

1987 European Preview Issue

CAR AND DRIVER

DECEMBER 1986 • \$2.50

Speed Reading!



178-mph
AMG Hammer

238-mph
Mazda RX-7 Turbo



165-mph
Porsche 928S4

PLUS:
Citroën CX, Renault Medallion, Mercedes 300TD,
Alfa Romeo Milano, 1886 Benz, and a token Honda





AMG Mercedes Hammer



The hottest passenger sedan in history.

• Don't ask, "What's in a name?" *Hammer* means in German precisely what it means in English, and this car's name says exactly what it is: a hard-hitting tool. AMG crafts it to pound everything else flat.

The Corvette, the 911 Turbo, the Testarossa, and the Countach may be a wee bit quicker in a category or two, but no cigars. They may also take the cake for sex appeal, a highly prized attribute in this speedy league. But this four-door German hot rod utterly flattens them all on comfort, on practicality, and, most important, on the absolutely unadulterated, instantly available ability to rocket across the face of the earth. The Hammer we tested leaped from 0 to 60 mph in five seconds flat. It hurtled through the quarter-mile in 13.5 seconds at 107 mph. And it pounded down a long, flat straightaway to a top speed of 178 mph.

Like the Corvette, the 911 Turbo, the Testarossa, and the Countach, the Hammer covers ground so quickly that you swear you can feel the earth's curvature racing to meet you. Yet the Hammer is different. This AMG-modified sedan keeps you completely at ease as you pierce the atmosphere like a horizontal bolt of lightning. All that's lacking is the stench of scorched sulfur from the shocked aftermath of your receding thunder.

We have watched AMG, Germany's famed Mercedes-Benz tuning firm, tap an ever wiser and wider range of experience.

Always high on horsepower, the company has now come to grips with handling and aerodynamics as well. Hans-Werner Aufrecht, its owner, and Richard Buxbaum, his henchman at AMG of North America, in the Chicago suburb of Westmont, are moving quickly to expand their market. How better than by offering the fastest sedan available anywhere?

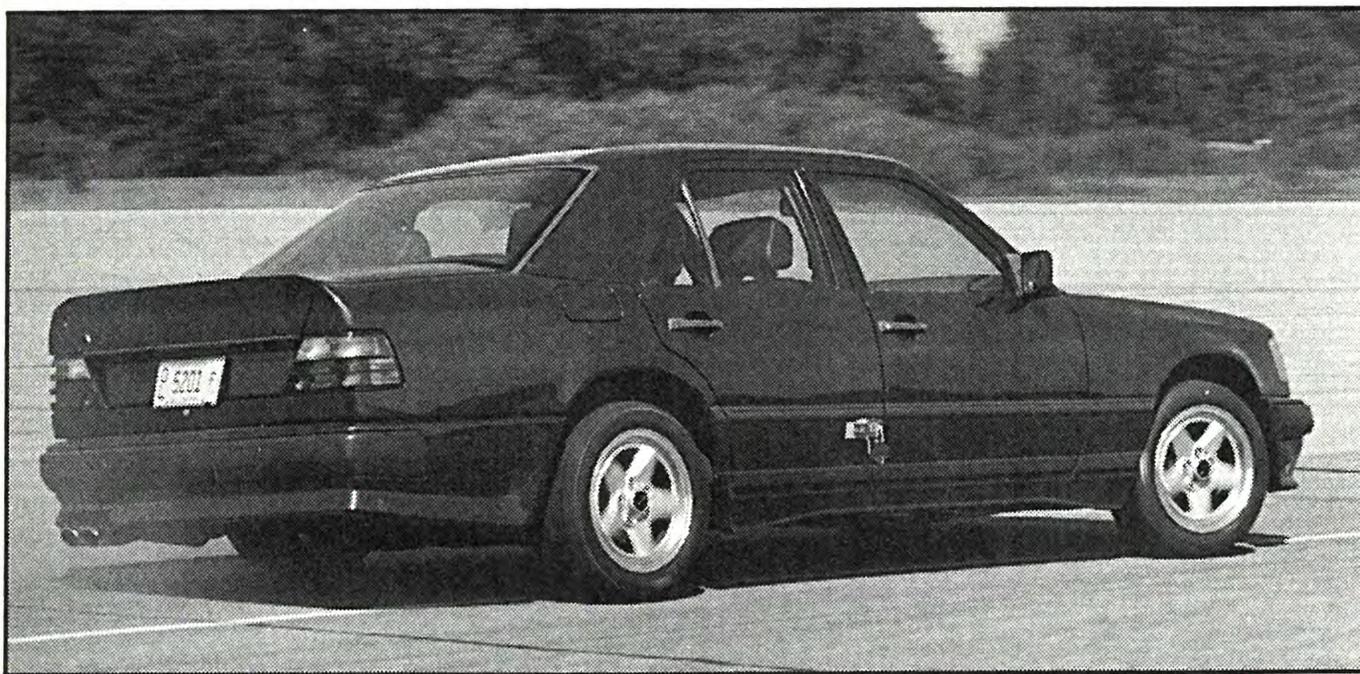
Before you auction off the family Countach, however, we have a disclosure to make: the Hammer pictured here is a rough prototype. According to Buxbaum, the performance of the finished products will be nearly identical to our test car's, but a number of alterations to the blueprint are planned before the conversion of customer cars begins. Instead of starting with a European-specification 230E, as AMG did in the case of our test car, future Hammers will be based on U.S.-spec 300Es. (The 230E, which is not available in the U.S., is essentially a 300E with a 2.3-liter four-cylinder instead of a 3.0-liter six.) High-performance three-way catalysts will be added, and KE-Jetronic fuel injection will replace the K-Jetronic of our prototype. Two bodywork pieces that on our test car were fiberglass prototypes will be fabricated from more permanent materials: the front air dam will be made of reaction-injection-molded polyurethane, and the ducktailed deck lid will be steel. Together with the safety hardware on the U.S.-spec 300E, these changes will in-

crease the Hammer's weight. AMG expects no loss of horsepower, however, because the U.S.-specification fuel injection is more sophisticated than the equipment in our test car and should more than make up for the exhaust restriction caused by the addition of catalyts.

AMG is also considering the use of stronger driveline components as a result of a failure that occurred during the final stages of our testing: a CV joint and a rear-axle half-shaft broke. AMG views this as a freak occurrence—no such troubles have cropped up in European Hammers—but it also realizes that a carefully nurtured reputation is at stake, so appropriate measures are under discussion. The Mercedes S-class four-speed automatic transmission and differential assembly have proved quite reliable to date in this application, and neither suffered a moment's hesitation during our tests.

Thanks to Mercedes-Benz's original efforts, the car that AMG begins with is thoughtfully designed, usefully packaged, exceptionally comfortable, and wonderfully practical. It gladly carries four adults, plus luggage. And with a little help from the mechanical midwives at AMG, it is reborn to buffalo those who buy megabuck cars more for brazen trolling than for brilliant driving.

The heart of the matter is a brawny V-8 stuffed into the hole left by the removal of the standard Mercedes in-line engine. The



Hammer conversion begins with the disassembly of a brand-new 5.5-liter powerplant from the S-class line. After polishing, blueprinting, and balancing the all-aluminum engine's gleaming guts, AMG swaps the stock single-cam, two-valve-per-cylinder heads for its own free-breathing twin-cam, four-valve-per-cylinder units. Each engine is carefully reassembled and tested on a dynamometer for eight to ten hours.

The payoff is 388 pound-feet of torque at 4500 rpm and 355 horsepower at 5500 rpm. That's 60 hp more than a stock European 5.5-liter Benz, and 125 hp more than America's hoo-boy 5.7-liter Vette. Just as important, the AMG engine in our test car whirred with no nasty quirks. Around town

or flat out, it always slathered its ferocity with imperturbable smoothness.

The Hammer is more than just an expensive engine swap. AMG's striking 8.0-by-17-inch alloy wheels look both aggressive and aerodynamic, and they wear Pirelli P700 215/45VR-17 rubber up front and 235/45VR-17s in back. A set of shorter, stiffer springs lowers the car, and the inner fender lips are pruned slightly to provide clearance for the huge tires. Snugly valved shock absorbers retain the famed Mercedes ability to keep the chassis off its bump stops, even under duress. In fact, AMG has made its greatest strides in suspension tuning. The firm ride comes up a little thumpy over potholes, but not harsh. Over relatively smooth surfaces, it borders

on silky, presuming you like your silk over a touch of muscle tone.

Either of two sets of bodywork finishes off the package. The more extreme choice consists of extra-low front, side, and tail skirts, said to cut the European 300E's drag coefficient from 0.29 to 0.25. The aero package applied to our Hammer hugs the ground less tightly, producing a claimed 0.27 Cd and few scrapes against tall curbs and steep driveways. Thanks both to its aerodynamics and to its tall final-drive ratio (2.24:1), the Hammer's thirst for premium fuel can be limited to a gallon every twenty miles or so when cruising, but only beneath the throttle foot of a saint.

The stabilizing effect of AMG's ducktailed deck lid, which does away with the 300E's beveled trunk line, feels as ducky as the lid looks. Even at very high speeds, we noticed no gusty winds until we stopped. Overall, the chassis never wavers, the interior remains free of wind noise at all speeds, and only when the big V-8 has its way with the world do the wondrous guttural snarls of the exhausts make themselves known.

That shoehorned V-8 is shorter than the Benz six but heavier. AMG's various alterations make the Hammer about 400 pounds heavier than a 300E, but the extra mass is at least equitably distributed. The battery is relocated to the trunk to clear space under the hood, and rear floorpan

Building Hot Rods the AMG Way

Hans-Werner Aufrecht has his own ideas about motoring in a Mercedes-Benz.

• Hans-Werner Aufrecht, the principal partner of AMG, has the style you expect of a man who invented the high-tech look of Mercedes-Benz hot rods. He wears expensively tailored suits and does business in Stuttgart, Beverly Hills, Tokyo, and Sydney. But when he discusses his company, founded in 1967 in an old mill near the village of Burgstall in Württemberg, it is clear that his interests run deeper than monochromatic paint schemes. Aufrecht built sports-car engines in the Mercedes racing shop in the early fifties, and he still has an insatiable passion for performance.

"AMG is different because we are twenty years old next year," Aufrecht says. "Also, from 1967 to 1977 we did only engine and suspension development work, so we are coming from the *Technik* way. And last, we have always been involved in racing. We now have a 190E sixteen-valve that is second in the German championship. The important thing is that we are always coming from the sports and *Technik* way, and we show it at the racetrack."

AMG is now based in Affalterbach,

just outside Stuttgart. Its 135 employees work in a four-building complex that includes an installation center, a paint shop, upholstery facilities, and an elaborate machine shop. AMG did its magic on 6000 cars around the world last year, of which 1500 were shipped to the U.S.

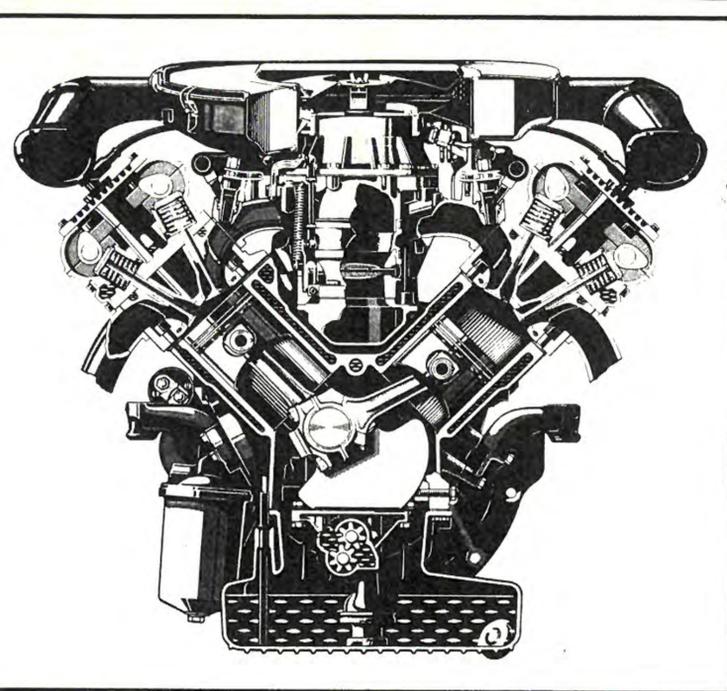
This year, however, Aufrecht and Richard Buxbaum, the president of AMG of North America, have concentrated on expanding the U.S. operation. Five warehouse distributors and 75 subdistributors are being established, and the ultimate goal is a nationwide chain of installation centers with AMG-trained personnel. "We are now prepared to install the whole program we have in Germany," Aufrecht says. "We do the whole car; we make the *Technik*, the *Optik*, and also the interior."

Andy Cohen, the president of Beverly Hills Motoring Accessories, believes the U.S. market has extraordinary potential for AMG. His company signed on as AMG West and opened an installation center last fall. Cohen observes that the decline of the gray market leaves AMG with little competition. In addition,

AMG can now offer professional installation and warranty coverage, making the hardware even more attractive to both individuals and Mercedes dealers.

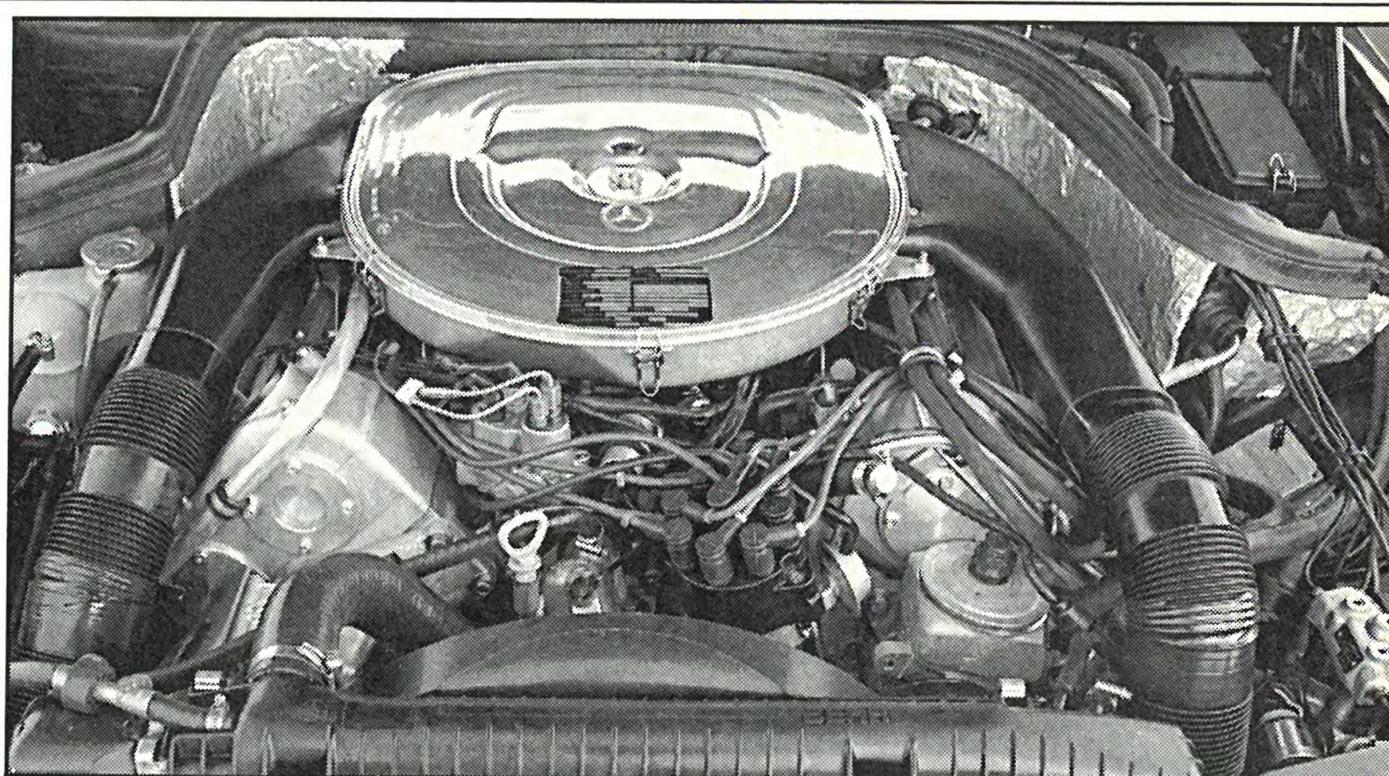
The outlook for high-tech European hot rods here appears to be brighter than ever. First, the collapse of the lucrative Arab market due to falling oil prices has forced European tuners to pay more attention to the U.S. And second, the new exhaust-emissions laws in Germany have led to a generation of high-performance engine hardware that also meets U.S. emissions requirements. AMG is simply the first to realize the dimensions of this new market. Aufrecht hopes soon to equip five percent of Mercedes-Benz's annual 80,000 U.S. imports with his products each year.

The U.S. market may have its own priorities, but Aufrecht says his standards of performance will not change. He is a hard, serious man, and he emphasizes that his company's reputation is founded upon its technical expertise. For example, "we went from design to production of our four-valve cylinder head in one year," he says. "A big firm needs



reinforcements are added to accommodate the S-class final-drive assembly. As a result, the Hammer actually boasts better weight distribution than the 300E.

The Pirelli P700 tires specified for the Hammer were in short supply during our time with the prototype, so AMG asked us to substitute other rubber for our cornering and braking tests: a set of sixteen-inch Goodyear VR50 S tires with shaved treads. The modified gatorbacks didn't run as smoothly as the Pirellis, but their gluey adhesion helped the Hammer pound around the skidpad at a punishing 0.85 g, neck-stretching with the swoopiest of supercars. Judging by our tire tests, we doubt that the Hammer would be able to exceed that figure on P700s.



In stopping from 70 mph, the stock Mercedes ABS disc brakes clamped Doktor Hammer to a halt in a thrillingly short 165 feet—a performance only one foot longer than the best-of-the-best, that of the ABS-equipped Corvette. Both cars easily outstop the Testarossa and the Countach. An all-out stop from top speed would probably be too much to ask, but on hill-bent, forest-wrapped roads, the Hammer's brakes never faltered. Slowing from a ripping 160 mph on weaving lanes down to 50 mph for blind corners, we found only modest fade. Bigger brakes are on the way for those who need even more stopping power.

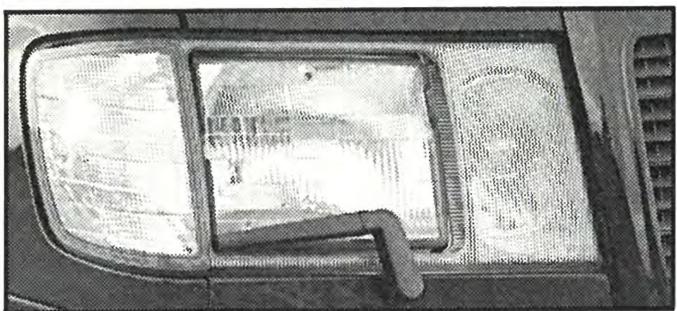
AMG prepares the 300E's four-speed automatic for life behind a more powerful engine with a special hydraulic valve body and revised modulator-pressure settings. The first combination we tried was performance-oriented; it produced 30-to-50-mph and 50-to-70-mph bursts of 2.8 and 3.1 seconds, the fastest we have ever recorded. But it also made the gearbox shift jerkily and often refuse to upshift at part throttle until the pedal was feathered. When we questioned the need for such harsh action, AMG reset the modulator pressure, and our test car promptly shifted more smoothly. This one small adjustment transformed the Hammer's charac-



four or five years. In one year, maybe they have the drawings ready, but not the engine."

As for the kind of cars his company is likely to produce, Aufrecht often tells the story of testing a big Merc V-8 with AMG four-valve heads at the Nürburgring. He found himself behind a Ferrari GTO, one of his personal automotive favorites. He blew past the exotic turbocharged sports car, reaching down as he went by to turn on the Merc's radio. That, Aufrecht says, is his idea of luxury motoring. —Michael Jordan





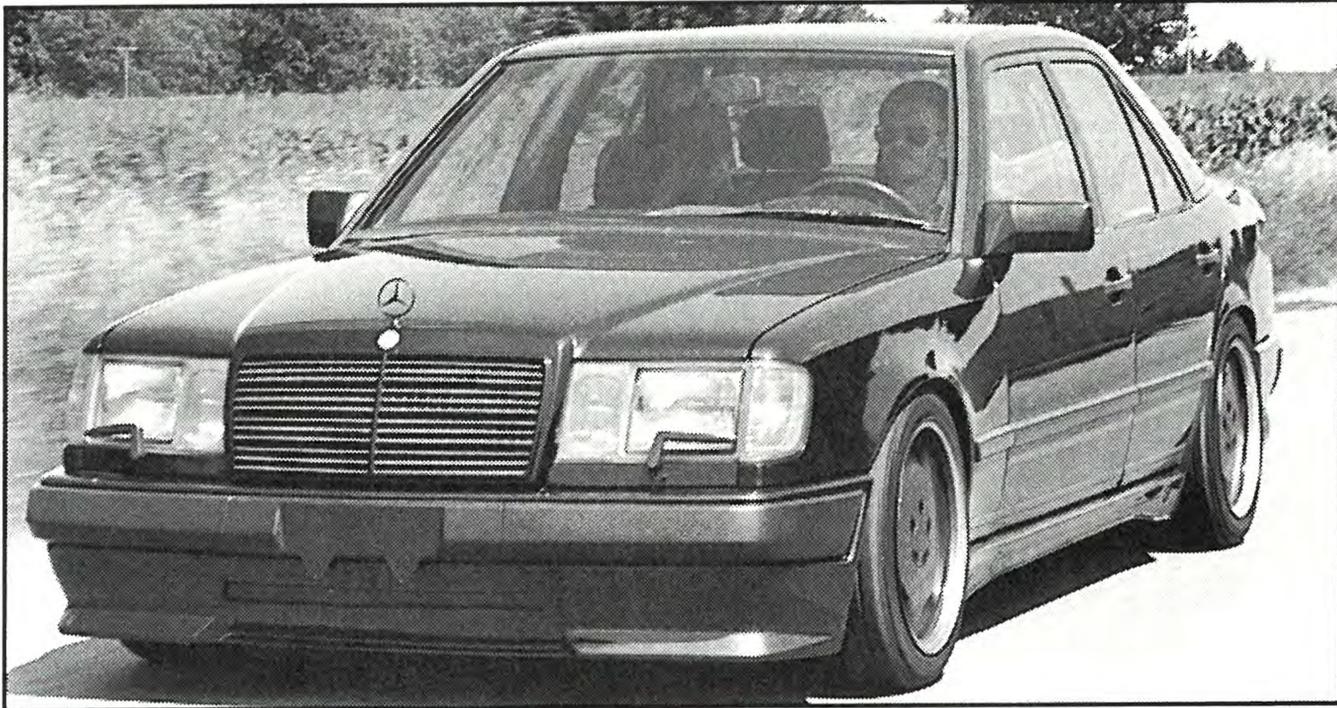
ter from ball peen to hard rubber.

For all its power, the Hammer applies its blows superbly. The moment you move away from rest, the chassis action meshes. The power-assisted steering winds up taut, linear, and informative. Its firm grasp loosens just enough at high speed (*really* high speed) to keep the car from twitching when the road turns lumpy or changes camber. The chassis absorbs the road's upsets with none of its own. The Hammer's basic cornering mode is slight understeer, just enough to keep you square. Power puts the tail wherever you want it. The driver's job is to hew to the one true line and to look *way* ahead, because that's where the car will be in a flash. Squeezing down from full flight and drifting through a 120-mph corner, you can press the throttle just hard enough to skate all four tires a little wider in a classic four-wheel drift—or you can kick the automatic down to third (good to 141!), slewing the tail out to sweep you to the fine edge of the corner's exit in a deliciously syrupy swoop of power oversteer. The amount of syrup you pour is strictly up to your foot. The mighty Hammer asks only that you pay close attention, because, one way or the other, it is going to pump your scrawny hide into the next county like a shot. The low-drag shape encourages flights from 70 to 170 as if the wind had been canceled due to lack of resistance.

Thanks to the solid packaging provided by Mercedes, this mid-sized sedan proves an exceptional mega-performance platform, easy to see out of, tidy to wheel, and a whiz to place. The stiff structure lends itself to the Hammer's high-load dynamics, and its roominess makes it inviting. The optional bolstered rear seats match the new power Recaro CSE sport models up front. The Recaros' inboard thigh bolsters bulge with fifteen control buttons apiece—far too many—but include three memory settings for saving the magic positions once they've been found.

We slipped out of state for a hot date, and our favorite blonde harrumphed that she liked Porsches and, besides, these seats were too hard. (Indeed, they feel like boards at first.) Duly buckled in, however, she savored her Recaro's abiding support during a demonstration of the Hammer's stunning athletic abilities. In a trice, Porsches were the last thing on her expanding mind; this car may be the best import since Dr. Ruth.

Given the Hammer's \$125,000 base price, takers will be among the chosen few. AMG will build no more than two a month.



COUNTERPOINT

• Specialty-car builders are the artists of the aftermarket, a group of kindred spirits seeking expression in the search for automotive perfection. For all who try their hand, few have the purity of purpose or crystal-clear vision of Hans-Werner Aufrecht and his staff. It might embarrass the AMG guys to be called the Rembrandts of the industry, but their Hammer is certainly a 178-mph masterpiece.

Like many artists, the AMG staff feels that its masterworks are never really finished. In the Hammer's case, bigger brakes and a more compliant suspension may be brushed in at a later date. But even in its present form, the Hammer is the ultimate expression of the automobile's promise.

Yes, the Hammer is ridiculously expensive—but have you priced any van Goghs lately? I'll never buy a Hammer, but I'm thankful that the loosely wound enthusiasts at AMG have built this wundercar to delight and inspire everyone who loves automobiles. What more could you ask of a work of art than for it to be the stuff of dreams? —*Rich Ceppos*

Our test car was black-on-black, but think of the AMG Hammer as the great white shark of the auto kingdom—uncommon, unchallenged, unafraid. Its presence alone is enough to end most confrontations before they start. Indeed, just seeing one can be counted an experience in itself.

Certainly, driving the Hammer is an experience like no other. You want speed? Press the accelerator pedal and you can have as much as you want. You want room? Don't forget: this is a four-

door Mercedes sedan. You want refinement? Try Mozart at 165 mph. The Hammer does it all with effortless, purposeful grace.

Unfortunately, the Hammer is a voracious creature, too: ours lunched on fuel and driveline bits with abandon.

Tread lightly if you're ever lucky enough to spot a Hammer cruising through traffic. If you're so foolish as to press your luck against AMG's beast, you'll quickly get a rough idea of how it feels to be bitten by a great white.

—*Arthur St. Antoine*

Thanks to AMG, it's now somewhat easier to separate go-fast poseurs from serious hyperperformance addicts. You'll still have to look closely to determine if the person behind the wheel of a low-slung, twelve-cylinder macho-missile is driving it to go fast—or merely to look fast. The buyer of a Hammer, however, doesn't purchase the waist-high lines that are essential to curbside sex appeal. And there's not a penny to be saved by choosing a Hammer instead of a Countach or a Testarossa. There's only one reason to buy a Hammer, and that's to stay high on speed on a steady basis.

The Hammer makes speed easier than ever. With its automatic transmission, it demands only the slightest effort to send its speedometer spinning toward dizzying heights. And with its spacious four-door body, the Hammer's blasts need not be reserved for weekend recreation, but can be enjoyed with a full load of passengers.

Beware of this car. It means serious business, and I'll bet most of its drivers do, too.

—*Csaba Csere*

Bargain shoppers can show up at AMG of North America with their own 300Es and cut the tab to a low \$90,000.

The Hammer is the most scintillating sedan we have driven. The *C/D* staff drools as one. Even after federalization, AMG's

meanest should match pure speed with any factory's wildest—and make such speed more usable to boot. Not even Dr. Ruth can tell you how to wake up with a Hammer-sized grin for only 90 grand.

—*Larry Griffin*



Vehicle type: front-engine, rear-wheel-drive, 4-passenger, 4-door sedan

Price as tested: \$137,000

Options on test car: base AMG Hammer, \$125,000; full leather interior, \$7500; Recaro CSE seats, \$3500; rear bucket seats, \$1000

Standard accessories: power steering, windows, seats, locks, and sunroof, A/C, rear defroster

Sound system: Blaupunkt Bamberg AM/FM-stereo radio/cassette, 8 speakers

ENGINE
 Type V-8, aluminum block and heads
 Bore x stroke 3.80 x 3.73 in, 96.5 x 94.8mm
 Displacement 338 cu in, 5547cc
 Compression ratio 10.0:1
 Fuel system Bosch K-Jetronic fuel injection
 Emissions controls none
 Valve gear chain-driven double overhead cams, 4 valves per cylinder
 Power (SAE net) 355 bhp @ 5500 rpm
 Torque (SAE net) 388 lb-ft @ 4500 rpm

DRIVETRAIN
 Transmission 4-speed automatic
 Final-drive ratio 2.24:1, limited slip

| Gear | Ratio | Mph/1000 rpm | Max. test speed |
|------|-------|--------------|--------------------|
| I | 3.68 | 8.9 | 45 mph (5000 rpm) |
| II | 2.41 | 13.6 | 84 mph (6200 rpm) |
| III | 1.44 | 22.7 | 141 mph (6200 rpm) |
| IV | 1.00 | 32.7 | 178 mph (5450 rpm) |

DIMENSIONS AND CAPACITIES
 Wheelbase 110.2 in
 Track, F/R 58.9/58.6 in
 Length 186.6 in
 Width 68.5 in
 Height 54.1 in
 Ground clearance 3.4 in
 Curb weight 3636 lb

Weight distribution, F/R 53.3/46.7%
 Fuel capacity 18.5 gal
 Oil capacity 8.5 qt
 Water capacity 13.7 qt

CHASSIS/BODY
 *Type unit construction with 1 rubber-isolated crossmember
 Body material welded steel stampings

INTERIOR
 SAE volume, front seat 50 cu ft
 rear seat 40 cu ft
 trunk space 15 cu ft
 Front seats bucket
 Seat adjustments fore and aft, seatback angle, front height, rear height, lumbar support, upper side bolsters, thigh support
 General comfort poor fair good **excellent**
 Fore-and-aft support poor fair good **excellent**
 Lateral support poor fair good **excellent**

SUSPENSION
 F: ind, strut located by control arm, coil springs, anti-roll bar
 R: ind, 2 lateral links and 3 diagonal trailing links per side, coil springs, anti-roll bar

STEERING
 Type recirculating ball, power-assisted
 Turns lock-to-lock 3.4
 Turning circle curb-to-curb 36.7 ft

BRAKES
 F: 11.2 x 0.9-in vented disc
 R: 10.2 x 0.4-in disc
 Power assist vacuum with anti-lock control

WHEELS AND TIRES
 Wheel size 8.0 x 17 in
 Wheel type cast aluminum
 Tires Pirelli P700, F: 215/45VR-17; R: 235/45VR-17
 Test inflation pressures, F/R 38/42 psi

Fade **none** moderate heavy

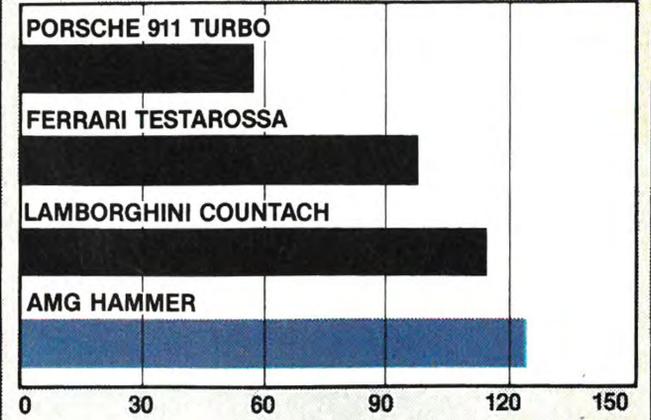
HANDLING
 Roadholding, 300-ft-dia skidpad 0.85 g
 Understeer **minimal** moderate excessive

COAST-DOWN MEASUREMENTS
 Road horsepower @ 30 mph 5 hp
 50 mph 14 hp
 70 mph 30 hp

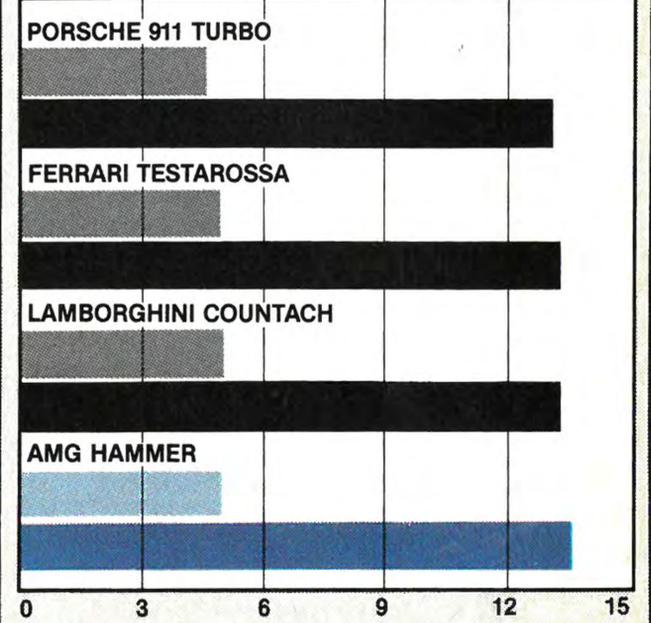
FUEL ECONOMY
 C/D observed **15 mpg**

INTERIOR SOUND LEVEL
 Idle 56 dBA
 Full-throttle acceleration 81 dBA
 70-mph cruising 70 dBA
 70-mph coasting 70 dBA

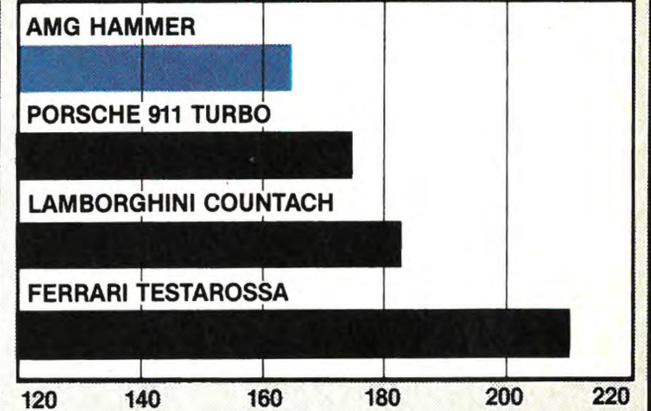
CURRENT BASE PRICE dollars x 1000



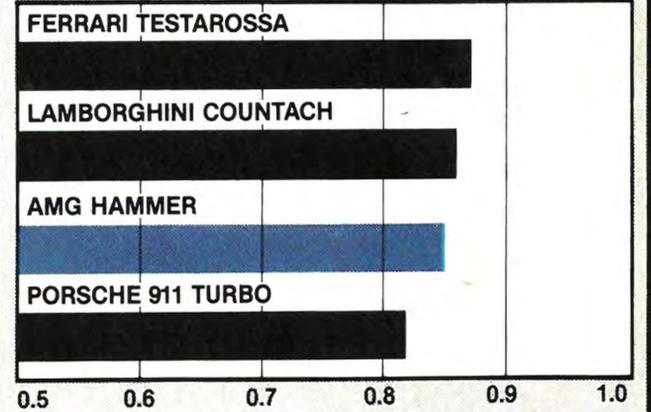
ACCELERATION seconds



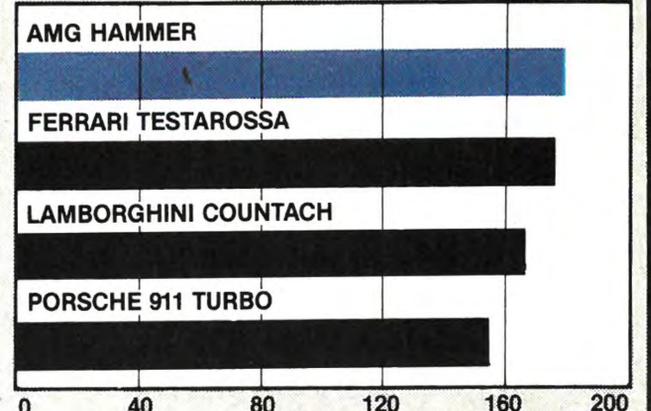
70-0 MPH BRAKING feet



ROADHOLDING 300-foot skidpad, g



TOP SPEED mph



CAR AND DRIVER TEST RESULTS

| ACCELERATION | Seconds |
|----------------------------------|--------------------|
| Zero to 30 mph | 2.2 |
| 40 mph | 3.0 |
| 50 mph | 3.9 |
| 60 mph | 5.0 |
| 70 mph | 6.5 |
| 80 mph | 8.1 |
| 90 mph | 10.1 |
| 100 mph | 12.0 |
| 110 mph | 14.7 |
| 120 mph | 18.3 |
| 130 mph | 22.8 |
| Top-gear passing time, 30-50 mph | 2.8 |
| 50-70 mph | 3.1 |
| Standing 1/4-mile | 13.5 sec @ 107 mph |
| Top speed | 178 mph |

| BRAKING | 70-0 mph @ impending lockup |
|---------|-----------------------------|
| | 165 ft |