Ein Weltrekorde Diesel?

Opel’s Diesel GT answered a question no one had asked

BY ERIC TEGLER
PHOTOGRAPHY PROVIDED BY THE AUTHOR

Why not pair a true sports car platform with a diesel engine? For years, it has been a question no one has seriously asked, perhaps because Rudolf Diesel’s compression ignition engine has never been associated with high performance. But, after a summer’s worth of high fuel prices and two hurricanes, the idea of a diesel-powered sports car doesn’t seem, well…wrong.

Though secretive about its plans, Opel may be on the cusp of producing a two-seat diesel sports car based on a version of the Pontiac Solstice/Saturn Sky. Mercedes has already shown its two-seat SLK 320 Triturbo, a car which, in late summer 2005, looked ready for production. Whichever hits the market earliest will have the honor of being the first production diesel sports car—but not the first diesel sports car. Opel answered that question over 30 years ago.

Cast your mind back to 1972. The drama and terror of the Munich Olympics surely make it the best-remembered sporting event of the summer, yet barely a month earlier, an event of arguably equal significance unfolded about 170 miles to the northwest. Opel set out to show the world what a diesel engine could do.

Breaking speed records usually comes with the prospect of getting media coverage in return, but Opel improved its chances significantly by inviting a combination of journalists and racing figures, male and female, to drive its experimental diesel sports car. The invitees, six in all, included renowned Belgian journalist, Formula 1 driver, and 1960 Le Mans winner, Paul Frère. He was joined by Italy’s Giorgio Pianta, an
In 2,076 laps of the company’s Dudenhofen test facility, the car averaged 120 mph, and returned 18 mpg

international rally champion, open-wheel driver, and Abarth engineer who would later become competition director of Alfa Romeo’s touring car program.

From France came Marie-Claude Beau-mont, a national rally champion and, in 1971, the first woman to compete at Le Mans since racing resumed there after World War II. Countryman Henri Greder was France’s national rally champion in 1965, ’66, and ’67, as well as a tuning specialist for GM, Chevrolet and Opel. Sweden’s Sylvia Osterberg was another rally-bred racer, European ladies’ rally champion in 1963 and 1969 and winner of numerous events. Jochen Springer represented Germany, bringing credentials including three wins of the Tour de Europe rally, careers as a journalist and engineer, and tenure as ADAC Sport president.

The group assembled at the Dudenhofen proving grounds along with an engineering team from Opel’s R & D center in Ruesselsheim and a gathering of print and broadcast press. It would be their first look at the machine they were expected to break records with.

Logic might have suggested that Opel scratch-build a prototype to go after speed records, but cost and the need to generate publicity sooner rather than later suggested modifying an off-the-shelf model. Opel engineers planned to use a new 2.1-liter turbocharged cast-iron, swirl-chamber diesel in the record car. With speed the objective, there were only two realistic possibilities in Opel’s lineup.

The Manta coupe was considered, but its engine compartment would need modification to accommodate the turbocharger. The same was true of Opel’s other sports coupe, but it had one unbeatable advantage. The Opel GT had a better drag coefficient than anything else the automaker had. In fact, the GT was the most aerodynamic car produced by General Motors in the 1960s, wind tunnel-tested for cruise speeds above 120 mph. Stylistically reminiscent of the mid-1960s Corvette, the GT was the best received of all Opels imported to the U.S. market. Of the 100,000 GTs produced, 70,000 sold in North America.

Built on the Opel Kadett platform, the GT featured a conventional monocoque body and front wishbone-leaf spring/live rear axle trailing-arm suspension. Its motivation came from either 1.1-liter or 1.9-liter inline four-cylinders, making 67 and 102 horsepower, respectively. European-spec cars had more power (128hp). The GT was no rocket, but its high-speed stability and relatively simple construction made it the best candidate for modification.

“They only had to cut off the roof, weld the doors, and put a bubble over the driver,” Opel Heritage Communications Director Ernst-Peter Berresheim says facetiously.

While significant changes were made, Berresheim is right in that much of the GT’s body, its chassis, four-speed transmission, steering and brakes remained stock. What body changes there were focused on lightening, lowering, and cleaning up the car aerodynamically.

The passenger compartment was elimi-
Much of the production Opel GT remained in the record-holding car: the chassis, transmission, steering and brakes were all stock.
At precisely 9:00 a.m., the starting signal was given and the Diesel GT charged out of the pits. Each of the six drivers would rotate, with three- to four-hour stints behind the wheel, for over 52 hours. The weather was generally good, with daytime highs in the low 80s and nighttime lows in the 40s. With the exception of slowing for refueling and accelerating back onto the track, the turbodiesel was run flat-out, spinning continuously between 4,300 and 4,400 rpm. The Diesel GT circulated Dudenhofen like the second hand of a watch, ceaselessly running above 120 mph.

Driving it required concentration, as Opel’s Director of Engineering Communication, Karl Mauer, can attest. He’s driven the Diesel GT on the Dudenhofen track and on the street.

“The car was made for driving on an oval, on our test track, specifically, and within the framework of a record attempt. The speed was not very high, so downforce was not an issue, and the tires are very narrow.”

Today, the Diesel GT is part of Opel’s Heritage Collection and is driven regularly at vintage events around Europe, most recently at the Nürburgring where Mauer made several exhibition laps before the start of a vintage grand prix. Look casually at photographs of the car and you might surmise, as I did, that it could have a tendency to lift at high speed.

When asked about it, Karl Mauer simply chuckles and says, “I wasn’t going to go that far but, yeah, you’re right. The narrow tires don’t help. If you’re driving it on normal roads or on a flat track, the rear end is very loose, and the car isn’t stable under cornering conditions.”

That the rear end should be loose is no surprise. The street-going GT had a nose-heavy 54/46 weight distribution. The modifications made to create the diesel GT moved the weight even further forward and, naturally, altered the car’s aerodynamic center of pressure. But in its environment, the Diesel GT worked well.

“There, it gives you a stable impression,” Mauer relates. “It doesn’t move around. It fits the purpose it was built for. For everything else, it’s difficult.”

Acceleration is not brisk, according to Mauer, but the powerband is linear throughout the rev range. The brakes, he adds, are “not a miracle,” but stopping quickly wasn’t part of the Diesel GT’s job description. For the driver, visibility is good, but creature comforts are few.

“You recline, but your head is upright, so it’s okay. It’s tight under the glass bubble, and you feel very squeezed in the car.”

In July 2003, Opel revisited international record-breaking at Dudenhofen with its diesel-powered Eco-Speedster. The records shattered over 24 hours were the very ones set by the Diesel GT 30 years earlier. As one of the Eco-Speedster drivers, Karl Mauer can provide some insight as to what the six Diesel GT drivers went through in the 1970s.

“It’s tiring, especially at night. After 20 minutes or so, you completely lose the feeling that you are driving on a highly banked track. You feel as if you’re driving on a flat road. You need to adapt because once you get out of the pits, you go flat-out and that’s it for the next two hours or so. You don’t have to do anything, just stay concentrated. There are crosswinds occasionally.”

To maintain their concentration, Mauer and his co-drivers focused on finding the fastest line around the 4.6-kilometer track much as their predecessors must have done. You have to find a fine balance. The higher you drive, the longer the distance, and lower the lateral G forces. The lower line costs you speed because the lateral forces and friction are higher. You really have to find the ideal line. That keeps you busy, at least for a while.”

For two days, the Diesel GT drivers kept busy, completing 2,076 laps in the process. When the GT came to a rest, it had averaged 190.88 km/h (118.6 mph) and broken 20 national/international records for both diesel and petroleum-powered passenger cars. The car achieved its highest speed (197.5 km/h—122.7 mph) over the flying kilometer with Marie-Claude Beaumont at the wheel.

Despite withstanding mechanical and thermal stresses well beyond those faced by contemporary gas and diesel engines, the flying kilometer and flying mile record runs were made after the engine completed its 52-hour marathon. At consistent 120 mph speeds, the turbodiesel consumed 13 liters per 100 kilometers, or about 18 mpg. It was an impressive performance that netted the publicity for which Opel had hoped.

The 2.1-liter diesel would be introduced, minus its turbocharger, in the Opel Rekord D sedan. Other variants of the engine would power Opel’s Omega and even its luxury-class Senator. But a Diesel GT would never see production.

“At that time, there was no market for a turbodiesel,” Ernst-Peter Berresheim contends. “The diesel just wasn’t regarded as sporty enough for the GT.”

That is not the case in the new millennium. Opel proved the point by resetting the diesel passenger-car speed record with the 1.3-liter CDTI-powered Eco-Speedster which hit 256.3 km/h (159.2 mph) over a kilometer. Opel’s 2005 Astra GTC already features a high-performance turbodiesel.

Do the company’s future plans include a real diesel sports car? Ask GM Europe spokesman, Steve Janisse, and you get a suggestive answer.

“We have some very good diesel engines, and there is so much technology to come. In the future, sports cars, all cars could have diesels.”

Why not pair a sports car with a diesel engine? The question which Opel answered three decades ago is finally being asked.