

CAR

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HIGH SPEED NEEDLE MATCH...

ALFA GTV6 AND
BMW535i



PLUS 7 OTHER TESTS: • PORSCHE 944 AT • VW PASSAT GLS • OPEL KADETT 1,6 SR
• PEUGEOT 305 ST • TOYOTA COROLLA SW • FORD DIESEL P/U
• 20 000 KM REPORT: BMW 735i

PLUS

- Jacky Ickx interview
- Driving a 1901 Albion
- DIY: Clutch maintenance
- Tyre technology
- Scoop sketches: New Golf etc



FAST IS FUN



Fast cars are fun: that's the motivation behind our comparative test of the two fastest cars built in this country, the Alfa GTV6 and the BMW 535i. But, as you'll find when you read our report, speed is about the only thing they have in common: they're designed for different kinds of people. . .

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PORSCHE LOGISTICS



Latest model from Porsche is the spectacular 944 — with an all-new "big-four" engine and an amazing spectrum of performance capabilities. First full Road Test in this issue!

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NEW-STYLE COROLLA



Latest member of the best-selling Toyota P-171 Corolla family is the station wagon: a 1,6-litre, five-speed model with strong family appeal — and no rattles! Full Road Test in this issue.

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COMPARATIVE TEST

ALFA GTV 6 AND BMW 535i

**We don't see them as alternatives
so much as divergent ideals.**

**But if they were, what a
choice to spend time on....**



FAST cars are fun: and that's the main motivation behind this off-beat comparative test, assessing the Alfa-Romeo GTV6 alongside the BMW 535i. It's off-beat because its format breaks the guidelines set for these reports when we started comparative testing in TECHNICAL in 1975.

We decided then that the cars had to be priced fairly closely and of similar type, competing for the same slice of the market; and viewed in this way, our Alfa-BMW project would be a non-starter,

because how could you pit a R23 500 2.5-litre sports coupé like the Veloce "six" against a 3.5-litre four-door sports sedan costing R4 000 more?

You couldn't. But on the other hand they are the two fastest cars built in South Africa and despite the big difference in engine capacity, they've been locked in battle on local race tracks throughout the past year.

It would obviously be fun to test them alongside each other, and we felt that the fact that they represented such

contrasting concepts of a high performance car might work to our advantage: it should throw each of them into clear perspective.

So that's our aim and this particular test has to be viewed in this light. It's not Alfa versus BMW — which would be grossly unfair; it's two different approaches to fast motoring, developed for different types of enthusiast. Just this once, the prices are incidental.

First, let's examine their backgrounds, then look at the

engineering, which represents some of the best that Germany and Italy have to offer, embodying the national characteristics of Italian flair and German efficiency.

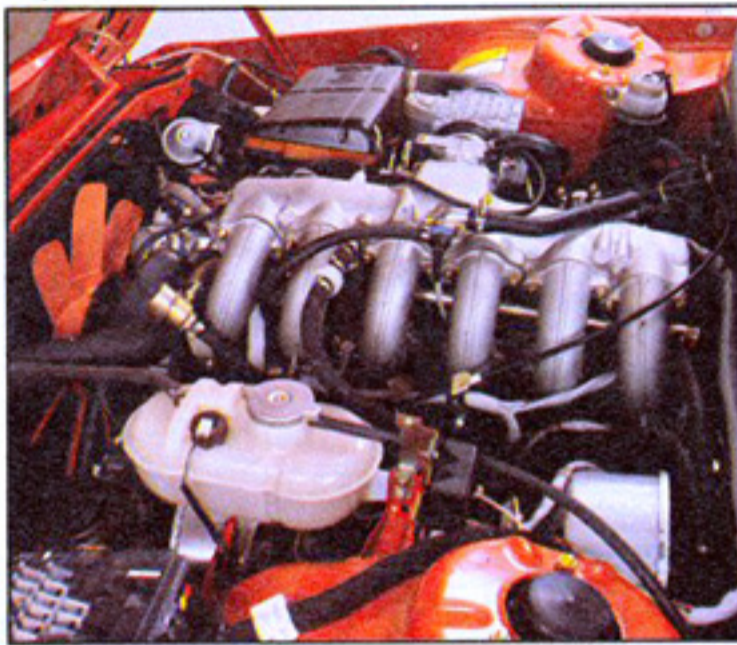
Both cars represent a flagship, high performance development of an established model range. The sleek, road hugging GTVs have established a phenomenal reputation as ultra rapid sports cars with fantastic handling — which has frequently enabled them to oust more powerful cars from

Continued overleaf





The BMW 535i fascia is among the best planned of modern cars — co-ordinated and functional — but that small, thick rimmed racing wheel (from the M1) spoils the driver's view of some instruments. The Recaro seats (below, left) are superb and the race-bred fuel-injected 3.5-litre straight-six (right) is as used in the 735i, developing 160 kW at 5 200 r/min with 310 N.m of torque available at 4 000 r/min.



ling and executive style comfort.

Any enthusiast knows that you can't compare sports cars on a basis of performance figures alone. It's the pleasure and satisfaction they yield to the driver that counts most and while one man gets his kicks from cannon-ball acceleration, another would prefer optimum balance, response and faster cornering — which might make a "slower" car just as quick and twice as fun, for him, over a twisty route.

Significantly better tune

But, for the record, the 535i with sports gearbox scorches from 0 to 100 in just 7.9 seconds (see tables) — and this figure, and the 220 km/h top speed, are so far ahead of the figures recorded on our previous test a year earlier that they cannot be accounted for by the gearing change alone. The latest car must have been in significantly better tune...

With a power to mass ratio of 97.2 W/kg, and a litre less muscle under the bonnet, the GTV certainly can't match figures like these; but its 0-100 km/h time is only 10.8 seconds and it burns a lot less fuel

achieving it: at a steady 100 km/h, its consumption is only 7.83 litres/100 km — 24 per cent below the figure for the BMW.

Our 100 km fuel run, in which the two cars run closely coupled over a varied route, sharing the same conditions and recording the same times, confirmed the substantial gap in consumption, with the Alfa recording 8.8 litres/100 km and the BMW, 13.8.

Let's move on to their characters. In truncated definitions, the Alfa is an excitable, super responsive sports car, while the BMW is a compact, hyper-powered express, fitted with luxury trimmings — even central locking — and with room for a family. While they are both easy to drive, the BMW requires much more expertise when you're really pressing, because its tremendous power can break out the rear end fairly easily, particularly on a wet road, and if it's overdone, the car then requires catching...

If you had to select a really fast car for a novice, the Alfa would be a sound choice, because it can be hurled round corners with unschooled abandon, provided

you keep your nerve and maintain control. The BMW, on the other hand, would be risky: it requires a judicious foot on the throttle, which becomes a vital balancing element in the cornering process, when motoring fast.

Blood bond with driver

Perhaps the dominant virtue, in the GTV, is the hardest to describe. It seems to establish a blood bond with the driver, so that as you weave and snort through the corners, you feel motor, transmission and tyres working in feed-back pulses. That gives a deep, gut sense of satisfaction that livens up your life...

It seems to flow across the tarmac like some low slung mechanical leopard, imparting an incredible sense of balance and clinging power, but still so classically rorty, you expect to smell hot engine oil. You don't, but if you did, you'd accept it along with the raking glass overhead (which can be a little trying on a hot day), the shortage of head room and the cramped rear seats: it's an insignificant price to pay for what this car has to offer.

And among the pleasures is the noise: a deep burble

on start-up, rising to an eager snarl with each blip on the throttle and settling to a throaty rasp at cruising revs.

Rakish, low and superbly styled, the GTV has uncompromising two-plus-two seating and an interior that is a cross between an Italian fighter aircraft and the classic racers that Fangio used to drive, brought partially up to date. The instrument layout is comprehensive but individual, with a 240 km/h speedo visible through the wood rimmed wheel (which can become slippery), a big rev-counter bin-nacled separately, along with sundry gauges and warning lights, over to the left and that curved green fan switch governing a ventilation/heating system which is not the most efficient around but does a reasonable job.

Floppy gearchange

The wooden, pear shaped gear knob falls comfortably to hand, the pedals are beautifully spaced/shaped but the gearchange requires knowing and responds to skill. At first, it's loose, almost floppy as you explore the linkage to that remotely mounted box; but once you develop the light, scooping motions and are used to the twin-plate clutch which has its action at the top, you obtain precise, quick cog swops with a sense of satisfaction.

If the Alfa suggests a leopard, the BMW is a charging bull — but a bull with unobtrusive refinement and impeccable manners. Driven with aplomb and the required degree of skill, it responds with predictable discipline; with restraint, it's so docile the wife would never guess at the fury lurking underneath the bonnet.

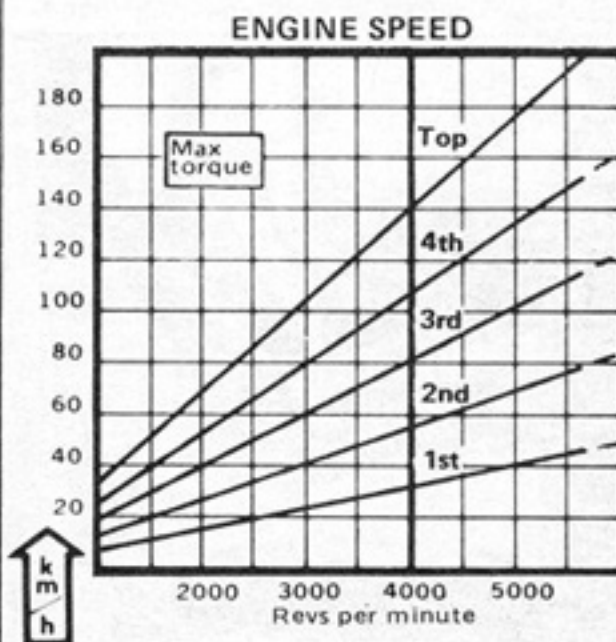
Although 5 Series styling and wolfish grille hint at sporting capabilities, underlined by the low stance and fat tyres, the only overt clue to the blistering performance comes from a modest but potent model tag at each end of the car, prefaced by M (for Motorsport) and the company's racing colours.

It has the Recaro seats, sophisticated air-conditioning, programmable mo-fi and electronic service indicator and active check control found on other top flight BMWs. But one item that seems oddly

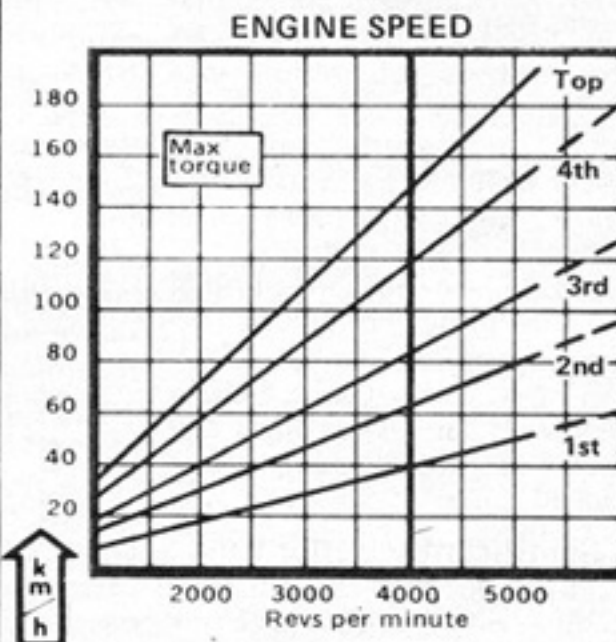
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TESTER'S COMMENTS

<i>Body styling, design and finish</i>	Completely contrasting. BMW has standard 5 Series four-door bodyshell and only sign of its explosive performance is the neat model tag at each end, prefaced by M (for Motorsport) and the company's racing colours. The Alfa is a low, rakish and superbly streamlined two-door sports coupé with two-plus-two seating and exotic appeal. Both cars are fitted with expensive imported alloy wheels and low profile, wide section imported radial tyres.
<i>Minor collision protection</i>	Alfa has deformable padded plastic bumpers and heavy side protective mouldings. BMW has fully padded steel wrap-round bumpers and protective side mouldings.
<i>Boot design and size</i>	Alfa's 340 dm ³ boot accessible through rear hatch, supported by centre strut beneath security cover which forms wide parcel shelf when down. BMW's 440 dm ³ boot is deep and unobstructed and can be locked by the central locking system or separately, with the key.
<i>Seating, upholstery and access</i>	Alfa has fully reclining sports type bucket seats in front and shaped rear seats, upholstered in high quality material and providing excellent support. Front seats fold for rear seat access. BMW has exceptional Recaro seats in front and unusually comfortable rear bench with easy access through wide doors.
<i>Dashboard design</i>	Alfa's fascia is unusual: unco-ordinated, at first glance — a mixture of classic tradition and modern instrumentation which will please Alfisti. The BMW has a revised, highly co-ordinated treatment incorporating active check panel (in the roof), a service interval indicator and fuel consumption indicator. Alfa's instruments include 240 km/h speedo, 7 500 r/min tachometer red-lined at 6 000, oil pressure, water temperature and fuel gauges, digital clock, and warning lights for turn indicators (one!), handbrake, charge and choke. BMW's display includes 240 km/h speedo, 7 500 rev-counter (red-lined at 6 500 but governed at 6 200!), a central warning light, a digital clock and warning lights for brake pad wear, brake fluid, handbrake, oil pressure and charge. It has two turn indicator lights.
<i>Heating and ventilation</i>	BMW has sophisticated electronically controlled air-conditioning/heating system with dial-a-temperature facility and multi-direction distribution controls. Alfa's heating/ventilation system is relatively simple, incorporates powerful heater but barely adequate ventilation system.
<i>Under-bonnet accessibility</i>	Both engine compartments crammed with machinery. These are not cars for ordinary DIY mechanics to tackle.
<i>Control layout and character, gearchange</i>	Both cars have quick shifts but Alfa's requires knowing and BMW has unusual gate pattern. BMW has heavy competition clutch but Alfa's twin-plate clutch is reasonably light. BMW's power assisted steering provides effortless low speed control — when Alfa's wheel becomes rather heavy. Alfa has three stalk controls, BMW two. Alfa's steering column adjustable for angle BMW's for length.
<i>Handling and ride</i>	Both cars are precise and safe at high speed but BMW's enormous power can break out rear end relatively easily and the car requires experienced handling. Alfa is noisier, has harder ride but provides fantastic mechanical feed-back and "feel" which is rewarding to the enthusiast.
<i>Petrol tank/cap</i>	Alfa has lockable petrol cap, BMW's petrol flap is governed by central locking system.
<i>Horns</i>	Both cars have powerful twin horns — BMW's operated by pads in steering wheel, Alfa's by central button.
<i>Lights</i>	Both cars have powerful twin halogen headlights. BMW also equipped with front and rear foglights.
<i>Guarantees and service intervals</i>	Alfa warranty covers two years or 100 000 km on engine, gear-box and differential, two years on paintwork (fade or rust) and one year on other mechanical parts. BMW warranty covers 12 months or unlimited distance, with six years rust warranty.



Above: engine speed graph of the Alfa GTV6 (top pic). Below: engine speed graph of the BMW 535i.



out of place in the restyled, cleverly co-ordinated fascia is the fuel consumption indicator: surely the last thing a 535i driver would want to watch, even if it didn't dampen his exuberance!

The ride is just a trace firmer than other 5 Series cars and pays off at really high speeds, when the car remains rock steady and can be steered with relaxed precision. The M1 racing wheel is

nice to handle but obscures vital gauges and we'd prefer the standard steering wheel (available as an option) for its practicality.

The motor is smoother and quieter than the Alfa's and the superlative performance is delivered with Teutonic efficiency, rather than passion. The mechanical refinement tends to isolate the driver, making both motor and suspension feel relatively remote — an impression

that is heightened by the power assisted steering.

The competition clutch is firm and deep and the short, stubby gear lever has a short but deliberate action that requires a firm throw for peak performance. The gate is unusual, with reverse forward and to the left, almost opposite first, making 2/3 and 4/5 available in lightning-straight movements.

So if price is little object

and you want a truly fast car, one of these should prove your ultimate. If you've a tribe to lug around or you cover a fair distance on dirt, the BMW has practical advantages, even if its character and equipment have no decisive appeal. As we said at the beginning, we don't see them as alternatives so much as divergent ideals. But if they were, what a choice to spend time on!

SPECIFICATIONS

Alfa GTV 6 — R23 500
BMW 535i — R27 500

Make	ALFA ROMEO	BMW				
Model	GTV6	535i				
PERFORMANCE FACTORS:						
Power/mass (W/kg) net	97.2	108.8				
Frontal area (m ²)	2.21	2.41				
Km/h per 1 000 r/min (top)	35.6	37.3				
INTERIOR NOISE LEVELS:						
Idling	63	54				
60 km/h	74	70				
80 km/h	76	72				
100 km/h	79	75				
(Measured in decibels, "A" weighting, averaging runs both ways on a level road with car closed.)						
ACCELERATION FROM REST (seconds):						
0-60 (km/h)	5.0	3.7				
0-80 (km/h)	7.4	5.4				
0-100 (km/h)	10.8	7.9				
1 km sprint	30.9	28.5				
OVERTAKING ACCELERATION:						
	3rd	4th	Top	3rd	4th	Top
40-60 (km/h)	3.4	4.8	6.8	2.6	4.2	5.3
60-80 (km/h)	3.4	4.8	6.6	2.4	3.8	5.4
80-100 (km/h)	3.4	5.0	6.8	2.3	3.9	5.4
(Measured in seconds, to true speeds, averaging runs both ways on a level road, car carrying test crew of two and standard test equipment.)						
MAXIMUM SPEED (km/h):						
True speed	201.5	220.7				
Speedometer reading	205	233				
Calibration:						
Indicated:	60	80	100	60	80	100
True speed:	55	74	93	51	70	89
FUEL CONSUMPTION (litres/100 km):						
60	6.45	8.68				
80	7.14	9.31				
100	7.83	10.31				
(Stated in litres per 100 kilometres, based on fuel economy figures recorded at true speeds.)						
FUEL CONSUMPTION (OVERALL):						
Overall	8.9 litres/100 km	13.8 litres/100 km				
(Recorded over two laps of a 49 km varied road circuit with the two cars travelling closely together and with one mid-point driver change.)						
BRAKING TEST (From 100 km/h):						
Best stop	3.4	3.3				
Worst stop	3.8	4.0				
Average	3.6	3.44				
(Measured in seconds with ten stops from true speeds at 30-second intervals on a good bitumenised surface.)						
GRADIENTS IN GEARS:						
Low gear	1 in 2.5	1 in 1.9				
2nd gear	1 in 3.5	1 in 2.6				
3rd gear	1 in 5.4	1 in 3.6				
4th gear	1 in 7.8	1 in 5.7				
Top gear	1 in 10.3	1 in 8.0				
(Tabulated from Tapley (x gravity) readings, car carrying test crew of two and standard test equipment.)						
GEARED SPEEDS (km/h):						
Low gear	45	53				
2nd gear	80	81				
3rd gear	116	110				
4th gear	152	157				
Top gear	200	195				
(Calculated at engine power peak — 5 600 r/min for the Alfa and 5 200 r/min for the BMW.)						
ENGINE:						
Cylinders	60° V6	In-line 6				
Fuel supply	electronic injection	Bosch L-Jetronic				
Bore	88.0 mm	93.4 mm				
Stroke	68.3 mm	84.0 mm				
Cubic capacity	2 492 cm ³	3 453 cm ³				

	ALFA ROMEO GTV6	BMW 535i
Compression ratio	9.0 to 1	9.3 to 1
Valve gear	o-h-v, single o-h-c (per bank)	o-h-v, single o-h-c
Main bearings	four	seven
Fuel requirement	98-octane (Coast) 93-octane (Reef)	98-octane (Coast) 93-octane (Reef)
Cooling	water	water
ENGINE OUTPUT:		
Max power I.S.O. (kW)	118	160
Power peak (r/min)	5 600	5 200
Max usable r/min	5 700	6 200
Max torque (N.m)	213	310
Torque peak (r/min)	4 000	4 000
TRANSMISSION:		
Forward speeds	five	five
Gearshift	console	console
Low gear	3.50 to 1	3.717 to 1
2nd gear	1.956 to 1	2.403 to 1
3rd gear	1.345 to 1	1.766 to 1
4th gear	1.026 to 1	1.236 to 1
Top gear	0.780 to 1	direct
Reverse gear	3.000 to 1	4.233 to 1
Final drive	4.10 to 1 (3,198 overall)	3.07 to 1 ZF LSD
Drive wheels	rear	rear
WHEELS AND TYRES:		
Road wheels	alloy, sports	alloy, sports
Rim width	6.0 J	6.5 J
Tyres	195/60 HR 15 radials	200/60 VR 14 radials
BRAKES:		
Front	265 mm vented discs	280 mm vented discs
Rear	250 mm inboard discs	272 mm discs
Hydraulics	dual circuits, anti-lock at rear, vacuum servo	dual circuits, anti-lock at rear, vacuum servo
Handbrake position	between seats	between seats
STEERING:		
Type	rack and pinion	ZF variable ratio power-assisted
Lock to lock	3.5 turns	4.6 turns
Turning circle	10.1 metres	11.1 metres
MEASUREMENTS:		
Length overall	4 260 mm	4 620 mm
Width overall	1 664 mm	1 690 mm
Height overall	1 330 mm	1 425 mm
Wheelbase	2 400 mm	2 636 mm
Front track	1 373 mm	1 422 mm
Rear track	1 352 mm	1 460 mm
Ground clearance	122 mm	140 mm
Licensing mass	1 210 kg	1 470 kg
SUSPENSION:		
Front	independent, torsion bars, stabiliser bar	independent, coil struts, stabiliser bar, gas shocks
Rear	De Dion triangulated axle, coils, anti-sway bars, Watt's linkage	independent: coils, semi-trailing arms, stabiliser bar, gas shocks
CAPACITIES:		
Seating	2+2	4/5
Fuel tank	75 litres	70 litres
Luggage trunk (net)	340 dm ³	440 dm ³