



1996 Mercedes-Benz

E50

Imposing performance,
impressive handling,
the AMG touch

BY ANDREW BORNHOP

WHEN THE AMG-built Mercedes-Benz E 50 reaches its electronically governed top speed of 250 km/h (155 mph), the car sustains that velocity with an eerie smoothness, without the sort of sputtering expected of a car whose fuel supply is being intermittently cut off. This marvel of modern engine management became apparent as photographer John Lamm and I hurried down the *Autobahn* toward Stuttgart.

We were in Germany for an early look at the new E 50 and E-class wagon (see our First Drive in this issue). But we wanted more than just a look at the E 50; we wanted to test this muscular 4-door sedan, which packs a 342-bhp 4-cam V-8 under its hood. And though the car won't be coming to the U.S. until the spring of 1998 (when an all-new aluminum V-8 is developed), we wanted to know if this European E 50 is a proper heir to the 500E, a car that has taken on a cultlike status among enthusiasts, a car that we dubbed "The Terminator of luxury sedans" in our May 1992 issue.

And test the E 50 we did, at Continental Tire's track near Hannover. The most notable feature at the facility is the Contidrom, a 1.75-mile high-speed oval whose corners are so steeply banked that the short vertical yellow wall on the perimeter of the track is more like an extension of the banking than a barrier. Especially at 230 km/h, when the g-loading presses you firmly into your seat and compresses not only your spine, but also the car's suspension. The remotely located track made me wonder if this is what the historic Avus circuit in Berlin might have been like. And though I'm no Rudi Carac-

PHOTO BY JEFFREY R. ZWART

ciola, I did have a silver Mercedes at my disposal.

And a quick one at that.

With the standard traction control switched off (not possible in the 500E), 60 mph arrived in only 5.4 seconds, and the quarter-mile post came up in 13.9 at a trap speed of 103.0 mph. That betters the 500E by more than a half-second in each test, and it also proves that the E 50 is quicker than an LT1 Corvette or an Acura NSX. Four-door sedans with room for five aren't supposed to do that.

Nor are they supposed to brake as well as a Ferrari F40. But from 60 mph, the 3695-lb. E 50 stopped in only 117 ft., compared to 119 for the F40. And from 80, the E came to a halt in only 208 ft., another command performance. The grippy surface at Continental plainly played a role here, but the E 50 has outstanding brakes. Monstrous 13.1-in. vented rotors are on duty in front, and the rears are the 11.8-in. vented discs pulled from the SL 600 model.

The E 50 also possesses a bit of neat brake technology gleaned from AMG's experience in the International Touring Car championship. The front rotors are mounted on 12 stainless-steel pins emanating radially from the hub. This allows cooling air to reach the inner diameter of the friction ring, and it also helps prevent heat from transferring to the hub and cooking the wheel bearings.

In our other tests, the E 50 wove through our 700-ft. slalom at a more-than-respectable 62.8 mph, and it circled Continental's 174-ft. skidpad at a surprising 1.0g (our skidpad tests are usually performed on 200-ft.-diameter circles). In both tests mild understeer was the norm, but the tail could (and would) come out under power when the ASR traction control was switched off. Sticky Bridgestone S-02s (the same tires Porsche fits to its 911 Turbo

but in sizes 235/40ZR-18 front, 265/35ZR-18 rear) helped produce these fine results, but remember that the Continental pavement was better than our usual test surface.

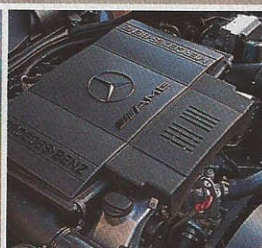
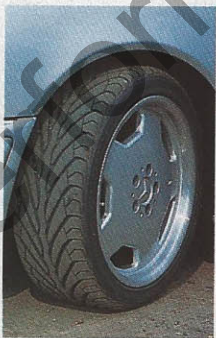
The E 50 begins life as an E 420, painted and shipped to the AMG facility in Affalterbach *without* engine, suspension or gearbox but *with* the interior, wiring and special quarter-panels in place, the last to accommodate the larger rubber. Then, in goes an AMG-modified M119 V-8 (from the S 500), where it's mated to a 5-speed automatic transmission (from the SL 600) and a 3.06:1 rear end. Next, the exhaust, brakes and suspension are installed. The design of the E-class's control-arm front and multilink rear suspension doesn't change, but the springs and shock absorbers are firmer and unique to the E 50, lowering the ride height by about an inch. The bushings and anti-roll bars, however, are stock E 420 parts.

In the 10 working days it spends at AMG, the E 50 also takes shape esthetically, receiving just a few subtle modifications that suggest this car is a bit more potent than other E-class sedans. These include new rocker panels, 5-spoke AMG alloy wheels wearing the meaty Bridgestones, a rear apron, a twin-tip chrome exhaust outlet and a

front air dam with circular foglamps. Nothing else is done; anything additional would cheapen the look.

Unlike the C36, which is shipped back to Mercedes for final assembly and inspection, the E 50 is completed entirely at AMG, at a new facility where even the final inspection takes place. In all, AMG—which is not owned by Mercedes but works exclusively for the company—installs some 3500 pieces in the E 50, the majority appearing where they matter most: in the 4973-cc 4-cam V-8, which puts out 342 bhp at 5750 rpm and peak torque of 354 lb.-ft. that rides a plateau from 3750 rpm to 4250. From as low as 1800 rpm, this 32-valve aluminum V-8 has 295 lb.-ft. of torque on tap.

The engine is a reworked version of the 500E's V-8 with bumped compression (11.0:1), ported cylinder heads, larger intake valves, stronger valve springs and new chain-driven camshafts for greater valve lift and longer duration. The engine also breathes through a new twin-pipe intake system (with two separate air filters) that feeds a new aluminum intake manifold. On the exhaust side, AMG uses larger-diameter tubing—plus the mufflers and catalytic converters from the 12-cylinder Mercedes-Benz models—to reduce backpressure. Fuel injection



PHOTOS BY JOHN LAMM

■ Top: The E 50 at speed on the Contidrom's steep banking. Those sticky Bridgestones help put the V-8's 342 bhp to the ground... and bring the E 50 to a quick halt.

and overall engine management are by Bosch HMS 6, which uses a hot film to measure the mass of the incoming air. The electronic control units for both the engine and transmission are specifically tuned for the E 50.

The gearbox is Mercedes' own 5-speed automatic, which, like other modern boxes, tailors its shift schedule to the characteristics of the driver. For example, if the driver has a lead foot, it will upshift at redline and downshift more quickly than usual. And when that driver abruptly lifts off the throttle again, the box won't immediately upshift as others do because it's expecting the driver to get back on the throttle again, and therefore avoids what would likely be a time-consuming downshift. It's sporty for an automatic, and manual shifting is facilitated by Mercedes' characteristically notched gate.

Inside the E 50, the first thing you'll notice is two-tone leather on the steering wheel and sport seats, which are comfortable and especially supportive in the upper back area, thanks to the large side bolsters. Pictograph-style adjusters on the door panels allow the driver to find just the right seating po-

sition and steering-wheel angle. As in any E-class, leg room is abundant, so much so that the E is one of the few cars in which people over 6 ft. tall won't need to move the seat all the way rearward. Head room is also fine, even with the glass sunroof swallowing up some of that valuable space.

On the road the E 50 has a dual character. At mild throttle openings it drives just like an E 320, with a ride that's surprisingly supple considering its low-profile tires. However, when you really put your foot deep into the long-travel throttle (which is tuned for graceful launches, not snapping heads), the spirit of the 500E rises up and turns this 4-door sedan into a rocket. The V-8 bellows a deep-throated growl, and full-throttle upshifts occur right at the 6000-rpm redline, where revs drop back into the thick of the powerband, to 4500 rpm in 2nd gear, to be exact.

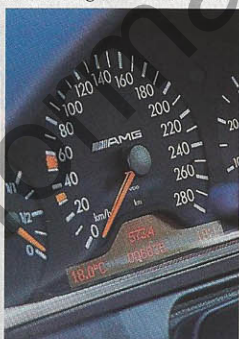
As expected of any E-class, the structure feels vault-solid, the wind noise is low and the rack-and-pinion steering is properly weighted, although a bit more input through the rim of the 4-spoke wheel would be appreciated. And considering the E 50's enor-

mous stopping power, the brake pedal, which comes across as a bit spongy, could be firmer.

In Germany, the price of the E 50 is DM130,000, not including a 15-percent value added tax. Converted into today's U.S. dollars, that works out to about \$85,000. But Mercedes-Benz North America insists that the E 50 will be sold in the U.S. for about \$70,000, reflecting the competitive nature of our market. At this price, Mercedes certainly won't have any trouble selling the 500 or so E 50s it plans to import each year.

Why, though, do we have to wait so long—until the spring of 1998—for the E 50? Mercedes says it doesn't make sense to certify the 5.0-liter V-8 for the short time between now and the E-class's new aluminum engines, which arrive in the fall of 1997. These will include Mercedes' first-ever V-6, a 3.2-liter, and a 4.3-liter V-8. Both will likely be 3-valve-per-cylinder designs, and both are said to be lighter, more powerful and cleaner-burning than the current engines. But when AMG gets its hands on the new V-8, it will be bumped up to at least 5.0 liters (perhaps even 5.5) and a level of power that's greater than the V-8 tested here.

That's wonderful news for us Americans, who'll also benefit from two other items likely to appear on the 1998 E 50. The first is a sensor in the front passenger seat that automatically deactivates the airbag when the seat isn't occupied; this, to lower repair costs. The other item, likely an option, is a navigation system with pleasant female voice commands. This lady, I can report, does not speak with a German accent. But the new E 50 by AMG most certainly does. And we can't wait to hear it roar in the U.S.



■ The two-tone leather is installed at Mercedes-Benz, before the E-class bodysells are shipped to AMG. The forwardmost switch on the E 50's center console turns off the traction control...and turns on the fun.



1996 Mercedes-Benz E50

MANUFACTURER

Mercedes-Benz AG
70322 Stuttgart
Germany

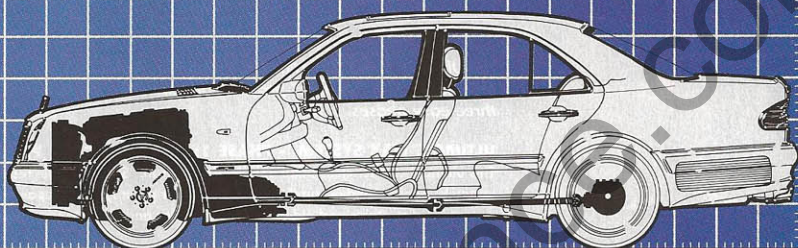
PRICE

List price..... see text
Price as tested..... see text
Price as tested includes std equip. (ABS, ASR traction control, driver & passenger airbags, side-impact airbags, dual-zone automatic climate control, AM/FM stereo/cassette, central locking, tilt & telescoping steering wheel, sunroof, seat heaters, cruise control; pwr seats, windows and mirrors; arc-discharge xenon headlights, headlight washers and AMG modifications).

0-60 mph..... 5.4 sec
0-1/4 mi..... 13.9 sec
Top speed..... 155 mph*
Skidpad..... see text
Slalom..... 62.8 mph
Brake rating..... excellent

TEST CONDITIONS

Temperature..... 65° F
Wind..... calm
Humidity..... 43%
Elevation..... 100 ft



SCALE: 10 in. (254mm) DIVISIONS
DRAWING BY BILL DOBSON

ENGINE

Type..... aluminum block & heads, V-8
Valvetrain..... dohc 4 valve/cyl
Displacement..... 303 cu in./4973 cc
Bore x stroke..... 3.80 x 3.35 in./
96.5 x 85.0 mm
Compression ratio..... 11.0:1
Horsepower
(SAE)..... 342 bhp @ 5750 rpm
Bhp/liter..... 68.8
Torque..... 354 lb-ft @ 3750 rpm
Maximum engine speed..... 6000 rpm
Fuel injection..... elect. sequential port
Fuel: prem unleaded, 95 RON pump oct

CHASSIS & BODY

Layout..... front engine/rear drive
Body/frame..... unit steel
Brakes
Front..... 13.1-in. vented discs
Rear..... 11.8-in. vented discs
Assist type..... vacuum; ABS
Total swept area..... 668 sq in.
Swept area/ton..... 344 sq in.
Wheels: cast alloy, 18 x 8J f, 18 x 9J r
Tires..... Bridgestone S-02;
235/40ZR-18 f, 265/35ZR-18 r
Steering..... rack & pinion,
variable power assist
Overall ratio..... 15.2:1
Turns, lock to lock..... 3.3
Turning circle..... 37.1 ft
Suspension:
Front..... upper control arms,
lower L-arms, extended
wheel carriers, coil springs,
tube shocks, anti-roll bar
Rear..... multilink, coil springs,
tube shocks, anti-roll bar

DRIVETRAIN

Transmission..... 5-sp automatic
Gear..... Ratio..... Overall ratio..... (Rpm) Mph
1st..... 3.59:1..... 10.98:1..... (6000) 39
2nd..... 2.19:1..... 6.70:1..... (6000) 65
3rd..... 1.41:1..... 4.31:1..... (6000) 101
4th..... 1.00:1..... 3.06:1..... (6000) 142
5th..... 0.83:1..... 2.54:1..... (5440) 155*
Final drive ratio..... 3.06:1
Engine rpm @ 60 mph in 5th..... 2100
*Electronically limited.

GENERAL DATA

Curb weight..... est 3695 lb
Test weight..... est 3885 lb
Weight dist (with
driver), f/r, %..... 67/33
Wheelbase..... 111.5 in.
Track, f/r..... 61.4 in./60.7 in.
Length..... 188.8 in.
Width..... 70.8 in.
Height..... 55.6 in.
Ground clearance..... na
Trunk space..... 18.5 cu ft

MAINTENANCE

Oil/filter change: 15,000 km/15,000 km
Tuneup..... 30,000 km
Basic warranty..... 12 mo/unlimited

ACCOMMODATIONS

Seating capacity..... 5
Head room, f/r..... 38.0 in./35.8 in.
Seat width, f/r..... 2 x 21.0 in./55.0 in.
Front-seat leg room..... 47.5 in.
Rear-seat knee room..... 25.5 in.
Seatback adjustment..... 70 deg
Seat travel..... 11.5 in.

INTERIOR NOISE

Idle in neutral..... 42 dBA
Maximum in 1st gear..... 73 dBA
Constant 50 mph..... 62 dBA
70 mph..... 65 dBA

INSTRUMENTATION

280-km/h speedometer, 7000-rpm
tach, coolant temp, fuel level

ACCELERATION

Time to speed..... Seconds
0-30 mph..... 2.2
0-40 mph..... 3.1
0-50 mph..... 4.2
0-60 mph..... 5.4
0-70 mph..... 6.9
0-80 mph..... 8.8
0-90 mph..... 10.8
0-100 mph..... 13.0
Time to distance
0-100 ft..... 3.0
0-500 ft..... 7.7
0-1320 ft (1/4 mi): 13.9 @ 103.0 mph

FUEL ECONOMY

Normal driving..... est 15.0 mpg
EPA city/highway..... na
Cruise range..... est 300 miles
Fuel capacity..... 21.1 gal.

BRAKING

Minimum stopping distance
From 60 mph..... 117 ft
From 80 mph..... 208 ft
Control..... excellent
Pedal effort for 0.5g stop..... na
Fade, effort after six 0.5g stops from
60 mph..... na
Brake feel..... very good
Overall brake rating..... excellent

HANDLING

Lateral accel..... see text
Balance..... mild understeer
Speed thru 700-ft slalom..... 62.8 mph
Balance..... mild understeer
Lateral seat support..... excellent

Subjective ratings consist of excellent,
very good, good, average, poor; na means
information is not available.

Test Notes...

■ The E 50's best acceleration runs were obtained with the traction control system switched off and the gearbox shifted manually.

■ With massive discs, smooth-pulsing ABS, sticky tires and an extremely grippy surface, the E 50 came to a halt quicker than any sedan we've tested in recent memory.

■ On Continental's smaller-diameter, high-coefficient skidpad, the E 50 felt well balanced, and the tail could easily be positioned with the throttle.