ROAD & TRACK

VOL. 16 **LE MANS**

24 HOURS, 1 Century, 4480 Cars* and the Greatest COMEBACK OF ALL TIME

*INCLUDING THIS RACE-WINNING **1979 PORSCHE 935 K3**

THE ORIGINAL INFLUENCER

Vehicle shown: 2023 Range Rover. © 2023 Jaguar Land Rover North America, LLC

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ONE DAY AT A TIME

THE 24 HOURS OF LE MANS SURVIVED A WORLD WAR, HORRIFIC ON-TRACK VIOLENCE, AND COUNTLESS POORLY BEHAVED FANS. THIS YEAR WILL BE STRONGER THAN ANY BEFORE.

A. The most remarkable thing about this 2011 wreck—in which Allan McNish in the Audi R18 TDI prototype clipped a slower GTE Pro Ferrari 458 just after the Dunlop Bridge—is that no one was hurt.

A

PHOTOGRAPHY COURTESY GEOFFROY BARRE/ENDURANCE MAGAZINE

THE 24 HOURS OF LE MANS started as a science fair and turned into a hair-raising race the moment the green flag waved. This was 1923, when the number of horses in use in Europe still exceeded that of cars, though the global shift to the internal-combustion engine had begun about a decade earlier.

If you've ever been through the Loire Valley and the tiny town of Le Mans, I don't have to tell you it's in the sticks. Ancient farm fields still rotate the same crops of beans, grapes, onions, leeks, and asparagus. The air is redolent with cow manure.

In the year of Le Mans's first running, France was still reeling from World War I, which killed almost 20 percent of the French soldiers who fought in it. So this race was part of the nation's—and the entire continent's—recovery, conceived as a proving ground for the technology of the time: thin windscreens. There were 33 cars in the first running—all but three were French—and according to the rules (which senior editor Kyle Kinard describes as "an impenetrable bramble" on page 011), each vehicle had to have a functioning horn. Bentley showed up. So did Bugatti. The other marques are lost to history.

Today Le Mans is a celebrity of races. The words are synonymous with sports-car racing, obscuring the provincial origins. Billions are spent on the cars, which no longer have horns. This year is the race's centenary and 91st running (we missed a few years due to the other world war and occasional labor strife).

And so *Road & Track* is commemorating the race by not only looking back at the most fascinating moments in Le Mans history, but also treating it the way it was meant to be from the start: as a science fair gone nuts. The 2023 race also happens to be coming at a time when it seems like every motorsport series is having a "moment." This year several manufacturers—including Cadillac, Porsche, and Ferrari—are joining or rejoining the top prototype class. We hope this issue sets the stage for an amazing event and 100 more years of racing.

MIKE GUY
EDITOR-IN-CHIEF

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COVER PHOTOGRAPH BY **LISA LINKE**

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Bruce Meyer

MEYER, A RENOWNED COLLECTOR of vintage automobiles, motorcycles, and race-winning cars, was the founding chairman of the Petersen Automotive Museum in L.A. On the cover is his Le Mans–winning Porsche 935 K3, a car he graciously lent editor-at-large A.J. Baime for his story "A Crime of Passion" (page 062). Meyer began collecting in 1964 with the purchase of a 1955 Mercedes-Benz 300SL Gullwing. The Porsche is the second of Meyer's cars to be featured on our cover—his gorgeous Shelby Cobra graced Vol. 9.

Will Crooks

Despite hailing from the Midwest, Crooks somehow only has the accent when he says "bagel." In a past life, he was an accountant, and he almost went to grad school for comparative philosophy. Now Crooks is based in the Southeast and lucky to push buttons for a living. He shoots photography for publications including the *New York Times*, *British GQ*, the *Wall Street Journal*, and the *Washington Post*. For this issue, Crooks spent three days at Daytona International Speedway with the Porsche Penske team (page 030).

Sophie Green

The London-based Green is a social documentary and art photographer. Her work is a spontaneous, intuitive reaction to the ordinary and celebrates the eccentricities of the human experience. In a world of unique individuals, her projects largely explore aspects of British culture and rarely documented communities and subcultures that are drawn together by a shared identity, passion, or cultural heritage. Her portraits of Robert Bull, an eyewitness to Le Mans's darkest day, appear in "The Spectator" (page 082).

Raphael Orlove

Orlove is the deputy editor of *Road & Track*, principally in charge of online features. When he heard a Le Mans issue was in the works, however, Orlove pitched story after story about Le Mans's underdogs and outsiders. While most of these pitches were rejected, his John Wyer retrospective made it in (page 074). Orlove is usually seen with a film camera slung around his neck. He owns the most charismatic and least reliable Volkswagen Beetle on the planet.

R&T

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BRUCE MEYER PHOTOGRAPH BY LISA LINKE

Vehicle performance means nothing without confidence. Whether it's at the track, on the road, or even off-road, a vehicle's main purpose is to inspire that sense of confidence in the driver. This is no easy feat, and the pursuit of it has led to an inseparable relationship between Honda automobiles and Honda Performance Development.™ While the vehicles Honda races may seem to have little in common with those driven on the road, the knowledge and philosophy learned on the track carry over to the streets—and vice versa. Take, for example, the Honda Racing Baja Ridgeline, a 550-horsepower twin-turbocharged truck that races across hundreds of miles of desert. The heart of this raucous racer is built upon the same engine block and heads as the road-going Ridgeline. Some might say this is wasteful over-engineering; we say it's over-engineering at its finest. After all, we designed the Ridgeline with a goal in mind: to never get stuck. So it has to be capable of far more than a trip to the hardware store.

This philosophy of rugged practicality carries over to every part of the Ridgeline, particularly the intelligent Variable Torque Management™ (i-VTM4®) all-wheel-drive system, which helps to improve stability and control through torque vectoring. At any moment, a system of clutches will engage to send as much as seventy percent of the engine's power to the rear axle, then up to one hundred percent of that power to the left or right wheel. This gives you four independent points of traction, each receiving the appropriate amount of torque needed to help pull you through difficult terrain. Quite simply, the Ridgeline is designed to give you the confidence to actually exploit its rugged capabilities. Ironically enough, the iVTM-4 vastly improves on-road performance as well by sending power to the outside wheels during hard cornering, much like the sports-car breed. Coupled with a first-in-class independent rear suspension and a lightweight unibody structure, one might say the Ridgeline is more agile than a truck needs to be. But it's just the type of "over-engineering" we put into every Honda, from the ones driven on the road to the ones raced in the desert.

HONDA

PHOTO BY KLEMANTASKI COLLECTION/GETTY

LE MANS START

THE FIRST RUNNING EVEN A RACE. UNTIL

BY **KYLE KINARD**

A

THEY SAY IT ALWAYS RAINS at Le Mans. At least, that's what 100 years of soggy racing shoes would suggest. But 100 years ago, at the first running of the world's marquee endurance race, there was no such expectation.

Firstly, it did not rain. Well, not right away. Instead, hail rattled like Maxim fire against the fragile bodies and veneer-thin windscreens gathered in rural France. Under those angry skies, on the 26th of May at 4:00 p.m., the flag fell on the very first daylong torture test on the roads near Le Mans, France.

The 1923 event was conceived as a demonstration of production-car durability and featured vehicles equipped with fenders, running boards, rearview mirrors, and horns. Vehicles with anything larger than an 1100-cc engine had to have four "comfortable" seats. A field of 33 cars started. Of those, 30 were French-built. Only two of the carmakers survive today: Bentley and Bugatti. The event's organizer, the Automobile Club de l'Ouest (ACO), might have had international aspirations, but those first years were French provincial affairs. The event's regulations were an impenetrable bramble, but one thing was clear: This was not a race. Or it wasn't until the flag dropped. The front-runners—three Chenard-Walckers and the single Bentley 3-Litre Sport—were tearing ass through the rolling countryside.

Le Mans became a race.

Or maybe it was war. From 10,000 feet, the original 10.7-mile circuit traces a similar line to the modern track. But at ground level, la Sarthe looked more like a trench at the Somme. The "roads" in rural France at the time were mostly narrow dirt lanes. The hail and the rain that inevitably followed turned them to rock-studded muck.

The racers soldiered on.

When a rock punctured the fuel tank of John Duff's Bentley and he ran out of gas on the circuit, he somehow navigated back to the pits on foot. His teammate, Frank Clement, commandeered a police bicycle and ran la Sarthe against race traffic with two gas cans slung from his neck.

"It was absolutely terrifying," Clement said. "I thought they were going to mow me down every minute."

The French army aided the drivers by setting up acetylene floodlights, the polished reflectors of which look, in period photos, like tiny trackside UFOs. The lights bathed la Sarthe's tightest corners in a warm glow. Between the blat of engine noise and diesel generators, spectators enjoyed classical music played over shortwave radios, the tunes broadcast from the Eiffel Tower herself. A proto–hospitality tent, where all drivers were welcome to dry off and rest, went through 150 gallons of soup, 50 chickens, and—this being France—450 bottles of champagne.

Because of the aerodynamic advantage, most cars ran with their windscreens folded down. And yet, most of the drivers of these open-top racers did not wear goggles. Head protection consisted of cloth "helmets."

A shocking 30 of the 33 starters finished the first Le Mans. Clement set the event's first lap record in the Bentley, covering la Sarthe's 10.7-mile distance in 9 minutes, 39 seconds. The "winning" Chenard-Walcker covered 128 laps in 24 hours. And what did the winning team win? Nothing but the Rudge-Whitworth Triennial Cup. Well, a third of it. The ACO devised the first Le Mans as one part of a three-year endurance test to be run annually. Competitors' average speed and total distance were weighed against a complex classing formula that accounted for engine displacement. The ACO's logic was that if it forced entrants to return the next year to defend their honor or grasp for victory, they'd at least come back. And for the most part, the ACO was right.

One hundred years later, 1923 seems both foreign and distant. But a couple of things remain constant at Le Mans, certain as the sunrise: the brutal toll on man and machine, and the rain.

A. In 1923, the No. 9 Chenard-Walcker won the first 24-hour event at Le Mans but did not win. Also, everyone wore hats.

OF THE FRENCH CLASSIC WASN'T THE FLAG DROPPED.

hybrid

THE BIGGEST, MOST DIVERSE TOP PROTOTYPE CLASS WILL COMPETE AT THE 24 HOURS OF LE MANS'S 100TH ANNIVERSARY.

BY **DANIEL PUND**

100

People love nice round numbers. Why is not entirely clear, but they do. And that's particularly true when that number heralds an anniversary. So it's natural that the Automobile Club de l'Ouest (ACO), organizer of the 24 Hours of Le Mans for its entire existence, is making a big deal of this year's race. It's the event's centenary, after all.

Okay, so it's not the 100th race. There were nine years during and following World War II when no race was held. The 1936 race cancellation was due to the most French of reasons, a labor strike. And there's that small matter of the event not even being a race until its sixth running in 1928. But forget about all that because what matters—yes, even more than nice round numbers—is that 2023 promises to be one of the best races in years.

That's almost entirely down to a historic accord announced three years ago between the ACO and IMSA that will now allow the Eurocentric Le Mans Hypercar (LMH) class to run head-to-head against the new-for-2023 IMSA-defined Le Mans Daytona hybrid prototypes (LMDh). Both classes put out a maximum 500 kW or 671 hp (measured at the driveshaft). And both varieties of prototype must have a downforce-to-aerodynamic-drag ratio of 4:1.

LMDh cars, like the ones that raced at this year's 24 Hours of Daytona in IMSA's GTP class, must be based on one of four possible independently designed chassis and use the same transmission and hybrid system. They are all rear-wheel drive. This approach dramatically cuts development costs. Cadillac and Porsche will each field LMDh entries in this year's Le Mans.

The LMH rule set allows carmakers to design and build their own chassis and hybrid system—along with everything else, for that matter. Toyota is the returning champ in the class with its proven hybrid four-wheel-drive entry. It'll have to fend off big factory efforts from Peugeot and Ferrari, both of which use a conceptually similar hybrid four-wheel-drive powertrain. And Scuderia Cameron Glickenhaus returns with the nonhybrid 007.

The last time five major manufacturers vied for the overall win was pretty much never. Add in a couple of dark-horse independent efforts, and you have one helluva 100th-anniversary party.

Looking ahead, Alpine, BMW, and Lamborghini are expected to join in the fight at the 2024 running of Le Mans. But that'll be the 101st anniversary of the first race, and who cares about that?

Here are our profiles of the 2023 Ferrari, Cadillac, and Porsche programs. Place your bets accordingly.

ferrari

BY **JOHN PEARLEY HUFFMAN**

PHOTOGRAPHY BY **CAYCE CLIFFORD**

Race cars aren't meant to sit. Or idle. Or park.

The Ferrari 499P prototype, destined for Le Mans but here now, on this cool and clear early February morning in Central Florida, sweeps across the broken concrete of Sebring International Raceway's infield. It's five weeks before the 499P's first World Endurance Championship race on this track in March.

After 50 years, Ferrari returns to endurance racing, swinging this broadsword. Purring, burping, and barking after test laps, the 499P half-orbits around the two borrowed semis and their trailers with which Ferrari has formed its temporary mad science lab. The car comes to an uneasy rest under one of two black tents between the trucks. This four-wheel-drive hybrid racer is packed with computers, batteries, turbos, electric motors, and radiators. These components need airflow to keep from frying while the car is parked, so a Home Depot's worth of Milwaukee M18 Fuel leaf blowers ($387 each, including a lithium-ion battery) is stuffed into the beast's many openings. Like most modern race cars, this thing is at more thermal risk when it sits than when it's rocketing.

"We're having quite a nice winter session," says Giuliano Salvi, the engineer leading Ferrari's endurance effort. "We've planned properly our development, and it looks like we're following our path. Of course, we need to stay humble. We are Ferrari, and we have a lot of expectations. And our targets are very high. But it is also true that we are beginners."

Ferrari is chasing the volumes of experience—sheer raw data—accumulated by its new foes in world sports-car racing. If nothing else, Toyota's five consecutive wins at Le Mans mean that the Japanese firm has five days of track time under

A. Central Florida is hardly Northern Italy. But this is where the Ferrari 499P will prove its worth.
B. Theoretically, the 499P cockpit can hold two humans, but even two gloves are a tight fit.
C. Fuel is burned, but the batteries aboard are vital too.

B

C


RICHARD MILLE

B

race conditions. Porsche has 19 overall wins at the French road circuit since 1970 (if you count the Porsche-powered, Jaguar-based racers of the Nineties). Data comes with that experience and success.

At Sebring, Ferrari offered *Road & Track* an unprecedented glimpse at how it strives to accumulate knowledge rapidly. Besides the two cars—No. 50 and No. 51—there were at least 18 computer workstations under that tent using telemetry to measure everything the test subjects were doing on track, plus maybe a half-dozen more inside the trailers. The analysis Ferrari couldn't do at Sebring it sent over the internet to Maranello, where another squadron of engineers drilled into the numbers. Racing today is as data-driven as everything else. Ferrari has plenty of racing experience and deep wells of F1 data, but they're in catch-up mode in sports cars.

A half century wipes away institutional memory. Ferrari last competed for the World Sportscar Championship in 1973 with the 312PB. Built around the 3.0-liter flat-12 used in the 312B F1 car to then-current Group 5 specifications, the 312PB won races and earned Ferrari a championship in 1972. But, unsure of the engine's longevity, Ferrari didn't compete at Le Mans that year, and after the 1973 season, it withdrew from sports cars to concentrate on F1. Few members of this modern Ferrari endurance team were even alive then.

Group 5 is ancient history. Returning to endurance racing, Ferrari could build to either the Le Mans Hypercar (LMH) international rule set or Le Mans Daytona hybrid (LMDh) rules for IMSA in North America. It chose the more permissive and vastly more expensive LMH.

"It's very simple," explains Ferdinando Cannizzo, the technical director of the 499P project and head of GT Racing Car Design and Development for Ferrari, on a Zoom call from Maranello. An LMDh car "is not a car made by the manufacturer. The chassis is made by the chassis constructor, the hybrid system is common to every car, and you may only have the engine as part of the manufacturer's design. With the [Le Mans] Hypercar, we design the chassis, the engine, and the hybrid system. It's our DNA to create Ferraris. That's what drove our decision to build the [Le Mans] Hypercar."

Ferrari could afford to play the more expensive game. The company is generally assumed to have been F1's biggest spender, with past outlays beyond $400 million a year—likely well beyond. The budget caps imposed on F1 teams during 2021 knocked those expenditures down to a maximum of $145 million. Then to $140 million for 2022 and

A. (Previous pages) Former F1 pilot Antonio Gionvinazzi is the team's best-known driver.
B. Sebring can be a lonely place during testing. The track supplied corner workers to maintain safety standards.
C. Due to strict regulations, the man buns of crew members must be no larger than 4.75 inches in diameter.
D. It was a test not just for the car, but for the team members too, as they learned how it would race.
E. Leaf blowers are vital to keeping the 499P's components from melting when the car is stopped.


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$135 million for 2023 through 2025, not including concessions for extra races and inflation. Ferrari had a lot of experienced, fanatically competitive engineers with salaries it could no longer fund under the F1 program. So, it's assumed, starting another program was a good idea—a parallel program with synergistic potential with F1.

"This is what the people believe," Cannizzo contends. "But in the end, we're a normal company, and we've been approved with a certain budget. And this is what we are going to respect."

Still, even the LMH regulations result in more affordable racing than the astronomical efforts made under the old LMP1 rules. Maybe only $100 million for a season, max.

The 499P has a slimmer cockpit than the LMDh cars—those of Porsche, Cadillac, and Acura, for example—that use one of four off-the-shelf chassis. It's still, at least theoretically, a two-seater and shaped to meet the WEC's exacting rules of drag and downforce (a 4:1 downforce-to-drag ratio tested in an independent wind tunnel). And there's some F1 know-how in those small directional wing fences, vortex generators, and Gurney flaps positioned around the car. Drag and downforce are regulated, but there's clever optimization here.

Ferrari asked that *R&T* not photograph the intricate elements of the drivetrain. Some access was better than no access. The most surprising element is that the beast's internal-combustion heart is a version of the 120-degree V-6 used in the roadgoing 296 GTB. In this case, the engine's compact block is unique to the race car because it needs to be incorporated as a stressed member of the structure with the seven-speed gearbox hanging off its tail. As in the street machine, the wide angle of the vee allows easy plumbing of the turbos planted between the banks, keeps

A. Alessandro Pier Guidi was one of two drivers on hand for testing.
B. Ferrari has hired six drivers for this effort: three Italians, one Brit, one Dane, and a Spaniard.
C. The 499P's red-and-yellow livery is inspired by the company's last prototype effort, the 312 PB.
D. Red shirts and black trousers were the Ferrari uniform of the day. Ferrari always looks good.

A B

the engine's weight down low, and makes a wonderful sound because of the harmonious natural balance of the cylinder splay. As in the 296, it nominally displaces 3.0 liters.

The civilian-spec 296 engine is rated at 654 hp, and the Hypercar rules limit output to 500 kilowatts (671 hp) in race trim.

Ferrari says the 499P's hybrid system uses the same 900-volt battery and controller components it uses in its F1 cars. However, here they're used to feed a 200-kW (268-hp) electric motor that drives only the front wheels in situations specified in the rules—in dry conditions at over 120 km/h (75 mph). How the battery discharges is specific to the car.

About the only time any crew member's concentration seems to wander during the test is when they amble to the port-a-potty out where all the various rental cars are parked. Seeing what's happening on the track isn't important. Finding inspiration and additional speed in the numbers appearing on their displays is the task at hand. Could there be too much data? "There are a few people who are experienced, like myself," promises Salvi, "whose job is to filter what is important and what is not. Luckily enough, we have a good environment here, and the level of the people is good, so we focus on the key factors in making the car perform. So far, we haven't been lost."

Although Ferrari's and Ford's market capitalizations are around $50 billion each, Ferrari sold about 13,000 cars worldwide in 2022 to Ford's 4.2 million (which includes trucks). Whatever Ferrari spends on advertising every year is likely a thimble compared with the ocean it pours into racing. Racing is Ferrari's marketing and where it proves the concepts and technologies that keep its road cars compelling. And it could spend much, much more on racing if it wanted. Or if the regulations allowed it to.

Former F1 pilot Antonio Giovinazzi is fresh out of Formula E and one of six drivers Ferrari has assigned to the Hypercar program and its development. After his testing stint, he hangs his driving suit out to dry on a line supporting the tent. "I prefer racing," he says, as if it's the most obvious statement ever spoken. But testing is "part of the game. Particularly when you have a new project and car like that."

Salvi's goal for this year is modest. "To be realistic," he sighs, "it is to see the checkered flag with both cars. For me, that would be a good target. We are here for reliability, reliability, and reliability. That's the first step of our path." That won't be enough in the long run. "We are Ferrari, but we know our target. We need to be humble."

For now.

C D

cadillac

Like all its IMSA GTP competitors, the new Cadillac hybrid prototype leaves its pit box on pure electric power. If you're not watching closely, you could easily miss its exit. It leaves only a rising electrical golf-cart hum and a bit of kicked-up dust in its wake. For those who've heard the deep bellow of earlier American Le Mans efforts—such as the Ford GT40 Mk II, the Corvette C6.R, and the Viper GTS-R—the Caddy's departure disappoints.

But when it reaches the fast lane, hell breaks loose. Fired by a Bosch motor-generator in the transmission's bell housing, the factory-designed and -built 5.5-liter V-8 instantly overtakes the aural landscape. Its volume overwhelms nearby microphones, and the suddenness with which that wall of sound hits widens eyes and causes heads to snap to attention. It is, in a word, spectacular.

All the other entries in IMSA's reconstituted GTP class—each using an identical battery, motor-generator, and transmission to the Cadillac's—also depart their pit boxes on pure electric power, even though it isn't mandated. But the Cadillac is the only one with a naturally aspirated engine in the class. And only Cadillac understands the full power of the start-up drama.

The company has some practice in this area. Ask anyone whose neighbor owns an Escalade V. Its start-up exhaust note is absurdly loud. Obnoxiously loud. Awesomely loud. It's no coincidence. If this Cadillac prototype racing effort is to spread the V-series gospel (at amplified volumes), it needs to share some ties with production cars. And since street Cadillacs don't go trundling around strip-mall parking lots on full carbon-fiber platforms constructed in Italy by Dallara, the exhaust note is one of the few connections. It's why this new engine is a cross-plane unit instead of a flat-plane, as in the Corvette race car. It shares at least a basic deep-throated character with the V-series street cars, if no actual parts.

Just in case there's any doubt about the racing effort's connection to the carmaker, Cadillac's executive chief engineer, Brandon Vivian, is here to set the record straight. "We own the cars. We choose the drivers. We designed the engine. We built the engine. It's ours," he states emphatically.

And what an effort it is. According to Adam Trojanek, the lead propulsion engineer, General Motors started work on the engine in mid-2021. The V-8 made it to the dyno in March 2022. Unlike recent Cadillac prototype engines—pushrod units often built by third parties—GM Powertrain constructed this DOHC engine in Pontiac, Michigan.

Cadillac lined up megateam Chip Ganassi Racing more than two years ago. Ganassi ran two seasons in IMSA with the previous Cadillac prototype in preparation for this year's Le Mans run. Cadillac signed the drivers, including experienced Cadillac pilots Sébastien Bourdais, Renger van der Zande, and Pipo Derani, as well as Indy superstar Scott Dixon for endurance-race help and newcomer Alexander Sims. Curiously, there's not an American among them.

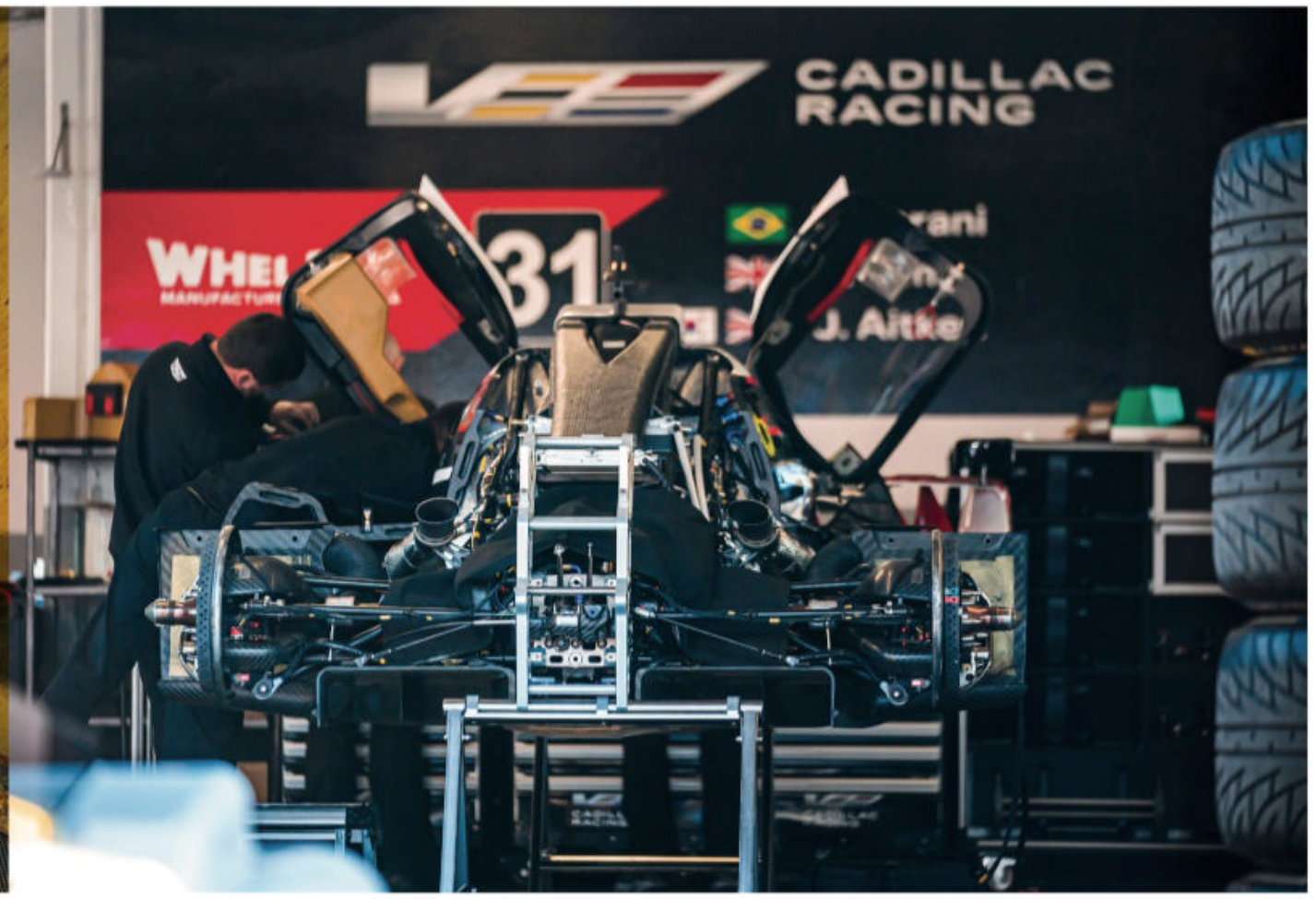
In addition to Ganassi, Cadillac has a second team. Longtime associate Action Express Racing of Charlotte—owned by Jim France, CEO of NASCAR—will run a car in IMSA for the full season. Under Cadillac's direction, Action Express and Ganassi, two former competitors, share data and resources. A third car will run in the FIA World Endurance Championship (WEC), which counts Le Mans as a round in its season. Ganassi will run it through a shop in Stuttgart, Germany. This is a big program. But when the ultimate goal is to beat Ferrari, Porsche, Toyota, and Peugeot at the 24 Hours of Le Mans, a small program won't cut it. Cadillac is the only one on that list that hasn't won at Le Mans. Porsche has 19 wins.

But worries about besting Porsche, Ferrari, and the others must wait. When I visited Chip

A. The noiseless, all-electric launch is disconcerting in isolation from the frenzy of competition.
B. Any bug that hits a Cadillac LMDh's nose dies a glorious death.
C. Per LMDh rules, the Cadillac shares its hybrid system and transmission with its competitors.

BY **DANIEL PUND** PHOTOGRAPHY BY **MARC URBANO**

B C



A

B

THIS SPREAD: PHOTOGRAPHY BY **SPENCER LOWELL**

C

D

A. Coupe de Badass.
B. Beauty is only skin deep, and that's a helluva skin.
C. Muscle moves machines. But just finding a good push spot is wicked tough.
D. Bodywork shows off how densely packed this Cadillac is.

Ganassi Racing just before Christmas 2022, the thing that terrified the team was the 46-pound, German-built Bosch motor-generator and the tiny, cockpit-mounted 1.35-kWh battery from Williams. Without those pieces, a car built to the IMSA GTP rule set cannot run. The motor and the battery that powers it add to the propulsion system a relatively meager 40 to 67 hp, depending on the track, and also act as the engine's starter and alternator. If the system packs up, the car is done. Mike O'Gara, who is in charge of the Cadillac program at Ganassi Racing (and who ran the Ford GT program that took a Le Mans class win in 2016), is nervous. "We're control freaks here," O'Gara says, "so everything we can control, we do. Having something like this hybrid system that's critical to the running of the car be out of our control is really foreign to us. And even if the supply was fine and the reliability was good, just having something out of our control is uncomfortable."

He's not alone: Everyone else in Chip Ganassi Racing's 105,000-square-foot HQ in Indianapolis was nervous too. So was everyone on the Cadillac corporate side. In fact, everyone involved in the GTP class was terrified. The first race of the GTP era, the grueling Rolex 24 at Daytona, loomed over the holiday season, and there were dark predictions that—gasp!—an LMP2 car would win overall. The hybrid elements took longer to get to teams than expected. It pushed Cadillac and every other GTP effort back by several months. They weren't ready. Nobody was ready. They didn't know if they'd even have the spares of the spec parts should something fail. And how could they not fail?

But by the close of the 24 Hours of Daytona in late January, it was clear that the GTP cars hadn't failed. BMW and Porsche had serious issues with the hybrid components during Daytona. But Cadillac didn't. Neither did Acura. Still, star driver Bourdais is sullen. He just finished his last

A. Carbon fiber and engineering necessity can produce something sculptural.
B. Speed is expressed as streaks.

A B

RICHARD MILLE

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RICHARD MILLE /

A Racing Machine On The Wrist

stint in the yellow-nosed Cadillac with an hour and 40 minutes left in the race, and he knows Cadillac can't win on speed. "I don't understand it," he says, staring off. He couldn't catch the leading Acura ARX-06s.

And so it went. Cadillac only managed spots three through five, behind both Acuras. Jamie Coates, Ganassi's team manager for the Cadillac effort, moved purposefully through the pit box after the checkered flag flew, hugging every crew member. His glassy eyes spoke to the program's emotional and physical toll.

The Acuras won't be at Le Mans, at least not in 2023, so Cadillac needn't worry about them. But there will be plenty of battle-tested entries. And they've spent multiples of the number Cadillac has.

The only French thing about Cadillac is the derivation of its name. And since Antoine de la Mothe Cadillac died 172 years before the car company was founded, that connection is pretty meaningless. Yet Cadillac, which sells basically zero cars in Europe, has sustained an interest in the French enduro rivaled only by Ford among U.S. automakers. In part, the brand's interest is about nostalgia, the power of Le Mans past. When Briggs Cunningham wanted to make an honest run at the French classic in 1950, he took Cadillacs. Well, it was the Cadillac V-8s he wanted. He planned to bolt them into Ford bodies until the Le Mans organizers objected. Instead, he entered a stock-looking Series 61 and the Cadillac-powered, massive (and massively weird) "Le Monstre" aerodynamic special, finishing 10th and 11th, respectively. By all accounts, the fans adored Cunningham's big, outrageous Cadillacs.

Fifty years later, Cadillac mounted an ill-fated run at the overall win with the factory-backed Northstar LMP program. The first Northstar LMP, based on a five-year-old Riley & Scott chassis, embarrassed itself at the great race in 2000. It was 6.5 seconds slower than the pole-winning Audi in qualifying. The best of the four Cadillacs finished 19th. Despite significant changes to the car over the next two years, the program never recovered from its dismal start. Its best finish at Le Mans was ninth. Cadillac pulled the plug in August 2002. By the company's own admission, it had badly underestimated the competition at Le Mans and had consequently committed too little money and technology to the program.

Now, with a stable rules package and an adjustable balance of performance between disparate car types within the same top class, Cadillac should at least be on an even footing with the others at the centenary race at Le Mans. It's already won the best-sounding car in the prototype class. Now it just needs to do those other things.

A. A day of racing at Daytona produces filthy awesomeness along the Caddy's flanks.
B. Any night spent racing is exhausting.

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porsche

In order to be anything but a disappointment, Porsche's newest endurance-racing machine, the 963, must win the 24 Hours of Le Mans. The trouble is it was born into the most competitive field since the mid-Eighties. For the 2022 race, only Toyota, Alpine, and Glickenhaus entered top-tier hypercars. For the 2023 edition, Cadillac, Peugeot, and—wait for it—Ferrari will also be gunning for the win. That's one very high bar to clear.

Every top-class Porsche prototype has won the 24 Hours of Le Mans. Stuttgart has 19 overall victories, the single most impressive record for an auto-racing manufacturer, and it illustrates more than a half-century of improbable consistency.

Porsche's overall Le Mans wins stretch back to 1970, but its recent history at la Sarthe is one of dominance. The 919 Hybrid, the only Porsche prototype to fight for a Le Mans win in this millennium, raced for just four seasons; it won Le Mans and the FIA World Endurance Championship three times each. After its retirement, the 919 Hybrid became the barnstorming 919 Evo. That car, freed of all regulations, lapped the Nürburgring in 5 minutes, 19.55 seconds, obliterating Stefan Bellof's long-held 1983 record in a Porsche 956 by nearly a minute.

The 963 is a departure for Porsche, as it isn't all built in-house. Prototypes that adhere to the new LMDh rules are built around a next-generation LMP2-class carbon-fiber tub—Porsche's is from Multimatic—and a spec hybrid system. Manufacturers have relatively free rein with body design and the engine. The 963 uses a twin-turbo 4.6-liter V-8, one with roots in the V-8 from the RS Spyder, Porsche's championship-winning LMP2 rocket ship of the Aughts. The new engine uses

A. Porsche and Penske have a history going back more than 50 years. It has always been a potent partnership.
B. Race drivers must be technicians too. There's a flood of information to process and act upon.

A

B

BY **FRED SMITH**

PHOTOGRAPHY BY **WILL CROOKS**


TAG HEUER
Ansys
PENSKE
BOSS
MICHELIN
TAG HEUER

A

low boost pressure to produce relatively even torque distribution and combines with the hybrid system for a peak output of 671 hp, the limit for the class. The 963's design incorporates elements of road cars into a sleek, timeless look, with headlights below the fenders and a taillight bar reminiscent of the current 911.

Urs Kuratle has been with Porsche since the early days of the 919 program. He now serves as the director of factory racing for the 963. When Porsche ran the 919 operation on its own, the program was roughly 200 people strong. Now, with outside firms providing the chassis and spec parts, Kuratle cannot estimate how many people are involved in building and running the car.

"It's difficult to say. We have the two Penske Porsche programs in two facilities, and then we have the development facilities in Weissach, and we have all these people we don't know working at Bosch, Williams, and Xtrac for the standard components in the development areas for those companies," Kuratle says. "Overall, the number of people may be bigger than it used to be in LMP1, but they're not serving one team or OEM. They're serving four of them and customers."

The complexity of the supply chain sets up no small challenge, even for the winningest brand in Le Mans history. That's why Porsche partnered with the most powerful force in American racing.

Team Penske's success cannot be overstated. Roger Penske, a former racing driver from Ohio, built a team around the multifaceted racer Mark Donohue in the late Sixties. A half century on, Penske's team has won the Indy 500 18 times, the IndyCar championship 17 times, the NASCAR Cup Series championship three times, and the Australian V-8 Supercars championship three times. Penske has often aligned with manufacturers in sports-car racing, including with Porsche for its early-Seventies 917 Can-Am and mid-Aughts RS Spyder. The team most recently competed with Acura in IMSA's DPi category, winning eight races

A. The 963 isn't immune from heat challenges, hence the leaf blowers cooling the rear brakes.
B. Is there a hint of 917 in the 963? Maybe? Could be? Nah.
C. Dane Cameron getting steely eyed at Daytona.

and two titles over three seasons.

Penske himself, now one of the wealthiest men in the automotive industry after decades leading both the team and a sprawling corporate empire, has a reputation for running his team with the attention to detail and resources of the New York Yankees' management. Drivers must maintain a clean look. Perfectly pressed white short-sleeve button-down shirts are the team's signature attire. Haulers are wrapped in black, red, and chrome, always shined to an impressive finish. If you've followed any top-level American racing series over the past 50 years, you know a Penske-run team on sight.

While Penske's success is largely confined to American racing, his team is responsible for the 963's factory effort in IMSA and the World Endurance Championship. The challenge required significant restructuring and investment.

Porsche Penske Motorsport managing director Jonathan Diuguid is responsible for building new "mirrored" Penske teams in the U.S. and Europe. The two resulting programs—one in Mooresville, North Carolina, and the other in Mannheim, Germany—draw from pools of talent experienced in IMSA and WEC. Their ability to share notes as part of a whole-factory operation is a unique strength. Diuguid says the team will use all of that combined strength at once to support the relevant programs at Daytona and Le Mans.

The pairing is less of a culture clash and more of a fascinating look at where German and American racing culture dovetail. Penske's signature sharp aesthetics are unmistakable, even in a December test six weeks before the 963's Daytona debut. Of the four manufacturers present, only the newly christened Porsche Penske Motorsport had official signage in its temporary garage. Porsche, with its decades-long Hugo Boss sponsorship, decked out drivers and crew members in fashionable uniforms just a few logos away from upscale business casual. Every other team at the test had a green plastic cone to indicate whether the hybrid-assisted car was discharged and safe for mechanics to touch; only Porsche and Penske use a metal beacon that changes color from red to green to signal the same thing. It's a partnership built on shared professionalism.

The team announced Brazilian former Formula 1 driver and IMSA DPi champion Felipe Nasr and American three-time IMSA champ Dane Cameron as the 963 program's first two drivers. Since Porsche was the first LMDh manufacturer to test, Nasr gained early experience with the complex new hybrid systems, but it was an early struggle.

"There are a couple of speed bumps along the way when you're the only one in the world run-

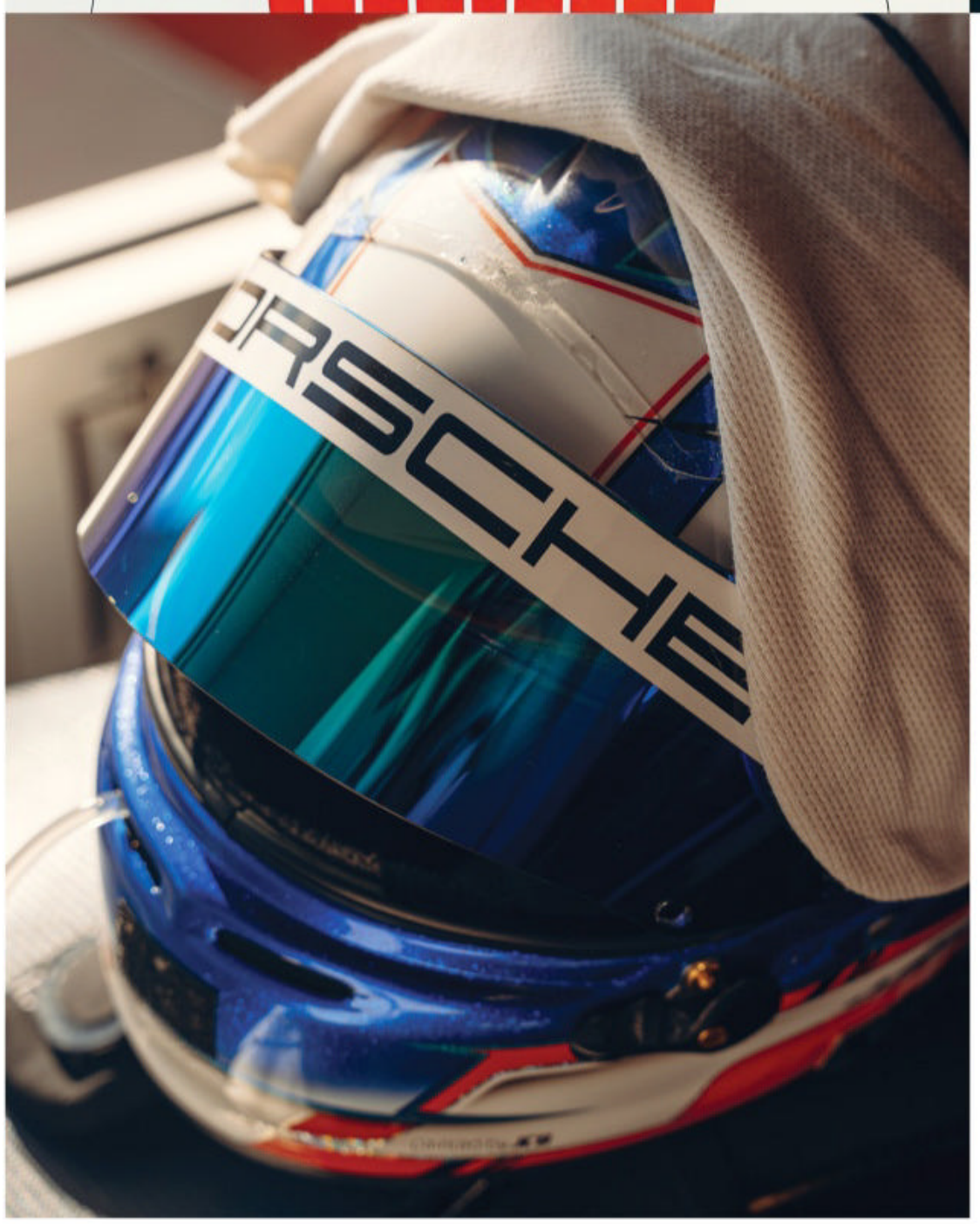
B

C


PORSCHE
TAG HEUER
Ansys
963

A

B


PORSCHE

D


Ansys
Weather Tech
7
PENSKE
BOSS
MOTUL
MICHELIN
TAG HEUER

C

E

A. The Porsche Penske 963's livery was inspired by the red-and-white Salzburg 917 that won Le Mans in 1970.
B. Roger Penske celebrated his 86th birthday on February 20, 2023.
C. Electric motors need attention too.
D. It's not just a helmet—it's a driver's entire world while racing.
E. Porsche and Penske don't leave tools lying around or floors unswept.

ning these components," Nasr says. "You always want to be further ahead in motorsport, and there are a lot of things we learned throughout this time that we've improved. As a slight additional challenge, we're building these two teams for WEC and IMSA. So not only are we developing the car, but we're also staffing the program."

That program and the people Penske chose have only impressed Nasr. "It's a bunch of professional guys, hard workers, and it's been great. My plan is to take these guys to victory lane."

While Cameron has been with Penske for years, 2023 will mark his first season with Porsche. "It's really special. I've been in sports cars for a while, and I've raced against the Porsche brand for a long time. I've seen their strength. I've seen their success. And I've seen how they look after the people who have success there." He specifically notes the triumphs of two other Americans, now-retired drivers Hurley Haywood and Patrick Long, whom he says have been "ingrained in the fabric of the brand" after their years with Porsche. "I always kind of looked up to it, I guess, aspired to it. So it's really cool to be here, to be in this program. To be a Porsche works driver is special to me."

Eight other drivers, mostly from Porsche's recently shuttered factory 911 RSR program, will join Nasr and Cameron in four cars across both series. Cameron is confirmed for a WEC schedule in Europe; Nasr will run in IMSA full time and will pilot an additional entry fielded at Le Mans in June.

The 963 made its racing debut at January's 24 Hours of Daytona. Despite entering the race as a heavy favorite, thanks to the team's extensive preparation, both cars suffered mechanical issues. One needed a battery replacement mere hours into the race and finished more than 30 laps behind the leaders. The other, already laps behind after spinning in traffic, retired with a transmission issue.

It was, to say the least, a disappointing start. For Porsche Penske's part, Diuguid sees it as a hard lesson on the road to Le Mans.

"I don't think we can be happy with any result that doesn't have us winning the race or fighting for the win on the last lap," he says. "We're disappointed, but I couldn't be prouder of the effort, attitude, and approach all the people on our team have taken during and after the race, trying to make sure we're better next time we show up."

Four 963s will compete at Le Mans in June, including three from the factory team. For Roger Penske and his 57-year-old organization, a win in the 24 Hours of Le Mans would be a new crown jewel in a well-stocked trophy case. For Porsche, it would be a standard maintained.

BY MIKE GUY

THE FILTH AND THE FURY

THE WEIRDEST DRAMA AT LE MANS OFTEN UNFOLDS ON THE UNWASHED SIDE OF THE CATCH FENCE.

I FIRST WENT TO LE MANS as a journalist in 2015 as a guest of Nissan in what would be an ill-fated year.

I slept in a six-by-eight-foot storage container stacked on the loge level of the Stade Marie-Marvingt, the 25,064-seat home to Le Mans Football Club right inside Tertre Rouge, the turn that sets up the blistering rocket ride of the Mulsanne straight. When I arrived at the stadium, I was given a rudimentary Nismo-branded shaving kit and a pair of red tartan paper slippers to wear to the bathroom. I had a cot to sleep on, if I chose to. While the door locked, every sound within 10 kilometers reverberated inside the bare steel walls.

Even as the sprawling infield of Le Mans filled with people during race weekend, the stadium was empty except for us wretched writers, padding to and from the stadium urinals in our paper slippers.

As reporting trips go, this wasn't the worst. In my career, I've been chased out of a Sinaloa village by cartel thugs working for a local parish priest, and I lost a molar when a 12-year-old paint huffer jammed the muzzle of a pistol into my mouth in Brazil. Those were unpleasant reporting trips.

This trip sucked at first but redeemed itself. Because unlike, say, a Formula 1 race, Le Mans isn't about hotels and caviar. It's a carnival, a bacchanal, a free-for-all. It's a place where it's okay—

ILLUSTRATION BY STEPHEN OMARK

SELECT PHOTOGRAPHS USED IN COLLAGE FROM GETTY IMAGES


24
MON DIEU!
PEEP SHOW!
3.6 km
LE MANS

really, man, just do it—to piss in public after a few drinks. Some years Le Mans is a peaceful Bonnaroo, some years it's Burning Man, and some years have a touch of Fyre Festival (complete with storage unit and paper slippers). The quantity of alcohol consumed is staggering and unrelenting, even by English standards. Your state of dress comes to resemble your state of mind.

I'm sure there are hotels and caviar for the snot-nosed elites, wherever they're hiding. But that's not the essence of Le Mans. Le Mans would be a blue-collar orgy if everyone weren't passed out from drinking too much cheap wine.

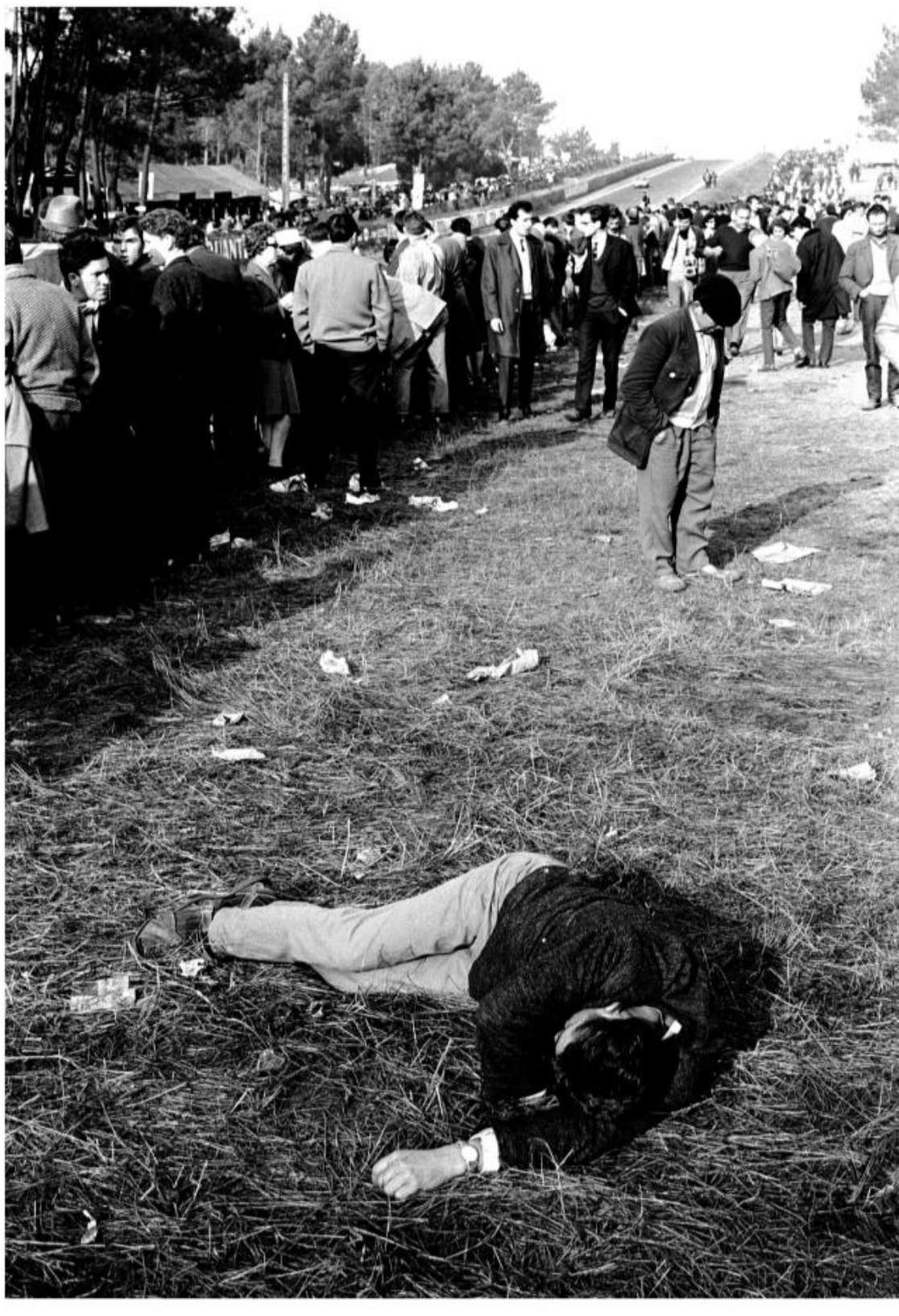
The race tests your camper van, port-a-potty, and cell service. Imagine a 24-hour Kentucky Derby where a 300-pound English electrician in a preposterous derby headdress sits in the rain and drinks the village dry to ease his discomfort.

In 2015, my pain wasn't just that I was housed in a steel container in the bowels of a football stadium. It was the 83rd running of the race, and Porsche was jousting with its cousin Audi for LMP1 dominance. Notably, my host was Nissan.

Nissan had commissioned certified motorsport weirdo-genius Ben Bowlby (he of the brilliant and disastrous Nissan DeltaWing), who had devised, built, and unleashed—at Le Mans, of all places—a half-baked front-engine, front-wheel-drive LMP1 that wedded a twin-turbo V-6 with a flywheel-based hybrid system, which would theoretically send power to the rear wheels. It was supposed to push out between 1500 and 2000 hp, but it didn't come close. This Brobdingnagian idea was a loathsome betrayal of the principles of simplicity that often characterize great endurance

A

B



C

D

E

F

racing cars, and it failed. Power never made it to the rear wheels, not for a single lap, and the drivers pushed three shopping carts around the Circuit de la Sarthe at 20-plus seconds per lap slower than the leading cars.

At that moment, having escaped the dismal black noise swirling inside the empty soccer stadium, I sat with a handful of writers in Nissan's paddocks, awash in the flop sweat of Nissan executives. I took no pleasure in their pain. I love risk and always respect race teams that push the bounds of reason just because; I also love the way Bowlby would jump off a cliff chasing an interesting notion, and a whole phalanx of auto execs would counterintuitively jump with him. I wish the damned idea had worked.

And so, as dawn broke over the trees, the race entered the morning groove and accelerated to its end—an anticlimactic procession of cars following the one-two finish by the Porsche 919 Hybrids. Eighteen hours had passed since the start.

So I went in search of the underground, the demimonde of Le Mans. Beyond the beer halls and merch trucks, campgrounds peppered the landscape. I saw men in suits sleeping in the muck, holding empty beer steins in a comatose vise grip. There were teenage couples on blankets, half dressed and wet from the rain that swept through at 4:00 a.m. but perfectly content. Tents lined the berms overlooking Indianapolis, and the smell of frying bacon drifted from camper vans. Trash was strewn everywhere. There was no pop music, just the rock 'n' roll of the prototypes and sports cars ripping past in the morning light.

Back at the stadium after the finish, the Nissan team was quietly polite as we handed over our paper slippers. "Better luck next year," I said. Not likely.

A. A spectator judging a wet T-shirt contest in 1974—on Bloomsday, no less.
B. In the camping area, a well-stacked pile of cashed bottles.
C. A well-timed nap is crucial to enduring all 24 hours of Le Mans.
D. It's not just a carnival atmosphere that adds texture to the 24 lawless hours. There's actually a carnival.
E. In 1965, the Fun Fair allowed fans to take their minds off their sloppy drunken spouses—if only for a few spins on the Flying Tiger.
F. In 2014, Roman Rusinov's activities included driving an LMP2 car in the race and becoming a tattoo artist.

PHOTOGRAPHS A, D, E, AND F: MOTORSPORTS IMAGES; PHOTOGRAPH B: BY POOL DURAND/SYGMA VIA GETTY IMAGES; PHOTOGRAPH C: JEAN-LOUIS SWINERS/GAMMA-RAPHO VIA GETTY IMAGES; PHOTOGRAPH F: CORCELLETTI/GAMMA-RAPHO VIA GETTY IMAGES

BY **MIKE SPINELLI**

LAP DOG

LET THE GREAT DANE TOM KRISTENSEN, THE WINNINGEST DRIVER IN LE MANS HISTORY, TAKE YOU FOR A LAP OF CIRCUIT DE LA SARTHE.

ILLUSTRATIONS BY **NVM ILLUSTRATION**

TOM KRISTENSEN has his own language to narrate a lap of Circuit de la Sarthe. "Downshifting" is *boo boo boom*. "Snaking through a corner" is *schooooop*. Kristensen has driven to nine overall 24 Hours of Le Mans victories on this course; he has the bona fides to rattle on about it anyway he likes. He speaks Le Mans fluently. English, French, or his native Danish? They're incidental dialects.

Kristensen, 55, has won almost 10 percent of the 24 Hours that have run. Here he takes *Road & Track* through a lap of this greatest of all racing venues, using a 2013 Audi R18 e-tron quattro for reference. He could communicate through semaphore or finger painting, and we'd still be rapt.

3. Tertre Rouge

"Exit speed is very important, so you have to be aggressive, but not too aggressive. You don't want the rear unstable, or you lose a lot of momentum as you go into the straight."

4. Daytona Chicane

"On good tires, good conditions, brake way down to about 80 meters. Nobody's blinking at that point. You go down the gears, getting the apex, stabilizing the car, and accelerating out. The faster you take the corner, the earlier you start to breathe."

2. Esses

"A lovely section. A huge bump; the car gets upset every time. You still arrive in sixth gear, and then into the left-hander. The farther into the corner, the more banking there is, and it just sticks. Over the crest, then flat out to the point where the circuit meets the normal road. You come out under these heavy trees. They have been there forever and seen a lot of things, good and terrible, over the years. One early morning, out of the esses but before Tertre Rouge, I noticed one fan holding a huge pole flying a Danish flag. It was bending toward the track. That was really cool. He did this quite often if I was in the car and leading. When you're coming out of the night and you see that flag, it gives you stamina. It gives you persistence—Le Mans persistence."

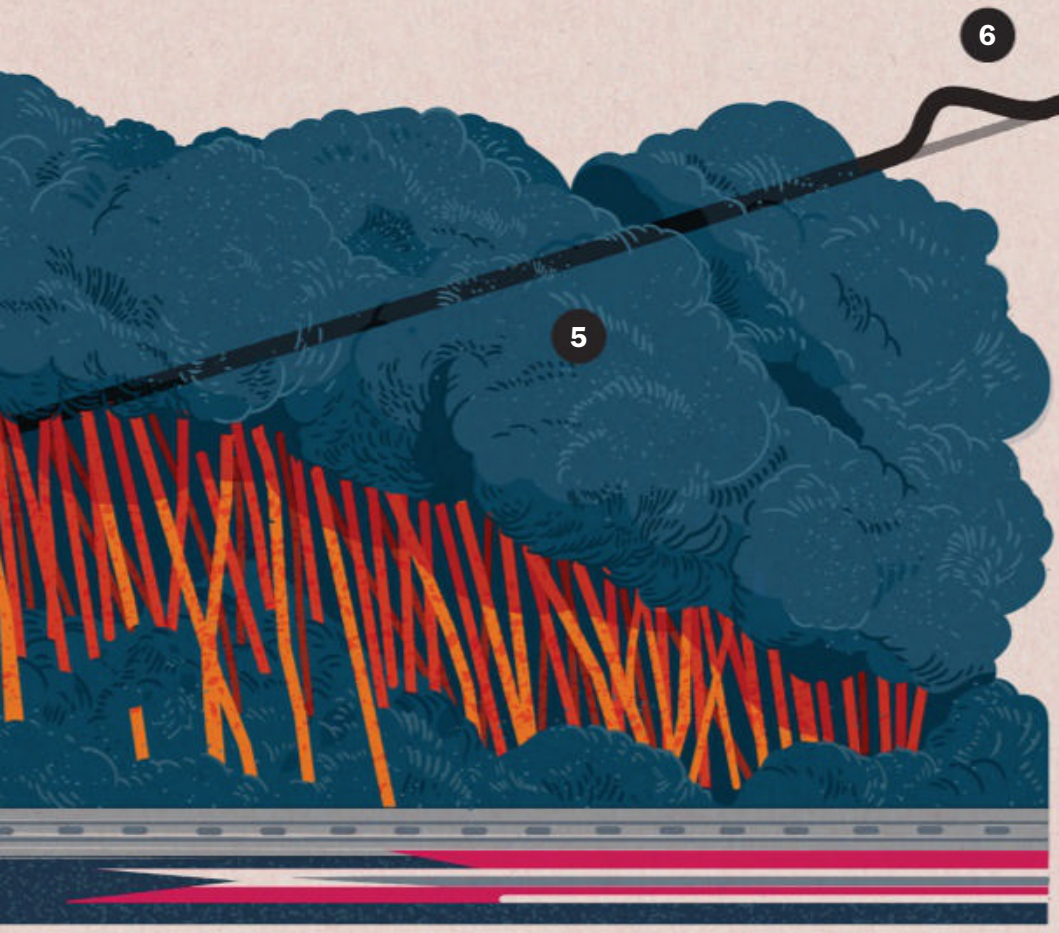
1. Dunlop Curve and Chicane

"Lift early and let the car roll a little bit. Kind of feed brake in before you really brake hard. Hit the curb on the left and shift into third to make sure to go flat with low revs; it helps the car be stable. Through the right-hander under the bridge, and then it's flat out downhill into the unknown."

12. Ford Chicanes

"The turn-in point is below your vision. The first is really fast; you need to have your left wheels on the curb. You try to get more to the right after that, and then *vroom* to the last chicane. Drop to second, *boo boo boom*. You take quite a bit of curb, and the car is unstable. Then you come out—second, immediately third, and fourth, and then you get the lap time, and it starts again. Every lap is a new adventure."

TRACK MAP ILLUSTRATION BY BROWN BIRD DESIGN



5. Mulsanne Straight

Even here "you're busy in the car. The car is complex, a lot of information flow: the gears, the brake balance, the hybrid function, the radio, the windscreen wiper, the drink bottle, the high beams. Then multiply all of those things by 12 in the multifunction because you could just go to different settings. It meant you were always super busy, always thinking. It was actually very, very stressful."

6. Michelin Chicane

"Definitely third gear. A big dip in the middle. Braking is done earlier. It's quite important to get a good flow and not break any speed sliding. Then you run close to the guardrail on the right and again up to top speed."

7. Mulsanne Corner

"A very irritating kink, just when you brake and it narrows into a bottleneck. There's a lot of grip right on the line. When you brake very deep, you turn in and you come off the brake and you turn more and the car sticks—*schoooooop*. Lovely feeling."

8. Indianapolis

"You see many mistakes here. Using the bank in the fast section, and then coming off a bit, trail-braking a little bit of load off the brakes, and then back at it. Then three gears down to Indy 2, a much slower corner. It's important that the front sticks, and you just sort of kiss the edge of the curb."

9. Arnage

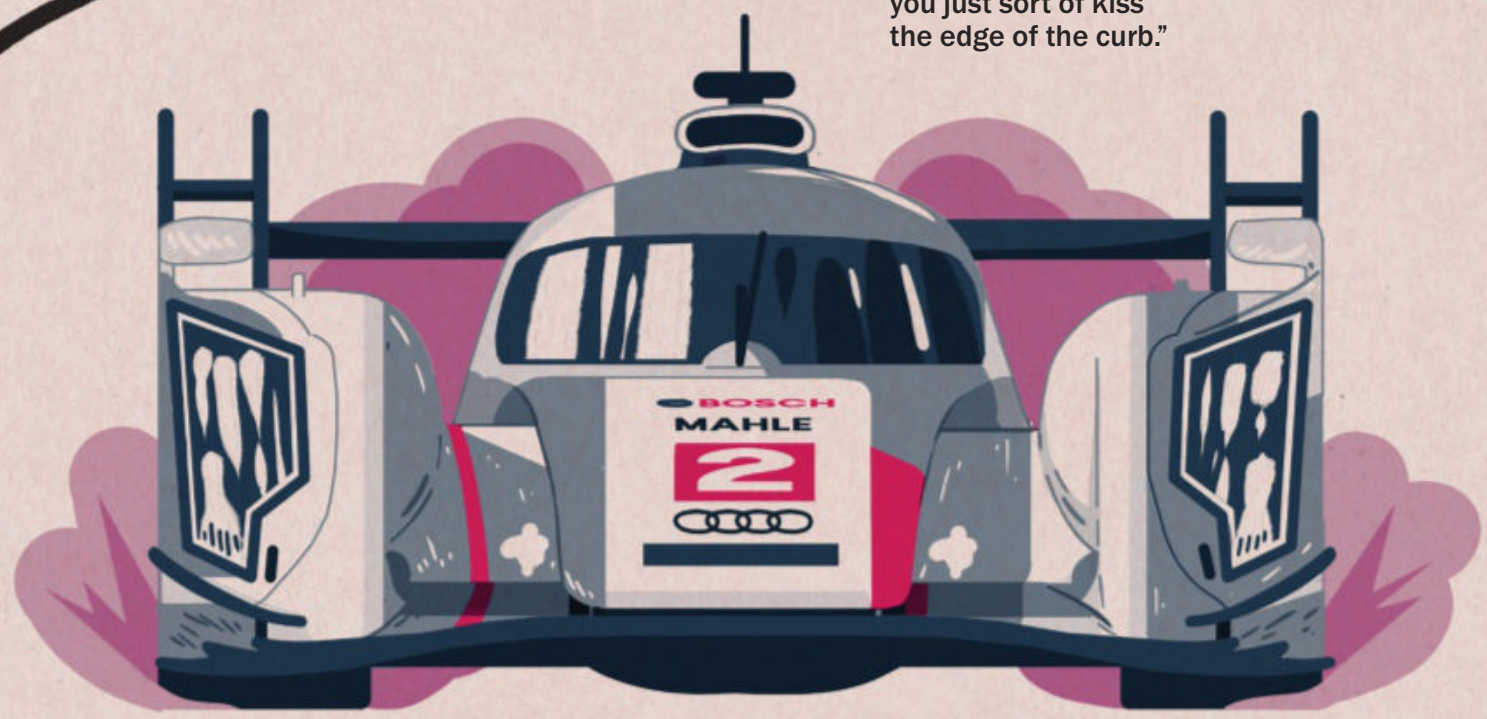
"The brakes are fading a little bit because they have not had a chance to cool off. It's easy to lock up the front. You're on the left side of the track, and you sort of let the car slowly fall over to the right as it unwinds itself."

10. Porsche Curves

"My favorite part. You're entering at 320-something clicks [199 mph]. Lift and then, just as you turn in, brake—maybe a little bit more after the bumps to not destabilize the car. And then the third corner slightly left. You can go flat but then have to set up for the long, smooth right-hander."

11. Karting

"Kind of blind; the road falls a bit away. Off camber as you set up the front. If you're running really close in traffic, the front very easily washes out. Coming out of Karting, you just have that right-left, which, when you are alone, is easy flat."



PEAK COMPLEXITY

THE 2012 AUDI R18 E-TRON QUATTRO TOOK

THE BEGINNING OF THE END was announced June 10, 2010, when the ACO confirmed hybrid prototypes for Le Mans 2011. It was inevitable. Automakers were electrifying their road cars, and hybrid tech offered a connection between what car companies raced and what they sold.

In 2012, Toyota entered the fray with the TS030, and Audi returned fire with an electrified prototype called the R18 e-tron quattro. It paired a turbodiesel 3.7-liter V-6 driving the rear wheels with a motor-generator unit (MGU) powering the front axle. The car proved blistering in qualifying. During the 24 Hours of Le Mans, the R18 worked without fault, placing Audi's hybrids first and second overall, with a nonhybrid R18 finishing third. The hybrid may have been bleeding edge, but, as longtime Audi Sport engineer Brad Kettler says, it was subjected to "at least four or five" 30-hour tests at race pace before turning a wheel in competition. Standard operating procedure for Audi.

With that win, the era of the hybrid LMP1 car had begun for Audi, Toyota, and, later, Porsche. The problem? It wasn't cheap. As competition grew, development budgets ballooned to rival Formula 1. Audi threw down its weapons in 2016, its prototype program's demise accelerated by fallout from Dieselgate. Porsche followed a year later, departing top-tier endurance racing for Formula E. Toyota remained the sole hybrid entrant until 2023.

The expense of the technical complexity ultimately ended up killing LMP1, but it left us with incredible cars. The first hybrid Le Mans winner was no exception.

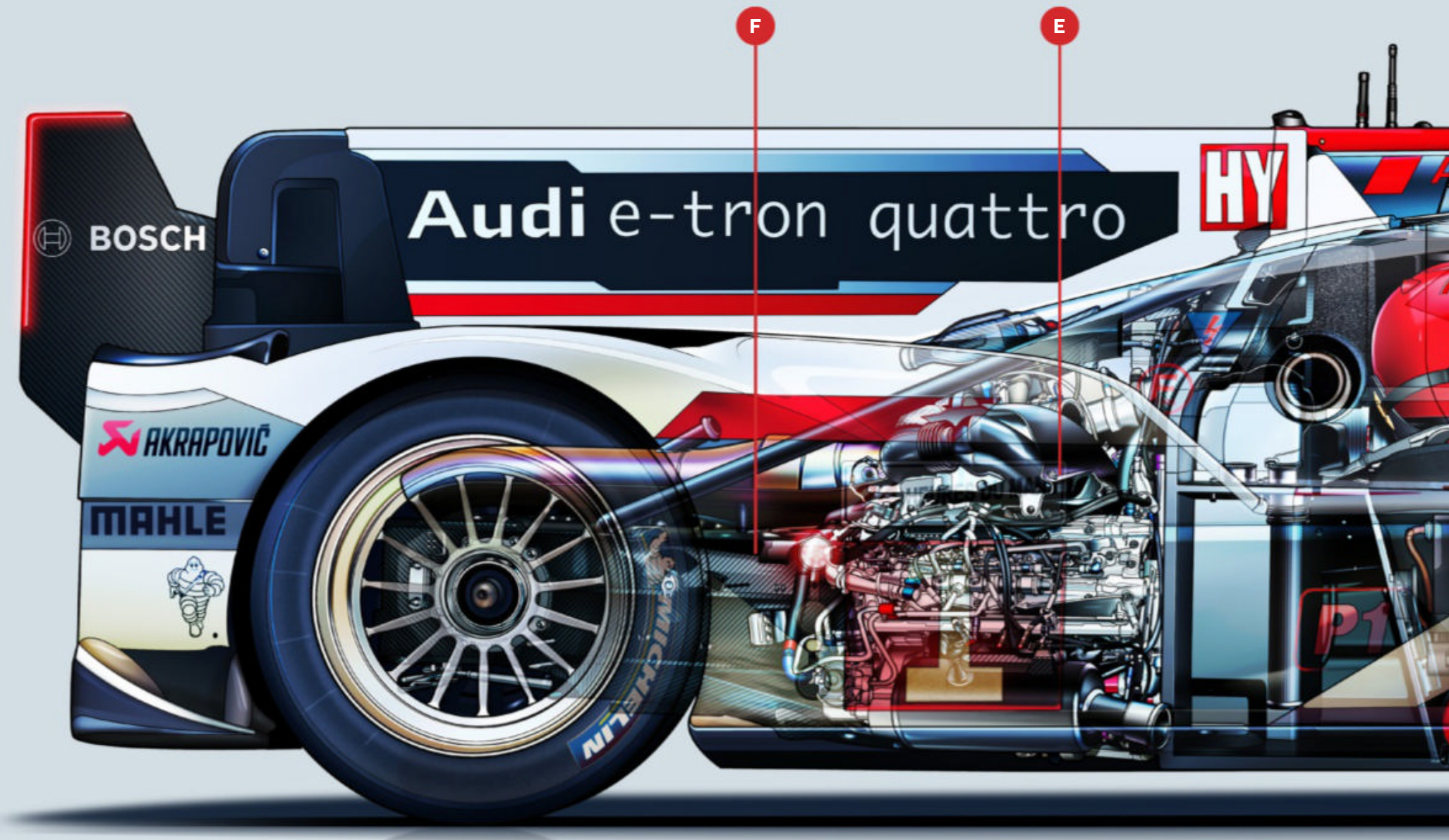


ILLUSTRATION BY **JIM HATCH**

LE MANS PROTOTYPES TO GLORIOUS AND UNSUSTAINABLE HEIGHTS.

A. The R18's MGU consisted of two motor-generators that drove each front wheel via a planetary gearset. Total output was over 150 kW (201 hp), though regulations for 2012 specified that these motors could kick in only above 120 km/h (75 mph).

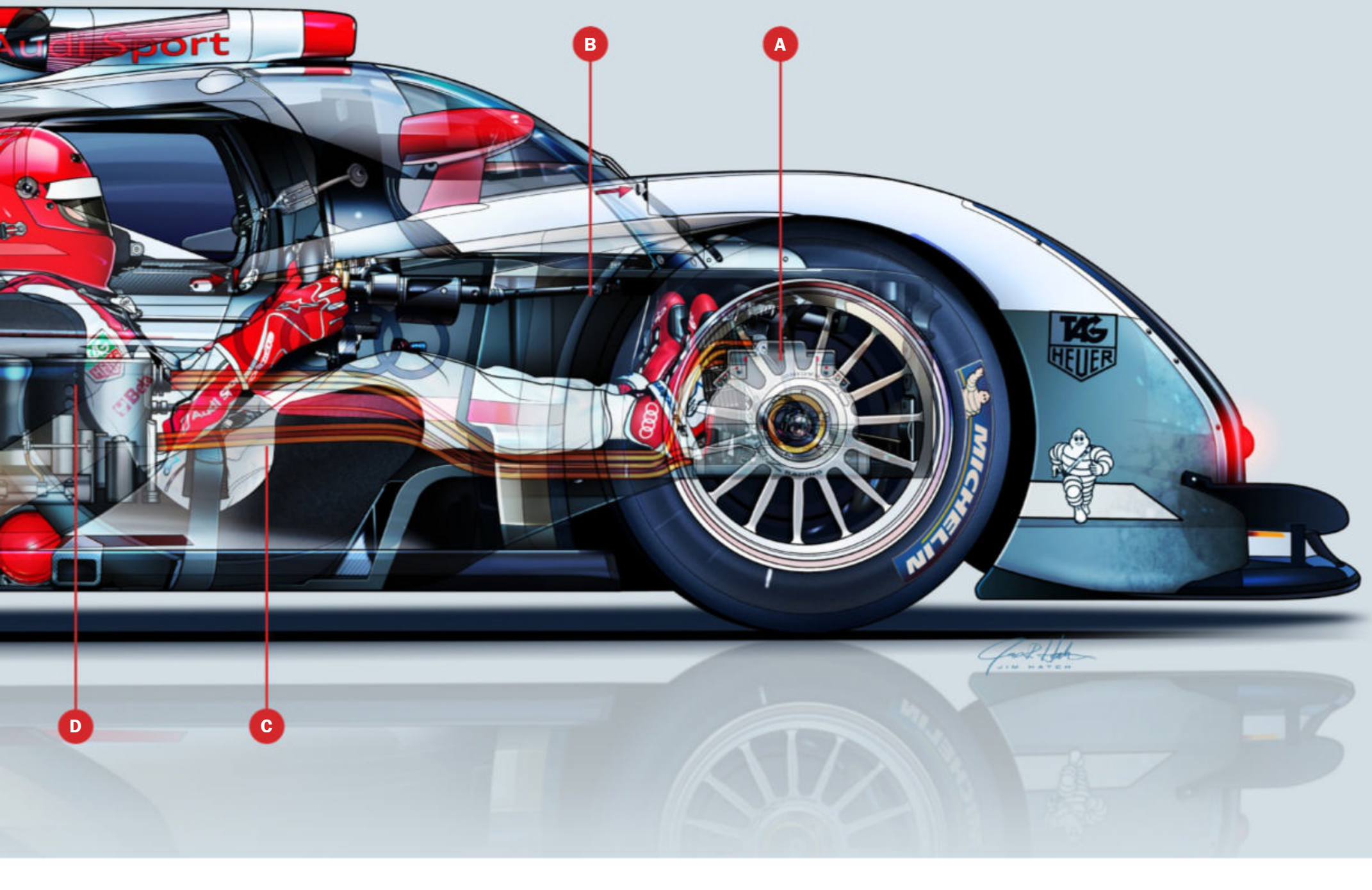
B. Kettler says the R18 was influenced by the Bentley Speed 8, which had received technical assistance from Audi a decade earlier. The Audi R15 TDI, which Peugeot beat in 2009, provided further insight. Dallara built the R18's carbon-fiber monocoque.

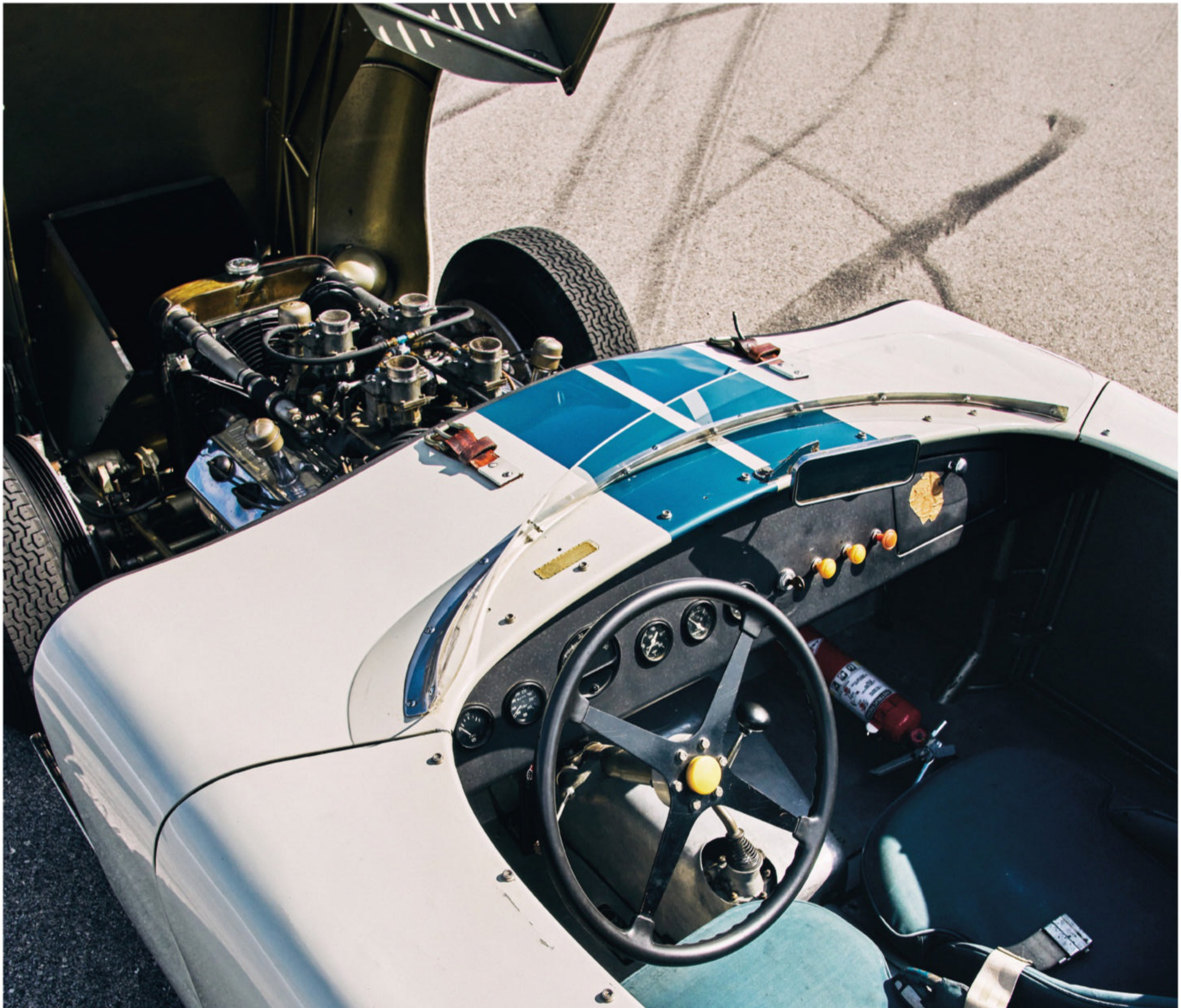
C. While the basic concept of the hybrid system was simple, running it was not. A hybrid engineer on the pit wall controlled a status light above the pit box to let the driver and crew know whether it was safe to work on the car. Red meant wait; green meant "good to go," Kettler says.

D. Under braking in specific conditions, the MGU transferred electrical energy to a flywheel accumulator system developed by Williams. The carbon-fiber-reinforced plastic flywheel spun up to almost 45,000 rpm in a near vacuum. When boost was required, the flywheel unit sent energy back to the electric motors.

E. Audi became the first diesel Le Mans winner in 2006, and it stuck with oil burners for the rest of its LMP1 tenure. The R18 used a 3.7-liter V-6 making over 503 hp and 627 lb-ft of torque. Audi mounted the car's single variable-geometry turbocharger within the valley between the 120-degree cylinder banks. This wide angle lowered the center of gravity, while the hot-V plumbing reduced turbo lag.

F. The V-6 paired to a six-speed sequential gearbox with transversely arranged gearsets in a carbon-fiber case, the first of its type in endurance racing.





A

BRAKE DANCE

IN 1953, THERE WAS NO STOPPING BRIGGS CUNNINGHAM'S C-5R, THE FASTEST CAR AT LE MANS.

B

C

A. (Previous pages) Neither comfortable nor safe, the Cunningham's cockpit is simplicity defined.
B. The C-5R is as smooth as a half-used bar of soap.
C. Devices like these are sometimes used to hold up trousers.
D. The C-5R's massive drum brakes were its biggest weakness.

"THEY WILL JUST have to be bigger!" he shouted.

"But, sir, they can't be bigger!" the other man replied, panicked. "The wheels are 16 inches, and those are the biggest wheels we have. You can't fit 17-inch brakes inside 16-inch wheels, sir."

"Who says brakes have to fit inside the wheels?"

I wasn't alive in 1952, when Briggs Cunningham and his team developed the C-5R, an open-topped road racer, for the 24 Hours of Le Mans, but I imagine this is how the conversation went. Cunningham got his 17-inch drum brakes; they are mounted inboard of the Halibrand magnesium wheels. Sure, disc brakes were the more compact, elegant solution. But at that time, only Dunlop made disc brakes, reserving them for Jaguar.

The only thing more American than starting a privateer racing team to take on the big-bad manufacturers (see heroes Shelby, Haas, Glickenhaus) is doing so using dead-reliable, low-tech, proven hardware. Ergo, Cunningham was the most American privateer, the first to stand proudly on the Le Mans podium with his own name on the car.

Cunningham was a racer first and manufacturer second. His motorsport career began, as many do, in other people's cars. He owned and raced Buicks, Cadillacs, Ferraris, and Healeys, modifying them for racing in creative and innovative ways. He transplanted engines from one car into another, such as his Cadillac V-8–powered Healey. Or he would fit custom coachwork onto production vehicles, like the legendary Cadillac "Le Monstre," a ghastly and amateurish-looking—but brutally effective—speedster-style body draped over the

D

PHOTOGRAPHY BY **JAKE CAMINERO**

A

B

standard 122-inch-wheelbase chassis of a luxurious 1950 Series 61 Club Coupe.

The total output of the B.S. Cunningham Company of West Palm Beach, Florida, was either 34 or 36 cars, depending on who is counting. The C-1 prototype led to a pair of C-2R race cars, which appeared at Le Mans in 1951. Subsequently, Cunningham built either 25 or 27 C-3 road cars, essentially streetable versions of the C-2R. The C-4R and C-4RK raced in 1952. Production of those models totaled three.

For the 1953 running of Le Mans, Cunningham prepared a single C-5R roadster. I'm watching it roll off a transporter at the Concours Club, a private racetrack and high-end hangout in Opalocka, north of Miami and 65 miles from where the C-5R was hand-built 70 years ago. This car, now owned by the Revs Institute, was the only Cunningham racer to earn a spot on the podium at the 24 Hours, taking third behind a pair of Jaguar C-types.

Cunningham built just a single C-6R, probably his prettiest design, which looks like a Jaguar D-type that's slipped into a white tuxedo. It boasted a best average lap 13 mph slower than its C-5R predecessor, which spelled the end for Cunningham as an independent builder.

Like other Cunningham designs, the C-5R is awkward and inelegant but purposeful. The grouper-esque mouth wraps around the nose of the car, feeding a pair of brake ducts and the simple cooling system utilized by the 331-cubic-inch Chrysler "FirePower" Hemi V-8. The bodywork is designed for a taller driver to hide within, which would make sense if there were any appreciable legroom. As with other early postwar race cars, aerodynamic stability was developed through trial and bloodshed. In profile, this car looks an awful lot like an airplane wing. Whatever. It was the fastest car down the Mulsanne straight that year, clocking 154.81 mph.

Opening the clamshell bonnet reveals a variety of interesting engineering choices. The brass radiator is roughly the size, shape, and style one might find on a narrow-nosed luxury car from the Thirties. The chassis rails look right out of a late-Forties Kurtis Kraft Indy car. Unlike earlier Cunninghams, the C-5R made do with a solid front axle, an odd choice for road racing. The Chrysler V-8, with its double-deuce carbs, makes 310 hp thumping along at 5200 rpm. Drivers John Fitch and Phil Walters were advised to upshift at 4500 during the race. At about 2500 pounds, the C-5R has about the same weight-to-power ratio as a C8 Corvette, though without the benefit of a modern transmission. Cunningham used an unsynchronized Siata truck box—apparently, the only thing around that would survive under the

A. (Previous pages) Chunky, slab-sided, and grouper-mouthed, the C-5R isn't exactly graceful looking.
B. The 331-cid Chrysler FirePower V-8 made the C-5R the fastest car on the Mulsanne straight in 1953.

Hemi-headed “FirePower” torque.

Then there are the C-5R’s unmistakable brakes, the largest drums ever mounted to a sports car. Ultimately, it didn’t matter how big they were. The Cunningham’s drums couldn’t match the Jag’s discs. Still, no Cunningham-branded car ever finished better at the 24 Hours of Le Mans, and now, 70 years later, I get to have a go.

Thanks in part to the car’s simplicity and the Revs Institute’s commitment to keeping all its cars ready to drive, the C-5R works perfectly. It fires to life on the first crank with a cherry-bomb blast from the twin rear-exit exhaust. It idles smoothly and has a relatively light clutch. The ergonomics, at least for someone of larger stature, are horrid, later proved by my extremely sore right leg and the black rubber streak the steering wheel embedded on the thigh of my jeans.

The car is simple but not easy to use. Everything must get up to temp to work properly. The cold tires are not quite round. The cold brakes tug the front end to and fro. And the cold gearbox makes a disconcerting crunch, despite that I do my very best to shift smoothly. Even with a track all to myself, it is impossible to separate the physical car from what it means. Every braking zone, I think, “One of one, $10 million.”

After five or six laps, the car starts to behave consistently. It brakes straight and true. The crunching from the gearbox subsides. The suspension settles, and the engine makes big, easy power. The three-four shift requires barely a lift of the throttle, and crossing the kink at 100 mph is smooth, effortless, and rewarding, as is the four-three downshift that follows. Long straights and high-speed sweeping bends are this car’s comfort zone. On a small, tight course like this one, it’s a real workout. How ironic that very light cars are often burdened with such heavy controls. Though I’m clearly not going full-on racing pace, I work up to speed and briefly stop thinking about how irreplaceable the car is.

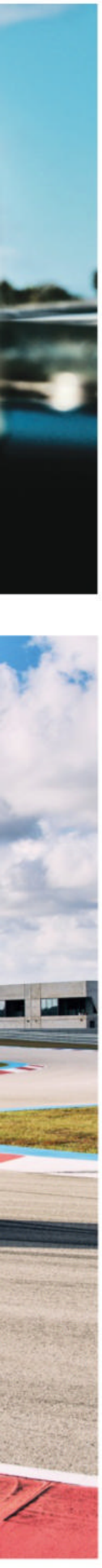
We use every minute of the allotted track time, mostly for photography. When the director yells “Wrap!” with six minutes left on the clock, I eke out three more laps as fast as I dare. I finally get it: The truck box operates smoothly under full throttle and heavy braking. The suspension loads up beautifully and is talkative at the limit. Legroom improves when your right foot mashes the pedal into the floorboard.

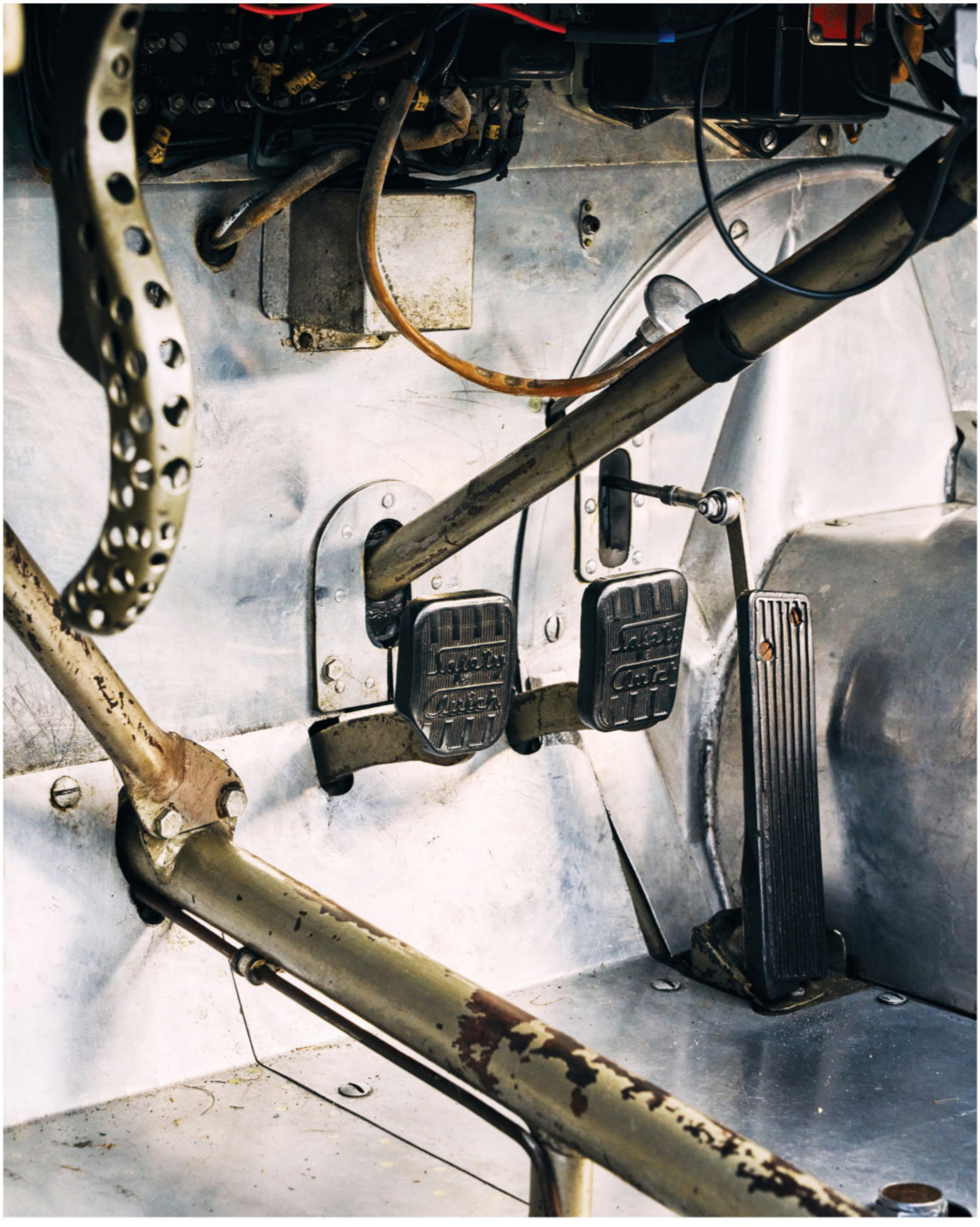
The C-5R didn’t beat Jaguar, but it provided the benchmark for American privateers. It used simple, homegrown tech that was overbuilt and understressed. Only the bravest souls would dare race something this light and dangerous. And even then, they’d demand bigger (and better) brakes.

A. The man in the mirror is surely reminding himself of the car’s irreplaceability.
B. The C-5R wore distinctive 16-inch Halibrand wheels.
C. If the C-5R’s creators gave a moment’s thought to driver comfort, it’s not evident.

A

B





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TAKE YOUR KID

WHEN YOUR DAD IS HENRY

BY **A.J. BAIME**

IT WAS EARLY AFTERNOON on June 18, 1966, when the helicopter descended from the sky, landing on a helipad by the Circuit de la Sarthe in Le Mans. Record crowds had turned out to witness the 24-hour classic—some 350,000 people gathered for a climactic war of speed between Ford of Dearborn and Ferrari of Maranello. From out of the chopper came Henry Ford II ("the Deuce"), the grandson of Ford's founder and one of the most powerful chief executives of his time. Beside him was his son Edsel Ford II, then just 17 years old. All around them, the crowds surged. "It was absolutely extraordinary," Edsel Ford says, looking back.

The great-grandson of Henry Ford rarely gives interviews. But we caught up with Edsel to look at these old photographs (most of which have never been published), hoping they would jar memories loose. And, man, did they ever.

"I remember my father suggesting that maybe I should come with him to France," Edsel says. "I thought that was an absolutely wonderful idea for lots of reasons, but primarily because that would give me some time to spend with my father. That was important to me." He recalls being thankful for the helicopter, not because it was cool to fly in but because of security. "It was wonderful to have the helicopter so we could get out quickly. There were lots of people. From a security point of view, for my father especially, it was a good idea."

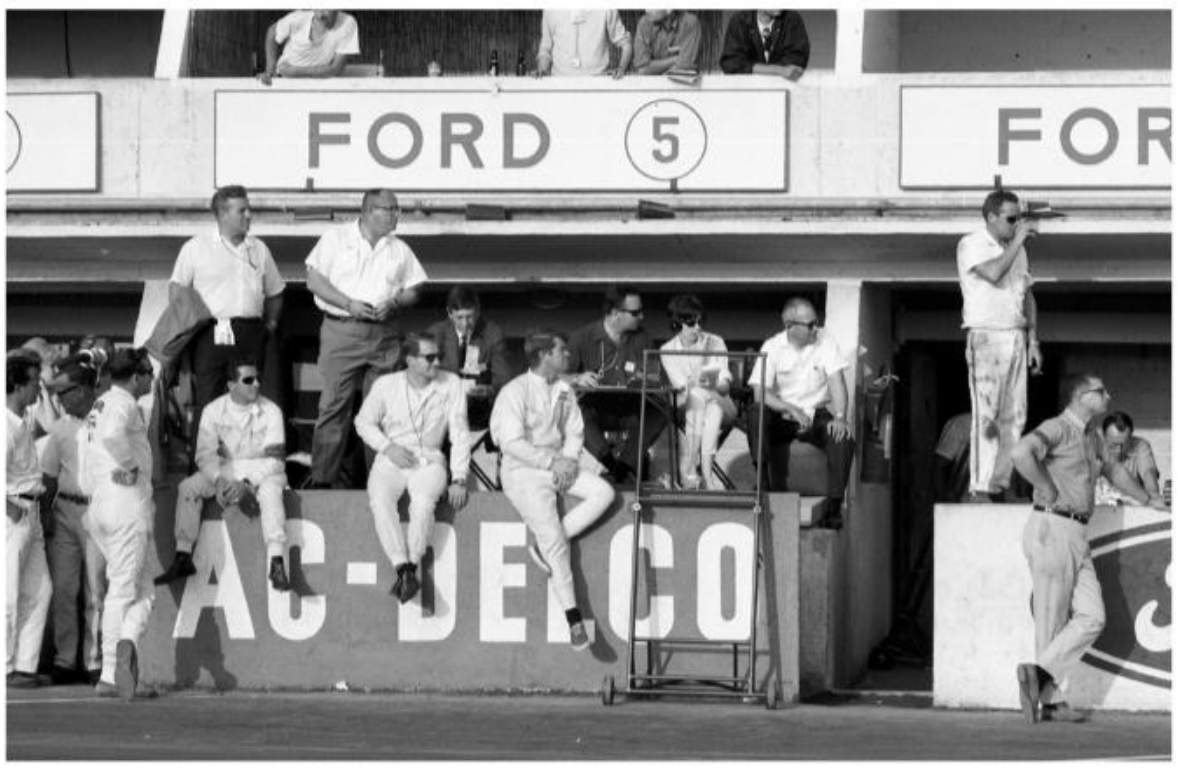
Henry Ford II was the grand marshal of the race that year. He was sharply dressed in coat and tie

A. The victory celebration. Edsel Ford, then 17, with his father, CEO Henry Ford II (far right) and race winner Bruce McLaren (second from left), among others.

TO WORK DAY

FORD II AND WORK IS DESTROYING FERRARI.

A



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and had his new wife on his arm, the beautiful Maria Cristina Vettore Austin Ford, who had bet $1000 on Ferrari to win. “After all,” she said, “I’m Italian!”

Reporters peppered Henry II with questions. “Ford is an international company,” he told one, “with branches all over the free world. We feel a good showing by our products at Le Mans will reflect favorably on us in the countries where we do business.”

As the grand marshal, the Deuce waved the French flag to start the action. “Those were the days,” Edsel recalls, “when the drivers ran across the track to start the cars.” The 7.0-liter V-8s of the GT40s exploded to life, along with the 4.0-liter Ferrari V-12s. “You think of the engines in those vehicles,” says Edsel. “I sure would like to hear that again now.”

We know how the race ends: a one-two-three staged photo finish for Ford. Edsel does not recall the specifics of the event shown in these victory-celebration photos, in which you see him with winners Chris Amon and Bruce McLaren. In one snapshot, you can see Edsel frowning, and when asked about it, he laughs and says, “I think it’s because they made me wear a tie!” That’s not something Ford men would do at the Daytona 500 or Indianapolis. But this was Le Mans, the crown of European endurance motorsport. And it remains the most important international racing victory Ford Motor Company has ever captured.

“From today’s point of view,” Edsel recalls, “the fact that we achieved a one-two-three victory at Le Mans is an amazing accomplishment. And there were so many people involved.” Many of them are legendary figures in the automobile business, from Amon and McLaren to Carroll Shelby, Lee Iacocca, and the Ford family itself.

About eight years ago, Edsel started an email correspondence with Amon. Ford was about to

A. Le Mans grand marshal Henry Ford II (right) gets ready to start the race.
B. The scene in the Ford pit. Le Mans rookie Mario Andretti is sitting on the pit wall with his legs dangling over the “AC.”
C. Ford GT40s ready to fight a war of speed.

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A

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return to Le Mans for the 50th anniversary with an all-new Ford GT that, like the 1966 GT40, could crank past 200 mph on the Mulsanne straight.

"As we got closer," Edsel says, "I said to Amon, 'We would love to have you come with us to Le Mans to help celebrate.' Amon had cancer. Up until the last minute, I thought I would get him to come. He lived in a tiny New Zealand town. It would have been the highlight of my life to have him come in 2016. Because 50 years after 1966, we won the race again [in class, not overall]. It was 50 years to the day. How fun is that?"

Amon died two months later. But the memories live on for Edsel. "It was fun watching *Ford v Ferrari*, just like it's fun looking at these photos," he says. "Because it brings back so many memories. It's why I love motor racing."

A. Edsel with his father in the rear seats. Up front sits the Deuce's new wife, Cristina.
B. History in the making! The famous one-two-three finish.

A GRAND TOUR OF GREAT BRITAIN'S AMAZING AUTOMOTIVE HISTORY & FUTURE

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Details subject to change.


shell

WINNING LE MANS MIGHT BE THE LEAST INTERESTING THING ABOUT THE WHITTINGTON BROTHERS' PORSCHE 935 K3.

A CRIME OF PASSION

BY **A.J. BAIME** • PHOTOGRAPHY BY **LISA LINKE**


RESERVE

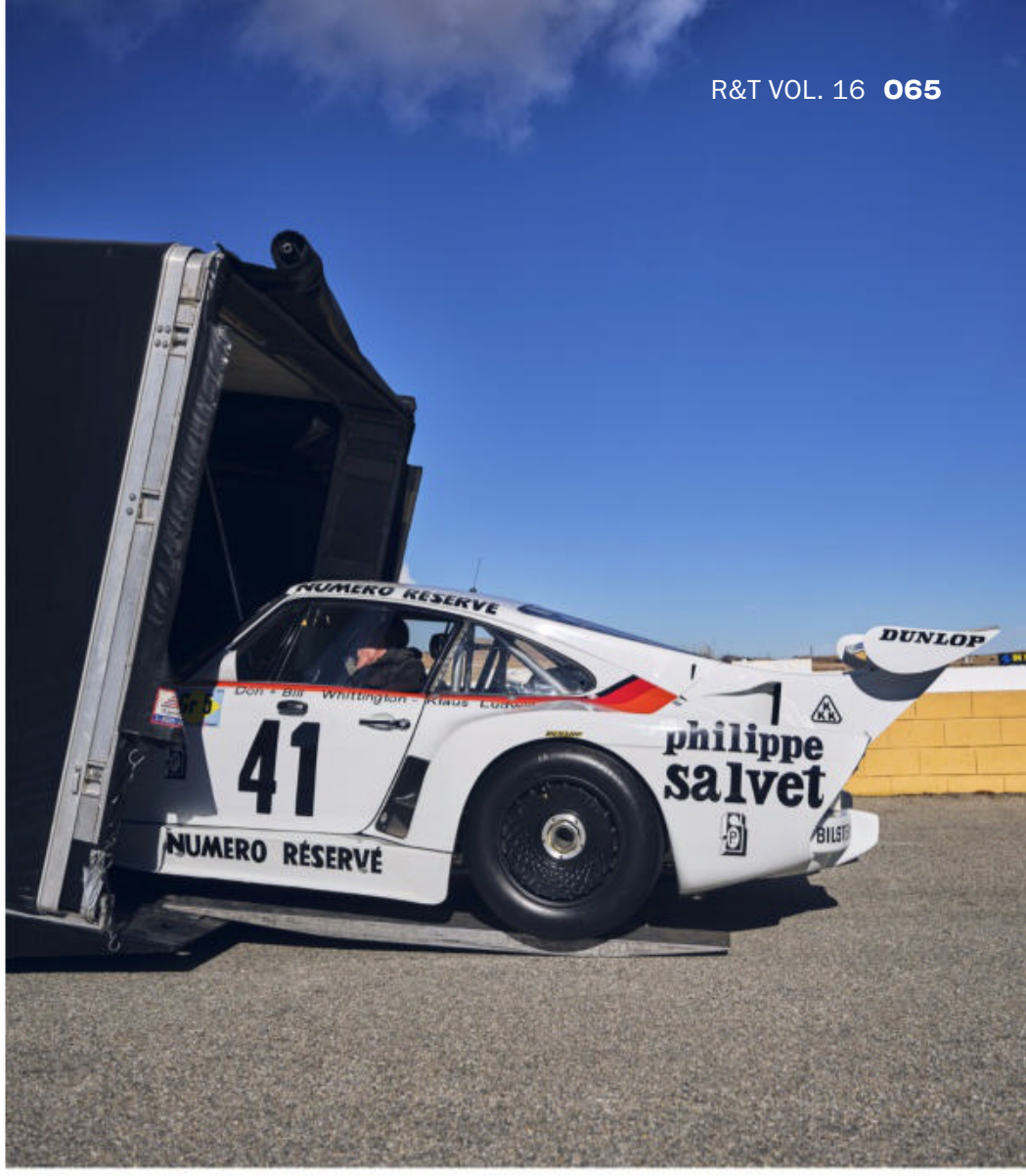
REMEMBER THE excitement and worry, the sense of danger mixed with ecstasy I felt in the maternity ward when my first child was born. That feels like this. Only instead of nurses, there is a race-car transport driver in cargo shorts. Instead of beeping medical machines, a truck winch groans as the transporter squeezes out of its belly one of the most legendary Porsches of all time.

The date: January 7, 2023. The place: Willow Springs International Raceway's "Big Willow," the 2.5-mile road course in the Southern California desert with nine corners and elevation changes like a Disney roller coaster. The car: Kremer Racing's 1979 Le Mans–winning Porsche 935 K3, otherwise known as the Whittington brothers' Porsche. It began life in Stuttgart as a production 911 RS before the Kremer brothers transformed it into a 935 K3 race car. The vehicle's story features everything from bags full of drug money to a famous court case, from DEA tricksters to victory at the most important sports-car race on earth.

"Any Porschephile, if they know their stuff, would say this is the most important 911-based car in the world," says the owner, Bruce Meyer, who was at the track with me. When I ask Ford Motor Company CEO Jim Farley by phone how much he thought it was worth, he says, "I can't even imagine. That car is priceless."

Bruce and I were both going to drive. We had the track to ourselves. We stood in pit lane, shivering in the cold and talking. Shouting is more like it, so we could hear each other over the sound of Bruce's right-hand man, Tom, revving the throttle to get heat into the engine.

When it was my turn, I climbed in, strapped the harness over my shoulders and between my legs, and yanked it all so tight I could hardly breathe.



B

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A. The cockpit appears just as it was when this car won Le Mans outright in 1979.
B. The Porsche 935 K3 rolling out of the back of the transporter at Willow Springs International Raceway.
C. The car was entered at Le Mans by the Kremer Porsche racing team of Germany—thus the Deutsche colors.

The interior was all original. Every body panel was original. The car had never been in a crash—not yet, at least. “Be careful,” Meyer says to me. “You don’t want to be ‘that guy.’” Nope. I didn’t.

I gripped the shifter and slipped it into first, the clutch pedal feeling stiff and jumpy as if the car were as nervous as I was. We started to roll on nearly ice-cold pavement. What could possibly go wrong?

TO UNDERSTAND WHY this Porsche is an icon, you must know the story of Bill and Don Whittington. As sons of a racing driver turned businessman, the Whittingtons were raised to be übercompetitive. “Dad had us competing against each other,” Don said in the Seventies. “We had motorcycles almost as soon as we could walk. We’ve raced horses, bikes, boats, airplanes, anything that moves, and always fought each other to win.” They were rich, wild, hard-partying South Florida sportsmen. “They were the Great Gatsby of their era,” recalls Randy Lanier, who won the 1984 IMSA title with the Whittingtons.

In 1979, the Whittingtons went to Le Mans to compete. They were unknown on the international scene then and had paid $100,000 each to get on the Kremer Racing team, a German Porsche outfit that had entered a 935 K3. That was a lot of money in 1979, but to the Whittingtons, money was no object.

The brothers had a secret. They were marijuana smugglers. They owned the Road Atlanta racetrack, and there were stories of airplanes full of stinky weed landing on the back straight under the veil of night.

The day before the race, the Whittingtons approached team owners Manfred and Erwin Kremer and insisted they start and that Kremer Racing’s ace, Klaus Ludwig (who qualified the car), be the third driver. The Kremers were stunned. The conversation unfolded something like this:

“No, no, no,” Manfred Kremer told Don Whittington. “Klaus Ludwig is going to start the race. It is our car.”

Don Whittington said, “Well, what if it’s our car?”

“Then you can do whatever you want.”

“How much would it cost for this to be our car?”

The Kremers huddled with Ludwig and came up with a number—$200,000.

“So Don goes to his trailer,” Meyer explains, “and comes back with $200,000 in cash. It took all day for Manfred’s wife to count the money.”

Some question the veracity of this story. “The fact is, it is true,” Meyer says. “I flew to Germany and interviewed Klaus Ludwig. I interviewed

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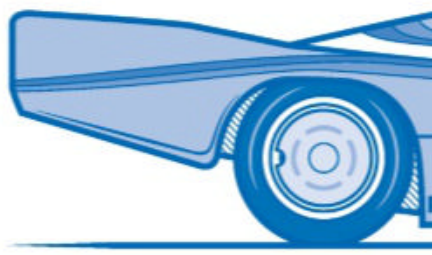
JOHN
NUMERO RESERVE
Gr 5
Turbolader
philippe
salvet
41
NUMERO RÉSERVÉ



Manfred Kremer in Paris. I knew Bill Whittington well. I interviewed every person involved with this car; every story I heard was identical."

The most shocking part of the story? While Porsche had entered two prototype 936s with some of the best drivers in the world—Jacky Ickx and Brian Redman, Bob Wollek and Hurley Haywood—the threesome of Bill and Don Whittington and Klaus Ludwig went out and won the race outright in this privately run production-based GT car. The next morning, it was reported all over the world. The *New York Times*: "Florida Brothers Triumph at Le Mans."

The Whittingtons became legends overnight. And so did their 935.

OUT ON BIG WILLOW, Turn 1 comes quickly after you exit pit lane. It's a hard-charging 90-degree left-hander. I swing it with a squeeze on the throttle, so the 850-hp twin-turbo 3.0-liter flat-six lets out a bark. Back in '79, the car sat on 16-inch wheels and Dunlop tires. Now it's on 19-inchers all around and a set of Avons. On pavement this cold—with the weight of the engine and transmission hanging out back where it shouldn't, per the 911 architecture—the slick tires feel like they're coated in Vaseline. It would be easy to slide into a ditch. I've seen it done before on this track, right at the second apex at Turn 2. I'm determined not to do it today.

Big Willow doesn't have the glamour of Laguna Seca, but it has legit Le Mans tie-ins. The Shelby American team tested Cobras and GT40s here before triumphing at Le Mans in the Sixties, and 20th Century Fox filmed here for *Ford v Ferrari*. It's a special place to drive a Le Mans winner.

Turn 3/4—affectionately known as "the Omega"—is an uphill left-right combo that makes you feel like you're driving up the side of a skyscraper. Camber is tricky. You can see the black stripes all over the pavement leading offtrack where drivers made mistakes. I am sticking at roughly highway speeds. This Porsche doesn't know how to go slow or motor at low revs. I keep it around 5500 rpm, flipping between second and third. There are no paddle shifters, computer screens, ABS or traction control, or power steering. It's all mechanical and analog, soulful and full of fury, even at moderate speeds. The chassis is tuned so tightly that I can feel every crack in the road shooting up my spine and into my brainstem. It takes some leg muscle to declutch. The brakes, meanwhile, remain stiff and cold.

Due to the Porsche's bodywork, the higher the

A. (Previous pages) The 935 K3 in pit lane, ready to tackle Big Willow's nine-turn, 2.5-mile road course.
B. As a Group 5 racer, this radical machine started out as a production 911.
C. The car's owner, vintage racer Bruce Meyer, tells writer Baime, "Please don't wreck my priceless Porsche."

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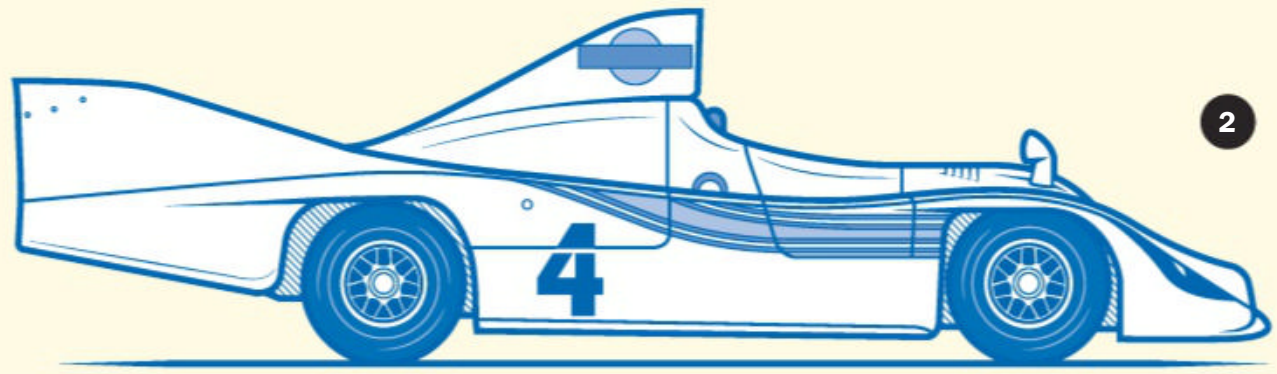

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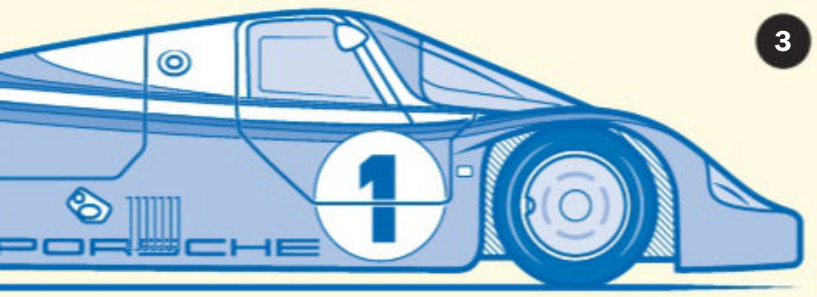

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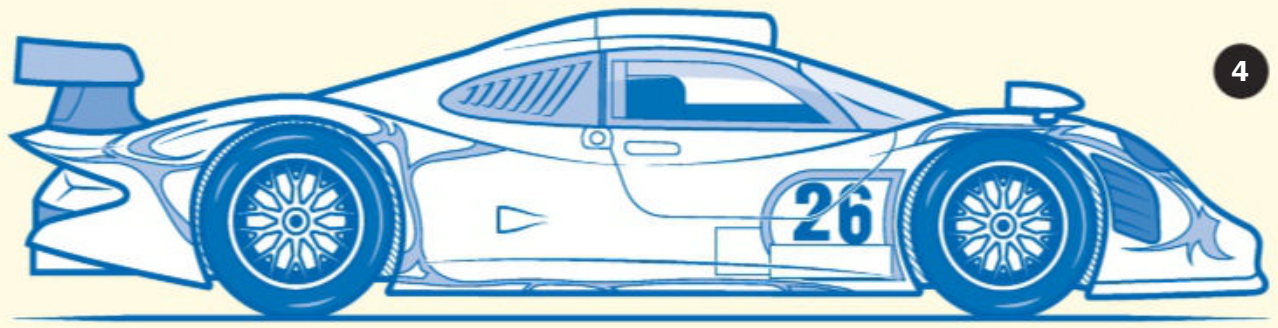

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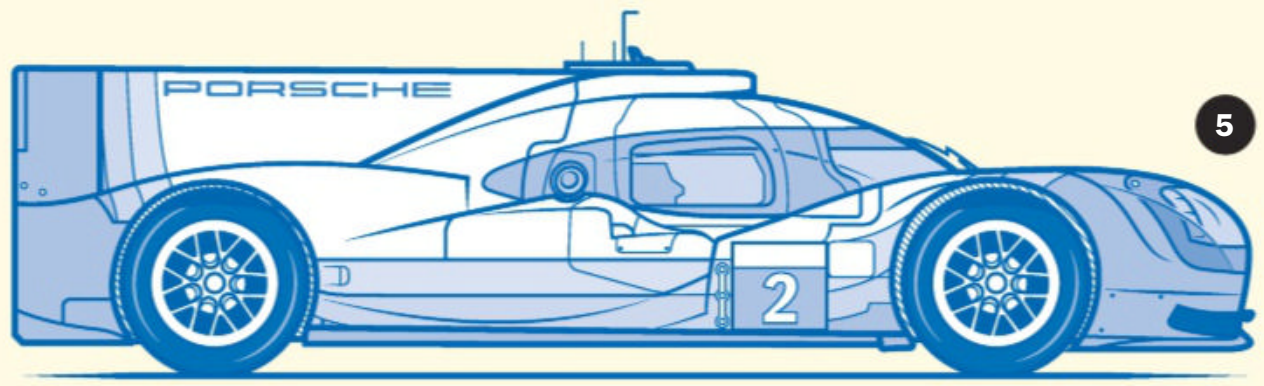


5

Porsche's Pantheon of Le Mans Winners

1

1970+1971
Porsche 917 KH

The 917, a low-down slicked-back wedge, launched Porsche's unprecedented run of success at Le Mans. There were multiple 917 variations, from the aerodynamically unstable early cars to the 246-mph longtails, but the 24 Hours winners had a curtailed rear section that was good for 224 mph on the Mulsanne straight.

Engine:
4.5- to 4.9-liter flat-12
Output:
580–600 hp
Weight:
1764 lb (dry)
Top Speed:
211–224 mph

2

1976+1977+1981
Porsche 936 Spyder

An evolution of the 917/10 Can-Am racer, the 936 Spyder borrowed its engine from the 911 RSR Turbo and wrapped an aluminum tube frame and composite body around it. Victory at Le Mans in '76 kicked off the Spyder's run, but the '81 race remains a miracle. Porsche pulled 936s out of its museum a few months prior and dropped in the twin-turbo 2.7-liter flat-six it had developed for an aborted Indy 500 project. It won.

Engine:
twin-turbo 2.1- to 2.7-liter flat-six
Output:
540–620 hp
Weight:
1631–1874 lb (dry)
Top Speed:
224 mph

3

1982+1983+1984 +1985+1986+1987
Porsche 956/962

In the Eighties, Le Mans belonged to Porsche. The 956 and its slightly longer wheelbase, IMSA-spec brother, the 962, took six consecutive victories at Circuit de la Sarthe. The models served as technology test beds for everything from aerodynamic ground effects to the dual-clutch automatic gearbox. It was so dominant that a privateer won overall in 1994 with a 962 converted to GT1 spec.

Engine:
twin-turbo 2.7- to 3.0-liter flat-six
Output:
620–691 hp
Weight:
1852–1984 lb (dry)
Top Speed:
224 mph

4

1998
Porsche 911 GT1 '98

The 911 GT1 '98 was the most extreme of the Nineties GT1s. Really a prototype in all but name, the GT1 '98 was Porsche's first race car with a carbon-fiber-reinforced plastic monocoque. It wasn't 1998's fastest car, but when the Toyota GT-One, the Mercedes CLK-LM, and the BMW V12 LM faltered, the GT1 '98 soldiered on for a one-two finish, this on the company's 50th anniversary.

Engine:
twin-turbo 3.2-liter flat-six
Output:
550 hp
Weight:
2094 lb
Top Speed:
217 mph

5

2015+2016+2017
Porsche 919 Hybrid

Porsche returned to Le Mans for an outright assault, powered by a strange turbocharged V-4 linked to a hybrid system. It took victory three of the four years the 919 Hybrid competed, all during the peak of the LMP1 era's staggering complexity and cost. Then Porsche vanished from top-level prototype racing to focus on Formula E. It returns for 2023 with the Hypercar-class 963 LMDh.

Engine:
turbocharged 2.0-liter V-4 + electric motor
Output:
900 hp (combined)
Weight:
1957 lb
Top Speed:
208 mph


NUMERO RESERVÉ
Gr 5
41
NUMERO RÉSERVÉ

speed, the more downforce the car generates. A German aerodynamicist named Bernie Marcus developed much of this radical bodywork. "There was a lot of freedom, the way the Group 5 regulations were," Marcus recalls. "One of the rules had to do with the rear window. If you kept the production-car rear window, you could raise the rest of the deck, and that is what we did." The 935 came from the Porsche factory with a flattened front end. "We took it a step further and came up with a flatter nose, and that made more downforce."

Turn 8 leads into the fastest section of the track, and I eased onto the throttle. The sensation of driving this car is brute power. It occurred to me as I motored around the final right-hander toward the front straight what kind of skill and nerve it requires to drive this Porsche anywhere near ten-tenths, in close combat, at night, in competition so fierce that losing a tenth of a second consistently on an 8.5-mile lap of la Sarthe could mean the difference between victory and defeat.

But today, there is no checkered flag, no stopwatch. The car is like an old champion pugilist who's come out to spar because it brings back all those memories. And because, man, it feels good.

SEVERAL YEARS AFTER the Whittingtons won Le Mans, they were indicted on cannabis-smuggling and tax-evasion charges. They joked with friends that they were "going to Yale." In fact, they went to prison. They "lent" their 935 to the Indianapolis Motor Speedway Museum to keep the feds from seizing it. When they got out, they tried to get their car back, but in a highly publicized court case in 2004, they lost. (Bill died in 2021; Don did not respond to interview requests.) The car ended up staying at the Indy museum for 30 years.

About a dozen years ago, Meyer acquired it from the museum in a trade for his 1952 Indy 500–winning "Agajanian Special" (although, he explains, the transaction was slightly more complicated than that). He brought the 935 to Bruce Canepa—the California-based restoration guru whose work with vintage Porsches is unparalleled—to rebuild all the systems, which got it up to its current working order.

In 2014, Meyer brought the 935 to Winter Speed Days at Laguna Seca. By this time, the Whittingtons had gotten out of prison but were back in the news—more trouble with the law. The car was in the paddock when a black Chevrolet SUV unexpectedly rolled up. Three stern-looking men wearing DEA jackets got out and began to circle the 935. Then things got weird. The DEA agents

B

C

A. (Previous pages) The 935 roaring down Big Willow's front straight.
B. Not only is this car a Le Mans winner, but it was also the centerpiece of the greatest automotive prank of recent times.
C. Notice the rough edges. There's no need for fit and finish on a pure race car.
D. The twin-turbo 3.6-liter flat-six puts out a brutal 850 hp and a song that should win a Grammy.

informed Meyer that the Whittington brothers had purchased this car with drug money. So they were going to confiscate the vehicle.

"They had badges," Meyer says. "They had Glocks." They also had paperwork signed by a judge. Meyer stood helplessly while the DEA loaded his Porsche, still bearing the names "Bill and Don Whittington," onto a transporter. People crowded around, with many filming on cellphones. "Bruce was like, 'Holy crap! My car just got taken from me!'" recalls Farley, who was there. "He had no idea what was going on. He was terrified."

The DEA guys left the track with the 935. Not until an hour later, when they returned with the car, did Meyer learn that the DEA guys weren't DEA at all. Meyer had fallen victim to what is now known as "the prank."

The plot began with Al Arciero of the legendary Arciero IndyCar family, a friend of Meyer's. He called his buddy Canepa. "I says, 'Why don't we have some cops come over? Do a little prank?'" recalls Arciero. The pair got more help from Chip Connor, the vintage racer and Ferrari GTO owner, and Charlie Nearburg, a former land-speed-record holder. They hired a movie producer and actors to play DEA agents. "Canepa got ahold of somebody he knew in Hollywood who knew how to get the actors and props and badges and uniforms," says Nearburg. "Unofficial documents were prepared that looked very official. These actors pulled it off perfectly."

Farley says, "It was by far the most effective practical joke I have ever witnessed in my life." It also added to the legacy of the Whittington brothers' 935.

OVER THE COURSE of the afternoon at Willow Springs, Meyer lapped in his 935. I got in a bunch more laps, and Meyer's son Evan took the car out. Nobody ever drove the car in anger, and it never misbehaved. Mechanically, it seemed bullet-proof. When the sun began to set, we shivered in the oncoming darkness as our photographer shot the car with its lights on against a glowing sunset.

I ended up in a quiet motel room clutching a Jack Daniel's on the rocks in a plastic cup, bewildered by this experience. I could not get the sound of the Porsche's exhaust note out of my head. The smell of the rumbling flat-six remained fresh in my nose. You have to hand it to a guy who brings a priceless Porsche out to the track so his friends can drive it. And you have to hand it to a car with a story this good. As Meyer says of his Porsche, "It did what it was built to do: win."


KREMER
BILSTEIN
DUNLOP
BOSCH

WEB FIGURE

BY **RAPHAEL ORLOVE** ILLUSTRATION BY **JASON HOLLEY**

HOW A STIFF, HUMORLESS MAN AND HIS SMALL TEAM BEAT THE GIANTS OF MOTORSPORT. IT ALL BEGAN THE DAY AFTER HE WAS FIRED.

ON JUNE

19, 1966, Henry Ford II watched intently as his GT40s swept the podium at Le Mans. On the last day of that same year, Ford paid severance to a tall, stiff man named John Wyer and his entire staff at Ford Advanced Vehicles in Slough, England—the British team that developed the GT40.

Initially, Ford hired Wyer to run its whole GT40 operation. All of those fresh beginnings, the fragile early cars that blew transmissions, were built, maintained, and campaigned under Wyer's stern gaze. After all, Ford was new to endurance racing, and Wyer was not. When Carroll Shelby celebrated his win at the 24 Hours of Le Mans in 1959 as a driver, wearing striped overalls and guzzling champagne, it was Wyer who'd led and managed that Aston Martin team. Wyer was patient, exacting, and precise, and he knew that 1964, the GT40's first full racing season, would be a learning experience.

Ford executives didn't share his patience. Having watched in agony as Ferrari clobbered the 4.7-liter Mk I at its first Le Mans, Ford yanked GT40 development back home to America. The ensuing 1965 season didn't make Ford's decision look wise, as Ferrari walked all over the reorganized team. Hell, at the Nürburgring, a puny 1.6-liter Ferrari beat Ford's 7.0-liter GT40. Ford answered the only way it knew how: by nearly doubling its already massive budget. The Americans poured some $7 million into the campaign, securing no less than 13 entries for that famous '66 Le Mans. Only three GT40s finished, but they came in first, second, and third. Ford renewed that budget for 1967 with the NASA-esque Mk IV and won again.

If the GT40 story ended there, it would look like the American side of Ford had it right, and Wyer's English side was all wrong. Things are worse if you learned about the GT40 in the theater; *Ford v Ferrari* doesn't go past '66.

However, the day after Ford Advanced Vehicles closed down, Wyer rehired everyone under JW Automotive (JWA), his company formed in partnership with entrepreneur John Willment. Among his team was the Cambridge-educated engineer John Horsman, a stalwart from the Aston Martin days, now second in command. A later addition was racing manager David Yorke, a decorated World War II fighter pilot. Now free from the political infighting at Ford, JWA's small team was back on track to develop racing machines tailored to Wyer's own strategies.

Ford didn't completely cut its ties either. It set up a deal to keep Wyer in its orbit, contracting JWA to continue building GT40 customer cars, with built-in profit on every chassis it con-

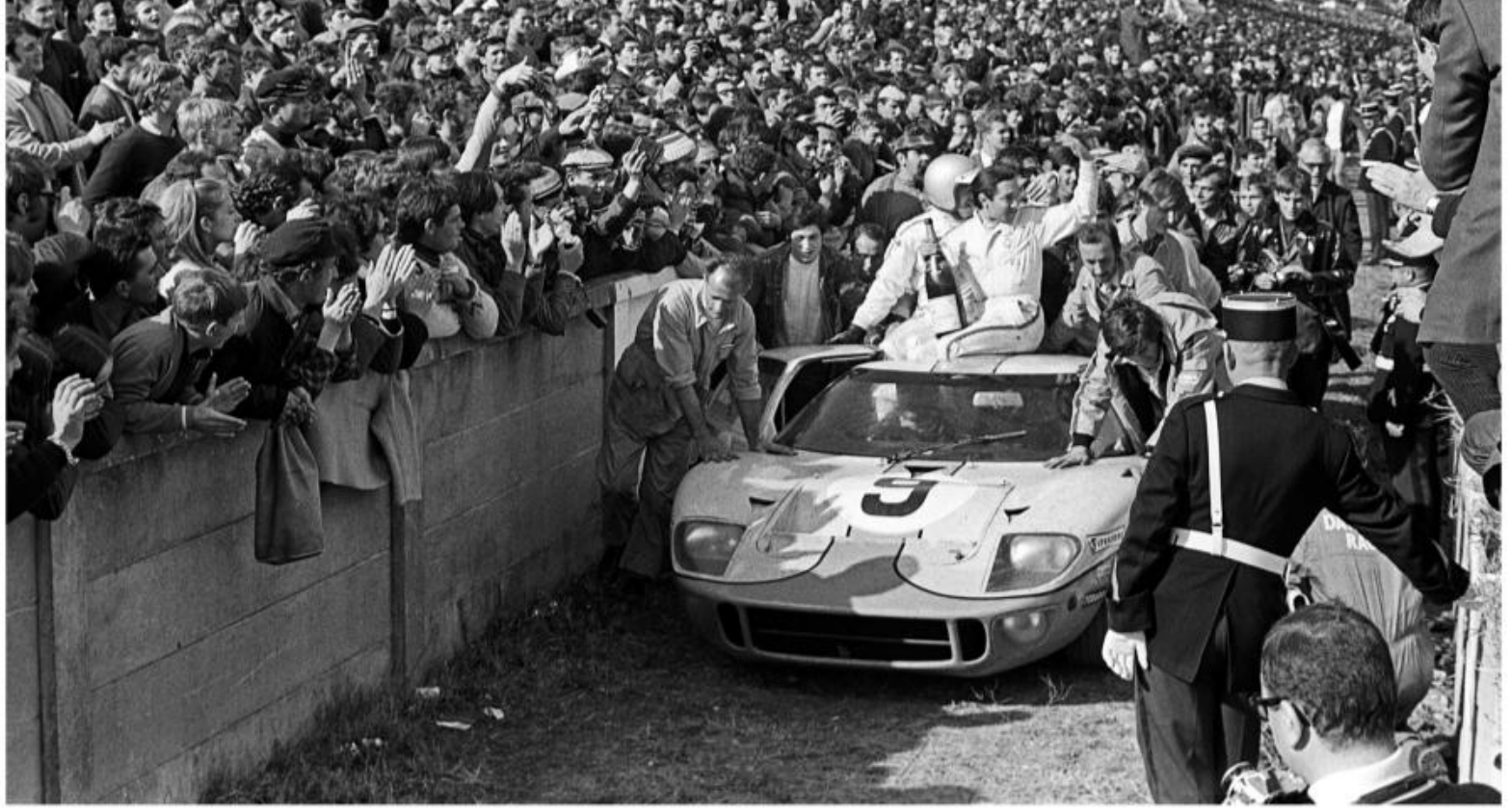
A. While Phil Hill set a lap record in this early GT40 at the 1964 Le Mans, the car DNF'd, as did the other two GT40s.
B. A Mirage M1 at Le Mans '67 tucked behind a GT40 Mk II. Note the aerodynamic cockpit and Gulf colors.
C. Wyer, cheery as ever, peers over one of his JWA Porsche 917s entered in the 1971 Spa 1000 km. JWA finished one-two.
D. Here is the evolved GT40, chassis number P/1075, built out of a leftover Mirage M1 tub, winning Le Mans '68. It repeated in '69 and became a legend.

A

B

PHOTOGRAPHS A, B, C: MOTORSPORT IMAGES; PHOTOGRAPH D: BERNARD CAHIER/GETTY

C



D

structed. Ford even gave Wyer's new operation a $100,000 budget to support privateers racing these cars, but Wyer went a step further. In 1967, he debuted his first new creation, the Mirage M1.

The M1 made sense as an evolution of Wyer's original GT40 concept: Keep the engine small, make the car reliable, stick to the plan. Its bodywork was cut tighter, with more aerodynamic development and unidirectional carbon-fiber strands incorporated into the panels for greater strength. Little canard flaps sprouted from either side of the M1's nose to combat the front-end lift inherent in the original design of the GT40.

JWA's Mirage was more powerful too. A month after the American arm of Ford won Le Mans with its 7.0-liter Mk II, Ford released to Wyer all the cutting-edge components it had been reserving for the big-engine car. "Suddenly," Wyer wrote in his 1980 autobiography, "everything we had been asking for was available in abundance. In this cornucopia, we had reinforced cylinder blocks with four-bolt main bearing caps, forged crankshafts, fully machined connecting rods produced from Indianapolis forgings, forged pistons, transistor ignition sets, in fact everything we needed to build reliable racing engines." The "alacrity" with which these components arrived, hardly a month after Le Mans '66, made it "impossible not to suspect that they had been deliberately held back until after the 7-litre engine had won."

The Mirage M1 raced for only one year and collected just two wins. With a young Jacky Ickx at the wheel, JWA scored brilliant and rain-drenched victories at the Paris 1000 km and the treacherously fast Spa circuit, beating Porsche, Ferrari, Alfa Romeo, Chaparral, Lola, and all the GT40s present. But that wasn't the end of its legacy. In 1968, the 5.7-liter Mirage got knocked out of contention for the same reason as its big American cousins: New rules outlawed prototypes with engines bigger than 3.0 liters and sports cars with engines bigger than 5.0.

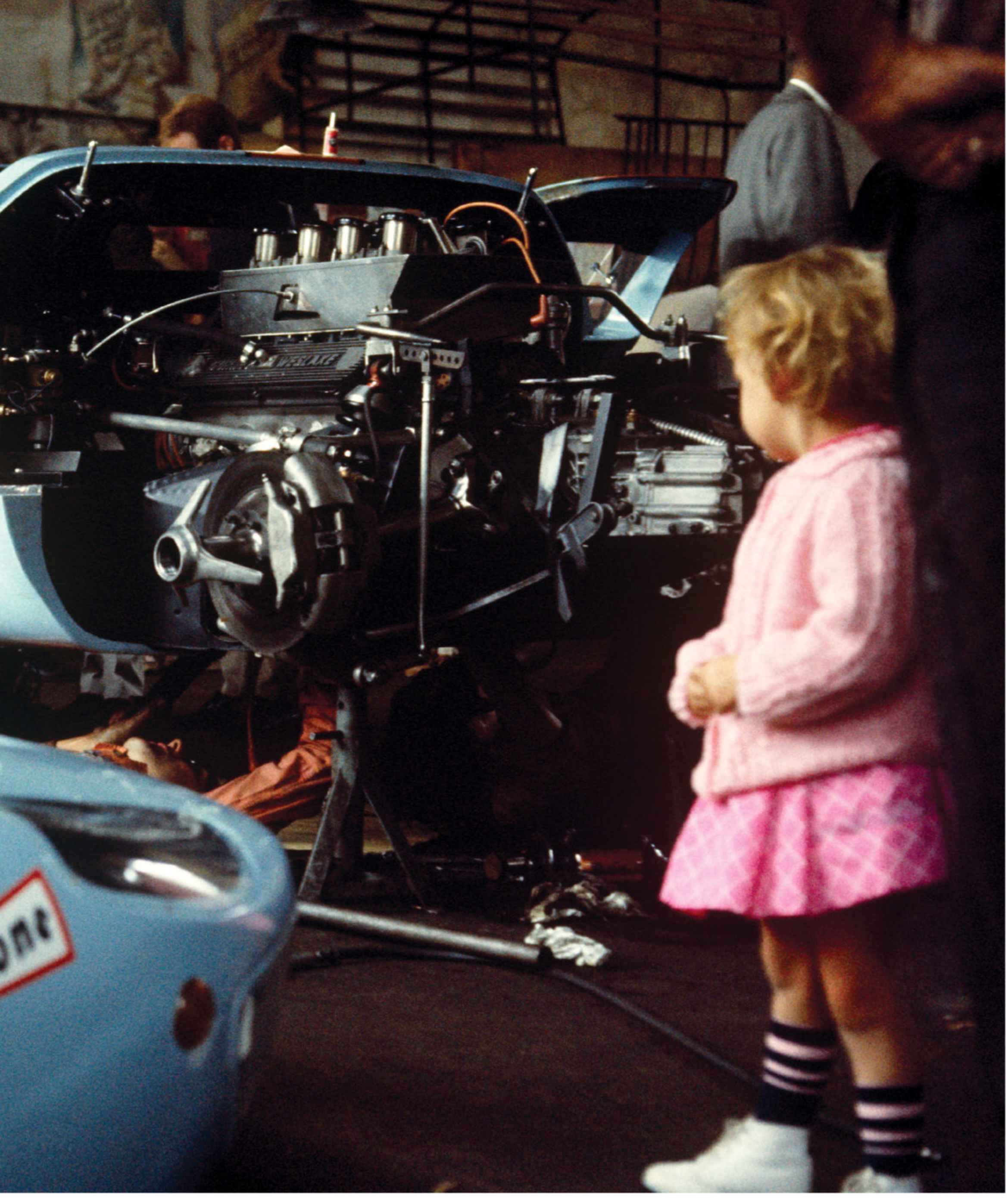
The trick was that Ford built enough of the smaller-engine Mk Is to qualify them as production sports cars. JWA took its GT40s back to Le Mans in 1968, with engines modestly beefed up to 4.9 liters and refinements learned from the Mirage M1. In Gulf blue and orange, JWA won the championship and Le Mans. The following year, JWA returned with the exact-same car, chassis number P/1075, and won Le Mans again.

The move reads as bold but also expedient. Wyer and his team didn't want a car any faster than it needed to be to win. "New does not always mean better" is how Wyer put it in his autobiography.

Porsche knew how good Wyer was. After all, JWA had beaten them using outdated Fords.

A

A. Note "Weslake" on the heads of this JWA GT40 in 1968. Wyer would reconnect with Weslake in 1972 for a V-12 project that became a disaster.



A

B

A. Wyer won the World Sportscar Championship in ’70 and ’71, but Le Mans eluded JWA both years.
B. Jacky Ickx and Derek Bell (pictured) won in 1975, the most hippie year in Le Mans history. Look up their flower-power wreaths too.
C. From left: Ickx, Bell, and Wyer, who looks studious and organized even relaxing with a cigar in hand.
D. Other teams walked when Le Mans announced fuel-economy restrictions for ’75, but Wyer stepped up and won.

So Porsche took on the team as one of several factory-supported privateers to run the 917. At the time, Porsche was full of bleeding-edge innovators, a collection of German hot-rodders always cooking up a new part. The problem with Wyer was he repeatedly turned down their designs. When Porsche developed a 4.9-liter engine for the 917, JWA kept winning with the older 4.5. When Porsche offered the fast (and unstable) long-tail bodywork for Le Mans in 1970, Wyer declined. He was a careful strategist, an admirer of the like-minded Field Marshal Montgomery.

Eschewing risk, JWA's Gulf-Porsche team was wildly successful, winning the World Sportscar Championship in 1970 and '71, taking seven of 10 championship races in '70 alone. (Le Mans wasn't one of them, though Wyer looked good until Jo Siffert popped a motor while in the lead.) "Our invariable rule," Wyer reflected, "when offered new features was to apply the test 'Is it necessary or can we win without it?'"

This is not to say JWA did not innovate. While testing the 917 in Austria and receiving driver complaints about high-speed instability, Horsman and Yorke noticed a lack of bug strikes on the rear wing. Reasoning that rear downforce was lacking, the team quickly assembled a temporary fix that moved the rear spoiler into the airstream. The 917K "short-tail" was born and would win Le Mans in '70 and '71—though not for JWA's blue and orange.

When Porsche stopped chasing overall wins at Le Mans, thanks to another rule change for 1972 that effectively banned 5.0-liter homologation specials like the 917, the Germans took the car to the experimental playground of Can-Am. They didn't bring Wyer.

Wyer was never one to push the envelope or bend a rule. He wasn't a Smokey Yunick or even a Carroll Shelby, who once threatened his drivers with a hammer. In the Sixties and Seventies, racing was filled with bold technological leaps, daring wins, explosions, drugs, sex, and pirate teams running out of telephone booths. In the midst of it all was steady John Wyer, hands in his coat pockets, hair slicked down. His most famous nickname was "Death Ray" for his stare, and his friends worried about his health. He was always pale, with asthma, and the tuberculosis he'd had as a child relapsed. *Speedworld* called him "imperious" and presumed he only put down his stopwatch and let a smile creep across his face when he won.

Even his great win, Le Mans 1975, was far from a blaze of glory. It was a slower race than the year before, run under new fuel-economy regulations enacted in response to the first energy crisis. Ferrari and Alfa Romeo had pulled out, and Matra retired before the start of the season, having beaten them all for three years running. JWA's Gulf-Mirage prototypes had been running against those teams for years with only sporadic success. Now the only competition came from a couple of ancient Porsche 908s and a promising Japanese entry under the name Sigma. The Sigma blew up, the two 908s crashed into each other, and pretty much all that was left was a bunch of Porsche and Ligier GT cars. To win, all the Gulf-Mirage M8 had to do was make it to the end of the race while only stopping for fuel every 20 laps—a fuel economy of roughly 7 mpg. But that was Wyer's specialty. On those two warm, sun-soaked days in June, with people sleeping in the dry grass of the French countryside, he was the guy with the clipboard, making sure everything ran smoothly, simply, and efficiently.

Over the course of two decades, Wyer constructed a winning formula. At Le Mans 1975, his time came due. His military-grade operation produced an overall win with a car entirely of his own making. He was the first independent to win Le Mans, the first privateer, and the first nonmanufacturer to win overall with his own car. Only one other person has done it since: the rogue local Jean Rondeau, in 1980.

After 1975, Gulf ceased sponsoring Mirage, and the magic faded. The M8 was still a contender, finishing second overall in 1976 and '77, but JWA never won Le Mans again.

In his autobiography, Wyer acknowledged that he could never have run his own successful team had it not been for his time at Ford. But he also believed his approach was the right one for the GT40. "Ford never gave the GT40 or the idea of a compact striking force a fair chance or enough time," Wyer told *Sports Illustrated* in 1970. "I believe we could have won with the car in 1965."

JWA's GT40 victories in 1968 and '69 add weight to his conviction. The dominance of the Porsche 917K and the Mirage M8's win in '75 underline the point twice. Unlimited budgets win at Le Mans. But so too can a disciplined, precisely focused, and, above all, independent team.

PREVIOUS SPREAD: UNIVERSAL IMAGES GROUP VIA GETTY; THIS SPREAD PHOTOGRAPHS: MOTORSPORT IMAGES

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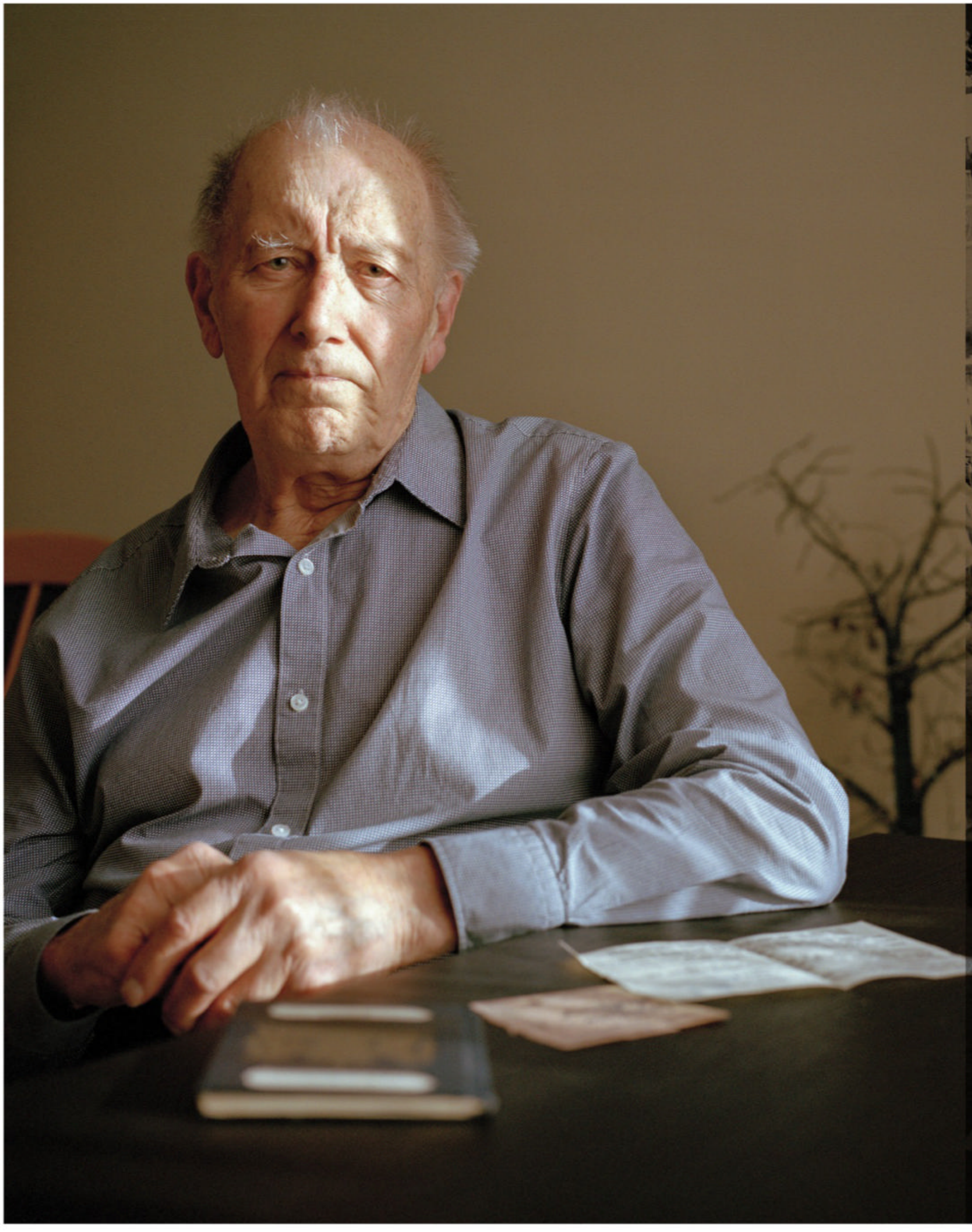

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PHOTOGRAPHY BY **SOPHIE GREEN**

THE SPECTATOR

DEADLY HISTORY LIVES IN THE MEMORY OF ONE LE MANS FAN.

ROBERT BULL, Bob to his friends, was sitting in the grandstand behind the pit area as the 1955 24 Hours of Le Mans ran through its 35th lap. He was 17 and, like all spectators, separated from the action by only a low earthen berm. Mike Hawthorn was, at that moment, entering the pits behind the wheel of the leading Jaguar.

Relying on his D-type's powerful new disc brakes, Hawthorn stopped at the last possible moment. This caused the Austin-Healey 100S he had just lapped, driven by fellow Brit Lance Macklin, to move across the track, directly into the path of a much faster Mercedes-Benz 300 SLR being driven by 49-year-old Frenchman Pierre Levegh.

Traveling at around 125 mph, the Mercedes hit the back of Macklin's slope-tailed Healey and was launched over the berm. The magnesium-bodied SLR disintegrated and burst into flames, with various parts, including its straight-eight engine, tumbling through a tightly packed standing crowd for more than 300 feet.

It was the deadliest crash ever in motor racing, killing at least 83 spectators and injuring many more. The disaster's repercussions went far beyond the circuit, with several European countries banning all motorsport in its aftermath. Switzerland still bans most racing.

Bob Bull, an Englishman, is now 85 and one of

A. Bob Bull still vividly remembers the ball of flame he witnessed 68 years ago.
B. At least 83 spectators were killed in motorsport's deadliest accident.
C. A spot in the Guy Bouriat stand meant Bull sat directly across from the Jaguar pit.

BY **MIKE DUFF**

C

A

A. The remnants of Pierre Levegh's Mercedes burn as Lance Macklin's stricken Austin-Healey blocks part of the front straight. The yellow dot indicates Bull's seat.
B. Bull's parents secretly secured their son a passport for his surprise birthday trip to Le Mans.
C. The Epping Forest Motorsport Association organized the Le Mans trip.

the few eyewitnesses left. Or, as he explains with characteristically dry British wit, "I was 17 then, so old enough to be there but young enough to still be alive."

The visit to Le Mans was Bull's first trip abroad, an early 18th-birthday present for a racing-mad teenager, arranged as a surprise by his parents. "I came home from work one Friday, and my mum said I needed to have an early night, because I was going to Le Mans in the morning," he says. "I didn't believe her at first, but they had organized the whole thing without me realizing it."

Bull's group flew to Le Mans from England—his first time on an airplane—and then walked into the track. A pre-race visit to the paddock gave him the chance to get close to stars, including his hero, Hawthorn, and then they took their seats in the Guy Bouriat stand, directly opposite the Jaguar pit.

"It was the famous Le Mans start, the drivers running across the track," Bull says, "and I remember Hawthorn and Fangio soon got into a tremendous duel, setting new lap records.

"[Eugenio] Castellotti came along in the Ferrari, and I followed him up the road," Bull says. "Then I turned my head back to catch Fangio or Hawthorn, and that's when I saw this huge ball of flame. I can still see it vividly. The next thing I remember was standing at the back of the grandstand. I'd been close to the front in the middle of a row, and I haven't got the faintest notion how I got back there. I must have pushed past lots of people. There was a hush, as if everybody knew something terrible had happened. The thought that went through my mind was 'I mustn't get killed because it would upset mum.'"

Shockingly, the race continued, even as the remains of Levegh's Mercedes burned on the banking and his body lay on the ground next to it. Although just feet from the disaster, Bull had no idea of the scale of the human tragedy below him.

"Down in front of the grandstand we could see the Mercedes on the barrier—well, bits of it—but mainly I remember seeing rescue workers dealing with the injured, the ground covered with personal possessions and bits of debris," he says.

"It was just too much to take in; your mind blanks it out," Bull says. "I've got snapshots, if that makes sense, but not a video of what happened."

Bull later returned to the paddock through the tunnel under the main straight. "This was after the dead and injured had been taken away, but the walls near the entrance were splattered with what looked like bits of mincemeat. I remember not wanting to know what it was, but it must have been bits of flesh."

Looking back, Bull agrees with the decision not to stop the race—had 250,000 spectators tried to leave, they would undoubtedly have impeded rescue efforts. Mercedes withdrew its remaining cars several hours later and then, by the end of the season, abandoned racing altogether, a decision that lasted nearly 30 years. Jaguar opted to race to the finish. Hawthorn and Ivor Bueb won by five laps—with Hawthorn criticized for drinking champagne on the podium.

The debate over responsibility for the crash has continued ever since—Hawthorn's dive into the pits, Macklin's evasive maneuver, and Levegh's dulled reaction have all been blamed. But the primary cause was certainly the primitive circuit design.

Officials hastily commissioned a new pit-lane complex with a dedicated deceleration lane at Le Mans in time for the 1956 race, with other circuits gaining sturdier barriers and ditches. Levegh's American teammate, John Fitch, witnessed the crash from the pit wall and became a safety pioneer. The yellow sand-filled Fitch barriers he invented are now a common sight next to the world's highways and have surely saved countless lives.

Bull didn't discover how many people had died until he read the following day's newspapers after returning to the U.K. He never went back to Le Mans, although not for the reason you might imagine.

"I found the race a bit boring," he says. "I wasn't able to follow the action properly, which wasn't like the smaller tracks I had visited in the U.K."

It didn't put him off motorsport, though. His enthusiasm eventually led him to a part-time career as a photographer and journalist. He still takes pictures at races and is a contributor to a Morgan magazine.

Of his experience of that long-ago disaster, he remains phlegmatic: "It was a terrible crash, the worst one ever, but when you go to a race, it says 'motorsport is dangerous' on the ticket. I was always willing to accept that." &

ARCHIVE PHOTOGRAPHS: BARRATTS/PA IMAGES (PREVIOUS SPREAD) AND BERT HARDY/PICTURE POST/HULTON ARCHIVES (OPPOSITE), BOTH VIA GETTY IMAGES

B

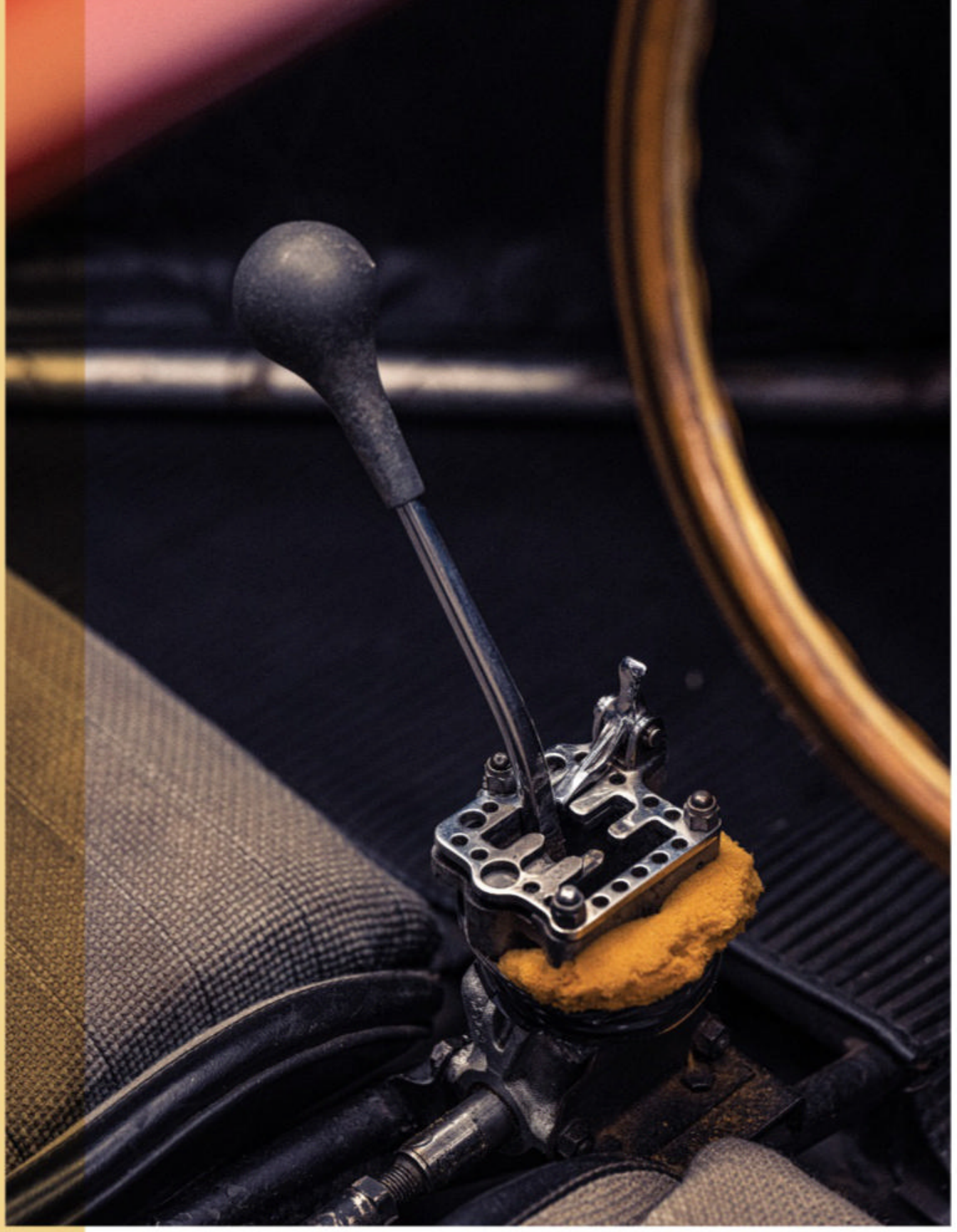
C

The Impossible

A

Le Mans

In 1965, with Ford felled and Maranello flailing, privateer Luigi Chinetti delivered what Enzo could not: Ferrari's last victory at Le Mans.



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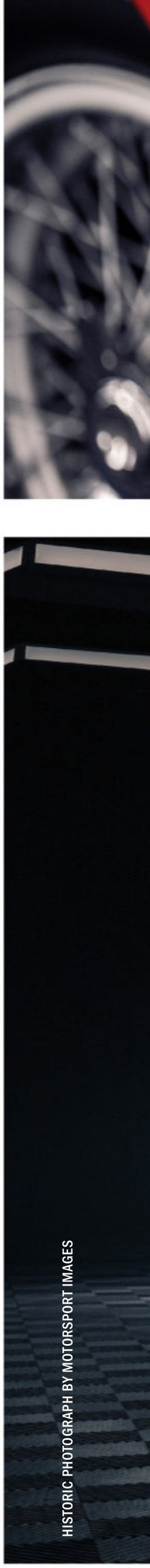


HISTORIC PHOTOGRAPH BY MOTORSPORT IMAGES

A. (Previous pages) Underdogs can wear red and Prancing Horse badges. And they're not all raced by Ferrari.

B. Gated shifters were a functional part of Ferrari race cars before they became fetish objects.

C. The NART 250 LM earning the scars of victory it still wears during the 1965 24 Hours of Le Mans.

D. Luigi Chinetti, Ferrari's distributor in America, founded the North American Racing Team (NART) in 1958. It soon epitomized privateer efforts in racing.

E. The Indianapolis Motor Speedway Museum keeps this piece of history in original condition. An admirable effort.

F. NART's cars were on Goodyear tires. Scuderia Ferrari was on Dunlops. That would matter.

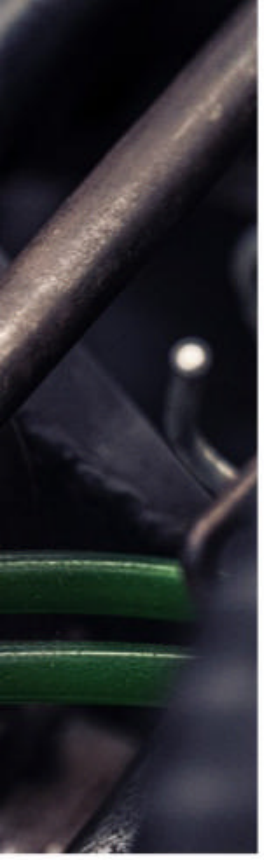
BY **JOHN PEARLEY HUFFMAN**

PHOTOGRAPHY BY **JEREMY CLIFF**

A

B

C



D

LUIGI CHINETTI PHOTOGRAPH BY BERNARD CAHIER/GETTY IMAGES

E

F

G

A. (Previous pages) Mid-engine successor to the front-engine 250 GTO, the 250 LM prototype was shown in 1963, powered by the same 3.0-liter V-12 used in that car. After that, they got 3.3-liter versions of the engine making about 320 hp.

B. The name should have been changed to 275 LM, but Enzo insisted it remain 250 LM to maintain homologation efforts.

C. The small ducktail on the 250 LM echoed that found on the GTO.

D. This 250 LM is chassis number 5893, the winner of the 1965 24 Hours of Le Mans.

E. The fuel filler on the left meant fueling wouldn't interfere with driver changes on the right.

F. Under the simple body, the 250 LM used a fully independent double-wishbone suspension, rack-and-pinion steering, and four-wheel disc brakes.

G. Luigi Chinetti drove to victory at Le Mans in 1932, 1934, and 1949. He was 61 when this photo was shot at Le Mans in 1963, and he was already one of the few men who could stand up to his friend Enzo Ferrari.

Luigi Chinetti's Ferrari 250 LM came to the 1965 24 Hours of Le Mans stinking of also-ran. The 250 LM was pretty, but Ferrari had moved on to beasts like the 275 GTB Competizione Speciale and 330 P2. When the FIA wouldn't classify the mid-engine 250 LM as a GT, Ferrari gave up on the tiny Berlinetta and sold off examples to customers—privateers who were background fillers in international sports-car racing. Chinetti's 250 LM, running as a prototype, was there to lose.

"There were 51 starters in the Le Mans race," wrote Denis Jenkinson for *MotorSport* magazine, "but to all intents and purposes, it was a straight fight between Ferrari and Ford." It was a titanic struggle between two factories (one small, one huge) and two countries (one small, one huge), all obsessed with victory.

The 1965 Le Mans was the last time a Ferrari won the great race. But it wasn't the Ferrari factory that earned the victory; it was Chinetti's North American Racing Team (NART). And that slight distinction would further rattle Enzo Ferrari during one of his toughest years. Ferrari—the luxury brand and indomitable business it is today—emerged out of Enzo's frustration.

Also, it pissed off Ford.

Even before the 1965 race, things were haywire. During practice in April, Lloyd Casner died after being thrown from his Maserati Tipo 151/3. Practice on June 16 was canceled because of high winds. Early on the day of the race, June 19, a truck carrying concession supplies collided with a car outside the circuit. Five died in the fiery crash. Far less tragically, ABC Sports was going to broadcast the race's start live to America over the miracle of the "Early Bird" satellite, but a ground-station failure thwarted that. Nothing went as expected. Except that the cars were fast.

"The first 17 cars in line for the Le Mans start were either Ferrari or Ford, the slowest one lapping at 126.154 mph, and their numbers were almost exactly split," explained *Road & Track*'s Henry Manney. "Five prototypes for Ferrari plus lots of LMs and one GTB, six Ford GTs and a hiss of Cobras for the great Dearborn firm. Ferrari had the inestimable advantage of its sharp-eared corps of racing mechanics plus drivers who were Ferrari drivers; Ford brought an army of 50 people plus enthusiastic and stellar talent like P. Hill, McLaren, Amon, Whitmore, Bucknum, et al. . . . Ferrari was calm, Ford was jittery."

The quickest car was Chris Amon and Phil Hill's Shelby-prepared Ford GT Mk II. Powered by a 485-hp 7.0-liter V-8 based on those used in NASCAR's 3700-pound Galaxies, the 2800-pound Mk II walloped down the Mulsanne at over 300 km/h. Close enough to 200 mph. In practice, the Mk II ran the 8.36-mile course in 3 minutes, 33 seconds—nine seconds quicker than 1964's best practice time. That's an average of 141.37 mph and five seconds quicker than the 4.0-liter V-12–powered Ferrari 330 P2 driven by John Surtees and Ludovico Scarfiotti. Three Ford GTs and the Surtees Ferrari all hit at least 300 km/h on the Mulsanne.

Meanwhile, the NART 250 LM was the quickest of its type. With Formula 1 pilot and crazed German 23-year-old Jochen Rindt driving, it qualified 11th with a 3:45.7 lap time. That was quicker than Ford of France's open-cockpit 4.7-liter GT40, all the Cobra coupes, and the four other 250 LMs campaigned by the Belgian Ecurie Francorchamps, Italians Maranello Concessionaires, Scuderia Filipinetti, and Frenchman Pierre Dumay. Rindt's co-driver was Masten Gregory, a 33-year-old American who wore thick, black-rimmed glasses to counter his lousy eyesight.

NART had also entered a 365 P2 Spyder for Pedro Rodríguez and Nino Vaccarella. It qualified sixth, making it the NART machine likely to finish best.

Jo Siffert's Maserati Tipo 65 blasted to an early lead but was reeled in by the Fords and Ferraris. By the end of the first lap, Bruce McLaren was leading in one of the two Ford GT Mk IIs. Behind him was Amon in the other Mk II, then Surtees in the factory 330 P2. But the NART 250 LM had nothing to lose, and Rindt was so fast.

"During practice, Rindt was not comfortable with Gregory's strategy of a conservative pace," recalled NART team manager Ed Hugus in Robert D. Walker's book, *Cobra Pilote: The Ed Hugus Story*. "Rindt's philosophy was to run the car at the maximum limit. If the Ferrari held together, the team would have a good chance of winning. If the car developed a mechanical problem and could not go the distance, they would quickly be out of the race and Rindt could go home."

Shelby's Mk II set a blistering pace initially, and the massive mound of money Ford spent seemed destined to pay off. Then, Ford of France's GT40 Spyder chunked its gearbox in the second hour. "Bondurant was the second to go," reported Manney about the Rob Walker–entered GT, "around 6 p.m. when the head lifted and let all the water out." A few minutes later, the GT entered by Scuderia Filipinetti also blew a head gasket on its 5.3-liter small-block V-8. Shelby's Ken Miles/Bruce McLaren Mk II ate its gearbox in the fourth hour. The Hill/Amon Mk II died of a broken clutch in the seventh.

Soon the only Ford GT coupe left was the British entry of John Whitmore and Innes Ireland, "and that was mighty ill after rising to seventh slot," wrote Manney. "The fiber cam-follower on the contact breaker had worn itself down, possibly because nobody had remembered to lubricate it in the struggle, and the engine commenced to run very hot. Having boiled most of the water away, it was sent out to do ten gentle laps until refilling was permitted, but ten were too many. Ireland brought it in to a stinking halt at 9:30 p.m. and while gay music jangled over the loudspeaker, there it sat and sizzled itself to death. The last of the big spenders was gone."

It seemed that Enzo Ferrari would, once again, have his way.

But if one person could resist Enzo, it was Luigi Chinetti. A three-time Le Mans winner as a driver, including taking Ferrari's 166 MM to the team's first victory in 1949, he left Italy for America when World War II broke out. The war, however, didn't break his relationship with Enzo, and by the early Fifties, he was the sole American distributor of Ferraris. Chinetti instinctively knew what Americans wanted in a Ferrari and was the motivating force behind the brawny "America" series of Ferraris that would establish

"Rindt's philosophy was to run the car at the maximum limit. If the Ferrari held together, the team would have a good chance of winning."

PHOTOGRAPHS (TOP LEFT CLOCKWISE): BERNARD CAHIER/GETTY IMAGES; MOTORSPORT IMAGES; ROBERT RIGER/GETTY IMAGES; MOTORSPORT IMAGES

A

B

C

D

A. Jochen Rindt (atop the 250 LM) and on the right fender, that's Ed Hugus, who drove a shift but wasn't originally scheduled to do so.

B. Phil Hill and Chris Amon were in a Shelby-American Ford GT40 Mk II that lost its clutch after 89 laps. Tow ropes were the fate of the Fords in '65.

C. Chaos often reigned in the pits. This is the second-place 250 LM of France's Pierre Dumay and Belgium's Gustave Gosselin.

D. That's Ken Miles in a GT40 Mk II leading during the early laps of the 1965 Le Mans. Attrition would claim virtually all the cars in this photo.

A

B

C

D

A. Mexico's Pedro Rodríguez and Italy's Nico Vaccarella drove NART's 365 P2 Spider to a seventh-place finish.

B. England's Mike Parkes and France's Jean Guichet were the last survivors of the Ferrari factory entries. But their 330 P2's gearbox failed in the 23rd hour.

C. Jochen Rindt and Masten Gregory were overall winners. But Gregory's thick glasses would fog up and Rindt could be, well, distracted. Ed Hugus was also around, so . . .

D. It was a victory for *a* Ferrari, but not necessarily a victory for Ferrari.

the brand in what would become its most reliably profitable market. Soon to turn 64, Chinetti was secure enough in 1965 to tell Enzo, if necessary, to go screw himself.

Enzo Ferrari rarely (if ever) left Italy, but he was an overwhelming nonpresence. And 1965 wasn't going well for him. At all.

As 1965 began, the FIA kept Ferrari's new 275-series cars from running in the GT category. In protest, Enzo pulled out of the GT Championship. Though the Scuderia took the 1964 F1 drivers' and constructors' championships, it was getting skunked in '65. Ferrari the man was turning 67. His mother, with whom he had always lived, was dying, and he didn't get along with his wife. He had lost his beloved son Dino to muscular dystrophy back in '56 and hadn't yet acknowledged his other son, Piero, whose mother was Enzo's mistress. One of his frustrated former clients, Ferruccio Lamborghini, was now building road cars to better Ferrari's. Plus, the Ford Motor Company, which made more than 3.3 million vehicles in 1965, was out to destroy him.

At Daytona in January, Ken Miles and Lloyd Ruby's 4.7-liter Ford GT won the 1965 World Sportscar Championship opening round while slaughtering Ferrari's new 4.0-liter 330 P2 prototype. It got worse when something called a Chaparral, built by Texans Jim Hall and Hap Sharp and powered by a Chevrolet truck engine, shit-kicked the competition at March's 12 Hours of Sebring.

Enzo felt the pressure. Not that he shared anything with anyone. Il Commendatore saw the future in 1965 and knew change was inevitable. He couldn't simply impose his will any longer.

But Enzo was winning again at Le Mans after the Fords collapsed. Surtees and Scarfiotti, in the No. 17 car, were practically loafing, with their 330 P2 turning 3:42 laps, which is about a 130-mph average clip. When a front spring cracked apart and changing it dropped the big red car to fifth, the win still seemed guaranteed. Even after the factory entry dropped to 10th when the team had to pull brake discs off the Lorenzo Bandini/Giampiero Biscaldi 275 P2 and transfer them to Surtees's machine, victory appeared inevitable.

Then Bandini's car lost a head gasket in the 17th hour, and Surtees's car spat out its clutch assembly in the 18th. That left Mike Parkes and Jean Guichet's 330 P2 as the last factory Ferrari entry in the race. The P2 was charging back despite a gearbox locked into fifth gear. What Enzo also had (sort of) were the privately owned entries—including four of the five 250 LMs.

The 250 LM was a proven package in 1965. At its core, it was a closed Berlinetta version of the open 250 P that had won the 1963 Le Mans. Coyly described as a mid-engine version of the legendary 250 GTO, it was among Ferrari's first mid-engine cars and built of robust, familiar components. The 320-hp 3.3-liter V-12 in its tail wasn't overwhelming, but it wasn't likely to lift a head gasket, destroy a clutch, or kill a gearbox. Rindt's bet on going flat out for all 24 hours wasn't that irresponsible. Slightly insane but not irresponsible. Not that Rindt seemed to care that much.

At around 4:00 a.m., fog engulfed the circuit, and Gregory's glasses were hazing over. Plus, he had lousy night vision and sore eyes. He pulled in for an unscheduled stop, but Rindt was nowhere to be found. So Hugus suited up, got in the car, and drove for the last hour of Gregory's shift. None of the officials noticed.

"Luigi told me many times later that he had informed the pit official about this," Hugus wrote in a handwritten note to a friend. "However, as Luigi said, maybe they were too busy with a wine bottle behind the pits to do so. He was disappointed and so was I. Say la vie [*sic*]."

Hugus, a World War II veteran who would turn 42 that June, had an under-the-radar career that included working alongside Shelby on the original Cobra, being the first Shelby Cobra dealer, competing as one of America's top amateur road racers, and driving in every Le Mans from 1956 through 1964. "I arrived at Le Mans [in 1965] and expected to drive my own NART Ferrari entry, which was to have been delivered at the track by the Ferrari factory in time for pre-race practice," Hugus is quoted as saying in Walker's book. But the car wasn't done, and Hugus was instead installed as team manager by Chinetti and designated as a relief driver to the Rindt/Gregory effort. No one, however, seems to have informed the Le Mans officials of such a designation.

Improbably, the NART 250 LM was moving through the field. With the last works Ferrari hobbling in third, the race came down to the red NART 250 LM and a yellow 250 LM entered and driven by Pierre Dumay and Gustave Gosselin. Meanwhile, the NART 365 P2 Spyder was chugging along and would finish seventh.

With the yellow French 250 LM on Dunlops and the American entry on Goodyears, tires became a contentious issue. Rumors were that the Ferrari team tried to convince both 250 LMs to slow down so the limping 330 P2 could win. It wanted the winner on Dunlops, as Ferrari was under contract with that brand of rubber. Thus, Chinetti was under pressure to slow his car down and let the Dumay/Gosselin car win. But Chinetti, no matter how many additional Ferrari road cars he may (or may not) have been offered to line his showroom floors by Signor Ferrari as an inducement, refused to slow down his machine.

Then the works 330 P2 finally ground up the last of the cogs in its gearbox in the 23rd hour after 315 laps. It was the top nonfinisher—no comfort to Enzo.

NART won Le Mans in 1965 with a Ferrari. Ford doubled down in '66 and won the next four editions of the race handily. But the result had its greatest effect on Ferrari.

In March 1965, a small story in the *New York Times* announced that Ferrari would cooperate with Fiat in building a Formula 2 car. Shortly after Le Mans that year, Fiat took a small stake in Ferrari. That led to the co-production of two new "Dino" models powered by a Ferrari-designed V-6 manufactured by Fiat and built to sell in commercially significant volumes.

Ferrari began evolving into a car company, a luxury brand and not just a win/loss record. It wouldn't be a trivia question like Bizzarrini, Cisitalia, or OSCA. And 1965 was when it became an enterprise that would outlive Enzo himself. It's why there's a Ferrari theme park in Abu Dhabi and why, right now, someone is lying out in the sunshine on an officially licensed Cavallino Rampante beach towel.

NART won Le Mans in 1965 with a Ferrari. Ford doubled down in '66 and won the next four editions of the race handily. But the result had its greatest effect on Ferrari.

PHOTOGRAPH A: BERNARD CAHIER/GETTY IMAGES; PHOTOGRAPHS B AND C: MOTORSPORT IMAGES; PHOTOGRAPH D: BERNARD CAHIER/GETTY IMAGES

A


This is the new Rolex chronograph. It's called Le Mans.
Le Mans
This is the new Rolex chronograph. It's called Le Mans.
Its tachometer is engraved on the bezel for easy MPH reading.
It has one-minute, 30-minute and 12-hour recorders.
The sweep-second hand times to 1/5 of a second. The 17-jewel
movement is accurate enough for official use. The case
and bracelet are stainless steel with white or black face.
$210 including federal tax.
ROLEX
ROLEX
OYSTER PERPETUAL
SUPERLATIVE CHRONOMETER
OFFICIALLY CERTIFIED
COSMOGRAPH
DAYTONA
SWISS MADE
ROLEX
24h
LE MANS
WINNER
2019
CIBIE
BARDAHL

THE FORGOTTEN LE MANS

A ROLEX (NEARLY) LOST TO HISTORY.

BEFORE CHRISTENING ITS iconic racing watch the Daytona, Rolex entertained several other names. Originally, the watch had "Chronograph" stamped on the dial, plainly describing its function as a subsecond timekeeper of great accuracy.

Then, in a flurry of space-race whimsy, Rolex revived its Cosmograph portmanteau, originally attached to moon-phase watches from the Fifties, in 1963. But shortly thereafter, Rolex landed on something that stuck. The name Daytona proudly graced the dial of nearly every Rolex chronograph moving forward, a nod to that temple of American endurance racing. But there was another wrinkle in the Daytona's murky early nomenclature.

"This is the new Rolex chronograph," a rare 1964 advertisement reads. "It's called Le Mans."

For decades in collectors' circles, hazy memories conjured a tale of the Rolex Le Mans wristwatch, but nobody could quite pin down the details. Thankfully, this ad provides physical proof that, for a fleeting moment, Rolex nearly dedicated its chronograph to a different endurance classic.

"This is the earliest Daytona ad I've ever come across," says Nick Federowicz, founder of Ad Patina, a business that curates and sells vintage watch advertisements. "I can't be sure there wasn't an earlier ad printed for the Daytona, but this is the earliest I've seen so far."

Federowicz speculates that Rolex purchased this Le Mans ad in 1963, just before the first Daytona wristwatch officially debuted, but print lead times meant the Le Mans page didn't run until after the name was dropped.

What remains of the Rolex Le Mans is only a *maybe*; Rolex couldn't officially corroborate the narrative of this curious footnote. But in one major way, the watch lives on. Everyone knows that winners of the Daytona 24-hour race take home a shiny Rolex chronograph, but fewer are aware that Le Mans champs also win a Daytona. While "Daytona" and "Cosmograph" still adorn the dial side of that winners' watch, when you flip over to the caseback, an inscription reads "24h Le Mans Winner" with the year engraved below it.

Maybe call it the Rolex Cosmograph Daytona Le Mans. By any name, this is a peerless racing watch that, thanks to an obscure historical footnote, reads a bit more poetic than you'd expect.

A. Rolex never manufactured a run of Le Mans chronographs, but the watch lives on in spirit; winners of the 24-hour race receive a Rolex with a special Le Mans engraving.

VINTAGE WATCH AD IN COLLAGE: PHOTOGRAPH COURTESY OF NICK FEDEROWICZ/AD PATINA; SELECT COLLAGE IMAGES FROM GETTY

BY **KYLE KINARD**

COLLAGE BY **ANDREW BOYLE**

THE NIGHT THEY DROVE

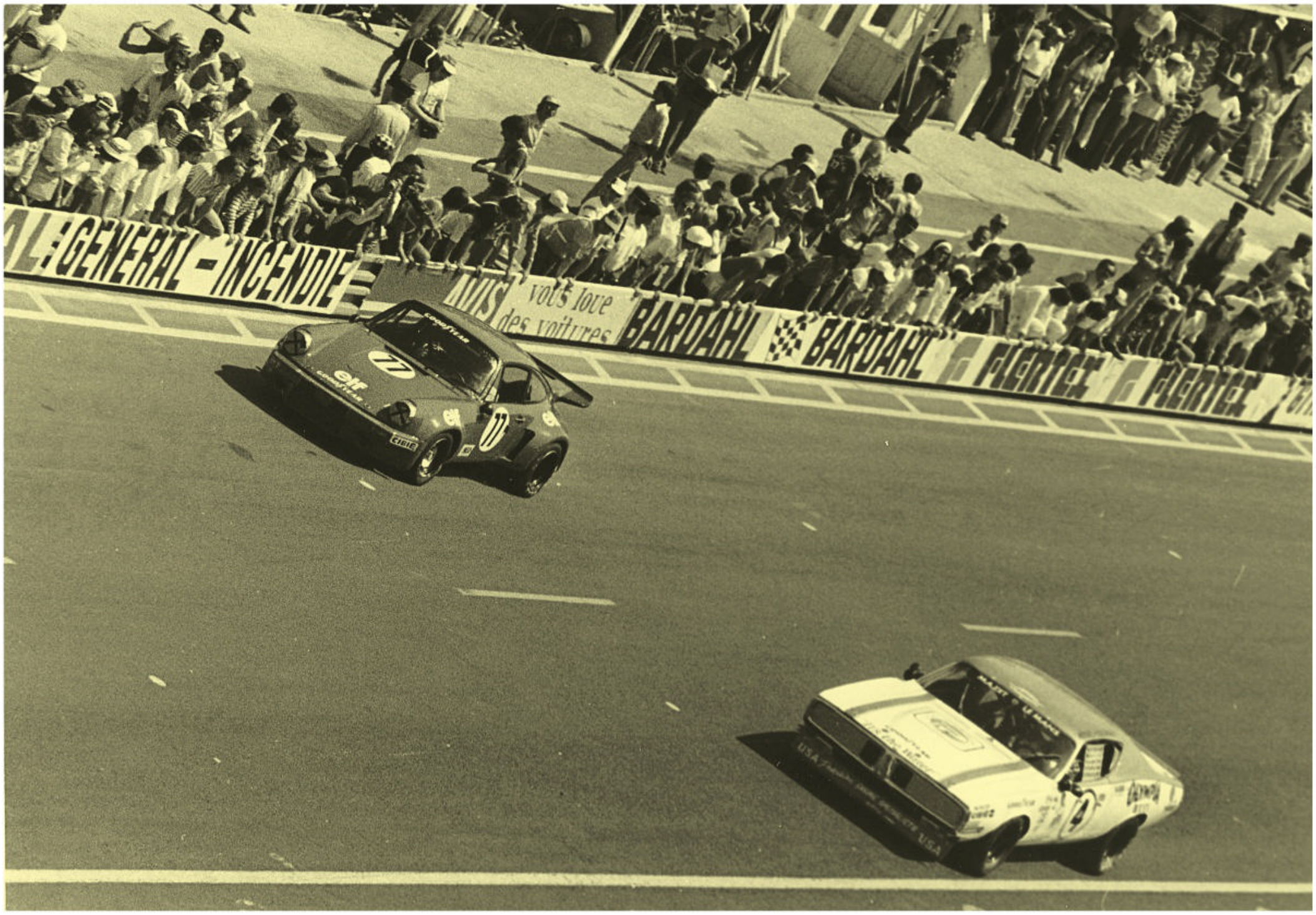
NASCAR IS SENDING A STOCK CAR TO

A

OLD DIXIE DOWN

THE 24 HOURS OF LE MANS, BUT NOT FOR THE FIRST TIME.

B



C

ONE OF MARTINI RACING'S factory Porsche 936s driven by Jacky Ickx and Gijs van Lennep won the 24 Hours of Le Mans in 1976. It was a rough race, one of the hottest on record, and Ickx struggled to keep the throttle down as his feet burned and blistered in the pedal box. That's a good story, but with all due respect to Ickx, a better story was happening behind him. Way behind.

The day before, just off the starting line, table-tailed Lolas and swole-fendered Porsches revved and darted into the first turn. In the back, as menacing as a tornado cutting across a prairie, came two cars of a sort that the French had never seen. Straight piped and V-8 powered, the Dodge and Ford stock cars plowed past Datsuns and BMWs at 200 mph. Both cars were doomed, but in their initial laps, they branded themselves on French memory and Le Mans history. Sometimes you don't have to win; it's enough to be big and loud.

NASCAR's appearance on the Mulsanne was part birthday celebration, part desperation. In 1975, lingering effects of the oil embargo were impacting racing entries, especially in sports-car races like the 24 Hours of Daytona and even the venerable all-nighter at Le Mans. Conversations between the Automobile Club de l'Ouest (ACO) and NASCAR's generational duo of Bill France Sr. and Jr. led to Le Mans offering a couple of competition spots to teams in NASCAR and IMSA. The coalition hoped to bring a wider audience to both series while also filling the grid at Le Mans. The plan overlapped nicely with the United States

Where Are They Now?

While today they are legends, back in July 1976, the Oly Charger and Truxmore Torino were just old. Both were sold and likely followed the path of rust and destruction that most retired stock cars took to the junkyard. There are actively raced re-creations of both, and the Oly Charger replica owner, Christophe Schwartz, even managed to track down one of the Le Mans 426 Wedge engines. But the original cars are only memories.

BY **ELANA SCHERR**

PHOTOGRAPHS A, B, AND C: COURTESY OF NASCAR

bicentennial in 1976, and the Frances kicked it off in January by creating a Grand International class for NASCAR-type stock cars in the 24 Hours of Daytona.

Third in class at the Daytona 24 was veteran driver Hershel McGriff, whose racing career started in the early Fifties with the Mexican Carrera Panamericana and continued into the 21st century (he last raced in 2018 at age 90) with regular wins in the NASCAR West series. McGriff's long friendship with both Frances and his flexible schedule made him better able to head off to Europe than, say, Richard Petty or David Pearson.

To fill out their Americans-in-Paris cast, the Frances chose team owner Junie Donlavey, who packed up a small-block Ford Torino and sent it over with drivers Richard Brooks and Dick Hutcherson. Again, these were winning pilots. Brooks won the Talladega 500 in 1973, and Hutcherson, well, he was the No. 3 in Ford's one-two-three finish at Le Mans back in 1966, so he was plenty qualified. French driver Marcel Mignot rounded out the Donlavey team.

The only tech rules placed on the stock cars were safety related—things unnecessary on a NASCAR track, like wipers and headlights. The Torino left for France with a 351 small-block under the hood, while McGriff's team was more ambitious, filling the cavernous bay of a 1974 Charger with a hybrid, a 426-cid Wedge engine made by topping a Hemi block with 440 heads. Dick Pierson, who worked for McGriff, recalls loading up a gooseneck trailer with the Charger and five shipping containers of parts—including 15 cases of beer listed on the manifest as "Lubricant"—and driving the rig from Oregon to the docks in Virginia. "It all went fine until the trailer broke in half," Pierson recalls.

Once in France, both cars became instant crowd favorites. Dubbed "Les Deux Grands Monstres" by the press, the cars were front-page news. The teams were surrounded during the pre-race parade, and rumors still circulate about the rather unusual post-practice drives around town. (McGriff says they are apocryphal but adds, "Maybe the boys took it out while I was sleeping.") They may have won the popularity contest, but the Americans weren't so lucky in the actual race. Right away, the Charger's big-block became the casualty of some bad math. McGriff knew the cars would have to run on pump gas, but the fact that octane measurements in Europe are different from in the States got lost in translation. His high-compression mill detonated itself just two laps into the race. The Ford small-block held up better, but its four-speed transmission failed in the 11th hour, 104 laps in.

Even with less-than-stellar finishes, "the Two Big Monsters" are remembered at la Sarthe. Both McGriff and Brooks went back to Le Mans in 1982, racing together in an IMSA Camaro. NASCAR, however, has not been back—until now. Hendrick Motorsports announced its entry in this year's 24 Hours of Le Mans with a Cup Series Camaro racing in the experimental Garage 56 class with F1 champ Jenson Button, Le Mans winner Mike Rockenfeller, and NASCAR legend Jimmie Johnson. If the goal is to complete more than two laps, they are likely to succeed. If it's to be more memorable than the bicentennial attempt, they better go really big and be really loud.

A. (Previous pages) The NASCAR curiosities wore stodgy Yank bodywork but spat V-8 rumble.
B. The funniest thing about Europe? The little differences, like octane ratings.
C. A Le Mans legend, surrounded by adoring fans (plus some strange old Porsche).
D. NASCAR returns to Le Mans in 2023 with badass body lines and that old V-8 soundtrack.

D

PHOTOGRAPH D: JAMES GILBERT/GETTY IMAGES

BY **KYLE KINARD**

ILLUSTRATION BY **JOAN WONG**

LE MEH

WHY IS TOYOTA'S RECENT DOMINANCE AT LA SARTHE SO UNDERWHELMING?

A. In June, Toyota's dynastic prototypes will once again face worthy opponents.

RECALL ENDURANCE RACING'S legendary marques: Ferrari, Porsche, Audi, Jaguar, Bentley. Did you forget Toyota? The world's largest automaker has claimed victory at Le Mans more times than Peugeot, Alfa, Ford, or Bugatti, but all that winning has amounted to is indifference. A shoulder shrug. So what?

Weird, right?

Many onetime fans have zoned out of Le Mans for the past half decade. Why? Here's why. In the vacuum left by Audi's and then Porsche's departure from prototype racing, Toyota filled the void. As the sole factory team left at Le Mans, Toyota took its first overall win in 2018.

It was only the second Le Mans victory by a Japanese automaker. Toyota insisted that was monumental. Only it wasn't. For that 2018 run, Toyota brought nukes to a knife fight, both driving talent (Fernando Alonso, Sébastien Buemi, and Kazuki Nakajima piloted the winning car) and financing (some reports assert that the LMP1 hybrids cost hundreds of millions per year). Toyota crushed the leftover nonhybrid competitors. Four years of uninterrupted and monotonous dominance followed. Call it a dynasty. Racing fans love a good dynasty.

So why don't we love Toyota's wins at Le Mans? That's obvious: Toyota didn't earn it.

Remember the heartbreak of 2016, when Toyota lost Le Mans with minutes to go? Its car sputtered to a halt, and Porsche snuck by for the win. Never has endurance racing been so cruel. Had Toyota followed that heartbreak with a win in 2017, defeating Porsche in the big German's final LMP1 effort, it would've been a triumph for the ages.

Instead, Toyota finished eighth overall that year behind six LMP2 competitors. Then Porsche left Le Mans, meaning that Toyota's 2018 win, and every subsequent victory, rang hollow—a thunderous fanfare played in a vacuum. And while there's still something magical about Alonso's nighttime stint from 2018—one of the most hypnotic and thrilling onboards ever seen—it was merely an F1 great turning lesser equipment into a rearview blur, a shark among minnows.

Of course, there's a twinge of Eurocentrism in diminishing Toyota; there always has been where racing legacy is weighed. But how is it that even Audi's ruthless dynasty is more celebrated? The Germans approached Le Mans as a problem to be solved, the way a mathematician works through some head-scratcher on a chalkboard. They won with diesel. They won with silence. They won with efficiency. They throttled legitimate competition.

Some call it xenophobia, but xenophobia is not the same as disinterest. Toyotas sit in hundreds of millions of driveways, many as beloved as house pets. But when it comes to a brand ethos predicated on stodgy reliability, on selling RAV4s by the billion, I simply can't connect the Toyota Tacoma in my garage with some soggy circuit in the French countryside. At least Audi named a mid-engine road car after its Le Mans winner. Toyota won't even build its own Supra.

Fortunately, Toyota's got another shot at winning our hearts. No, Supra production isn't moving to Motomachi. This year, which marks the Le Mans centenary, will be different from the last five. Manufacturers have returned to la Sarthe in droves thanks to streamlined regulations. Call it a sea change. Porsche, Ferrari, Peugeot, Cadillac, and curious privateers like Glickenhaus are back for a shot at Toyota's crown.

With a stacked field, 2023 could kick off a new golden age in endurance racing. The eyes of zoned-out racing fans have snapped back to Le Mans once more. If Toyota truly deserves a mention among endurance racing's all-timers, it'll have 24 hours in France to prove it.


DENSO
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HY
AISIN
ZENT
HYPER CAR
AISIN
MICHELIN

JAGUAR XJR

DECONSTRUCTING THE ENGINE THAT DOMINATED LE MANS.

BY **KYLE KINARD**
PHOTOGRAPHY BY **FREDRIK BRODÉN**

A

A. (Previous page) Cast-aluminum domed pistons sit below hemispherical combustion chambers. This exact piston was plucked from an XKSS owned by some handsome actor named Steve.

B. Jaguar asked plenty of the engine's architecture, varying cylinder bores and crank strokes over the decades. Displacements varied from a nominal 2.5 to 4.2 liters. That versatility relied on its inherent balance and rugged crankshaft.

EACH PIECE APPEARS SIMPLE, lying on a wooden table: a spring, a valve, a rod, a pin. But combined, these parts once roared to life and dominated endurance racing.

This is Jaguar's XK engine. From 1951 through 1957, the inline-six mill cleaned house at Le Mans. A nearby poster from '57 details that dominance. "The Fifth Jaguar Victory in Seven Years," it proclaims, listing the 24-hour race's finishing order: "1st Jaguar, 2nd Jaguar, 3rd Jaguar, 4th Jaguar, 6th Jaguar."

The experts at Classic Jaguar in Austin, Texas, disassembled an example of our subject powerplant so we might better understand what made it tick. There may be no better guides on earth.

In 1994, Classic Jaguar's CEO and president, Dan Mooney, left his career as a detective at Scotland Yard. He then left Britain altogether and by 1996 had set up shop in the States. He has dedicated his life to servicing, restoring, and improving vintage Jaguars of all stripes, especially those graced with XK engines. If any iron lump is worthy of worship, it's the XK.

Consider its origins. As German bombs fell across England, a cadre of ingenious British engineers coalesced on Coventry rooftops. Led by (soon-to-be Sir) William Lyons, a small team from SS Cars—later renamed Jaguar Cars Limited—imagined the end of the war and, with it, an engine design that might last the company perhaps 20 years.

Instead, the XK spanned six consecutive decades in production guise, from its conception in the Forties, through the Fifties, Sixties, Seventies, and Eighties. Its swan song arrived in the Nineties in a series of royal limousines.

Mooney guided us through the disassembled six, from its coal-black iron block, stamped "Jaguar 3 1/2 LITRE," on up through the pair of immaculately polished valve covers. While alloy blocks were occasionally used in some racing applications, this ferrous mass represents the Platonic XK engine.

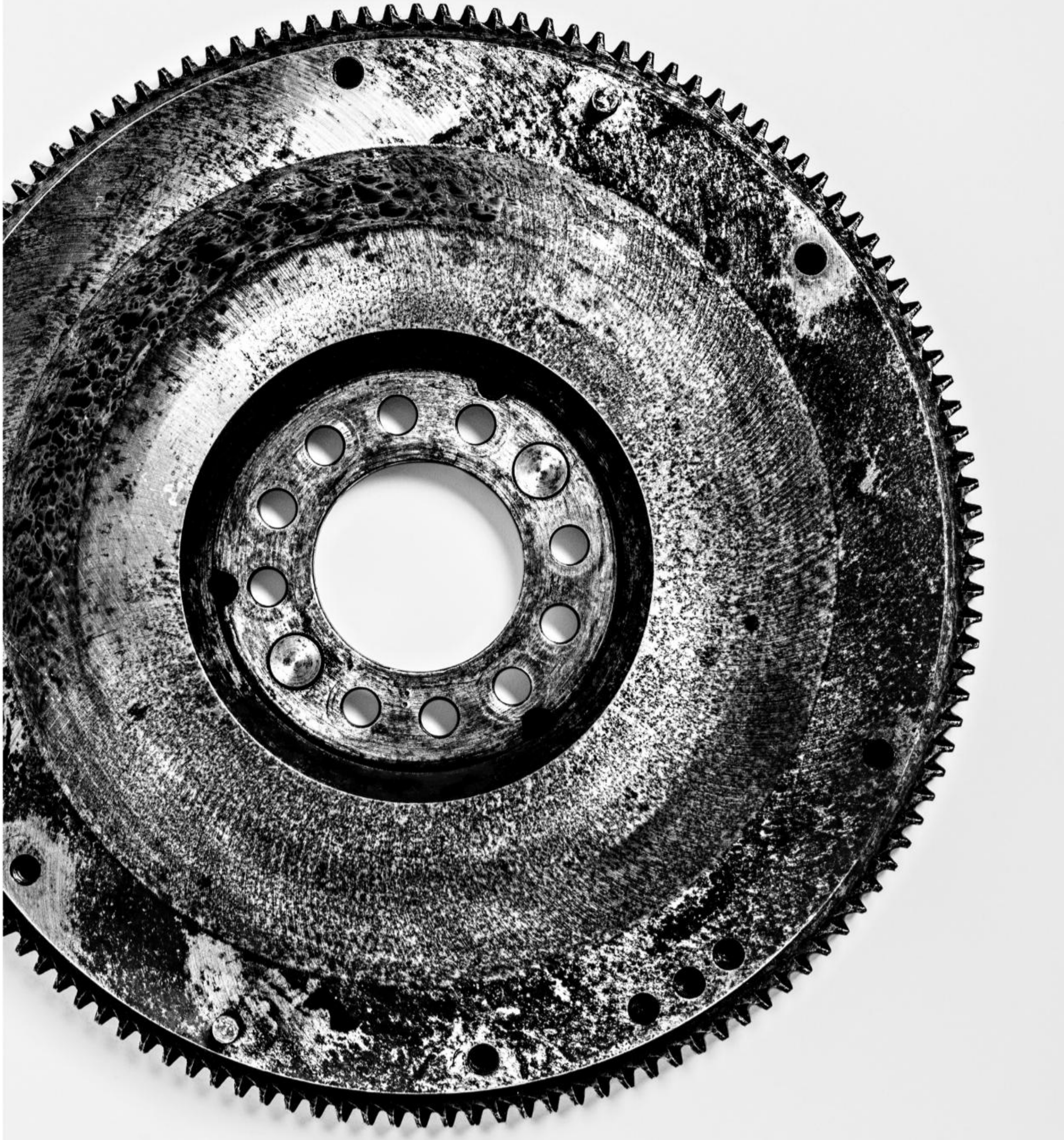
Mooney noted that early XK prototypes were smaller, shorn of two cylinders. Those four-cylinder engines proved too coarse and underpowered, less refined than Lyons deemed appropriate. That decade of dominance at Le Mans proved Lyons's foresight. Mooney noted production touches that lent the XK engine a solid foundation for racing, like the finely balanced crankshaft with its seven main bearings.

The aluminum head came next. It saves roughly 70 pounds over an iron equivalent, cutting precious weight while lowering the engine's center of gravity. That crossflow head owes its clever design to Harry Weslake, a forward thinker and personal hero of Mooney's. As exploration of the XK engine continued, we plucked the good bits from the table. Here are the highlights.


C4129
D1124

B

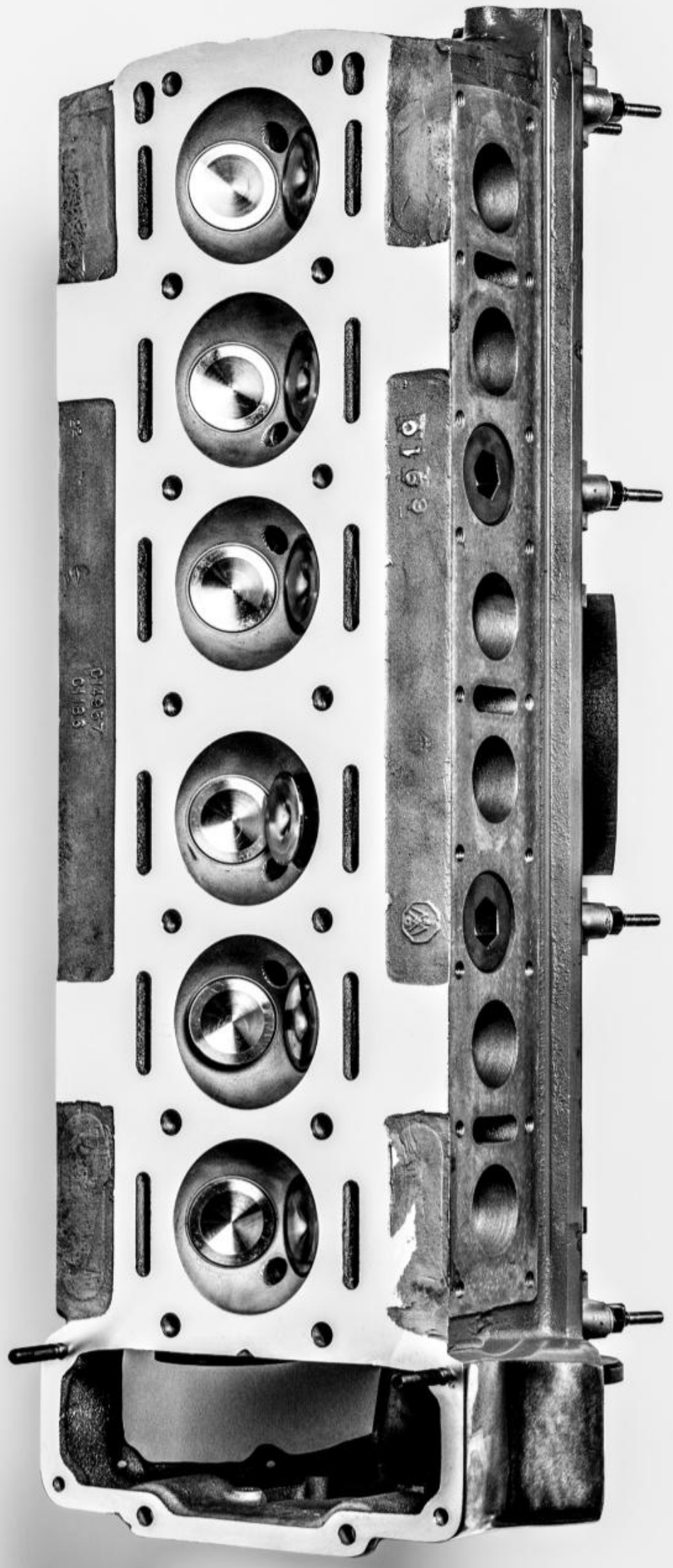
A. In isolation, every XK component is art, a beautiful contrast to modern production engines.
B. Jaguar placed valves overhead with a wide angle between intake and exhaust, allowing for oversized units. For race engines, classic hot-rod tricks were employed, like cutting the valves and seats.



B

A. A heavy flywheel and harmonic damper worked to steady the XK's crank. Classic Jaguar has improved both.

B. How many engines could double as sculpture? Lyons allegedly demanded polished valve covers simply because they stirred the soul.

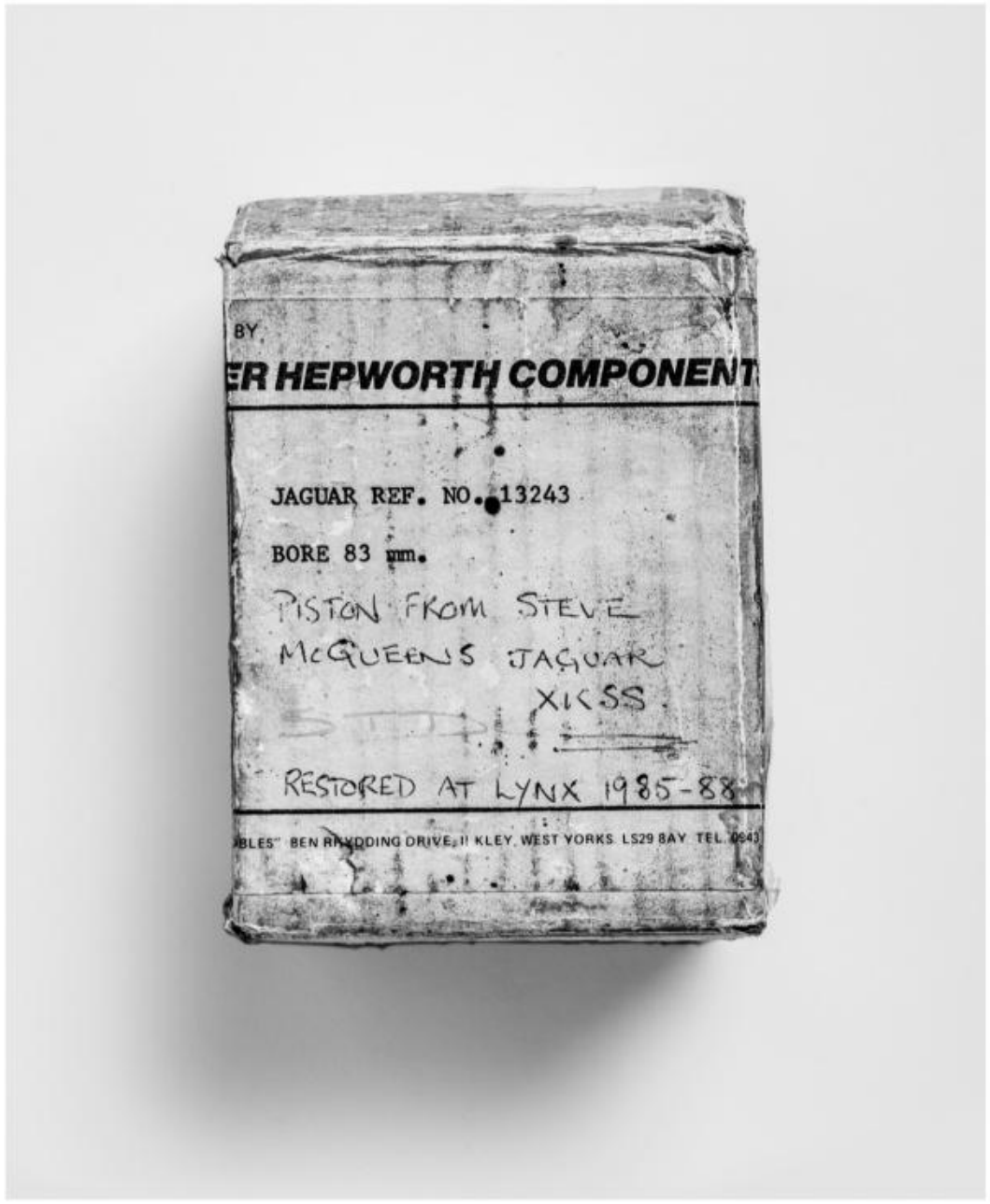


B

A. Harry Weslake conceived the XK's crossflow head with help from a tool he designed to measure airflow through the head. Racing XKs crammed in air through arrow-straight ports.

B. Another tiny, near-meaningless piece that shows the immaculate care lavished on the XK's design: the oil filler cap.

A


BY
ER HEPWORTH COMPONENT
JAGUAR REF. NO. 13243
BORE 83 mm.
PISTON FROM STEVE
McQUEENS JAGUAR
XKSS
RESTORED AT LYNX 1985-88

B


JAGUAR

C

D

E

A. A simple two-stage system drove the overhead cams, while double-row timing chains proved durable.

B. The XK piston (seen on page 107) inside this box may literally be worth its weight in gold.

C. In ’51, the C-type won Le Mans with 3.4 liters. By ’57, the winning D-type grew to 3.8 liters. Classic Jaguar builds XKs up to 5.0 liters.

D. Valve-spring and retainer design barely evolved during production. Robust from the start.

E. Full-floating wrist pins cut friction where the connecting rod and piston met, while large bearings kept the crank healthy under racing duress.

DREAMLAND

A

BY **TRAVIS OKULSKI**

PHOTOGRAPHY BY **GREG PAJO**


MICHELIN
STALOC

JIM GLICKENHAUS'S SCG 007 LE MANS HYPERCAR IS A FANTASY FULFILLED, FOR HIM AND US.

THINGS LIKE THIS DON'T HAPPEN.

This is the Glickenhaus 007 LMH, the car that finished third overall at the 2022 24 Hours of Le Mans. Not third out of three, and not at some off-brand enduro run in a Nebraska parking lot. This car is royalty.

For reasons I still can't comprehend, the Glickenhaus team and HK Motorcars (this 007 owner and Glickenhaus's dealer partner) are tossing me the metaphorical key just months before the car returns to Le Mans to take on the world.

I couldn't believe any of this would happen, that Circuit of the Americas (COTA) would let us onto an empty track, or that our insurance would approve a request involving a $6 million car. When I got off the plane in Austin, Texas, the day before, I figured I'd eat some breakfast tacos and go home, that the plan would inevitably have fallen apart. But the car was right there, alone in a garage at daybreak. It was all ours for a few hours.

I was a mess.

The 007 was built and designed by Podium Advanced Technologies, an Italian outfit that has partnered with Glickenhaus on everything from road cars to the Baja-dominating Boot buggy. Pipo Moteurs, a French firm known for rally engines, constructed the 007's twin-turbocharged 3.5-liter V-8. That's linked to a seven-speed Xtrac sequential gearbox. The 007 wears Penske dampers and Michelin slicks. Sauber honed the car's aero. Yes, *that* Sauber.

Close up, the 007 LMH is less spaceship than other Hypercar-class racers and more 'roid-rage Radical. The aero is clean in appearance, absent the grotesque and functional accents adorning most modern prototypes. Still, the 007's proportions appear impossible: low and wide, with huge lights and a tiny cockpit, the sort of thing you doodle in middle-school math class. I walked around the car in silence.

The calm breaks when the affable Aussie Ryan Briscoe hops in for installation laps and a V-8 bark assaults everyone in the garage. Briscoe is a former Formula 1 test driver, an IndyCar race winner, and one of the drivers who put this car on the Le Mans podium last year.

COTA is 3.4 miles long with 20 turns, one of America's most challenging tracks. Standing in pit lane in the cool morning air, I hear Briscoe hustling through every corner, the roaring V-8 and the stuttering sound of the traction control ricocheting off grandstands. The first time

A. (Previous pages) COTA's front straight is one of the most intimidating in all of motorsport.
B. The author tries to appear calm and cool while freaking out in every way possible.

B


Stilo
OMP

Briscoe shoots down the front straight, I start shaking. This is next level. The sound, the speed, the seriousness, the intimidation; the fly-bys stoke doubts in me about my ability to drive the car. It looks so damn fast. I've been racing since I was 12 and have driven a number of high-profile race cars, none this capable.

Briscoe returns to the garage, the 007's engine chattering off the pit limiter. He made it all look so easy. It's not.

Wedging into the 007 LMH requires Kama Sutra–caliber contortions. I'm six feet tall with more of a dad bod than I'd like to admit, so the team removes Briscoe's seat insert and surrounds me with foam. I fit—barely—by essentially lying on the floor. Closing the door requires hunkering down, with carbon-fiber crash structures pressing on my shoulders, holding me steady.

The cockpit isn't loaded with superfluous screens and doesn't require an advanced degree to understand. "It's all pretty straightforward," Briscoe says. "It's a button. It's labeled, and that's what it does."

I press the "start" button, and the 007's engine fires. So far, so good.

Over the roar, Briscoe leans in to give me a warning. Since this isn't a hybrid like virtually all other Le Mans Hypercars, the 007 can't do a silent electric launch. It needs the clutch, operated by two small paddles on the bottom of the steering wheel, to get moving. Briscoe is clear: There is no feedback, no signal you've hit the engagement point. You cannot lift off the throttle as the car starts moving. The clutch paddle needs to be released slowly for four seconds. I stall repeatedly. Anyone would. Even pros have trouble.

A. The 007 prepares to leave the garage at COTA.
B. AP Racing brakes have no ABS and will lock immediately when cold.
C. Briscoe looks on as the author struggles to enter the car elegantly.
D. Debriefing after a run.
E. The 007 flows through COTA's high-speed esses.

A

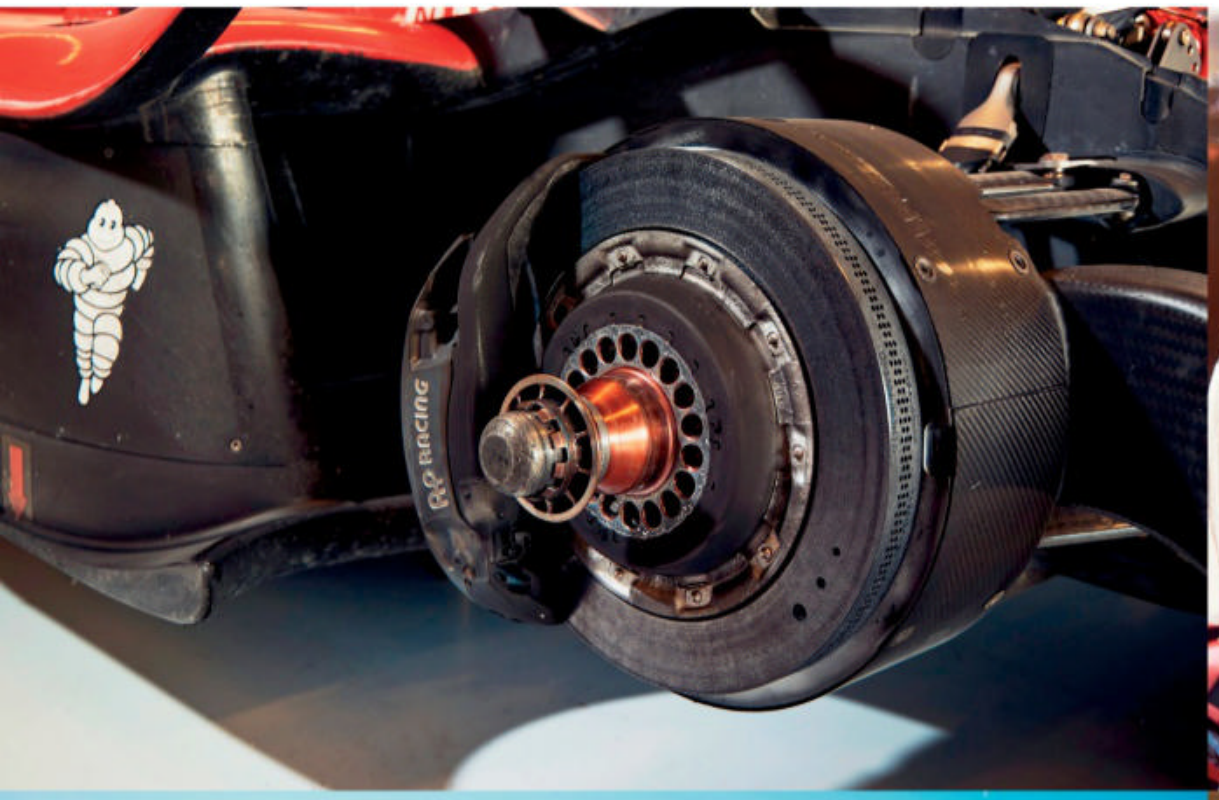
Another reminder that this is not a normal car: The wraparound windscreen distorts forward vision, fun-house-mirror style. Depending on where you look, it'll magnify the location of an apex or make curbs look distant. Buttons and dials I don't dare touch litter the steering wheel. I had lapped COTA in the photo van to learn the track, and it seemed straightforward. The 007's ground-level seating position changes everything. I am lost.

I run the first few laps on tiptoe. The car is obstinate, and I feel like I might lose control in some high-speed corners. I lock the left front tire going into the fast, off-camber Turn 19 and run wide on my second lap. It sounds counterintuitive, but I wasn't going fast enough. The tires and brakes stayed cold at low speeds, and the wings weren't moving through the air fast enough to provide meaningful downforce. In a car with this much aero, there's a gray area where you exceed mechanical grip while the aero grip is yet to fully take hold. Call it the crash zone. There are two choices: Go slow or go dramatically faster and pray that air will glue the car to the track. I choose prayer, but not in silence.

Nothing about the 007 is quiet. It's always shouting. It has 671 hp, the limit for the class, and weighs at least 2270 pounds. On paper, those figures don't look all that impressive for a race car. They are essentially meaningless. That first time at full throttle throws my brain for a loop. The narrow windshield tunnels forward vision as speed increases. I've never been in a car that goes through gears like this—every shift feels like a punch to the back of the head. Anti-lag allows the car to scamper out of corners like an animal with its tail on fire. Upshifts fly by until I touch 170 mph on COTA's back straight in sixth. There is still another gear to use. Then there's the traction control, which works overtime on bigger bumps. There's a sizable one on the downhill run from the slow, sharp Turn 1 to the very, very fast 2, making the car jump right at the shift point from second to third. Without traction control, I would've beached the 007 backward in the gravel trap. With traction control, I could stay flat, a tiny interruption in power keeping everything in line.

That confidence works together with telepathic front-end feedback and steering. Not too light, not crazy heavy, and delightfully accurate. I had figured the curbs would be my nemesis at COTA and that I would need to keep the platform level for it to be at its best. Not the case, to a point. The suspension soaks up lower curbs, which even

B C



D E

THERE IS NOTHING QUIET ABOUT THE 007. IT'S ALWAYS SHOUTING. THE GUTTURAL THRILL OF THE ENGINE, THE VIBRANT FEELING OF THE WHEEL, THE CHATTER OF THE BRAKE PEDAL, ALL A CONSTANT STREAM OF INFORMATION TO EVERY PART OF THE BODY.

A. While other hypercars look alien, the 007 looks organic.


GRAN
TROFEO
MICHELIN
GREEN

help turn the car. But jumping the 007 over a tall curb would not end well. This is evident in the high-speed esses, a series of corners from Turns 2 through 9, where a dose of curbing induces just enough rotation but an overdose would surely send the car pirouetting. It's all about balance. The rear end can also feel nervous, particularly in bumpier high-speed corners. The few times I'm brave enough to take the fast kink at Turn 10 flat, I feel like the car is floating. Briscoe acknowledges there's room for development.

"I think we can make the car handle better in high-speed corners," he says. "We can try to lock the rear down a bit more. We've typically had a bit more of an understeering car in slow corners and then an oversteering one in high-speed corners. If we could connect those two, I think we could get a bit more cornering performance."

The brakes are wild, with initial bite comparable to driving straight into a brick wall. I thought I was pushing a few braking zones only to be almost stopped before the corner even reveals itself. That encouraged trust and, therefore, more aggressive runs into COTA's fastest turns.

After a few laps, the car's narrow field of vision, quick steering, acceleration, sheer grip, and braking force feel natural. The brain is a magical thing, able to adjust to something alien in minutes. But mine couldn't acclimate to the car's aero. I knew trusting downforce would result in a huge leap in speed through the esses, shaving seconds off my lap. But knowing that and acting on it are two different things. Pro drivers have an innate understanding of how a platform like this will behave when it's time to lean on the wings. Amateurs like me might know that downforce exists at higher speeds but have created a mental barrier that says "This is the limit," even if the car is more capable.

That's because aero is mysterious. You can intuit mechanical grip on your way to the grocery store, whereas downforce is produced and impacted by what you can't see, like the wind. It was helpful when there was a headwind, but a tailwind would force the car wide, extend braking distances, and even reduce grip midcorner. On the back straight, gusty crosswinds make the 007 feel like an offshore powerboat fighting through chop. The wind is an asset at one place on the track: the Turn 16 complex. A fast quad-apex right-hander with plenty of runoff and a strong headwind makes it a safe place to experiment.

Each lap, I venture a little quicker through 16, first in third gear, then near the top of third, then finally in fourth. Faster speeds make the car more stable and trustworthy and far less fitful. The deeper I got into the aero, the better the 007 was to drive, going from edgy to flowing and beautiful, a single steering input guiding it through the entire turn. In those moments, pulling sustained g's, I understand how one can drive this car for hours at Le Mans. It didn't beat me up. It was not scary. It was even predictable. I decide it's time to pit, but I dream about another session, about really attacking the esses and fully trusting the aero, taking that risk.

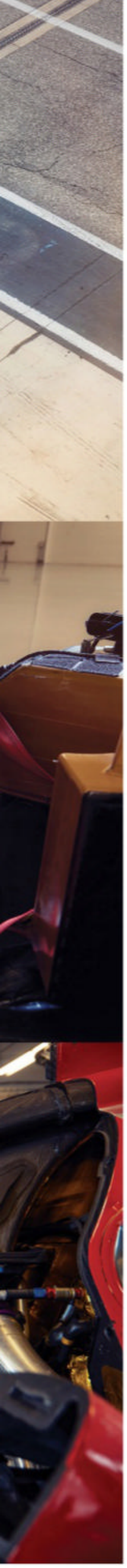
I park the car and can't really think or put together a cogent sentence. I barely remember clambering out. Briscoe offers to show me data, and the team asks if I want another session. I decline both. I've already spent more time in a current Le Mans Hypercar than anyone who isn't a pro driver. Plus, nothing went wrong. I'm fortunate even to be in the same zip code as a 007, so I decide not to push my luck.

"Our car is a modern Lola T70," Jim Glickenhaus tells me a few days later, once I arrive back on earth. The T70, of course, is one of the old-school icons of prototype racing: all swoops and horsepower, with little in the way of tech. The 007 doesn't have the ornery hybrid components that have been prone to failure. It doesn't need to compensate for a powered front axle's added weight and complexity. It's reliable and easy to fix. It isn't a science project. It's pure race car.

Le Mans has a long history of underdogs doing improbable things. For every Porsche or Audi win, there are dozens of competitors like Glickenhaus that create their own fairy tale.

"To be at Le Mans and to see two cars go by that have your name on them, it's very emotional," Jim says, reflecting on his entries at la Sarthe in 2021. The podium finish was something else. "It was a win to finish third. Anyone who thinks that it's a joke that we could win the 24 Hours of Le Mans is wrong. It's possible." Competitors are only becoming more complex, so there's something appealing about a back-to-basics car that will be fast for 24 hours straight with little risk of experimental components failing. It's a strategy that can win.

On my cool-down lap, I thought about the effort. I imagined driving the 007 at la Sarthe and how it would handle the Porsche Curves and Indianapolis, how it would transition into the chicanes on the Mulsanne, and how it would feel crossing under the Dunlop Bridge on that first lap with hundreds of thousands of people watching. I imagined how it would feel to stand on the podium and have a nation cheer for you. Building a car for Le Mans's top class is an outrageous commitment of resources, especially now. That a scrappy, determined group based in Connecticut can build a car as gorgeous as this and finish the world's greatest endurance race on the podium shows racing isn't just unlimited funds and impossible tech. The 007 proves that dreamers still have a place at Le Mans.



A B
C D
E F

A. The author gets tips from Briscoe on how not to stall.
B. Aero details become apparent from the top down.
C. This photo was taken from the back of a Toyota Sienna, so this is probably the closest a Le Mans prototype will ever come to a minivan.
D. As cramped as the cockpit looks in photos, it's even worse in person.
E. No Le Mans car is complete without the Bibendum.
F. The 3.5-liter V-8 sounds like fury and revs like it too.

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