

PHOTO BY  
JEFFREY R. ZWART



The 190E 2.3-16 at the foot of Schloss Nurburg. Monochrome paint in either smoke silver or blue-black, along with plastic spoilers, skirts and a rear wing, distinguish the 16-valve car from the standard 190E.



PHOTOS BY AUTHOR

# MERCEDES-BENZ 190E 2.3-16

*Sharpening the tips on the three-pointed star*

BY PETER EGAN

**T**HOROUGH. THAT'S WHAT Mercedes is. At the press conference in the Lochmüle Hotel (not far from the Nürburgring) they had headsets for the journalists, with translators behind glass to turn the lexicon of German engineering into English and Italian for the visiting press. It was like a small UN in the Eifel Mountains. They even had a spare translator to take over immediately when one of the others needed a drink of water.

At dinner that night, Mercedes' guests included about 90 percent of the world's greatest racing drivers—World Champions, current GP stars, past Nürburgring winners and legendary Mercedes pilots from as far back as the Thirties. The next day, 20 of these drivers took part in the inaugural road race around the brand-new 2.8-mile Ring.

The purpose behind this smoothly orchestrated reunion and weekend of racing was not mere fun and thrills, of course, but

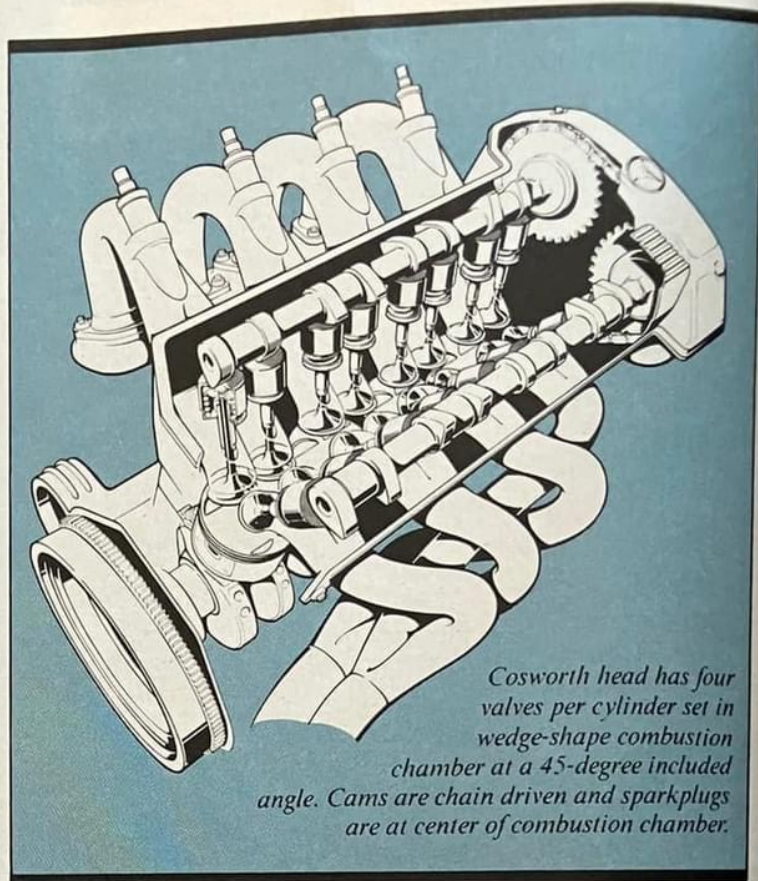
# 190E 2.3-16

the introduction of a high performance, sporting version of the Mercedes 190 sedan. Its full name is the 190E 2.3-16. No fanciful nicknames taken from horses, predatory cats or scorching Mediterranean winds here; Mercedes expects customers to recognize its cars by the number. Translated, those figures mean the car is a 190-series 4-door sedan with an E for *Einspritzer* (fuel injection, on this side of the Rhine), 2.3 liters of displacement and 16 valves.

That last number is the telling one. Mercedes has taken the short block from its normal sohc 2.3-liter 190 engine and grafted on a dohc 4-valve-per-cylinder head designed by Cosworth. It's an aluminum alloy head with a pentroof combustion chamber and the valves inclined at an included angle of 45 degrees, a design Mercedes says works best for good flame propagation, central sparkplug location and the use of large-diameter valves. Each camshaft runs in four bearings and both are driven by a single-row chain.

Cylinders are fed by Bosch LE-Jetronic fuel injection and fired by microprocessor-controlled electronic ignition. With forged flat-top pistons and the small squish area of the head, the compression ratio is 10.5:1. Claimed power output is 185 bhp at 6200 rpm (engine redline is 7000 rpm) with maximum torque of 174 lb-ft at 4500 rpm; an increase of 72 bhp and 41 lb-ft compared with the standard sohc 190 engine.

Why a Cosworth head? Certainly Mercedes-Benz has the wherewithal to design its own 16-valver. Time and production capacity, the engineers told us. The foundry has its hands full turning out enough parts for the other 190s, which are selling well and now account for about 50 percent of sales to first-time Mercedes owners worldwide. Cosworth's excellent reputation as a designer of cylinder heads was also considered, of course. Mercedes will come on line with its own castings of the same head later in the model year.



*Cosworth head has four valves per cylinder set in wedge-shape combustion chamber at a 45-degree included angle. Cams are chain driven and sparkplugs are at center of combustion chamber.*

The new engine is mated to a Getrag 5-speed gearbox with a 1.0:1 5th gear, compared with a taller 0.78:1 ratio in the standard model. The rest of the ratios have been tightened up as well, and a 3.07:1 rear axle with a limited-slip differential is used. Suspension has been beefed up all around with heavy-duty springs, shocks and anti-roll bars. The rear axle uses a hydro-pneumatic self-leveling system, and Mercedes has a similar set-up for the front suspension about to go into production. Also available, as an option, is an anti-lock (ABS) braking system.

To complement all that mechanical upgrading (and make the car look racy as well), Mercedes has engineered a set of polyurethane



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thane front and rear spoilers and side skirts to minimize drag and a trunk-mounted wing to help with downforce. They say that in spite of the wider tires (205/55VR-15 Pirelli P7s on 7-in. alloy wheels), the  $C_x$  is down to 0.32 from 0.33 on the standard model, and front and rear lift have been reduced considerably. With its flared fenderwells and monochrome blue-black or smoke silver paint, the car looks low, handsome and fast.

We were given a chance to drive the 190E 2.3-16 in Germany for nearly two full days, covering long stretches of *Autobahn*, winding roads in the Eifel Mountains, the old north circuit of the Nürburgring and the new shorter Ring.

The most immediate impression in driving away is that the car has slightly more torque than the regular 190, but is equally docile and even tempered up to about 3000 rpm. At 3000 rpm the engine begins to snarl in the best twincam tradition, and above 4000 the car accelerates with a wonderful not-too-muted fury right up to its 7000-rpm redline. Mercedes says the car will reach 60 mph in just 7.5 seconds. Using the latest cheap wrist-watch technology, I made a few runs myself and got a (roughly) concurring time. Top speed is given as 143 mph, and I saw just about 135 mph on the *Autobahn* before an elderly Opel driver decided to test the Mercedes' anti-lock braking system by pulling into the fast lane at about 50 mph in front of us. The brakes were marvelous and we all lived.

Handling is beautifully balanced for fast driving on mountain roads, with good compliance, very little body sway, accurate steering and excellent stick from the P7s. When you start pushing the car on the race track it becomes essentially understeering in character and you have to use a bit of fling-and-lift to get it to come around in the slow parts. Fear of swapping ends is non-existent and the car is remarkably stable at high speeds, with a nice glued-to-the-road feel in the steering.


Gear changes are a delight, even though it always takes me a

while to get reaccustomed to any 5-speed that has 1st in the lower left corner. This is an engine that really has to be kept spinning to accelerate out of a corner with any alacrity, so the close ratios are an undisguised blessing.

Overall, a very complete car: a practical, good-looking sedan that's an absolute ball to drive. Mercedes plans to produce 5000 to 7000 of the 16-valvers per year and hopes to sell them to a younger, more sport-minded market than is typical for their other sedans. It appears they won't have any trouble, having taken 4000 orders following the Frankfurt show, at a German price of 49,590 Deutsche Mark (about \$18,940).

A U.S. version is in the works with no firm release date, but we are told it will probably come in as a 1986 model. No U.S. price has been disclosed either, but it's reasonable to assume it will come in a few thousand dollars above the \$24,000 price of the current 190E.

Mercedes had originally considered a factory-backed entry into the European Touring Car Championship with the 16-valve car, but tightening German emission laws forced them into an engineering push to meet the new regulations. The cars will now be homologated only for the benefit of private entrants. Perhaps in a few years . . .

Still, it's good to see Mercedes getting back into the high performance car market. Next year will be the 30th anniversary of the company's withdrawal from racing in the wake of Pierre Levegh's tragic accident at Le Mans in 1955. Since that time, Mercedes road cars have been built—and prized—more for their all-around engineering excellence than for their all-out scintillating performance, so the 190E 2.3-16 is a welcome addition to the line. That bank-vault Mercedes feel is still there, but the car has some blood in its veins. 

*Clean, functional instrument panel includes tach with 7000-rpm redline. Engine works best with the needle at the upper end.*

