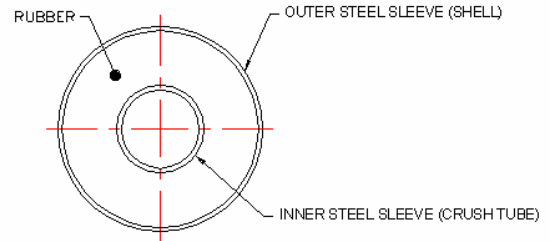
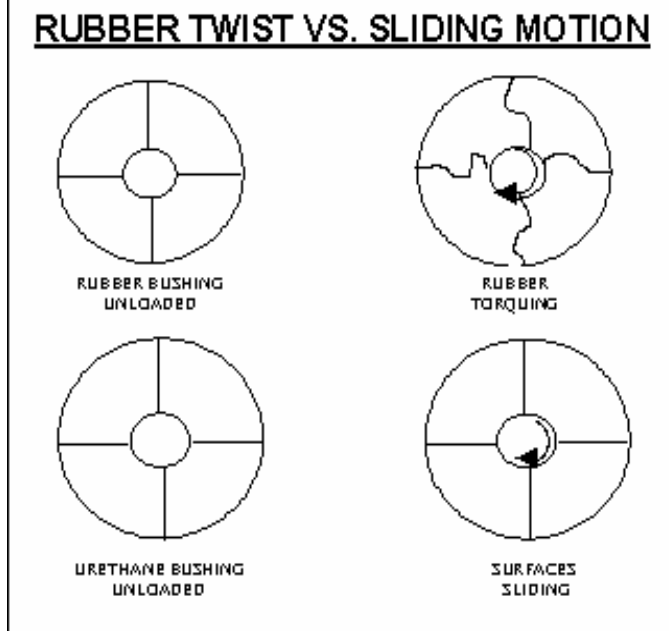


## ADVANTAGES OF REPLACING SHACKLE BUSHINGS

The shackle bush is not just a simple device which locates springs in a vehicle and offers insulation for NVH (noise, vibration and harshness) these bushes are submitted to tremendous loading and have a significant effect on the handling of a vehicle, therefore it is vital that we pay very close attention to the Shackle Bushes.



*The driver benefits with precise handling and stability coupled with longer service life of spring shackle bushings whilst maintaining or improving ride quality.*



This diagram graphically illustrates the torsioning stresses within a rubber bushing, whilst the action obtained by fitting SuperPro polyurethane bushes is a sliding non-torsioning effect.

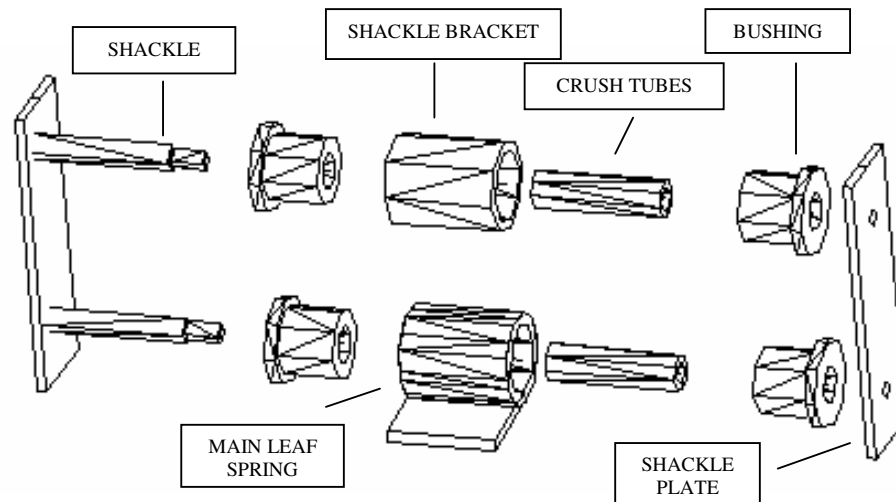
### The features and benefits of SuperPro polyurethane:

- ✓ Bullet Grooves - eliminates noise and softens impact
- ✓ Internal Spirals - reduces shackle bind and retains grease
- ✓ Exacting Tolerance - removes shackle bind
- ✓ Resilient Material - reduces N.V.H. transmission



## ADVANTAGES OF REPLACING SHACKLE BUSHINGS

What are the different designs?  
Original equipment is usually of 3 designs.



- 1) A bush consisting of an inner tube and an outer shell with rubber vulcanised to the metal.
- 2) A rubber bush that is fitted in a rear spring shackle and held in compression by the shackle.
- 3) A bush consisting of an inner tube and outer shell with rubber compressed between these.

The design of these bushes provides some torsional control to the spring shackle area (fig. 2) Rubber bushes do not require lubricant and additionally the durometer (hardness) and design of the rubber bush is often tailored to produce specific handling characteristics.

SuperPro polyurethane offers as an alternative to eliminate erratic handling, without compromising ride quality, suspension components must be positively located.

SuperPro polyurethane is manufactured to critical tolerances and an exact chemical formula to obtain the specified Duro. The unique design incorporating *Bullet Grooves* in the outer bearing surface ensures the retention of lubricant and minimal bind caused by spring eye inconsistency allowing for smooth rational movement of bearing surfaces.

SuperPro polyurethane a material resistant to minerals, petrochemicals and can withstand temperature extremes offers a shackle replacement medium.

Under normal driving conditions rubber suspension bushes deflect. This deflection has an adverse effect on axle location and will change thrust angles under varying driving conditions.

