

INSTALLATION INSTRUCTIONS

Product: ACOS Pro™
Part Number: JKS2711

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

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Welcome

CONGRATULATIONS on your purchase of a new JKS ACOS Pro™ system! At 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.

Before You Begin...

- Familiarize yourself with the supplied parts as illustrated in the column to the far right.
- Thoroughly read all procedures to ensure you have the tools and experience necessary to complete this installation.
- If you are not completely comfortable with any of the procedures described on the following pages, do not attempt this installation. Contact the JKS Technical Department at 517-278-1226 to locate a qualified installation specialist in your area.

Important

MOST VEHICLES REQUIRE additional parts or modifications to accommodate the immediate increase in ride height provided by the ACOS Pro™ system.

DO NOT EXCEED maximum range of adjustment – see illustration on page 3.

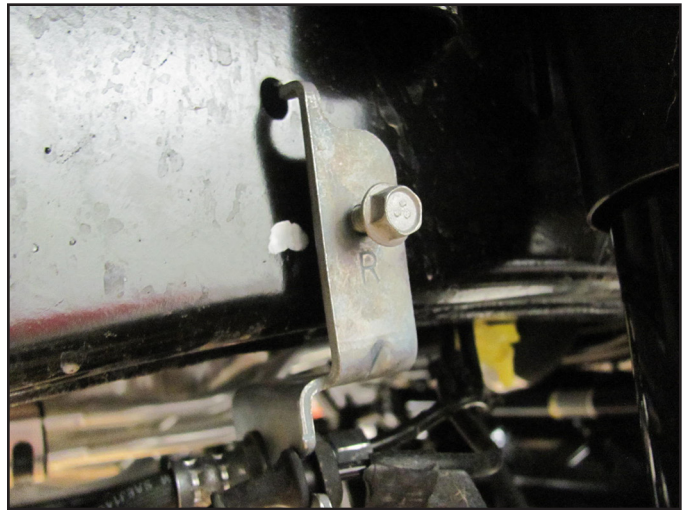
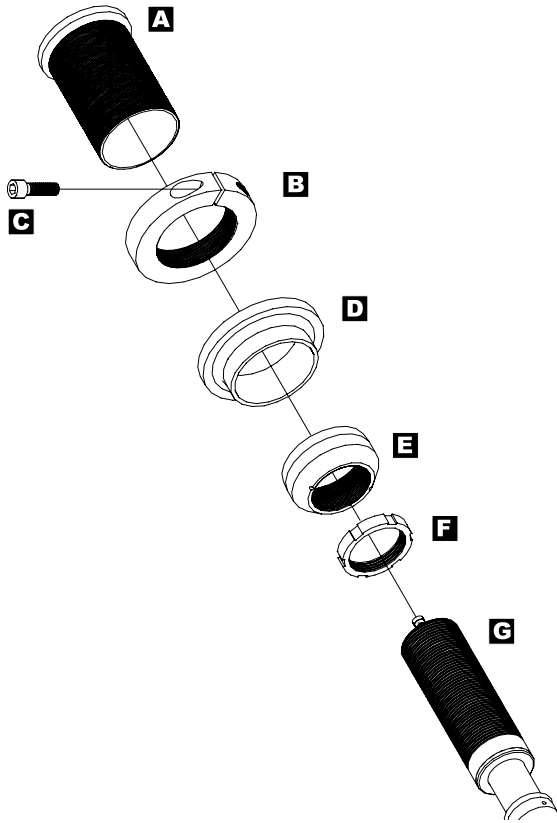
INSTALLATION of this product is not reversible and should only be performed by an experienced mechanic or fabricator.

NOT COMPATIBLE with Rancho, TrailMaster, Rough Country, Fabtech or Metalcloak coil springs.

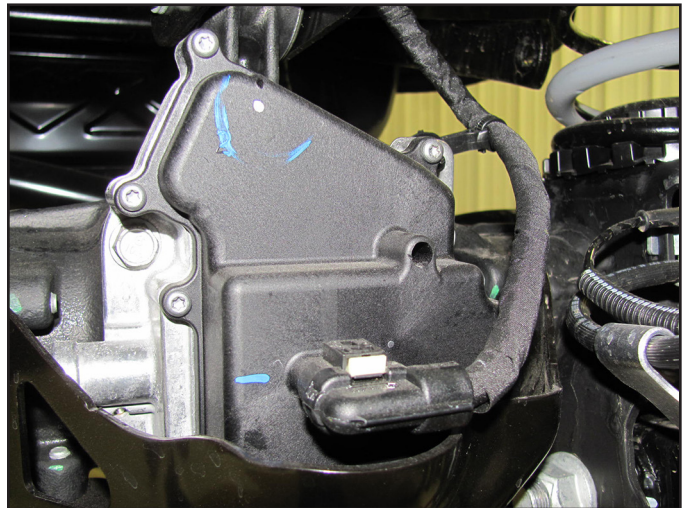
Tools Required

- Hydraulic Floor Jack and Jack Stands
- Metric/Standard Socket Wrench Set
- 1/4" Allen Wrench
- Die Grinder with Cut-Off Wheel (or reciprocating saw)
- File or Deburring Tool
- Rubber or Plastic Mallet *
- Tape Measure
- Spray Lubricant (WD-40 or similar)
- Anti-Seize Lubricant
- Medium Strength Threadlocker
- Satin Black Spray Paint
- Welding Equipment

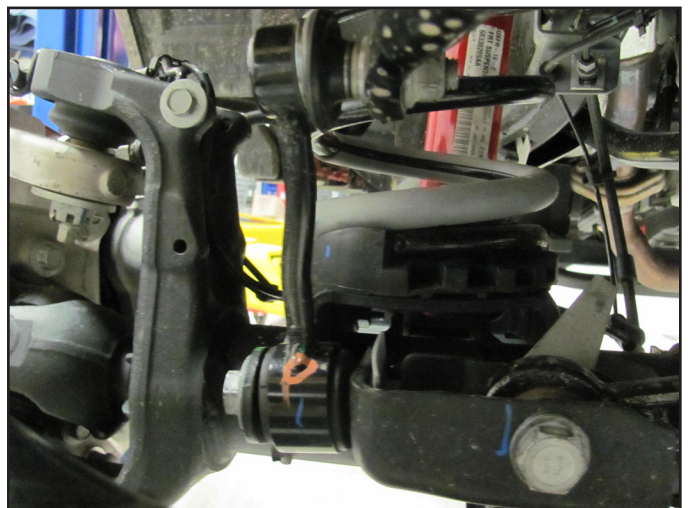
Parts



- Rubicon models: Disconnect the front locker wires from the differential.
- Disconnect the front axle disconnect wiring harness and pull out the (2) push pins that mount the harness to the axle.



- Disconnect the sway bar links from the axle (18mm). Discard links, save lower hardware.

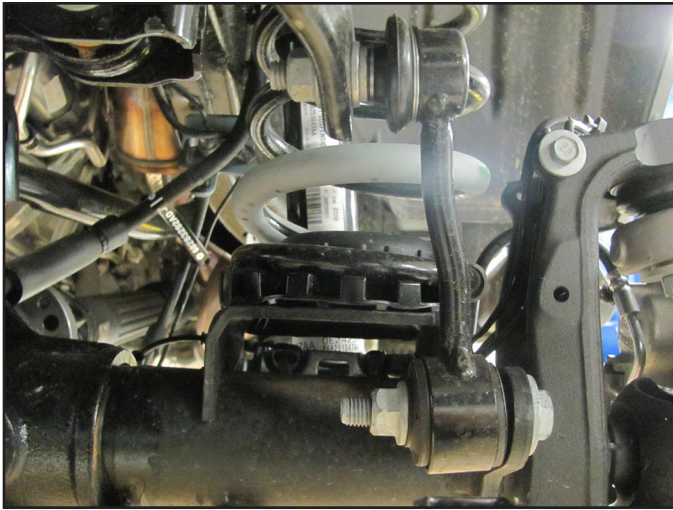


	Description	QTY
A	Threaded Tube	2
B	Adjuster Ring	2
C	5/16" x 1-1/4" Cap Bolt	2
D	Isolator Pad	2
E	Bump Shock Adapter	2
F	Bump Shock Nut	2
G	Bump Shock Assembly	2

Installation

1. REMOVE FRONT COIL SPRINGS

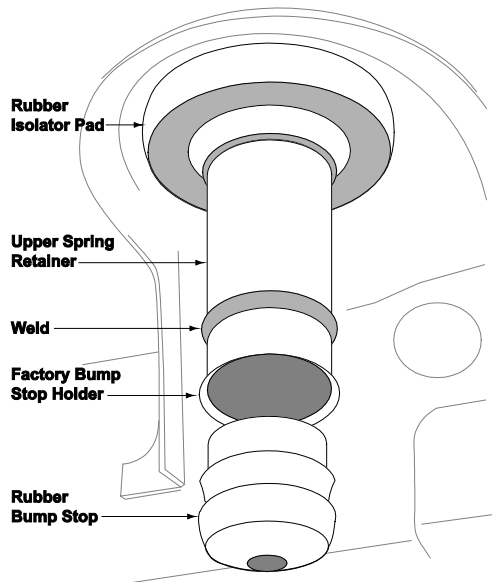
- Disconnect the front track bar (21mm) from the axle. Save bolt and nut tab.
- Raise the vehicle and support the frame with jack stands behind the front lower control arm pockets.
- Remove the wheels.
- Disconnect the front brake line brackets from the frame rails (10mm).



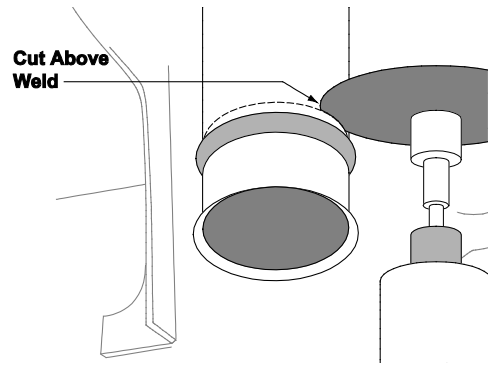
- Support the front axle with a hydraulic jack. Remove the lower front shocks mounting bolts (18mm). Save lower hardware.
- Lower the front axle and remove the coil springs. As the axle is lowered, verify all brake and electrical wires have enough slack and the driveshaft doesn't bind.

□ **2. PREPARE SPRING RETAINER**

- The factory bump stop holder is welded to the upper spring retainer and must be permanently removed in order to install the ACOS Pro.
- Pry the rubber bump stop (jounce bumper) free from the bump stop holder.
- Remove the rubber isolator pad from the upper coil spring retainer.



- Locate the factory weld that secures the bump stop holder to the upper coil spring retainer.



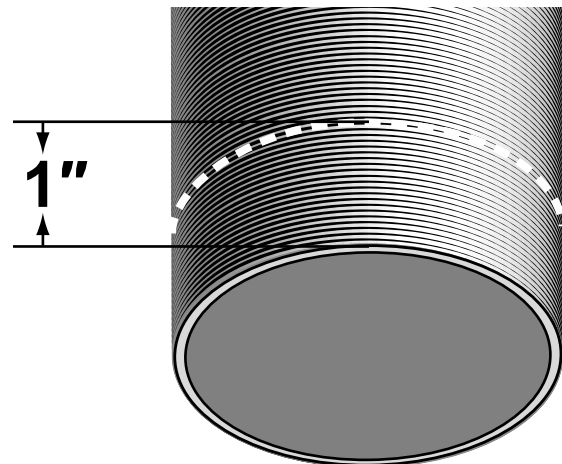
- Cut away the bump stop holder immediately above the weld as illustrated. **HINT:** A die grinder with cut-off wheel or reciprocating saw is useful for cutting away the bump stop holder.
- Remove any sharp edges from the cut portion of the upper spring retainer. **HINT:** A file or deburring tool is useful for removing sharp edges.

□ **3. SHORTEN THREADED TUBE OF ACOS PRO**

- On vehicles with 0 - 2.0" front coil springs, it will be necessary to shorten the Threaded Tube (A) to provide sufficient clearance between Bump Shock Assembly (G) and axle pad. This step will also reduce the maximum adjustment height from 3.5" to 2.5".

IMPORTANT: Disregard this step on vehicles with 2.5" springs or taller, as this modification will not be necessary.

- Measuring 1.0" from the threaded end, mark a line on the Threaded Tube (A).

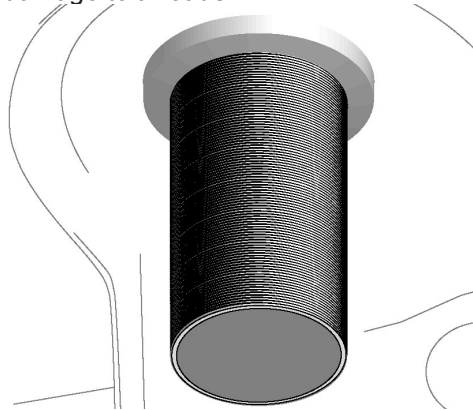


- Remove the excess portion by cutting completely through the Threaded Tube (A) at the location marked in the previous step. **HINT:** A band saw is useful for cutting the Threaded Tube, although a sharp hack saw with an appropriate fine tooth blade or cutting wheel may also be used. Use extreme care to avoid damaging remaining threads.
- Inspect end of Threaded Tube (A) for damaged threads and repair as needed. **HINT:** A 16TPI

thread restoring file or equivalent is useful for repairing threads.

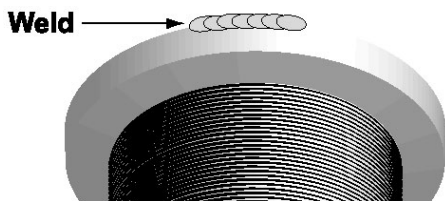
❑ 4. INSTALL ACOS PRO ON PREPARED SPRING RETAINER

- Apply a thin coating of anti-seize lubricant over the entire surface of the upper spring retainer in which the paint has been removed.
- Slide Threaded Tube (A) of ACOS Pro over the lubricated spring retainer until the flange end rests against the upper spring mount. **HINT: If Threaded Tube will not slide all of the way onto the upper spring mount, temporarily install Bump Shock Adapter (E) on lower end of Threaded Tube and tap lightly with a mallet until flange end rests against the upper spring mount. A rubber or plastic mallet is strongly recommended to prevent damage to threads.**



To prevent the Threaded Tube (A) from pulling away from the upper spring mount when the suspension is unloaded, the flange must be welded in place

- Weld a 1" section of the flange to the upper spring mount as illustrated below. **HINT: Remove any paint from the spring mount and zinc plating from the flange of the Threaded Tube (A) to ensure proper penetration at the location of the weld.**
- Allow the welded section to cool and then paint any bare metal to prevent corrosion. Protect threads of Threaded Tube (A) from overspray.



❑ 5. SET ADJUSTER RING FOR DESIRED RIDE HEIGHT

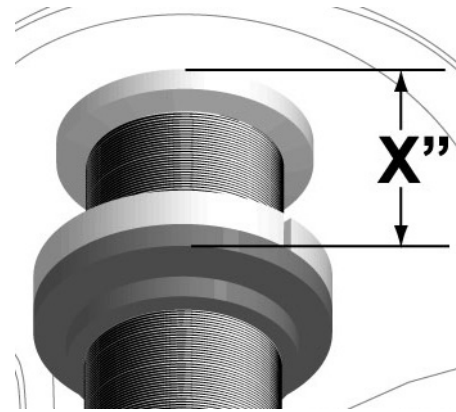
- Apply spray lubricant to threads of Threaded Tube (A).
- Install Adjuster Ring (B) by threading it onto the Threaded Tube (A).
- Slide Isolator Pad (D) onto Threaded Tube (A) until flush with Adjuster Ring (B).

IMPORTANT: Vehicle ride height is determined by measuring the distance between the bottom of upper spring mount and bottom of Isolator Pad, and then subtracting 1/2" (0.50 in.).

⚠ WARNING

**DO NOT EXCEED
MAXIMUM RANGE OF ADJUSTMENT**

Adjustment Range*
Minimum: 1" (1.0 in.)
Maximum: 3-1/2" (3.5 in.)



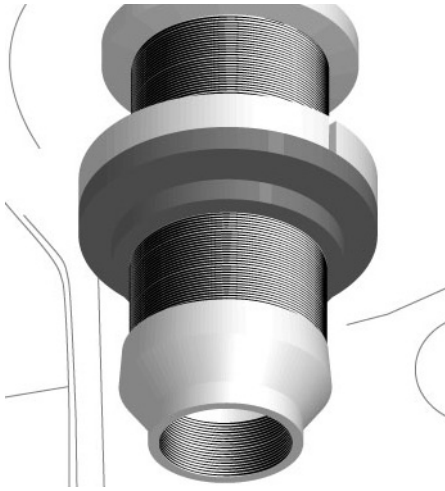
$X'' - 1/2'' = \text{RIDE HEIGHT} *$

* Represents increase in ride height over OE suspension

- Rotate Adjuster Ring (B) to desired position and tighten the recessed 5/16" x 1-1/4" Cap Bolt (C) to lock in place.

❑ 6. INSTALL BUMP SHOCK ON THREADED TUBE OF ACOS PRO

- Apply a drop of medium strength thread locking compound to bottom few threads of Threaded Tube (A).



- Install Bump Shock Adapter (E) onto Threaded Tube (A) and tighten by hand until snug.
- Apply anti-seize lubricant to threads of Bump Shock Assembly (G).
- Completely thread the Bump Shock Nut (F) onto Bump Shock Assembly (G).
- Thread Bump Shock Assembly (G) with Bump Shock Nut (F) into Bump Shock Adapter (E) as far as possible.



□ 7. RE-INSTALL FRONT COIL SPRINGS

- Re-install the front coil springs
- Raise the axle and re-install the shocks with the factory hardware. Torque the bolts to 60 ft-lbs.
- Rubicon models: Reattach the locker wire harness to the differential.
- Reattach the front axle disconnect harness.

- Reattach the front brake lines to the frame with original bolts.
- Re-install the sway bar links to the axle and torque to 60 ft-lbs.
- Install the wheels and torque to the lug nuts to 130 ft-lbs. Lower the vehicle to the ground.
- 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. Torque the track bar bolt to 115 ft-lbs.
- Review the front disassembly procedure and make sure everything has been re-installed and tightened.

ATTENTION INSTALLER

IMPORTANT NOTE REGARDING SHOCK ABSORBERS

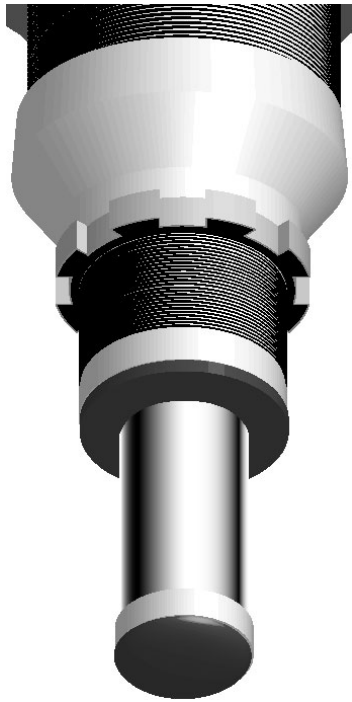
To prevent the coil springs from becoming unseated during maximum suspension extension, correct length shock absorbers must be installed.

□ 8. ADJUST BUMP SHOCK POSITION

- The ideal bump shock position is determined by the vehicle suspension and varies for each application.
- To properly set the bump shock position for your vehicle, you must first decide the point at which suspension compression should be limited. Take into consideration coil springs, shock absorbers, tire clearance, or any other factors that cause the vehicle to bottom out.

IMPORTANT: *Because it replaces the original rubber bump stop, the bump shock should determine the limit of compression travel. The bump shock should be fully compressed when the suspension reaches maximum desired compression.*

- With the vehicle on level ground and the suspension at full droop, extend the Bump Shock Assembly (G) to the desired position.
- Once the Bump Shock Assembly (G) is properly adjusted for your application, lock in place by turning the Bump Shock Nut (F) clockwise until it contacts the Bump Shock Adapter (E).



NEVER TURN Adjuster Ring (G) while under tension and **ALWAYS APPLY SPRAY LUBRICANT** to threads of Threaded Tube (A) or Bump Shock Assembly (G) before adjusting.

Bump Shock Pressure

The Bump Shock Assembly (G) is pre-charged with the proper amount of Nitrogen gas to suit most applications. **IT SHOULD NOT BE NECESSARY TO ADJUST BUMP SHOCK PRESSURE ON MOST VEHICLES.**

The Nitrogen charge is factory preset at 150 psi. For applications that require a higher or lower compression rate, the gas pressure can be manually adjusted to a minimum of 100 psi and a maximum of 200 psi.

To adjust pressure, the bump shock assembly must be removed from the vehicle. Nitrogen pressure is adjusted through the Schrader valve on top of the bump shock. Care should be taken when discharging the bump shock to ensure that no oil is lost. Most shops that service off-road racing or motorcycle shock absorbers can adjust bump shock pressure.

IMPORTANT: The suspension must be fully cycled to test for bump shock alignment and interference issues before the vehicle can be safely operated. The bump shock must contact the center portion of the lower spring pad at full compression, and there should be no interference between the bump shock and coil spring at full extension.

If you encounter any interference issues, contact JKS Manufacturing immediately for technical assistance.

If you encounter any problems with your installation and setup, please contact JKS Manufacturing for technical assistance.

Maintenance

Regular cleaning with pressurized water is recommended to maximize ease of operation and reliability.

In addition, the Bump Shock Adapter (E) has two 1/8" drainage holes that evacuate any water collected inside the upper spring retainer. Periodically check for blockages and clear the drainage holes if necessary.

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JKS Technical Support

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Operation

Ride Height & Bump Shock Adjustments

Future ride height and bump shock adjustments should be made with **NO LOAD** on the front coil springs, and the suspension at **FULL DROOP**.