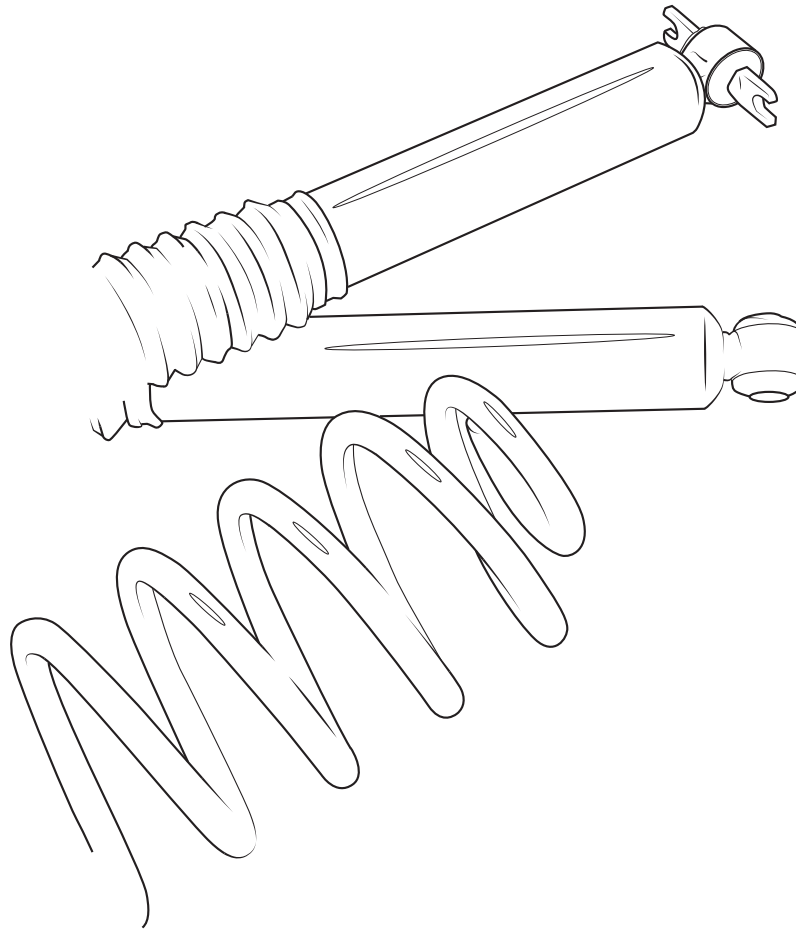




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# 2.5" DUALSPORT XT SUSPENSION





## PLEASE READ BEFORE YOU START

TO GUARANTEE A QUALITY INSTALLATION, WE RECOMMEND READING THESE INSTRUCTIONS THOROUGHLY BEFORE BEGINNING ANY WORK. THESE INSTRUCTIONS ASSUME A CERTAIN AMOUNT OF MECHANICAL ABILITY AND ARE NOT WRITTEN NOR INTENDED FOR SOMEONE NOT FAMILIAR WITH AUTO REPAIR.

INCLUDED PARTS	QTY	REQUIRED TOOLS
Springs	4	Basic Standard and Metric hand tools
Shocks	4	3/8-in Drill Bit
Bump Stop Spacer Kit	1	1/2-in Drill Bit
Rear Track Bar (LHD system only)	1	
Rear Track Bar Tower	1	
Brake Line Drop Bracket Set	1	
Front Stabilizer End Link	2	
Relocation Brackets		

**PLEASE NOTE:** The AEV/Bilstein 5100 series shock absorbers included in this kit feature a Bilstein Triple C zinc plated finish. This finish must be serviced regularly in order to maintain its luster. Particularly in moist climates, a protective coating, such as wax or lubricating oil should be applied to prevent tarnishing. The finish is not covered under warranty.



# I. REAR SUSPENSION

## A. REAR SUSPENSION PREPARATION

1. Raise Jeep and support the frame using jack stands or a hoist, such that the rear axle can be lowered enough to remove the springs. Support the axle by placing floor jack under the center of the axle. Remove the wheels (fig. 1).
2. Loosen but DO NOT remove all 8 control arm bolts (fig. 2).
3. Remove the track bar. (NOTE: Right hand drive vehicles will reuse the factory track bar)

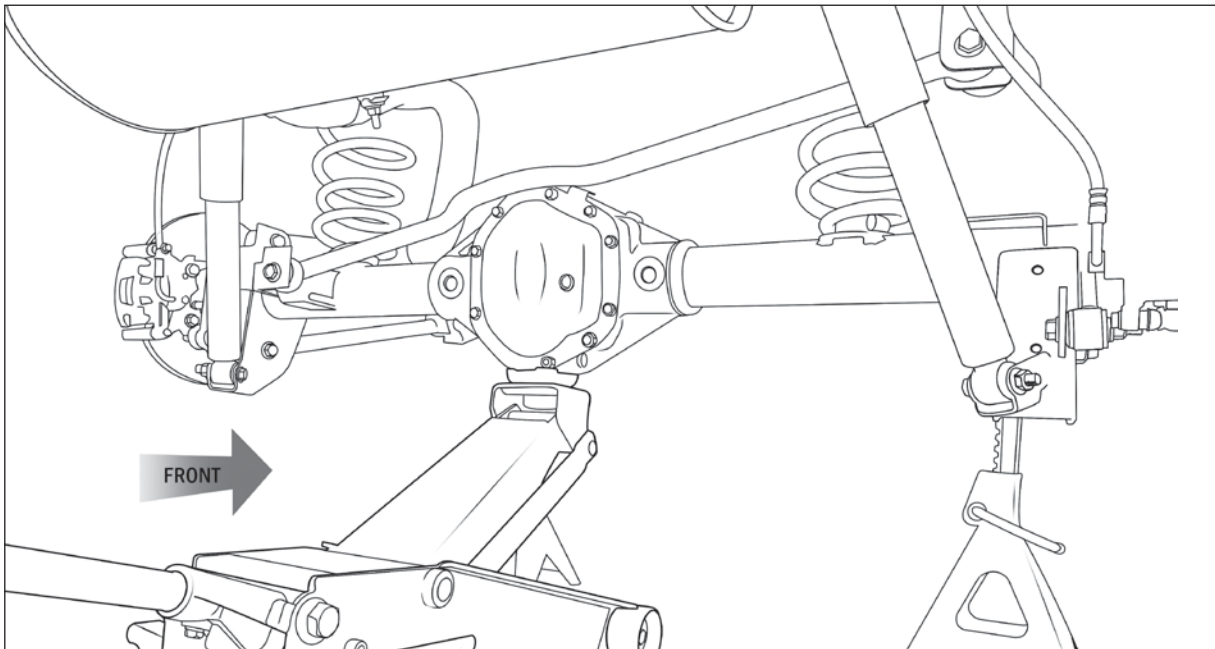


Figure 1

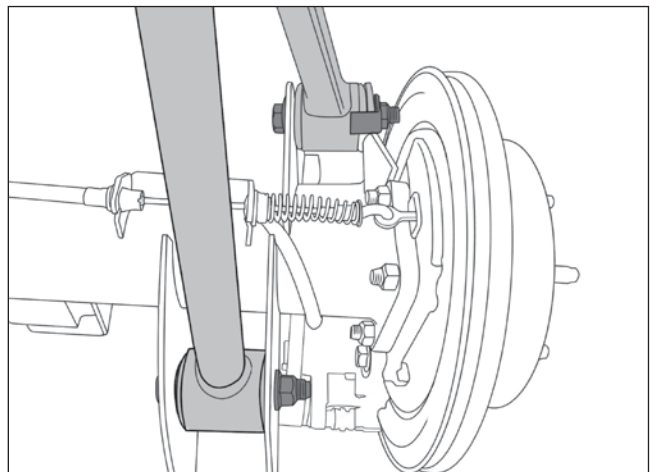
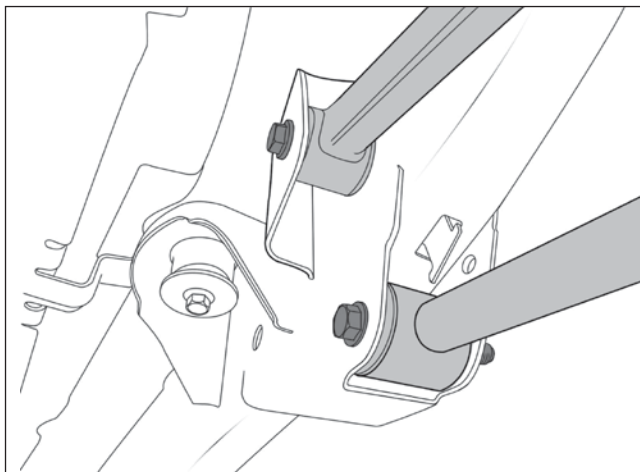


Figure 2



4. Remove the bolts that hold the brake lines to the frame (A fig.3).
5. Remove the shocks (B fig. 3).
6. Remove the sway bar end links (C fig 3.).

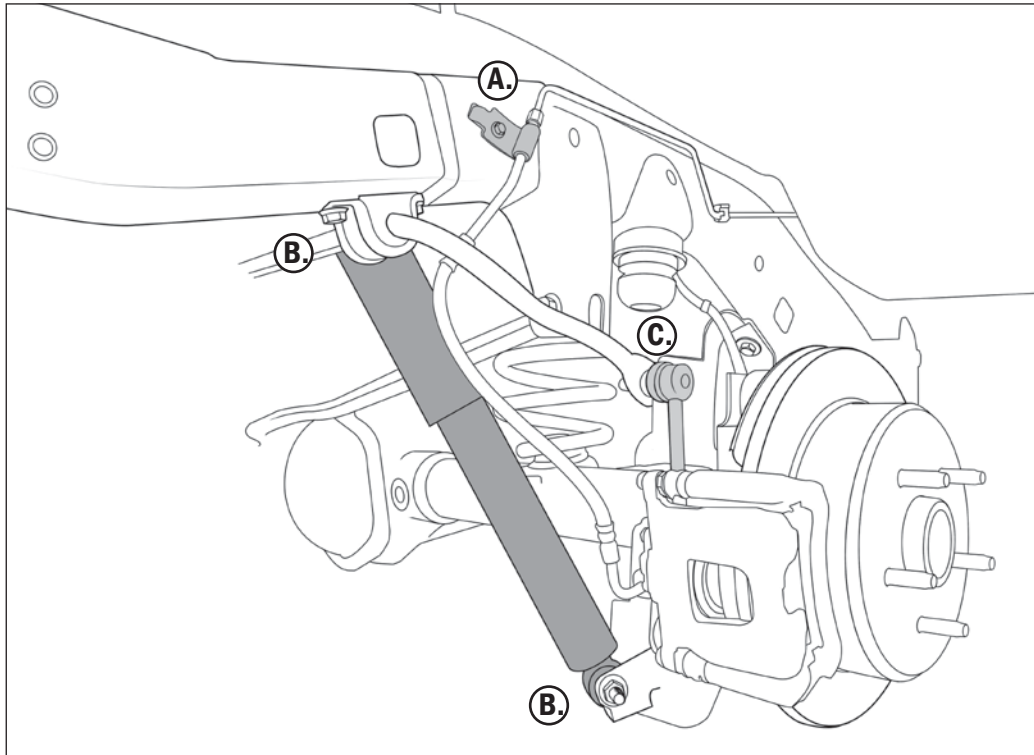


Figure 3

7. Carefully lower the axle using the floor jack enough to remove the springs. **DO NOT overextend the wheel speed sensor or locker wiring.**
8. Remove the factory springs.



## B. REAR SUSPENSION INSTALLATION

1. Install the track bar tower (fig. 4). Tightening U-bolt to NO MORE than 40 ft lbs. Use supplied bolt and washer in bottom hole (A) and tighten to 80 ft lbs. Install the new AEV track bar reusing the factory hardware to install the track bar, reversing the direction of the hex bolt as shown (B). DO NOT tighten at this point. (NOTE: for right hand drive vehicles, reinstall factory track bar)
2. Install AEV springs making sure to properly index them on the axle spring seat (fig. 5).

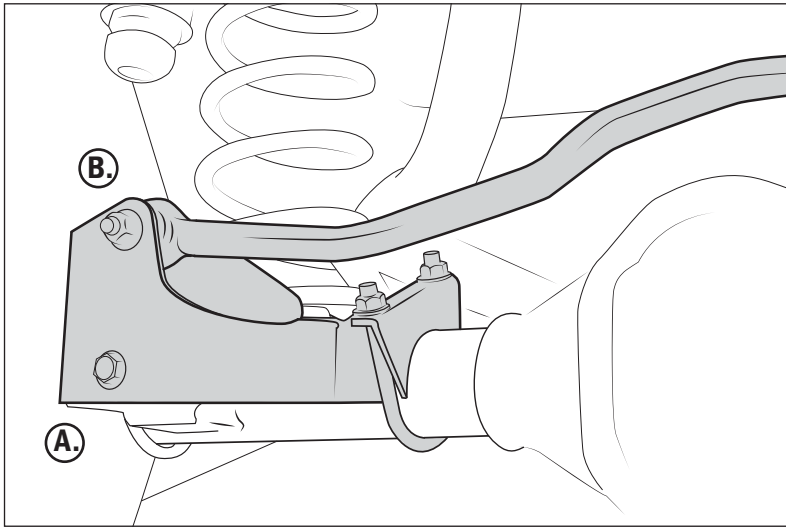


Figure 4

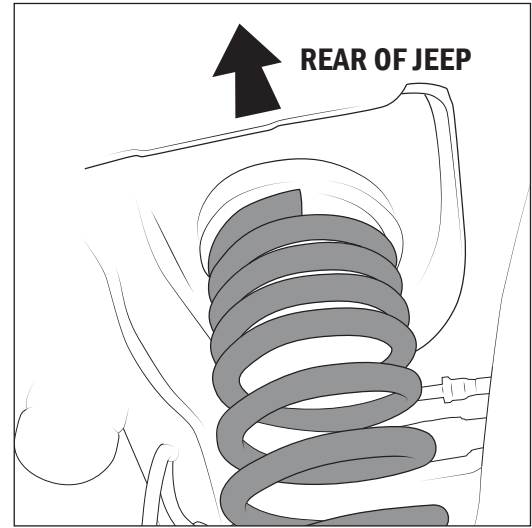


Figure 5

3. Install new Bump Stop Spacers on axle as shown using the supplied hardware (fig. 6).  
**DO NOT reverse the orientation from what is shown.**
4. Install AEV shocks at upper mount. Raise axle slowly and guide springs into position.
5. Re-install sway bar end links and tighten to 60 ft lbs.
6. Re-install lower shock nut and bolt, tighten to 56 ft lbs
7. Install brake line drop brackets as shown below, tighten to 8 ft lbs. (fig. 7).

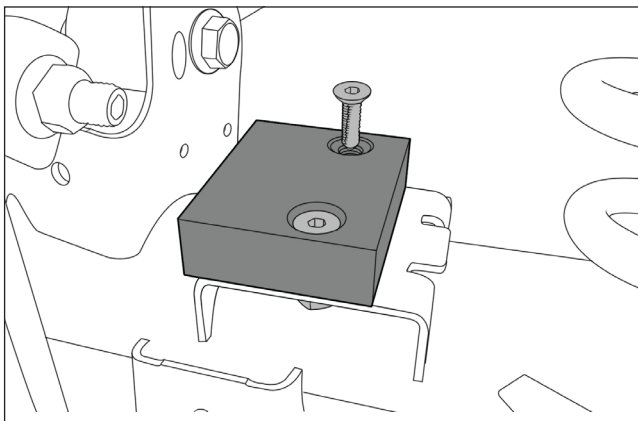


Figure 6

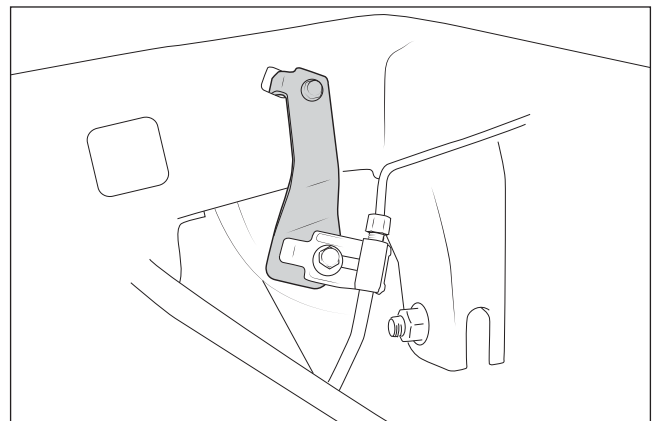


Figure 7



8. **IMPORTANT NOTE IF YOU PLAN ON RUNNING 35" TIRES:**  
For 2007–2013 JK and JKU it is necessary to trim the pinch seams (and rocker guards on Rubicon models) for proper tire clearance (Fig. 8). For mid-2013 and newer JK and JKU only the Rubicon rocker guard needs to be trimmed. Remove the end cap and trim 1" (from rear). Follow standard touch-up painting procedures to prevent corrosion on all cut surfaces.
9. Reinstall wheels and tighten lug nuts, working in a star pattern, to 105 ft lbs.

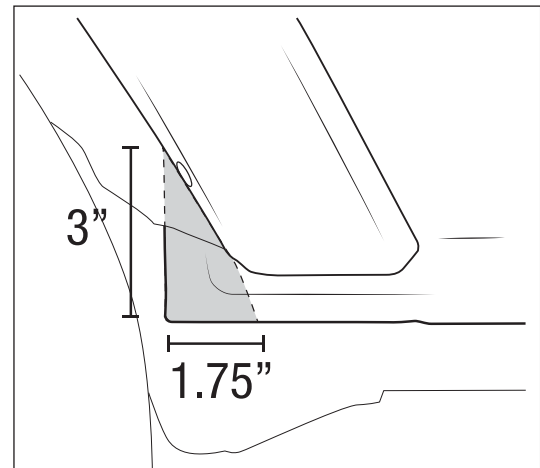


Figure 8

## II. FRONT SUSPENSION

### A. FRONT SUSPENSION PREPARATION

1. Raise Jeep and support the frame using jack stands or a hoist, such that the front axle can be lowered enough to remove the springs. Support the axle by placing floor jack under the center of the axle. Remove the wheels (fig. 9).
2. Loosen but DO NOT remove all 8 control arm bolts.

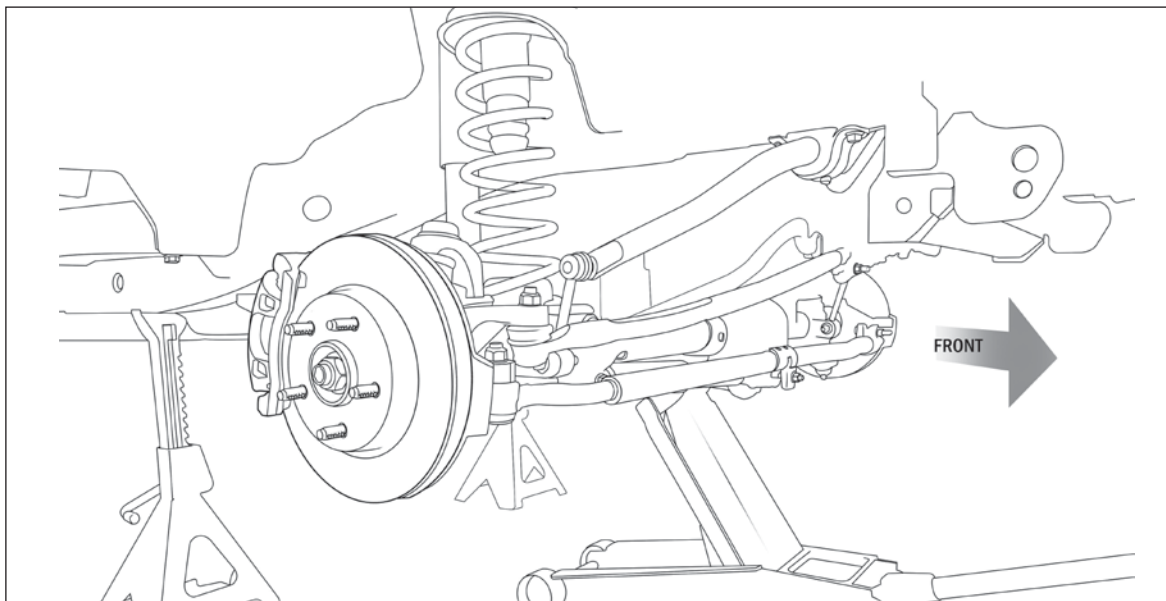


Figure 9



3. Disconnect the drive shaft. Make sure to mark both sides of the connection so you can properly align it when you reconnect it (fig. 10). Tie loose end of the drive shaft up so it will not hang down, failure to do so may result in damage to your drive shaft.
4. Loosen but DO NOT remove the frame-side track bar bolt (fig. 11). Remove and save the axle-side track bar bolt and flag nut.

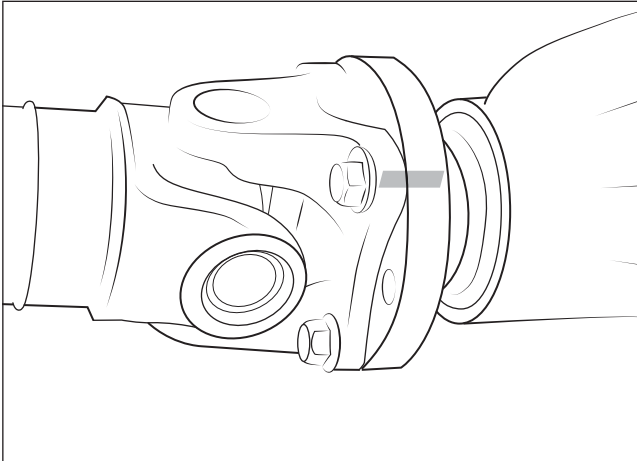


Figure 10

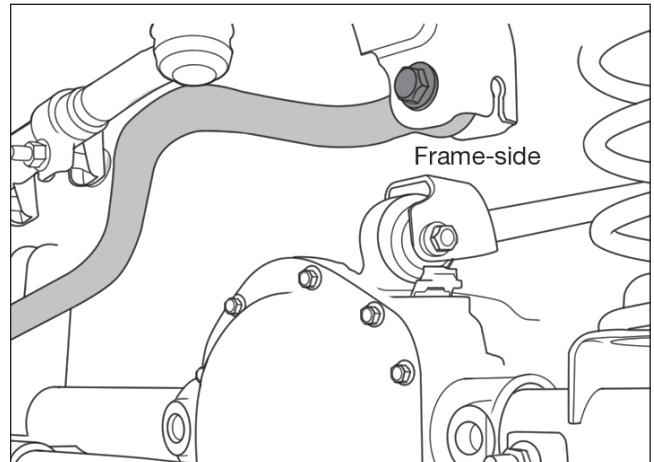


Figure 11

5. **On Rubicon models**, remove the push pins holding the speed sensor wiring to the frame and upper control arm.
6. Remove and save all sway bar link hardware.
7. Remove shocks and save all shock mounting hardware.
8. Lower axle and remove springs. DO NOT remove factory isolator.
9. For 2011 or newer models, remove and discard factory bracket from the brake line (fig. 12).

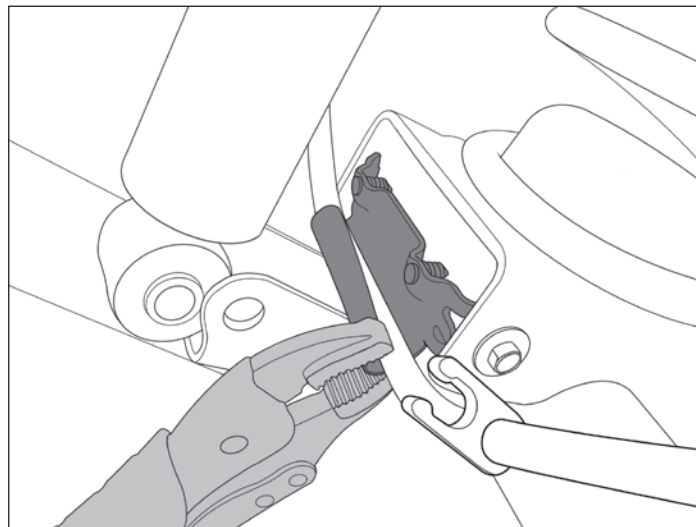


Figure 12



## B. FRONT SUSPENSION INSTALLATION

10. Drill a 3/8 inch hole in the center of the axle bump stop pad (fig. 13).
11. Place bump stop spacer inside springs.
12. Install AEV springs, keeping factory isolator in place. Make sure to properly index the springs on the lower spring seat.
13. Install and tighten supplied bump stop spacer hardware.

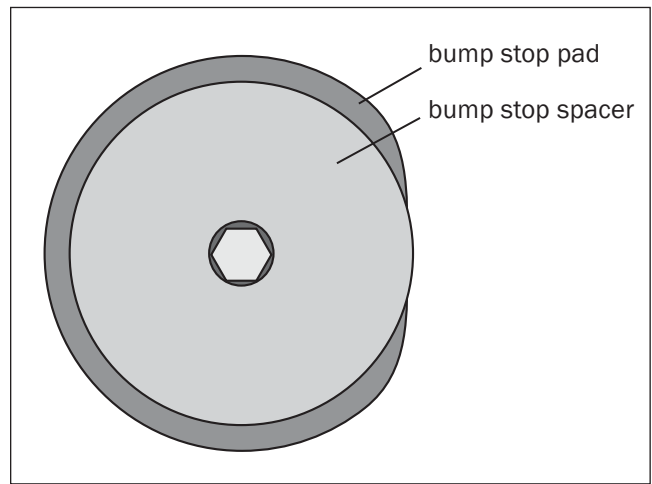
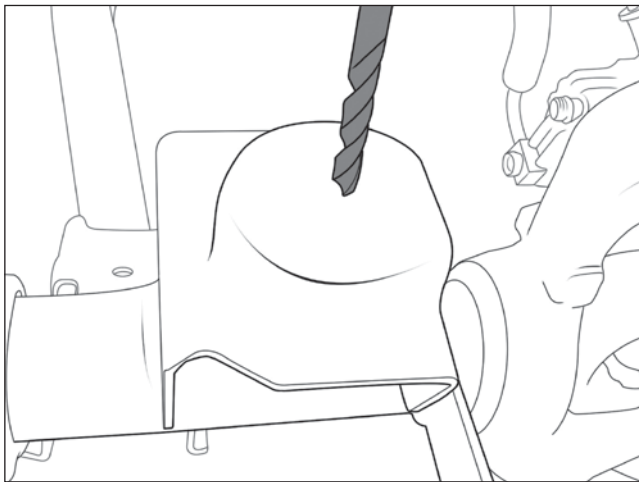


Figure 13

14. Install new sway bar end link brackets to the inside of the axle tab (fig. 14)—curved end of BOTH brackets will point left. Tighten to 80 ft lbs. Re-install end link to bracket and tighten to 75 ft lbs. NOTE: Right Hand Drive systems include replacement end links NOT brackets. Install the supplied end links.

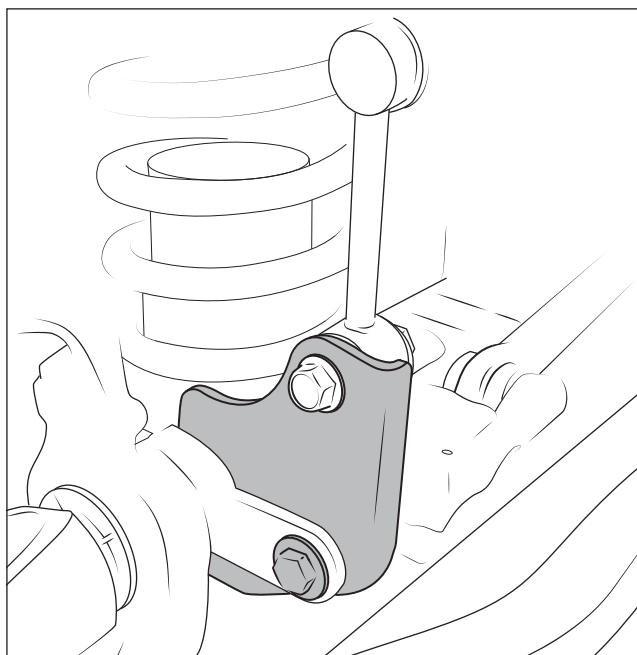


Figure 14





15. Assemble shocks with bushings and washers in the arrangement shown below then install shocks. Use an allen wrench to keep the shock from rotating while tightening the hex nut (fig. 15).
16. For 2007–2010 model year JKs install the front brake line drop brackets tightening to 8 ft lbs. (fig. 16) (2011 or newer refer to step 17).

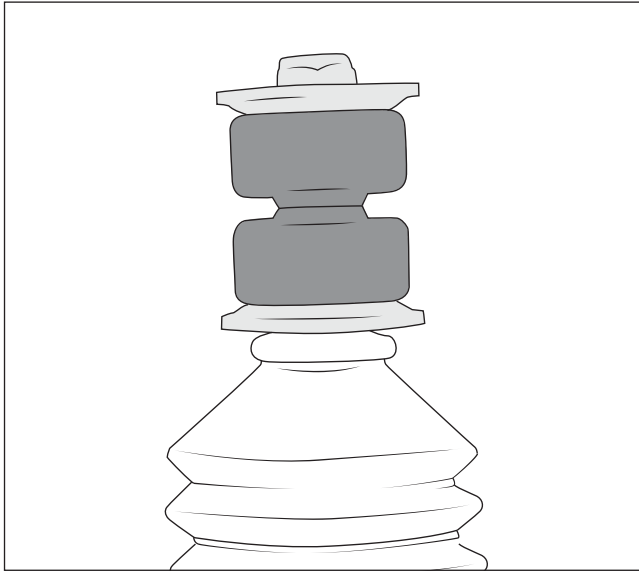


Figure 15

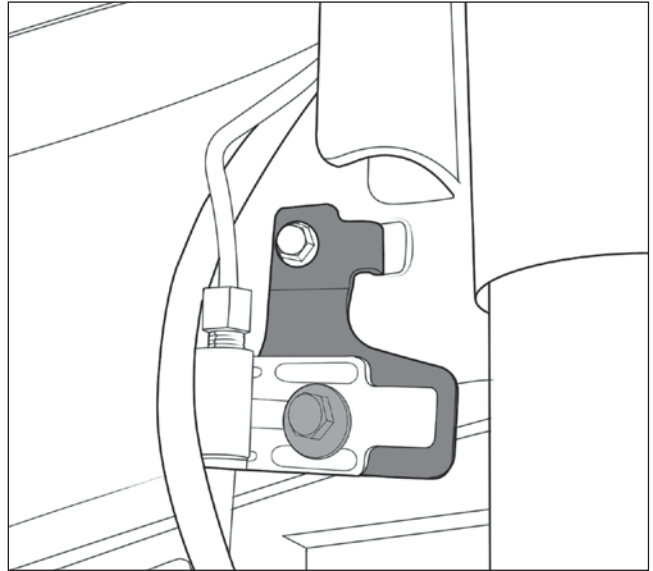


Figure 16

17. For 2011 and newer models, use the supplied zip ties to secure the brake lines to the shocks as shown (fig. 17).

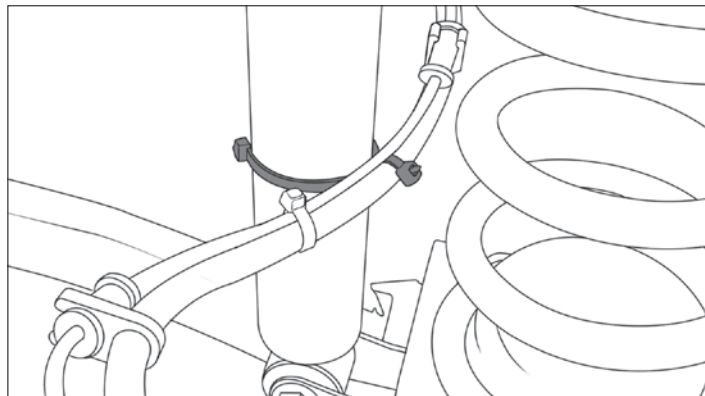


Figure 17

18. Reinstall wheels and tighten lug nuts, working in a “star pattern.” Place Jeep on level ground. Reconnect the drive shaft making sure to properly align your marks. Reconnect the track bar at the axle side using the hardware saved from disassembly.
19. Tighten all fasteners listed below to factory specifications.\*

TIP: It is good practice to mark each major bolted suspension connection such as these with a paint pen. Draw a line that runs from bolt head or nut to the adjacent bracket material. This will allow a visual inspection to easily catch bolts that work loose. After approximately 100 miles, you should perform a complete visual inspection and re-torque any suspect bolts as well as your wheel lug nuts.

\*Refer to Appendix for proper torque specs



## APPENDIX

## JK FACTORY TORQUE SPECIFICATIONS

\*nominal torque shown in ft. lbs.

Front Suspension & Steering		
UCA bushings	M12	75
LCA bushings	M14	125
Track bar bushing frame	M14	125
Track bar bushing axle	M14	125
Stabilizer end link top	M12	65
Stabilizer end link bottom	M12	75
Shock Absorber	upper M12 bayonet	20
	lower M12	56
Steering gear		87
P/S pump to engine		21
High pressure hose pump		22
Hoses to steering gear		21
Intermediate shaft, all points	M10	42
Intermediate shaft toe plate		100 in. lbs.
Steering damper	axle M12	50
	cross-link M12	50
Pitman arm to gear	7/8	195
Pitman to drag link nut	M14	78
Drag link to knuckle nut	M14	63
Tie rod to knuckle nut	M14	63
Tie rod clamp	M10	45
Drag link clamp	M10	26

Rear Suspension		
UCA bushings	M14	125
LCA bushings	M14	125
Track bar bushing frame	M14	96
Track bar bushing axle	M14	111
Stabilizer bar sill bushing	M10	45
Stabilizer bar to link	M12	66
Stabilizer bar link to axle	M12	75
Shock Absorber	upper M8	37
	lower M12	56

Cab Mounts		
	M10 short bolts	45
	M12 stud FESM	80

Powertrain Mounts		
	M10 bracket to block	45
	M12 bracket to block	90
	M12 Isolator to frame	85
diesel	bracket to engine	85
diesel	M12 Hydro mt to bracket	65
diesel	M12 Hydro mt to frame	65

Transmission Mount		
	M10 trans to mount	40
	M10 mount to frame	40

Wheels		
(5" bolt circle/1.75" offset)	5 x 1/2" stud	105

Driveline		
T-case companion flange nut		210
Front driveshaft	to front axle	80
	to t-case	22
Rear driveshaft	to rear axle	22
	to t-case	22