



TUNING TEST:

1.8 Autocavan racing Golf

A very special saloon

OVER the racing seasons the category that was always referred to as Special Saloons, or sometimes Super Saloons, has come to mean a very specialist branch of motorsport. An avenue where you needed a vehicle that originally had a rear engine — probably Skoda, Chevrolet Corvair or VW Beetle — to provide the basis of what became a pure racing car with a plastic body superimposed. A few years back we tested, with accompanying fifth wheel figures, a very interesting example of the breed: Colin Hawker's DFVW. This Cosworth Grand Prix engine VW 412 Variant was really a hybrid De Cadenet prototype sports racer in spirit, and that is the approach that today's competitors have followed, rather too many of them along the Skoda route for spectator comfort.

For 1981 the British Racing and Sports Car Club (BRSCC) decided to do something about restoring the old spirit of modified club saloons. The result was the Ronnie Scott's Club Modified Saloon Car Championship. It "caters for non-space-frame, stock block saloon cars . . . must have been homologated in FIA Appendix J, Group 1 . . . internally many modifications are allowed, although turbo or supercharging are expressly forbidden in the interests of costs . . . Suspension of the car is free . . . While the standard floorpan, sills, door surrounds, bulkheads and roof must be exactly as produced by the manufacturer . . ." These excerpts from the regulations are enough to allow one to see that this formula basically takes modified saloons back a few years and several thousand pounds.

The result has been a well supported series in

J.W. at speed in the Autocavan VW Golf on Goodwood Circuit.

these troubled times and the re-emergence of names like former triple British Champion Bill McGovern (in an Imp by George Bevan, what else?) to fight with anyone from raw novice in 3-litre Capri to Mini club competitors with talent, experience, and less money.

For MOTOR SPORT the chance to participate came via a four-year-old standing invitation to drive an Autocavan Volkswagen Golf. Proprietor Geoff Thomas was reminded by our June account of the Richard Lloyd GTI Engineering concern at Silverstone that we had first encountered rapid Golfs courtesy of Autocavan and we had raced in the same Gordon Allen Crankshaft Team of enlarged capacity saloons, to win the 6 Hour Relay.

Geoff actually had the VW 1800 running in 1976 and it is the same car that provides the basis of this account, testimony enough in itself. For this VW has, at various times, been a road car for the wife's shopping, literally; a development vehicle for a turbocharger installation, running at outputs of 250 b.h.p. and beyond; a regular sprint, rallycross and restricted club sport machine, and the winner of the 1978 *Motor Tuned Car of the Year Award!*

Autocavan Components Ltd., 103 Lower Weybourne Lane, Bagshot Lea, Farnham, Surrey are the result of Mr. Thomas' tuning and parts supply efforts in the VW and Audi field since 1968. Following an early life spent as a design draughtsman and an apprentice at Rolls-Royce, he founded the business in a Nissen hut. That lasted until 1974, when they moved into their present 6,000 sq. ft. premises, which revolve around parts supply for VAG and Porsche products. Geoff runs the 1976 3.0 Martini Porsche Turbo we tested in colour during the late seventies — but now it has an adjustable boost facility(!) There is also a small workshop.

The company is quite well known in both

racing and rallying for the VW Beetle of Jeff Wilson (with a large American Chevrolet V8) and for "real" Super Saloons Autocavan prepared the genuine VW Beetle which played an important role in the life of promising rally driver Francis Tuthill in National Championship events.

Geoff himself is a diffident but extremely determined character who is no mean driver. The business has been through difficult times in recent months; who has not? Thomas is obviously glad to have emerged with much the same conclusion as Richard Lloyd *vis a vis* the Golf / Scirocco and turbocharging: don't! Autocavan never did offer a commercial kit but, lured on by speeds of 140 m.p.h. plus with comparative ease, they spent a lot of time discovering that sufficient expertise to make a turbocharger installation reliable for the public is a rare commodity outside the conscientious engineering department of a car manufacturer like Porsche, Renault, Mitsubishi or SAAB.

Once determined to return to the conventional tuning route, Geoff already had the basis for a lightweight Golf, so it was inevitable that it should be raced. So far as I am aware we were the first to actually use the car in such an event this year, which might put new light on its achievement in starting from the back of a grid of 19 cars, finishing fifth and lapping a second under the previous record during our Brands Hatch assessment.

Goodwood

Goodwood was in best Winter sun mood when I drove down to make testing acquaintance with the 1.8-litre Golf. If both Geoff and I felt the combination of my driving and his Golf's sheer acceleration, handling and braking, could set competitive times, then I would go ahead and race the VW at a Championship finale, Brands Hatch, meeting.

First signs were not too promising. I got in less than ten laps, five timed (1 min. 50 sec. to 1 min. 35 sec.) before the engine slowed in mid-beat and I cut the ignition, pre-warned that the oil pump might have sheared another extended mounting bolt. That is exactly what had occurred, and that is the reason why the engine had a gear driven pump bolted up to the cylinder block for the race — instead of a belt driven pump on extended mountings.



THE basic instrument panel, showing the Race Parts tachometer which was replaced between Goodwood and Brands Hatch due to lack of a suitable drive.

Also changed between Goodwood and Brands Hatch were the tachometer, no drive could be found for the Race Parts mechanical unit, so a Smiths 10,000 r.p.m. electronic meter was fitted, and the driving position was also altered. The steering wheel was brought closer, the accelerator linkage and pedal modified, so that I could heel and toe, and another mirror installed. The engine was rebuilt to check for damage after the

lubrication failure, the cylinder head shaved fractionally upon reassembly.

By the end of that Goodwood session I had one overwhelming impression: my arms were going to fall off! The engine and brakes were so outstanding that I found the steering loads of a powerful front drive car, transmitted through a tiny steering wheel attempting to control the inertia of 15" diameter wheels, was a hefty task. I seriously wondered if I would be able to do ten successive laps in the car.

The acceleration was outside my normal racing, but not testing, experience. The car reached the equivalent of 130 m.p.h. (7,000 r.p.m. in top) with an alacrity that was beautifully matched by the kind of braking power that always left me thinking, "now why didn't I brake later?" Only once in my time at the wheel, did I think I had overdone the late braking, and then the little white VW had already passed two or three other cars on the way into Paddock Bend during the heat of the race.

The gearchange was generally excellent. Very rapid at speed, but occasionally baulky when selecting first. Later this trait was accompanied with a clutch release action that juddered the aluminium roll-cage visibly as full forward motion was demanded.

Overall the impression was of a very promising blend of speed, handling and cornering. The engine would pull heartily from 4,000 r.p.m., but would fly to 7,000 r.p.m. virtually as one blinked.

Brands Hatch

As a driver I prepared badly for the October Brands Hatch outing. The preceding day was occupied running up and down to Wales, arriving home in the early hours of race morning. Fortunately the BRSCC had arranged a large race programme and "ours" was the penultimate event, meaning that practice was not until midday.

Things went slightly wrong in a number of areas before that time, and since all contributed to our back row position — and show that racing is as much about common sense as it is about having a competitive car — I will digress into those minor deviations.

We had left the scrutineering bay, pleased that the allegedly flat racing battery had worked every time so far. Resting within the now spacious and concreted Brands Paddock, our Golf received a visitor: our scrutineer had returned to tell us that the car was not eligible to race as it stood! Someone — another competitor, another scrutineer, it was not clear whom — had pointed out the bonnet air exit louvres.

As these plainly did contravene the spirit of the regulations, we swiftly set to masking them up, and in one case cutting flat a vent: Geoff was very worried that this would lead to overheating. On such a cold day this move actually increased our competitiveness, for water temperature, even without the extra venting, remained around 50°C. . . . too cool for comfort, ideally.

In the fluster of getting that all shipshape (and I was very grateful to former Autocavan mechanic John Brewster for helping us out) I arrived late on the infield, missed the brake pedal to stop and had to be push-started when the engine wouldn't fire. My helmet felt uncomfortable, but I hadn't time to find out why. . . . In the rush a spare racing glove was wedged in the top lining!

Silly, so far, but far worse to come. I managed two very slow warm-up laps, and came in to have the blanking tape from the radiator removed, as agreed. Feeling that the car was going nicely, and running cold anyway, I had not wanted to stop.

but we'd made an agreement and I stuck to it. Less than half a minute after I left the pits I was sliding backwards down Paddock, a black Motorspeed Mini skilfully avoiding this 60 m.p.h., 360°, spin.

I dropped the clutch back in as it slowed with a dead engine and off we went, up to Druids. Reflecting that the Dunlop slicks must be colder than I thought, I went very slowly round that right — everything felt fine.

Into what I always call South Bank, actually now Graham Hill Bend, the car felt reassuring. It was still steering, still under power, when it snapped sideways again and I started to repeat the nightmare of a roll I had nine years ago at the same spot. Finally the Golf decided not to go over and came to rest on the apex, lodged on the kerb with no go left in the battery for me to get out of the way. The brave marshals finally got across the track after a couple of laps — some laps when I felt as exposed as I had when hanging upside-down a little further up the track, nearly a decade before.

I did try to start it again, for I could not see us getting a time and thought we would definitely have to fight to get on the grid at all, especially after a driving display that was crass, even by my own liberal standards. I hung around the BRSCC Paddock office, half hoping they would not allow me to race. Suppose I spun in the crowded opening laps?

The 19 car times for Modified Saloon Car Practice were issued at 12.45. Pole position on the "overcast, track wet," circuit had gone to John Hopwood's Howley Mini in 54.5 sec. Jeremy Walton had apparently managed 2 min. 20.1 sec. Double the time of the next slowest runner, but without any penalty — just a straightforward dead last on the grid start.

Quite why Geoff Thomas was still prepared to let me drive was beyond me, given the morning performance. True, a lot of other people (including novice Pete Briars, who took a 3-litre Capri to narrow victory that day) had been off. True, the tyres were Group 2 compound slicks intended for endurance racing. True, conditions were treacherous . . . but I had simply had no idea what the car was going to do. Was it fair to go out and spread my doubts all over other competitors?

Race

Increasing sunshine throughout the long afternoon, plus some super races watched with enthusiasm by a sparse crowd, raised my spirits a bit. I knew from Goodwood and those brief initial laps that the car was capable of winning this race, not from the back of the grid, perhaps, but it could still massacre most of the machinery in front. I remember Peter Browning leaning in the window and saying encouragingly "you meet a better class of people at the back," before the starting lights blinked on. Complete with new, ordinary road battery and tyres 2 lb. softer at the rear than the front, I took off diagonally.

While the others headed for the inside of Paddock, my little white Golf leapt a couple of rows forward and outside the main pack, as the first of many accidents developed alongside.

By Druids I was jostling in the middle of the rearguard runners and had time to see a stray yellow Mini spin right across Cooper Straight and the pack. The rest of the next eight laps were a blur. Even using 7,000 r.p.m. or less brought the Golf through the pack at a rate I hadn't emulated since 1972: the little car had such incredible braking and acceleration that I just rocketed onward with soaring confidence.

John Morgan's intimidating red Jaguar of the old 3.8 racing saloon style had trapped a number of viciously fighting smaller capacity Imps and Minis in its wake, including third quickest man in practice Pat Mannion (the Revolution Wheels boss).

The Golf gobbled up the space and had its brakes used properly, to their considerable limits, at Paddock, as described earlier. Into Druids the Jaguar was being attacked by a Sunbeam Stiletto — which literally stabbed into the side of the bigger car as we got to the apex of Druids. "Ah, that's the end of our ride," I thought, for the Stiletto bounced off, turned broadside and filled my screen.

In fact it was a blessing. Somehow I cleared the errant Sunbeam. Positioned on the inside of the Jaguar as it exited Graham Hill Corner, the Golf simply blew past the red mountain alongside. The closing few laps were spent learning from Mr. Mannion that the braking powers of these wide-wheeled, slick-shod, cars are beyond belief. Mr. Mannion can also drive an Imp within a dense pall of oil smoke, on one wheel, with full opposite lock applied, a trick I wouldn't mind mastering myself!

Mannion's Imp finally pipped me going into Clearways on the last lap and I crossed the line 0.2 sec. behind, fifth overall, second in class. My fastest lap had been the morning pole time of 54.5 sec. (the team did get me rather quicker than that, but official times are what matter), a best of 79.5 m.p.h. for one of ten laps of the 1.2036-mile Club Circuit. Peter Briars in that difficult Capri had beaten Bill McGovern's Imp to the line by a tenth of a second and established a new record at 53.8 sec. (80.54 m.p.h.).

You could certainly say that Autocavan's Golf had survived its 1981 racing debut with honour. I think Geoff Thomas proved, beyond the call of commerce, that he does know a lot about making really quick VWs as well as a wide range of more suitable road equipment at prices generally lower than those of his obvious rivals. Geoff still feels there is a lot of potential left in the rallying Beetles, so I shall try and sneak a less dramatic race in the Golf when he is up to his elbows in forest mud. — J.W.

Specification

Body: Lightweight Golf GTI with glassfibre for deep front spoiler and front wings; Group 2 wheel arches and operational hatchback. Perspex side and rear "glass" with laminated front screen, all framed in GTI red. Cockpit, untrimmed, with new aluminium sheet fascia to house oil temperature, oil pressure, water temperature and 10 or 11,000 r.p.m. tachometer (mechanical and electronic sampled). Cosmic throttle pedal extension, floor-mounted fire extinguisher, three-spoke steering wheel and racing seat, Luke full harness, with crutch straps. Dry sump tank and aluminium roll cage. Glassfibre bonnet modified with non-standard air exits prior to race.

Weight: approximately 650 kg. / 1,430 lb.

Engine: Based on VW Super Vee principles, but oversized. Using 1600 Golf block and Allen crankshaft; dimensions of 88 mm. stroke and 81 mm. bore provides 1,813 c.c. Cosworth pistons, 11.5:1 c.r. (altered fractionally for race) with 41 mm. inlet valves and 35 mm. exhaust. Aluminium eight port cylinder head, gas-flowed. Standard connecting rods carrying aircraft industry specification bolts. Dry sump, tank in cockpit and Pace products oil pump (replaced for race by gear driven pump); 16 row oil cooler. Double Weber 48 DCOE sidedraught carburetters, all replacement inlet and exhaust manifolding and John Judd 1980 Super Vee camshaft. Estimated maximum power, 190 to 200 b.h.p. Max r.p.m. 7,400.

Transmission: Jack Knight, four speed, close ratio within standard casing. Limited slip differential: 3.3:1 final drive ratio.

Wheels and tyres: Compomotive 13" diameter and 15" diam. (dry) with 9" wide rims (dry) 8" front, 7" rear for the wet. Dunlop racing tyres, Super Vee UK formula for wet and Group 2 specification slicks.

Steering and suspension: standard rack and pinion (2.7 turns lock-to-lock). Rose jointed suspension with standard pick up points but 350 lb. front springs and 180 lb. rear. Bilstein racing dampers, GTI front anti-roll bar and thinner rear bar.

Braking: All four wheels disc braked. Front, two piston caliper from Lockheed to Formula 2 specification, vented disc. Rear, single piston Girling calipers, solid disc. Brake adjusting bias set 70 per cent. front. Dual master cylinders, hydraulic handbrake.