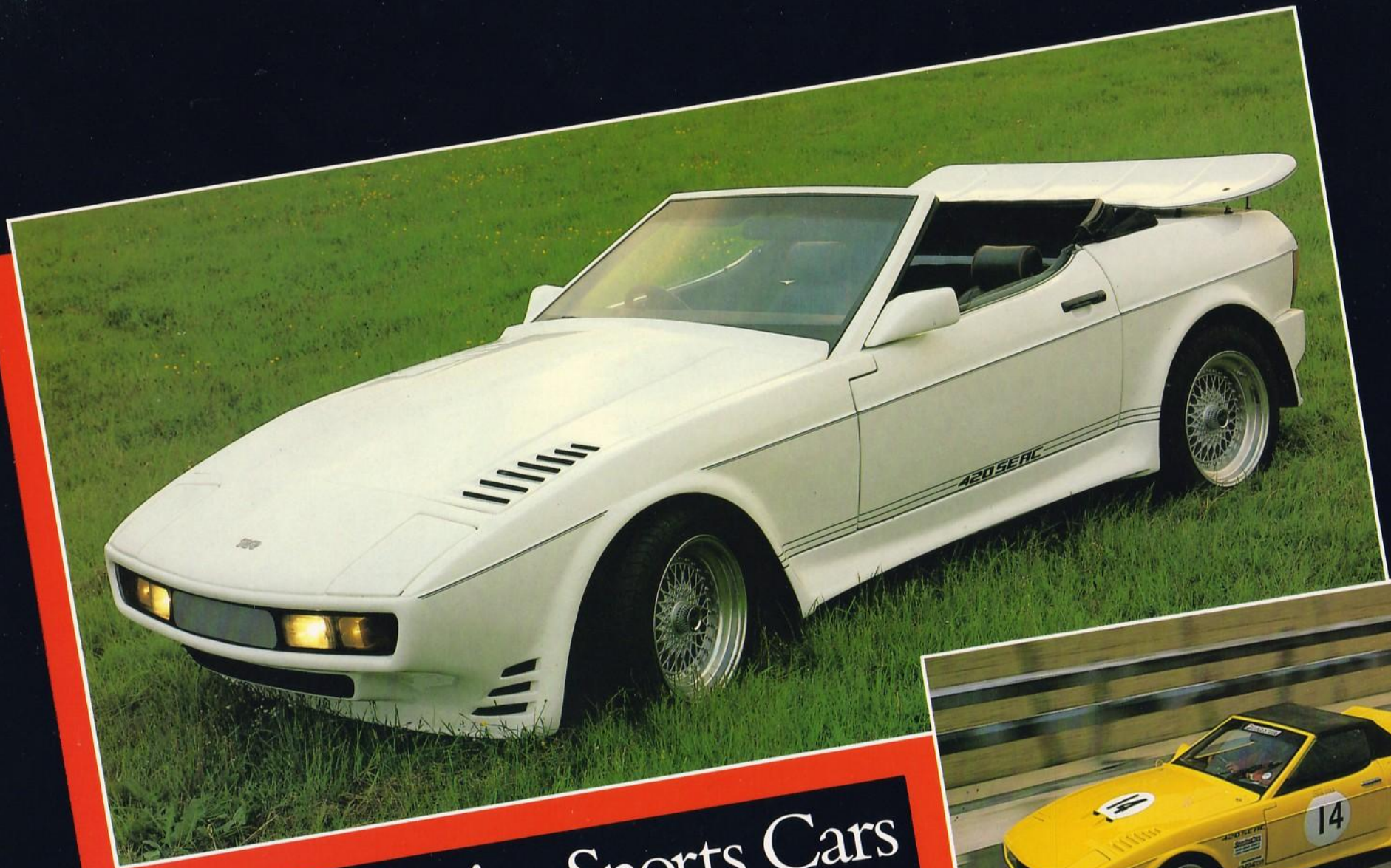


TVR Exclusive Sports Cars
420 S.E.A.C. Convertible

TVR 420 S.E.A.C. developed on the race tracks

Power, and the ability to use it comes in many forms, none more so than the competitive world of today's modern sportscar.

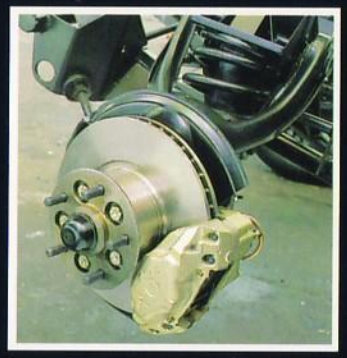
The current large capacity Vee 8's in the TVR model range is a direct development from the Company's involvement in motor sport. Since the introduction of the 3500 cc fuel injected Vee 8 powerplant from Austin Rover in the vehicle line up, certain customers have always expressed the wish for more and more power. This desire, spearheaded by Peter Wheeler, the TVR Chairman, has developed with an intense involvement in the world of **Production Sportscar Racing.** Commitment to the ongoing development of the marque has seen extensive changes in current production, feeding back knowledge gained in the rough and gruelling contests between many of today's other production sports and supercars.

The ability to increase power however should not be an isolated example in the overall development structure. Advances in this area come with the knowledge that other mechanical aspects of the vehicle must come under closer scrutiny if all the exacting customer safety features of motor vehicles are to be met and maintained.

Development of the powerplant began in 1984 when higher lift camshafts and revised fuelling arrangements were scrutinised. Modification of the standard L – Jetronic electronic fuel injection system showed the way to better fuelling, while TVR designed four branch, large bore exhaust manifolds and free flow system improved exhaust ventilation.

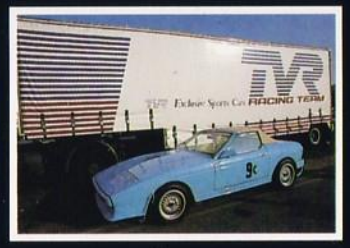
More capacity and more power was the next logical step while retaining driveability and smoothness, adhering to the strict brief laid down by Peter Wheeler. Taking the aluminium alloy block out to a total capacity of 3905 cc by increasing the bore to 93.5 mm meant the introduction of new high performance pistons and rings. Gas flowed cylinder heads to aid breathing with a higher compression ratio of 10.5 : 1 saw uprated valve springs necessary along with the higher lift camshaft. Blueprinting and dynamic balancing followed to match all components and also to ensure smoothness of operation. Modified ignition timing along with changes to the electronic injection went a long way in the production of the final quoted power output of **275 B.H.P. (202 kW) at 5500 R.P.M.** Torque was of course increased to **270 ft/lbs (37.3 Kgm) at 3500 R.P.M.** while revisions were made to increase the engine cooling capacity at the same time.

Obvious safety modifications to the braking system saw the adoption of ventilated front discs and larger four pot calipers with uprated high performance pads front and rear. Revisions to the driveline, suspension, wheels and tyres, enabled this extra power to be properly laid down and drive smoothness maintained by modified clutch, uprated springs, shock absorbers and high performance tyres as the next development.



At the same time the rear suspension, being a TVR fabricated trailing arm and hub carrier was under scrutiny. During excessive and successive high power starts there was a slight noticeable movement in the positioning due to compliance in the rubber mountings. This system was discarded on the racers in favour of a four point mounted lower wishbone running from the fabricated differential carrier to the hub carrier. A torque reaction arm from the chassis to the hub carrier proved that no movement took place unless desired by the engineers. With the subsequent increase in stiffness, higher cornering velocities could be entertained and this new method soon passed into production for all models from the 350i on.

The racing programme in 1985 saw two factory sponsored 390 SE's out on the numerous club circuits around England, using these as a continual proving ground for future development. Simultaneously many minor alterations to the engine specification were made, all developing the reliability of the product range.



Having already increased engine bore, producing the 3905 cc capacity, the next development was to lengthen the stroke. With a specially cast steel crankshaft billet machined, ground and heat treated a stroke of 77.0 mm was produced. This fully balanced, gave a new overall capacity of 4228 cc. Already gas flowed, the heads were further modified with larger diameter valves and springs, again aiding breathing at higher engine speeds. A larger capacity oil sump and uprated lubrication system incorporating thermostatically controlled oil cooler provided internal cooling to all the new components.

With this latest evolution, power was up to **300 B.H.P. at 5500 R.P.M.** and torque to **290 ft/lbs at 4500 P.R.M.** In a road vehicle this would be sufficient to rocket to sixty miles per hour in five seconds or under with a maximum speed of over 165 M.P.H.

By this stage aerodynamics were beginning to play a more important role in the programme as increased power demanded a more stabilising body profile. To further aid the handling and also make the vehicle more competitive, alternative body materials to lighted gross weight were being investigated.

As all TVR body shells, normally glass reinforced polyester resin, are hand laid into the moulds, changing the raw material was a fairly simple solution. Slowly an Aramid Composite construction was to emerge utilising, amongst others, Kevlar material. This dramatically reduced overall vehicle weight, providing part of the answer to the new challenge.

By the third race in the 1986 season, the new car began to show its potential. Lap records in its class were falling with a total of five new ones established proving to the factory that the correct development path was being followed. So successfully, however, was the new vehicle that the governing authorities, the 750 Motor Club and the B.A.R.C. (N.W.) issued a ban on it competing further in the current Production Class. This was on the grounds of unfair competition to other entrants and strict enforcement of some seldom used rules.

The process had however achieved the desired result as far as road going production vehicles were concerned. All the development had track tested and proved the new components, ideas and powerplants, up to and beyond the point any customer would ever achieve.

An increase in the rear downforce was next necessary with competition showing the way with a series of boot lid mounted spoilers. At the same time shortening the overall length at the front, while increasing customer appeal with a more muscular styling matured. Heavily flaired arches for the larger diameter road wheels and tyres, now the latest Bridgestone RE71 low profiles, bestowed on the car a completely new look. Adjustable on the racing models, the large rear spoiler added significant impact to the handling, to the extent that without it the drivers showed reluctance to compete.

TVR now announce the new 420 Special Equipment Aramid Composite Convertible. Depending on customer option and type of power required there is now a TVR vehicle available to suit every requirement. Engineering and power – developed on the racetracks for use on the road.

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