

MAINTAINING SUSPENSION AND BANK BALANCE

Story & photos by **Paul Davies**

The Porsche 944 is known for its legendary and predictable handling. Works driver Gerhard Plattner spoke after competing in an international long distance race record “The car is so perfectly balanced that it almost drives itself!”.



Alex Heffer's Bilstein equipped '87 944'

Porsche attributed the near perfect handling to the fact that 'the car's front mounted engine is ingeniously counterbalanced by the transmission, differential and fuel tank in the rear, to provide 50-50 weight distribution. Form following function.'

Independent front and rear suspension, front and rear sway bars and the rigidity offered by the torque tube “spine” work in combination to deliver spectacular performance. 30 years on, these cars are still rated highly and remain a favourite amongst club racers and track day enthusiasts alike.

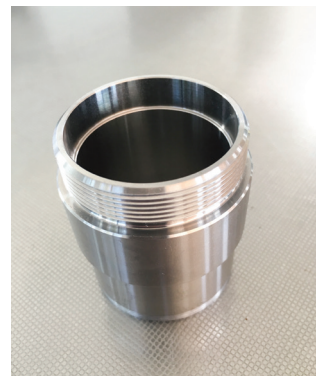
But as we all know, the years can take their toll on the components that combine to deliver this exhilarating ride. Perhaps the weakest (and hardest working) link

in the chain are the shock absorbers. The rear shocks are common to all 944's and are easy and relatively cheap to replace.

This article looks at the sealed front Sachs struts that were on most 944's (and 968's) built from 1987 – 1995. It is amazing how many cars are still driving around with the original units. Owners tend to only replace them when they start to leak or the shafts lose their chrome but their performance has typically deteriorated much earlier.

The main barrier to replacement is cost, with replacement Porsche Sachs struts being listed at around \$1000 each.

Earlier (Pre 1987) units are re-buildable and owners can replace the strut inserts with either OEM spec Sachs inserts or upgrade to Bilstein B6 Sport inverted mono



1 This is the threaded collar we are going to insert into the OEM Sachs body in place of the pressed on steel cap.



2 Our start point is a tired strut from an '87 944S

shock inserts. Up until now that option was not readily available to the owners of the later cars. The availability of off the shelf threaded inserts now means the late style sealed shocks can be rebuilt and upgraded for around half of the cost of an inferior new Sachs unit.

• The numbered photos are a pictorial 'DIY guide' using basic workshop tools.



3 The chrome has worn away from the shaft and the seals are leaking.



4 **WARNING:** BEFORE dismantling the strut assembly it is **ESSENTIAL** to remove tension from the springs by compressing the spring with spring compressors. If in doubt take to a local garage or suspension shop to dismantle the unit.



5 Once the spring is compressed and the top hat is loose then the strut can be dismantled. Gently prise off the plastic cover to expose 22mm strut shaft nut



6 Because we are going to throw the old insert away we can be brutal and stop the shaft spinning by camping it with Molegrips whilst we undo the shaft nut with a ratchet and 22mm socket.



7 Now the whole strut assembly comes apart. Note the perished and split bump stop. The new Bilstein units have internal bump stops so we won't be worrying about those again.



8 Hold the strut body steady and get ready to cut. Put a container below because we are about to get messy! The threaded collar comes with an alignment guide to ensure the strut body is cut to the correct length. A sharp blade makes this easy work. Cut carefully along the guide line. The insert collar is designed to allow +/-2mm of error but the aim is to keep to the black line!



9 Here comes the mess!



10 Once you have cut round the strut you can pull out the internals. They are going in the bin!



11



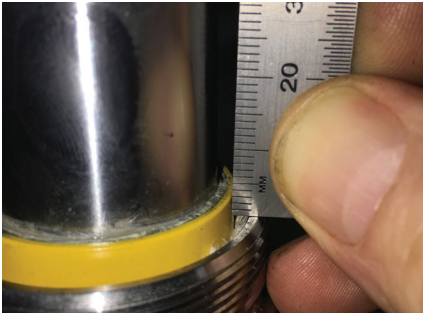
12 Tidy up the edge of your cut with a file, put a slight bevel on the outer edge and sand back the paint approximately 10mm from the cut in preparation for welding of the collar.



13 Insert threaded collar into strut body and tap into place.



14 The collar is designed to tap in until it reaches precisely the correct position.



15 Now it is time to test fit the Bilstein insert. If all has gone to plan the body of the insert should protrude 3-4mm above the top of the collar. Tolerance of +/-2mm.



16 Once we confirm the height is right it is time to take the strut body to your local welder. TIG welding of the collar to the strut body should be around \$30-\$40 per strut and it should come back looking like this.



17 Sand down with 180 and 320 wet and dry and it is time to primer and paint.



18 And then it is simply a matter of putting in the Bilstein insert, greasing the gland and tightening the top cap down to 130 +/- 10 Nm



19 Job done and you have a beautifully engineered high performance sports strut for about half the price of a stock replacement unit.