

MUSCLE MERCEDES

Mercedes-Benz and Porsche team up to build the 500E, a hot rod for the autobahn

By J.P. Vettraino

They had us before we ever set our backsides in the leather sport seats. It was unfair, really, yet simple and quite effective. When Mercedes-Benz introduced its 500E to the American automotive press, it did so in this V8-powered Teutonic Knight's native environment—the emerald-and-gold quilt of the Fatherland in autumn.

Here's the keys, there's the autobahn.

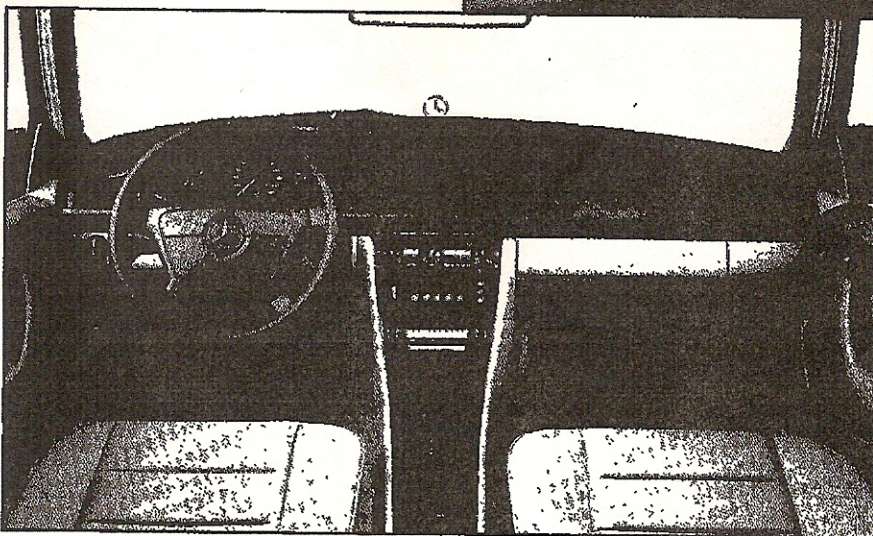
It's tough to find fault with a sedan that's part silk and part granite at 140 mph-plus. But the 500E is more than an autobahn missile. Mercedes calls it a milestone, for both its technical strengths and the unprecedented role Porsche A.G. plays. Porsche will manufacture the car, and its R&D team in Weissach led the modification of the E-Class chassis to accommodate an engine that in full race trim pulled the Sauber Mercedes to a world sports car championship.

The engineers at Mercedes—the really German engineers you imagine, in their white, neatly-pressed shop coats—say the decision to build the 500E was not a question of competition. Never mind that the car packs 326 hp, substantially more than the smooth, torquey V8s in the new luxu-cruisers from Japan. Never mind that it is more flexible than that M-car from Bavaria. When Mercedes decided to tuck the SL's 5.0-liter, four-cam, variable-valve-timing V8 in the mid-size E-Class, it was only doing so to showcase the company's technology. When it tuned the suspension to handle the extra output and added subtly aggressive body tweaks, it was simply rewarding loyal Mercedes buyers with “a more individual means of expression.”

Kicking the competition's tail was, well, an unanticipated side-effect, right?

The concept behind the 500E is familiar to every high school hot-rodder; that is, put a big engine in a small car and go faster. At Mercedes-Benz, however, design is generally a bit more involved than that. The challenge was getting a 90-degree V8 into a chassis designed for a straight-six, all the while

maintaining rigidity and crash standards and keeping engine mass far enough behind the front axle for good balance. Chief engineer Dr. Wolfgang Peter says Mercedes could not



In this rocketship's cockpit, only a bit of extra wood trim tells a tale about surplus thrust

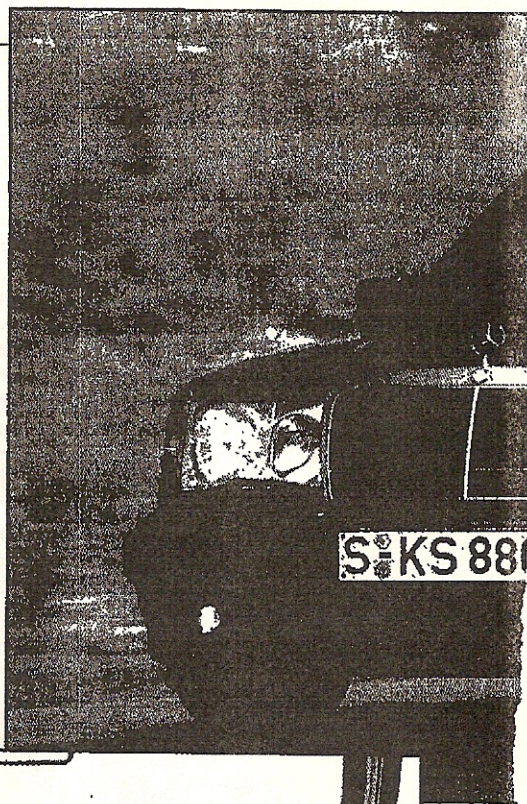
justify the cost of expanding its own staff for a low-volume car like the 500E. Instead, the company took advantage of engineering talent at Porsche's Weissach facility.

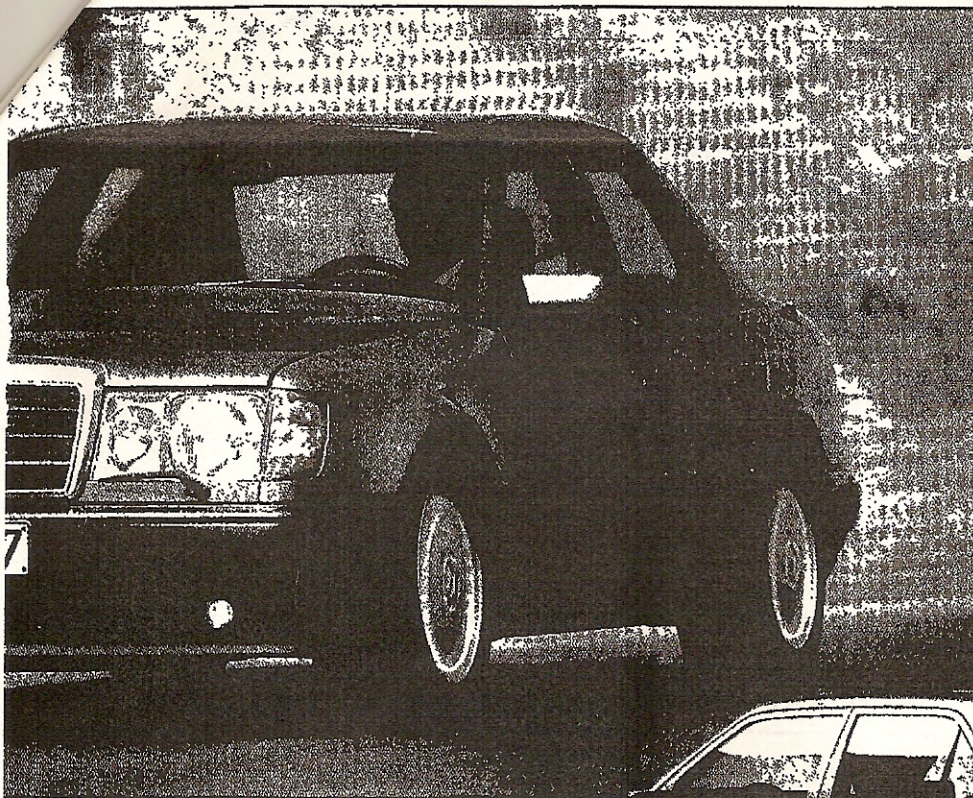
Under contract from Mercedes, Porsche reworked the E-Series chassis by enlarging the engine compartment, strengthening metal walls and cross members, and making room for a larger-volume exhaust system. In the process Mercedes concluded that 500Es could be most efficiently manufactured by Porsche. Thus, bodies will be assembled by Porsche in Zuffenhausen, then shipped to the Mercedes plant in Sindelfingen for anti-corrosive treatment and paint. The cars are then returned to Zuffenhausen for final assembly by hand.

Mercedes' 4973 cc V8 got some massaging of its own for application in the 500E. The key improvement is what Peter calls a “revolutionary” engine management system incorporating most microprocessors, in-

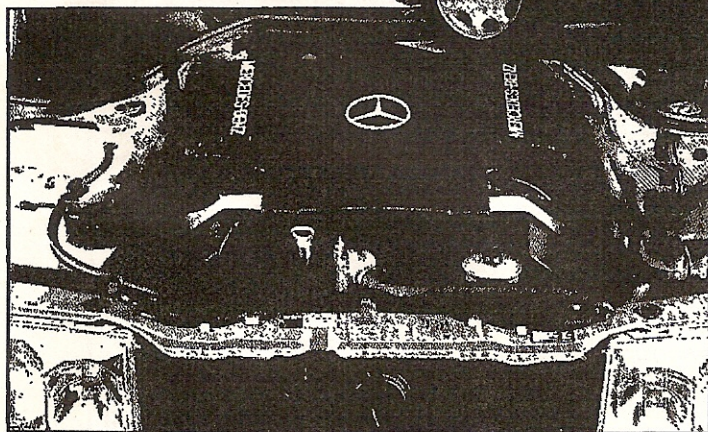
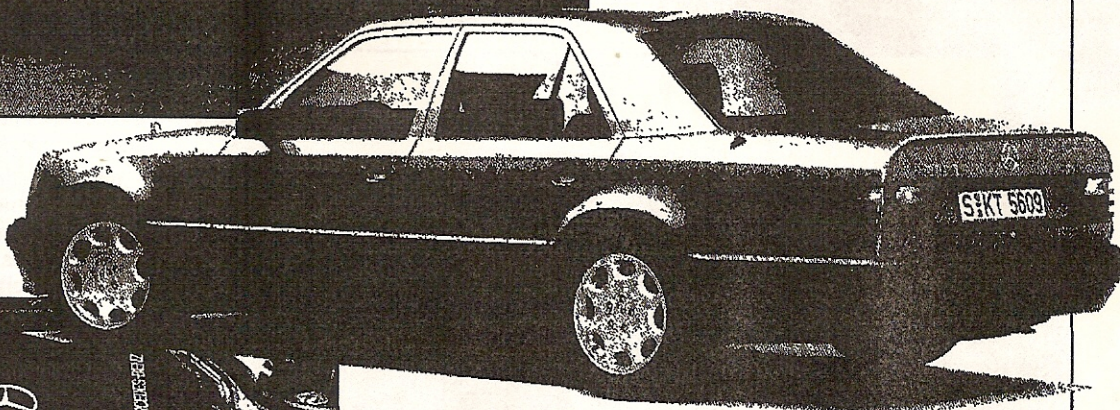
cluding those that operate the ABS and standard traction-control system, into a single interactive unit. Together with a longer intake manifold, the result is the same 326 hp at 5700 rpm, but an increase of 22 lbs ft of torque over SL trim (to approximately 354 lbs ft at 4000 rpm). And wary of the strengthening Green movement in Germany, Mercedes equips the 500E with new, large-volume ceramic catalysts that Peter says heat almost instantly to reduce nitrous oxide and carbon monoxide emissions.

Improving the E-Class suspension are stronger, heavier wishbones, steering linkage and rear axle cross members from the SL. The 500E's body is lowered 23 mm, but not simply by using shorter, stiffer springs. To maintain progressive spring rates and reasonable compliance, Peter says the 500E is equipped with new plastic “buffers” that slow spring compression over the last few centimeters of travel. Re-





Wheel flares and fat tires (above and right) give away this secret agent's mission: lay down the power where there is no law against it



With more torque than in SL, 5.0-liter V8 makes same 326 hp

calibrated shocks increase rate as they approach full compression. The suspension is finished with a hydraulically actuated self-leveling system, to maintain proper geometry regardless of load.

The 500E's most obvious visual distinction is sinister 16x8-inch rims and 225/55, Z-rated tires. To accommodate the rubber, new quarter panels are stamped with fender flares that extend an extra 28 mm.

Technical excellence is expected from Mercedes-Benz, though. It's the integrated whole, not mere parts, that matters. And at speed the 500E is as solid as the medieval fortresses that dot the Rhine Valley, as if cut from a single oak timber or stone block.

Four wheels stay firmly planted no matter

how fast the 500E travels. Through rain, through crosswinds, there is never any queasy feeling in the driver's stomach. Still, the suspension is supple enough to soak up expansion joints and other irregularities without upsetting those in the cabin.

And the 500E car stops as quickly as it

goes. The vented discs with larger surfaces in front and rear, plus four-piston calipers in front, offer all the deceleration that safe high-speed touring demands.

There is something immensely satisfying about watching a police car yield the left lane as you approach from behind. Its better if you see the envy on the officer's face as you calmly roll past at 240 km/h. Even before the first customer deliveries, the 500E is near the top of the autobahn pecking order.

And for drivers who aren't allowed to drive as fast as car and conditions allow? The 500E has plenty to offer on this side of the Atlantic. Its V8 is wonderfully smooth and linear, pulling from the instant you press the accelerator all the way through its

shift point, somewhere around 5800 rpm. The four-speed automatic, switched to sport mode, downshifts immediately when the pedal goes down. We were left no reason to doubt Mercedes' claim that the 500E—all 3800 pounds of it (or roughly 300 lbs less than a 500SL)—will reach 60 mph from a stop in six seconds or less.

Limited off-autobahn touring was enough to prove the 500E unafraid of twisting two lanes. Steering is quick, progressive and nicely weighted; it doesn't wait for high speeds to lighten up, as in some cars that carry the tri-star. And you can point the 500E into a turn at full throttle, confident the ASR traction control will keep you from losing the tail. A collection of sensors and chips modulate the throttle and brake according to traction, making it virtually impossible to spin the tires.

Comparison with BMW's M5 is almost inevitable. An honest test would require in-

struments, or at least back-to-back tours at the wheel. Yet a few points are obvious. The 500E is not as hard-edged, not as peaky. Its power band is much broader, and if ever there was a car suited in the sporting sense to an automatic transmission, this is it. If the M5 is an autobahn commando, the 500E is a secret agent. One can be as lethal as the other, but their methods are not in the least bit similar.

For most enthusiasts, at least, there is one obvious problem with the 500E: Its price.

Porsche will assemble 12 a day, or about 3000 a year. Mercedes says that makes the car "an exclusive and rare item," justifying a price in Germany of DM 134,520. At current exchange rates, that equals (hold on) almost \$90,000, or roughly the same price as that of a 500SL (\$89,300 before guzzler tax). And when the car reaches the U.S. this summer, it will come with a higher level of standard equipment than it does in its home market, including a trunk-mounted CD changer.

It could be argued that the 500E takes the sports sedan to a new plane. But excellence, apparently, is expensive. Is the newest Mercedes worth \$30,000 more than an M5, or twice as much as an LS400 or Q45?

That is for purchasers to decide. ■