359 TO THE POINT: MID-ENGINE DESIGN

Mid-engine sports cars have a long tradition at Porsche. The new Cayman interprets this technical concept to the benefit of increased driving pleasure. Two experts compare notes on theory and practice: **Hans-Jürgen Wöhler**, director of the Boxster and Cayman series, talks with Porsche test driver **Timo Kluck** about dynamism, balance, and lightness.

Timo Kluck: I have to say, Mr. Wöhler, that the Cayman has become very light-footed …

Hans-Jürgen Wöhler: May I take that as a compliment?

Kluck: Absolutely! Among test drivers, light-footedness means that the Cayman keeps the best possible grip even while changing lanes rapidly through a series of curves. Braking, turning in, riding the gas—I've just come from the Nürburgring, where I tried that out right away on a few extreme parts of the track. Even under those types of circumstances, the Cayman gives you a great deal of confidence. As far as I'm concerned, there's a really top-notch athlete under that new exterior.

Wöhler: I'm happy to accept the compliment. Your impressions capture exactly what the new Cayman is supposed to express. Its styling is even more dynamic, and it sits even more solidly on the road. It has a much more extroverted character than before, and its presence is more expressive. That was a very major step.

Kluck: The interior appearance is also impressive. I've tried to make the car skid out, which is a matter of honor among us development drivers. You try to push into areas that no one actually manages in traffic on the road. But the main thing that I've been able to determine is that while the Cayman is really forceful on the one hand, by throwing itself into curves, for example—it doesn't throw itself out of curves. A high degree of dynamism always also means a high level of stability and, therefore, an advantage when it comes to safety. In a mid-engine sports car, you feel like you're wearing a tailored suit.

Wöhler: It's the mid-engine design that makes the Boxster and Cayman what they are. The direct connection between the driver and the car results in a very special driving experience. The driver sits essentially at the car's center of gravity, and can therefore feel very intensively how the car handles.

Kluck: You get a pure go-kart feeling, but at a rather high level. It's a no-nonsense sports car that doesn't overtax you, making for a good balance. It's no coincidence that many of the great racing cars are built on a mid-engine principle. That, by the way, is one of the questions people ask me most often: What is it about these centrally-placed engines? And how do you explain that to them?

Wöhler: The mid-engine principle is clearly defined. It says that the engine sits between the axles, and—very important—that the transmission is located behind the engine. The aim of this is to position the center of gravity as low as possible. You hit a limit here because in order to keep the car suitable for everyday use, which is what distinguishes the Boxster and the Cayman, you have to ensure that there's enough ground clearance, and the springs, of course, have to travel as well. But with the boxer engine and its horizontally placed cylinders, we've got the best conditions for getting as low as possible. And we're constantly working on further developing the overall design.

Kluck: When testing the car I was immediately pleased to notice the longer wheelbase, which is better at absorbing irregularities on the driving surface. That, plus the broader front track, has optimized the axle placement, which means a significantly higher level of comfort. And there's no loss in liveliness, so the Cayman keeps its sporty character. That's the most important thing for me.

Wöhler: It has to do with the concept again, because it's what creates the general conditions. For us that means basing the entire vehicle—from the body shell to the tires—on the centrally placed engine. We've improved the aerodynamics, and another thing which is very crucial is that we've increased the strength of the shell yet again. I can only agree with your impressions.

Kluck: My job is to experience these things subjectively and then to evaluate them as objectively as possible for the engineers. The new electro-mechanical power-steering system, which I'm familiar with from the new Boxster, adds an extra degree of driving precision. Subjectively, I'd say it adds a huge

"It's the mid-engine design that makes the Cayman what it is and ensures a special driving experience."

Illustrations by Jan Bazing

TIMO KLUCK

Timo Kluck (40)
has been working as a test driver at Porsche for twelve years. His job is to push cars to the limit on the racing track in pursuit of perfect tuning.

"You get a pure go-kart feeling, but at a rather high level. It's a no-nonsense sports car that doesn't overtax you. That's a good balance."

HANS-JÜRGEN WÖHLER

Hans-Jürgen Wöhler (54)
has directed the Boxster series since the end of 1998, and the Cayman as well since 2005. The engineer has worked at Porsche for 27 years.

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HANS-JÜRGEN WÖHLER

"The share of aluminum is now 44 percent, which helps the Cayman hold the road even better than before."

degree. But the steering can't be *too* flexible because then the centrally placed engine wouldn't have such a presence.

Wöhler: It's definitely supposed to have a presence! Of course, we could try to compensate for the properties of other engine designs with electronic driver assistance systems like traction control or variable all-wheel drive. But you'll always know when you're driving a mid-engine sports car.

Kluck: You'll know it and you'll hear it. When I sit in a Cayman or a Boxster, I'm a purist and I don't need any music. The music I hear is the greater output. It's a good feeling to know that the engine is right behind you. The car decouples the vibrations well, and the sound is really good. That's all I need when it comes to an entertainment program. The cars are pure, and there shouldn't be any distractions. The fact that the Cayman has lost a good deal of weight, by the way, is quite noticeable in how that interacts with the output.

Wöhler: The share of aluminum in the new Cayman is now 44 percent, which is an impressive number. That, too, helps the car to hold the road better. And while we're on the topic of reduction: The start-stop function and the fact that the Porsche double-clutch transmission lets you coast—both clutches disengage when you take your foot off the gas—mean that we've gone all out in order to lower emissions levels yet again. We're talking here about reduction in double-digit percentages.

Kluck: All the things we've talked about thus far are not initially apparent to customers. Hopefully, they'll have the same sensation that I did. They'll sit down in the Cayman and find themselves immediately in the best possible seating position. Everything fits, and you feel at home right away. If I didn't have two children, I'd drive the car every day.

Wöhler: Well, I can't offer you a Panamera on the basis of this platform. But we're constantly thinking about individual use of this car. Take our intelligent packaging concept with two luggage compartments, for example. We wouldn't have had to do that at all. But precisely this mixture of driving pleasure and everyday usability is what makes the difference. I'm convinced that we wouldn't sell as many mid-engine sports cars without this spatial design. And that's why we've increased the luggage compartment volume in the new Cayman.

Kluck: The main thing is that the engine stays in the middle …

Wöhler: … You can count on that!

Recorded by
Reiner Schloz and Elmar Brümmer

"When I sit in the new Cayman, the music I hear is the greater output."

TIMO KLUCK

CAYMAN (TYPE 981) CO_2 **emissions:** 206 g/km to 180 g/km, **Fuel consumption (combined):** 8.8 l/100 km to 7.7 l/100 km
BOXSTER (TYPE 981) CO_2 **emissions:** 206 g/km to 180 g/km, **Fuel consumption (combined):** 8.8 l/100 km to 7.7 l/100 km
PANAMERA CO_2 **emissions:** 293 g/km to 159 g/km, **Fuel consumption (combined):** 12.5 l/100 km to 6.3 l/100 km