OLD MAN EMU
FITTING INSTRUCTIONS

TOYOTA PRADO 120
SUSPENSION SYSTEM

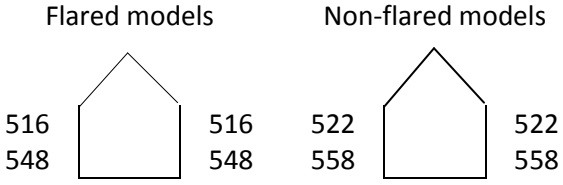
WARNING

- This product must be installed exactly as per these instructions using only the hardware supplied.
- In the event of damage to any suspension component, contact your nearest authorised ARB stockist. Repairs or modifications to the suspension system components must not be attempted.
- Do not use this product for any vehicle make or model, other than those specified by ARB.
- Do not remove labels from suspension components.
- This product or its fixing must not be modified in any way.
- The installation of this product may require the use of specialized tools and/or techniques
- It is recommended that this product is only installed by trained personnel
- These instructions are correct as at the publication date. ARB Corporation Ltd. cannot be held responsible for the impact of any changes subsequently made by the vehicle manufacturer
- During installation, it is the duty of the installer to check correct operation/clearances of all components
- Work safely at all times

Note: These fitting instructions should be read in conjunction with the vehicle workshop manual or torque reference chart.

RIDE HEIGHTS REFERENCE

Manufacturer's specified ride heights, measured from ***centre of hub to guard***, as published by the Australian government in Road Vehicle Descriptor documents. RVD's can be accessed on the web via these sites: http://myrta.com/rvd/welcome.do or http://rvcs-prodweb.dot.gov.au/pls/wwws/pubrvcs.Notify_Search



FITTING REQUIREMENTS

HAND TOOLS REQUIRED

Ring open end spanner set metric
Socket set metric
Ball joint puller
Lever bar
Paint Marker
Clamp / Multi Grips

WORKSHOP TOOLS REQUIRED

Vehicle hoist or jack and axle stands
Spring compressor
Tape measure
Trolley jack
Rubber Grease

OPTIONAL HAND TOOLS

Ratchet spanners metric

OPTIONAL WORKSHOP TOOLS

Vehicle hoist
Impact driver
Axle stands

SAFTEY EQUIPMENT REQUIRED

Protective eyewear 	Hearing protection 

Note: 'WARNING' notes in the fitting procedure relate to OHS situations, where to avoid a potentially hazardous situation it is suggested that protective safety gear be worn or a safe work procedure be employed. If these notes and warnings are not heeded, injury may result.

GENERAL CARE AND MAINTENANCE

By choosing Old Man Emu suspension, you have bought a product that is one of the most sought after 4WD products in the world. Your suspension system is a properly engineered, reliable, quality accessory that represents excellent value. To keep your suspension in original condition it is important to care and maintain it following these recommendations:

- As part of any Pre Trip Preparation, or on an annual basis, it is recommended that a thorough visual inspection of all components is carried out. Make sure that all bolts and other components are torqued to the correct specification. Also check that all bushings, mountings, and fasteners are free of damage. Replace any components as necessary. This service can be performed by your local authorized Old Man Emu licensed workshop.

- Vehicles fitted with leaf springs require leaf spring liners and polyurethane bushes to be greased as part of the annual regular maintenance. Follow instructions in Old Man Emu suspension maintenance guide for detailed procedures.

Front Suspension Fitment

Before starting, check all part numbers match invoice, Old Man Emu catalogue, or application guide.

Measure hub to guard heights and note rim diameter.

Fill out warranty form.

Note accessories already fitted.

Raise front of vehicle and remove front wheels.

Tools:
Jack and axle stands or vehicle hoist
Wheel brace or 21mm socket

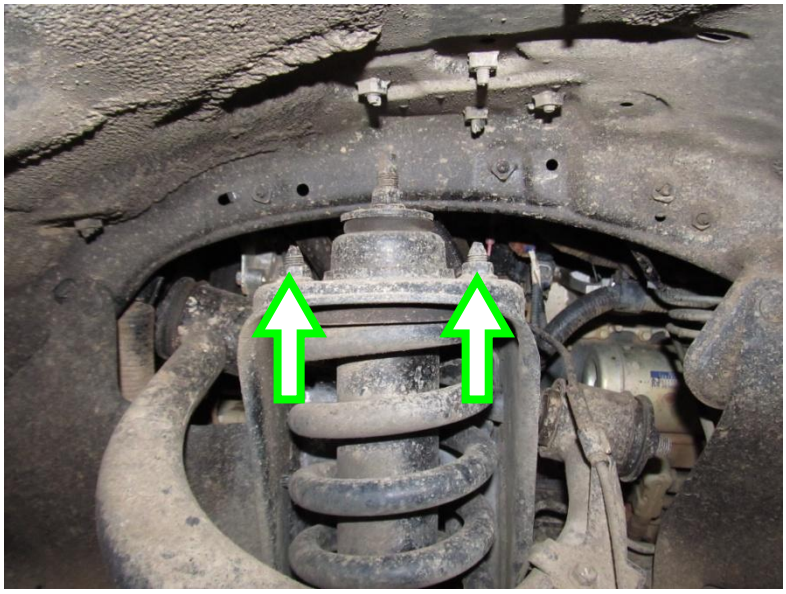
Remove split pin and nut that secures front steering arm ball joint. Loosen taper on ball joint with ball joint puller.

Tools:
Pliers
19 mm socket / spanner
Ball joint puller hammer

Remove sway bar nut and remove link from mount.

At this stage complete this step on both left and right hand sides of the vehicle.

Tools:
17mm spanner or socket



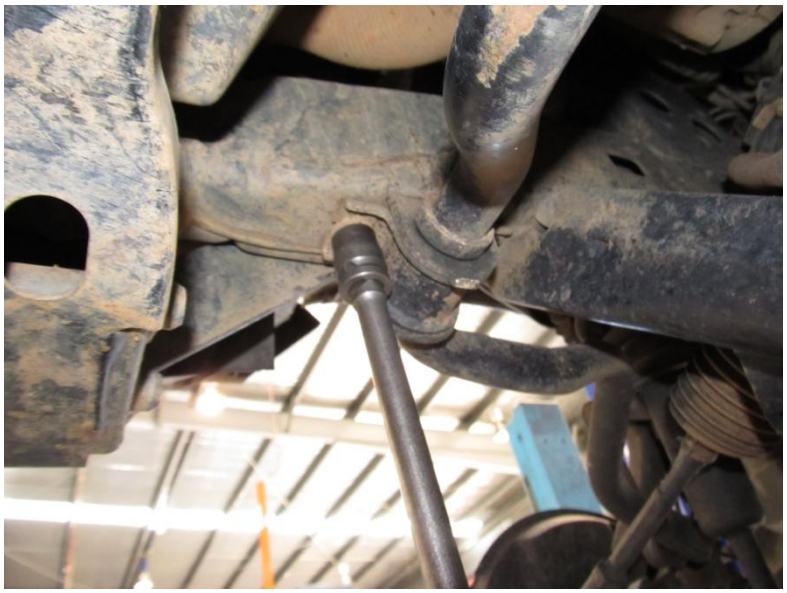
Remove 3 nuts that secure strut assembly.

DO NOT loosen centre nut that secures the damper to the top hat.

Tools:
14mm spanner (ratchet spanner is best)

Remove nut that secures strut assembly to bottom arm.

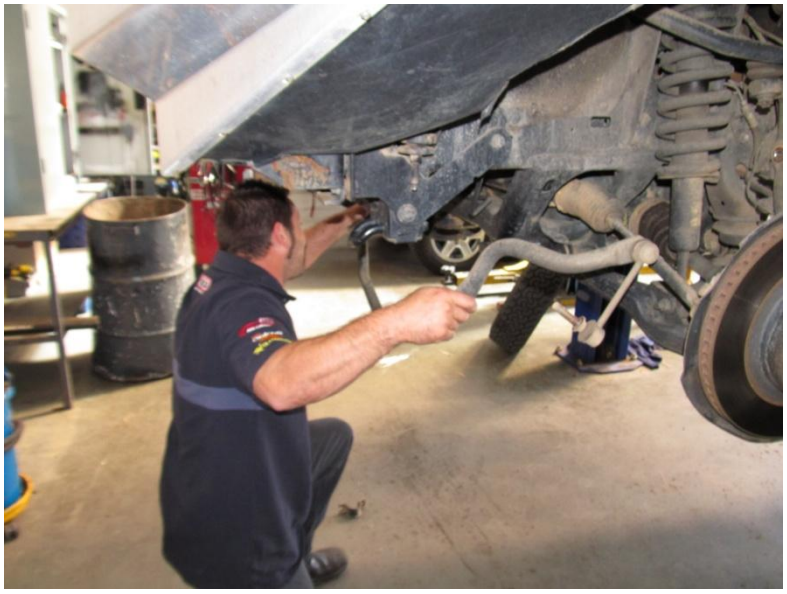
Tools:
19mm spanner
19mm socket & ratchet or rattle gun



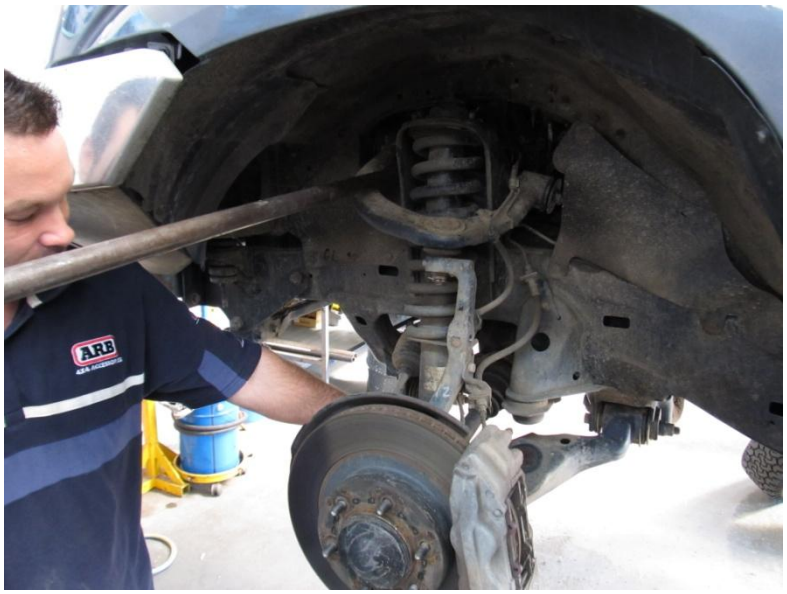
Remove sway bar saddle bolts.

Complete this step on both left and right hand sides of the vehicle.

Tools:
17mm socket

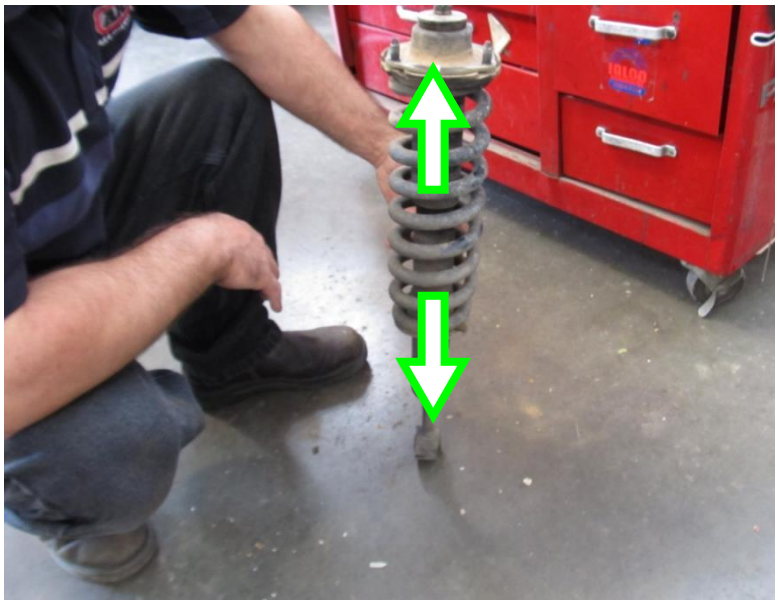


Remove Sway Bar.



Using Lever bar as shown pull down upper arm to help remove bottom strut bolt.

Remove strut assembly.



Note alignment of studs on top hat and eye direction.

When assembled the OME damper must be oriented in the same manner.

Tools:
Paint Marker

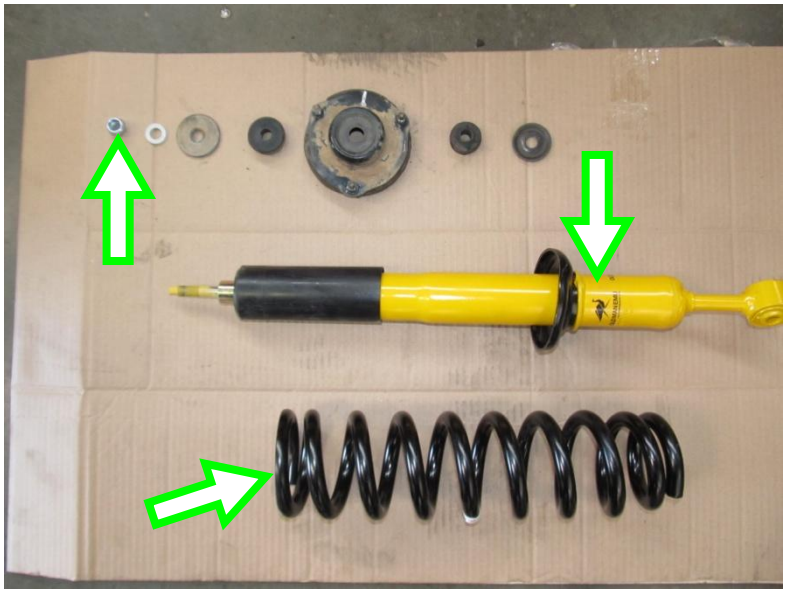
Using a strut compressor disassemble the strut assembly.

Tools:
Strut compressor
17mm spanner
8mm spanner

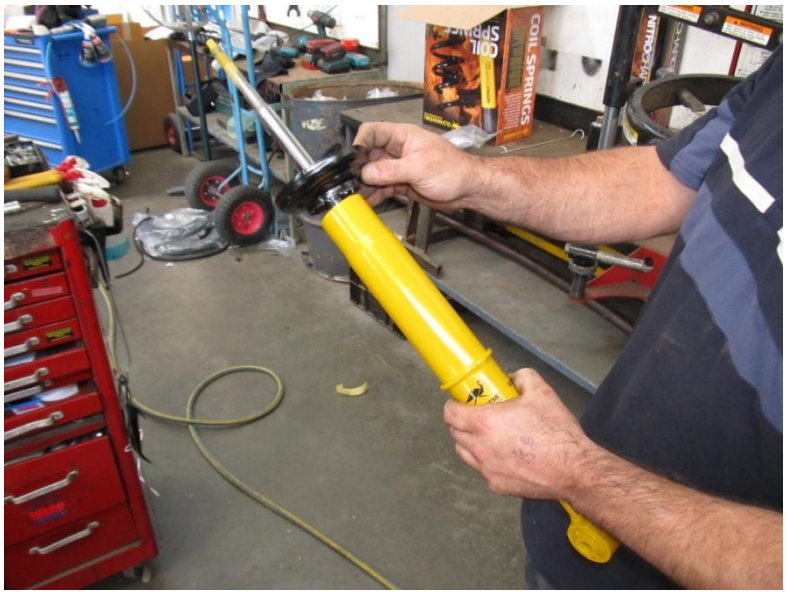
Note components that make up the OE strut assembly.

The top hat, bushing and washers must be retained to be fitted with the Old Man Emu components.

Check condition of all bushes including bushing bonded to underside of top hat, replace as necessary.



New Old Man Emu parts supplied are the damper, spring, spring seat, top nut and washer.



Fit the spring seat as shown.

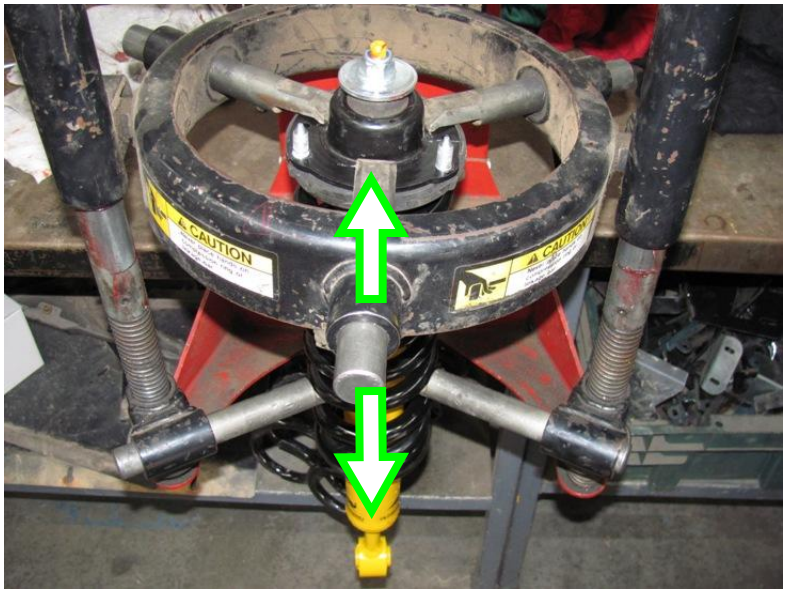
Fit the OE washer to the OME damper as shown.

Fit OE top hat and OME spring to spring compressor.

Compress spring such that strut can be pushed all the way into the top hat without the spring touching the spring seat.

Once compressed fit Old Man Emu damper.

Align spring seat with the end of the coil.

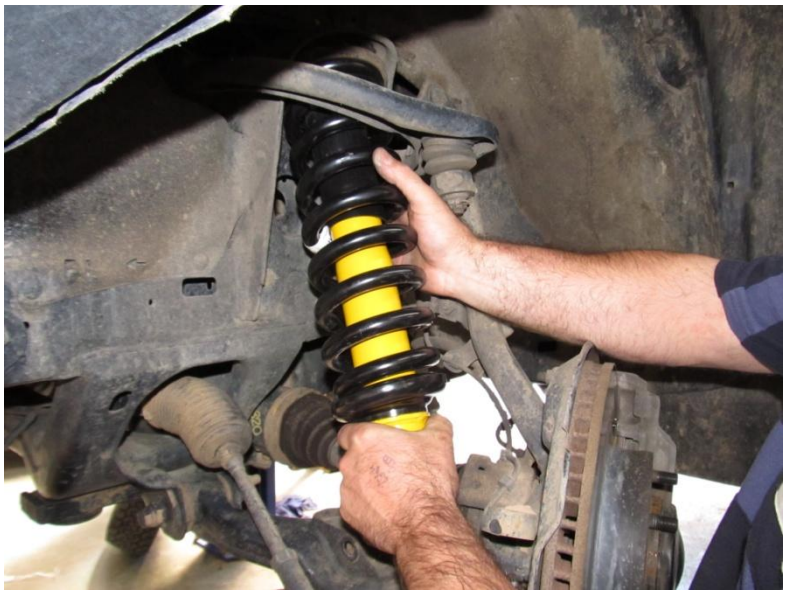


Align damper bottom mount and top hat studs as per OE.

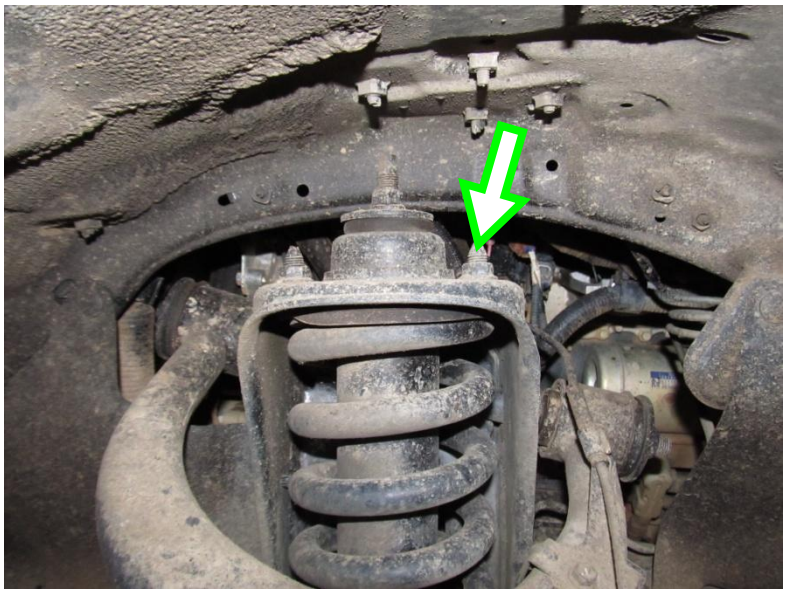
Fit OE bush and washer to the top and secure with new nut supplied.

Tighten until nut contacts shoulder on stud.

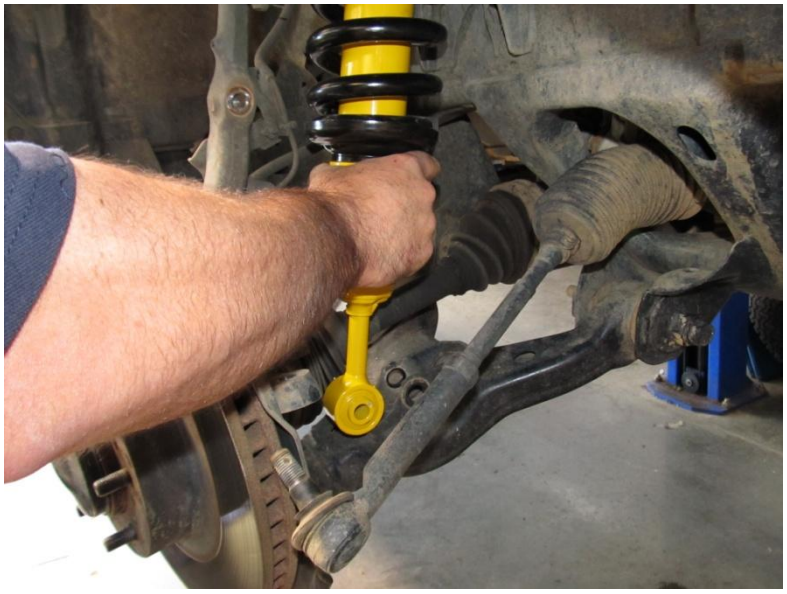
Tools:
19mm spanner
8mm spanner



Refit strut assembly.



Hold strut assembly in place with one or more nuts secured finger tight.



Use a lever bar in top arm as before to aid alignment of the bottom strut mount in the lower arm.

Tools:
Lever bar

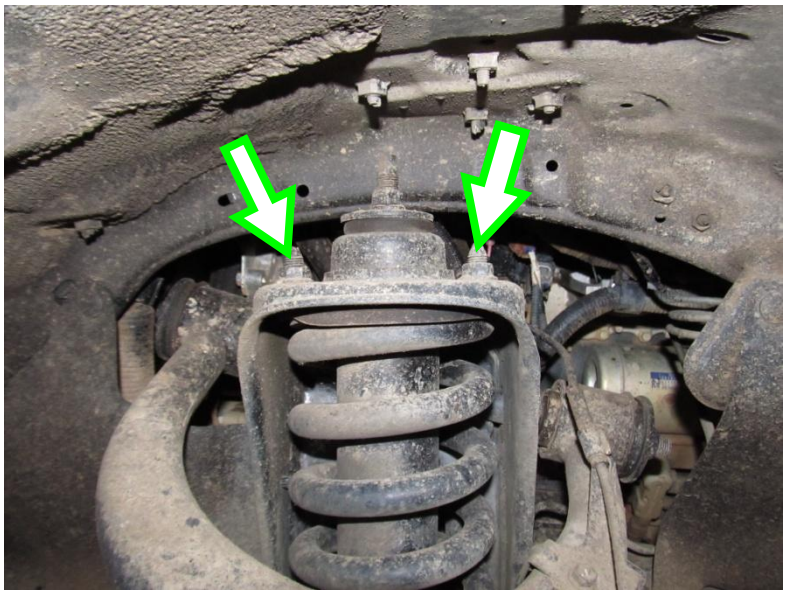
Using screwdriver in the bottom eye, align the bottom shock mount bushing.

Tools:
Lever bar
Screwdriver

Secure with OE nut and bolt finger tight.

This lower nut and bolt will be tightened to specified torque when the vehicle is back on the ground and suspension has settled at ride height.

Tools:
19mm spanner



Replace and tighten all three top hat nuts.

Torque nuts to manufacturer's specification.

Tools:
14mm ratchet spanner
14mm socket and torque wrench

When both left and right hand sides have been fitted, refit and tighten sway bar links and saddles.

Torque to manufacturer's specification.

Tools:
17mm spanner or socket
14mm spanner or socket
Torque wrench

Fit and tighten ball joint nut.

Torque nut to manufacturer's specification.

Secure with split pin.

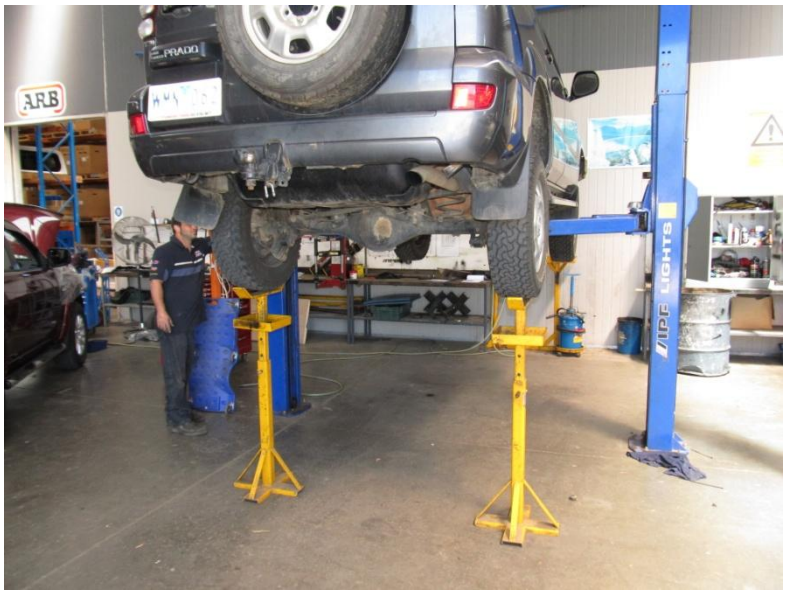
Check all fasteners tightened then re fit front wheels.

Tools:
17mm spanner or socket
Wheel brace or 21mm socket
Torque wrench

Rear Suspension Fitment

Before raising vehicle, loosen the top nut on the rear shock absorber. Prevent the body of shock absorber spinning using a clamp.

Tools:
17mm spanner / socket
Clamp / Multi Grips



Raise vehicle on hoist and support rear wheels with axle stand.

If you do not have a hoist use trolley jacks.

Tools:
Vehicle Hoist
Axle Stands

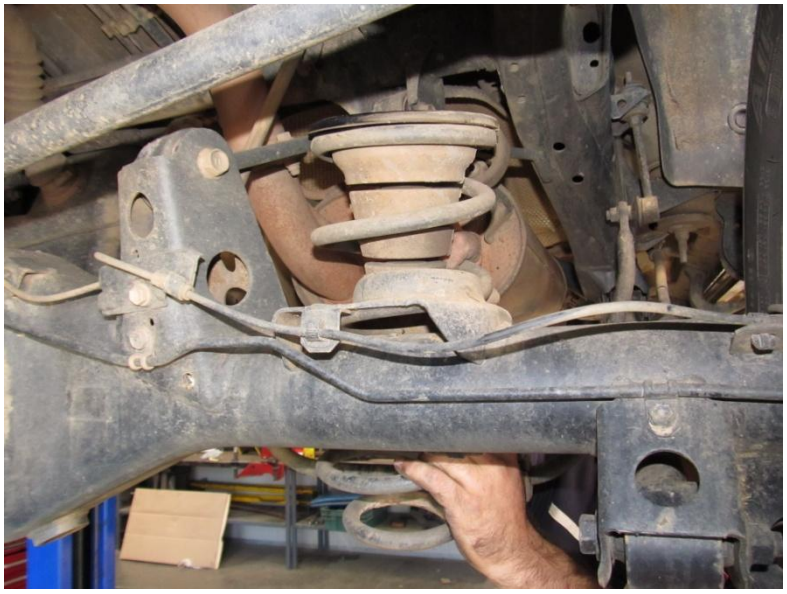
Remove rear sway bar saddles. Once removed let sway bar sit on differential housing away from rear axle.

Tools:
12mm spanner or socket

Remove bottom shock absorber bolts then remove rear shock absorber.

Retain bolt and washer.

Tools:
17mm spanner or socket



Remove Rear Spring assembly.

Before fitting measure and note free height of both left and right hand springs.

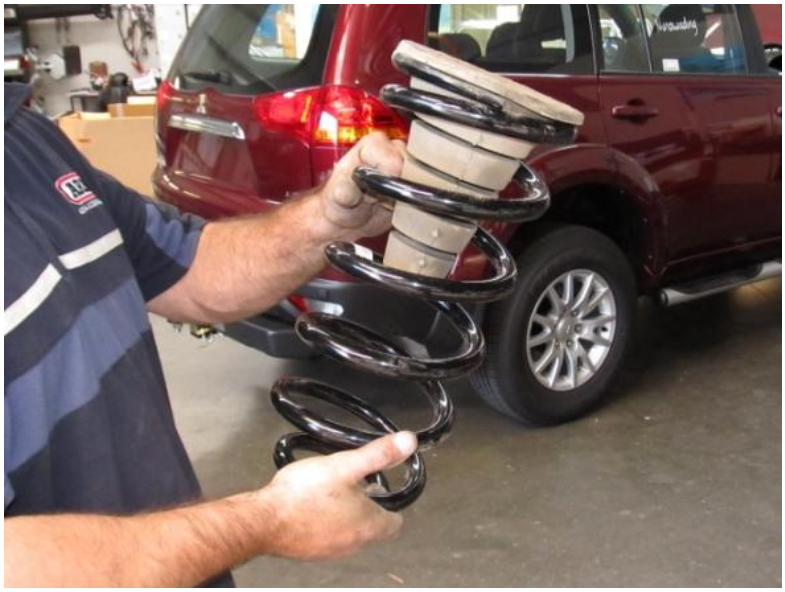
Stand the spring, with the flat side down on a flat and level surface.

Measure the distance between the ground and the top point of the spring wire.

Check the measurement against the specification chart to ensure correct spring is used.

Note components of rear spring assembly.

Retain factory bump stop for fitment to Old Man Emu Spring

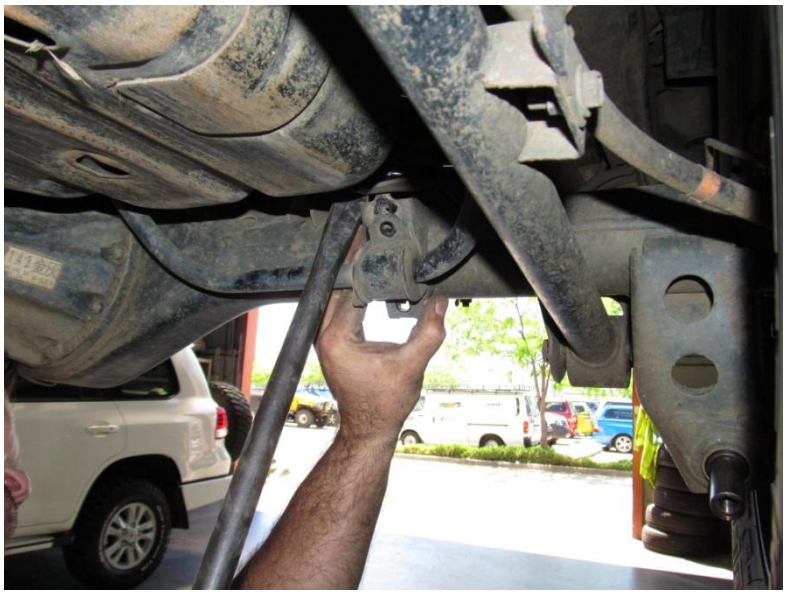


Fit factory bump stop to new Old Man Emu spring as shown.

Fit new Old Man Emu spring assembly.

Align spring assembly on bottom seat. There should be approximately 15 mm between the end of the spring and the spring seat.

With another person's assistance, whilst slowly lowering vehicle, relocate spring to spring seat in original position.



Refit sway bar and re-locate sway bar saddles using lever bar.

Tools:
Lever bar

Replace sway bar saddle bolts and torque to manufacturer's specification.

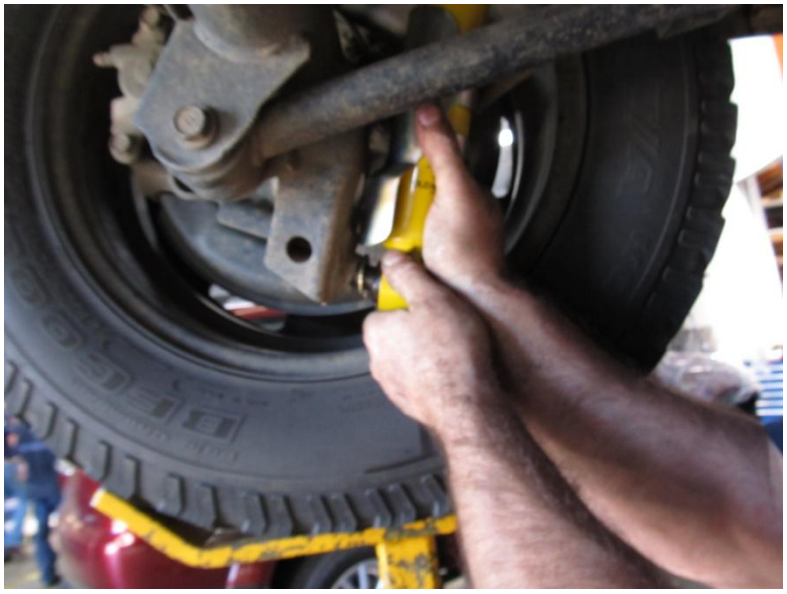
Tools:
12mm socket and ratchet or spanner
Torque Wrench

Unpack and assemble new Old Man Emu shock absorber.

Press lower eye bushing into bottom eye of shock absorber.

Noting correct position of new shock absorber hardware, fit retainer washer and bushing as indicated to shock absorber top shaft.

Install new washer from Old Man Emu shock absorber on bottom shock absorber mount.



Install new Old Man Emu shock absorber.

Ensure that the top stud of the shock absorber is aligned correctly with the top shock absorber mount.

Fix new shock absorber to mount using original nut and washer.

Fasten securely with socket and ratchet.

Torque to manufacturer's specification.

Tools:
19mm socket and ratchet or impact driver
Torque wrench

Fit upper shock absorber locating washer, bush and retaining washer then secure with nut.

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Tighten using 19mm spanner.

Repeat shock absorber fitting for both sides.

Tools:
19mm socket and ratchet or spanner
Torque wrench

Post Fitment

Bounce the front a couple of times to cycle the suspension.

Move vehicle a short distance (eg. off the hoist and outside workshop) to allow suspension to settle.

Tighten lower front strut mount bolts. Torque bolt to manufacturer's specification.

Tools:
19mm Spanner
19mm socket and ratchet or impact driver
Torque wrench

Carry out wheel alignment to manufacture's specifications.

Road test including brake check.

On return measure ride heights and check all bolts are secure.

Complete and submit warranty form.