

INSIDE: JOIN OUR CLUB!

CAR

SEPTEMBER 1992
R4,20
(incl VAT)
R3,82
(other countries)

POTENT PERFORMERS

**OFF-ROAD:
EXPLORE SA'S**



LAST WILDERNESS

**GRAND
PRIX
POWERED
YAMAHA
SUPERCAR**



TURBO MERC 200E



**FORD'S
WILD
ESCORT
RS COSWORTH**



ALFA ROMEO Q55 4x4

CLASSIC: RACING SQUIRES

DIY: STEERING TACTICS

PAUL ROSCHE – BMW'S ENGINE MAESTRO



JAGUAR SOVEREIGN 4,0

5 SUPERTESTS:

- JAGUAR SOVEREIGN 4,0 ● MERCEDES 200E TURBO
- BMW 525iSE AT ● VW JETTA 2,0 CLi 8V ● NISSAN SENTRA 140





ALFA 155 Q4

High speed driving is becoming less popular in Europe, says Giancarlo Perini. So if you want optimum dynamics from this 4x4 sports sedan, you have to change the wheels and tyres...

IN JUNE this year Alfa Romeo capped their 155 range with a rather special flagship, the Q4, whose name, rather than the discreet cosmetic treatment, suggests its four-wheel drive performance. Tell-tale signs for the sharp-eyed car spotter are the Q4's foglamps, special 10-hole alloy wheels and exclusive body colours.

Down in the engine room, the Q4 packs a 137 kW punch, supplied by its Fiat/Lancia derived two-litre, 16-valve turbocharged engine. Its transmission is similar to that of the Lancia Delta Integrale, while the platform and chassis have been developed from those of the Lancia Dedra HF Integrale.

All this adds up to a dynamite package with enough power and traction to take the Q4 from zero to 100 km/h in just seven seconds, with the standing kilometre coming up in 28.3 seconds and the burn-up culminating in a top speed of 225 km/h.

Despite the Q4's origins it is quite different from the two Lancias with similar components; its distinct character lies between that of its cousins. Its powertrain is smoother and its suspension softer than that of the more powerful Delta HF, but sportier than that of the Dedra.

From my first drive, there was no doubt that the engineers had done a lot of fine tuning. Not so the interior, whose appearance led me to the con-

clusion that the designers and marketing men had been so pleased with the mechanical side that they had omitted to effect some needed changes, such as more supportive seats and distinguishing touches to suit the car's sporting character.

It's easy to appreciate why the Q4 is so different when one considers that the range of fine tuning carried out by the engineers started with the engine and continued with the transmission, the suspension settings, the choice of tyres and the power steering. It culminated in adjustments to the logic of the six-sensor Bosch ABS braking system.

For the technically minded, the Q4 has a MacPherson type front suspension located by cast iron wishbones cross-linked by a rod-operated anti-roll bar. The struts have pressurised dampers and offset coil springs.

Trailing arm rear end

The rear suspension is mounted on a rigid H-shaped subframe secured to the body by elastic mountings. It features vertically swinging trailing arms pivoting on taper roller bearings, with coil springs and dampers separated. The trailing arms are also linked by an anti-roll bar.

My test drive of the Q4 was on the empty, entertaining and demanding road that climbs the "Passo della Futa"



south of Parma. The exercise proved the car's tremendous capabilities for traversing from point A to point B over secondary roads. There was an impressive sense of symbiosis between driver and car, complemented by a feeling that the wheels had prodigious road grip at virtually any speed.

This type of road brings out the best in this car, not only because of the four-wheel drive and suitable suspension tuning but also because the engine is profiled to deliver a well matched combination of torque and power at low revs. The 1 995 cm³ in-line four-cylinder power unit is boosted and fed by a turbocharger matched to a Weber-Marelli P8 electronic engine management system with multi-point injectors. The Garret T3 turbocharger offers very quick response and contributes to the pleasantly progressive propulsion.

Though secondary roads are the Q4's *metier* it also feels very comfortable on the autostrada. My only criticism was that at maximum speed there was a floating feeling, despite the speed-sensitive power steering. The cure for this, I was told, is to swop the rims for ones



that are half an inch wider, to limit the side-wall flex in the excellent Pirelli 205/50 ZR 15 tyres. The disadvantage would naturally be some deterioration in the ride comfort but in this case the comfort option was chosen, simply because high speed driving is becoming less popular.

While the Q4 shows great balance when cornering hard, if you turn in at too high a speed or put on too much lock, understeer builds up and sends the nose off-line. Backing off a controlled amount on the throttle will bring the car back on line for a beautiful exit from the corner. With this technique mastered, the Alfa is much more forgiving than one might expect.

Despite such minor idiosyncrasies I always felt in perfect control and I found the Q4 to be impressively agile for a sedan which will seat four adults in comfort. A lot of the credit for this must go to the permanent four-wheel drive system, which really does help, rather than fool, the driver.

As with the Delta HF Integrale, the four-wheel drive system incorporates three differentials comprising a conven-



There is little to distinguish the Q4 (top) from other 155 models apart from foglamps, 10-hole alloy wheels and exclusive colours. The interior lacks distinguishing features (above).

ALFA 155 Q4

tional type at front, a Torsen (derived from "torque sensing") self-locking unit at the rear and in the middle, an epicyclic differential mated to the gear-box via a Ferguson viscous coupling. Under normal conditions the centre unit distributes 47 per cent of the torque to the front and 53 to the rear. It is claimed that the arrangement minimises understeer and enables effective control of the cornering line, through the accelerator.

The Q4's performance obviously calls for powerful brakes, in this case 284 mm ventilated discs for the front wheels and 240 mm discs at the rear. Wheel lock is prevented by a Bosch 2SABS system with six sensors and four channels.

The system was specifically designed for four-wheel drive vehicles, hence the additional pair of sensors which measure transverse and longitudinal acceleration. The extra complexity is required because four-wheel drive cars with such positive linking of the front and rear wheels are subject to a more accentuated yawing moment, especially when the brakes are applied while there are different amounts of grip on the inside and outside wheels.

Automatic suspension control is offered as an option, for the motorist who likes extra comfort when touring.



Though the Q4's powertrain is derived from the Lancia Delta Integrale and its suspension from the Lancia Dedra HF Integrale, it nevertheless exhibits a distinct handling character.

This is really an electronically controlled damper system that has two settings, selected automatically to suit the road surface and the driving style. The driver can, however, override the automatic selection from the cockpit and hold the soft or firmer setting, if he wishes.

In Italy the 155 range has been so well received that production cannot keep pace with demand. Part of the reason for this is competitive pricing,

which will also apply to the speciality Q4 whose base sticker price, inclusive of ABS, alloy wheels and low profile tyres, puts it up against the Ford Sierra Cosworth.

Items such as air-conditioning, leather upholstery and ASC (Automatic Suspension Control) are extra. Production of the Q4 is to be limited to 2 200 per annum, which should ensure exclusivity for this range-topping 155. ●