



The Fastest S3 of all?

Paul Harris has been driving QST's remarkable RS4-engined S3



'...the acceleration is virtually seamless, the S3 simply screaming away into the distance like a rocket!'

YOU CAN do an awful lot with the 1.8T engine, particularly the 225 PS version used in the S3. But there is a limit to how far you can go if you want to retain long-term durability. A more unusual way to give the high-performance hatchback a huge power boost is to look deeper into the Audi pans box and see -whether any other power plants will fit inside the engine compartment.

One particular feature of the A3 models comes into play here. Few people realise that the engine compartment is wider than that of an A4, because it has to accept a transverse engine and gearbox. In fact, the front end of the A3 is wider overall than the A4, which is why it is difficult to tell them apart from the front. What this means is that any engine you can fit into an A4 should fit into an A3 (or S3), providing it is not too long, front to back.

The one unit which fits the bill perfectly is the biturbo V6 from the RS4. The standard unit develops 380 PS, but it has enormous reserves and QST know that outputs in the order of more than 450 PS are easily attainable. But there was no question of the RS4 engine being linked up to the drive-

train of the S3 with its Haldex coupling; Kim Collins knew that the only sensible route was to use the RS4 gearbox, rear differential, drive shafts and the prop shaft to link the two ends.

Although the engine compartment had enough width to accommodate the longitudinal V6, some basic re-engineering was required to mount the engine and gearbox. This involved altering the shape of the inner wings, and welding in new sections at either side and below the bulkhead area to take S4 subframe mountings. A certain amount of alteration was needed in the bulkhead area to provide clearance, but the transmission tunnel proved to be more of a problem. The top was cut away and then a tapered fillet was welded into to each side before the top was put back in place. This gave the tunnel sufficient height to clear the propshaft.

At the back end, S4 differential brackets had to be fitted to the S3 floor-pan and the rear drive shafts had to be increased in length by an inch or so at either side. This is because the S3's rear differential is wider than that of the S4.

Once the engine and gearbox were installed on their subframe at the front, and the rear differential was in place,

'Fitting the bill perfectly was the biturbo V6 from the RS4, along with the RS4 gearbox, rear differential, drive shafts and propshaft!'

the propshaft could be offered up to find out how much its length would have to be reduced. To everyone's surprise, it still fitted perfectly between the gearbox and the rear differential. The only necessary work was to provide a mounting for the bearing which supports it in the middle.

The rear suspension posed few difficulties but, at the front, Kim decided that it would be necessary to fabricate new aluminium suspension arms. These were manufactured to QST's design by a local engineering





