OLD MAN EMU
TECHNICAL SERVICE BULLETIN

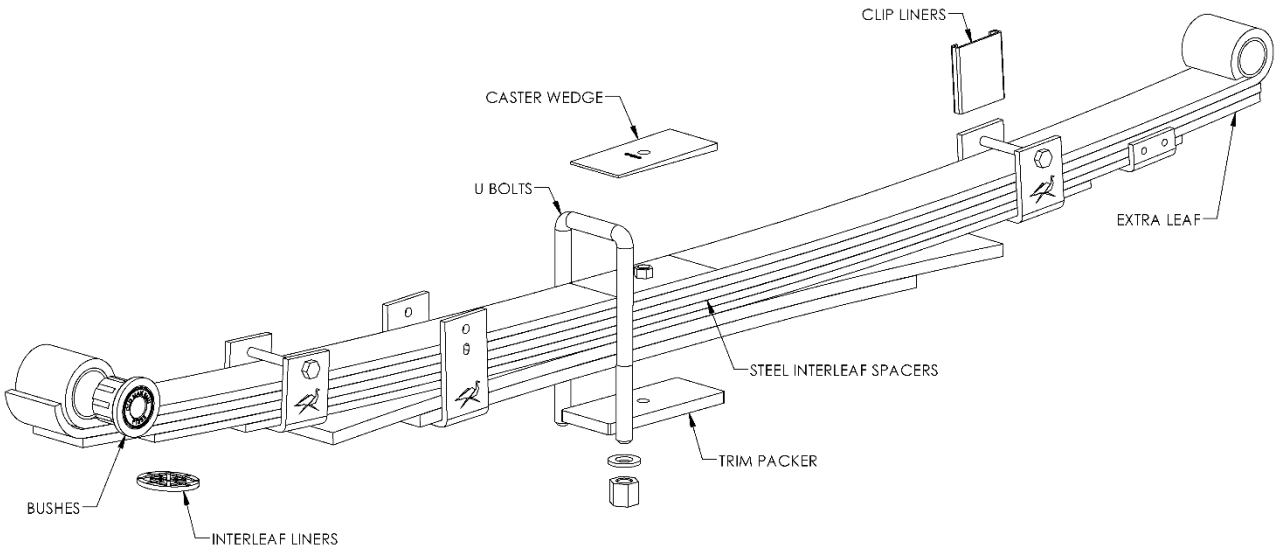
TSB001 Leaf Spring Maintenance

Leaf Springs and associated hardware are components that requires routine inspection and maintenance. This should be part of the vehicle's regular maintenance schedule and carried out more often when the vehicle is regularly used off road and/or heavily laden.

In the harsh environments and the manner in which our customers use our suspension systems, regular attention to leaf spring condition repays the user with years of dependable service. Inadequate care of leaf springs may result in noisy, squeaking springs and reduced life including the associated hardware.

The areas that need to be considered for inspection and maintenance are listed below. It is best to inspect all areas before commencing any maintenance. Although most service items can be addressed with the springs in the vehicle, some maintenance may require the springs to be removed. If this is the case it is easiest to address all maintenance items with the springs out of the vehicle.

Areas for consideration



Grease

Greasing of springs is recommended by Old Man Emu. It is critical that the correct grease is used to ensure optimal operation between service intervals. The correct grade of grease can be ordered through ARB using part number TB1001. Alternatively grease of 3.0 NLGI classification with low percentage loss (3.5% max) to water washout test D1264 will provide the best results.

Bushes

- OME bushes should be routinely greased whether used with OME greasable shackles or the OE shackle.
- Where the OE shackle is used it will need to be disassembled, greased and reassembled.
- The inspection and service intervals should be more frequent for off road and heavy load applications.
- Where bushes have been over loaded and are found to be worn or out of round they should be replaced.

Interleaf liners

- Inspect springs to check all interleaf liners are present and in good condition.
- To reduce interleaf friction, premature wear of the liners and potential for noise, grease should be applied routinely, particularly after thorough cleaning with a high pressure washer.
- For new springs grease should be applied to interleaf liners during initial fitment.
- To replace or grease the liners, droop the axle to take the load off the springs. Use a pry bar or large flat screwdriver to separate the leaves for access to the liner for replacement or greasing. For best results apply grease using a spatula or similar dull flat blade.
- New interleaf liners can be sourced individually by ordering SLO0530413 or ELSK02 for a pack of 10.

Clip Liners

- Clip liners can become worn, particularly if clips are knocked in service or in high articulation applications where the leaves walk within the pack.
- Inspect the clips to ensure they are in good condition and clear of the spring.
- If clip liners are worn such that there is metal on metal contact between the leaf and clip, the clip liner can be replaced with liners supplied in Service Kit ELSK01.
- Clip liners can be greased to alleviate noise.

Steel Leaf Spacers

- To create a space between leaves and alleviate hot spots along the length of adjacent leaves, steel interleaf spacers can be fitted at the centre bolt.
- These will not be required on more recent spring designs as these spacers are fitted in the factory. Older models may need these retro-fitted.
- If spacers are required, the spring must be removed from the vehicle so the spacer plates can be fitted at the centre bolt.
- Spacer plates are available in the following kits
  ELSK03 1.6mm spacer plates 60mm wide spring (pack of 5)
  ELSK04 1.6mm spacer plates 70mm wide spring (pack of 5)

U-bolts

- At fitment u-bolts must be torqued correctly using a torque wrench. Do not rely on a rattle gun or impact wrench to secure u-bolt nuts.
- Secure u-bolt nuts sufficiently to position the vehicle back on its wheels. After a short drive around the car park torque the nuts with the weight of the vehicle on the wheels.
- U-bolt nut torque must be rechecked at the 500km service as some bed in of the leaf pack will occur following the initial fitment.
- As the prescribed torque slightly stretches the u-bolts, they should be replaced whenever a leaf spring is removed for service or replacement.
- Torque specifications for each u-bolt part number can be found in the Old Man Emu application catalogue. As a quick reference please see recommended torque figures below.

Thread	Torque
7/16 UNF	61 Nm
M12 x 1.5	79 Nm
M14 x 1.5	126 Nm
M16 x 1.5	197 Nm

Trim Packers

- To trim ride height left to right or rake front to back trim packers can be fitted to the leaf pack.
- In most applications trim packers can be fitted to a spring using the centre bolt supplied. Some applications may require a new centre bolt as specified in the Old Man Emu Catalogue.
- Trim packers are available in the following kits.

  ELSK05 10mm trim packer to suit 60mm wide spring
  ELSK06 10mm trim packer to suit 70mm wide spring

Caster Wedges

- Modern 4x4 vehicles can be sensitive to changes in driveline angles.
- Where driveline vibration is experienced during the suspension system development process measures such as vehicle specific driveline spacers are considered to address correction of driveline angles.
- In some cases driveline vibration can be the result of incorrect spring selection. If a spring is selected for a vehicle that does not have the constant load required for that spring design the vehicle's resulting ride height may be too tall with corresponding imbalance of driveline joints.
- In some sensitive vehicles caster wedges can be used to trim driveline angles to reduce driveline vibration.
- Caster wedges should fit with the centre bolt supplied in the leaf spring. Consult the Old Man Emu Catalogue if a longer centre bolt is required.
- Caster wedges are available in the following kits

  ELSK07 2° caster wedges to suit 60mm wide springs (2 wedges per kit)
  ELSK08 2° caster wedges to suit 70mm wide springs (2 wedges per kit)
  ELSK09 3.5° caster wedges to suit 60mm wide springs (2 wedges per kit)

Adding an Extra Leaf (XL)

- As a vehicle setup evolves, adding an XL to an Old Man Emu Leaf spring may be an option to look after an increased vehicle mass.
- For high constant load applications requiring increased ground clearance an XL may be selected and fitted to the heaviest constant load spring option at the initial suspension fitment.
- In most applications an XL can be fitted to a spring using the centre bolt supplied. Some applications may require a new centre bolt as specified in the Old Man Emu Catalogue.
- Most leaf spring designs only allow for one XL to be accommodated under the clip bolt.
- XL applications can be found in the old Man Emu Catalogue.
- Contact ARB head office if unsure about adding or removing leaves.