14 生活時尚 STYLE

WEDNESDAY, APRIL 21, 2010 • TAIPEI TIME



The rear of the Lamborghini GallardoLP 560-4 Spyder is seen during the North American International Auto Show in Detroit in January last year.

The Lamborghini Gallardo LP560-4 coupe (blue) and Spyder (white) on display during the first press preview day at the North American International Auto Show in Detroit in January last year. PHOTOS: AFP AND REUTERS





BY TOWLE TOMPKINS, NY TIMES NEWS SERVICE, NEW YORK

Italian model goes on high-carbon diet

Lamborghini's compositematerials research is being conducted nine time zones away, at the University of Washington in Seattle

oreno Conti flicks the righthand shift paddle up one gear and the 560-horsepower V-10 responds in a fury, rocketing the Lamborghini Gallardo LP560-4 Spyder to a tick over 220kph. A green Fiat sedan and a small white truck coming toward us on the two-lane Via Malmanago flash their headlights in what I take to be a friendly greeting.

The shoulderless rural road is as straight as a bocce court, and Conti maintains the pace for another 15 seconds before telling me, "I'm going to stop." As he aims the quarter-million-US dollar convertible toward a small turnout some distance ahead, I'm hoping the carbon-ceramic brakes will work as designed. Otherwise, it may be a ditch that arrests our forward motion.

The genesis of the Gallardo's manufacturer was an incident that took place nearly 50 years ago, when Ferruccio Lamborghini, a farm-tractor magnate and sports car enthusiast, had what he called "a bit of an argument" with the founder of a small Italian car company.

The dispute stemmed from a brusque appraisal of his road skills by Enzo Ferrari, who reckoned that this customer, the buyer of a 250 GT model, "wasn't able to



drive a Ferrari, only tractors," Ferruccio Lamborghini, who died in 1993, once told Radio Televisione Italiana. He added: "That's when I got the idea into my head, I'll make the cars myself from now on."

So in 1963 Automobili Lamborghini started creating fast and exquisitely styled grand touring cars here in Sant'Agata Bolognese, about 32km from the home of Ferrari in Maranello. Three years later, Lamborghini hit its stride with the unveiling of its first true supercar, the Miura; the Countach, a radical departure from convention with scissoraction doors and the profile of a doorstop, followed in 1974. Together with succeeding designs like the Diablo, and more recently, the Gallardo and Murcielago, Lamborghini was firmly established as the bad boy of exotic sports cars.

The company passed from Ferruccio Lamborghini's ownership to — among others — a Swiss investor, the Chrysler Corp, an unlikely consortium led by the son of former president Suharto of Indonesia and, finally, to its current overseer, the Audi division of Volkswagen.

Sant'Agata Bolognese is a medieval town of 7,000 people, about 37km from the business, education and arts influence of Bologna, that wears the word quaint like a bespoke suit of armor. Brick and stucco buildings surround a car-free historic center that one enters through an archway topped by a huge clock.

While most of the land around the Lamborghini complex is occupied by modest farms and homes, the company's buildings are on a stretch of Via Modena that includes technology firms, an automotive wind tunnel

— and a dining establishment, Ristorante Bugs Bunny, that is probably not authorized by Warner Brothers.

The picturesque setting could lead a visitor to conclude that Lamborghini is locked in the past, pursuing horsepower while casting aside other responsibilities. Not so: Lamborghini is using lightweight carbonfiber components to improve the efficiency and power-to-weight ratio of its cars, and it seeks to cut vehicle emissions by 35 percent within six years.

For example, the 5.2-liter V-10 of the limited edition Gallardo LP570-4 Superleggera (Italian for superlight) produces 20.5 percent less emissions than the previous engine, the company says. Introduced at the Geneva auto show last month, the car's exterior carbonfiber pieces include the side mirrors, rear wing and sections of the underbody. Inside, carbon fiber is used for the door panels, seat shells and transmission tunnel.



Lamborghini's composite-materials research is being conducted nine time zones away, at the University of Washington in Seattle. Paolo Feraboli, an assistant professor of aeronautics and astronautics at the university, is the director of the school's Automobili Lamborghini Advanced Composite Structures Laboratory. He grew up in Bologna and worked at Lamborghini. He then moved to the US, earned a doctorate and began working in the university's composite technologies program, which included projects with Boeing.

Feraboli kept in touch with Lamborghini. "In 2007 they contacted me, saying, 'We'd like to really invest in carbon-fiber technology — make it our key technology — and we'd like to partner up with UW and Boeing."

In a telephone interview, Feraboli explained that to improve a car's powerto-weight ratio, you can either increase horsepower or shed weight. "But in reality, increasing the power, once you get to a certain level, becomes very difficult, and the kind of gains that you get by having a lot of horsepower becomes very small," he said. "On the other hand, if you drop weight you get exactly the opposite. Lamborghini identified that if you want to drop weight, you have to use carbon fiber."

While carbon-fiber composites are lightweight, they are expensive. "Over 50 percent of the cost comes from the time it takes to prepare the materials and to give it the shape you want before you can actually cook it," Feraboli said, referring to the necessity of curing the molded parts at high temperatures.

If not for the cost, as much as two-thirds of a Lamborghini or any car could be carbon fiber. "If rate and cost of production are not the issue, you could use a whole lot more carbon fiber," he said.

Feraboli and the Lamborghini laboratory also pursue clever uses of the material. "Right

A Lamborghini Gallardo LP570-4 Superleggera is seen on display on the second press day of the Geneva International Motor Show on March 3. PHOTO: BLOOMBERG

The Lamborghini logo is seen on the hood of a Lamborghini Gallardo on display at this year's Geneva International Motor Show on March 2. PHOTO: REUTERS

now, for example, we're looking at using batteries inside the composite in order to make the structure basically also a battery."

Such practical considerations are not the strongest appeal of a Lamborghini, of course.

"I lower the rear window to give you the sound of the engine," Conti, the test driver, says. With late winter temperatures below 5°C — there is still snow on the roadside — the convertible top is up, but he is eager for me to experience as much of the bellow from the Gallardo's V-10, mounted just behind the seat, as possible.

Conti is a 28-year veteran of Lamborghini with more than 15 years of performancecar driving experience. And he has taught driving-safety courses, so I am confident he knows what he is doing when he selects Sport from the three modes offered by the 6speed e-gear automated manual transmission — a US\$10,000 option.

He elects to leave the traction control turned on, explaining, "We have the winter tires on today. Sorry." He then blips the throttle a couple of times and suddenly we're at the end of the Lamborghini driveway. I don't notice any winter-tire drawbacks.

The Gallardo, which made its debut in 2004, has become Lamborghini's best seller, with about 10,000 adorning driveways around the world. That car and its big brother, the V-12-powered Murcielago, are built in Sant'Agata Bolognese.

The factory floor is spotless; the workbenches and parts bins are a neat freak's delight. And except for the occasional bark of an air wrench or warning beep from a forklift, the factory seems as quiet as a docent-strike day at the Uffizi Museum. In the US, Lamborghini sightings are rare treats, so it's remarkable to see dozens of Gallardos and Murcielagos here, each one being assembled according to the client work orders posted nearby. Another 30 or so completed cars are parked in a lot outside the factory doors, ready to be rushed to customers. Solar panels at the company's headquarters, recently installed, generate enough power to cut carbon dioxide emissions by 30 percent. The factory complex includes office space for roughly 800 employees, a gift shop, a cafeteria (so workers can avoid what is presumably an allcarrots menu at Ristorante Bugs Bunny) and Museo Lamborghini.

Displayed on the ground floor of the museum is the earliest production Lamborghini, the 350GT, as well as examples of the Miura and Countach. The second floor includes Lamborghini-powered Formula One and GT racing cars, a 2004 Gallardo Polizia Stradale that was donated to the Italian Traffic Police and a matte black Murcielago R-GT whose knife-edge design, high-rise wing, 7.6cm ground clearance and carbonfiber body are about as subtle as Silvio Berlusconi's hair color.

Meanwhile, inside the Gallardo Spyder, the deceleration as Conti stands on the brakes is like hitting Luciano Pavarotti's cache of jumbo flannel pajamas: we stop silently, swiftly, without drama — and well short of the ditch. As Conti makes a U-turn on Via Malmanago, he adds: "A fast car must have powerful brakes."

He turns back toward the headquarters. Charging into the Lamborghini parking lot, he slides the car into its spot in front of the building, kills the engine and proclaims, "Game over."