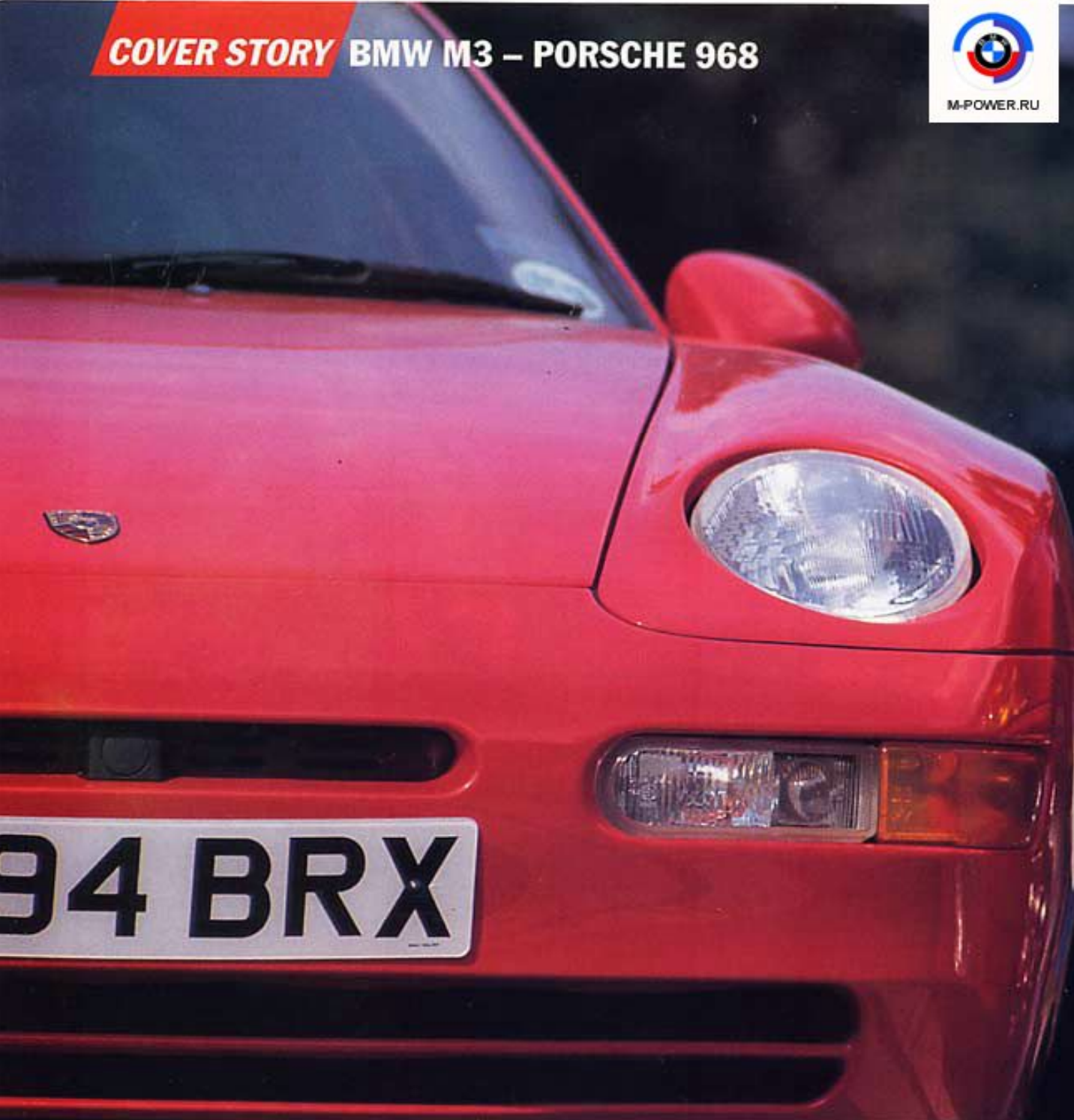




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How come such a staggeringly efficient car as BMW's new M3 is something of a disappointment to drive? *Mark Hales* explains why Porsche's 968 makes him feel better

Too



Clever by Half

For the keen driver, the four-cylinder M3 was always going to be hard to replace. Conceived to satisfy the international motor sport body's 5,000 per year production requirement, virtually nothing in engine, shell or mechanics would interchange with anything from the humbler 3-series models and once you took the wheel, it showed. The car was an ultimate boy racer's toy.

Responsive and unbreakable, it offered an increasingly rare combination of big front-mounted engine driving just the rear wheels. Wagging the tail was always on the options list and the steering always left you feeling in possession of an extra degree of control. Word was, however, that German buyers were a trifle cool about an expensive small BMW with

at top international saloon car level which has brought the new M3 to the UK's market at a mere £32,500 – at least 10 grand less than originally envisaged. Perhaps it is also why there is no gorblimey rear wing as seen in all the sneak touring car testing pictures. And perhaps it is because the straight-six engine cannot rev to 10,000 and develop the same kind of grunt as the Mercedes four; that was the real reason why BMW pulled out of the domestic series. Maybe it's why some BMW insiders wanted to call this latest car a 3-litre CSI, rather than risk comparison with an illustrious predecessor.

Whatever the racing intent – and it already looks as if the new M3 is capable of challenging the Escort Cosworths in the showroom



Karl Heinz Augustin

The 968 manages to involve you far more in the driving process than does the BMW M3

only four cylinders. Over here, it was only available in left-hand drive, due – according to BMW – to problems threading the steering column past a big four-cylinder engine which laid its head to the right-hand side of the bonnet.

Meanwhile, international saloon car racing was changing, and the old 5,000 model production requirement was on the way out. Before that happened though, the M3 had won every domestic and international saloon car series. Mercedes and Audi felt sufficiently stung by the domination from Munich to begin the application of Formula One-sized budgets to the German Touring Car Championship in pursuit of BMW's crown. Successive defeats by these two meant BMW needed a successor to the M3 – then in its final high-winged 2.5-litre evolution.

Gestation was lengthy but that successor has finally emerged – as a new-shape M3 – and ironically, it now seems unlikely to be seen in competition. BMW has now withdrawn from the German series – ostensibly in protest at Grand Prix-sized costs – while the rest of the world's Touring Car racing seems destined to go the 2-litre, four-door only route to give front-wheel-drive cars some kind of chance against, er...BMW's four-door 318i; nobody said marketing was an exact science.

Possibly, it is this lack of sporting potential



Porsche and BMW were pitted against each other at the Hockenheim circuit



It took an enormous amount of provocation from a determined Mark Hales to unsettle the M3's immensely capable chassis



Familiar 968 shape lacks aggressive appeal of the M3's styling



The 968 is more obviously a coupe

FAST LANE Figures

Acceleration through the gears

	BMW M3	Porsche 968
0-30mph	2.2sec	2.5sec
0-40	3.3	3.5
0-50	4.4	4.9
0-60	5.5	6.2
0-70	7.3	8.1
0-80	9.0	10.3
0-90	11.0	12.7
0-100	13.5	16.1
0-110	16.5	19.3
0-120	19.7	24.9

Acceleration in fourth / fifth

20-40	5.3 / 7.6	7.8 / 10.5
30-50	6.2 / 7.0	7.1 / 9.5
40-60	5.7 / 6.8	7.2 / 9.0
50-70	4.9 / 7.2	7.4 / 9.2
60-80	4.4 / 7.0	7.4 / 9.9
70-90	5.0 / 6.6	7.6 / 10.4
80-100	5.1 / 6.8	8.0 / 10.9

Max Speed 156.0 mph 157.1 mph

Performance figures taken at Millbrook Proving Ground in dry weather.

spec national racing categories – a 2,990cc six-cylinder engine in a two-litre-sized shell is a recipe for the most effortless kind of overtaking performance since people stopped putting American V8s in European sports cars. The new M3's in-line six is not a development of any existing engine, but is brand new with a currently unfashionable large bore and short stroke combination and features the latest technology including VACC variable camshaft control. As car makers chase greater performance while seeking to retain engine refinement and clean exhaust emissions, the chucking of raw fuel down an expensively catalysed exhaust system, and the lumpy tick-over that goes with high output rev-happy cams is out. Variable cam timing is in.

The BMW system it is claimed, differs from most others on offer as the timing of the inlet camshaft is continuously variable by means of electronically-controlled hydraulics, rather than moving from one setting to another as the engine spins past a certain crankshaft speed. And it obviously works. The sheer seamlessness of the BMW's power delivery is undeniably impressive.

Equally impressive are the engine's power figures. BMW claims world record power and torque per litre – 95.7bhp and 78.9lb ft – but presumably they mean other non-turbo engines or my maths tells me the Lotus Esprit

turbo's 274bhp from 2,174cc is a more likely titleholder. BMW also claims the new 3-litre engine has as much torque at idle as the old 2.3-litre M3 did at its peak. Torque may be purely a function of engine capacity but it still seems unlikely.

Nearly 300bhp whisks a ton and a half to 60mph in well under 6sec, and as we found on unrestricted German motorways, comfortably up to the 155mph-sensitive electronic speed limiter, at which point the car's speedo is indicating no less than 265kph – or 165mph. At this speed, it's still possible to listen to the radio, and despite the absence of any overt aerodynamic devices to spoil the car's understated Touring Car ambience, it tracks relatively straight and true at this speed.

Suspension layout is developed from the current 3-series, with stiffened springing, anti-roll bars and damping all round, and a fair few bits borrowed from the much heavier 850 for the driveshafts, wheelbearings and hubs. The otherwise commonplace front suspension system features BMW's ingenious swivelling link at the bottom of the MacPherson struts. This undoubtedly restricts changes in track and wheelbase as the steering wheel is turned, which are unde-

'The BMW's engine is without doubt a technical masterpiece. It idles with barely a rustle and then pulls relentlessly to 7,000rpm with no step or surge anywhere to spoil the flow'

sirable for ABS braking, but it costs in terms of steering feel. At the rear, there's the trailing arm and transverse link layout that first appeared on the Z1 sports car and finally laid to rest the BMW reputation for tricky tail-out handling on the limit earned primarily by older 3-series and M5 models.

It was also about this time that testers began to complain of dead steering on new model BMWs, so maybe you can't have it both ways. The new M3's rear end remains resolutely glued to the road throughout most normal provocative manoeuvres – treading on and off the accelerator, sawing at the steering or lifting off the power in a corner – but it does make the front end push. Makes you wonder how the old M3 managed to be so nicely balanced with semi-trailing arms.

So, the car is a second quicker to 60mph than its predecessor thanks to more power,

BMW M3 £32,450

RUNNING COSTS

FUEL ECONOMY: 28.3mpg government composite, 23.6mpg on test.

INSURANCE GROUP: 20

SERVICING/WARRANTY: One year/unlimited mileage warranty. Six year anti-corrosion warranty.

ENGINE

Six cylinders in-line, front longitudinally-mounted. 2,990cc, 86mm bore x 85.8mm stroke. 10.8:1 compression ratio. Cast iron block, aluminium-alloy cylinder head. Twin chain-driven overhead camshafts operating four valves per cylinder, electro-hydraulic continuously-variable inlet cam timing. Multi-port fuel injection, electronic engine management.

PEAK POWER: 286bhp at 7,000rpm

PEAK TORQUE: 236lb/ft at 3,600rpm

POWER TO WEIGHT RATIO (as tested): 189bhp/ton



Mirrors on stalks for style and aerodynamics



Large steering wheel conveys little information

and it can get through the corners at higher speed thanks to more rubber – 235/40ZR8 on 7.5x17in aluminium rollers – and it probably takes less effort to do it thanks to more sophisticated rear suspension. But does greater performance coupled with a more composed, safety-conscious nature add up to a better long distance driving experience?

In search of answers, we didn't want to use the previous M3 as a barometer since new ones have not been available for over a year, and our search for rivals brought the question of BMW competitors into sharp focus. What other four-seat 250bhp plus, rear-drive road

TRANSMISSION

Five-speed all-synchromesh gearbox, front longitudinally-mounted, driving rear wheels through rear-mounted differential with limited slip.

CHASSIS

SUSPENSION: Front MacPherson struts with lower links, gas-filled telescopic dampers and anti-roll bar. Variable ratio power-assisted rack and pinion steering. Rear trailing arms with transverse links, gas-filled telescopic dampers and anti-roll bar.

BRAKES: Front and rear ventilated discs. ABS.

WHEELS/TYRES: Cast aluminium-alloys 7.5x17in front, 8.5x17in rear/235/40ZR radials front and rear.



M3 wears 17in alloy wheels



Chrome trim for familiar grille

burners are there for around 32 grand? Only the Nissan 300ZX can really match the BMW's bargain price and storming performance, although two understeering four-wheel drivers – the Mitsubishi 3000GT and Audi S4 quattro – can compete on speed but cost a few grand extra. Eventually, we opted for the Porsche 968 while admitting that the Nissan would have been a tougher competitor given the massive torque from its turbo V6 engine and its greater cabin space.

The Porsche is not quite comparable with the M3 in terms of interior space – it's more coupe than saloon although both have only

DIMENSIONS

EXTERNAL: length 174.5in, width 67.3in, height 53.7in, wheelbase 106.3in, track front/rear 56.0-56.8in.

INTERNAL: rear head 34.8in, rear leg 21.4-26.9in, rear width 51.2in, front head 37.1in, front leg 37.6-44.7in, front width 60.0in.

WEIGHT: 3,380lb (as tested with full fuel tank and 165lb driver).

OPTIONS

Automatic: N/A

Leather upholstery: £1,040

Air conditioning: £1,440

ABS: Standard

PAS: Standard

Airbag: £630 (driver side only)

Electric seats: Standard



M3's 3-litre twin-cam straight-six boasts 286bhp and 236lb ft of torque



The old M3 invited the driver to attack the corner; the new one just obeys orders but its limits are far higher than its predecessor's

two doors – or in power output – 240bhp against 286. But it's rear-driven and for us, a standard-setter in terms of balance, steering feel and driving involvement. A supremely enjoyable ground coverer.

However, it doesn't look as purposeful as the M3. The BMW is a model of understated aggression, but devoid of wings and with subtle bodywork additions below the front bumper and along the sills. It also looks longer and lower than it really is, a perception aided considerably by a long 106in wheelbase – 13in longer than the 968's within just four inches extra body length. This really does put

a large diameter wheel at each of the M3's corners, with the fronts especially close to the car's nose. The Porsche looks all bonnet and no cabin by comparison, and even a little dated, although it too is quite understated. It all depends whether you like the sensation of looking out over a long bonnet, but it's a pity it doesn't make the same visual step from the 944 as the M3 does over its predecessor.

Four big cylinders make up the 968 engine's 3 litres, smoothed by two belt-driven shafts with offset counterbalance weights mounted high up each side of the cylinder block, fed by four valves in each combustion

chamber, and an inlet camshaft with a rather simpler variable timing system. It's no less smooth to the touch than the BMW's six – which is praise indeed – but it sounds coarser. The 968 lets out a gruff rasp, rather like an old Alfa Romeo and it sounds down-market when compared with the six pot's classier wail. And while six is a sweeter noise than four, when compared with the silkiness of other BMW sixes, this one lays a coarser, more purposeful growl over the more familiar subdued wail. Possibly it's because the exhaust manifolds are separated into two bunches of three, each with a separate catalyst and silencer. If it was

Porsche 968 £36,722

RUNNING COSTS

FUEL ECONOMY: 27.6mpg government composite, 23.0mpg on test.

INSURANCE GROUP: 20

SERVICING/WARRANTY: Two years/unlimited mileage warranty. Three years paint warranty. Ten years anti-corrosion warranty. Two years Porsche Assistance recovery service.

ENGINE

Four cylinders in-line, front longitudinally-mounted, 2,990cc, 104mm bore x 88mm stroke, 11.0:1 compression ratio. Aluminium-alloy block and cylinder head. Twin balancer shafts, twin belt-driven overhead camshafts, four valves per cylinder, electronically-controlled variable inlet timing. Multi-point fuel injection with electronic engine management.

PEAK POWER: 240bhp at 6,200rpm

PEAK TORQUE: 225lb/ft at 4,100rpm

POWER TO WEIGHT RATIO (as tested): 159bhp/ton

TRANSMISSION

Rear-mounted six-speed transaxle driving rear wheels. (Limited-slip diff optional).

CHASSIS

SUSPENSION: Front MacPherson struts with lower wishbones, gas-filled telescopic dampers and anti-roll bar. Power-assisted rack and pinion steering. Rear semi-trailing arms with torsion bar springs, gas-filled telescopic dampers and anti-roll bar.

BRAKES: Front and rear ventilated discs. ABS. **WHEELS/TYRES:** Cast aluminium-alloys, front 7.5x16in with 205/50ZR radials, rear 9x16in with 255/40ZR radials.

DIMENSIONS

EXTERNAL: length 170in, width 76.2in, height 50.2in, wheelbase 93.7in, track front/rear 57.9-57.1in.

INTERNAL: rear head 30.0in, rear leg 15.0-24.0in, rear width 40.0in, front head 37.0in, front leg 34.0-45.0in, front width 51.0in.

WEIGHT: 3,376lb (as tested with full fuel tank and 165lb driver).

OPTIONS

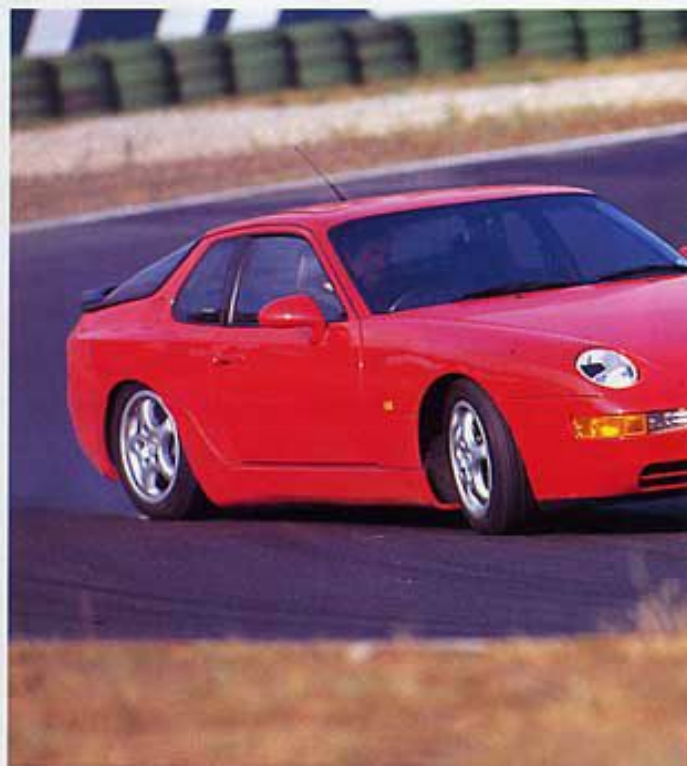
Automatic: N/A
Leather upholstery: Standard
Air conditioning: Standard
ABS: Standard
PAS: Standard
Airbag: Driver side only
Electric seats: Standard



Porsche's cabin is as familiar as the rest of the 968



Neat understated styling characterises Porsche's 968



Gentle tail-out oversteer can soon switch to the more lurid sort

intended, the engineers have played a good aural trick by making the car sound more like a racer without getting much louder.

The BMW's engine is without doubt a technical masterpiece. It idles with barely a rustle and then pulls relentlessly to 7,000rpm with no step or surge anywhere to spoil the flow. It would therefore be perverse to suggest that the Porsche feels as if it has greater low-down punch because there's a surge as the engine comes on song at around 4,000rpm. This would fail to credit the BMW engine with its faultless power delivery. And then fair comparison is difficult because the 968 has six

gears, and you are most likely to be one ratio down when chasing the same overtaking opportunity. The M3 starts to stride away from the 968 as you edge past 100mph. The BMW is just quicker whether it feels it or not.

The BMW has five forward gears, the Porsche six, the M3's gearbox is immediately behind the engine, the 968's is in the tail. But despite long linkages between lever and box, the change is crisp and positive. The inertia of all the connecting rods seems to add meatiness to the change without making it hard work, and the lever clicks home into the next ratio with a satisfying metallic finality. A total

of six also makes the lower gears seem closer and the minimal drop in the engine's rasp as you snick up through the gears feels good and racy.

The M3's shift is lighter, but has a slightly rubbery feel, and there's more shunt in the transmission if you are clumsy with the accelerator at low speeds. The gearchange requires less effort generally, but perversely is less satisfying as a result. It also has a very strong spring across the gate between fourth and fifth, and when you have become used to the featherlight feel of the other four, it's easy not to poke hard enough sideways and miss fifth.



Porsche's big four is smooth as M3's six



But a hammy fist round the Porsche's gear knob will usually find fifth from second more often than the third it was looking for, so neither system can really be described as perfect. Nit-picking to be sure, but we are supposed to be discussing ultimate driving machines.

Now we come to the most important thing in a sports car; the handling, and this is not the same as grip, or ability to set lap times. If that were the case, the new M3 has little competition; in the model's first UK competition appearance it immediately lapped some two seconds quicker than the car it replaces.

The first thing you notice when you drive

the same piece of road in each car is the response to the steering wheel. The Porsche turns from some imaginary point underneath your seat whereas the BMW seems to turn from somewhere near your feet. Normally this is known as understeer, and although the BMW does a lot more of that than the Porsche, it's the way that the 968's body moves in response to a driver input that delights. At 50mph, if you rock the steering wheel through 50° left to right, the BMW ignores the command as pointless, while the Porsche's nose tries hard to keep up. Try a real corner, and the 968's tail squats and leans into the turn, while messages filter back to your hands from the front wheels, telling you to add lock or remove it. Sometimes you feel the need to be careful not to upset the Porsche's heavier tail which is dipping and swaying behind you, but the 968 invites you to be a partner in this driving process.

The BMW steering has three turns between lock stops, and the wheel is big. The steering is light, requires no effort to turn and your hands seem to move a long way round the circle before the car does anything. Then you turn it some more only because your eyes tell you the car is running wide. The helm might be connected to the wheels by electronics and bits of wire rather than finest German steel-work, for all the information it gives you. Where is the old car's invitation to attack the corner and feel the change in weight at the hands, telling you that the front wheels were losing grip, to back off the accelerator, or tighten the line?

When the time came to overstep the car's limits and find out if, and how hard they would bite, we almost gave up with the BMW. The Porsche will happily switch from slight nose-wide understeer to gentle tail-out oversteer. Too fast into the corner and the gentle oversteer becomes lurid which is fairly easily balanced with right foot while the steering, if left alone, will spin itself to exactly the right amount of opposite lock. By then it is too far sideways to be comfortable or safe outside the safety of a circuit where hedges and ditches are a rarity, and it becomes obvious that the 968 needs to be driven smoothly and settled into the corner before doing anything too sudden. The BMW just noses ever wider the harder you try, the tail barely straying even under full power in second gear and simply pushing safely wide if you attack a corner at ludicrous speed and lift off.

I tried turning in much too fast and braking in the middle of the corner. Only then did the BMW bite back. Finally provoked, it waltzed from one corner to another, hopping and bucking while I tried to decide what to do with an enormous steering wheel which wasn't apparently connected to the front wheels. Even at this stage of provocation, the control of the dampers over a wayward body was astounding, checking and holding with no slop or sensation of the weight that had been disturbed. But it was a confusing struggle within the car itself and it was hard to stop because there were no messages from any-

where - steering, body movement or wherever - suggesting a possible course of action for the driver. There was never any tap on the shoulder saying, "Try this."

It's fairly safe to say that on a dry road, only those seeking an early meeting with their Maker would need to worry about sorting this out. The car's limits are simply staggering, and while the car's tendency to push its nose wide is a dominant and slightly disappointing handling characteristic, the speed at which it becomes really irritating is too great to be safe anywhere on this island.

The brakes on both cars are immensely powerful although the Porsche's pedal moves a little farther before stopping than is ideal. The BMW's feel utterly tireless even after a dose of Hockenheim circuit, and are just the light side of ideally weighted. Both cars have ABS as standard.

So, we have a car which is staggeringly fast, as safe as anything that fast can be, motivated

'Sometimes you feel the need to be careful not to upset the Porsche's heavier tail which is dipping and swaying behind you, but the 968 invites you to be a partner in this driving process'

by a masterpiece of technology which is so temperament free as to be devoid of pistons and rods, mounted in a body which is beautifully finished and appointed, understated enough not to be vulgar yet aggressive enough to satisfy the most thrusting of male egos. It's more roomy and accommodating of differing sizes than the 968, and easier to see out of. It's also quicker, sounds classier, controls its body better, and it's cheaper.

So, faced with such an array of superiority, why is the BMW slightly disappointing? It's because the driver has become an irrelevance to the production of superior statistics. No doubt the telemetry at BMW's test track says this M3 corners faster than any road BMW ever before, but did the test drivers want to take the car out just for the hell of it? I want a car that feels good and makes me feel good too. The Porsche manages to do that, although it's undeniably less capable overall. If this is the way it's going, I might as well play computer games to test my reactions while British Rail gets me where I want to go. ■