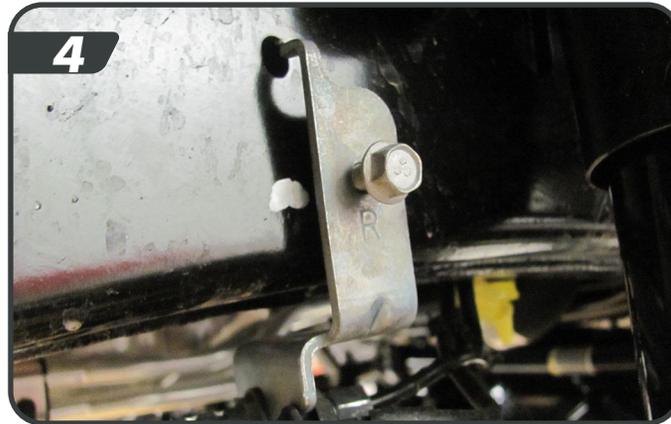
- u. The shocks come with the bushings and upper spacers pre-installed. Install the shocks body down with the wide upper mount at the frame. Slide the shock up into the mount.

*Tip: The bushings will have to compress slightly to get the shock in the mount, try walking the shock into place by tilting the shock back and forth against the spacers while pushing the shock up into place.*

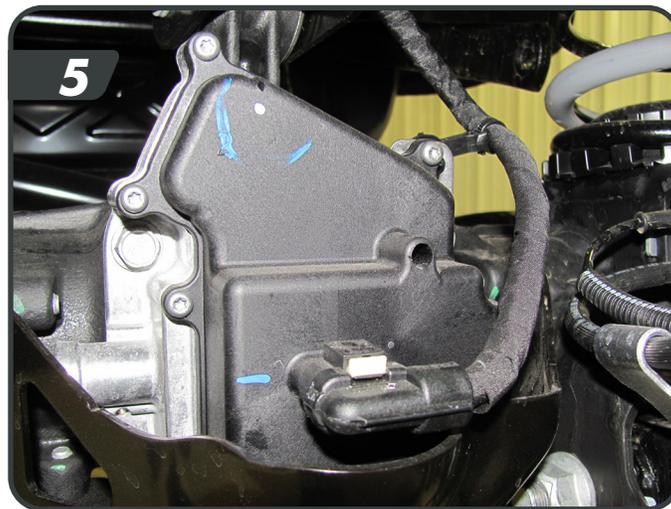
- v. Attach the shock to the frame and axle mount with the original hardware. Torque bolts to 89 ft-lbs.

## 04. FRONT DISASSEMBLY

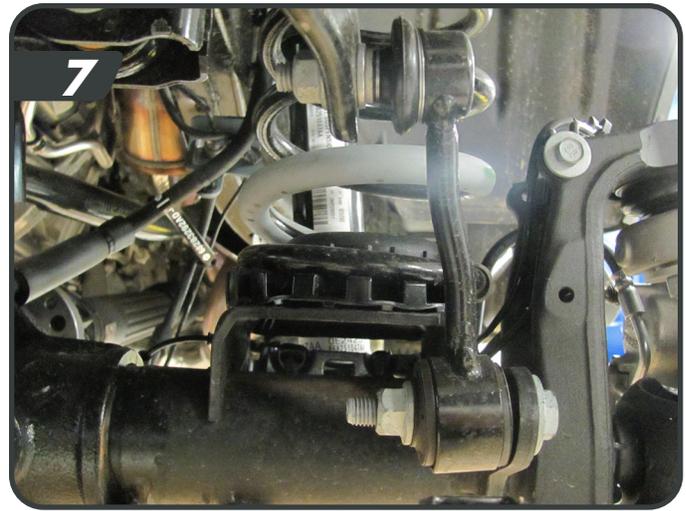
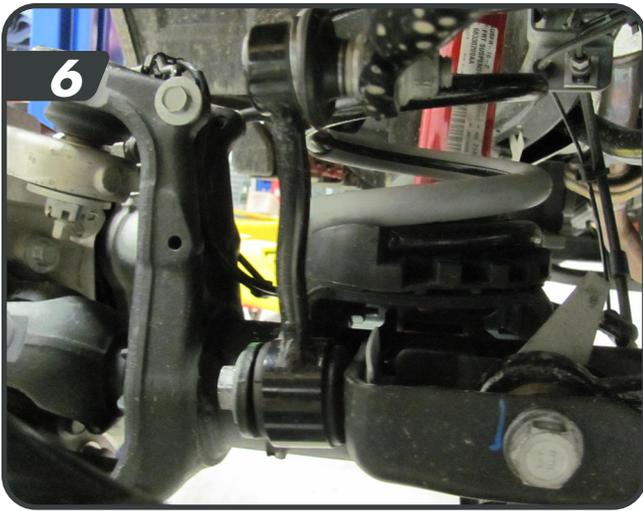
- a. Disconnect the front track bar (21mm) from the axle. Save bolt and nut tab.
- b. Raise the vehicle and support the frame with jack stands behind the front lower control arm pockets.
- c. Remove the wheels.
- d. Disconnect the front brake line brackets from the frame rails (10mm) [4].



- 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 [5].



- g. Disconnect the sway bar links from the axle and sway bar (18mm). Discard links, save lower hardware [6,7].



- 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. [8]



- 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 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

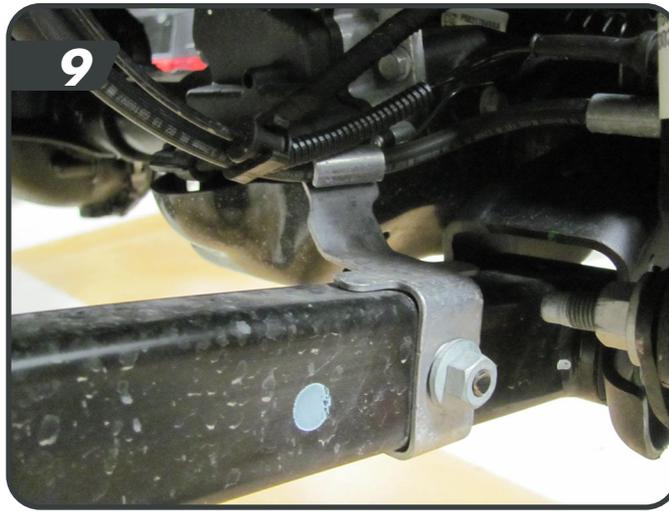
### J-FLEX FRONT CONTROL ARMS

**Perform replacement control arm installation one at a time.**

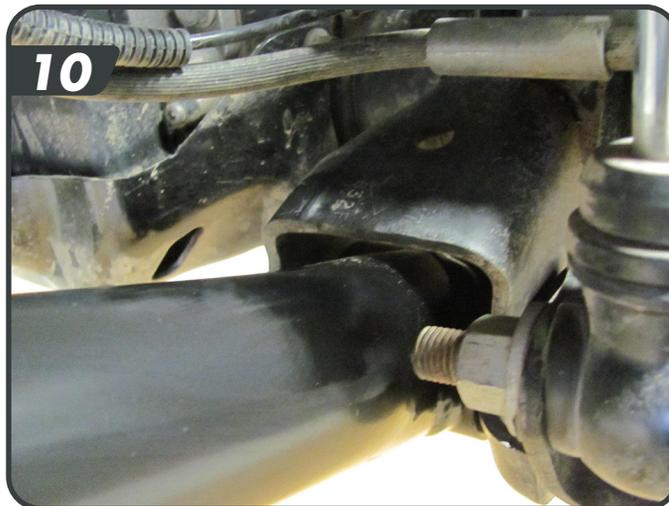
- a. Raise the front axle housing back into position and support with a hydraulic jack.

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.

- b. Remove the brake line control arm bracket from the lower control arm and brake line. [9] These will not be re-used.



- c. Remove the lower suspension arm bolt and nut from the axle mount. Retain the original mounting hardware.
- d. Remove the bolt and nut from the chassis rail bracket. Retain the original mounting hardware.
- e. Remove the original lower suspension arm from the vehicle.
- f. The factory shock bolts will need to be cut shorter to clear the larger JKS control arms. Using a cut off wheel, leave about ¼" of threads past the nut and cut off the bolt [10]



- g. Set the lower control arm length.
  - Determine the ideal arm length for your application by considering factors such as:
    - Tire Clearance
    - Steering Clearance
    - Pinion Angle / Caster
    - Factory length is 24"
    - Max. length is 25 ¾"
  - **Set both control arms to the same length.** Lengthening the arms will increase caster.
- h. Apply anti-seize lubricant to bolt threads of original mounting hardware.
- i. **Establish control arm orientation.** The arms should be mounted so that the bend goes inward (away from the tire) and the rubber bushing end mounts to the axle.

- j. 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.
- k. Mount the control arm to the frame rail bracket so the grease fitting is up on the flex eye. Install the original mounting bolt and nut. Finger tighten the bolt. [11]



**HINT:** If mounting bolt is difficult to install due to misalignment of the control arm bushing with mounting bracket, either <sup>(1)</sup> adjust height of axle housing with hydraulic jack, or <sup>(2)</sup> move axle housing into position with a heavy-duty ratchet strap.

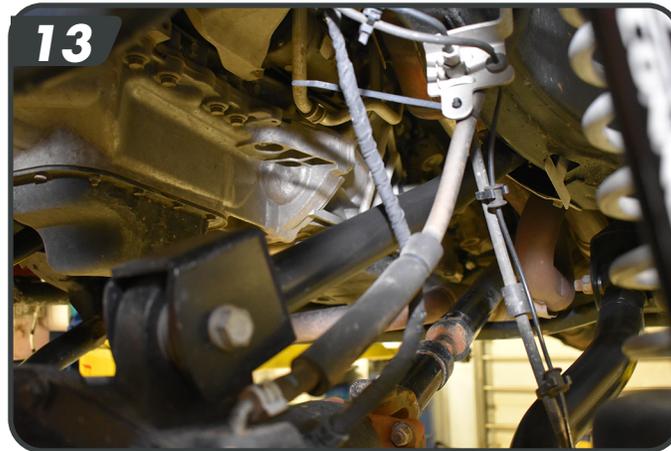
- l. Repeat installation steps on opposite side of vehicle, then continue on to the upper arms.
- m. Remove the upper suspension arm nut and bolt from the axle housing bracket. Retain the original mounting hardware.
- n. To access the frame bolts, it will be necessary to remove the heat shields from both upper control arm frame mounts.
- o. Remove the 2 bolts per heat shield, one on top and one on the bottom using a 10mm ratchet wrench. [12]



- p. Remove the nut and bolt from the chassis rail bracket. Retain the original mounting hardware.
- q. Remove the original upper suspension arm from the vehicle.
- r. Set the upper control arm length.
  - Determine the ideal arm length for your application by considering factors such as:
    - Pinion Angle / Caster
    - Tire / Steering Clearance
    - Factory length is 20-3/16"
    - Max. length is 21-3/4"
  - Set both control arms to the same length. Lengthening the arms will reduce caster.
- s. Apply anti-seize lubricant to bolt threads of original mounting hardware.
- t. Mount the fixed end of adjustable control arm to the axle housing bracket.

- u. Mount the flex end of the adjustable control arm to the chassis bracket with the greaseable fitting facing down.
- v. Install the original mounting bolt from outboard side. Bolt threads should point inboard.
- w. Install the original mounting nut and finger tighten. DO NOT torque mounting hardware until instructed.
- x. Install the original mounting bolt in the Axle from inboard side. **Bolt threads should point outboard.**
- y. Install the original mounting nut and finger tighten. DO NOT torque mounting hardware until instructed. [13]

**HINT:** If mounting bolt is difficult to install due to misalignment of the control arm bushing with mounting bracket, either (1) adjust height of axle housing with hydraulic jack, or (2) move axle housing into position with a heavy-duty ratchet strap.



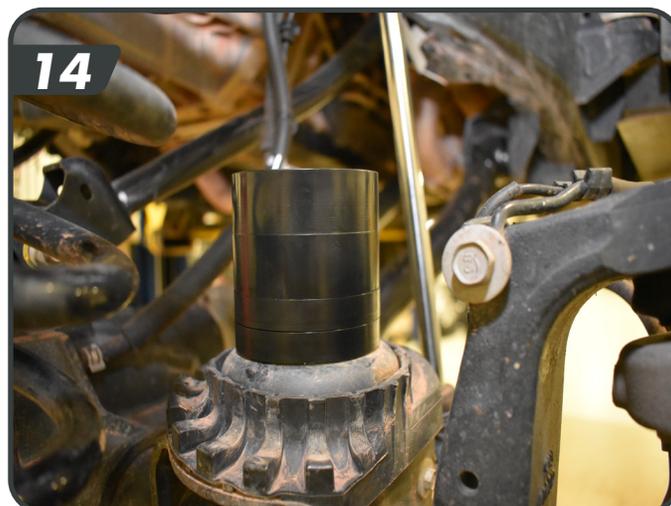
- z. Once all 4 front control arms have been installed, torque the upper arm frame side bolt to 37 ft-lbs plus 135 degrees.
- aa. Re-install the heat shields that were removed from the control arm mounts.
- ab. The upper control arm at the axle and both sides of the lower control arm will be torqued with the weight of the vehicle on the ground.

## FRONT BUMP STOP & COIL SPRING INSTALLATION

**Front bump stop spacers will require bolt pack J150**

- ac. Place the provided bump stop extension inside one of the JSPEC front coil springs. Install the front springs with the bump stop extension [14]. Make sure the spring is seated properly in the axle mount and the top isolator hasn't moved from the stock position.

*This kit includes an adjustable bump stop system that allows for bump stop height to be tuned specifically for your wheel and tire combination. The bump stop system consists of one 2" bump stop block, and two 1/2" bump stop blocks. For this kit, we recommend using the 3" block combination.*



- ad. Attach the bump stop extension to the axle through the hole in the center of the spring perch. Acces 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.
- ae. Repeat the spring and bump stop installation on the other side of the vehicle.
- af. Install the new shocks with the factory hardware. The shocks will be installed with the wide spacers up top and the bushing and sleeve in the bottom similar to the rear. Fox shocks will be installed body up. Torque the upper bolts to 74 ft-lbs and the lower bolts to 81 ft-lbs.
- ag. 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**

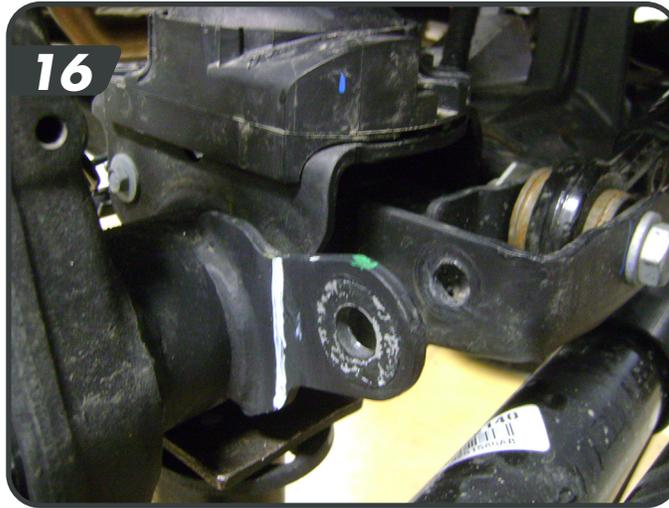
### ALL MODELS

- ah. 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.
- ai. Insert the longer sleeves into the upper bushing and slide the polyurethane spacer onto the upper sleeve so it will mount towards the swaybar.
- aj. 2024 Models: Use the larger ID sleeves that will accommodate 14mm hardware
- ak. 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 [15].
- al. 2024 Models: Use the larger 14mm hardware found in bolt pack J172



### NON-RUBICON MODELS

- am. 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 [16]. This should be about 1-1/4" from the center of the hole.

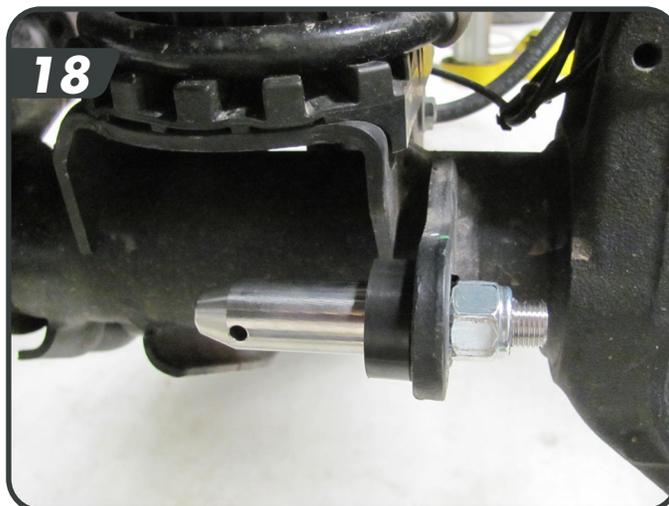


an. Install the shorter passenger side post on the side of the track bar mount at the sway bar link mount location with it pointing outboard [17]. Fasten with the  $\frac{1}{2}$ " nylock nut and tighten to 64 ft-lbs.

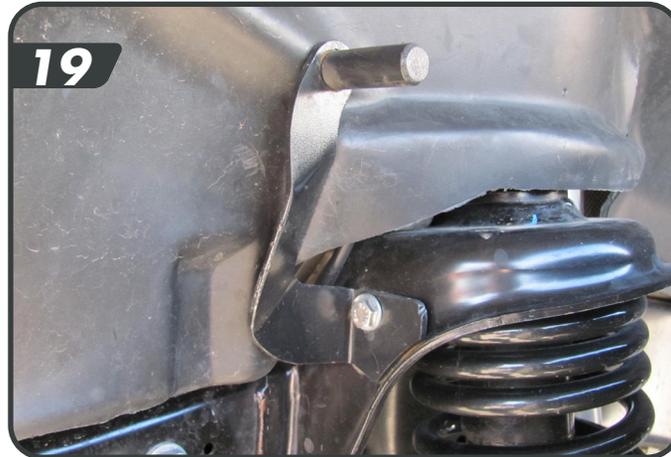


ao. Install the longer disconnect post on the driver side axle sway bar link mount with it pointing inboard [18]. Fasten with the  $\frac{1}{2}$ " nylock nut and tighten to 64 ft-lbs. Tighten the post with the pin hole parallel to the ground. Slide the polyurethane spacer on the pin up against the axle tab.

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



- ap. 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 [19]. These are designed to slightly interfere with the edge of the coil bucket to hold them in place.

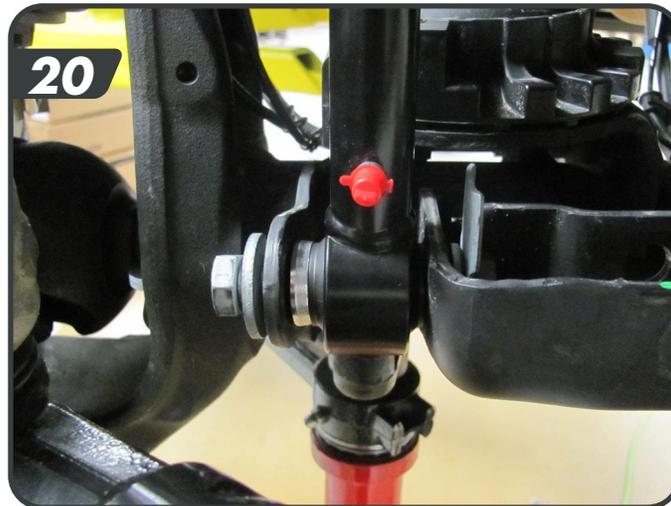


- aq. Slide the ends of the disconnects over the retention bracket posts. Insert click pins to secure. These quicker disconnects can be more easily attached with the vehicle at ride height.
- ar. Torque the quicker disconnect to sway bar mounting bolts to 79 ft-lbs.

## RUBICON MODELS

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

- as. Set the sway bar into disconnect mode for ease of installation of the links to the axle.
- at. Locate the 1-1/4" sleeve and insert it into the passenger side disconnect bushing.
- au. 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.
- av. Fasten the link to the axle with the original hardware. [20] Adjust the length as necessary to ensure the links do not bind at full droop, depending on the shocks being installed.



- aw. 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.*

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

## FRONT ADJUSTABLE TRACK BAR

- ay. Adjust the length of the track bar to 34". This is a starting point, final adjustment can be made once the vehicle is on the ground.
- az. Disconnect the factory track bar from the frame side mount, save hardware.
- ba. Insert the non adjustable end of the new track bar into the frame mount with the clearance bend forward. Use factory hardware. Do not tighten at this time.
- bb.

## 06. FINAL FRONT INSTALLATION STEP

- 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.
- e. Torque the front lower control arm bolts both at the axle and at the frame to 103 ft-lbs plus 145 degrees. Torque the front upper control arm bolts at the axle to 41 ft-lbs plus 185 degrees, the front upper control arm bolts at the frame should have been torqued to 37 ft-lbs plus 135 degrees previously. Torque the rear lower control arm bolts to 111 ft-lbs plus 65 degrees at the frame and 111 ft-lbs plus 60 degrees at the axle. Torque the rear upper control arm bolts to 74 ft-lbs plus 95 degrees at the frame and 111 ft-lbs plus 90 degrees at the axle.
- f. 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.
- g. Install the rear track bar into the OE bracket 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.*
- h. Torque the frame side rear track bar bolt to 92 ft-lbs and the axle side to 92 ft-lbs.
- i. Verify tire clearance, trim the front bumper side trim pieces as shown if necessary on your model.



## 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

## JSPEC COIL SPRINGS

Part No.	Qty	Description
034332R	2	Front coil springs
032159R	2	Rear coil springs

## JSPEC 1304 MAIN BOX KIT

### Front Adjustable Track Bar

Part No.	Qty	Description
03300	1	Track Bar
03309	1	Track Bar End
36274	1	1-1/4" Jam Nut
MB01B701740	2	Bushing

### Sway Bar Quicker Disconnects

Part No.	Qty	Description
03315	1	Disconnect Retention Bracket - Drv
03316	1	Disconnect Retention Bracket - Pass
03010	1	Female
03011	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
A1045	1	03017 Stud w/ nut
65	2	3/4" X 1.65" Sleeve
172	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

## Bump Stop Extensions

Part No.	Qty	Description
3596	4	1/2" Bump Stop Spacer
3296-STN	2	2" Bump Stop Spacer
J150	1	Bolt Pack - Front Bump Extension
	2	3/8"-16 x 2-1/2" bolt
	2	3/8"-16 x 3" bolt
	2	3/8"-16 x 3-1/2" bolt
	2	3/8" USS washer
	2	3/8" flange lock nut
03374	2	2" Rear Bump Stop Block
J106	1	Bolt Pack - Rear Bump Spacers
	4	5/16" x 3/4" bolt
	4	5/16" prevailing torque nut
	8	5/16" SAE washer

## Rear Sway Bar Links

Part No.	Qty	Description
TRE502	2	Rod End with nut
03065	2	Connecting Rod
N12FJ	4	1/2" Jam Nut
03065	2	Shock Eylet Assm
SB58BK	2	Bushing
51792	2	5/8 x 1.375 " Sleeve

## J-FLEX CONTROL ARMS

Part No.	Qty	Description
A1060	2	J-Flex Front Lower Control Arm
A1061	1	J-Flex Front Upper Control Arm- Driver
A1062	1	J-Flex Front Upper Control Arm- Pass
A1086	2	J-Flex Rear Lower Control Arm
A1085	2	J-Flex Rear Upper Control Arm