

## Don't beat around the bush

SuperPro is on hand to provide its assistance when attempting to fix that recurring control arm bush problem.

**C**ar manufacturers are increasingly asking a lot of the traditional rubber suspension bush. Modern suspension designs can often result in compromises in the design process – it is little wonder then that in service they can wear quicker than we might prefer.

A good example of this is the bush used by VAG at the rear of the front control arm on the 9N Polo-based cars and also on the MKV and MKVI Golf-based cars. This is mounted in a vertical plane and designed in a manner which requires the rubber to twist as the car's suspension moves up and down. In time, the rubber will begin to tear – allowing the control arm to move more than was intended – both from side to side and backwards and forwards.

The result is vague handling, torque steer and uneven tyre wear, and if a direct rubber replacement is fitted, the possibility that your customer will be back with the same problem.

### Innovative design

One solution is to replace the original rubber bush with an aftermarket polyurethane version. The replacement bush from SuperPro uses an innovative design to replace the twisting rubber material with a two piece polyurethane bush, which in practice works

as a free pivoting bearing – stiff enough to keep the arm in the correct position, flexible enough to absorb the vibration and shocks that make a solid joint impractical.

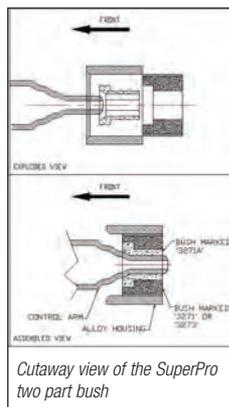
This solution allows the free movement of the control arm as the suspension moves up and down whilst ensuring that the forward, backwards and side to side movement has been eradicated. The result is a reduction in torque steer, a more precise feel and

communicative steering response and a substantially improved and consistent wheel alignment.

### Pivot point

The use of polyurethane allows some additional possibilities – the use of 'offset' or eccentric bushes to facilitate alignment adjustment. By moving the pivot point from the centre of the bush, it is possible to in this case adjust caster angles. The diagram (pictured below) shows the options that are available.

Using a single offset on one side of the car and a standard bush on the other, it is also possible to adjust the caster angle to correct a 'steering pull'. Using offsets on both sides can allow 'performance' settings, increased caster on both sides for improved straight-line stability, or in the case of the VAG models here, control arm angle change which creates 'anti-lift' under acceleration.



Because of the large number of cars VAG have based on the Golf MKV and Polo 9N platforms, there is a long list of applications these bushes can be used for:

- Audi: A3, S3 & TT MK2
- Seat: Altea, Leon, Ibiza
- Skoda: Fabia, Octavia, Roomster, Superb, Yeti
- Volkswagen: Golf MKV & VI, Eos, Fox, Jetta, Polo, Scirocco, Passat, Touran & Tiguan.

### MORE INFORMATION

To request a brochure or catalogue offering more information about SuperPro's range of aftermarket bushes and components circle 173

