OLD MAN EMU
FITTING INSTRUCTIONS

JEEP WRANGLER JK Series
4” LIFT SUSPENSION SYSTEM

HAND TOOLS REQUIRED
Ring open end spanner set metric/imperial
Socket set metric/imperial
Torque Wrench
Vice Grips
Scribe/marker
File
Allen key set metric

WORKSHOP TOOLS REQUIRED
Vehicle hoist or jack and axle stands
Trolley jack
Die Grinder
Safety glasses and ear plugs
Tape measure

OPTIONAL HAND TOOLS
Ratchet spanners metric

OPTIONAL WORKSHOP TOOLS
Vehicle hoist
Impact driver

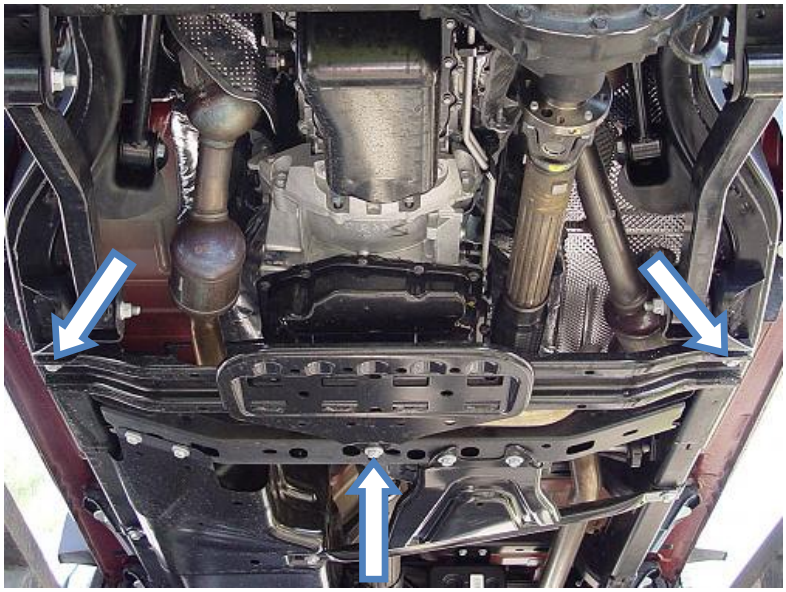
KIT CONTENTS

Description	Qty.
Front Spring	2
Rear Spring	2
Front Shock Absorber	2
Rear Shock Absorber	2
Steering Damper	1
Adjustable Track Bar	1
Brake Line Re-Location Kit	1
Rear Track Bar Bracket Kit	1
Sway Bar Link Kit	1
Drive Line Kit	1
Steering Stabilizer Mount Kit	1
Bump Stop Kit	1
Front Spring Packer	2
Rear Spring Packer	2

Note: When fitting lager diameter tires it is necessary to fit aftermarket wheels (rims) with greater offset (reduced backspacing) to clear sway bar, sway bar links and control arms.
Note: For 2012 models with 3.6L engine, modifications to exhaust or driveshaft are required to avoid contact of the driveshaft and exhaust when suspension is at full droop.

Front Suspension Fitment

Before starting, check all parts listed on front page are included in the box.



Auto Transmission Models Only.

Remove transmission cross member by removing the three bolts indicated.

Tools:
18mm spanner or socket

Whilst vehicle is at ride height Remove the top shock absorber mounting nut, washers and bushings.

Tools:
16mm spanner or socket

Whilst vehicle is at ride height Remove the front track bar.

Tools:
21mm spanner or socket

Raise vehicle and support front axle with axle stands.

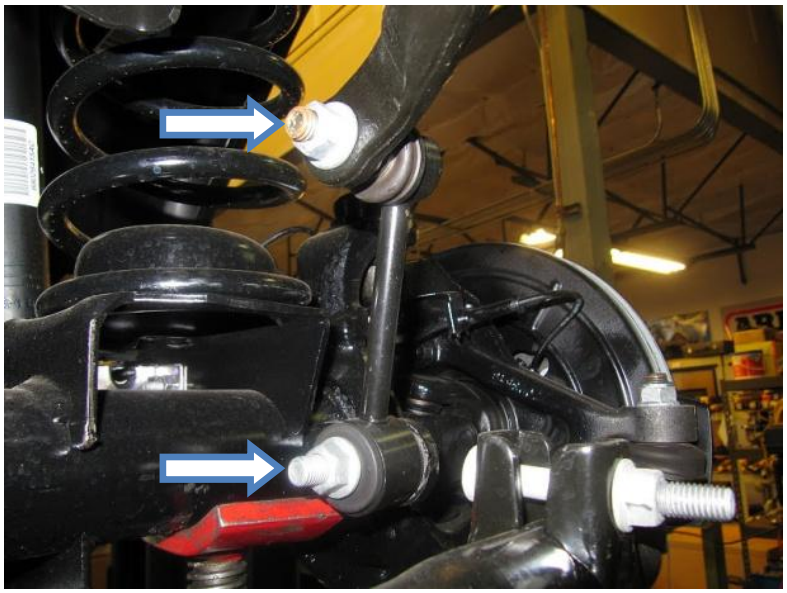
Remove front wheels.

Lower vehicle onto stand so that suspension is partially compressed

Tools:
Jack and axle stands or vehicle hoist
Wheel brace or 19mm socket

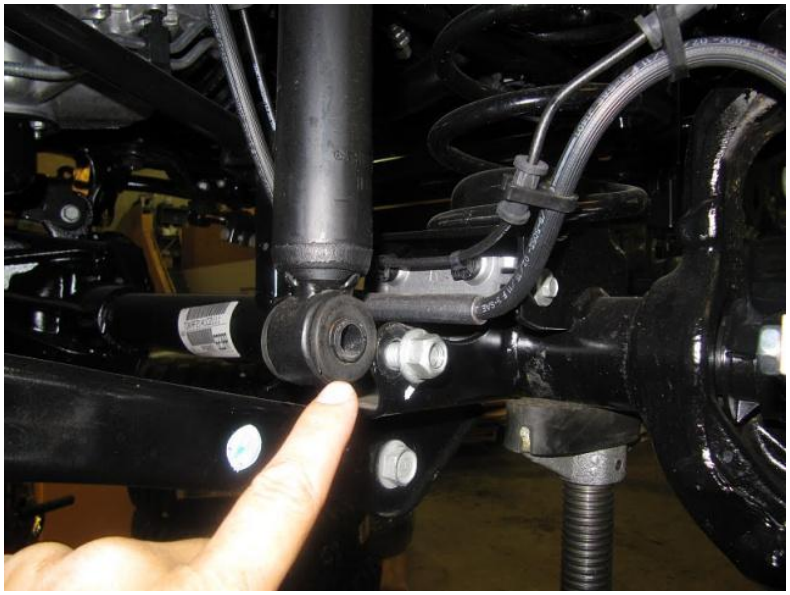
Remove front brake line brackets.

Tools:
10mm spanner



Remove the front sway bar links on both sides of the vehicle.

Tools:
19 mm socket / spanner
6mm Allen key



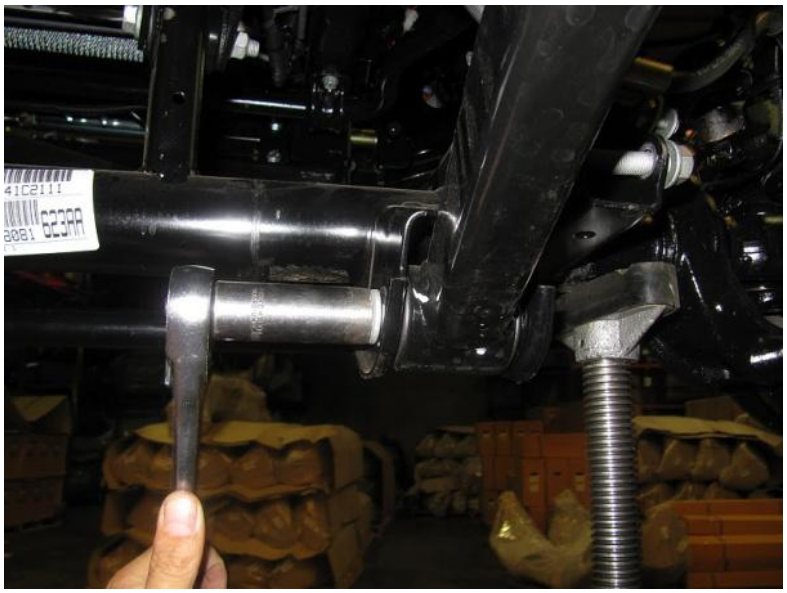
Undo front shock absorber lower mounting bolt and remove front shock absorbers.

Tools:
18mm spanner or socket

Carefully raise vehicle to remove any load on the front coil springs, so the springs become un-trapped.

Remove front springs.

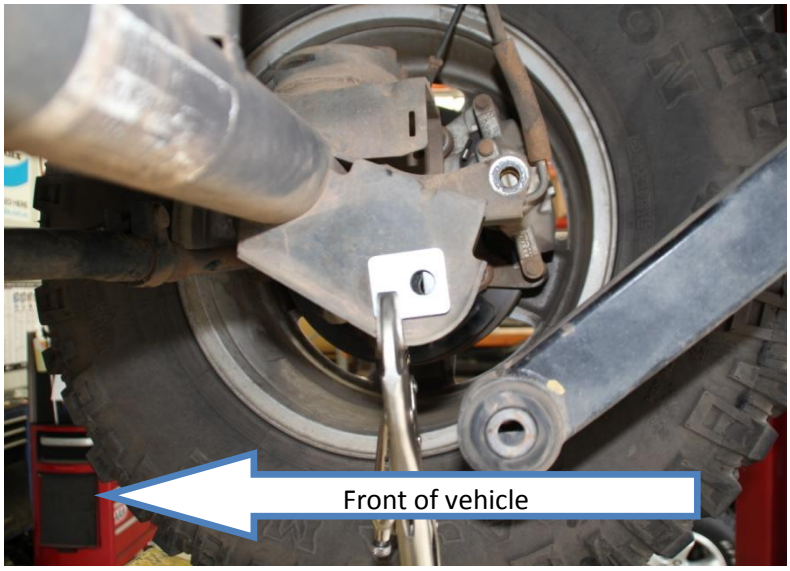
Tools:
Jack and axle stands or vehicle hoist



Disconnect the front lower control arms at the axle end and loosen at chassis end.

Move control arms down and let hang clear of the axle mounts.

Tools:
21mm spanner
21mm socket & ratchet or rattle gun



Using vice grips clamp the drive line alignment plates to the axle mount, placing the plates as shown.

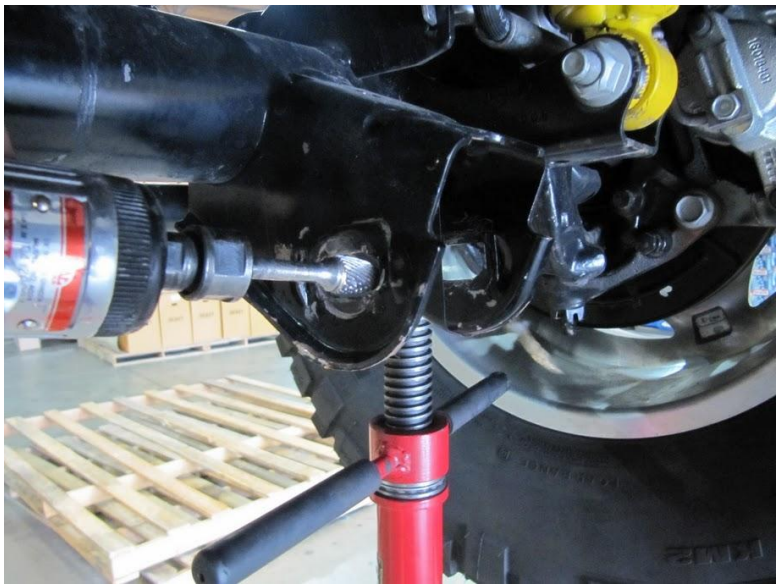
Ensure the alignment plate is mounted with the pilot hole towards the rear of the vehicle.

CAUTION: *Take care when completing the following steps as incorrect fitment may result in excessive suspension movement!*

Tools:
Vice grips

Using a scribe, mark the new 14mm hole position.

Tools:
Scribe / marker



Now the 14mm hole is marked remove the alignment plates.

Using a die grinder carefully cut out the hole.

File cut edges to remove burrs and sharp edges.

Caution: Eye and ear protection must be worn for this step.

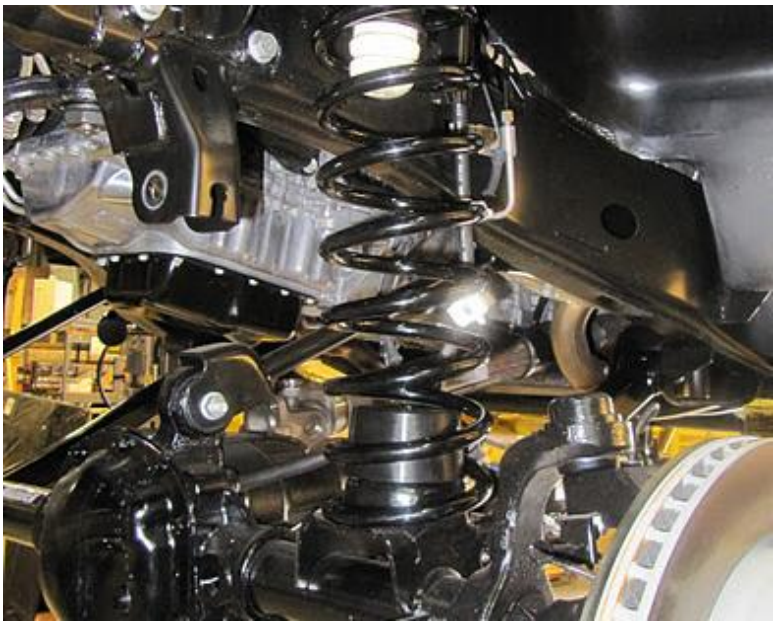
Tools:
Die Grinder
File

With the alignment plates in position, reconnect the lower control arms using the new M14x110mm flange bolts & cone lock nuts provided.

Note: Do not torque fasteners at this stage.

Tools:
22mm socket & ratchet

Fit the front bump stop spacers using the fitting instructions provided in the kit



Once the bump stop spacers have been fitted, install the new Old Man Emu springs.

Note: If the front of the vehicle is fitted with heavy accessories the trim packers provided in kit may be fitted. Fit trim packer above rubber isolator, such that it is fitted between the rubber isolator & the body.

Fit new Old Man Emu shock absorbers. Fit top of shock first.

Lower vehicle slightly to compress springs and allow easier alignment of bottom shock mounts

Auto transmission models only: Refit transmission cross member with spacers and new bolts provided in FK49 kit.

Tools:
18mm socket & ratchet
19mm socket & ratchet

For all models other than Rubicon, a sway bar disconnect system is provided in the kit.

Assemble the non greasable pin to the bracket as shown.

For Rubicon models simply connect the new sway bar links using the metal sleeve provided in the sway bar kit.

Tools:
17mm socket & ratchet or spanner.

Fit the sway bar disconnect park brackets to the chassis rails.

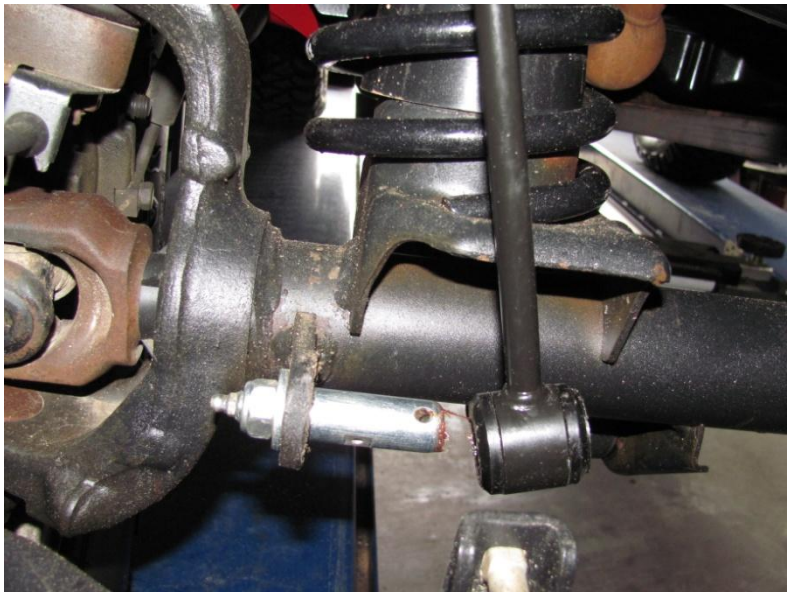
This may require a hole to be drilled on some models.

Tools:
5/8” socket & ratchet or spanner.

Fit greasable sway bar link pin and nut to axle bracket. Fit the grease nipple and tighten with spanner.

Hold flat section on pin with 17mm open end spanner to prevent pin from spinning when tightening.

Tools:
19mm socket & ratchet or spanner.
17mm open end spanner
8mm Spanner.

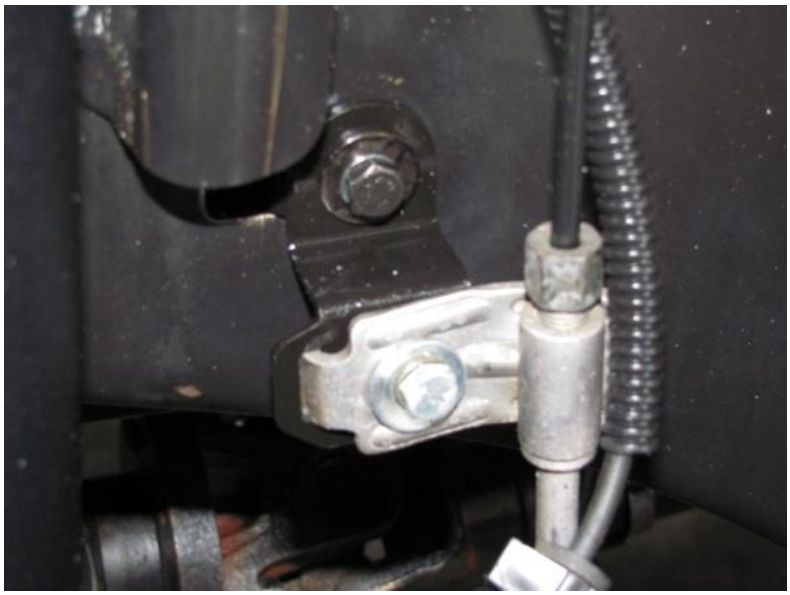


Install new sway bar linkage as shown.

Fit link to sway bar first and secure fasteners.

Fit link to bottom and secure with R clip provided with kit.

Tools:
19mm spanner
6mm Allen key



Fit the brake line drop brackets using the fasteners provided as shown.

Tools:
10mm socket & ratchet or spanner.

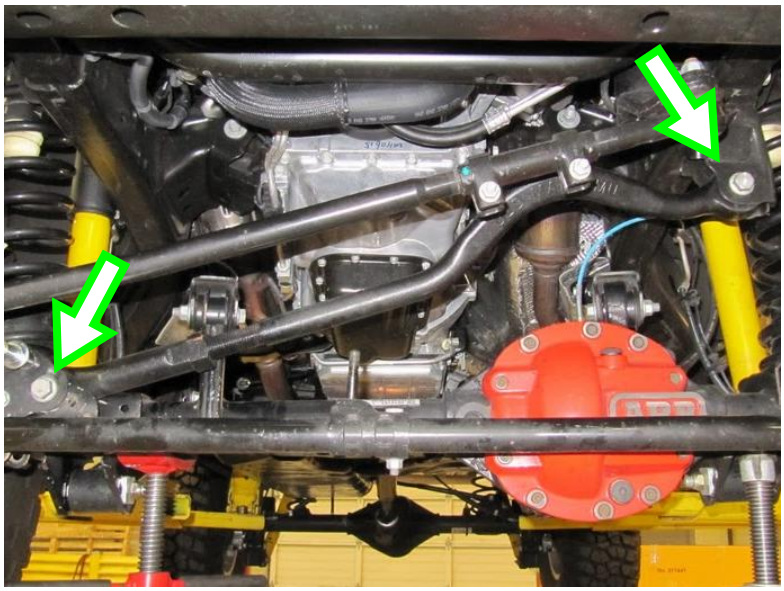
Relocate the front differential breather using a cable tie, as shown, to allow for increased wheel travel.

Re-fit the front wheels.

Tools:
Cable tie
Wheel brace or 19mm socket

Fit FK50 steering stabiliser relocation kit and new Old Man Emu steering stabiliser.

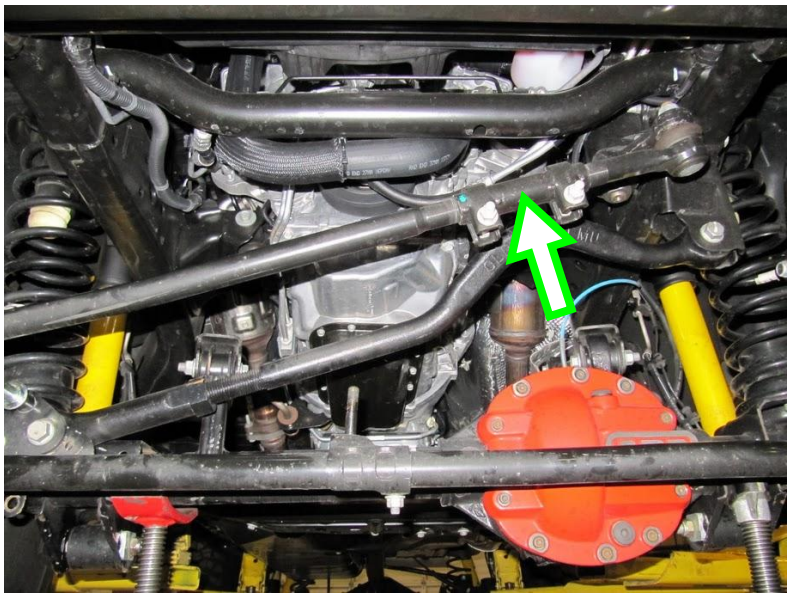
Refer to instructions provided with FK50 Kit.



Lower vehicle to ground and fit new Old Man Emu adjustable track bar to vehicle using original bolts.

Adjust track bar until front axle is correctly centred relative to the chassis rails at ride height. Once adjusted secure with thread locking compound and tighten lock nut.

Tools:
21mm socket and spanner
Torque wrench



Once axle is centred adjust the drag link to re-centre the steering.

With the vehicle on the ground at ride height torque the fasteners listed below in the table.

Tools:
Sockets
Torque Wrench

Front Suspension Torque Table		
Location	**Torque**	
	Nm	**ft-lb**
Shock Absorber Upper Nut	27	20
Shock Absorber Lower Nut	76	56
Suspension Arm Lower Axle Bracket Nut	169	125
Suspension Arm Lower Frame Bracket Nut	169	125
Suspension Arm Upper Axle Bracket Nut/Bolt	102	75
Suspension Arm Upper Frame Bracket Bolt	102	75
Stabilizer Bar Link Upper Nut	102	75
Track Bar Frame Bracket Nut	169	125
Track Bar Axle Bracket Bolt	169	125

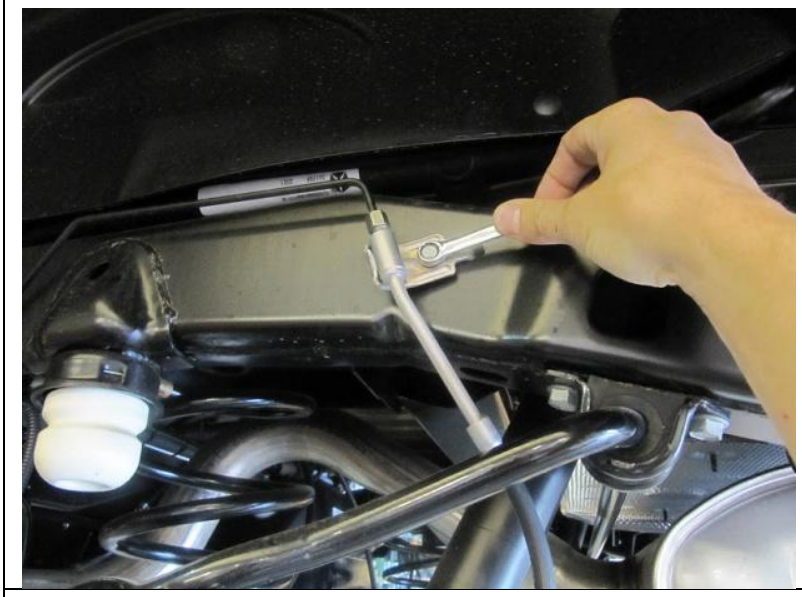
Rear Suspension Fitment

Raise vehicle on hoist and remove rear wheels.

Support rear axle with axle stands.

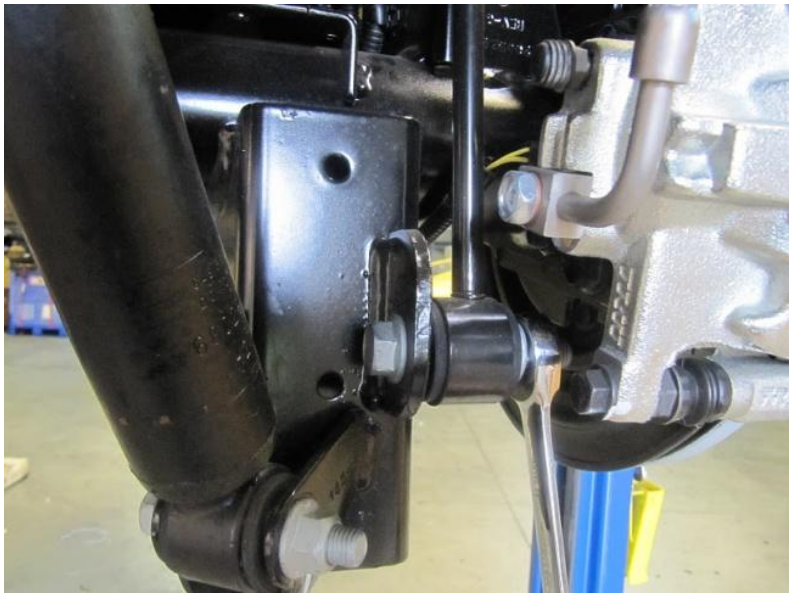
If you do not have a hoist use trolley jacks.

Tools:
Jack and axle stands or vehicle hoist
Wheel brace or 19mm socket



Disconnect the rear brake line brackets on both sides of the vehicle.

Tools:
10mm spanner or socket



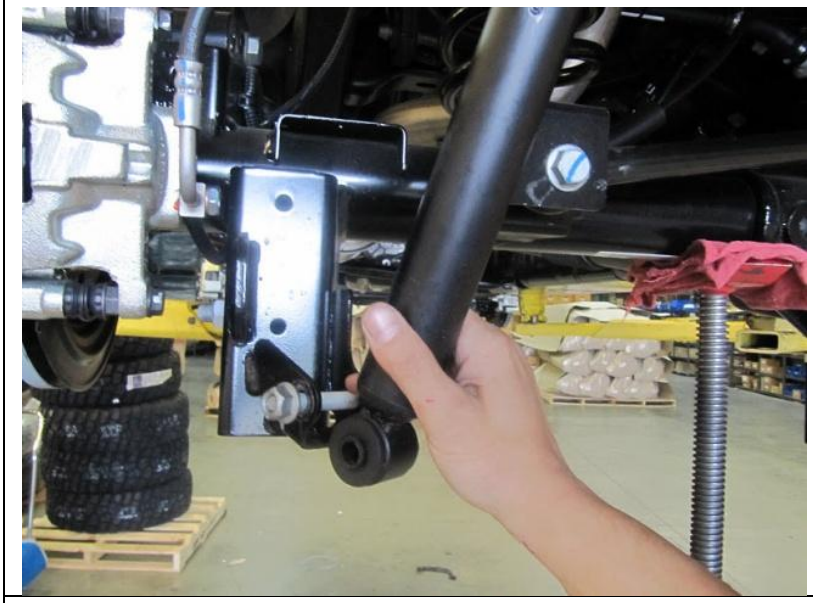
Remove rear sway bar links on both sides of the vehicle.

Hold upper ball joint from spinning using 19mm open end spanner

Tools:
18mm spanner or socket
19mm open end spanner

Disconnect the rear track bar at the axle end & back off the torque at the chassis end.

Tools:
21mm socket
Breaker Bar



Remove rear shock absorbers.

Remove lower mount first then upper mount.

Tools:
18mm socket and ratchet or spanner
16mm socket and ratchet or spanner

Carefully raise vehicle to remove load on rear springs allowing them to become un trapped.

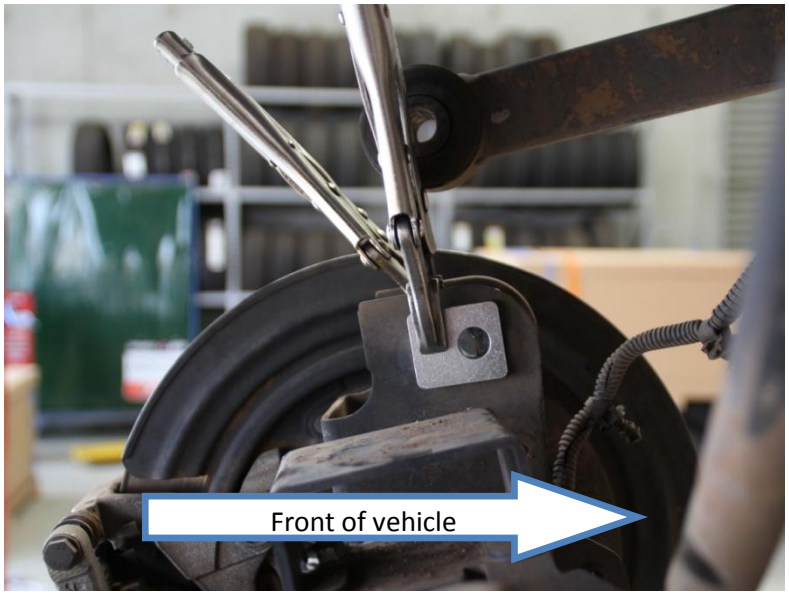
Remove springs from vehicle.

Note: The next 5 steps are optional for unlimited models.

Disconnect the rear upper control arms at the axle end and loosen at the chassis end. Move control arms up, clear of the axle mounts.

Remove ABS line clips from axle housing.

Tools:
21mm socket and ratchet or spanner



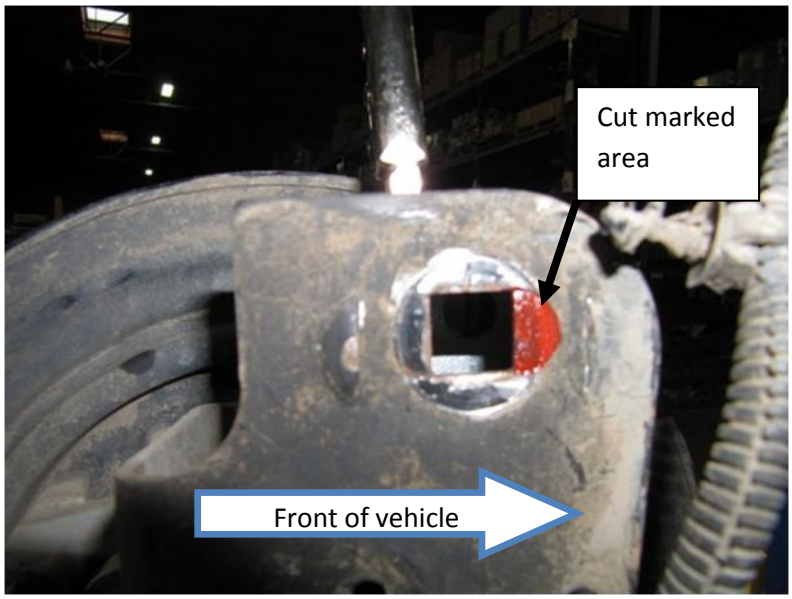
Using vice grips clamp the drive line alignment plates to the axle mount, placing the plates as shown.

Ensure the alignment plate is mounted with the pilot hole towards the front of the vehicle.

Caution: Take care when completing the following steps as incorrect fitment may result in excessive suspension movement!

Tools:
Vice grips x 2

Using a scribe mark the new 14mm hole position.



Now the 14mm hole is marked remove the alignment plates.

Using a die grinder with long grinding tool carefully cut out the hole.

File cut edges to remove burrs and sharp edges.

Caution: Eye and ear protection MUST be worn for this step.

Tools:
Die Grinder
File

With the alignment plates in position, reconnect the upper control arms using the new M14x100mm flange bolts & cone lock nuts provided.

Note: Do not torque fasteners at this stage.

Tools:
21mm socket & ratchet
22mm spanner

Fit the new rear track bar bracket to the rear axle as shown.

Re-fit the original bolt and nut back in their original positions with the new spacer tube fitted in the original track bar position.

Clamp the track bar bracket in position with the 2 U-bolts provided.

Torque u-bolts to **44Nm/33ftlb**

Torque Original bolt to **150Nm/110ftlb**

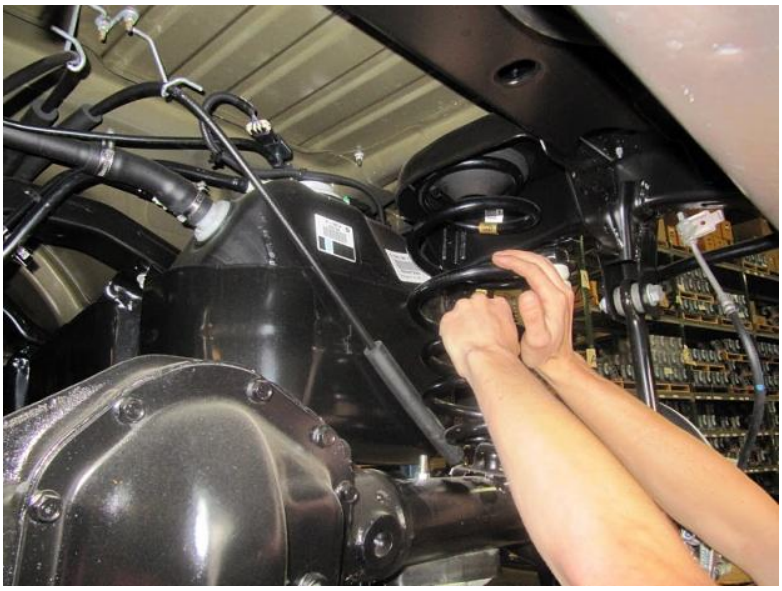
Tools:
21mm socket
19mm socket
Torque wrench

Fit the track bar to the bracket using the new bolt nyloc nut and flat washers provided.

Do not torque at this stage.

Tools:
22mm socket and ratchet or spanner

Fit the rear bump stop spacers using the fitting instructions provided in the kit.



With the bump stop spacers now fitted, install the new Old Man Emu springs.

Note: If the rear of the vehicle is fitted with heavy accessories the trim packers provided may be fitted. Fit trim packer above rubber isolator, such that it is fitted between the rubber isolator & the body.

Install new Old Man Emu shock absorbers to top shock absorber mounts using original hardware.

Tools:
16mm socket and ratchet or spanner

Lower vehicle slightly so that lower shock mounts can be easily reached.

Fit new shock absorbers to bottom shock mounts using original nuts and washers.

Tools:
18mm socket and ratchet or spanner.

Fit the brake line drop brackets using the fasteners provided as shown.

Tools:
10mm socket and ratchet or spanner

Fit the hand brake relocation bracket as shown.

Reconnect the diff breather tube to the hand brake bracket stud

Tools:
10mm socket and ratchet or spanner

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Fit the new Old Man Emu sway bar links as shown.

Re fit wheels and lower vehicle to ride height

Tools:
Jack and axle stands or vehicle hoist
Wheel brace or 19mm socket

Carry out wheel alignment to manufacture's specifications.

With the vehicle on the ground at ride height torque the fasteners listed below in the table.

Complete road test. On return check all bolts are secure.

Tools:
Sockets
Torque Wrench

Rear Suspension Torque Table		
Location	**Torque**	
	Nm	**ft-lb**
Shock Absorber Upper Bolts	50	37
Shock Absorber Lower Nut	76	56
Suspension Arm Lower Axle Bracket Nut	169	125
Suspension Arm Lower Frame Bracket Bolt	169	125
Suspension Arm Upper Axle Bracket Bolt	169	125
Suspension Arm Upper Frame Bracket Bolt	169	125
Stabilizer Bar Link Nut/Bolt	102	75
Stabilizer Bar to Link Nut	90	66
Track Bar Frame Bracket Nut	169	125
Track Bar Axle Bracket Bolt	169	125