OLD MAN EMU
FITTING INSTRUCTIONS

VOLKSWAGEN AMAROK
SUSPENSION SYSTEM

WARNING

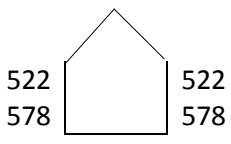
- This product must be installed exactly as per these instructions using only the hardware supplied.
- In the event of damage to any suspension component, contact your nearest authorised ARB stockist. Repairs or modifications to the suspension system components must not be attempted.
- Do not use this 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.

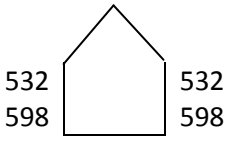
RIDE HEIGHTS REFERENCE

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

Flared models



Non-flared models



FITTING REQUIREMENTS

HAND TOOLS REQUIRED

Ring open end spanner set metric
Socket set metric
Ball pein hammer
Lever bar
Paint Marker
Soft Mallet
Triple square drivers
Torque Wrench

WORKSHOP TOOLS REQUIRED

Vehicle hoist or jack and axle stands
Strut compressor
Tape measure
Trolley jack
Workbench with Vice
Bearing Separator and Puller
FK33 Amarok Workshop Kit

OPTIONAL HAND TOOLS

Ratchet spanners metric

OPTIONAL WORKSHOP TOOLS

Vehicle hoist
Impact driver
Axle stands
Straight edge

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.

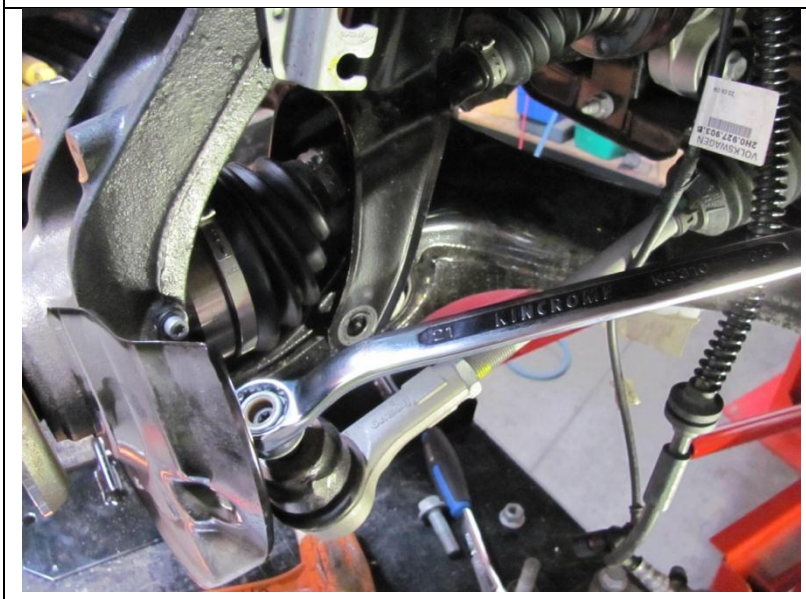
Measure rim to guard heights and note rim diameter.

Fill out warranty form.

Note accessories already fitted.

Raise front of vehicle and remove front wheels.

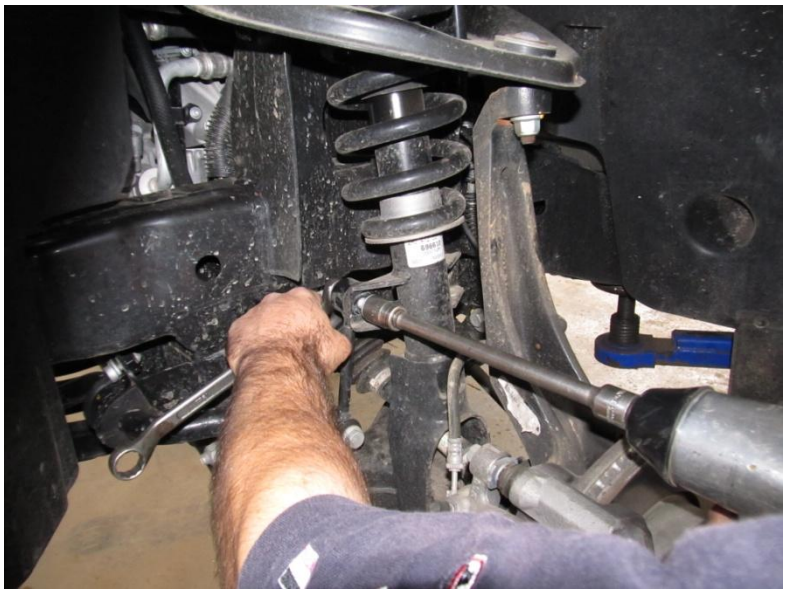
Tools:
Jack and axle stands or vehicle hoist
Wheel brace or 19mm socket



Remove nut that secures front steering arm ball joint.

Release taper on ball joint with ball joint puller.

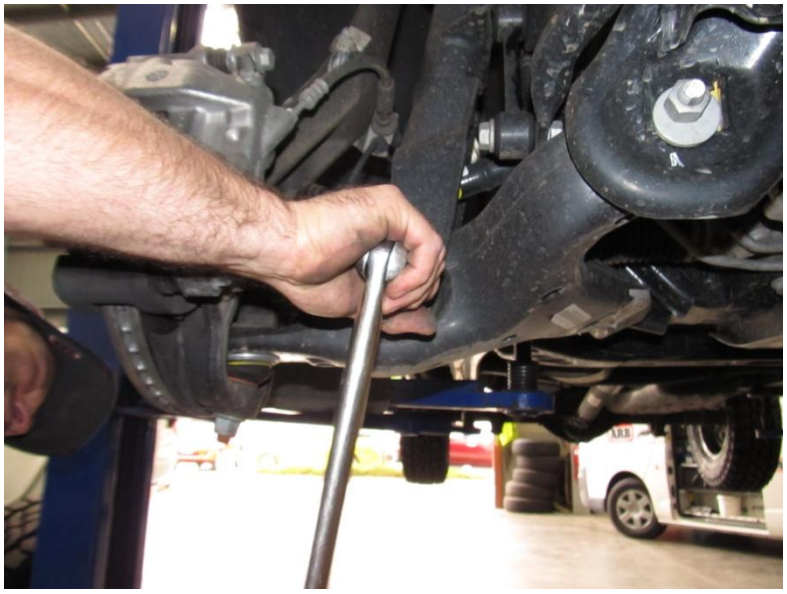
Tools:
21mm spanner
Ball joint puller



Remove sway bar nut and remove link from strut.

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

Tools:
18mm spanner or socket



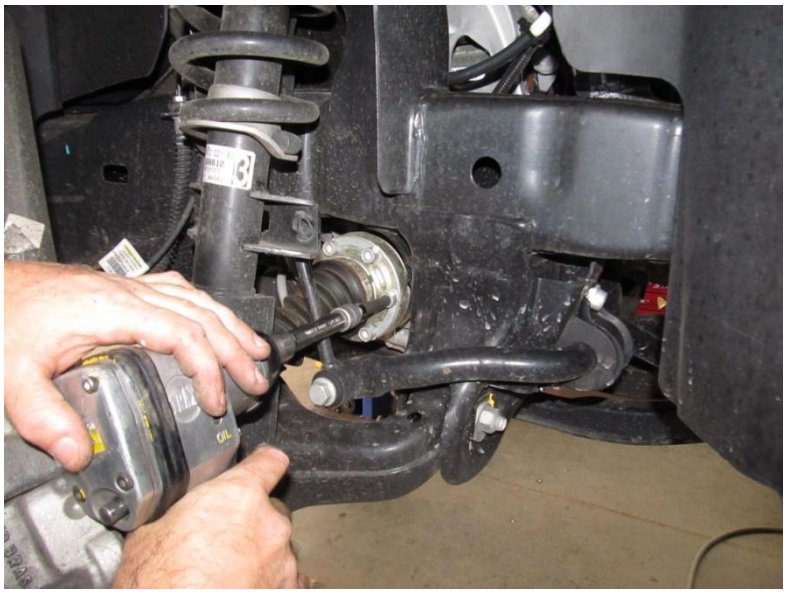
Remove lower strut mounting nut.

DO NOT remove bolt yet.

Tools:
21 mm spanner or socket

Mark position on driveshaft with paint marker.

Tools:
Paint marker.



Remove drive shaft flange bolts.

Rest Driveshaft on lower suspension arm.

Tools:
12mm tri square driver

Remove upper arm ball joint nut. With assistance from another person release taper on ball joint with ball joint puller whilst holding hub assembly.

Tools: Ball joint puller

CAUTION
Secure hub assembly ensuring that brake hose and ABS sensor wire are not over stretched.

Remove top strut nut. Retain original equipment large rubber washer.

Tools:
18mm spanner (ratchet spanner is best)

Remove front strut assembly.

To allow removal lubricate the rubber CV boot with a silicone based spray lubricant.

With assistance from another person move lower arm down and remove strut by sliding strut clevis over rubber boot.

Again, take care to ensure that brake and ABS sensor lines are not overstretched.

Tools:
Silicone spray lubricant

Before disassembly place the coil spring ring from the FK33 Amarok workshop fitting kit on top of the strut assembly

The coil spring ring is designed to evenly distribute the load on the top rubber top hat, when assembling the front strut.

Tools:
Strut compressor.
FK33 coil spring ring.

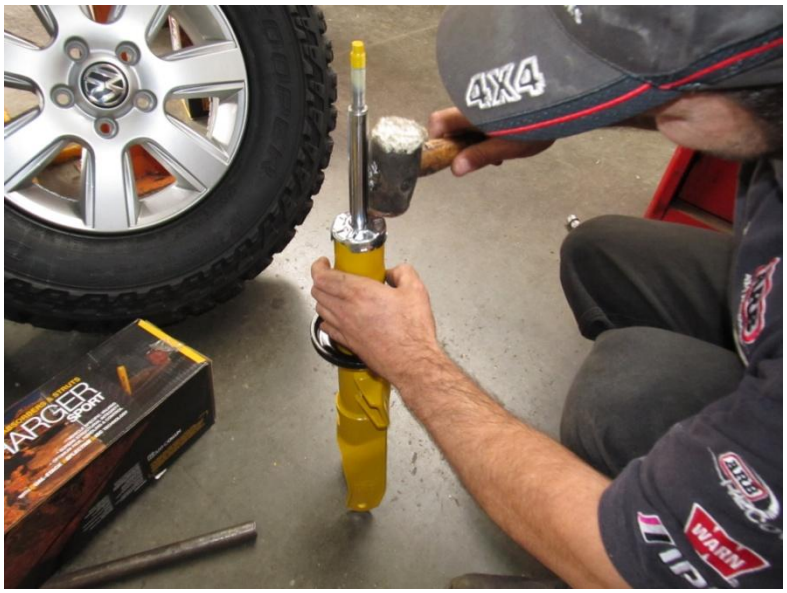
Using a strut compressor disassemble the strut assembly.

Tools:
Strut compressor.
19mm spanner / ratchet.

Once strut is disassembled, retain the original dirt shield/bump stop, washer, top hat and top rubber spacer for re fitment to Old Man Emu Strut.

Note the order of components. They must be refitted to the new Old Man Emu strut in the same order.

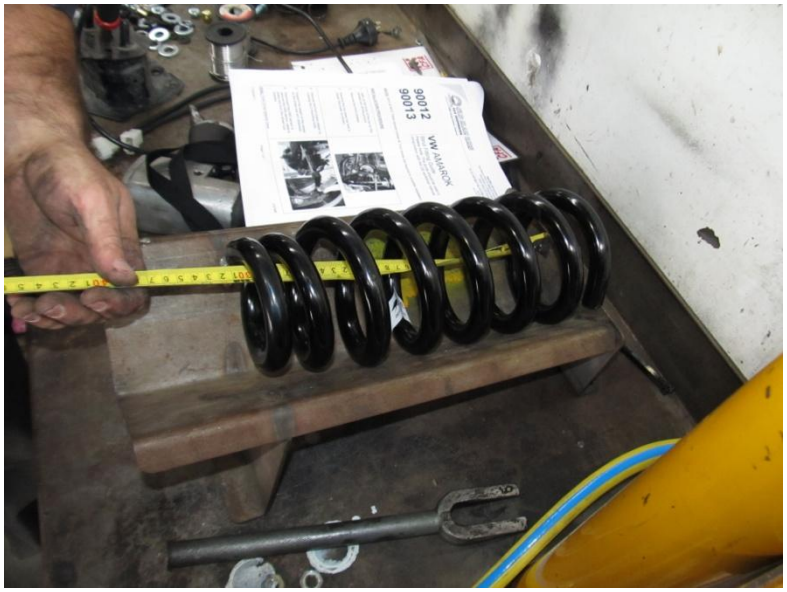
Unpack the new Old Man Emu strut and fit the coil seat.



Install OME damper top cap as shown by instructions supplied with strut.

Tools:
Soft mallet

Install original rubber dirt shield/bump stop to new Old Man Emu Damper.

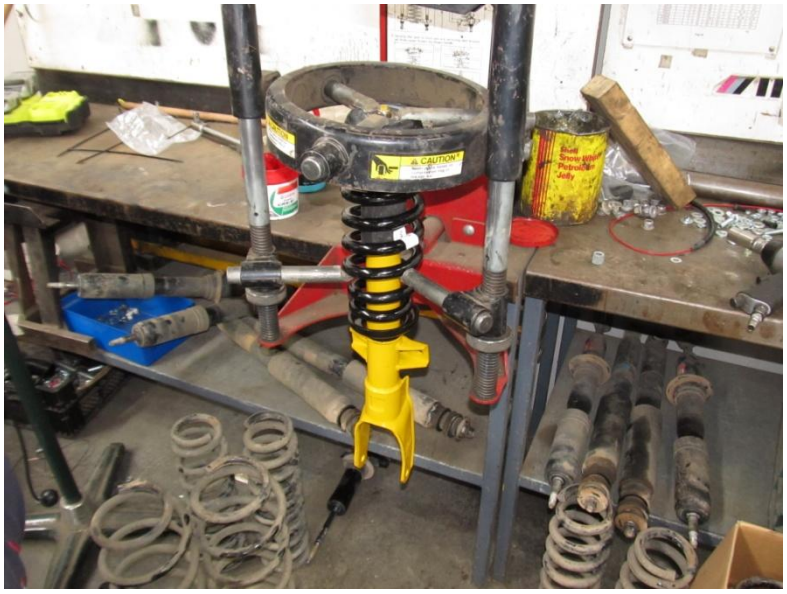


Before fitting measure and note free height of both left and right hand front springs.

Place new Old Man Emu spring in strut compressor.

Re fit original equipment top hat. Ensure correct alignment so that top hat sits flat on the spring.

Use ring supplied with FK33 to evenly distribute load on the top hat while in the spring compressor.



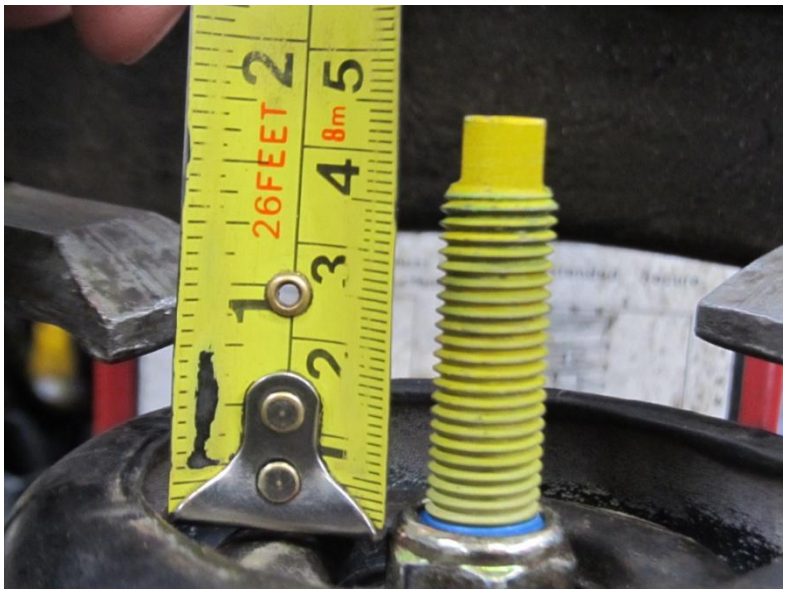
VERY IMPORTANT

Compress spring such that when inserted the top of the strut shaft can be pushed right through firmly home against the top hat before the spring is seated in the spring seat.

If the spring can seat in the seat compress spring further until there is a gap.

Secure with new supplied nut.

Tools: 19mm spanner, 8mm spanner



The threaded section at the top of the Amarok strut is a lot longer than other Old Man Emu struts.

After nut has been tightened on top hat check amount of thread protruding against this photo.

Extended spring compressor and align seat with bottom of spring.

Refit strut assembly. Lubricate rubber top hat and CV joint boot to allow clevis to slide past CV boot.

Tools:
Silicone lubricant

Hold strut assembly in place with OE washer and new top nut secured finger tight.

WHEN VEHICLE HAS BEEN RETURNED TO GROUND THIS NUT WILL NEED TO BE CHECKED AND TORQUED TO MANUFACTURER'S SPECIFICATION.

With the assistance of another person to hold the lower arm in position replace the lower strut bolt. Replace nut 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:
Lever bar

Using the lever bar in the top arm, align the upper arm ball joint. Replace nut and torque to manufacturer's specification.

Tools:
Lever bar
18mm socket & ratchet or rattle gun

Tighten top strut bolt. Torque to manufacturers specification.

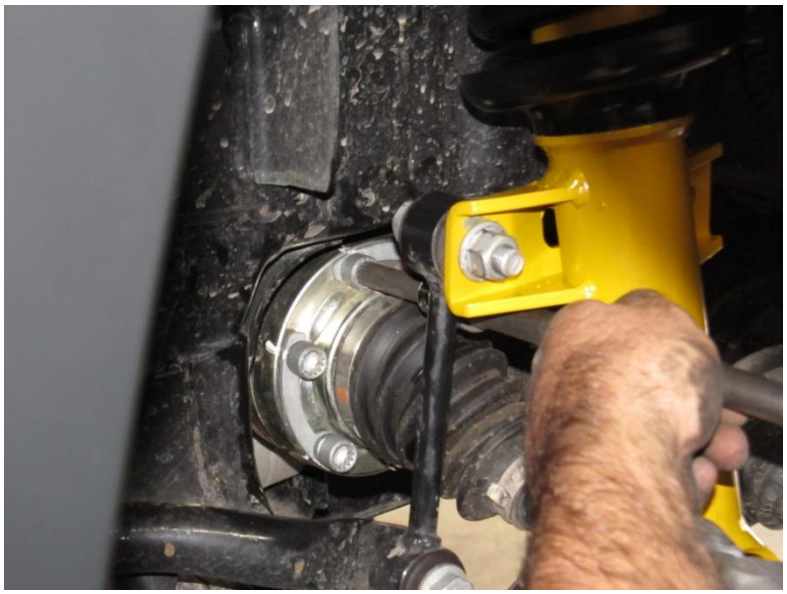
Tools:
Torque wrench
18mm socket or spanner

Refit steering arm ball joint nut. Torque to manufacturer's specification.

Tools:
18mm socket & ratchet or rattle gun

Re fit sway bar links to new Old Man Emu strut. Torque nuts to manufacturer's specification.

Tools:
18mm spanner or socket



Re align driveshaft using the marks made earlier. Replace driveshaft bolts and washer plates.

Torque nuts to manufacturer's specification.

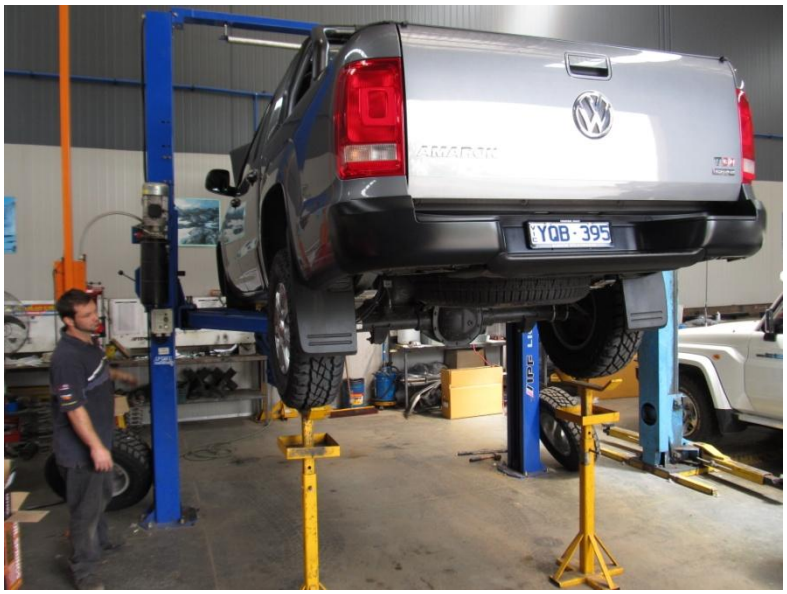
Tools:
17mm spanner or socket
Torque wrench

Double check all fasteners are secured then refit and torque front wheels.

Tools:
Wheel brace or 19mm socket.

Rear Suspension Fitment

Before fitting check and note free camber of both left and right hand springs.



Lift vehicle on hoist. If you do not have a hoist, use a trolley jack.

Support wheel on axle stand

Note: Rear suspension fitment should be carried out one side at a time. Complete all steps for one side of the vehicle then repeat for opposite side.

Tools:
Vehicle hoist or trolley jack

Remove rear shock absorber.

Retain bolts for re use on new shock absorber.

Tools:
18mm spanner or socket

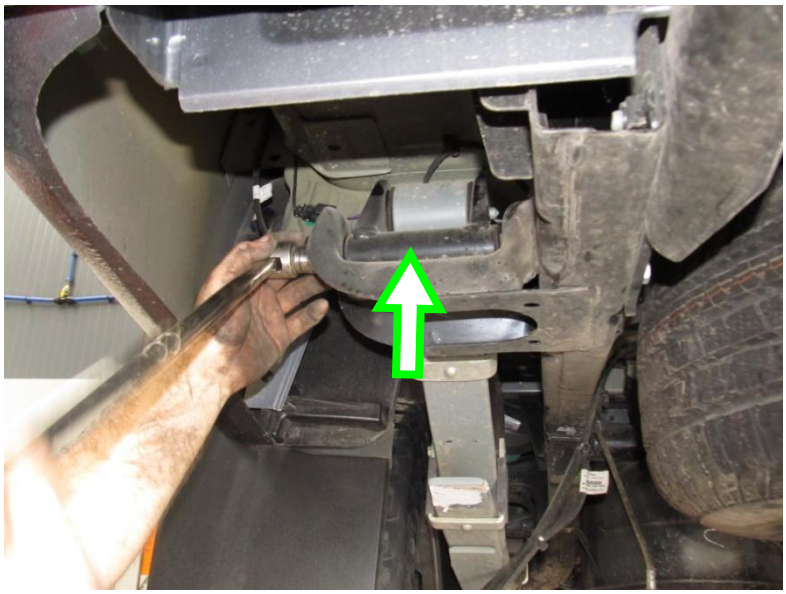
Remove U bolts.

Tools:
21mm Socket / spanner.

Loosen spring front eye bolt.

Do not remove bolt at this stage

Tools:
18mm spanner or socket
Breaker bar



Loosen lower bolt on rear leaf shackle. Do not remove.

Tools:
18mm spanner or socket
Breaker Bar

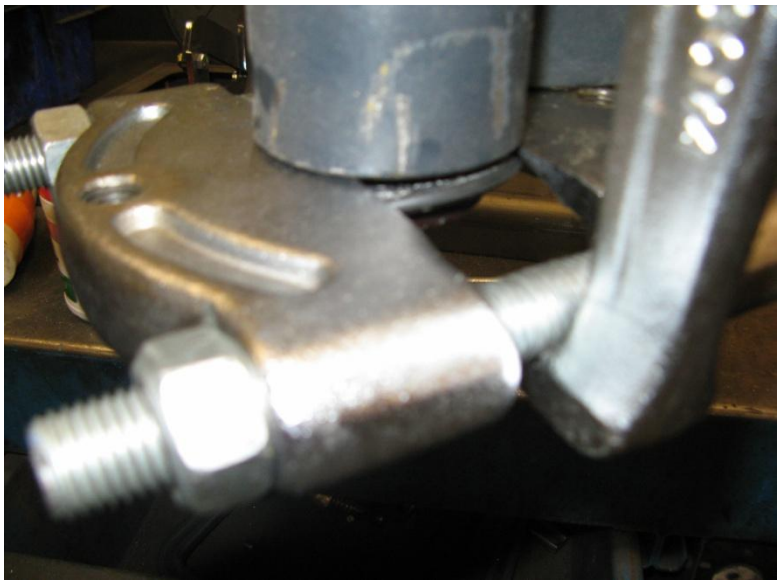
Remove rear spring shackle bolt (top).

Tools:
18mm spanner or socket

Swing shackle towards rear of the vehicle to create extra clearance to aid spring removal.

Remove bolt securing front spring bush.

With assistance from another person, remove the leaf spring from the vehicle.



Place the OE VW spring on a workbench and clamp in a vice

Place bearing separator between the eye of the leaf spring and the outer lip of the bush. Adjust the separator to sit on the face of the spring and not be restricting the bush.

Tools:
Bearing separator
Workbench with vice

Using the bearing puller as shown, push out the bush.

Complete this process for both shackle and fixed end bushes.

To assist removal a light lubricant (such as WD 40) can be sprayed between the bush and spring.

Tools:
Bearing puller

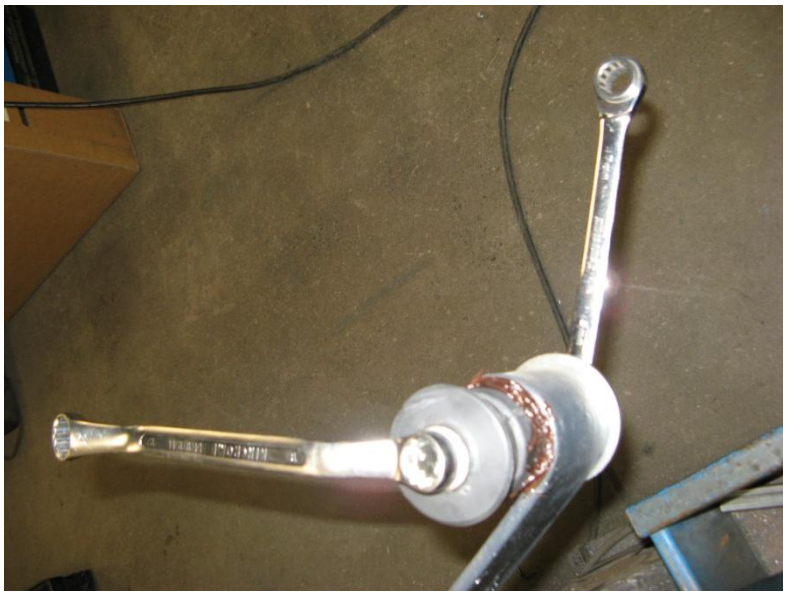
Thoroughly grease the eyes of the new OME spring and the face of the bush with rubber grease.

Tools:
Rubber Grease

Lift new OME spring onto workbench and clamp in vice.

Fit the shackle end bush to the eye of the new spring using the 200mm bolt, nut & bush guide supplied in the FK33 workshop kit.

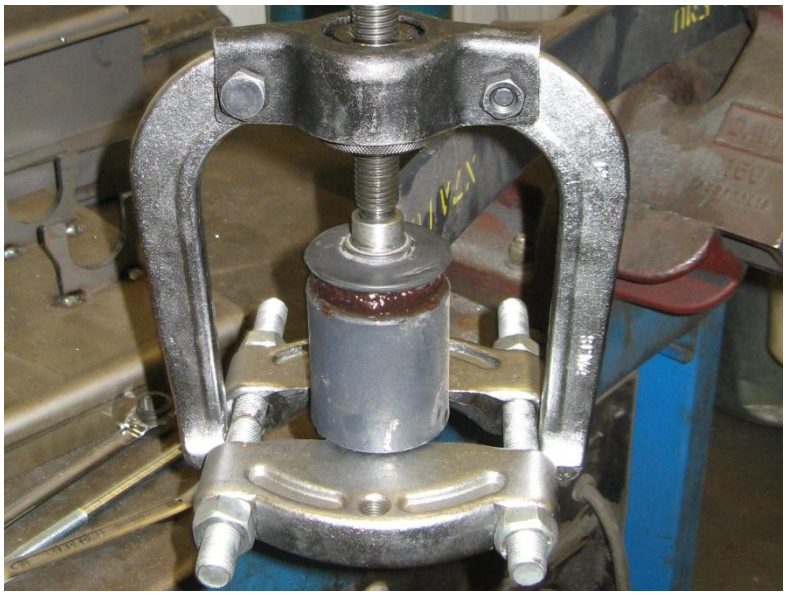
Tools:
Bolt, Nut and Guide from FK33 kit.



Tighten the bolt until you feel the bush bottom out on the bush guide.

Remove the bolt and guide

Tools:
2x 18mm spanner or socket

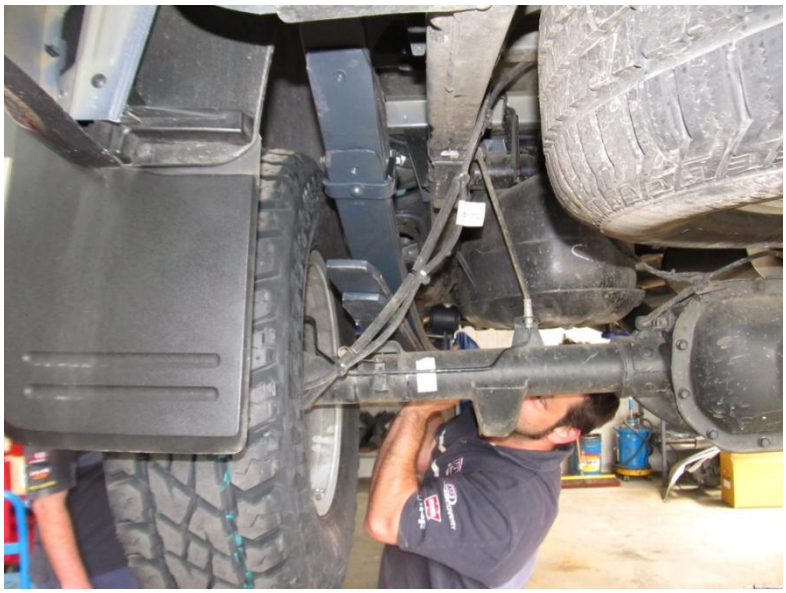


Fit the bearing separator and puller to the new spring.

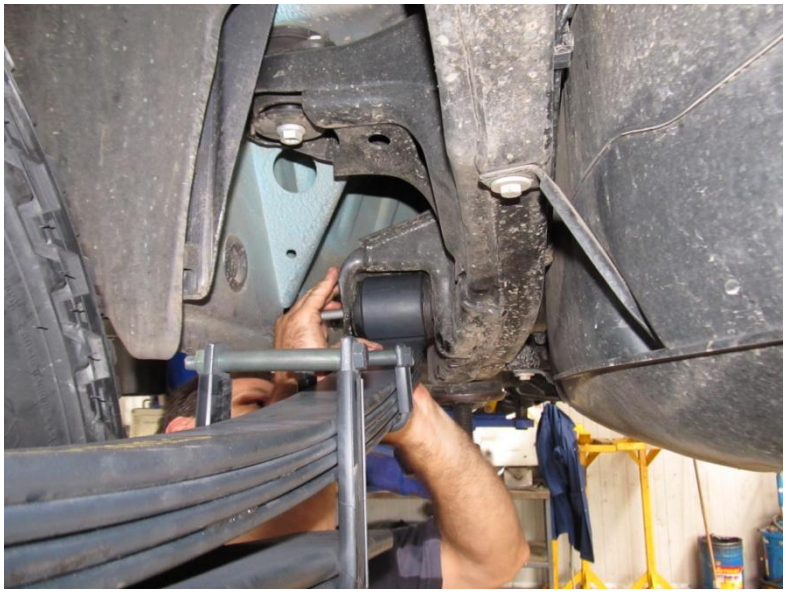
Push the bush in until it is centrally located in the spring.

Repeat this process for the fixed end bush, ensuring to fit the bearing separator on the metal flange side of the bush.

Tools:
Bearing separator
Workbench with vice



With assistance from another person fit new leaf spring.



Re fit fixed end bolt.

Secure bolt finger tight.

This will be tightened to manufacturer's torque specification when back on the ground at ride height.

Tools:
18mm socket or spanner
Torque wrench

Re fit shackle end bolt.

Secure finger tight.

This will be tightened to manufacturers torque specification when back on the ground at ride height.

Tools:
18mm socket or spanner
Torque wrench

Re fit fish plate with new Old Man Emu U bolts.

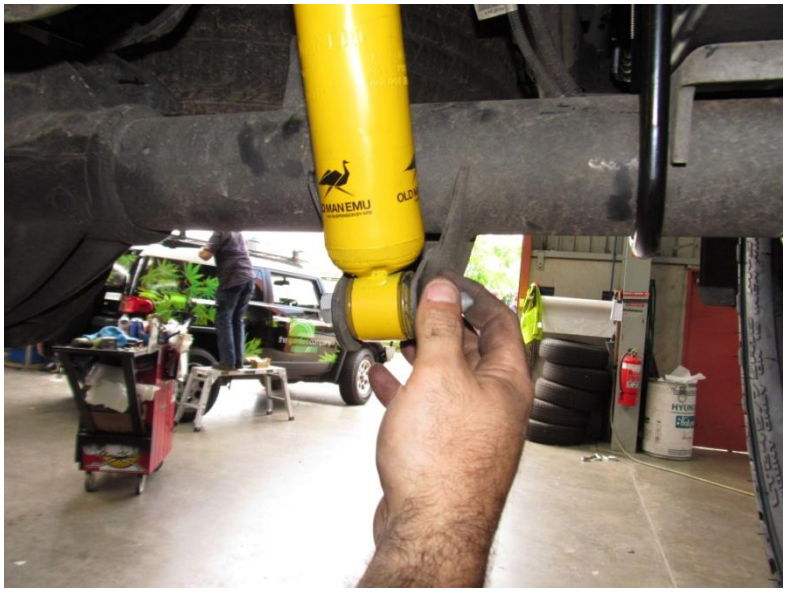
Tighten to 93 Nm (126 lb-ft).

Tools:
22mm socket or spanner
Torque wrench

Unpack new Old Man Emu shock absorber and fit to upper mount using original equipment bolts.

Tighten to manufactures torque specification.

Tools:
18mm socket and torque wrench



Lower vehicle slightly to align shock absorber bottom mount. Secure with original bolt and nut.

Tighten to manufactures torque specification.

Tools:
18mm socket and torque wrench

Repeat the entire process to remove and refit the leaf spring assembly on the other side of the vehicle.

Check all fasteners are secure.

Post Fitment

Lower vehicle to ride height

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

Secure the front lower strut bolt to the manufacturer's torque specification.
Re check strut top nut.

Also tighten all rear leaf and shackle bolts to specification.

Tools: 21 and 18mm socket and torque wrench

Carry out wheel alignment to manufacturer's specifications.

Road test including brake check.

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

Complete and submit warranty form.