



The Last Silver Arrow

American factory driver Dan Gurney won the French Grand Prix in Rouen in 1962 in a Porsche Formula 1. Fifty years later, driving this Type 804 still perfectly captures the emergence of a new, modern Formula One.

By Bernd Ostmann **Photos by** Achim Hartmann

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Pursuing history:
The Porsche Formula 1
on the modern
Red Bull Ring in
Zeltweg in Austria,
with the driver
cultivating a Silver
Arrow look from
helmet to toes

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On the straight stretch between the Remus and Schlossgold curves: The 804's engine really lays it on at over 6,000 rpm. But it only has to accelerate 452 kilograms, plus the driver and the fuel



Photo: Wilfried Greets

Goodwood Revival 2012: The three-time Formula One world champion Jackie Stewart in the cockpit of the Porsche 804, in homage to Dan Gurney

Have you ever felt like you're sitting on a powder keg? Dan Gurney must have had that sensation in 1962 as he was battling Graham Hill and John Surtees in a Porsche Formula 1 racing car for victory on the Nordschleife of the Nürburgring. The only trouble was that the battery in the footwell had come loose. He tried desperately to hold it in place with his left foot, fearing in the back of his mind what would happen if a short circuit produced sparks, for that could have fatal consequences. After all, the driver of a Porsche 804 sits essentially in the middle of a fuel tank. Some 75 liters (20 gallons) of super-grade gas are stored in the main tank to the left, right, and rear. The remaining 75 liters swish in the tanks in the car's nose—essentially draped around the driver's legs. Displaying strong nerves, Gurney took third place and later described the German Grand Prix as his best race in the 804, a remarkable statement, seeing as how he had already won the French Grand Prix in the German Formula 1 racer and a week later would win the non-championship Formula race at Solitude near Stuttgart.

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The 804 Monoposto was an impressive combination of an air-cooled eight-cylinder boxer engine and a multitubular frame, whose great potential yielded a Grand Prix victory in its first season



Fifty years have passed since then. The Porsche 804 is once again in the pit lane—not at the Nürburgring, not in Rouen, but, rather, waiting for me at the newly modernized Red Bull Ring in Austria. (Old-timers will remember it as Österreichring.) These days one generally needs a dozen little helpers to drive a Formula One racing car. But just one is enough for me—Porsche legend Klaus Bischof, the director of the new Vintage Motorsports department. He has been letting the eight-cylinder engine run to warm up. The boxer engine in this Porsche is tiny, with a displacement of barely 1.5 liters. But it has a powerful voice, growling like a much bigger version of itself. Its eight cylinders are air-cooled, with a fan wheel throwing 84,000 liters (3,000 cubic feet) of air at them per minute. That costs 9 hp (7 kW) in power, but saves coolant and spares the radiator.

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Because Gurney, an American, was a giant of a man in the world of Formula One drivers, the Porsche did offer something in the way of comfort. Its steering wheel is removable, at least, which makes it considerably easier to thread one's body into the canoe-like car. One more tip on getting



Following his Porsche career, Gurney concentrated on his own All American Racers as team director, designer, and race-car driver

in: it's best not to hold onto the rollover bar when doing so, for it wobbles like a stage prop. And one shouldn't really test its effectiveness either, for the thin little pipe looks as if it would serve at best as a headrest.

You stand on the seat, support your weight on the car's body with your arms, and thread your legs carefully toward the pedals. Your left leg bumps into the battery.

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The fan wheel cools the eight-cylinder engine—with 84,000 liters of air per minute



A cable runs between your legs—for the clutch. But otherwise everything is in its usual place: the clutch pedal to the left, the brake in the middle, the gas pedal to the right. The ignition is at the upper right of the cockpit, and the pull switches for the gas pumps are to the left. These are important, because gas is pumped so cleverly from the tanks during a race that the weight distribution of 46 percent in the front and 54 percent in the rear is largely maintained. The main power switch and a starting lever are located to the left on the tubular frame. You don't need a mechanic with a starter generator, because as soon as you pull down firmly on the lever, the eight cylinders behind you start humming. First gear requires some vigor. Rev up the engine, disengage the clutch—and off you go. But then, what's that? The eight-cylinder engine stutters. First lesson—you need some rpm here. Nothing works below 6,000 revolutions, and at 8,200 everything is over. Occasionally, but only in extreme cases, it used to do 1,000 more.

But above 6,000 rpm, the little engine speeds up astoundingly well. No wonder, because it only has to accelerate 452 kilos (996 pounds), plus the driver and the fuel. The frame weighs only 38 kilos (84 pounds), and the aluminum body just another 25 kg (55 lbs.). Later on the first synthetic car body parts would be used in the 804. The gear ratios are designed to be quite short. First, second, and then the next surprise—the six-speed transmission has no shifting gate. “Be careful when shifting gears,” Bischof warned. Later I learned that Gurney asked for a shifting gate after the first race. For third gear, you should



Klaus Bischof, director of the Vintage Motorsports department, gives driver Bernd Ostmann a few final tips

allow yourself some time to make sure you're in the center groove, because the alternatives could have serious consequences. If you hit fifth gear instead, there's suddenly no more propulsive power. First gear would be even worse, because it would kill the engine. But with a little practice, the shifting process goes smoothly.

However, once successfully in gear, yet another surprise lies in store. The first braking curve is taken in first gear. This Formula One car was the first Porsche to have disc brakes. To be precise, disc brakes in shroud, or, in other words, a combination of drum and disc brakes. It was an interesting technical solution, although one with a few shortcomings. The first step on the brake gives the driver a shock, because the pedal goes down almost to the floor panel. The technical term for this is "long pedal travel." Fortunately, I've approached the first serious bend with respect, or, in other words, pumped with lightning speed on the pedal. Then the deceleration sets in.

As test-driver Herbert Linge recalls, "The brakes worked great—but you first had to let the brakes know before the curve." This is because the wheel movements vibrate the brake linings on the disc. One should be aware of this,

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for such fine points are no longer part of the standard automotive routine. Drivers back then had to live with these little drawbacks, but one quickly becomes accustomed to them. Even on a brake-killing circuit like the Red Bull Ring, with its short straight stretches and tight curves, some of which, like the right-hand Rindt curve, go downhill at the same time. Despite all of this, driving the 804 can quickly become addictive. You lie almost flat in the cockpit, with your rear end nearly rubbing the asphalt. You can see the freestanding wheels, and set your sights precisely on the curves and curbs beyond them. This Porsche one-seater, with its narrow tires, behaves more like a touring car than a Formula One racer—it understeers, it oversteers, but it's easy to control. You quickly forget that you're sitting in a gas tank on wheels. That's what it must have been like for the Grand Prix heroes of old times. Driving pleasure outweighed everything else, and fear was simply banished.

Incidentally—the 804's career lasted only the length of a single hot summer. Even before the end of the 1962 season, company boss Ferry Porsche announced that "we're

stopping here." The plan was to devote more energy to motorsports more closely related to series production. British teams had dominated the Formula One in 1962, with BRM winning the world championship. And with its aluminum monocoque chassis, Lotus had not only left the tubular frame design behind but also revolutionized the Formula One.

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The 804 rolled into the museum, but parts of the project not only survived the departure from the Formula One but became key elements in Porsche's continuing success. Like the disc brakes, for example—which have lost their shroud and been further developed. And the eight-cylinder boxer engine, which had started off as the problem child of the Porsche crew because it didn't develop enough power, but ended up doing a great job. With 1.5 liters of displacement, it was good for a little more than 190 hp (140 kW). With half a liter more, its output went up to 270 hp (199 kW). In the Porsche 907 sports car, the engine won the 24-hour race in Daytona; in the 910 it won the European Hill Climb Championship; and then in a 908 it even won the 1968 Targa Florio in Sicily.

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For Dan Gurney, July 8 of 1962 marked the launch of a great career with additional wins in his own Eagle F1 car, wins for Brabham, in Le Mans, in the North American IndyCar Series, and at NASCAR races. Porsche proved that it could—although didn't necessarily want to—hold its own with Monoposto specialists such as Ferrari, Lotus, BRM, and Cooper. But in the family's opinion, the brand needed to focus on long-distance racing activities in the future. Fifty-five overall victories at the most important 24-hour races in Le Mans (16), Daytona (22), the Nürburgring (11), and Spa-Francorchamps (6) demonstrate that the legacy of the last thoroughbred German Silver Arrow—with drive system, chassis, and suspension all designed and made in Germany—has been handled successfully indeed.

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