

Golf driver

Mark Hales goes backstage in Modsaloons to discover the secrets of Autocavan's 200bhp Golf GTI

The chance to try out a principal opponent's car is always a fascinating prospect, not always good for one's ego but interesting nonetheless.

I was to test the Autocavan VW Golf raced regularly in Modsaloons events by Autocavan's managing director, Geoff Thomas.

Extra interest to the day's proceedings was to be added by another chance to drive the



latest road-going 1800 Golf GTI on the circuit and make comparisons between road and race cars. I contemplated the day ahead with relish as I wrestled with the roadworks at the end of the M25. Geoff and long-time mechanic John Brewster were already warming up the Golf when I arrived.

Geoff bought the car brand new in 1976 and it has led a hard life ever since, serving as a

Passing the pits in top, the car would happily pull over 7000rpm which equals about 125mph. Considering the short length of the straight, that's impressive for an 1800cc steel bodied saloon

test and development vehicle for many of Autocavan's Volkswagen performance parts. The first 1800cc Golf conversion in Britain was very soon lurking beneath the bonnet.

In 1977 the car was driven to the 750 Motor Club's Donington Six-hour relay where it completed some 100 laps without incident, and was then driven home having helped considerably in the team's handicap victory. In 1978 four pot G2 calipers and vented discs were fitted to the front, discs also replacing the drums at the rear. *Motor* magazine then road tested the car and voted it "tuned car of the year", an accolade of which Autocavan can justly be proud.

A turbo was tried in 1979 and some 300bhp developed at a boost of around 21psi. The car was still driven to sprints and enjoyed much success during the year although it was decided not to follow the turbo route commercially.

Three years ago the conversion was brought to its present specification and thus the end of its road car life. It was stripped of its trim and the engine dry sumped. Most of the rubber bushes in the suspension were replaced by rose joints, shock absorbers with adjustable spring seats fitted, and springs (as tested) of 500 lb front and 350 lb rear. Driveshafts are stock and have proved man enough for the job. Wheels are Compomotive, 8½ inch front, 8 inch rear with M & H rubber.

Inside, the immediate feeling is of a vast window area and good visibility out of the large tailgate. The instruments: rev counter, oil temperature/pressure and water temperature, live on a panel above the steering wheel; while starter, wiper and fuel pump switches are collected in a box on the floor behind the gear lever.

Flick on the pump, poke the starter and the engine fires up with a total lack of temperment.

First impressions were of tremendously stiff front suspension and an insistent tugging from the steering wheel as the throttle is applied. Both these characteristics seemed to disappear as I increased speed.

Having witnessed some incredible feats of late braking Thomas bravery from close quarters I know that the brakes are effective, but they required a very firm application of the Hales boot, and the Golf felt decidedly skittish, particularly at Paddock. Geoff later revealed a possibility that a particularly vicious attack from a Capri at Silverstone might have deranged something at the rear, although subsequent inspection had not revealed anything amiss.

The engine is slightly undersquare, sharing the latest 1800 GTI's 81mm bore size and reaching its 1812cc (standard GTI is 1781cc) courtesy of a longer throw 88mm steel crank. Cosworth Atlantic BDA pistons sit atop polished Audi 80 rods.

Why the Audi rods? Apparently these have

bolts rather than studs on the big end caps, and are safer at high revs.

Anyone who has ever seen the result of a big end cap parting company with the rod would agree with such a fitment.

The head has 41mm inlet and 35mm exhaust valves, not an optimum size for 1800cc but as large as possible without the seats blending into each other.

The increased bore size originally created some problems with head gasket sealing and Geoff found that Wills rings – a sort of piston ring which sits round the top of the bore and bites the cylinder head – cured the problem totally.

Finally the engine sucks through a pair of 48 DCCE Webers rather than the injection of the production Golf. Injection would certainly improve power output but adds considerable complexity to a weekend racer. Besides, as one of his regular competitors at race meetings, I would rather Geoff didn't go any faster, thank you.

Driving the Golf harder after a couple of acclimatisation laps showed the engine to be totally smooth with mountains of torque. It was interesting to compare with Andy Dawson's findings (*Black burner*, *CCJ* July). Andy found a paucity of power below 5200rpm in the Group A car, whereas the Autocavan Golf pulled like a train from 3500rpm. The cams in both cars were similar

All this would seem to suggest that power on or off translates into the choice between smiting the Armo with either the front or the back. In reality a slight relaxation of the throttle will tighten the car's line quite neatly, but don't lift too much or you will be slow down the next straight

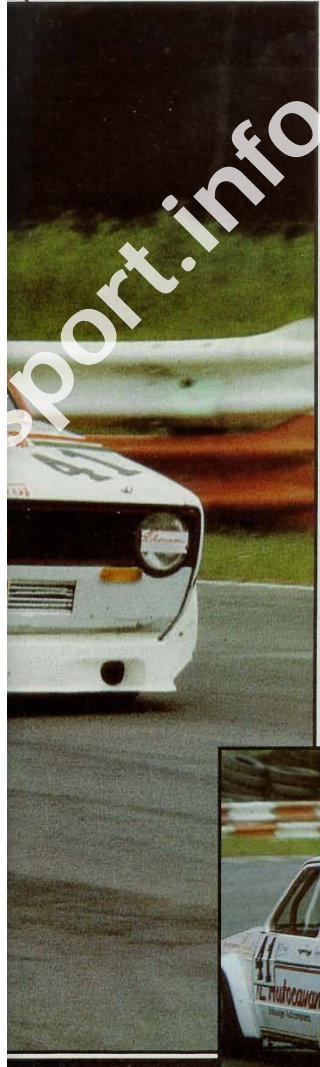
(0.49in. lift, 328 degrees duration) but the Autocavan car does have 200cc extra, which might account for its less fussy nature. Like Andy Dawson I used a strict maximum of 7000 rpm, 'cos the car wasn't mine and I didn't want to break it. Geoff uses 8000rpm in anger and it was certainly necessary to watch the rev counter like a hawk as the needle kept wanting to climb off the end of the scale.

A Sachs twin plate clutch replaces the standard item and has a special flywheel bolted to the crank rather than the somewhat peculiar arrangement on the standard car. In use, the clutch was smooth and easy, apparently unlike the Derron Tweaks GA Golf, and it was possible to burble out of the pits with the minimum of fuss.

The gearbox contains close ratio gears and has only four speeds, the torque of the engine making five superfluous. The five speed box also has an awkward dogleg into fifth rather than the preferable 'H' pattern. Changing gear was a delight, the action light, pleasant and positive despite the tortuous collection of linkages connecting the lever to the box.

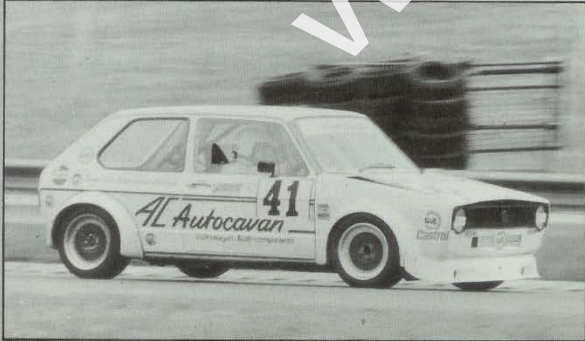
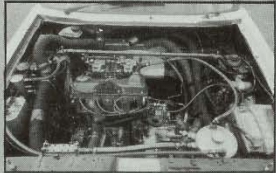
Flooring the throttle, the car darts a little from side to side as the LSD does its job and then the turbine-like engine wings its way straight up to 7000rpm in any gear. Passing the pits in top, the car would happily pull over 7000rpm which equals about 125mph. Considering the short length of the straight, that's impressive for an 1800cc steel-bodied saloon.

Then, just on the hump (what hump?) before the notorious Paddock Bend a sharp dab on the brakes, into third and hard on the power all through the corner. Now I found that the car had a strong tendency to understeer, which must be present in all front wheel drive racers, but as the car ran wide at the bottom of Paddock it was essential to keep the throttle well nailed to the floor and just tighten the lock, or let the machine drift on to the kerb.



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A Golf in this specification would represent an ideal and comparatively cheap way into saloon racing with a current model car



Autocavan's Golf is a regular feature of the BRSCC's Modified Saloon Car series, now in its third year. The series was introduced to cater for the less radical saloon racers which had become outclassed by sports car and spacerframe-based clones that now dominate special saloon and GT races. These latter hybrids tend to be extremely expensive to build and run, and Modified Saloons have been a well supported and cheaper alternative.

It has also provided a welcome home for Group One cars sold off by the works teams. Indeed, to enter the series, any car must have been eligible for homologation in Group One/Group A. This means that 5000 have to be made in any one year, to keep out small production run specials like the Talbot Sunbeam Lotus and Vauxhall Chevette HS.

The Modified Saloon rules state that floor pan, bulkheads, roof and screen surround must remain as manufactured; while wings, bonnet, boot, doors and glass can be replaced by glassfibre and Perspex.

Suspension and brakes are free provided the original mountings remain, and there are minimum weight and rim width limits. The stock head, block, gearbox and rear axle casing must also remain.

The rules are really not that far removed from the current Group A regulations, with the obvious exception of replacement body panels. The Group A regulations which replaced British Group 112 at the beginning of this year brought the home series into line with the rest of Europe and allowed more freedom with suspension, brakes and tyres, while reducing induction and exhaust modifications to the engine.

This last named change has rendered several cars uncompetitive this year, in particular the once dominant Ford Capri. Several have thus found their way into the BRSCC series, and with their breathing restored, have proved dominant once again. These slightly freer regulations allow similar lap times to Group A without resort to the huge budgets and vast tyre bills incurred in that category, and have provided some excellent racing in cars that are vastly faster than production saloons, whilst still retaining their complete identity.

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I then experimented a couple of times by lifting off in the middle of the corner. The front tyres, released of the job of transmitting power as well as steering the car, suddenly find themselves with a disproportionate amount of lock, and that coupled with forward weight transfer add up to instant and violent oversteer.

All this would seem to suggest that power on or off translates into the choice between smiting the Armo with either the front or the back. In reality a slight relaxation of the throttle will tighten the car's line quite neatly, but don't lift too much or you will slow down the next straight.

Up the steep hill towards Druids hairpin, I glimpsed just over 7000rpm in third (about 108/110 mph) before getting hard on the brakes and down to second gear.

Geoff reckons to take a tight line here and keep the throttle hard in while winding the wheel — he only lifts when he runs out of lock.

I preferred to take a late apex, use less lock and get on the power harder and earlier. Of course, in a hard racing situation the latter will leave you inside undefended.

Out of the hairpin, now hard on the power and I experienced the strange sensation of having to unwind a half to three-quarter turn of lock with the car already pointing almost straight down the hill, taking care to point the wheels dead ahead before snatching third. Here, the extra 1000rpm would have been very useful. Now I was flat-out down the hill, just brushing the kerb on the left as the car understeered its way onto the bottom straight.

Grab top gear and the Golf runs to about 115mph (6800rpm) before the left-right flick that is Surtees and McLaren. It was possible to take this sequence without a lift, but the subsequent 'moment' spent trying to slow tidily for the following long right hander dictated a gentle lift just before ending the Surtees kerbs, braking in a straight line and selecting third for Clearways.

Seasoned racegoers will be well-used to the FWD phenomenon of the dangling rear wheel. This is caused largely by the front roll centre on an FWD race car (McLaren's car, incidentally being higher than the rest). Rear drive cars conversely tend to pick up a front inside wheel.

A scolding Thomas was nonplussed by the extra bright patches of daylight appearing

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Geoff Thomas started Autocavan in 1968, selling reconditioned VW Beetle engines, and can now boast 20 distributors across the country and a "million figure turnover".

The racing side of the business came as a natural extension of his tuning work. Autocavan was the first company to produce an 1800cc Golf (for the Donington 24 Hour race way back in 1978) and also produced a road going 1800cc Turbo around the same time. Fortunately, or otherwise, depending on your point of view, the firm's success caught up with it, and in order to cope with an expanding retail and trade business, development work took a back seat.

It didn't stop Geoff Thomas' ambitions on the track though. In mid to late '79 he campaigned a wild 2.3 litre rallycross Beetle. The present Golf GTI racer car came about in 1981. "I'm finally going to be an 1800cc Turbo. It suffered from vibration problems but we overcame that, only to have the regulations changed. So we went back to normal carburation."

Geoff's company has largely dropped its racing ideas in order to concentrate on building up the business, and it's likely they'll continue on this line. The parts list runs to over four figures, and Autocavan has original equipment contracts with VAG, Konig, Bosch and others. "There are some parts we don't stock because only VAG market them, and there's little demand. We get a quick feedback from our dealers on which parts to buy and we compare well on price with the normal VAG dealer." And how does VAG feel about Autocavan? "At one

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time they used to refer tuning enquiries to us, but not any more. There's no real contact between us." Obviously it's a state of affairs that others neither party very much.

Does he regret not being able to expand the tuning side of the firm? "We stock both performance and standard parts for Volkswagen, Audi and Porsche, retail and trade, as well as running our own workshops. That's a lot of ground to cover, whereas companies like GTI Engineering have a much smaller brief."

So what comes next? "We'll develop on the same lines as the past few years. We'd like a few more agents to fill in the gaps in distribution, and the new Golf should help build up the workshop side of the business." Geoff Thomas is happy in his work.



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beneath the nearside rear tyre at Surtees on every lap. Certainly any kerbs or bumps were very comfortably ridden once at racing speed. Powering out of Surtees/McLaren in third, using all the torque to pull from 65mph up to 105mph/7000rpm, I let the car run wide on to the straight, Formula Ford style, so that the understeer did not scrub off speed . . .

7000rpm was reached before the car was fully on to the straight, and changing up produced a sharp wiggle suppressed by a firm application of the throttle in top gear. From there the car quickly reached 120mph+ on its way towards Paddock, which is where we came in.

Brands Hatch is not perhaps an ideal Volkswagen Golf circuit. The twisty, sometimes adverse cambered track tends to aggravate the car's understeering tendency, particularly at Druids and Clearways. An examination of lap times showed a best average just short of 81mph which is nonetheless impressive as the straights are so short. I would like to have tried either some stiffer rear springs or a stiffer rear roll bar and perhaps an increase in front castor. This might have aided stability under braking and helped the turn-in.

Overall impressions though are of a delightful little car with no real vices that begs to be driven hard. A Golf in this specification would represent an ideal and comparatively cheap way into saloon racing with a current model car. Geoff would be very happy to build you a replica!

As the car ran wide at the bottom of Paddock it was essential to keep the throttle nailed to the floor and just tighten the lock

to the track with absolutely no attention to suspension or even to tyre pressures, such a gap is very flattering.

Fifth gear was redundant at Brands, and 6300rpm in fourth, or 105mph on the speedo, appeared fairly easily on the run up to Paddock, 85/6250rpm in third entering Druids and about the same along Bottom Bend. Some 70mph was easily possible in third through Clearways and then back on to the main straight. I had strict instructions to be gentle with the car but neither the brakes or gauges showed any sign of protest throughout 12 or so laps and one can surmise that this would leave plenty in reserve for even the hardest road use.



Having reluctantly vacated the Autocavan car after all too few laps, I turned my attention to the road car, a resplendent green 1900 GTI fortunately well run in with some 12,000 miles on the clock. Enough has been written in CCC about this superb little machine as a road car, so it was as a comparison with the racer that afforded most interest.

As one might expect, a similar basic feel is common to both Golfs (Golves?) but the road car is of necessity much less violent in its reactions, particularly in respect of lift-off oversteer.

On the circuit there was a pronounced but not unmanageable degree of understeer as expected, and backing-off in mid-corner tended only to reduce this tendency rather than converting to violent oversteer as it does in the racer. The latter characteristic would of course be considered dangerous in a road car.

A few laps accompanied by a constant wail from the tyres using a maximum of around 6000rpm, just before the start of the red on the tachometer, produced lap times some 12/13mph slower, on average. That may not sound like very much, but if the two cars set off together for 10 laps, the racer would lap the road car twice! However this is in no way to be taken as a criticism of the road Golf. Considering it had just been driven straight