

Number symbolism

The 16-valvers from the W 201 series – those bearing the lengthy model designation on the right of the trunk lid – are regarded by many as some of the most interesting Mercedes-Benz models in recent company history. Even during production they had a reputation as highly-prized classics.

Virtually drowned out by the wind and tire noise, the powerful roar of the four-cylinder 190 E 2.3-16 prototype continued unabated, round the clock, for eight days non-stop – at full throttle, with speeds averaging 247 km/h (153 mph), daytime temperatures reaching 40 °C (well over 100 °F) in the shade, and just a 20-second pit stop every two-and-a-half hours to allow for refueling and a change of driver and a five-minute break every 17,000 kilometers (10,500 miles) to check the valves and replace tires, oil and oil filters.

The company could not have wished for a more gratifying overture for its three Mercedes-Benz 190 E 2.3-16 models than that staged on the circular 12.6-km (7.8-mile) Nardo circuit in Italy's deep south in August 1983. After just over 201 hours of foot-to-the-floor driving, the 150-man Daimler-Benz team came away with all three of the endurance world records they had been chasing – the 25,000 kilometers, the 25,000 miles and the 50,000 kilometers – at speeds averaging close to 250

km/h (155 mph). In establishing these world bests they also set a further nine international class records in the Category D 3,000 cc class.

Nine months after this brilliant baptism by fire – and eight months after its presentation at the Frankfurt Motor Show in September 1983 – the 190 E 2.3-16 was ready for its next challenge. In May 1984 Daimler-Benz lined up twenty identical 16-valvers in a special race to mark the opening of the new Nürburgring. At the wheels were Stirling Moss, Jack Brabham, Niki Lauda and 17 other motor sport legends in an event staged to give the newcomer a generous publicity boost. The eventual winner was a driver whose most memorable moments in racing still lay some years in the future – Ayrton Senna took the victory ahead of Niki Lauda and Carlos Reutemann.

No other car had ever achieved world record honors a full year before series production start-up (September 1984), not to mention achieve greatness at the Nürburgring just a few months later. But these are



Full throttle in Nardo: Four weeks before its official presentation at the IAA in September 1983, the 190 E 2.3-16 set three new world records

just two of the fascinating facets of a legend that is today regarded as one of the most interesting developments in recent Mercedes-Benz history. For never before had there been a car like this top-of-the-range W 201 series from the brand with the three-pointed star.

Officially the 190 E 2.3-16 had been intended to showcase the quality and development potential lying dormant in the new compact class from Mercedes-Benz. However, a glimpse at its development history reveals something of the true background to this high-performance model. Back in the early 1980s the Mercedes-Benz sports department had produced a specifications document for a future rally car relating to the forthcoming W 201 series that was finally presented in December 1982.

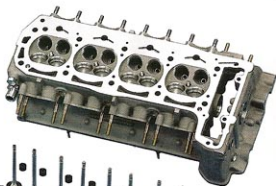
In addition, September 1980 saw the start of development work on a four-valve cylinder head for the 2.3-liter M 102 direct injection engine that had celebrated its premiere as a two-valve version in the 230 E (W 123) in July 1980. But the Daimler-Benz works outfit officially withdrew from motor sport at the end of the 1980 season.

The company's withdrawal did not mean an end to work on the sporty image-bearer, however. With a keen eye on the rapidly growing tuning market and private racing stables, it continued development of the 190 E 2.3-16 for three more years - until just before its presentation at the IAA in Frankfurt in 1983.

The fact that another year was to pass before the first production models came off the assembly lines was due to teething

difficulties experienced with the manufacture of the cylinder head, which had been developed in cooperation with the British four-valve specialists Cosworth and built in England in line with Mercedes-Benz's exacting quality standards.

The 190 E 2.3-16 had already become the object of some general consternation and murmurings in the press. For this Mercedes was something completely new. With its ergonomically-designed bucket seats, sports steering wheel, direct power steering and auxiliary dials on the center console - including an analog voltmeter, analog oil temperature gauge and digital stopwatch - the car was designed to appeal to an entirely new clientele. And with its distinctive rear spoiler, lower front and rear aprons (compared with the less showy 190



The light-alloy cylinder head with roller-chain-driven dual overhead camshafts and sixteen valves

models) and aerodynamic additions to the wheel arches and sidewalls, the car gave the impression it had been delivered straight to the Mercedes showrooms from the high-speed circuit in Nardo.

Unlike much of the tuning paraphernalia on offer at the time, however, all the additional aerodynamic body kit for the 16-valve had been developed and perfected under meticulous wind-tunnel testing and was designed to make a significant contribution to directional stability and road adhesion. In comparison with the 190 E, which had a Cd value of 0.33, the 190 E 2.3-16 returned an improved drag coefficient of 0.32 - despite having wider-format 205/55 VR 15 tires. Lift was 47 percent lower on the front axle and down by 40 percent on the rear axle.

The new multi-link independent rear suspension used in all 190 models was adapted



Nearside mirror, new designation, available in four colors, not two: 5,743 units of the 190 E 2.3-16 were built by June 1993



The next evolutionary stage: The 190 E 2.5-16 Evolution – later known as “Evo I” – is just a shade more discreet than the “Evo II” (below)

to satisfy more stringent requirements by the integration of hydropneumatic level control. In addition, a multiple-disk limited-slip differential – to give it its official title – ensured that the 190 E 2.3-16 was able to transmit optimum power to the road surface even on close cornering.

Further fine-tuning helped the driver to accelerate the 185-hp 190 E 2.3-16 to 100 km/h in just 7.5 seconds and to reach a top speed of 230 km/h (143 mph).

But such pleasures came at a price. At its launch in September 1984 the 190 E 2.3-16 cost a princely 52,212 deutschmarks. But that did little to dampen public enthusiasm. On the contrary, high customer demand during the first year of production meant that new cars could be privately resold with a markup.

However, those who had been eagerly awaiting the sports sedan since its inception were forced to wait a little longer – until May 1985 to be precise; not until 5,000 cars had been built could the 190 E 2.3-16 qualify for homologation as a near-standard Group A vehicle for touring car racing and rallies.

Sales figures for the road version were as dynamic as the 190 E 2.3-16's torque curve. The model came in two colors only – metallic black pearl and metallic smoke silver. In total 19,487 examples were built prior to June 1988.

In September of that year, the successor model was unveiled at the Paris Motor Show: the 190 E 2.5-16. The increased displacement resulted from a lengthening of the previous model's stroke. With a catalytic converter fitted, the new model delivered 195 hp and reached a top speed of 230 km/h (143 mph). Outwardly the 2.5-

liter version could easily be mistaken for its predecessor: the only details that gave it away were the model designation, the nearside wing mirror and two additional metallic paint finishes – almandine red and astral silver.

The 190 E 2.5-16 formed the basis for the Group A touring sports car used in the German Touring Masters DTM (see page 60). There was one slight problem, however: The engine had a relatively long bore/stroke ratio of 95.5 x 87.2 millimeters and as such was not ideally suited either to high engine speeds or to performance-enhancing measures.

So Daimler-Benz decided to develop a completely new engine with the same displacement. But FIA regulations stipulated that a new engine could only be used in an already homologized vehicle provided that at least ten percent of the Group A homologation figure for series production was met. Since the basis vehicle had qualified for homologation with the old 190 E 2.3-16, the company was obliged to build 500 units fitted with the new engine if it was to be eligible to take part in touring car racing. The outcome was the car that appeared in March 1989 at the Geneva Motor Show: the 190 E 2.5-16 Evolution. With a shorter

bore/stroke ratio (97.3 x 82.8 mm) the 2.5-liter engine, which gave 195 hp in the production version with catalytic converter, had already been prepared for performance-enhancing measures.

In addition, the engineers had made modifications to the running gear and the brake system. The “Evo I” had 16-inch wheels, a special flat front spoiler, an enlarged rear spoiler with triangular section and enlarged wheel cutouts with distinctive wheel arch flares. All in all, 502 examples of the car were built – all in metallic black pearl – and sold to customers with a special interest in motor sport.

The final phase was unveiled in Geneva the following year: the 190 E 2.5-16 Evolution II, better known as the “Evo II”, a kind of definitive version of the 190 E with Batmobile-look. It delivered 235 hp and drove on 17-inch tires. Although the body modifications were deliberately eye-catching, they were by no means just decorative tuning accessories. Above all, they served to increase the downforce on front and rear axles. Integrated spoilers were also added to the front and rear bumpers, and the giant rear fin was more reminiscent of something out of Formula One. The wheel arch flares were also given a more distinctive look. The Evo II was produced for a period of three months – from May to July 1990 – and once again only 502 units were produced, all in the same metallic black pearl finish.

And should you ever catch sight of one of these rare breeds traveling at speed, listen out for that thrilling four-cylinder roar – the sound that was once heard echoing around the high-speed track at Nardo all those years ago.



Final phase: 502 examples were built of the 190 E 2.5-16 Evolution II from 1990