

# CLASSIC

AND SPORTSCAR



TVR SUPPLEMENT

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## WHITE LIGHTNING

Mark Hughes is the first journalist  
to be let loose with TVR's new 420SEAC

It's a bold claim that TVR make for their 420SEAC, saying in their brochure that it can 'rocket to sixty miles per hour in five seconds or under with a maximum speed of over 165mph'. This sort of capability, yet to be officially corroborated against the stopwatch by our sister magazine, *Autocar*, puts the car firmly at the top of the performance league – *Autocar*, in fact, records that only one current production car, the Lamborghini Countach Quattrovalvole, is capable of 0-60mph in under 5secs. So how on earth has a little manufacturer in Blackpool, producing cars from a factory not much bigger than a tennis court, managed to haul itself into such exalted company?

The answer is that TVR have conscientiously worked in recent years at evolving their Rover aluminium V8 engine-350i, still the mainstay of their production, into the ultimate performance car.

The first sign of their efforts was revealed in 1984 when a 3905cc version of the Rover unit was installed in a 350i chassis. Designated 390SE, this car provided a massive jump in power to 275bhp at 5500rpm (compare this with the 190bhp of the Rover Vitesse fuel-injected specification unit in the 350i), with torque of 270lbs ft at 3500rpm. Andy Rouse looked after engine development, achieving the capacity increase by boring out to 93.5mm. Lightweight Cosworth pistons, gas-flowed cylinder heads, a higher compression ratio of 10.5:1, high-lift cams, double valve springs, modification of the L-Jetronic fuel injection, new exhaust manifolds, blue-printing and balancing all added up to nigh on 50 per cent more power.

Further work has brought the engine to the specification found in the 420SEAC. Having taken the bore just about as far as it will reliably go, the



next step was to lengthen the stroke to 77.0mm with a new steel crankshaft, giving a capacity of 4228cc. To aid breathing at higher engine speeds, the heads were given larger diameter valves and springs, and an uprated lubrication system with a larger capacity sump and an oil cooler was fitted. The result was another power increase, albeit a smaller one, to 300bhp at 5500rpm, with torque of 290lbs ft peaking 1000rpm higher up the scale at 4500rpm. This is where the engine technology stands today, with the Rover V8 producing around double the punch of the humble SD1 saloons.

The mobile test-beds for all this tuning activity have been a series of production sports car racers, giving credence to the old saying that 'racing improves the breed'. The contribution from track development has been very direct, reaching beyond these flagship supercars. Just one example is a revised rear suspension lay-out now found on all Rover V8 powered TVRs. When the racing programme began in 1985 with two factory sponsored 390SE cars, the standard fabricated trailing arm set-up at the back was soon found inadequate, with movement in the rubber mountings under excessive standing start stresses. This was rectified with a



*Scenes from a day out with the 420SEAC: on a country road near Garstang (bottom left), sitting on the slipway at Knott End (below) and pausing in the Trough of Bowland (right)*

