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## FEATURE ARTICLE from Hemmings Sports & Exotic Car

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### UNCIVIL WARRIOR

Hemmings Sports & Exotic Car - JUNE 1, 2009 - BY [JIM DONNELLY](#)

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#### M-B, Porsche and Renntech concoct the ultimate W124

The GTO analogy--Pontiac, not Ferrari--is clearly a little uneven here. Nobody can dispute that what enabled the Mercedes-Benz 500 E in its original form was a taste for a piece of the tuner market, quite a while before it was so named. In the American idiom, the traveled course was, very broadly, United States emerges from Depression and goes to war. Defense industry blossoms. Young adults acquire extraordinary skills in metalworking and welding at aircraft plants. Apply them to junk cars and create a massive performance aftermarket. Become reliably affluent. Detroit notices and starts actively catering to them, and often their children, by producing turnkey hot cars.

Parallels to this phenomenon existed in Europe on a variety of levels, the entry levels for excitable youngsters addressed by Abarth, Cooper and Gordini, to name three. The divergence from American practice occurred when performance shops began seriously addressing the capabilities of top-level European automobiles, and became relatively small, if glowing, fixtures on the enthusiast scene, most notably in West Germany, as it then existed. The stars among these avatars of power and aesthetic distinction enveloped Alpina and Schnitzer, both concentrating on the sedans of BMW. Ruf began as a workaday repair shop before taking wing with explosively tuned Porsche 911s, most notably its Yellowbird.

Among the vehicles from Daimler-Benz AG, the unbeatable heavyweight of aftermarket modification was AMG, the acronym named for founders Hans Werner Aufrecht and Erhard Melcher, plus its hometown, Großaspach. It got under way in 1967, forging replacement Mercedes-Benz engine blocks for severe-service usage before adding a raft of accessories and, eventually, becoming a Mercedes-Benz subsidiary. Another AMG milestone was its marketing of fully modified Mercedes-Benz cars. The most influential, as we'll see, was the Hammer, created by shoving a handbuilt, AMG-modified 5.6-liter V-8 from the 560 SL, with 360hp and new four-valve heads, into a 300 E sedan. It became an immediate 1980s icon, kind of like Top Gun was at the movies, all reward and no consequence. Except, at least, at Mercedes-Benz, which was intrigued that an efficiently conservative sedan could be lightning-struck into rolling folklore so quickly.

Forward march, then, to 1992, when BMW and Audi were playing hard with their M5 and S4 sedans, respectively. To these, Mercedes-Benz added its own 500 E, as forceful a statement of terms as any automaker issued during that decade. For all its slightly re-contoured Cairo-taxi lines, this was the most brutal thing you could buy from a Mercedes-Benz showroom. It took the basic W124 platform and added in the M119 V-8 DOHC V-8, with variable intake valves, from the 500 SL. It was pegged at 322hp and didn't even fit under the E-class hood until Mercedes-Benz moved its battery into the trunk. The M5 and S4 weren't humbled, but certainly elbowed into respectful quietude. It was the ideal successor to the Hammer, even if AMG wasn't a direct source. Most significantly, however, the 500 E was the product of a once-only collaboration between Mercedes-Benz and, of all folks, Porsche. The 500 E's brief conceptualized it as a low-volume mega-sedan with flawless build execution, even by Daimler-Benz standards. The sensible thing was to look toward Porsche, which eagerly agreed to build the 500 E at its Rossle-Bau plant in Zuffenhausen, outside of Stuttgart, where each car's basic body structure was welded together.

It took several round trips by transporter between Zuffenhausen and the huge Mercedes-Benz assembly complex in Sindelfingen to get each 500 E completed, plus an abnormal degree of hand construction and finishing that nearly harked back to Craft Era practices. That, and the back-and-forth, meant that each 500 E took approximately 18 full days to finish, and also assured that the forthcoming 2010 Panamera won't be the first passenger car with four doors assembled in a Porsche plant. The deal with Mercedes-Benz called for up to 2,400 examples of the 500 E to be built at Zuffenhausen each year. It didn't happen: The bubbles that made up the later boom economy weren't hissing with inrushing gas yet. Only 10,479 cars were built during its three-year run, which ended with it renamed as the E500 when Mercedes-Benz reordered its alphanumeric rules. A few more than 600 of them came to the United States in 1992. A few of those fell into the hands of buyers who wanted something even more exclusive and blazingly fast.

Right here is where Renntech enters the story. It has strong gestational ties to AMG and is among the longer-lived import modifiers based in the United States. Hartmut Feyhl founded it in 1989 after a dozen-year tenure at AMG, both in Germany and as technical director of its North American operations, based in Chicago. While at AMG, he was a hands-on member of the original Hammer development team. He left just as AMG chopped its relationships with distributors, including his, to instead sell AMG-themed cars through Mercedes-Benz dealerships, which it still does now as a Daimler AG holding.

Based in Lake Park, Florida, outside Palm Beach, Renntech remains an esteemed base for Mercedes-Benz mods, offering extras for products ranging from the SLR McLaren to the smart fortwo and Sprinter van. Feyhl, however, made Renntech's rep by hammering a stock W124 into a Hammer Redux. This one is the only 500 E, from either Renntech or Zuffenhausen, with a six-speed manual transmission. The Renntech Benz and its history cannot be fully appreciated without first understanding its lineage through AMG, Sindelfingen and Zuffenhausen.

Quite appropriately, it was first commissioned by a hardcore Porsche collector, an Idaho physician. Starting with a base 500 E sedan from 1992, Feyhl's team stayed true to the 500 E's theme by incorporating some exquisite hand workmanship. The Zuffenhausen 500 E was not a straight transplant, Mercedes-Benz having outfitted the M119 with longer, tuned intake runners for additional torque. Renntech started with a basic 5.0-liter M119 and went soaring. Both the bore and stroke were increased over stock, the latter by fitting a 560 SL crankshaft, bringing the displacement to a round-number 6.0 liters. The 10.0:1 factory compression ratio was maintained, but Renntech substituted eight feathery Kolbenschmidt light-alloy pistons. As first created in 1992, the Renntech 500 E--or should we say 600 E?--used the 560 SL's four-speed automatic. The doctor from Idaho had

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other ideas, upgrading his Renntech E-class in three phases.

First, he returned the Benz to Renntech for a series of engine upgrades, a lot of which are proprietary and therefore classified. We do know that titanium connecting rods of unclear manufacture and specification were installed as replacements, the Kolbenschmidt pistons generally having been supplied as part of a full package that included pre-sized pins. As first built, the Renntech E-class incorporated an AMG-sourced chip for the Bosch KE-5 engine management. The owner wanted an elevated rev limit, so besides the weightless rods, custom-ground solid-lifter camshafts were added--no further intelligence--plus performance valve springs better suited to their radicalized profiles. Other upgrades included finer port and intake polishing, and the installation of mouthy, Formula 1-spec (34.5mm intake, 39.0mm exhaust) titanium valves and seats. Both engine oil and transmission coolers were also specified. Rated horsepower? How's 465 grab ya?

The last involved the transmission. He wanted a manual, and Renntech adapted a Getrag Type E six-speed originally intended for the BMW 850CSi, with some internal hardening, along with the aforementioned underbody reshaping to make it fit. Renntech was already installing a Gleason-Torsen rear in its 500 E interpretations, at first with 2.82 gearing, although the good doctor took his back and requested a 2:47:1 ratio to make his leggieer.

The original Hammer, the 500 E and the Renntech creation all shared moderately lowered ride height--about an inch--but largely retained the factory Mercedes-Benz chassis architecture. Not this one. In addition to reduced-poundage wheels and monstrous brakes, the owner did a return trip and specified that the rear suspension's hydraulic self-leveling system be removed. Renntech sales manager Bob Brady, who worked on the conversion, explained that, "The hydraulics are nice and always keep the car level, but at really high speeds, it tends to float." Renntech fitted a bigger rear anti-roll bar, Koni gas shocks and hardened bushings. Tellingly, it also has an ASR-disconnect. The best estimate today is that the buyer sunk an incredible \$160,000 into the car, which doesn't include the MSRP of some \$80,000 for a new 500 E in 1992.

Jim Hatch, the scion of a longtime family of Mercedes-Benz specialists in Hudson, Massachusetts, owns the Renntech E-class now. He ought to be somewhat immune to gushiness: The Hatches, after all, own three factory 500 Es. Renntech's take, though, bares bloodlust in the manner of the Manson family after an interpretive spin of the *White Album*. It'll slice the coolness right out of you.

"One time, I was drag racing my Dad, who was in a Porsche Carrera S cabriolet," Jim recollected. "We were flying, easily doing 100 MPH, but if he'd missed a shift, I would have rammed him. As it was, I had his rear license plate practically right in my windshield. That's how quick this car is. The six-speed is really only part of it. It sounds like a V-8 and has a lot of throatiness, but it's different. The best way to describe it is that the engine sounds more American than like any other Mercedes-Benz V-8. It's very similar to a NASCAR engine at the end of a straight when it's wound up way past 7,500 RPM.

"I've never turned the radio on in this car since I've had it. I don't need it. The best sound you could ever hope to hear comes from the other side of the firewall. Most of the time, I bring it to about 6,000 RPM when I shift it, but it'll go way beyond that. This car has a ton of cam in it. A lot. All of these E-class cars were a little light in the rear, and truthfully, this one is, too, but it's a dragster. It's got the same Alcon brakes as my Dad's Ferrari Challenge F360, which is a good thing.

"It still doesn't have a cupholder, which the original 500 E didn't have, either. There's no console, anyway, because it was taken out when Renntech put the six-speed in. I don't care."

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#### Owner's Story

"One of the first things you learn about this car is that it really likes to rev. We didn't know that at first because when we bought it, the mechanicals for the cam advance, by which I mean the variable valve timing, weren't working on one side of the engine. My brother fixed that and then we found out.

"You also learn how much different it sounds from anything else out there. There's a lot of noise that comes into play when you're driving it. I can't believe any car like this would be as much fun as it is if it wasn't for the sound involved. The shock value that it has here is incredible."

-Jim Hatch

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#### Club Scene

##### Mercedes-Benz Club of America

1907 Delaray Street  
 Colorado Springs, Colorado 80909-2872  
 719-633-6427  
[www.mbca.org](http://www.mbca.org)  
 Dues: \$45/year; Membership: 30,000

#### Pros

Whack-job, bulging muscle  
 You shift it yourself  
 One-of-one uniqueness

#### Cons

How much did this cost?  
 Poundage mitigates cornering  
 Still has no cupholder

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#### SPECIFICATIONS

##### ENGINE

Type: V-8, cast-aluminum Mercedes-Benz M119 block, cast-aluminum Renntech cylinder heads, dual overhead cams  
 Displacement: 5,956cc (363 cubic inches)  
 Bore x stroke: 100 x 94.5mm  
 Compression ratio: 10.0:1  
 Horsepower @ RPM: 475 @ 5,800  
 Torque @ RPM: 420-lbs.ft. @ 3,750 (est.)  
 Main bearings: 5  
 Fuel system: Bosch KE-5 Jetronic port fuel injection, AMG data chip  
 Lubrication system: Full pressure, wet sump  
 Electrical system: 12-volt  
 Exhaust system: Renntech custom tubular headers, resonators, 3-way catalytic converter

##### TRANSMISSION

Type: 1997 Getrag Type E six-speed manual, all-synchro

Ratios: 1st 4.25:1  
 2nd: 2.53:1  
 3rd: 1.68:1  
 4th: 1.24:1  
 5th: 1.00:1  
 6th: 0.83:1  
 Reverse: 3.90:1

**DIFFERENTIAL**

Type: Gleason-Torsen limited-slip  
 Ratio: 2.47:1

**STEERING**

Type: Recirculating ball, power assist  
 Ratio: 14.0:1  
 Turns, lock-to-lock: 3.2  
 Turning circle: 36.7 feet

**BRAKES**

Type: Alcon four-wheel hydraulic, power assist, anti-lock control  
 Front: 14.7-inch ventilated disc, six-piston calipers  
 Rear: 14-inch ventilated disc, six-piston calipers

**CHASSIS & BODY**

Construction: Unitized steel body with front crossmember  
 Body style: Four-door, five-passenger sedan  
 Layout: Front engine, rear-wheel drive

**SUSPENSION**

Front: Independent, struts located by control arms, Renntech 30mm anti-roll bar, coil springs, Koni gas shock absorbers  
 Rear: Independent, lateral and diagonal links, Renntech 20mm anti-roll bar, coil springs, Koni gas shock absorbers  
 Wheels: BBS RS II light alloy  
 Front/rear: 8.5 x 18/10 x 18 inches  
 Tires: Bridgestone Potenza SO2 radial  
 Front/rear: 265/35ZR18 / 285/30ZR18

**WEIGHTS & MEASURES**

Wheelbase: 110.2 inches  
 Overall length: 187.2 inches  
 Overall width: 70.7 inches  
 Overall height: 56.3 inches  
 Front track: 60.3 inches  
 Rear track: 59.9 inches  
 Shipping weight: 3,700 pounds (est.)

**CAPACITIES**

Crankcase: 8.5 quarts  
 Cooling system: 14 quarts  
 Fuel tank: 18.5 gallons  
 Transmission: 2.5 pints

**CALCULATED DATA**

BHP per cc: 0.079  
 Weight per BHP: 7.78 pounds (est.)  
 Weight per cu.in.: 10.19 pounds (est.)

**PERFORMANCE**

0-60 MPH: 4.3 seconds  
 ¼-mile ET: 13.3 seconds @ 108.5 MPH  
 Top speed: 165 MPH (est.)

**PRICE**

As tested, new: \$240,000 (est.)

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