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JUNE 2020

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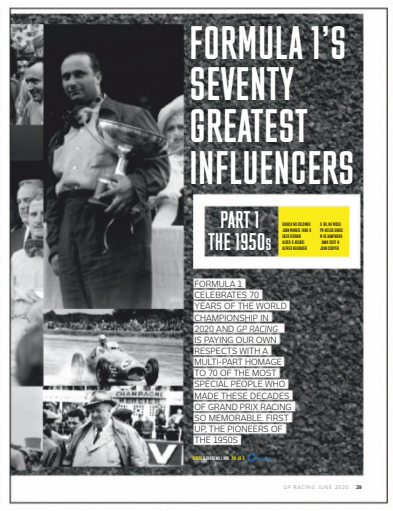
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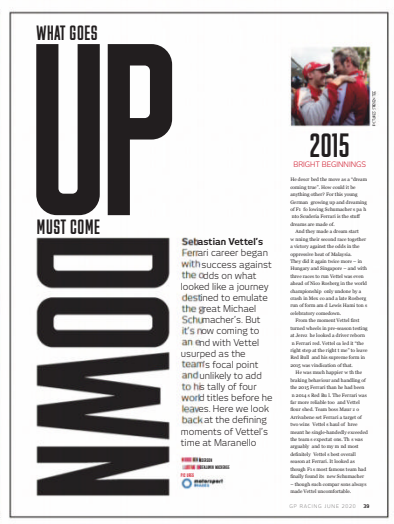




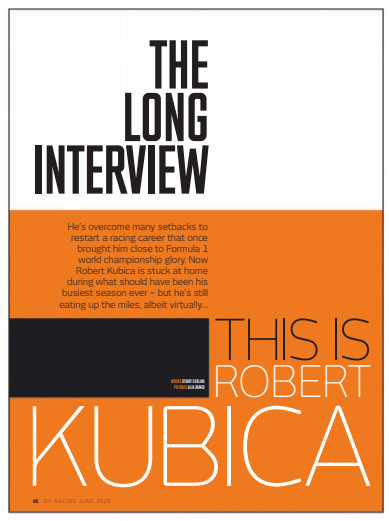



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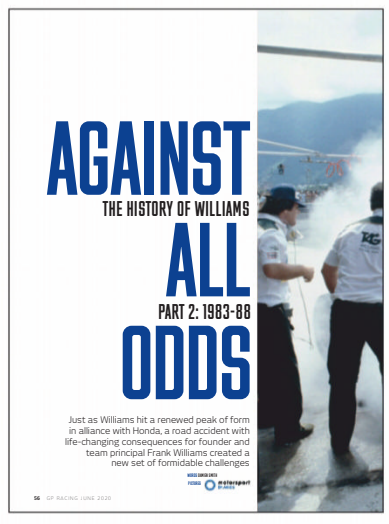

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# IGNITION

JUNE 2020




Ben Anderson

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## Contributors



**RICHARD WILLIAMS**

The author of several excellent F1 books, Richard has penned our seven-parter on the 70 most influential people in 70 years of F1 (p28)



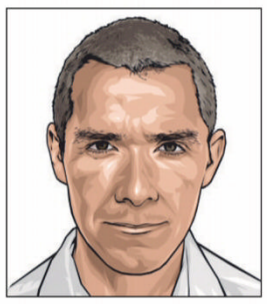
**BEN EDWARDS**

Soichiro Honda's drive and desire to reach the top, and the link to Honda's ambitions today, are analysed by Ben on page 20



**MARK GALLAGHER**

John Malone, the relatively unknown chairman of Liberty Media, comes under Mark's spotlight this month (page 25)



**STUART CODLING**

Robert Kubica's return to Alfa, née Sauber (p48) and the McLaren M14A (p66) have been the main focus of Stuart's efforts for this issue

# Vettel kicks off 2021 driver shuffle

**F1 cars haven't turned** wheels since February, thanks to coronavirus menacing the globe, but while some drivers have been getting twitchy feet in lockdown, others have sharpened pencils and drawn fresh life into F1 off track, giving fans something new and exciting to discuss while F1's on pause.

I'm talking of course about the recent driver merry-go-round triggered by Sebastian Vettel's looming exit from Ferrari. In last month's *GP Racing* we carried an interview with Vettel in which he declared his desire to renew terms with the Scuderia, but tellingly he stressed the need to feel "comfortable" with the deal and suggested he expected at least a three-year contract, in line with his previous two. Now both parties have decided to split, we can safely assume Ferrari's final offer didn't meet Vettel's expectations...

We can only speculate over the precise details: one year with an option on Ferrari's side? Lower salary but with results bonuses offered? You can see why a four-time champion might balk, but then Vettel's status is diminished by Charles Leclerc, and Ferrari's salary pot by Leclerc's own new contract – plus the economic implications of coronavirus.

In replacing Vettel with McLaren's Carlos Sainz, on a two-year deal, Ferrari gets a driver who pushed Max Verstappen hard during their time at Toro Rosso, and someone who evolved into the midfield's premier performer in his first season at McLaren. Sainz is young, hungry and won't come with the same recent baggage or hefty price tag as Vettel.

Team boss Mattia Binotto's admission that Ferrari is on a "new cycle" and a "long journey" to get back where it wants to be, underscores a feeling the team is recalibrating its competitive horizons and realising it needs to renew and rebuild for F1's lower-cost, post-COVID-19 future. This is also probably a big reason why Daniel Ricciardo was never a major factor in Ferrari's thinking, despite his credentials and previous links to the Scuderia rumour mill. The Australian is known to command a huge salary at Renault, a team he will leave at the end of 2020 to take up Sainz's vacated seat.

It's doubtful Ricciardo managed to secure such lucrative terms at McLaren either, given that team was recently refused a loan by the UK government and is considering re-mortgaging the house and leveraging its collection of classic cars to keep things ticking over. But, monetary considerations aside, this looks a shrewd move for Dan. McLaren, not Renault, looks the team most likely to break up F1's 'big three'. A forthcoming return to Mercedes engines only strengthens that impression.

Will Seb move to Mercedes or walk away entirely? Vettel versus Fernando Alonso for the vacant seat at Renault (if it sticks around)? Something else to discuss while we anticipate F1's long-awaited return to action.


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F1 PARADE

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## Sutil kerbs his enthusiasm

The final chicane at Montréal is a very challenging place, especially with the 'Wall of Champions' waiting at the exit. In 2005 they raised the kerbs to dissuade drivers from short-cutting it. You can see here why this modification didn't last long...

There was a hole in the fence to give drivers an exit route if they crashed. You could also shoot through it, across the corner. The chicane is at the end of a straight and leads on to another one, so drivers always have to push the limits here and sometimes they get it wrong. The Spyker was an old design and a bit of a handful to drive, as Adrian Sutil is demonstrating.



**Photographer**
Ercole Columbo
**Where** Montréal, Canada
**When** 1.22 pm, Friday
8 June 2007

**Details** Nikon D2Xs, 300mm lens, 1/1000th @ F5.6


Capri-Sun
MEDION
KEMPPI
20
SUPERFUND
Exact
KAVTEC


TEAM PIRIT
RENAULT
HANJIN
MICHELIN
MUTUA
MADRILEÑA
vodafone
V-Power

F1 PARADE
motorsport IMAGES

## Celebrating like you mean it

I was shooting for Renault when Fernando started there and once remarked to him that drivers don't celebrate victories properly any more. He promised he'd do that and he was as good as his word – although maybe it got a bit out of hand.

For this weekend I'd got access to the roof of the control tower, which gave a great angle for the post-race activities but also enabled you to shoot the whole race – there's a nice start shot with the city in the background you can only do from there.

So that's where I was when Fernando signed off victory with this flamboyant flourish.



**Photographer**
Steven Tee
**Where** Montréal, Canada
**When** 3.45pm, Sunday 25 June 2006

**Details** Canon EOS-1N, 70-200mm lens, 1/500th @ F6.3 Fuji Velvia film


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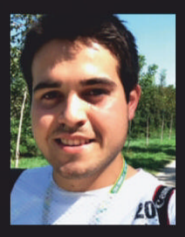
F1 PARADE
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# A match lost on penalties

As with my shot of the two Mercedes team-mates colliding in the 2016 Spanish Grand Prix (featured in last month's Parade), this was another case of being lucky to be in the right place at the right time.

People don't usually come here – the exit of the first chicane – for the race because it's out in the woods and difficult to reach, and there's only one small hole in the fence to shoot through.

We had plenty of coverage around the track so I was here for the pivotal moment when Sebastian Vettel went off and then cut Lewis Hamilton off as he rejoined, drawing a race-losing penalty.



**Photographer**
Zak Mauger
**Where** Montréal, Canada
**When** 3.13pm, Sunday 9 June 2019

**Details** Canon EOS-1DXMkII, 600mm lens, 1/2000th @ F5.6

F1 PARADE

motorsport IMAGES

## Snapshot of a bygone age

This shot predates even my time in Formula 1. I think it's by John Dunbar, whose son Glenn followed him into F1 and has worked with me for many years. It's a snapshot of a bygone age: refuelling had just been reintroduced and, as you can see, pitlanes were less exclusive and more chaotic han they are now.

When this picture was taken the pit was on the back straight, up towards the hairpin, and there were no garages – just that Indycar-style wall the mechanics had to hop over. That's Alain Prost in the Renault. He should probably have won that year but the car let him down too often.



**Principal photographer**
Steven Tee
**Where** Montréal, Canada
**When** 2.25pm, Sunday
12 June 1983

**Details** Canon F-1, 70-200mm lens, 1/500th @ F6.3
Fuji Velvia film


PLAYER'S NAVY CUT
FACOM
MICHELIN
elf RENAULT
LONGINES
FERODO


MILD SEVEN
AKAI
MILD SEVEN
AKAI
6
MAGNETI MARELLI
Agip
MILD SEVEN
PEUGEOT
CANAL+
TOTAL
AGFA
POTENZA
CANAL+
GAULOISES
LVS
BRIDGESTONE

F1 PARADE
motorsport IMAGES

## A Trulli lucky escape

Although the layout of the first corner in Canada has been changed several times over the years to improve safety, it's still an incident-magnet – especially at the start of the race – because overtaking is so tricky here. I'd always ensure at least one of my team was stationed here to capture whatever happened.

Here Jarno Trulli is the collateral damage as Alex Wurz (who started the shunt by trying to pass Jean Alesi's Sauber) rolls over the top of him.

It actually unfolded more slowly than you might imagine, since Wurz's car went quite high, but it landed pretty close to the photographers' tower where we were all standing waiting for such an incident...



**Photographer**
Mark Sutton
**Where** Montréal, Canada
**When** 1.05pm, Sunday
7 June 1998

**Details** Nikon F5, 70-200mm lens, 1/1000th @ F8

F1 INSIDER

PICTURES motorsport IMAGES

# 01 | 2021 SEAT SWAPS SORTED BEFORE 2020 STARTS

## 01 VETTEL'S OPTIONS DIMINISHING

01 **Although 2021 will now be a season** of continuity on the technical front after the introduction of new rules was deferred, that stability won't extend to the occupants of the cars. Sebastian Vettel's failure to secure a contract extension with Ferrari has triggered a host of unexpected seat swaps and left the four-time champion in limbo.

Vettel is understood to have been seeking a multi-year contract, given his status as one of Formula 1's top-ranked drivers. But that status has diminished of late, not least within Ferrari, where he has been outperformed by newcomer Charles Leclerc, as detailed in the cover feature of last month's *GP Racing*. 2020 will be Vettel's sixth and final season with the Scuderia.

In his place, Carlos Sainz will move from McLaren on a two-year contract. Daniel Ricciardo will leave Renault to replace Sainz, a move that sparked serious ructions within the senior management group of his current employer.

Vettel's departure, and the choice of his replacement, suggests that Ferrari views at least the next two seasons as transitional ones. Team principal Mattia Binotto tacitly acknowledged this during a press conference in the aftermath of the Vettel announcement.

"Over the last weeks, the world has changed, not only from an economic point of view, but also from a technical and sporting point of view," he said. "There are challenges ahead, and obstacles which are going to be difficult. We are laying the foundations for our future, and we want to have a specific perspective. We talked with Sebastian, and we found out we didn't share the same goals, short or long-term goals."

A one-year contract extension might have suited Ferrari, giving it an opportunity to monitor the development of talent within its own young-driver programme, but this wouldn't have worked for Vettel. Instead Ferrari turned to Sainz, with whom it had been in dialogue for several months. McLaren CEO Zak Brown and team principal Andreas Seidl gave their blessing to the talks and began to sound out Ricciardo as a potential replacement.

"It was a conversation that Carlos had with Andreas [Seidl] and me over the winter," said Brown. "We actually had to give him permission to go speak with Ferrari, and we gave him that permission, so it was very above board."

The announcement of these swaps dovetailed over the course of several days in mid-May. It seems the only party caught unawares by these behind-the-scenes machinations was Renault and its team principal Cyril Abiteboul.

"In our sport, and particularly within the current



If Sebastian Vettel wants to stay in F1 after the 2020 season his options are limited

02

## BRITISH GP IN PERIL AGAIN

REVISED CALENDAR TAKES SHAPE

03

## ‘NEW DEAL’ AGREED TO SHORE UP IMPERILLED TEAMS




**“WE ARE LAYING THE FOUNDATIONS FOR OUR FUTURE, AND WE WANT TO HAVE A SPECIFIC PERSPECTIVE. WE TALKED WITH SEBASTIAN, AND WE FOUND OUT WE DIDN’T SHARE THE SAME GOALS, SHORT OR LONG-TERM GOALS”**

MATTIA BINOTTO

extraordinary situation, reciprocated confidence, unity and commitment are, more than ever, critical values for a works team,” harrumphed Abiteboul in a statement that didn’t even mention Ricciardo by name. In a interview for the Motorsport Network’s #ThinkingForward series, Abiteboul outlined the reasons for his angst.

“First it’s important to remember that we have one [more] year, one season to do together, and we expect more out of that season than from last season,” said Abiteboul. “I’m a bit disappointed because I don’t think that you can build anything without stability. That goes for drivers, but that’s true for the rest of the organisation.

“We had a lot of changes last year: 70% of our staff have seen a change of management or structure to their department – a new technical director, new head of aero, new engineering director. I would have liked to see the result of that before going into the action of a driver change and driver discussion.

“And then I’m a bit surprised about the activism of two particular F1 teams [Ferrari and McLaren], who have pushed Daniel to sort of rush the decision. We decided not to bend over this timing and to stick to our plan. Our plan and our priority is to make a better car.”

Abiteboul also confirmed Renault will not make any decisions about its future driver line-up until after the 2020 season has started. Thus a vacancy exists – as it theoretically does at Mercedes, where Lewis Hamilton and Valtteri Bottas are out of contract at the end of the season. But can Vettel wait that long, assuming he wishes to stay in F1? The way events are panning out, he may just have to.

## BRITISH GP WAITS ON UK GOVERNMENT

02

**As this issue of** *GP Racing* went to press, Formula 1 remained committed to plans to restart the 2020 season with a 5 July date at the Red Bull Ring in Austria, followed by another race there on 12 July. F1 had also concluded a deal to stage two further grands prix at Silverstone, on 26 July and 2 August, but the UK government’s imposition of a mandatory 14-day quarantine period for international arrivals has threatened to scupper this arrangement.

The timing of the Silverstone races now depends on whether F1 personnel can join the list of exemptions from the quarantine regulations, which come into force on 8 June. Initially only people deemed “essential” to the economy and the fight against COVID-19, such as truck drivers and medical personnel, were on that list.

While the UK government has expressed a desire for various sports to restart, personnel connected with ▶

PICTURE: MARK SUTTON

international sporting competitions were left off the exemption list. It's understood that one of the major motivations for not widening the number of exemptions was that it would merely fuel lobbying from other industries seeking to join the list.

Although any grands prix held for the foreseeable future will take place behind closed doors, without spectators, they require a certain number of travelling operational personnel. That number would also extend to a limited number of media, such as photographers and broadcasters – although the Dutch broadcaster Ziggo Sport suggested it will not send anyone at all, owing to the logistics of observing a 14-day quarantine period.

A report in *The Times* newspaper in late May claimed the British Prime Minister, Boris Johnson, was prepared to intervene personally, and that the matter was discussed in a cabinet meeting. Motor racing and F1 is seen to be important to the UK economy, and all the teams bar Ferrari, AlphaTauri and Alfa Romeo are either based in the UK or have a significant operational presence within its borders. An exemption would not only ease the passage of continental teams and support-race competitors into the country, it would also make it easier for UK-based teams to come and go from other races.

The fluid nature of the COVID-19 pandemic means all plans remain in flux. Should the exemption not be granted, or not be forthcoming soon enough to allow Silverstone sufficient lead time to prepare, Hockenheim and the Hungaroring are in the frame to slot in to the 26 July/2 August dates. Silverstone could then host races later in August, although Spa-Francorchamps says it has received government permission to hold the Belgian GP behind closed doors on its original date of 30 August.

"We've got our original dates that we've been holding and talking around in mid-to-late July, but actually we've got a degree of flexibility through August as well," said Silverstone managing director Stuart Pringle. "I think F1 needs that exemption, and needs to understand where it is, because they've got to plan. It's a huge logistical operation, they've got to knit together a series of dates and get a freight plan that works, and got to know what the impact on the personnel is. That requires some clarity.



**Without Formula 1 receiving a government exemption to the 14-day quarantine period, it seems unlikely that Silverstone will host a British GP this season**

"There is cause for optimism, that if we were to go further to the right in the calendar then it would make things easier. But from a planning point of view, they need to know sooner rather than later that the teams can come back and forth, seven tenths of the teams can come back and forth to their base between a couple of races.

"For Silverstone, if we move into August, that might give a little more certainty, but actually, I think it's probably essential that there's clarity on the quarantine situation in advance of that."

## TEAMS APPROVE 'NEW DEAL' PROPOSALS

03

**The frightening extent** to which the COVID-19 pandemic is affecting Formula 1's competitors was laid bare late last month when the teams gave their approval to a sweeping set of cost-saving rules changes. After weeks of discussions between the teams, F1 and the FIA regarding


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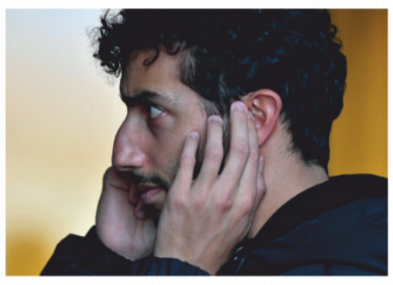


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ON SALE **JUL 2**

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budget caps and other means of limiting expenditure, the 'New Deal' proposals were agreed via an e-vote.

Even Ferrari, which had pushed back against the idea of reducing the budget cap from the planned figure of $175million to below $145million, shelved its reservations. The newly agreed figure is $145million for 2021, reducing to $140million in 2022 and $135million thereafter.

Other headline features of the new package include an aerodynamic development handicap system in which the teams which lag most on aero performance will be granted more windtunnel time and Computational Fluid Dynamics processing. There will also be greater scope for the use of open-source parts in which teams collaborate on design and production of components that do not confer a performance advantage.

The outbreak of concord comes against a background of financial turbulence in the car industry set in motion by the pandemic. The majority of the teams have connections with automotive manufacturers which are known to be suffering. Renault's commitment to F1 is regarded as the most tenuous, given the scrutiny the team faces from above, and the parent company has recently been forced to scrap its planned merger with longtime ally Nissan. It is about to embark on a cost-cutting plan which, according to representatives of the French trade union CGT, will entail job cuts, plant closures and the elimination of several models, including the sporting Alpine sub-brand.

Renault F1 team principal Cyril Abiteboul explained that the 'New Deal' could improve the business case for remaining in F1. "It's a major crisis," he said, "so it's difficult to assume now what will be the effect, but all the things that are happening: better money distribution from prize fund, lower budget cap – much lower than it was and we've been pushing for years for this type of figure – will probably be very good for us."

McLaren, though majority-owned by the Bahraini sovereign wealth fund, has been refused an emergency loan of £150million from the UK Government and has been forced to consider pledging both its factory and its legacy collection of cars as collateral to secure finance. It has also announced up to 1200 staff will be made redundant, of which 70 are understood to be from the Racing division.

F1 is believed to account for 12% of the Group's revenues, but the pandemic has had a devastating impact on its Automotive division sales. Attempts to raise finances through a bond issue hit a snag because certain assets – including the car collection – are also claimed to have been put up as security in a previous bond issue in 2017.

Racing Point will rebrand as Aston Martin next year, thanks to the shared majority ownership of Lawrence Stroll and other investors, but Stroll has moved once more to protect the company's battered value. Last month share prices hit 35p, down from a float price of £19 in 2018. Chief executive Andy Palmer was removed and Tobias Moers, currently boss of Mercedes' AMG division, will replace him.

**"THE OUTBREAK OF CONCORD COMES AGAINST A BACKGROUND OF FINANCIAL TURBULENCE IN THE CAR INDUSTRY"**



**Daniel Ricciardo has chosen to leave Renault at the end of 2020, and the pandemic has raised more questions over the team's long-term commitment to F1**



# F1 MASTERMIND

Your chosen specialist subject: the world's greatest motorsport

Q1 Which was Stoffel Vandoorne's last points-scoring race in Formula 1?

Q2 Which three races did Mark Webber win twice during his F1 career?

Q3 In 2021 Carlos Sainz will be the third Spaniard to drive for Ferrari in F1. Who are the other two?

Q4 How many times has Lewis Hamilton been classified outside the top ten in a race in his 250 starts: nine, 14, or 21?

Q5 Which two engine manufacturers have only won a single world championship race?

Q6 How many times was the Luxembourg Grand Prix run at the Nürburgring: two, three or four?

Q7 True or false: every time Max Verstappen has started on the front row of an F1 race he has finished the race either first or second?

Q8 Which manufacturer won more world championship F1 races: Cooper or BRM?

Q9 In which season did Kevin Magnusssen record his best finish of ninth in the world championship?

Q10 In which race did Toleman score its first ever world championship points?



PICTURES: MARK SUTTON; ZAK MAUGER; MOTORSPORT IMAGES
*CONTENTS MAY BE SUBJECT TO CHANGE

**1** Mexico, 2018 **2** Brazil, Monaco and Britain **3** Fernando Alonso and Alfonso de Portago **4** Nine **5** Porsche and Weslake **6** Two **7** False (Belgium 2016 and Singapore 2017) **8** BRM (17 to 16) **9** 2018 **10** 1983 Dutch GP



# THE F1 ANALYST

BEN EDWARDS

@benedwardstv

PICTURES motorsport IMAGES

## HONDA: A WELL-TRODDEN ROAD TO SUCCESS

**Inspirational people abound** in motorsport. From top-level drivers who astonish us with their skill, control and courage, to people behind the scenes who create the facilities and technology for it all to be realised on track. That human element of determination and commitment in the face of sky-high challenges is always impressive.

The coronavirus lockdown gave me a chance to revisit the career of a man whose influence is still part of the modern scene, and who overcame national and global traumas to emerge as a figurehead in the world of mechanised transport.

A book on the subject arrived on my doorstep thanks to my neighbour having a clear out, and I was soon immersed. Soichiro Honda was born in 1906 in a period of severe economic recession. He developed an early passion for machinery and at the age of 15 travelled to Tokyo to become an apprentice at a garage owned by a motor racing fan.

Initially he found himself babysitting the boss's child rather than wielding spanners, but an event that had devastating consequences for many people would be a turnaround for him. An earthquake and subsequent firestorm in Tokyo in 1923 killed over 100,000 people. The city was thrown into chaos.

The garage remained in business but on a much smaller scale; thankfully Honda was retained and suddenly immersed in every detail of car repair. He learned fast and comprehensively and was encouraged by his boss to go racing. After building his first car, based around an eight-litre V8 engine, Honda was soon winning. A nasty shunt when heading for another victory in 1936 curtailed his driving aspirations but did nothing to dampen his inner determination to succeed.

Honda reset his ambitions into developing his own business, and identified an opportunity in the world of engine building – specifically piston rings. He dived in but there was a problem. While he was proficient at casting many other components, these flexible yet severely loaded steel loops were temperamental. Production was failing, but instead of quitting Honda went to college.

A metallurgy expert was lecturing nearby so Honda combined being company boss with part-time studies and diligently followed the prospectus. He conquered the challenge, the company pulled through and, by the time World War II occurred, was ideally placed to manufacture all sorts of vital parts. By 1945 he had escaped bombing raids and another earthquake and decided to take a year-long sabbatical to enjoy home-distilled whisky and learn to play the flute. Lockdown, for Honda, would not have been an issue...

Having survived so many dramas, Honda was now in his forties, and despite the tough economic conditions of post-war Japan he was inspired by technology to create appealing products. At the same time, he met Takeo Fujisawa – an entrepreneur who had worked his way from being a salesman to running a manufacturing business. The two of them gelled immediately.

It proved to be the perfect partnership and the power behind the Honda Motor Company. Soichiro Honda focused on R&D and sharing technology with his engineers, while Fujisawa concentrated on sales and corporate management. Profits were important, but for both men a sense of creating an entity that worked in harmony and for the benefit of everyone involved was crucial.

Seniority in the design department did not guarantee the most engaging roles; Soichiro Honda handed over the challenge of building racing engines to some of his youngest employees, a pattern maintained over the years, at times to the detriment of a campaign but always with the hope of generating new ideas and fresh thinking.

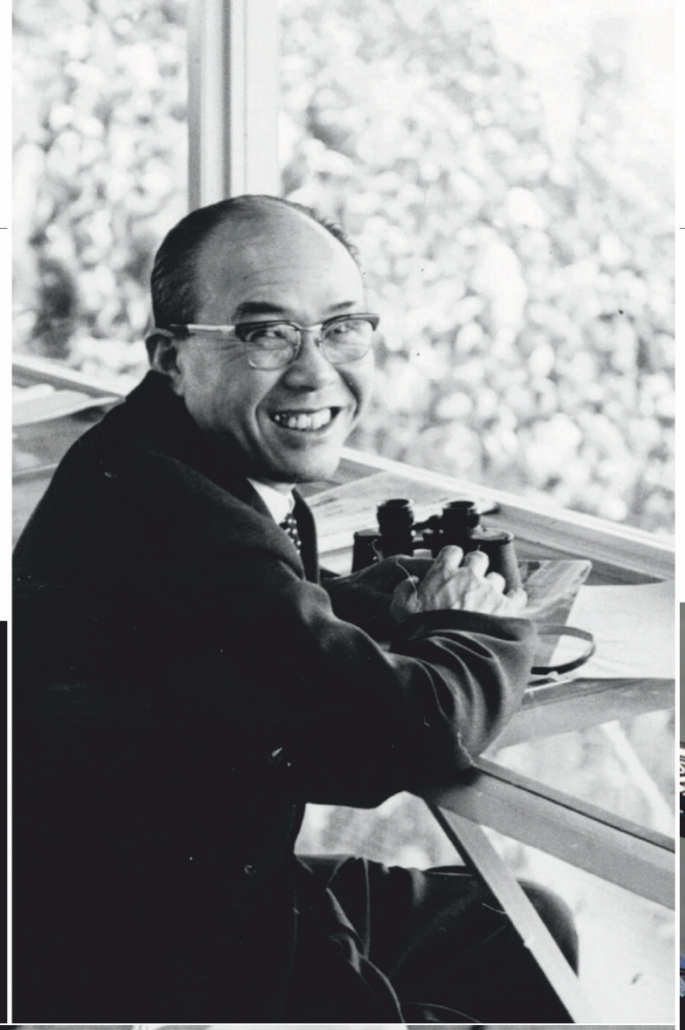
Indeed, one of the periods of least success was when Soichiro insisted on developing air-cooled engines in the late 1960s, both for road and track. It was only after a quiet discussion with Fujisawa that he realised he was denying his experts their own opinions and shelved the idea. The first water-cooled CVCC engine came soon afterwards, a vital aspect in the international growth of the firm.

In 1973 both stepped down from everyday management of the company, but remained crucial advisors, celebrating F1 success in the late 1980s, although both had passed away when Honda withdrew from F1 after 1992.

My journey through Honda's history while experiencing these unusual modern times was reassuring and encouraging, and relevant to current F1. New paths need to be found, and cooperation with the right people sharing complementary ideas and skills could lead to extraordinary achievements.

Honda as an engine supplier in F1 is now in a strong position, partnered with a Red Bull team that pursues success voraciously, thrives on the technical savvy of Adrian Newey and employs the hugely talented Max Verstappen. In the latter races of last year, the power unit reached a level that put it on a par with Mercedes and Ferrari, and reliability improved immensely. Three victories were accomplished, the first in Austria, which could prove a positive omen for the season ahead.

After five years of torment attempting to produce a competitive package, perhaps Honda can reflect the ability of its founder by emerging from desperate times to recreate the era of the rising sun glowing brightly in F1.



Soichiro Honda (right) and with Takeo Fujisawa (below, right), the original partners of the Honda Motor Company. Both men retired in October 1973






The talent of Max Verstappen has been one of the reasons Honda is on an upward curve

Soichiro with Ayrton Senna (below, far right). 32 of Senna's wins were with Honda power. Last season's Austria victory with Red Bull (below), was the first for a Honda engine since 1992







PICTURES: STEVEN TEE; GLENN DUNBAR; MOTORSPORT IMAGES. ILLUSTRATION: BENJAMIN WACHENJE.



# UNDER THE HOOD

PAT SYMONDS

PICTURES motorsport IMAGES

## THE SCIENCE BEHIND F1 SIMULATION

**Simulation is nothing new** in engineering. In ancient times much was done by trial and error, but it wasn't long before we realised calculation could not only reduce the amount of error but also lead to more efficient design. Galileo famously calculated the properties that determined the strength of a cantilever beam in the early 17th century and proved his calculations by means of simple experiments.

This led to many protagonists of what was then called the 'natural sciences' – people such as Isaac Newton – to explore the relationship between mathematics and the physical phenomena they found all around them.

In the field of simulation of vehicle dynamics we had to wait much longer before mathematics became commonplace, although people like Maurice Olley were performing simple calculations in the 1930s. However, it was not until the mid-1950s, when a group of aircraft engineers studying the handling of aircraft when they taxied on runways turned their attention to cars, that the science really opened up.

When a car is cornering it goes through various stages. At the entry and exit of corners the forces on the car are constantly changing, and during these periods the car is in a state known as transient handling. In the middle of the corner, for a road car at least, the forces are relatively constant and this region is known as the steady-state region of vehicle handling. During this phase, it is possible to determine stability and handling characteristics with relatively simple hand calculations. The transient regions, however, need computers to assist in the full analysis of what the car may do.

As computing power has progressed so too has the sophistication of the models used. The chassis itself, being a rigid body, can move in six ways. These are called its degrees of freedom. They are its ability to move forwards and backwards, left and right and up and down relative to the earth, as well as to rotate around each of its axes in what are termed roll, pitch and yaw.

To understand the time history of what the car is doing, we must write an equation of motion for each degree of freedom in which we relate the forces acting on the body to its mass, and hence determine its acceleration. Being a function of time these are differential equations. Things are already looking complicated, perhaps, but this is just the beginning...

Attached to the rigid chassis are many moving parts, such as the suspension, the rotating wheels and the steering system. Each of these (and there are many others) have degrees of freedom and therefore need equations to describe their position. Unfortunately, it doesn't stop there. The forces acting on the car are also what are termed non-linear, meaning they are not a simple proportional function of an input.

It is unnecessary to go any further with the theory. You can see we are dealing with an extremely complex system that requires some pretty high-powered maths to arrive at solutions. This in itself does not really present a problem. Computers are very powerful and the laws of physics are well



**Driver-in-the-loop simulation has become very sophisticated and plays a big part in the work of most F1 teams**

PICTURES: ANDREW FERRARO. ILLUSTRATION: BENJAMIN WACHENJE



Photo-realistic scenery is just one of the tricks used to enhance a driver's spatial sensations

understood, so it is perfectly possible to simulate what a car will do in a corner. A powerful laptop with good software can arrive at pretty accurate answers provided some of the more complex inputs, such as tyre forces, are understood.

This means that just using a personal computer, it is possible to understand how a car will handle and whether it is stable or unstable. Stretching this a bit, it is also possible to describe a circuit's corners and gradients as a mathematical path and see what sort of lap time a car may do around that circuit. In order to do this, certain stability criteria have to be built into the model so that it doesn't just try to drive like a looney.

What is really needed though, is an understanding of how the driver will react to the car and this is when we move from a *simulation* to a *simulator* – or 'driver-in-the-loop simulation' as it is sometimes called. At first sight this may seem just like adding some sort of arcade-game ability to the simulation, but the reality is much more sophisticated than that.

When drivers are trying to drive as fast as possible, they use several senses to help determine when the car is approaching the limit. They need to feel the front tyre forces through the steering and they need to feel how the rear tyres are sliding through the 'seat of the pants' – or, to be more precise, the inner ear. Reproducing this in a simulator is challenging, particularly because in a simulator it is very difficult to recreate the 'g' forces on the driver in the same way they experience in the real car.

**Sim work is a serious business and in 2019 Mercedes hired former McLaren driver Stoffel Vandoorne for the job**



> **"SIMULATOR ENGINEERS USE ALL SORTS OF TRICKS TO TRY AND FOOL THE DRIVER INTO THINKING THE CAR IS BEHAVING LIKE A REAL CAR"**

To overcome this, simulator engineers use all sorts of tricks to try and fool the driver into thinking the car is behaving like a real car when in fact its motion is very limited. Some of the techniques are simple, such as tugging on the seatbelts under braking to give the driver the impression they are being pushed forward by the deceleration. Others are much more subtle, and are based on a model of the driver's inner ear called a vestibular model.

Understanding this and manipulating the inputs to it allows the driver to experience spatial movement sensations that they will relate to those they feel when driving for real. Couple this with photo-realistic scenery projected onto huge screens, aural sensations of the engine and road noise and even the engineer talking to the driver via helmet earpieces, and you really can begin to develop the handling and performance of a vehicle in an entirely virtual domain.

Powerful stuff in an era of limited testing...

GIORGIO PIOLA

# G-5

# THE ART OF RACING

S W I S S M A D E




**CRYSTAL:**

MADE OF SAPPHIRE PREVENTS SCRATCHES AND ANTI-REFLECTIVE COATING TO REDUCE REFLECTION

**WATER RESISTANCE:**

10 ATM ALLOWS FOR LOW-IMPACT WATER SPORTS, SWIMMING AND SNORKELING

**BEZEL:**

MADE OF TITANIUM, ALUMINUM AND FORGED CARBON CONNECTS TO THE WORLD OF MOTORSPORTS WITH ITS BRAKE DISCS INSPIRATION

**CASE:**

FORGED CARBON FOR LIGHT-WEIGHT WEAR AND DURABILITY

**WATCH DIMENSIONS:**

CASE: 48MM
CROWN: 10MM
OPENING: 36.50
BAND: 29 X 22MM

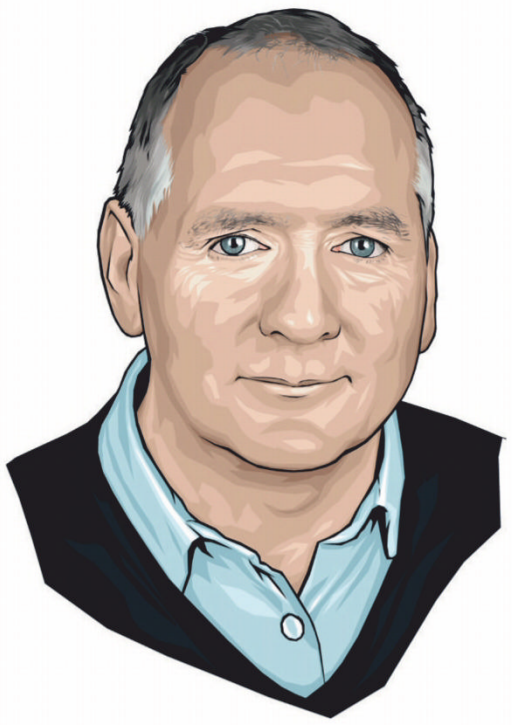
**CALIBRE:**

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GIORGIOPIOLA.COM

F1 PRO

Essential guide to the business of F1



# STRAIGHT TALK

MARK GALLAGHER

@_markgallagher

## LIBERTY'S TOP MAN UNFAZED BY ADVERSITY

**Amid Formula 1's enormous** current crisis it's just as well the man who ultimately calls the shots has always been willing to take on a challenge. When, at the age of 15, John Malone bought a Jaguar XK120 with a seized gearbox, it seemed unlikely the repair he carried out would become a metaphor for his career. Influenced by his engineer father Daniel, teenaged Malone set about stripping the engine and transmission until he discovered a broken gear. Neighbours in Milford, Connecticut, were soon paying him to repair their own cars.

This was an early insight into a man who would make billions building and rebuilding businesses – unafraid of complexity, relishing the opportunity to unlock value others failed to see. All the same, lying under that XK120 back in 1956, it's doubtful that Malone could imagine one day owning Formula 1.

**This is not the first time Malone (right, with Carey and Maffei) has faced a crisis involving his companies**



As Chairman and the largest voting shareholder of Liberty Media, he looks to CEO Greg Maffei and CEO of Formula 1 Chase Carey to plot a way through the COVID-19 pandemic, but a quick look at Malone's rise reveals this is far from being the first time his companies have faced existential crisis.

In 1972, aged 32, Malone was invited to head Denver-based Tele-Communications Incorporated (TCI), a cable television business generating USD$19.2m in revenue but burdened with debt totalling USD$132m. For years he battled tight-fisted bankers who focused on the cost of everything and the value of nothing; value on which Malone kept his sights firmly set.

A Yale graduate with two Masters degrees, Malone used experiences gained while working for consulting firm McKinsey to help spot solutions. It worked. In 1998 he agreed a deal to sell TCI to telephone company AT&T for USD$48bn, a deal of almost unprecedented scale which set the stage for the creation of the integrated telecommunications, media entertainment and web based services we take for granted each time we pick up our smartphones.

Over 20 years later, Malone's businesses are still acquiring, merging and growing wherever opportunities arise. Only recently Liberty Global announced a deal to merge its Virgin Media business with Telefonica's O2 to create one of the UK's largest entertainment and telecoms firms. In so doing Malone's company created a joint venture worth £31.4bn and, with over 42m customers across mobile, fixed line and broadband services, a major rival to BT.

Where Malone's and Liberty's background of big business deals benefits F1 is that the size and scale of the sport's coronavirus challenge lies well within their capabilities. Witness the news that they are paying the teams prize monies this year in full, an undertaking which, although contractual, should never be taken for granted in a world where even very large businesses have pressed the pause button on payments.

The 23 April announcement that Liberty Media had injected $1.5bn of mainly cash into the Formula One Group, in return for shifting $2.8bn of Live Nation assets and $1.3bn in liabilities into Liberty SiriusXM Group, might have seemed like robbing Peter to pay Paul, but it is indicative of the strength of having Formula 1 in the hands of a large and diverse media business.

Complex engineering of a financial nature is going to play an important part in helping Formula 1 and its teams survive the present crisis. In this regard, Malone and his lieutenants are better prepared than most.

PICTURE: STEVEN TEE. ILLUSTRATION: BENJAMIN WACHENJE

## THIS MONTH

# Jacobi Anstruther-Gough-Calthorpe

Founder and CEO, Iris

New Red Bull partner Iris aims to reinvent music with its proprietary 'Active Listening' technology – an algorithm that breathes life into recordings which have been heavily processed and compressed for delivery by streaming services. Queen members Brian May and Roger Taylor are among the investors in the company…

INTERVIEW STUART CODLING

## CV

**2018-present**
Founder and chief executive officer, Iris

**2014-present**
Co-founder and director, Housekeeping Records and Housekeeping London Events

**2012-present**
Founder/owner of live music venues, recording studios, restaurants and night clubs including Tape London, Le Baron London, Salon London, Kitchen Joel, Ilia Restaurant, Nozomi Restaurant.
Associate director, Forbes Private Capital Group

***GP Racing*: You've got quite an unusual background for a tech company CEO. Can you tell us a little more about your journey to founding Iris?**

**Jacob Anstruther-Gough-Calthorpe:** I wouldn't call myself a tech investor. I set up my first business when I was 17 years old and I've set up a number of others in a plethora of different areas over the past 15-18 years. I've owned restaurants and nightclubs, a cost-cutting firm for private investment banks, insurance, advertising, a PR and marketing business. But for the past 10-12 years I've been in and around the music industry in various capacities: recording studios, live music spaces, record labels, an events business – and I produce music myself as more of a hobby. That was sort of the journey into Iris – I became fascinated by audio frequency, how it affects our minds and bodies and how it can help us with performance and mental wellness, and many other areas. I was lucky enough to meet two very intelligent scientists who'd been studying this area for 30 years. They've created this core product we're taking to market: an algorithm which changes the way we engage with audio.

***GPR*: Can you tell us a little bit more about how it works?**

**JAGC:** Over the past 25-30 years we've seen a decline in the quality of audio through the digital age. It's one of the few areas that has moved backwards rather than forwards. It's the price we pay for 10,000 songs in our pocket and the convenience of carrying around complex audio files in a very reduced format. The rest of the music industry is trying to solve this problem with new formats, remastering back catalogues, or expensive audio hardware – for instance three-dimensional sound systems that sell for up to £400,000 to the consumer. Unrealistic stuff. And they're trying to solve it by adding additional processing to a format that's flawed in the first place.

We have looked at it differently. The background of the research team behind Iris is more from a neurological perspective – how the brain engages in a live environment. When we listen to music we pick up what's called the real and the imaginary of sound, or the cosine and sine waves. And they're out of phase, so everybody in that room is having a different experience for two reasons: one is they sit in a different phase, therefore the information they're receiving is different. And second their brains are all wired differently so they process the information differently. The experience we have with audio varies dramatically from person to person.

When an artist is in a recording studio those imaginary components are missing and the engineer will try to recreate them with parlour tricks, really, such as echo, reverb, panning. Then it's processed as an MP3 or whatever, the DSP driver in your headphones will do its own thing, and at each level of the process we become more passive in the listening experience. So what Iris does, instead of adding processing on top of that, it looks at the way your brain was reacting in the real live experience and gives you the information as if you were in an infinite phase, as if you were sitting in every seat and not just the one. We simulate the missing information and then cross-pan it through something called binary phasing at a very high level, which engages the brain in the listening experience.

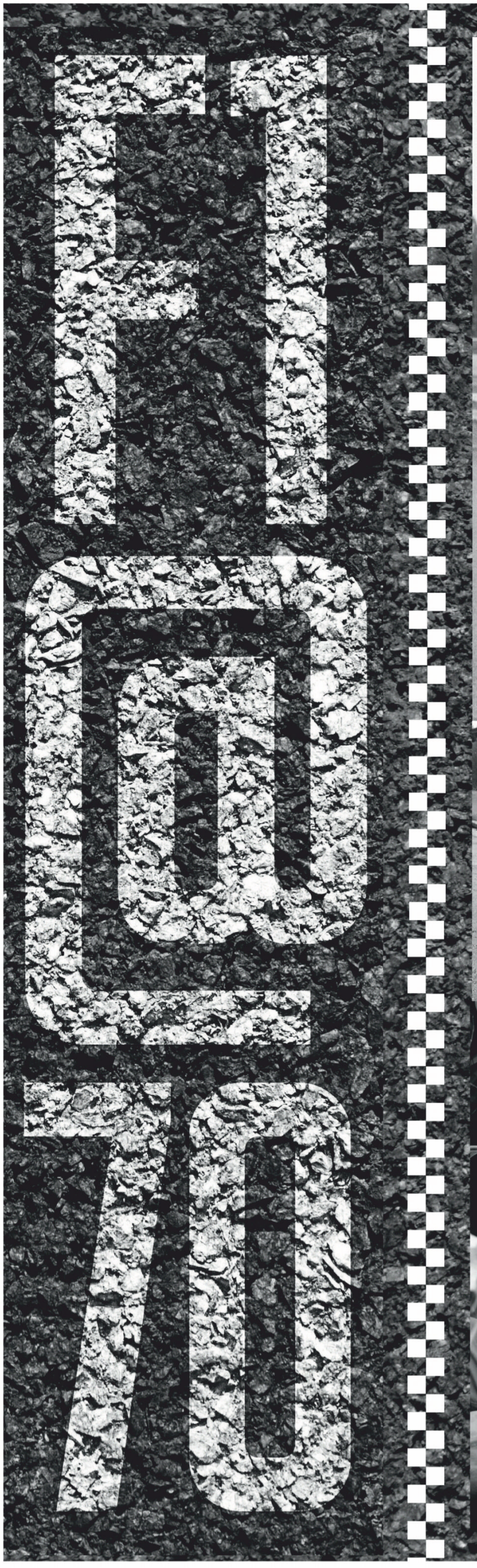
***GPR*: So part musical experience, part mental gymnasium?**

**JAGC:** You get a more immersive experience, but the brain also starts to simulate the missing information, which is interesting. We've been doing some work with leading universities and hospitals around the world, including with Mount Sinai Hospital in New York around stress, anxiety and relaxation. We're seeing a big increase in brain activity when listening through Iris compared with ordinary stereo. We're also doing work with Goldsmith University in London, understanding how it helps things such as information retention, memory, focus, sleep, etc. And with Red Bull we're looking at performance with Max Verstappen and Alex Albon in the simulator.



PICTURES: IRIS



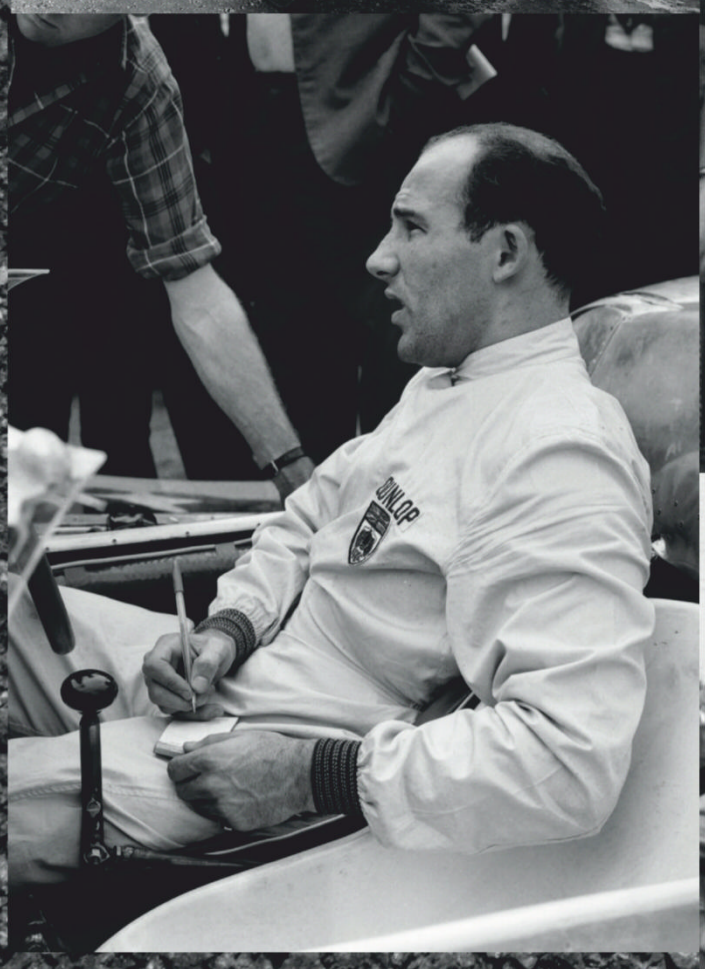

10


GIRI
VELOC


14






DUNLOP










# FORMULA 1'S SEVENTY GREATEST INFLUENCERS

## PART 1 THE 1950s

GIOACHINO COLOMBO
JUAN MANUEL FANGIO
ENZO FERRARI
ALBERTO ASCARI
ALFRED NEUBAUER
STIRLING MOSS
PRINCESS GRACE
MIKE HAWTHORN
FRANK COSTIN
JOHN COOPER

FORMULA 1 CELEBRATES 70 YEARS OF THE WORLD CHAMPIONSHIP IN 2020 AND *GP RACING* IS PAYING OUR OWN RESPECTS WITH A MULTI-PART HOMAGE TO 70 OF THE MOST SPECIAL PEOPLE WHO MADE THESE DECADES OF GRAND PRIX RACING SO MEMORABLE. FIRST UP, THE PIONEERS OF THE 1950s

WORDS RICHARD WILLIAMS PICTURES motorsport IMAGES

# F1'S 70 GREATEST INFLUENCERS: THE 1950s

**When the engine of grand prix racing** was fired up again after the Second World War, the governing body reverted to a formula that it had intended to bring into effect in 1940. Designers were presented with a choice of engine configurations: 1.5 litres supercharged or 4.5 litres unsupercharged. At the time of its conception, the idea was to sabotage the supremacy of the state-sponsored German teams, Mercedes-Benz and Auto Union, whose all-conquering cars had been designed to meet regulations permitting supercharged three-litre engines. But for the one grand prix run under the new formula in 1939, the lucrative Tripoli race, Mercedes had ambushed the Italians, designing and constructing a couple of 1.5-litre cars in double-quick time, their speed in a crushing victory dismaying the Alfa Romeo and Maserati outfits, in particular.

Luckily for the Italians, the German manufacturers were not ready, for obvious reasons, to resume their racing activities in 1950. So, the next-best car in Tripoli, Alfa Romeo's Tipo 158, became the class of the field under the new regulations. Known as the Alfetta, the beautiful 158 had been designed in Modena at a time when the Alfa factory's racing activities were entrusted to Scuderia Ferrari. The designer principally responsible for the car was **Gioachino Colombo**, an Alfa man who moved from the company's Turin headquarters to join the Scuderia. Assisted by Luigi Bazzi, Alberto Massimino and Angelo Nasi, Colombo created the machine that would occupy all four places on the front row of the grid for the very first race of the inaugural world championship: the 1950 British Grand Prix at Silverstone.

Three of the cars completed the race in the top three positions, setting the tone for two years of dominance. In the hands of the three Fs – Giuseppe Farina, Luigi Fagioli and Juan Manuel Fangio – the 158, with its supercharged straight-eight engine, would win every one of that season's six championship rounds contested by F1 cars (the seventh was the Indianapolis 500, a bizarre custom that ended in 1960). Under the team management of Gianbattista Guidotti, a former driver, Colombo supervised the technical side, updating the car for the following season. Now known as the 159, the car would win four of that year's seven races before Alfa Corse withdrew from F1.

The champion at the end of the first season was Giuseppe "Nino" Farina, an experienced Italian whose relaxed, straight-arms stance at the wheel belied his notoriously uncompromising attitude to those who got in his way, particularly the young upstarts of the post-war generation. His successor as champion in 1951 was his Argentinian team-mate **Juan Manuel Fangio**, relatively new to European racing but, at 41, a veteran of the punishing long-distance road races of South America.

For most of the 1950s, and even thereafter, he set the standard. Fangio's driving was cool and unflustered – until seriously challenged, at which point a demon took the wheel. He was also the master of a special skill: the instinct for placing himself in the right team at the right moment. When Alfa withdrew, Fangio joined Maserati for two seasons that were ruined by a serious accident at Monza, caused by fatigue after travelling back from a race in Ireland. Once recovered, he was invited to join Mercedes-Benz for its return to F1 in 1954.

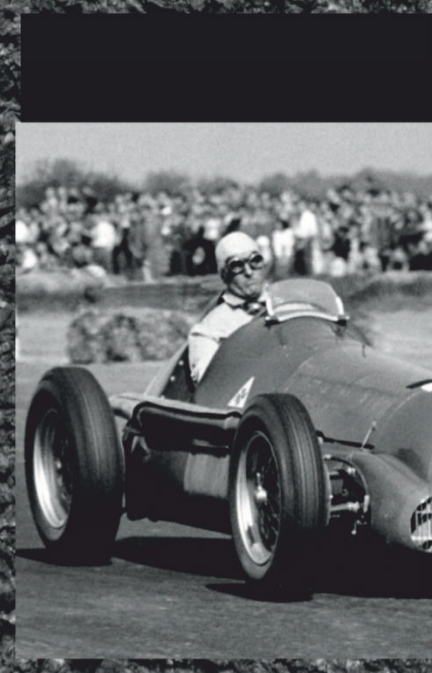
The performance of the W196, designed by the brilliant Rudolf Uhlenhaut, enabled the team to recapture pre-war supremacy, giving Fangio two more titles. His fourth, in 1956, came with Ferrari, in a marriage of convenience not designed to last. A return to the friendlier ambiance at Maserati enabled him to get his hands on a 250F, which was like pairing Paganini with a Stradivarius or handing Jimi Hendrix a Fender Stratocaster: Fangio's win at the Nürburgring, where he chased down the flying Ferraris of Mike Hawthorn and Peter Collins, remains in some minds the greatest comeback drive of all time.

By the end of 1957, however, Maserati had ceased to exist as a works grand prix team. It was **Enzo Ferrari**, Maserati's local rival, who spent the decade establishing an ability to survive crises that would have destroyed other men. By beating the Alfas at Silverstone in 1951, Ferrari's 4.5-litre car had intimated that the era of supercharging was over. Over the next two years, in which grand prix races were run for two-litre Formula 2 cars, his Tipo 500 was almost unbeatable. By 1955, however, his team had hit the skids: the performance of the bulbous Squalo and Supersqualo models was as disastrous as their looks.

As would often happen throughout Ferrari's career, fortune took a hand. You make your own luck, they say, and Ferrari's shrewdness enabled him to profit from the misfortune, the ambition

**JUAN MANUEL FANGIO**
Five-time Formula 1 world champion

**GIOACHINO COLOMBO**
Designer of pacesetting Alfa Romeo 158



**ENZO FERRARI**
Founder,
Scuderia Ferrari

Ferrari's first F1 GP win, at the 1951 British GP, was in a 375 driven by José Froilán González

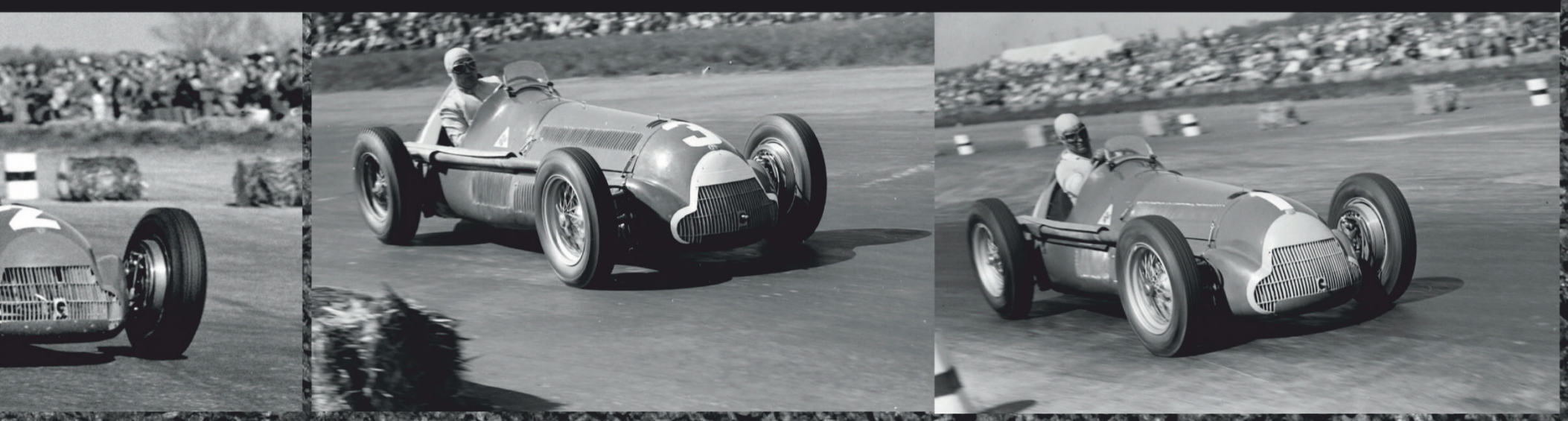


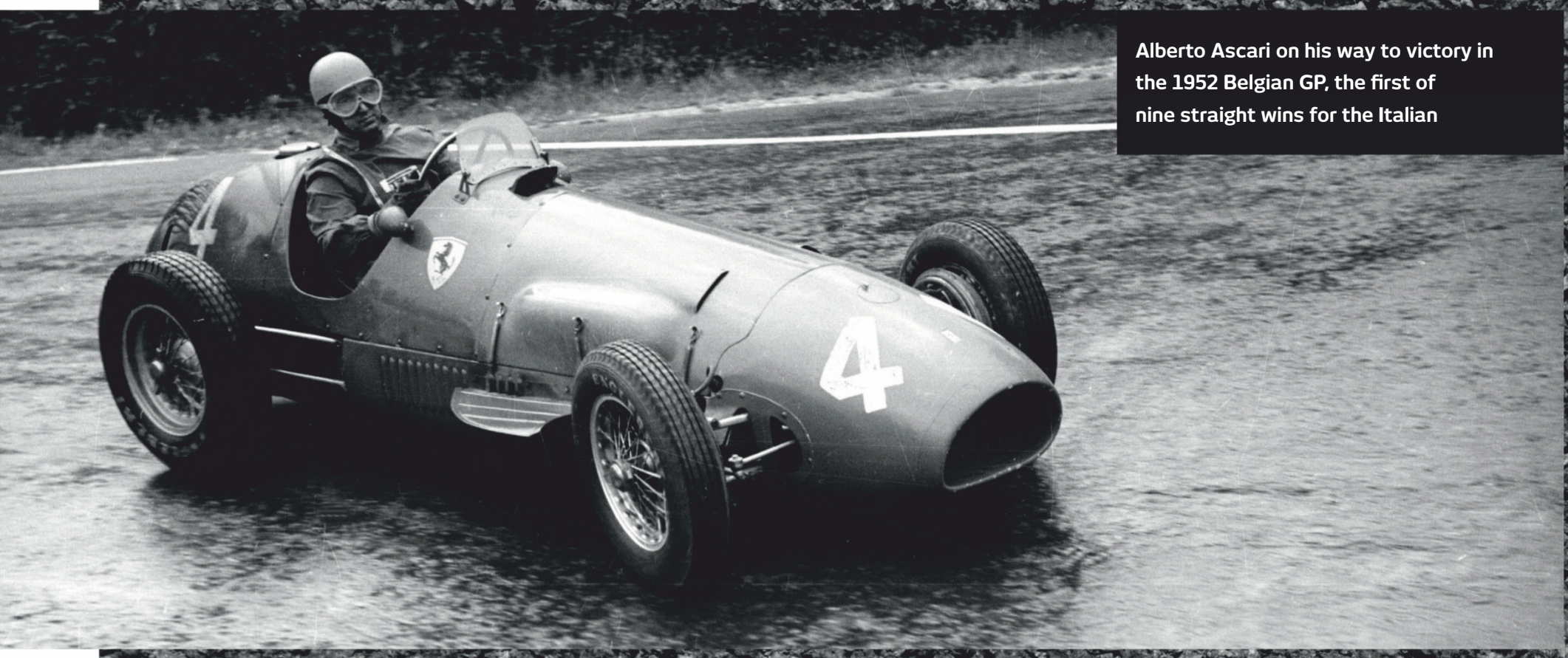
## "FANGIO'S DRIVING WAS COOL AND UNFLUSTERED – UNTIL SERIOUSLY CHALLENGED, AT WHICH POINT A DEMON TOOK THE WHEEL"

Fangio wins the 1957 German GP at the Nürburgring for Maserati. This victory, often cited as the best comeback drive ever, was Fangio's last in F1



Farina, Fagioli and Fangio deliver a one-two-three at 1950 British Grand Prix, all driving Gioachino Colombo-designed Alfa Romeo 158s





Alberto Ascari on his way to victory in the 1952 Belgian GP, the first of nine straight wins for the Italian

"THEREAFTER, DRIVING MOSTLY COOPERS AND LOTUSES, MOSS WAS ACCEPTED AS THE MAESTRO OF HIS GENERATION AS WELL AS EVERY SCHOOLBOY'S HERO"

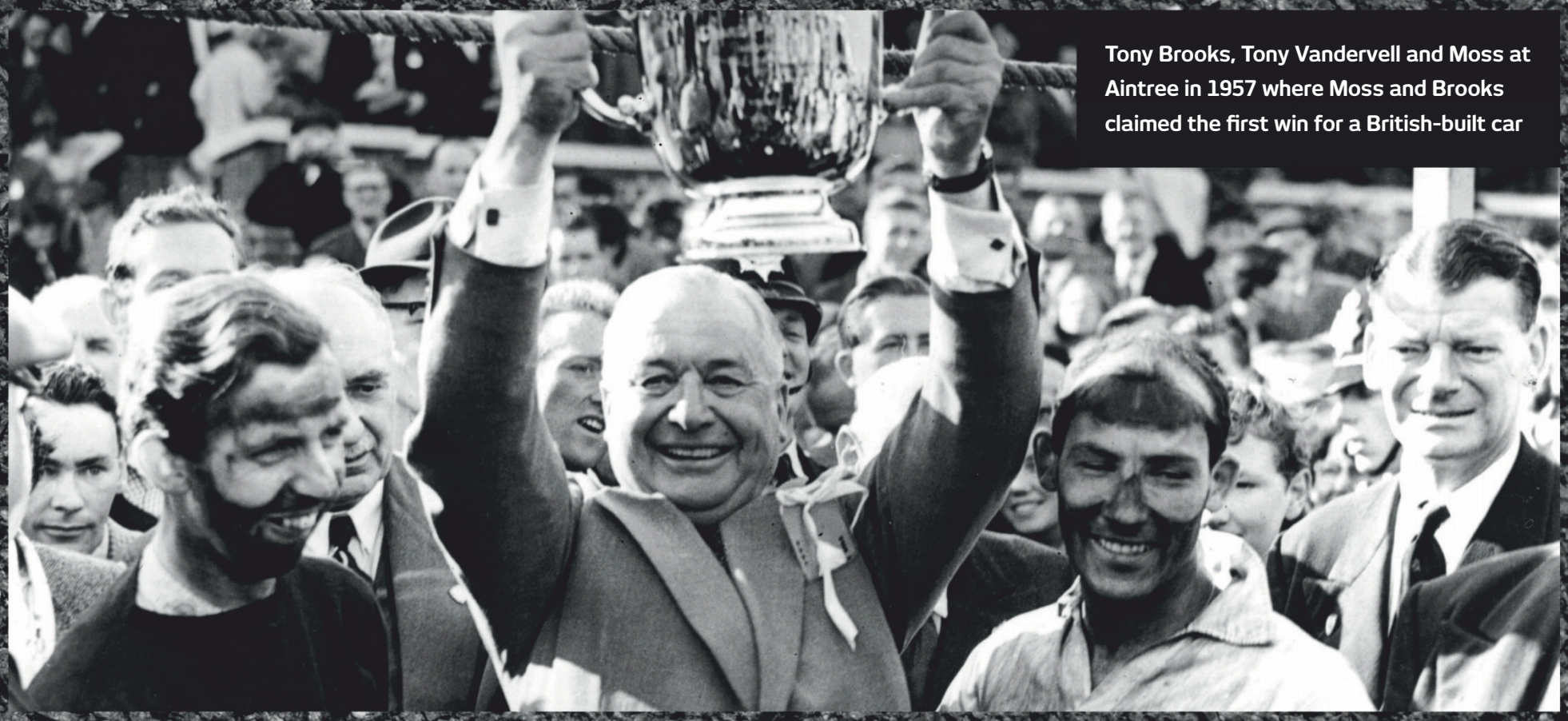



Juan Manuel Fangio passes a Mercedes mechancic and the unmistakable frame of Alfred Neubauer at the 1955 British GP. Neubauer revolutionised the management of teams – and drivers – in F1

**ALBERTO ASCARI**
Italy's only world champion

**STIRLING MOSS**
Best driver never to win the world championship

**ALFRED NEUBAUER**
Charismatic team management guru



Tony Brooks, Tony Vandervell and Moss at Aintree in 1957 where Moss and Brooks claimed the first win for a British-built car

and the generosity of others. Midway through the 1955 season he was presented with a priceless gift: a complete set of very fast V8-engined cars built by Lancia, which was in the process of going bust. Governmental influence assisted their transfer from Turin to Maranello, where they became Lancia-Ferraris: the car that would take Fangio to the 1956 title. Another championship was won in 1958, with Mike Hawthorn.

But Ferrari's triumphs also came steeped in blood, rather disturbingly enhancing the near-mythical aura of the cars carrying the prancing horse badge. Eugenio Castellotti, Alfonso de Portago, Luigi Musso and Peter Collins were all killed in Ferraris in the 1950s. So was **Alberto Ascari**, the first – and so far, extraordinarily enough, the only – Italian world champion, who claimed the crown in 1952 and 1953. Ferrari's four-cylinder, two-litre 500 fitted Ascari as well as Maserati's 250F fitted Fangio. It was Ascari's instrument, and over those two seasons he won nine consecutive grands prix, an unprecedented feat and one that remained unmatched until Nigel Mansell won nine in a single season in 1992.

Ascari was affectionately known in Italy as Ciccio, which means "Tubby". He was the son of a champion of the 1920s: Antonio Ascari, who had met Enzo Ferrari soon after the end of the First World War and was killed at the Montlhéry autodrome outside Paris in 1925, when he was 36 and his son was seven. Antonio's widow could not dissuade Alberto from following the destiny of a true figlio d'arte. Considered by many good judges to be Fangio's equal, Ascari ignored one of his own superstitions by strapping on a friend's helmet to go out in a Ferrari sportscar during a Monza test session in 1955; a few minutes later, on a deserted track, he was dead after an accident for which no definitive explanation was ever found. He was 36, like his father; they are buried together in Milan's Cimiterio Monumentale.

The return of Mercedes in 1954 brought the distinctive figure of **Alfred Neubauer** back to the pitlane. Before the war, Neubauer had virtually invented the profession of team management, both on a technical and a human level. Born in the Austrian Republic in 1891, he joined Austro-Daimler after the First World War, becoming the company's chief tester under its designer, Dr Ferdinand Porsche, who took him to Daimler in 1923. Neubauer did a bit of racing for the Stuttgart firm, but his gifts lay elsewhere. Three years later, installed as the manager of Daimler's Mercedes team, he introduced pit signalling; soon he would be drilling his mechanics in the art of efficient fuel and tyre stops. His mechanics wore brown overalls on practice days, and changed to white for the race. The drivers found that nothing was too much trouble if it helped them win races.

The portly, trilby-hatted, fine-dining, occasionally choleric Neubauer needed all his considerable charisma to deal with the competing egos of Rudi Caracciola, Manfred von Brauchitsch, Hermann Lang and Richard Seaman. By 1954, his authority was unquestioned and others were copying his methods. Fangio was his number one, cruising to two consecutive titles in the various versions of the mighty W196; a year later a young Englishman was added to the roster, just as Dick Seaman had been in 1937.

**Stirling Moss** was already the living embodiment of Britain's rise to post-war prominence in top-level racing. As a teenage prodigy, he quickly captured the public's imagination. His early desire to win grands prix in a British car led to unsuccessful ventures with HWM, ERA, Cooper-Alta and BRM; few questioned his regretful decision first to buy a Maserati 250F – with which he almost won the 1954 Italian GP – and then to move to Mercedes, where he learnt much from Fangio and, at Aintree, became the first home driver to win the British GP.

After another season with the Maserati works team, winning at Monaco and Monza, Moss finally found a British car worthy of his talents: the Vanwall, the product of several years of development at Tony Vandervell's factory in Acton. It was the class of the field in 1957 and brought Moss, a year later, to within a point of the title. Thereafter, driving mostly Coopers and Lotuses, Moss was accepted as the maestro of his generation as well as every schoolboy's hero, with the bittersweet distinction of ending his career as the finest driver never to be crowned world champion.

He did have the pleasure, however, of receiving the trophy



Gentler times as Princess Grace and Prince Rainier award Stirling Moss with the trophy for winning the 1960 Monaco GP



Mike Hawthorn recovered from the death of Peter Collins to become world champion before perishing in a road accident

**PRINCESS GRACE OF MONACO**
The epitome of F1 glamour

**MIKE HAWTHORN**
Britain's first Formula 1 world champion

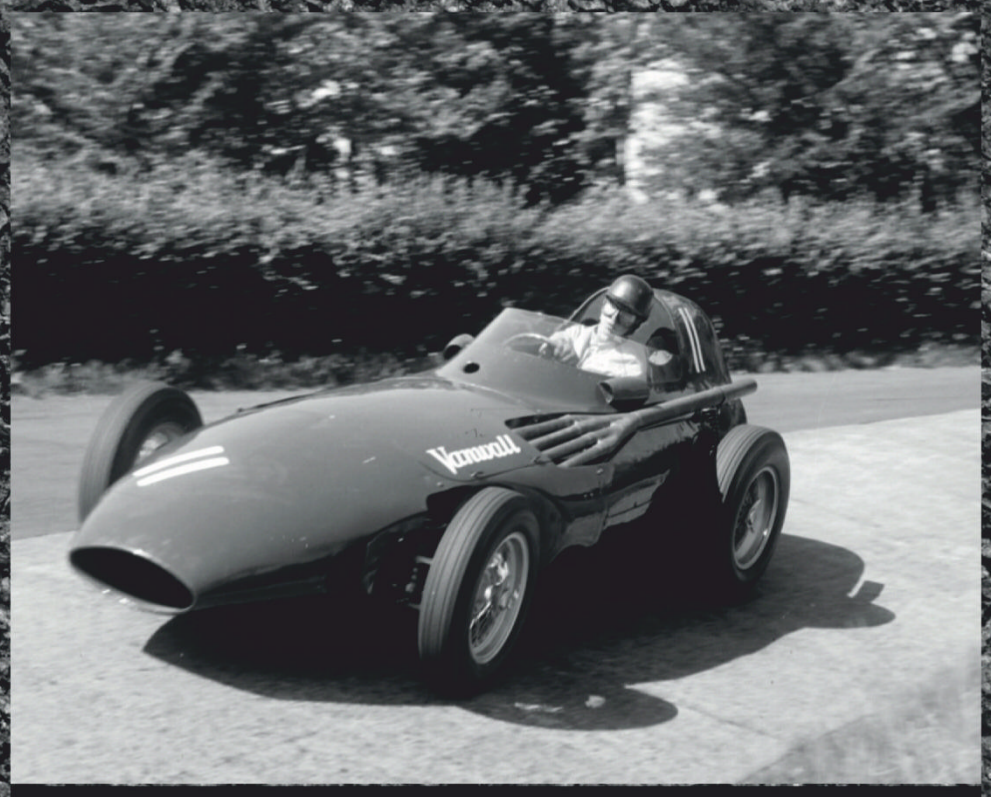
awarded to the winner of the Monaco Grand Prix from the elegant and no doubt fragrant hands of **Princess Grace**. Not, however, at the first time of asking; in 1956 the former Grace Kelly and her new husband, Prince Rainier, were away on their honeymoon. But the star of *High Society* and *Rear Window* was there in 1960 and 1961 when Moss emerged triumphant from the cockpit of Rob Walker's Lotus 18 at the end of 100 hectic laps around the houses.

Monaco had always been a glamorous race. The first winner, in 1929, was a Brit: the mysterious "Williams" – later revealed to be an Anglo-French chauffeur named William Grover, destined to be murdered by the Nazis for his Resistance activities. It was a prettier race in the early years, before elegant belle-epoque houses and hotels were razed to make way for high-rise apartments and the sweep of the straight along the harbour front was interrupted by the addition of the swimming-pool complex. But the violent left-right of Casino Square, the squeeze at Mirabeau and the tamarind trees lining the road after the chicane kept it recognisable, and the arrival of a Hollywood star added enormously to its aura of romance, which it retained despite all the unsightly harbour extensions and land reclamations, and the stench of unearned wealth.

As the influence of commercial sponsors rose, so the unique ambiance of Monaco became more valuable to Formula 1: a reminder of golden-age values and traditions. No wonder it was the only race whose organisers were not charged a fee by Bernie Ecclestone. Almost 40 years after Grace's death, in the mind's eye she and her prince still open the circuit on a springtime Sunday afternoon, her white-gloved hand waving from the back of an open limousine.

The man who so narrowly denied Moss the title in 1958 was **Mike Hawthorn**, who thus became Britain's first world champion. Born in 1929, the son of a garage owner and motorbike racer, Hawthorn made an early impact in an F2 Cooper-Bristol, challenging the F1 Ferraris of Luigi Villoresi and Chico Landi in the unlikely surroundings of a circuit laid out on an old aerodrome at Boreham in Essex in 1952. It won him a place in the Ferrari squad, and in 1953 he outdragged Fangio's Maserati up the finishing straight at Reims to become the first Briton to win a world championship grand prix.

Tall, blond and noted for his habit of racing in a spotted silk bow tie, he drove briefly for Vanwall and endured an unhappy season with BRM before returning to Maranello alongside his great friend Peter Collins. In terms of the human cost it was a devastating period, Hawthorn needing to recover from the blow of Collins's fatal accident at the Nürburgring in 1958 to take the title, despite claiming only a single grand prix victory that season to Moss's four. Collins's death was probably as much in Hawthorn's mind as his



Space age and aerodynamic, the dramatic Vanwall VW5 was a result of Frank Costin's background in aircraft design



John Cooper with father Charles in 1946. The car is the Cooper Mk1 prototype, the genesis of the rear-engined Formula 1 car

**FRANK COSTIN**
Vanwall designer and aerodynamic genius

**JOHN COOPER**
Pathfinder for rear-engined Formula 1 cars

own chronic and debilitating kidney condition when he announced his retirement, despite a lucrative offer from Ferrari to stay on. In January 1959, three months after his final grand prix, he died when his Jaguar Mk 1 saloon left the road on the A3 outside Guildford. Since that year the Hawthorn Memorial Trophy has been awarded to the most successful British or Commonwealth driver in F1.

When Moss moved to Vanwall in 1957, he had the power of veto over his team-mates. Hawthorn was out because he would want equal status, and Moss needed the right to commandeer whichever of the team's cars offered the best performance. To fans, particularly schoolboys, the car looked like a space-age racing car should look: slightly futuristic, thanks to a dramatic body shape conceived by **Frank Costin**, clothing Colin Chapman's chassis and a power unit based, roughly speaking, on four single-cylinder 500cc Norton motorcycle engines welded together and bored out to 2.5 litres.

The pre-war German teams had explored the idea of aerodynamic bodywork, and Mercedes had revived it in the mid-1950s, but Costin brought disciplines learnt during his employment with the De Havilland Aircraft Company – makers of the sleek Comet jet airliner – to the business of designing a car that would penetrate the air with the least possible resistance. He had already worked on the Lotus Mk VIII, the first of Chapman's sports cars with an all-enveloping body, and on its race-winning successors. The Vanwall's tricky handling and awkward gearbox meant it was never the favourite of its drivers, but it looked like a winner, and it was. And after Costin, aerodynamics gradually became the primary science of F1.

As if to ram home the new British supremacy, **John Cooper** demonstrated that all the world's racing car manufacturers had been getting it wrong. When Enzo Ferrari saw Cooper's little rear-engined cars on the grid for a grand prix, he scoffed that "the horse should never push the cart along with its nose". Perhaps he was thinking of the fast but tricky pre-war Auto Unions. But Cooper and his father, Charles, and their designer, Owen "The Beard" Maddock, had worked away in their little garage in Surbiton to produce machines that dominated first Formula 3, then Formula 2, and finally Formula 1. Developed for racing on the smooth, flat asphalt tracks of disused wartime aerodromes, Coopers were lighter and nimbler than their front-engined rivals, and very driver-friendly. Moss's shock win in Buenos Aires in 1958 with what one newspaper called "the pygmy car" had shown the way. Jack Brabham's world titles in 1959 and 1960 made the revolution irreversible. Phil Hill's victory for Ferrari at Monza in the Italian GP on 4 September, 1960 would be the last world championship hurrah for a front-engined car. A year later even old Enzo's carts were being pushed by the horse.

## IN CONVERSATION WITH

WORDS MERCEDES F1
PORTRAIT SIMON GALLOWAY

# LEWIS HAMILTON

In a recent Mercedes in-house interview from lockdown, the reigning world champion spoke about the shock he's felt from not racing, why he's decided against taking sabbaticals from Formula 1 in the past, and why the thought of driving again in front of vacant stands gives him an 'empty feeling'

**People have talked about the 'lockdown ten' or the 'quarantine ten' – putting weight on while stuck at home, but it doesn't look like you're suffering...**

Definitely not. I think my weight's probably around the same. Having this [period] gives you more time to focus on areas of weakness – tedious things like calf muscles, which is not exciting, glute exercises, which, again, quite boring. But all really important because over time your body forms into a shape and into a pattern. There's strengths and weaknesses on all our bodies, and when you go to the gym often you work the big muscles but not necessarily the small ones in between. I'm really trying to get in deep to refine my body; just trying to find the next level. How can I get fitter than I was even at the start of the season?

**The way you were mentally at the start of the season, you seemed like a boxer who made weight and was ready to fight – it must be so frustrating that you didn't get a chance to show the work you put in over the winter, in Melbourne.**

It really was a shock to the system. It was very surreal – you weren't quite sure whether it was going to happen. And it was tough, because this is the first time in my 14th season. Every year I know how to get straight into the zone, know what preparation I need, know how to be there and ready for that first race, so that we start off better than ever. Each year you're refining a little bit to make sure you start on the right foot, so it was definitely a difficult few days, and having something that you love so much taken away from you... I miss driving. But you have to look at the positives: if you look around the world, the skies are clear, people are probably appreciating this time, families more, relationships more. I really hope we will grow from this experience.

**Your time is in so much demand usually, so how you are feeling about the fact that suddenly the phone's quieter that it might be normally?**

Well I'm generally a very quiet person, so I do enjoy the time. I'm [also] a workaholic so just moving, one thing to the next thing to the next, squeezing training in, making sure you're trying to find the right balance – man I love that challenge. It's been nice not to be bothered too much, but I'm missing my team. I miss seeing my friends. Actually, there have been times in my life, probably in the past five years or so, that I thought to myself it'd be good for my body and my mind to take a rest, but you can't step away. I don't think that for an athlete in their prime that is ever a good thing, step away for a year and then come back. Technology moves so fast, at such a rate, you need to stay on top of this car and the development. Taking a sabbatical is just not on the cards. But we've been handed almost a part-sabbatical, which I'm enjoying. I feel fresher and healthier than I've ever been.

> "WE GET MESSAGES FROM PEOPLE AROUND THE WORLD WHO ARE STRUGGLING DURING THIS PERIOD, AND IT JUST SHOWS HOW SIGNIFICANT SPORT IS IN PEOPLE'S LIVES"

**What is it that you've been doing outside of the training work?**

I've always wanted to learn a language. French at school is the only thing I aced, so I've been doing this online course. I have a six-week course and I'm supposed to do half an hour a day, but when I do things I just do it to the extreme, so I sit down and do a week in two hours; basically one week a day. I was already at week four by the fourth day and I was so stressed! I wasn't enjoying it so I stopped for a week or so I'm trying to get back into it. The training, a bit of gaming – I played *Call of Duty* with Pierre Gasly and Charles Leclerc. I'm not really interested in simulated racing. But I play *Gran Turismo* – Sony sent me a whole set up. I grew up playing *Gran Turismo*. I've been racing myself trying to beat my own laps – and it's been frustrating as hell because my laps are pretty decent, I think!

**We will hopefully be racing, fingers crossed, sooner rather than later, but it sounds like in Europe anyway it'll be behind closed doors and without fans...**

It gave me a really empty feeling because the fans are really what make a race. That's why you have places like Silverstone, Monza. It's going to be very empty. We get messages from people around the world who are struggling during this period, and it just shows how significant sport is in people's lives. It brings us all together; it's so exciting and captivating. I don't know how exciting it's gonna be for people watching on TV, but it's going to be better than nothing... For us it's going to be like a test day – probably even worse than a test day. You're gonna have nobody in the crowd. But racing is racing, so I'm excited to get back in.




A
Red Bull
AUCH
GEOX
TOTAL
INFINITI
Pepe Jeans
Red Bull
Red Bull
#essereFerrari
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#essereFerrari
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# WHAT GOES UP MUST COME DOWN

**Sebastian Vettel's** Ferrari career began with success against the odds on what looked like a journey destined to emulate the great Michael Schumacher's. But it's now coming to an end with Vettel usurped as the team's focal point and unlikely to add to his tally of four world titles before he leaves. Here we look back at the defining moments of Vettel's time at Maranello

WORDS BEN ANDERSON
ILLUSTRATION BENJAMIN WACHENGE
PICTURES motorsport IMAGES



PICTURES: STEVEN TEE

## 2015
### BRIGHT BEGINNINGS

He described the move as a "dream coming true". How could it be anything other? For this young German, growing up and dreaming of F1, following Schumacher's path into Scuderia Ferrari is the stuff dreams are made of.

And they made a dream start, winning their second race together, a victory against the odds in the oppressive heat of Malaysia. They did it again twice more – in Hungary and Singapore – and with three races to run Vettel was even ahead of Nico Rosberg in the world championship, only undone by a crash in Mexico and a late Rosberg run of form amid Lewis Hamilton's celebratory comedown.

From the moment Vettel first turned wheels in pre-season testing at Jerez, he looked a driver reborn in Ferrari red. Vettel called it "the right step at the right time" to leave Red Bull, and his supreme form in 2015 was vindication of that.

He was much happier with the braking behaviour and handling of the 2015 Ferrari than he had been in 2014's Red Bull. The Ferrari was far more reliable too, and Vettel flourished. Team boss Maurizio Arrivabene set Ferrari a target of two wins; Vettel's haul of three meant he single-handedly exceeded the team's expectations. This was arguably, and to my mind most definitely, Vettel's best overall season at Ferrari. It looked as though F1's most famous team had finally found its 'new Schumacher' – though such comparisons always made Vettel uncomfortable.




PICTURES: STEVEN TEE; ANDY HONE; MARK SUTTON

Vettel's first Ferrari win came in only his second race for the team in Malaysia in 2015. The season that followed was a shock to the German



# 2016

## BACK DOWN TO EARTH

All film directors know the pitfalls of attempting a sequel to better the original, while the studios heap on pressure to outdo yourself. Ferrari president Sergio Marchionne made it clear he expected his team to do better in 2016 – nothing less than a first title since 2008 would do. Under the technical leadership of James Allison, Ferrari went all out with the car too: conducting a major overhaul of the suspension design, bodywork and power unit. "All our hopes are in this car" said Allison before the season started.

The season started well, Vettel leading the first race in Australia before questionable tyre strategy handed victory to Mercedes. But that was as good as it got really. Vettel's driving was decent through the first half of the season, but the car wasn't up to scratch: the gearbox was unreliable, the engine inferior, the appetite for tyres too great, the amount of downforce available too little – and as Ferrari's difficulties piled up so the strain began to show.

By mid-season Allison was gone, amid tension with Marchionne over the team's long-term technical direction. This prompted Ferrari to push Mattia Binotto further towards the front of Maranello's technical stage, as management scrambled to cover the gaps. There were more strategic errors, and questions about Arrivabene's capacity to inspire, amid Marchionne's stated desire to squeeze more efficiency out of Ferrari's enormous F1 budget.

Vettel seemed unimpressed by this turmoil and his driving seemed to suffer too. Suddenly, Kimi Räikkönen was giving him something to think about on track, and come the Japanese GP Arrivabene was pointedly suggesting Vettel needed to buck his ideas up and stop interfering in matters behind the scenes. Seb's foul-mouthed tirade at race director Charlie Whiting at the Mexican GP later that month was the final grisly waypoint in a generally ugly season.

Time for a reset. Fortunately, another upheaval in F1's technical regulations offered all at Ferrari an opportunity to begin anew.




Tensions between Arrivabene and Vettel started to appear towards the end of a fraught 2016. The honeymoon period was well and truly over

Vettel got 2017 under way by winning in Australia and this was the season he came closest to winning the title for the Scuderia








# 2017

## OH, SO CLOSE!

Of course we cannot yet know what Vettel's final season at Ferrari will bring, but assuming the SF1000 isn't up to the job – and pre-season testing certainly suggested it isn't – it's probably safe to assume Vettel won't be bowing out of Maranello as the 2020 world champion, in which case 2017 will go down as the season he came closest to realising his Ferrari dream.

Ferrari redoubled efforts on the technical front, producing an innovative, benign and pliable car under Binotto's leadership that was supremely effective over a race distance. Vettel was in turn back to his opportunistic best, taking four wins before the summer break to make up for the slight edge in pure pace still enjoyed by Mercedes.

Vettel seemed re-energised by the awesome levels of grip and cornering potential available from this new steroidal version of F1, much closer to the dynamic he enjoyed in his early years of grand prix racing in the mid-to-late 2000s, and going some way towards making up for those muffled hybrid engines he's always disliked. Hamilton called Vettel's early season form "a championship-winning road".

Vettel led Hamilton by 14 points after August's Hungarian GP, a new three-year contract followed, but thereafter Vettel's challenge went off the road as Ferrari's improved reliability reached its limit, Mercedes got on top of what Toto Wolff called its 'capricious diva' of a car, and Hamilton found an extra gear – winning six of seven races from Belgium through to Austin to bury Vettel's hopes.

Truth was, over the balance of the season Vettel needed to be perfect to beat Lewis to the title in a slightly inferior car, and unfortunately Seb didn't produce perfection. Team and driver made crucial mistakes at critical times. The inexplicable red mist moment that led Vettel to drive into Hamilton deliberately behind the safety car in Baku, when Seb felt wrongly that Lewis was brake testing him, also suggested a certain mental frailty lurking in the background of Vettel's psyche.

Hamilton lost points to Vettel that day but left the track emboldened; Vettel diminished. Come the end of the year, the same could be said for their respective standing in F1.

**"OVER THE BALANCE OF THE SEASON VETTEL NEEDED TO BE PERFECT TO BEAT LEWIS TO THE TITLE IN A SLIGHTLY INFERIOR CAR, AND UNFORTUNATELY SEB DIDN'T PRODUCE PERFECTION"**



# 2018

## THE BEGINNING OF THE END

This was the season it felt as though Vettel's Ferrari career began to stagnate, and where Ferrari's faith in its star perhaps began to waver. To begin with, things were good still. Vettel won four of the first ten races, including Hamilton's home race, to lead the championship.

Again things began to unravel in the second half of the season. First came the 'small mistake with big consequences', as Vettel himself put it after he crashed out while leading his own home race in Germany, turning an eight-point lead into a 17-point deficit as Hamilton picked up the pieces. That began another run of six wins in seven races that turned another title battle in Hamilton's favour.

Vettel utilised Ferrari's apparent engine advantage to win narrowly at Spa, but that was it. The mistakes crept back in – colliding with Hamilton while battling for track position at Monza; spinning while trying to pass Verstappen's Red Bull in Japan; spinning again while fighting Ricciardo at Austin. All the while Hamilton grew stronger, and after Mexico, with two more races still to run, he was champion *again* – now five and counting, surpassing Seb's own total in the process.

Hamilton seemed to almost pity his fallen foe. Questions were asked of Vettel's capacity to get the job done. Ross Brawn suggested Vettel's driving was "out of sorts"; the usual tropes about Vettel being a one-trick Adrian Newey pony were trotted out. It is legitimate to ask whether Hamilton could have won the 2017 and 2018 titles had he and Vettel swapped cars. Many would argue convincingly that he would have.

The rot had certainly begun to set in. By this time some key decisions that would ultimately have far-reaching consequences for Vettel had already been taken. Before Marchionne's untimely death earlier that year, a succession plan had been put in place to elevate John Elkann and Louis Camilleri to the head of the company. Ferrari's new leaders pledged to honour Marchionne's wishes to finally replace Kimi Räikkönen with star rookie Charles Leclerc, on loan at Sauber. That winter, they also ended Arrivabene's haphazard spell as team principal.

This would eventually turn Vettel's world upside down.




PICTURES: HASAN BRATIC; MANUEL GORIA; JERRY ANDRE; SIMON GALLOWAY; MARK SUTTON; ANDY HONE

**He led the championship after winning at Silverstone (below) but a narrow win at Spa (above) couldn't save Vettel's 2018 season**

**The turning point in 2018 was undoubtedy his crash in Germany (top) but errors such as this spin in Austin (below) didn't exactly help either**








**Vettel went into 2019 as Ferrari's main man but even before Leclerc's first win here at Spa (above), the youngster had gained the upper hand**



# 2019

## #1 BECOMES #2

Binotto was clear at the launch of Ferrari's 2019 challenge that Vettel would remain the focal point of the team while Leclerc found his feet at Maranello. What Binotto could not have known was just how quickly Leclerc would find that footing. From the very first race in Australia Ferrari was using team orders to hold Leclerc back. In Bahrain, only his second race with the team, Leclerc defied Ferrari's instructions by overtaking Vettel and racing on to what would have been a dazzling maiden F1 victory but for a freak engine malfunction.

Had Leclerc also not crashed in Baku qualifying, been let down by the team in Q1 in Monaco, and been a bit more robust himself in battle with Verstappen in Austria, he would likely have entered the August summer break a three-time race winner. Vettel's only real highlight was 'winning' the Canadian GP on the road – indeed, in his own mind he remains its moral victor to this day – but he was penalised for re-joining the circuit unsafely after going off under pressure rom Hamilton, yet another sign of apparent frailty in battle.

After the summer break, Leclerc went on the attack. Ferrari's increased engine advantage was causing rumblings in the paddock, while Leclerc was also increasingly rattling Vettel's cage. Seb played the dutiful team game to support Leclerc's successful victory bid at Spa, but come Monza Leclerc went selfish, denying Vettel a pre-agreed tow in Q3 and grabbing pole position for himself. Leclerc's battling victory over Lewis and Valtteri Bottas in the race absolved him with Ferrari, but not with Vettel, who spun off, drove into Lance Stroll and fumed.

> "DESPITE PUBLIC UTTERANCES OF UNITY, THE THREAD BINDING VETTEL TO THIS TEAM FURTHER UNRAVELLED AS THE SEASON WOUND DOWN"

Despite public utterances of unity, and a gift of victory to Seb at Leclerc's expense in Singapore, the thread binding Vettel to this team further unravelled as the season wound down. Pole in Japan was a rare glimpse of Vettel's former glory, but he ignored team orders in Russia and collided with Leclerc rather than be overtaken in Brazil, the season's penultimate race.

This was perhaps finally the point of no return. Although Vettel and Ferrari began 2020 talking of renewing vows, they eventually filed for divorce instead, and soon the dream will be dead for good.

## IN CONVERSATION WITH

WORDS JON NOBLE & JAMES ALLEN
PORTRAIT GLENN DUNBAR

# CHRISTIAN HORNER

In an exclusive interview with the Motorsport Network, Red Bull's team principal spoke about the work going on behind the scenes to get F1 racing in 2020 and why customer cars are the solution for protecting smaller outfits in a post-COVID-19 world

**When the world returns to normal, or the new normal, after this crisis, what do you think will be different as far as motorsport is concerned?**
There's an awful lot going on now to try and protect the future, and to make Formula 1 sustainable, to make sure we protect all the entrants. It's difficult to imagine crowds of people are just going to rush back to venues.

I think there will be a natural nervousness to do that, and that doesn't just affect F1. It's going to be a gradual reintroduction. In times of hardship, you have to think differently, you have to think outside the box. F1 has had to do that during this period, and that, ultimately, will define its future.

**There's a huge logistical challenge to get races back on again: different countries, different procedures, different travel restrictions, but how important is it going to be to get going, even if it means no spectators for six or eight races?**
Red Bull are committed to getting the championship off the ground. They've put in huge effort to get the race under way in Austria [provisionally scheduled for 5 July]. It's a circuit owned by Red Bull, so it's within their control, but they're working with the local authorities and the government, of course, over screening and testing. The restrictions that are going to be in place are going to be pretty draconian, but if it allows the sport to start up again I think it will be a blueprint for other circuits to follow. When we do get going again it's going to be a tight group of people, probably fewer than 80 within a team; they're all going to have to stay in the same hotel, they're all going to have to travel together, and not interface with other teams. There's going to be some strict restrictions – I'm sure there's going to be a lot of testing, a lot of screening, and we won't be interacting with the local community. It's not going to be a standard grand prix format by any shape or form.

**Have you faith that teams are putting self-interest to one side and thinking of the bigger picture, or do you still think that some of the arguments being thrown about [cost capping] are about gaining competitive advantage?**
By and large the focus has been on the right things, in terms of focusing on the cost savings, trying to work with the promoters and the governing body to ensure that F1 survives, but I think inevitably there's a bit of land-grabbing going on. The teams that have got bare cars with not many sponsors on them, they see it as an opportunity to reduce the competitiveness of the leading teams to bring them to their level. I can guarantee you, with what's in the pipeline, it'll be the same teams that are running at the front and it will be the same teams running at the back.

**Do you think it's a time for being bold? Will the F1 business structure be sustainable going forward?**
Now is the time to be bold. If I was running a smaller team, the fastest way to competitiveness at a cost-effective route would be, rather than trying to reverse engineer and copy your supplier team, which is happening in many cases, why not just sell them the whole car at the end of the [previous] year? Then they can operate as a race team – they don't need all the research and development facilities. It's the fastest route to competitiveness, and the cheapest. There's this paranoia about being a constructor and what you're giving up if you're not a constructor. It works in other forms of motorsport, in MotoGP. If you could buy a Mercedes, a Ferrari or a Red Bull after Abu Dhabi, why wouldn't you?

> "WE'RE A RACE TEAM AND WE NEED A CHAMPIONSHIP TO RACE IN. IT'S UNIMAGINABLE NOT TO GO RACING THIS YEAR"

**Are you concerned manufacturers might follow Audi's lead in DTM and pull out of F1?**
Every manufacturer is hurting. I sat in on all the engine debates between the manufacturers and they conducted themselves incredibly well. They worked in the interests of the sport and the interests of reducing their costs significantly, probably to the tune of 50% of where their current spend is, by reducing enormous amount of dyno time, the development time they're allowed, and the amount of upgrades allowed in a single year. There was a real collective, collaborative approach to that. Not once was a budget cap mentioned, because they just focused on the cost drivers. At the end of the day, every manufacturer is involved in Formula 1 to promote their product. So if Formula 1 is still attracting global audiences and is the right platform on which to promote their messaging, then if it's at an affordable price those manufacturers will be there, and hopefully in time we'll be able to attract more.

**A big concern for governments is a second wave of the virus as the lockdown is eased. If there is no racing at all this year, what would be the financial impact on Red Bull?**
Look, we're a race team and we need a championship to race in. It's unimaginable not to go racing this year. It would be enormously unlikely for no events to take place or for the world championship not to take place.

You can see it's gathering momentum, trying to put scenarios in place to try and get going. I don't think there will be a scenario where we won't race at all this year.


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# THE LONG INTERVIEW

He's overcome many setbacks to restart a racing career that once brought him close to Formula 1 world championship glory. Now Robert Kubica is stuck at home during what should have been his busiest season ever – but he's still eating up the miles, albeit virtually...

WORDS STUART CODLING
PICTURES ALFA ROMEO

# THIS IS ROBERT KUBICA


ALFA ROMEO
ORLEN
Alfa Romeo
RACING

THE LONG INTERVIEW



# ROBERT KUBICA




**At pre-season testing there was proof that Kubica's popularity remains high, even though he is now only a reserve driver**

**Among the many** ruinations COVID-19 has wrought, Robert Kubica's ambitious plans to dovetail a reserve-driver gig at the Alfa Romeo Formula 1 team with a BMW DTM drive (in which he'd also have a hand in team management) are perhaps but a stitch in a global tapestry of thwarted ambitions.

But if anyone in F1 is accustomed to dealing with bumps in the road, it's Kubica: a 2019 season spent making up the numbers in a struggling Williams wasn't the kind of comeback he'd have wanted to make after the best part of a decade out of the Formula 1 cockpit, but it's enabled him to finally put that life-changing 2011 rally accident, and its consequences, behind him.

And as it turns out, he's been racing without leaving his apartment – albeit not quite in the same manner as the likes of Lando Norris and Charles Leclerc...

***GP Racing***: Obviously, the pandemic has disrupted the sporting calendar, everybody's plans, even the basics of our lifestyles. How have you been coping?
**Robert Kubica:** Initially it was a bit strange but, as with everything, our brains and bodies get used to new situations. You try to find as much as possible to do during the days. Some things you start doing which you haven't done for years because of the lifestyle we have – you know, travelling and practically never staying at home. And of course, you try to train a bit and keep your mind as busy as possible. In my case, I live alone, so sometimes it might be... not depressing, but if the only people you see around is when you're buying food at the supermarket, well, we're not used to this kind of stuff. But I would say I've been fine – not flying away, but I've been keeping myself busy.

***GPR***: You've become a convert to cycling in recent years. Have you been able to get out or are you stuck on an indoor trainer?
**RK:** We're not allowed to go out in Monaco, where I've been since I came back from Australia. I think the first three days when we came back it was allowed, but after that it was full lockdown. So, of course, you use trainer applications like Zwift, which have become very popular. Also, riding outdoors takes more time, especially if it's cold and you have to dress in all the winter gear before you go out. So you're also becoming more efficient with timing. We get a nice group of friends, we do some [virtual] meetups, chatting together but sometimes also pushing ourselves. It's new and a bit unusual but you also try to have fun. Obviously different trainers might not be properly calibrated and it's quite funny in a way, because you get into a group and everybody's happy, then you realise there's a bit too much competition – you think you're stronger but suddenly this guy has a new trainer and he gets some extra power for free. You need a proper balance between fun and training.

***GPR***: We've not seen you getting involved in the F1 Esports series. Is that because you've been busy on the virtual bike?
**RK:** You're right – I was spending too much time on Zwift. I was training probably too much – twice a day, once just for training then another ride with friends. And I was missing a piece in my simulator. Then it arrived and I've actually done some endurance races on iRacing with friends since then – the 12 Hours of Suzuka in a GT car with BMW, and a 24-Hour race at the Nürburgring. Unfortunately we didn't finish that due to an accident.

It's a proper commitment, especially on iRacing – it's very high-level and you're competing against proper Esports sim drivers. Then I realised I was too focused on that, and it was using a lot of my energy, so I saw I needed to balance things. Now I'm doing both [Zwift and sim racing].

But, yeah, I haven't raced on the F1 platform. I use the simulator more as a concentration tool and I try to keep it short – daily, but short – and not to get into too much competition. Some people are doing 300 or 400 laps to prepare for a race, so then you have to do that as well because in the end we're all racers, and although it's virtual, you want to make the most of your potential. The only way to do that is practice as much as you can, and then you start to lose a bit of the approach I like about the simulator, which is different from purely racing.

And you know, the thought of finding myself on Twitch – I'm a bit past that! Years ago I did spend a massive amount of time on the computer, but that was playing *Richard Burns Rally*...

***GPR*:** Out in the real world, the pandemic must have had a big effect on your plans because you had some other things lined up as well as your programme with Alfa Romeo...
**RK:** Yeah, I'm in the same boat as everyone in motorsport – everyone in the world – in that this period has had a big effect. Hopefully we'll be able to get started as soon as possible but we have to remember the priority is health.

This year was supposed to be tough because I was doing two championships: the reserve-driver role with some FP1 sessions in F1 with Alfa Romeo, and the full DTM season in a BMW with Orlen Team ART. There were times when I looked at my calendar and thought, 'No, this is too much.' There were months when I wasn't able to come home for even two days. There were periods when I had 11 [race] weekends in a row, then one weekend off, then another four or five weekends in a row. So I'm almost laughing now to think there was a time when I said it would be too much and here we are in lockdown at home. It's a bit like in the winter you complain it's too cold, then the summer comes and you complain it's too hot! The reality is that we would all love to be back, to race, and hopefully this moment will arrive. Our lives will have to adapt – the situation will evolve and get better, but it will still not be the case from one day to another that we go back to the lifestyle we had a few months ago.

**When the season finally gets underway Kubica is still hoping to combine some Friday running in F1 with a DTM role**

> THE REALITY IS THAT WE WOULD ALL LOVE TO BE BACK, TO RACE, AND HOPEFULLY THIS MOMENT WILL ARRIVE



# THE LONG INTERVIEW



# ROBERT KUBICA




***GPR*:** Indeed – what are your feelings on travelling to races?
**RK:** For instance, from Monaco, it would be a difficult task. As far as I know, there are only two flights a day from Nice airport – to Paris and Corsica. There will be no international flights until September. So we'll have to react to the situation as it develops, take all precautions and minimise the risks. It's a delicate situation because from one side we would love to race, and I think anyone who is passionate about motorsport would like to see us racing again, but on the other hand we cannot take big risks because as we've seen, this can get very serious. It's a strong and invisible opponent we're playing against. You never know what might happen in the coming weeks.

***GPR*:** Presumably you visited the Alfa Romeo factory in Hinwil a fair few times before lockdown. How did that feel – was it like a homecoming of sorts? Were there still familiar faces?
**RK:** Yeah, Hinwil is a special place for me, and even though the people there aren't exactly the same, there are many familiar faces from 14 years ago when I made my Formula 1 debut. Back then it was BMW, now it's Alfa Romeo, but it's still the place that gave me my big opportunity, and it's nice to be back in the same environment that gave so much. When you go in the factory you see pictures and your trophies – you see other drivers' trophies as well, but then you start realising that there are more of your trophies than the others. Then you see a car which you raced, with your name on it.

**Returning to Alfa Romeo, the team Kubica drove for when it was BMW Sauber, has brought back some good memories**

I'm not a very emotional person but it was a really nice feeling and, as you say, you find the same faces, the same people after many years. Some have been promoted, some have changed departments, and some people have changed a bit, but they're still there. Also it's been a bit similar with the DTM, which I'm due to race in with BMW – who were involved with Sauber in that period. When I made my F1 debut the team was based half in Hinwil and half in Munich, where the engines were built, and it's incredible that I'm back in those two places. It's like coming back home.

***GPR*:** Given that you achieved so much success with them, the door must have been fairly open to you when you showed an interest in returning...
**RK:** We did have a good time, but we didn't have an *easy* time together. Of course, I was young and I was very focused on



What's nice is that so many of the people in Hinwil remembered stories from years ago. It came very naturally, emotionally – funny stories, things I'd forgotten about. It shows that I left a good impression and it's nice to see – especially from people you respect.

***GPR*:** There have been several seasons in this past decade when the team was – as Sauber – struggling to survive and its most achievable ambition was simply to stay on the grid. What's your feeling about the ambition there now, with new investment and a new name? It seems like a team rediscovering its belief.
**RK:** Obviously, as you say, Sauber went through very difficult years. I think those years have passed by and it's good to see. You can see it in the people. Of course, to cancel out a period when you were just surviving is not the work of a single day.




the performance side. It sometimes gets more complicated than you might think and probably with the experience I have now, with 14 years more, understanding Formula 1 a bit more, maybe some things I would play differently. But still I think we have respect for each other. Every factory, every team has different ways of approaching the operational side and you have to get used to this.

> **HINWIL IS A SPECIAL PLACE FOR ME, AND EVEN THOUGH THE PEOPLE THERE AREN'T EXACTLY THE SAME, THERE ARE MANY FAMILIAR FACES FROM 14 YEARS AGO**

It's a tough sport and it requires a lot of years and a lot of commitment – once you've been struggling to survive, racing just to be on the grid, you're losing ground.

So I think there's a lot of work in front of us, a lot of things to improve, and it will require time to get back to where our ambition is, especially in current F1 where the midfield teams are very strong. We saw in testing that some teams had made a really big step forward – I think F1 is now at its best level of competitiveness it's ever been. This makes our task difficult but nevertheless we must focus and extract the maximum from what we have, react well to whatever happens, and we'll get in a position where we can fight for top-ten positions.

***GPR*:** You said that age and experience have given you a different perspective on the past. Obviously, within the next 18 months the teams are going to have to start shifting the focus of their development to the new rules package now coming in 2022. Back in 2008 you were a contender for the world championship and BMW decided to stop development of that car early, shifting focus to the new rules coming in 2009. You were quite vocal in your opposition to that. Is this something

# CV

**Age** 35

**Born** Krakow, Poland

**2019**

19th in F1 with Williams F1

**2018**

Returns to F1 as Williams test driver

**2016-2017**

Sporadic GT races

**2015**

12th in WRC with self-entered car

**2014**

16th in WRC with RK M-Sport

**2013**

1st in WRC2 with self-entered car

**2011**

Rally crash curtails F1 career

**2010**

8th in F1 with Renault F1

**2009**

14th in F1 with BMW Sauber

**2008**

4th in F1 with BMW Sauber

**2007**

6th in F1 with BMW Sauber

**2006**

16th in F1 with BMW Sauber

**2005**

1st in Formula Renault 3.5 Series with Epsilon Euskadi, 2nd in Macau Grand Prix with Carlin Motorsport, Renault F1 test driver

**2004**

7th in F3 Euro Series with Mücke Motorsport, 2nd in Macau Grand Prix with Manor Motorsport

**2003**

12th in F3 Euro Series with Prema Powerteam

**2002**

2nd in Formula Renault 2000 Italy with RC Motorsport and 7th in Eurocup

**2001**

13th in Formula Renault 2000 Italy and 14th in Formula Renault 2000 Eurocup with RC Motorsport





you've changed perspective on over the years, or do you still think that was probably a mistake?

**RK:** I would say I have exactly the same view as I did 12 years ago, because in the end I was involved, and I was in the situation where unfortunately I was feeling that this might be our only chance to fight [for the championship]. I've always had a very high respect for F1 as a sport, from a driver's point of view but also from a team's, and you never know what the future will bring.

We didn't have the fastest car, this is a fact. Normally the fastest car is winning the championship, but not always, and for whatever reason – the mistakes of others, doing a better job at the beginning of the season – in the end, without the fastest car, we were still leading the championship [Robert led the drivers' standings after the Canadian GP].

And I thought, "You have to use your opportunities, because you never know in life when you'll get a second chance." It's funny – I met some of the mechanics after ten years, who were there with me, and even lately people have reminded me about it – and they had exactly the same view. And they regret it, because in the end we didn't get another chance.

For BMW, 2009 was a very important year. And probably we didn't know the reason it was so important. We found out in August [2009] that BMW decided to stop in F1. If we had been competitive in 2009 BMW might, I think, have found it more difficult to stop. The 2009 car was a big disappointment for us, but they were very keen on the KERS technology. We were probably the first team to test the KERS car.

There was a completely different aero package so it was a completely new Formula 1. So we started very early and maybe this was the right choice, because I assume someone knew there was a risk that if we weren't competitive, BMW might stop. For me and the others it was completely unknown. I remember racing in Hungary [2009], then we said, "OK, see you after the summer break," then two or three days later I got a phone call to say tomorrow BMW will announce its retirement from F1. It was a shock for everyone. I had a contract for at least one more year there, I think.

The situation might be different from different angles but, as a driver, I can't change my point of view. You have to use your opportunities. Unfortunately what I was fearing happened, and what was more upsetting was that we tested some parts on the 2008 car, which were giving a lot of performance, but we kept them for 2009. They were really improving the lap times and car's characteristics when we ran them in the middle of 2008.

In the end you never know if we would have won or not, but I think we could have done a bit more to try, to achieve something more. But the approach at the time was very based on targets. I remember that year we had the target to win a race. [BMW boss] Mario Theissen said our target was to win a race with our own force – not with luck but with our own force. And then someone asked if we were targeting to fight for the championship and he said no, we're targeting a single race win.

> **WHAT WAS MISSING WAS ANOTHER TARGET. 2009 WAS A TARGET BUT THERE WAS STILL ANOTHER FIVE OR SIX MONTHS OF THE 2008 CHAMPIONSHIP GOING ON**



**Kubica still has regrets over 2008, but knows he was lucky to be in a position to challenge that season**

And we achieved that target in Canada. What was missing was another target. 2009 was a target but there was still another five or six months of the 2008 championship going on.

***GPR:*** That was an interesting year, wasn't it? Lewis Hamilton had probably been stronger through the 2007 season, whereas 2008 was all over the place.

**RK:** This is racing. No one was dominating. Ferrari and McLaren were stronger at some tracks than others, but had technical issues and made mistakes. That's how I came to be leading the championship, and stayed in the fight so long, without the fastest car. I remember in Fuji qualifying sixth, with [team-mate] Nick [Heidfeld] 16th. We were nowhere with performance. But I led on lap one and finished second. I'm sure if we were racing the parts we'd tested three months earlier, I'd have won that race. I still have some regrets about it, but I also feel that I was fortunate to be in this position – because there are many talented drivers who never had that chance.

## IN CONVERSATION WITH

# JEAN TODT

WORDS JON NOBLE & JAMES ALLEN
PORTRAIT ALISTER THORPE

Shortly after the postponed Australian GP the FIA president gave a rare interview to the Motorsport Network in which he discussed the crisis facing motorsport, F1's place in a post-COVID-19 world, and the FIA's handling of the 2019 Ferrari engine controversy

**How do you think the landscape across different categories is going to look after this, as each series has its own challenges to survive?**

I'm sure that a lot of small teams, a lot of medium teams, a lot of suppliers, a lot of manufacturers, they may have to review their programmes. They may be constrained to stop. I think the cost for society will be between 300 billion to 3 trillion [currency not denoted]. It's massive – unemployment of 25 million people. Clearly all the world is today affected by the virus, and will be affected. We will see how you can be making a difference by acting properly for the restart, and that's the challenge. Another problem we will face is the interest. Because when all this will be over, do you still want to go to a race? Do you still want to go to a sports game? Do you still want to go to the theatre? Do you still want to go to the restaurant, to the movies? You will have to learn how to start again.

**Do you believe it will be possible to hold a motor race in front of fans in 2020?**

I do believe so. And honestly I hope so. I hope so because I think it's something which is needed. But again, it has to be properly done, it has to be well balanced, because as I was saying earlier, if today someone will tell you let's go to the restaurant, honestly, you don't feel like going to the restaurant. If it would have been three months ago, you would have jumped to go to the restaurant. Your thoughts at the moment, your brain is different. You worries, your concerns are different. It will take some time, it will come back, but I really hope that it will come back better. I really hope that people will realise how fragile is human nature – that we don't have any reasons to be full of ourselves. We must be very humble. When you see earthquakes are arriving in Indonesia, you see the beaches destroyed, buildings destroyed, thousands of people dead, you don't feel so much concern. You are sad, but you don't feel so much concern, because you think it will not happen to me. When you see a volcano erupting, you think the same. And here, you see something which is affecting all of us.

**How many races do you think are realistic? 15-18 seems very optimistic...**

Once we know we can start, I think we could see two to three grands prix a month. If we start in July/August and go to December, we have from five to six months, multiplied by three and it gives you one option. But don't forget we may face situations where one organiser can host the event safely and eventually feels 'I don't feel in the mood to host the event'. An event is a celebration, and we may be in a situation where everything is put together to do it but there is no real feeling to celebrate.

**There are concerns not all the current F1 teams will survive this crisis. The FIA has done a lot with factory shutdowns and regulation delay, but what else needs to be done and what else can be done to help save the current ten teams?**

I don't want to be too confident, but I hope a few team owners or team sponsors will keep the motivation. That's why we must make sure we don't discourage them, because they may say "OK, after all of that, what is the purpose? Do I still like it? Do I still need it?" We must encourage them to make sure they still like it and they still need it. That has been in Formula 1 since the existence of Formula 1, people coming and leaving. I hope at this present time they will stay. That's why we must listen to everybody. Even the big ones, you must never take anything for granted. We must consider everything. Again, we must be humble – we love it but it is not essential for society. We must make sure we make proper choices, proper decisions.

> "AN EVENT IS A CELEBRATION, AND WE MAY BE IN A SITUATION WHERE EVERYTHING IS PUT TOGETHER, BUT THERE IS NO REAL FEELING TO CELEBRATE"

**Another talking point before Australia was the Ferrari engine issue, your press release and teams' responses. Do you understand why this original group of teams was unhappy?**

I would think they are right to be curious. But on the other side, the way the FIA have approached it, they have done it in the most professional way they could do it. For months, our technicians have been on the back of Ferrari to try to understand [if] what they were doing was regular, legal or not legal. We ran very, very complex verifications to try to understand the problem. We changed the [fuel flow] regulations for 2020 where we were sure that it will not [leave] any kind of ambiguity with the regulations. We think what Ferrari did was not legal, which they debated. They said 'it is legal'. I could have decided to give that to the court of appeal. We don't know what would have been decided by the court of appeal – it may have taken years, which was not in the interest of Formula 1. I would love to be able to give all the details of the situation. But they [Ferrari] were opposed. So, they have been sanctioned but we cannot give the detail of the sanction. Unfortunately, it is very much a fait accompli of technical matters. Because our technicians say "we cannot for sure demonstrate as much as we should that they [Ferrari] were not legal".



# AGAINST THE HISTORY OF WILLIAMS ALL ODDS

## PART 2: 1983-88

Just as Williams hit a renewed peak of form in alliance with Honda, a road accident with life-changing consequences for founder and team principal Frank Williams created a new set of formidable challenges

WORDS DAMIEN SMITH

PICTURES motorsport IMAGES




saudia
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Frank Williams, designer Neil Oatley, Jacques Laffite, Patrick Head and Keke Rosberg in a post-practice debrief at the 1984 German GP

**FOR HIS FIRST 44 YEARS HE LIVED ONE LIFE, THEN SINCE 8 MARCH 1986 HE HAS LIVED ANOTHER. THAT'S ALL FRANK WILLIAMS HAS TENDED TO SAY PUBLICLY ABOUT THE DEVASTATING ACCIDENT THAT FOREVER CHANGED HIS DAILY EXISTENCE, BECAUSE AS FAR AS HE IS CONCERNED WHAT ELSE IS THERE TO SAY? TO THE REST OF US, HIS RESILIENCE IN THE FACE OF SUCH SEVERE PHYSICAL DISABILITY MAKES HIM A FIGURE OF DUMBFOUNDING AWE.**

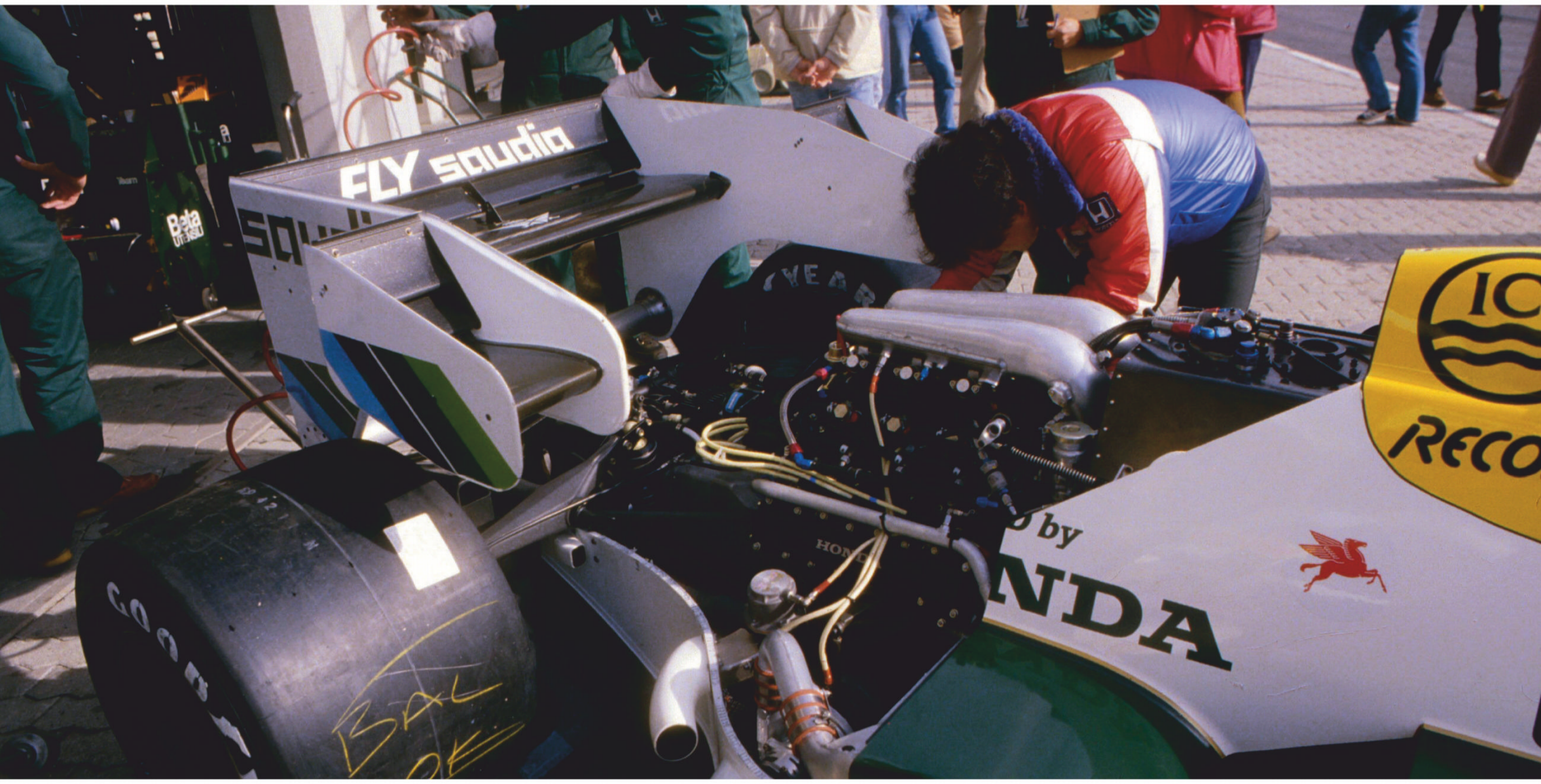
**To the man himself,** it's just the reality he finds himself living through. Self-indulgence, self-pity? Not likely. After the accident, the only option was – and still is – to press on regardless. That is the Williams way.

The road accident that so very nearly killed him occurred just as his team was returning to dominance, when the same purity of engineering that had made it a winner for the first time in 1979 and a champion by 1980 was harnessing and unleashing the full potency of Honda's increasingly super-powered V6 turbo. But we pick up the story on yet another occasion when Williams found itself backed into a corner, still propelled in 1983 by an outdated and underpowered normally aspirated V8 among the gathering turbo forces – and we'll pause five years later, in 1988, with a team having travelled full circle. These were years of extremes, fortunes proving at times almost desperate, at times simply sensational, at times traumatic – and always utterly compelling. The mid-1980s are why the F1 world loves Williams.

The FIA's rug-pull late in 1982 by effectively banning ground effects and insisting upon flat-bottomed F1 cars led to a season of unsettling compromise in 1983, most teams running heavily revised versions of year-old cars. Already severely hamstrung by the lack of a turbo engine, Williams knew its short-sidepod Cosworth DFV FW08C would leave Keke Rosberg literally powerless to defend his surprise world title already won against the odds during the previous season.

Then almost on the eve of combat, here was another curve-ball. The Sunday before the first race in Rio, Patrick Head received a phone call from Rosberg, who was already down in Brazil for testing. Keke read out a list of lap times, but they were not his own.

Instead they were those of Nelson Piquet in his new delta-shaped Brabham BT52, set on a varying range of fuel loads. Gordon Murray had once again pulled a fast one: Brabham was about to reintroduce refuelling to grand prix racing – and Rosberg knew every team on the grid would have to follow its lead to stay in the game. Head's response? By Tuesday night a hastily devised rig made from an aluminium beer barrel and an




The team finally got its hands on a turbocharged engine for the 1984 season but the Honda RA163-E unit didn't result in immediate success

aircraft refuelling connector was loaded into cargo on a flight bound for Rio.

Against the run of expectation and form, Rosberg qualified on top in Rio – the last of the DFV's 131 pole positions – and ran second to Piquet until Keke stopped for a refill from that beer barrel. But loosened bolts on the fuel hatch caused a leak and a frightening flash fire briefly engulfed the cockpit. Rosberg shot out, without a second glance. But the fuel tank remained undamaged and he was invited to resume.

Not likely – but Head pressed a little harder with those inimitable words: "Keke, get back in the fucking car!" "But I have burnt my fucking 'moostache'" was the response... Nevertheless, he did as he was told and proceeded to drive magnificently, rising from ninth upon resumption to finish second to Piquet – only to find himself disqualified from a Rio grand prix for the second successive year. To get Keke going again, the team had given him an illegal push-start.

Opportunities, as expected, were few and far between through the rest of 1983. There was a narrow victory for Rosberg in the final non-championship F1 race, the Race of Champions at Brands Hatch. But it was the Monaco Grand Prix, where refuelling was banned and the DFV's deficit counted for much less, that offered the most reward – and Keke grabbed it with a career-defining virtuoso performance. He'd qualified fifth behind the turbo Renaults and Ferraris, but a spot of rain played directly into his hands. Gambling on slick Goodyears, he took the lead from Alain Prost on lap two and was never seen again. Years later his son Nico would win in Monaco three times in successive years for Mercedes. There must be something in the oily harbour water when it comes to Rosbergs in the Principality.

Manufacturer turbo power finally arrived late in 1983 and full-time for '84 with a lag only matched by that of the Honda V6 itself, as first seen powering the small Spirit team. Coupled to the ungainly-looking FW09, Rosberg and popular French team-mate Jacques Laffite were little better off than they had been in the neat and tidy FW08C. But in what would prove to be a one-off race on a crumbling street track in Dallas, Rosberg



Rosberg (above, with Laffite), took a surprise victory in Monaco in 1983 (below) where refuelling was banned






Initial concerns over pairing Nigel Mansell with Rosberg for 1985 faded as they grew to respect each other




Rosberg on pole for the 1985 British GP after that amazing 161-miles-an-hour qualifying lap with a slow puncture




The team's only win in its first season with Honda power came courtesy of Rosberg at the one-off GP in Dallas

The team finished 1985 well with Rosberg winning the last race of the season in Australia



produced some magic to score a first Honda-powered grand prix win since Monza 1967. But here was a new experience for Williams: for the first time it had a manufacturer engine partner, with a matching ambition to win. How was this going to work out?

Momentum built in 1985, as a new team dynamic developed thanks to the bloke with the red number five on the nose of his FW10. It was clear during 1984 that Laffite's time was up, so who should Williams choose to join Rosberg? Top-liners such as Prost and Piquet weren't available, so a contender from the second tier seemed the best bet. It could so easily have been likeable, no-nonsense Derek Warwick, who appeared to have all the hallmarks of a hard-working Williams driver. But 'Del Boy' chose to stick at Renault – how history would read differently had he chosen to twist for Williams. Instead, they plumbed for another 'moostache'... the chap from Lotus about whom Peter Warr had said: "That man will never win a grand prix as long as I have a hole in my arse."

Nigel Mansell was quick, of that there had never been doubt, but was he ever going to amount to more than a journeyman? Colin Chapman had faith, but without the Lotus founder's protection following his death at the end of 1982, Mansell only really kept his drive because title sponsor John Player Special wanted a Brit. In 1984 he had a car in the 95T with apparent race-winning potential, but even with the breakthrough in his grasp at Monaco he'd thrown it away on a wet white line on the run to Massenet. Warr's vulgarity, in such teeth-gnashing circumstances, was perhaps understandable.

Rosberg was less than amused when he heard who Frank and Patrick had signed, especially with Elio de Angelis describing his old Lotus team-mate as "poison". Why unsettle team harmony with an obvious disruptor? To Keke's eternal credit, he'd admit to a change of heart once the season got underway. They'd never be bosom buddies, but a degree of mutual respect grew between the pair across a largely untroubled season. Anyway, on track Rosberg remained the clear team number one – for now – stubbing his cigarette out at Silverstone to qualify at a ferocious 161mph with a slow puncture, then adding a final two wins (both on street tracks) in Detroit and at the first Australian GP in Adelaide. By then it had long been known Rosberg was done with the team that had made him, eyeing a final one-season fling with McLaren before retirement. Over four swashbuckling seasons, he'd proven the perfect successor to the team's first champion, Alan Jones, his place in Williams folklore secure.

As for Mansell, Warr's damnation was marked null and void at Brands Hatch for the European GP in October, when at the 75th time of asking Nigel won. Already aged 27 when he'd made his F1 debut in 1980, now 32-year-old Mansell's slow burn was about to explode. Having won at Brands, he immediately doubled his tally with pole position and a victory at Kyalami.

For Williams, 1986 was pregnant with promise. Two-time world champion and old nemesis Piquet had approached Frank to join an increasingly confident Mansell as Rosberg's replacement, the cars sported a healthy rash of sponsors and they were powered by a Honda V6 now the class of the field, Williams having won the final three races of 1985. To cap it all, it had the FW11 on the blocks, a beautifully conceived masterpiece. Then Frank had his accident.

His Ford Sierra hire car left the road on his return to the airport after a test session at Paul Ricard that had confirmed 1986 was going to be a big year for his beloved team. Passenger Peter Windsor emerged almost unscathed, but Williams was left facing the biggest battle of his life. Wife Ginny resisted doctors' requests to turn off the life-support machine, insisting her husband deserved the right to fight. No one knew him better. Upon his return to England, Williams teetered on the brink – but that signature belligerence, combined with a previously boundless physical fitness that had made him a decent distance runner, pushed him back towards life. An entirely different life, perhaps, but one that was still worth living.

Two weeks after the accident, Piquet scored a maiden victory for Williams in Rio, surely one of his most significant, at least in terms of what it represented for his new team. This was business as usual. By this stage, Head was already in charge of day to day operations, Frank taking the role of emblematic front man and skilled sponsor gatherer – the heart and soul of Williams Grand Prix Engineering. And with most deals, including those of his drivers, running over into '87 his absence in recovery wasn't about to thwart the full realisation of that dominance.

Head has described Piquet and Mansell as like "oil and water", but at this stage there was relative harmony at Williams as the team knuckled down to make the most of FW11. It soon emerged that Piquet vs Mansell was now the new F1 reality at the sharp end, the Englishman famously beating his supposed team leader at Brands Hatch when Nelson fluffed a gearchange. Piquet was ruffled by Mansell's evolution into a genuine frontrunner and pointed out that Frank had promised him number one status – but it didn't say so in his contract. He joined Head for a visit to see the boss once Frank was properly conscious. Barely able to speak, Frank nevertheless confirmed to his partner



Mansell immediately followed up his first world championship win in 1985 with this triumph in South Africa two weeks later



After fighting for his life following his 1986 accident, it was at the European GP that Frank returned, briefly, to the paddock

**HEAD HAS DESCRIBED PIQUET AND MANSELL AS LIKE "OIL AND WATER", BUT AT THIS STAGE THERE WAS RELATIVE HARMONY AT WILLIAMS**

that Nelson should be treated as number one, and from then on the spare car should always be set up for him. But the drivers had equal equipment and both continued to make the most of it.

By season's end, a third constructors' crown was in the bag – always a quietly spoken priority for Frank and Patrick – but the drivers' title would come down to a gripping finale in Adelaide. Just to complicate matters, that persistent aggravation in the Dayglo-and-white McLaren had somehow also kept himself in the hunt. Prost was smack in the middle of the Williams duo.

Through the season, strain had developed with Goodyear following worrying tyre failures. The supplier hadn't been hugely helpful, responding that no other teams had suffered such trouble, Williams coming back with the point that no other team was generating as much downforce and power as the FW11-Honda combination. And on the streets of Adelaide that backstory exploded on to the front pages, along with Mansell's left-rear




Mansell limps back to the pits in Adelaide in 1986, his chance of the world championship gone. Head opted to pit Piquet and the title went to Alain Prost

Two weeks after Frank's accident Nelson Piquet gave the team a huge boost when, in his first race for the team, he won on home soil in Brazil




With only a Judd V8-powered FW12, Mansell at least kept the Silverstone faithful happy with an unexpected second in the 1988 British GP

slick tyre. He'd been 19 laps from the third place that would have secured him the world title; instead Head now faced one of the biggest calls of his career: leave Piquet out there and risk his life in the hope a repeat failure wouldn't follow – or do the right thing and call him in. As usual, he did the right thing. Piquet pitted and Prost became champion for a second time, after a race that had been pure F1 theatre.

As for Frank, he'd made a flying return to F1 via Bernie Ecclestone's helicopter at Brands Hatch, receiving a standing ovation from an admiring crowd. But heading into 1987 he and Patrick now faced challenges to their hard-earned dominance. Infighting had cost them a drivers' title and it wasn't about to get any better as hostilities increased between Mansell and Piquet, the latter too often lowering the tone by making his insults personal. From a professional perspective, the Brazilian was wound up that he'd work hard on perfecting a set-up – against the lazy stereotype too often levelled against him – and that Mansell would then reap the benefit at the races.

Of greater concern was the potential loss of Honda. The turbo V6s were now being supplied to Lotus too, although a lightly refined FW11B was more than a match for the 99T, superior aerodynamics and better packaging keeping the Williams ahead of the game even with Ayrton Senna still working wonders in Camel yellow. But Senna was working hard to take the Japanese engines to McLaren, forming a formidable super-team with Prost. For McLaren boss Ron Dennis, his team's successful partnership with the Porsche-built TAG turbo was beginning to run out of steam – and the stars were aligning.

On track, the 1987 constructors' title was never in doubt, and neither this time was a safe drivers' crown. But which of the two disgruntled team-mates would it be? Piquet's edge was blunted by a huge crash at Imola's flat-out Tamburello – some say he was never quite the same again – and he lost out to Mansell on pole positions (eight versus four) and on race victories (six versus three), including that unforgettable day when 'Our Nige' sold him the mother of all dummies at Silverstone's Stowe corner. But seven second places and Mansell's eventual undoing in a practice crash at Suzuka ensured Piquet of his third world title. Shades of Niki Lauda in 1984 perhaps, but those who claim he was undeserving do him an injustice.

But here the Williams domination would end – for now. Honda had demanded Japanese journeyman Satoru Nakajima as replacement for Mansell, despite the Englishman's fine form. By now back at the helm, Frank consulted with his partner Head and they shared a concern about becoming a second-string team to McLaren. Instead, Nakajima was placed at Lotus and Piquet joined him, taking the number one plate with him as he did so. Mansell's Williams drive was safe, but in the final year of turbo power before F1 switched back to normally aspirated engines he would be propelled by a relatively humble V8 supplied by respected privateer engine builder John Judd. The four-year Williams partnership with Honda that had harvested two constructors' titles, a drivers' title for Piquet and a remarkable 23 grand prix wins was over.

BY NOW BACK AT THE HELM, FRANK CONSULTED WITH HIS PARTNER HEAD AND THEY SHARED A CONCERN ABOUT BECOMING A SECOND-STRING TEAM TO McLAREN

In 1988 Mansell managed a solitary, if rousing, second in his own backyard at Silverstone, then bolted for a future in Ferrari red. But Frank, still adapting to his new life, wasn't concerned. He'd faced worse. Time once more to rebuild, with a new engine partner, an alliance with which Williams would hit its zenith. The best was yet to come.

## IN CONVERSATION WITH

# JAMES ALLISON

WORDS MERCEDES F1
PORTRAIT GLENN DUNBAR

The Mercedes technical director recently gave an in-house interview from lockdown, in which he talked about the integrity that underpins Lewis Hamilton's driving genius and his immense gratitude to Mercedes for helping him through personal tragedy

**How have you been keeping busy during this isolation period?**

Well, there's been an amount of F1-type meetings, where senior figures in each of the teams are meeting with the FIA and F1 to discuss how to best get through these difficult times. But that's only been a small fraction of the available time since we've been in this lockdown. I guess I've been quite lucky – I've got a nice garden so I've been out felling trees, and making a nuisance of myself. And I've been working on a wardrobe I actually started about two years ago, which has been progressing at a glacial pace. So, the one silver lining in this ugly period is that my wardrobe is at least coming on leaps and bounds.

**Twenty-nine years behind you in F1 and some quite different leaders you've worked under: Flavio Briatore, Toto Wolff. Have you combined different styles of leadership into your own?**

I've worked under many people that I would admire, but I think none more so than Bob Bell. That might be a name that's a little bit of a surprise given that I've worked with some big names in the sport, but anyone who's been lucky enough to work for him would have nothing but good things to say about him. He's got the most fantastically good, clear judgment. And to top that, he has a level of unimpeachable integrity. I think he's probably the person, as an engineer, that has influenced me the most – someone who always would put the team first and himself second. As a team principal, head and shoulders clear of the rest, would be Toto – because of the warmth and vitality he brings to our company, the trust he places in us and the fact he gives everyone working for him a certain amount of space and leeway to make their own decisions with a high degree of autonomy, while requiring high standards from us all and holding us to account in a clear and straightforward fashion if we're not cutting it. I've been particularly lucky at Mercedes because I have Toto as a boss. I also work in an engineering environment that's very much the legacy of the way Bob set it up. There's little we've changed in the technical structure to the way that Bob architected it a few years back.

**What was it like for you, your first day at work, joining this group [in 2017] that had been together for so long?**

It was anxiety-making or intimidating in a couple of ways. It was a team that had dominated the sport for three years running. It was a team full of engineers of the highest calibre. It was a very settled team with professionals in every level of the team who absolutely knew their job, and arguably they just didn't need me. They would have gone on to great things without my arrival. That knowledge is already sobering. But, coupled with that, the time I started at Mercedes it was only a few months after my wife died, and I was something of a wreck. I'm still grieving today, four years on. Back then, I was crying in my car on my way into work and crying on my way home. I hoped I would be useful at work, that I would find my feet again, that I would be able to carve out some sort of world for myself after Rebecca died. But it was more of a hope than a certainty. And one of the things that I feel particularly grateful to Mercedes for is that in a part of my life where everything was turned completely on its head, and where nothing felt normal, the most familiar part of it was my work. Because there the rhythm of the racing season, the pressure to get a car out, the pressure to develop it, the thrill of winning, the challenges the season throws your way – all those things felt familiar and they were about the only part of my life that did. I was very, very fortunate to be granted a place in a team that is extraordinarily warm-hearted, and with a group of people who didn't need me, but opened their arms to me and made me feel welcome, provided a space for me to work, and created an environment where I could be useful and where I could grieve and recover while having the most enviable and brilliant job.

**"I WAS VERY, VERY FORTUNATE TO BE GRANTED A PLACE IN A TEAM THAT IS EXTRAORDINARILY WARM-HEARTED"**

**You mentioned earlier, when you were talking about Bob Bell, the word 'integrity'. You've used that word about Lewis Hamilton as well – obviously it's something important to you.**

It does matter a lot to me. I was brought up in a forces household – my father was in the RAF and the armed services place integrity very high up on the totem pole of values. That is a characteristic that marks out Lewis. He's one of the oldest drivers on the grid now; still drives like one of the youngest. But in a career of multiple championships and countless wins, you will struggle to find a moment on the track where you see Lewis do something ugly. You'll see him do many, many breath-taking things; you'll see him do brave things, but you won't see just crude, dodgem or bumper car stuff – or any sort of artifice to the way he drives. I hope he manages to keep this going for the remainder of his career, because it's an unblemished record. Among multiple world champions it's also unprecedented to have all that success without anything that has even the hint of a shadow of poor sportsmanship hanging over it. It's impressive.



NOW THAT WAS A CAR

No. 87

WORDS
STUART CODLING
PICTURES
JAMES MANN

# THE McLAREN M14A

An evolution of the M7, this was the last Formula 1 car McLaren's founder ever raced


11
McLAREN CARS

NOW THAT WAS A CAR
No.87

# THE McLAREN M14A

Bruce McLaren prided himself on the inventiveness and sheer industry of his small team. But by the turn of the 1970s the strain was beginning to show as McLaren and team-mate Denny Hulme contested both the full Formula 1 championship and the US-based CanAm sportscar series, then added an Indianapolis programme to the company portfolio.

Lucrative though these peripheral activities were, they entailed a considerable division of labour in McLaren's busy industrial unit on David Road, Colnbrook, under the Heathrow flightpath. In 1968, Bruce had followed in the wheeltracks of his old Cooper team-mate Jack Brabham and won a grand prix in a car bearing his own name but, while the M7 family of F1 cars was neat and compact, development suffered for the dilution of resources – and Bruce's tendency to doggedly pursue his engineering flights of fancy.

While McLaren's CanAm cars raked in cash, both from prize money and the long list of orders from customers (which had to be fulfilled by an outside contractor, Trojan, later an F5000 and F1 entrant in its own right), the travel schedule for the drivers was brutal and the conflicting demands left the team in a spin. Rarely more so than when Hulme, still in mathematical contention for the 1968 drivers' title, crashed his M7A at the penultimate round – leaving just 19 days for the remnants to be flown to England and rebuilt at Colnbrook by a skeleton crew while the team's leading lights stayed in the US for the CanAm rounds at Laguna Seca and Riverside. Flight diversions caused by fog nearly caused the repaired car to miss its vital rendezvous with the rest of the F1 freight, en route to Mexico via a notoriously protracted customs process.







Outside pursuits were obstructing F1 development at a particularly febrile time, as the Ford-Cosworth V8 engine became ubiquitous and rival teams scrambled to find the



proverbial ‘unfair advantage’ over one another. Bruce waded in with a number of peculiar ideas which he would see through to a conclusion no matter how flimsy the premise, such as fitting fuel tanks in panniers to improve weight distribution. In 1969 he directed a sixth of the team’s annual budget into the development of a four-wheel-drive F1 car which ended up racing only once. He later described the driving experience as “like trying to sign your name with someone jogging your elbow”. As the new decade approached, it had become clear that wings and aerofoils, in tandem with rapid advancements in tyre technology, offered much more development road and were more weight-efficient than ponderous 4WD hardware.

Politically the IndyCar project was important, since it had been a condition of Goodyear’s sponsorship deal with McLaren. With lead designer Gordon Coppuck assigned to that task, responsibility for the 1970 M14A fell to the young ex-Lotus engineer Jo Marquart, who had co-designed the ultra-successful M8A CanAm car with Coppuck and been saddled with the unenviable task of drawing the M9A 4WD F1 curio. Lack of torsional rigidity was perceived to have been the chief weakness of the M7 family, believed to have been largely addressed with the one-off M7C variant Bruce raced through 1969, featuring a full monocoque ‘cigar tube’ body rather than the ‘bathtub’ shape of the original M7. Given the shortage of time and resources, Marquart focused on adapting the M7C concept, adding strength while cutting weight by simplifying and neatening the design.




**“GIVEN THE SHORTAGE OF TIME AND RESOURCES, MARQUART FOCUSED ON ADAPTING THE M7C CONCEPT, ADDING STRENGTH WHILE CUTTING WEIGHT”**

Like the M7C, the monocoque was combination of 18-gauge aluminium bonded and riveted together with mild steel bulkheads. New suspension geometry, particularly at the front, where rear-facing links had required an additional bulkhead for anchorage on the M7 family, unlocked a series of weight savings and allowed for a longer, slimmer void to accommodate the fuel tanks. New uprights all round and inboard-mounted rear brake rotors reduced unsprung weight, while 15-inch wheels replaced 13-inchers, allowing for larger brakes with theoretically greater stopping power.

Fibreglass bodywork in non-structural areas such as the nose cone was entirely conventional, as was the use of the DFV as a stressed member of the chassis, bolted directly to the tub. What had been ground-breaking just three seasons earlier, with the seminal Lotus 49 (on which Marquart had worked), was now the norm; of the leading teams, only Ferrari persisted with a semi-monocoque chassis.

Neat as the M14A was, though, this was not a time in which evolution and chipping away at details yielded victories in F1. Engine power had spiked with the displacement doubling of 1967 and continued to climb through development. Getting all that power down had been the problem, hence all that energy expended in dead-ends such as 4WD. Bruce had been onto something with his pannier fuel tanks, though. Weight-effective as aerofoils were in producing downforce, aerodynamic science was still relatively immature in motorsport. Shifting a car's weight balance rearwards was another lever engineers could pull to gain traction, along with ever-improving rubber produced by competing manufacturers.

Boldness would trump convention in 1970 as the wedge-shaped Lotus 72 with its side-mounted radiators proved to be a game-changer, albeit only after it was shorn of needless complications such as rising-rate suspension geometry. Ferrari's 312B was in the mix, too, thanks to that sonorous flat-12's generous grunt and advantageous balance.

In the season opener at Kyalami in early March, the works McLarens of Denny and Bruce qualified sixth and tenth, with John Surtees in the M7C – now repainted in his own colours – seventh. Bruce retired with engine failure, a malady which also afflicted Surtees and other contenders including Jochen Rindt's Lotus and Jacky Ickx's Ferrari. Jack Brabham won by 8.1secs from Hulme. It was far from disastrous, but then again Lotus was racing its ageing 49C because the 72 wasn't ready yet…

Bruce shunted the car photographed here, chassis M14/1, in the Race of Champions at Brands Hatch a fortnight after South Africa. It was rebuilt with a new tub and 13-inch wheels for the Spanish round at Jarama, where Bruce finished second from 11th on the grid, albeit helped by attrition – Hulme had qualified second but was one of 11 retirements. Rindt's Lotus 72 had proved such a handful pre-retirement that his team reverted to the 49C for the next round, while Ickx's Ferrari was gutted by fire after a collision on the opening lap.

Hulme also tried 13-inch wheels, in the non-championship International Trophy race at Silverstone, but hated them (he was beaten by Reine Wisell in an M7A) and at Monaco both works McLarens took on 15-inch wheels with a revised suspension upright design. Hulme qualified third but slipped out of contention for a podium when his car began jumping out of gear. Bruce barely figured, starting tenth and crashing when his suspension buckled after 19 laps. Up front, Rindt claimed a famous victory when Brabham slithered off at the final corner.

This was 10 May. Events in the coming weeks would hammer the team from every direction. Two days after Monaco, Hulme was testing the new M15 Indycar at Indianapolis in preparation for McLaren's first works assault on the Indy 500 when high-speed vibrations caused a fuel flap to pop open. Airflow sucked fuel out of the tank, spraying it over the car and engine, where it caught fire. Methanol burns with an invisible flame: within seconds of seeing droplets on his windshield, and while still exceeding 180mph, Hulme felt an intense heat and saw his gloves begin to wilt. He had to leap from the cockpit while the car was still moving.

**NOW THAT WAS A CAR**
No.87

**THE McLAREN M14A**






"BRUCE'S FRIENDS AND COLLEAGUES, DAZED AND EMOTIONALLY DRAINED AS THEY WERE, FILED INTO THE FACTORY THE FOLLOWING DAY AND BEGAN TO BUILD HIS LEGACY"












Hulme's hands were too badly burned for him to continue, and so McLaren drafted in Peter Revson and Carl Williams to complete the 'Month of May' rituals and contest the race on 30 May. Three days after that, with Hulme out of commission, Bruce elected to test the new M8D CanAm car himself at Goodwood. There a hitherto perfectly ordinary day ended in a tragedy of the cruellest, most random kind: the failure of a catch sent the rear bodywork loose and flailing, and the car, shorn of downforce, ploughed into a concrete bunker used on race days as a marshalling post. Bruce was killed instantly.

This second brutal blow in just a handful of weeks might also have felled the team, but Bruce's friends and colleagues, dazed and emotionally drained as they were, filed into the factory the following day and began to build his legacy. They were too broken to contemplate travelling to that weekend's Belgian GP but were defiantly present at Zandvoort on 21 June, with a Can-Am victory the previous weekend already in the bag. Hulme had aggravated the welts on his hands in the sportscar race, so he sat out the Dutch GP as Peter Gethin raced his car (and crashed it) while Bruce's friend Dan Gurney took M14/1, though an engine failure put him out on lap two.

A dodgy batch of crankshafts was blamed for many of the Cosworth failures that season and caused a shortage of raceworthy units, which led to Gethin missing the British GP.

Gurney also had to take his leave before Germany, owing to one of his sponsors – Castrol – taking exception to him piloting a car carrying Gulf logos. That opened the door to Gethin returning to partner Hulme in the closing rounds, but there would be no victories for McLaren in F1 that year and the team had to settle for fifth in the constructors' championship. It would be back to the drawing board – after sorting the Indycar and tying up CanAm again, of course.

## RACE RECORD

**Starts** 30
**Wins** 0
**Poles** 0
**Fastest laps** 0
**Podiums** 5
**Constructors' points** 35

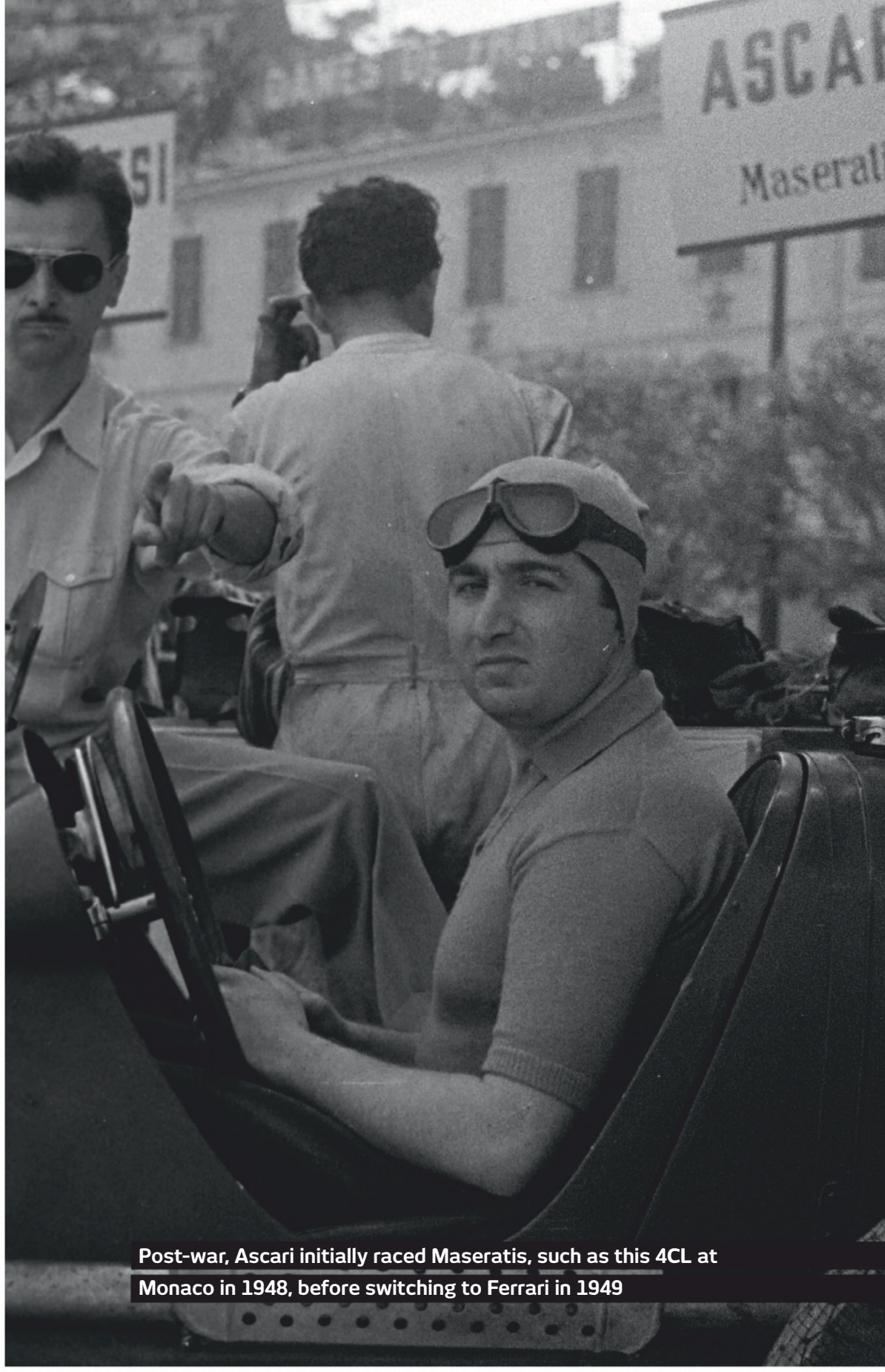
## SPECIFICATION

**Chassis** Aluminium and steel monocoque
**Suspension** Double wishbones, coil-over shock absorbers
**Engine** Ford Cosworth DFV 90-degree V8
**Engine capacity** 2993cc
**Power** 430bhp@10,000rpm
**Gearbox** Hewland DG300 five-speed manual
**Tyres** Goodyear
**Weight** 535kg
**Notable drivers** Bruce McLaren, Denny Hulme, Dan Gurney, Peter Gethin

# NIGEL ROEBUCK'S FORMULA ONE HEROES

## ALBERTO ASCARI

PICTURES motorsport IMAGES




Post-war, Ascari initially raced Maseratis, such as this 4CL at Monaco in 1948, before switching to Ferrari in 1949

**CASTELLOTTI, MUSSO, BANDINI, PATRESE, ALBORETO…**

…all had their days in the sun, but the last truly great driver from Italy died 65 years ago. Many rated Alberto Ascari the best of his generation, above even Juan Manuel Fangio.

On 22 June 1952 Ascari won the Belgian Grand Prix for Ferrari, and on 21 June 1953 did the same again. In the course of those 12 months none but he won a world championship grand prix.

True, there were fewer then than now, but non-championship races abounded, and in those Ascari was similarly dominant, winning at such as Syracuse, Pau, Marseille, La Baule and Bordeaux. At his best, which invariably he was, Ascari stands comparison with anyone who ever raced a car.

His father, Antonio, had also been a top driver, winning many races for Alfa Romeo before losing his life while leading the French Grand Prix at Montlhéry in 1925, when Alberto was seven years old.

Like many of his generation, he began his racing career with motorcycles, then drifted into cars. In 1940 he competed in the Mille Miglia, and his car – known as the Tipo 815 – was in fact the first Ferrari, although it did not yet carry the name.

At the end of the war, by now married with two children, Ascari was initially equivocal about returning to racing, but his friend Luigi Villoresi had already seen in him a talent far beyond his own, and Alberto, once wooed back, was ensnared. For two years he raced Maseratis, in 1948 winning at San Remo and finishing second to Villoresi at Silverstone in the first British Grand Prix.

At Reims that year Ascari was offered a factory Alfa, and he ran comfortably with team-mate Jean-Pierre Wimille. Logically Alfa should have signed Alberto for 1949, but when Wimille was killed early in the season, the company decided to sit it out. Thus began the legend of Ascari and Ferrari: at Berne he scored the team's first grand prix victory, then won for the first time at Monza.

In 1950, the year of the first world championship, Alfa returned, and there followed two fabulous seasons of slugging it out with Ferrari, for whom Ascari won races, if not the title.




He did, though, finish second to Fangio in 1951. In the two following years, when the championship was run for two-litre 'F2' cars, Ascari was unstoppable. "When I saw Jim Clark," Fangio said to me, "I thought of Alberto ten years earlier – pole position, leading from the start, everything so natural…"

Close as they were – Ferrari said he thought of Ascari as a son – their association ceased at the end of 1953. The racing world was stunned. Simply, Ascari had come to feel that, in light of everything he had achieved for Ferrari, he wasn't being paid enough. He had a pleasant apartment in Milan, but back in the day drivers did not get rich.

By now Ascari was a national hero, rivalled in Italian affections only by Fausto Coppi, the first man to win the Tour de France and Giro d'Italia road cycling races in the same year. The two men became friends, and Alberto's resentment towards Ferrari only increased when he learned from Coppi that top Italian cyclists were paid greatly more than racing drivers.

Thus he moved to Lancia, which was building an F1 car, the D50. Unfortunately, though, it took a long time to become ready – although Ascari conducted a first test in February 1954, the car did not make its debut until October. In the meantime, absurdly, the double world

champion had little to do. At Reims and Silverstone he drove a Maserati, but each time the car broke. The high point of 1954 was the Mille Miglia, which Alberto won.

Hopes that the Lancia might make its debut at Monza came and went, and, given that it was unthinkable the country's greatest star should be absent from the Italian GP, a factory Ferrari was made available. Instantly on it, Ascari fought with Fangio's Mercedes for the lead until his engine failed.

In the crowd that day was 14-year-old Mario Andretti, preparing to leave for a new life in the USA. "Ascari was my man," says Mario. "My life just revolved around him – I never met the man, but he had a greater influence on me than anyone else."

> "ASCARI WAS MY MAN. MY LIFE JUST REVOLVED AROUND HIM – I NEVER MET THE MAN, BUT HE HAD A GREATER INFLUENCE ON ME THAN ANYONE ELSE"
>
> MARIO ANDRETTI

On the Lancia's first appearance, in Barcelona, Ascari took pole position – a full second faster than Fangio – and led until his clutch broke. Although disappointed, he looked to 1955 with optimism, and began the season with non-championship wins at Turin and Naples. At Monaco, round two of the championship, he started from the front row, between Fangio and Moss.

For once no Mercedes made the finish, and when Moss blew up, on lap 81, Ascari – for a few seconds – took the lead. At the chicane, though, he hit oil from Stirling's car, and that, together with the snatching brakes that always plagued the D50, put him through the flimsy barriers and into the harbour.

Among the eyewitnesses was the actor Peter Ustinov, who told me the moment remained clear in his memory: "I remember the car shooting out of the tunnel – and then *nothing*! I couldn't quite take in that Ascari had actually gone into the water, and then I started to feel quite sick. Assuming he had survived, it seemed likely that he'd have been knocked unconscious, and might drown. After what seemed an eternity, we saw him come to the surface."

Four days after this remarkable deliverance, Ascari went to Monza, where his protégé Eugenio Castellotti was testing a yet unpainted Ferrari 750S in preparation for Sunday's sportscar race. Wearing suit and tie, Alberto had no intention of driving, but in late morning decided that maybe he should get back in the saddle for a few laps in this new car. Thus he put on Castellotti's white helmet and climbed aboard. On his third lap he crashed at the Curva Vialone, a corner which should never have troubled one such as he.

Vialone – now renamed Ascari – had no chicane in those days, and was a flat-out left-hander. Vivid black tyre marks indicated the Ferrari had got sideways, then begun to somersault, in the course of which Ascari was thrown out. Castellotti, Villoresi and others rushed to the scene, where they found him barely alive. His funeral, a few days later, brought Milan to a standstill. "I have lost my greatest opponent," said Fangio. "Alberto was a driver of supreme skill – but more, a great man, a loyal and generous friend."

In Ascari's mind always was the well-being of his wife Mietta and their children, and he was well aware that his life might not be a long one. Although he adored his kids, people thought him a little stern with them, and Enzo Ferrari once took him to task over it. Alberto replied that one day he might not come home, and they would suffer less if he didn't let them get too close to him.

Why then, Ferrari asked, did he not retire? "Ascari put his hands on my shoulders, and looked me in the eye. 'You know me,' he said. 'Without racing I would not know how to live.'"



When he won the British GP at SIlverstone in 1953 Ascari was well on his way to a second consecutive world championship

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SHOWCASE

# THE FRENCH GP

It's race that only returned to F1 in 2018 after a ten-year break, but the French GP has a long and sometimes dramatic past

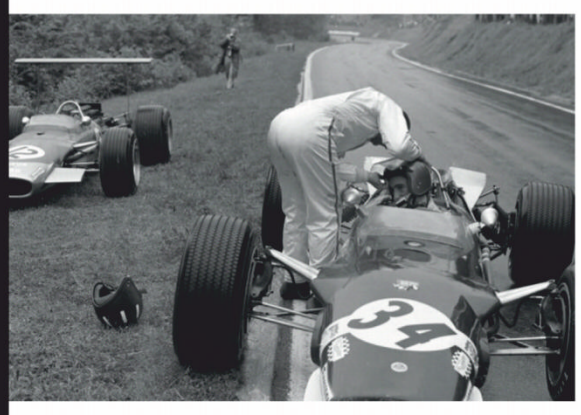
*The car upside down in mid-air at the start of the 1989 race at Paul Ricard is a March, with Mauricio Gugelmin thankfully still well strapped in. Amazingly, Gugelmin took the restart in the spare and even managed to claim the fastest lap*




15
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*Niki Lauda guns the beautiful Ferrari 312 T2 through Dijon's undulations in 1977. This was the second French GP held at the track, but the first on the longer 2.3-mile layout. Lauda only managed fifth in this race, but by the end of the season had done enough to win a second world championship*




*After Graham Hill had retired from a wet 1968 race at Rouen on lap 14, he flagged down fellow Lotus driver Jo Siffert to give him the visor from his helmet. Quite why Siffert started without one is unknown but Hill helped attach the visor and Siffert finished the race in 11th, albeit six laps down*



*In the 1973 race at Paul Ricard Emerson Fittipaldi had closed in on long-time race leader Jody Scheckter and, on lap 41, went for a gap. Scheckter closed the door and this was the result: Fittipaldi out on the spot and Scheckter two laps later. Strong words were exchanged...*




*Michael Schumacher takes the chequered flag at Magny Cours in 1995 for his second consecutive French GP victory with Benetton. The German had trailed pole position winner Damon Hill until the first round of pitstops but eventually finished over 31 seconds clear of the Williams driver*



*One characteristic of the revamped Paul Ricard circuit is the red and blue headache-inducing stripes in all of the run-off areas. More abrasive than the track, the stripes are there to help slow down errant cars. Not that Lewis Hamilton, winner of the two races held on the modern circuit, has needed them...*

*The 2002 race at Magny Cours didn't start well for Ferrari when Rubens Barrichello's F2002 was left stranded on its jacks as the field pulled away on the formation lap. Barrichello failed to start the race, but team-mate Michael Schumacher went on to win and in the process claim a fifth world title*



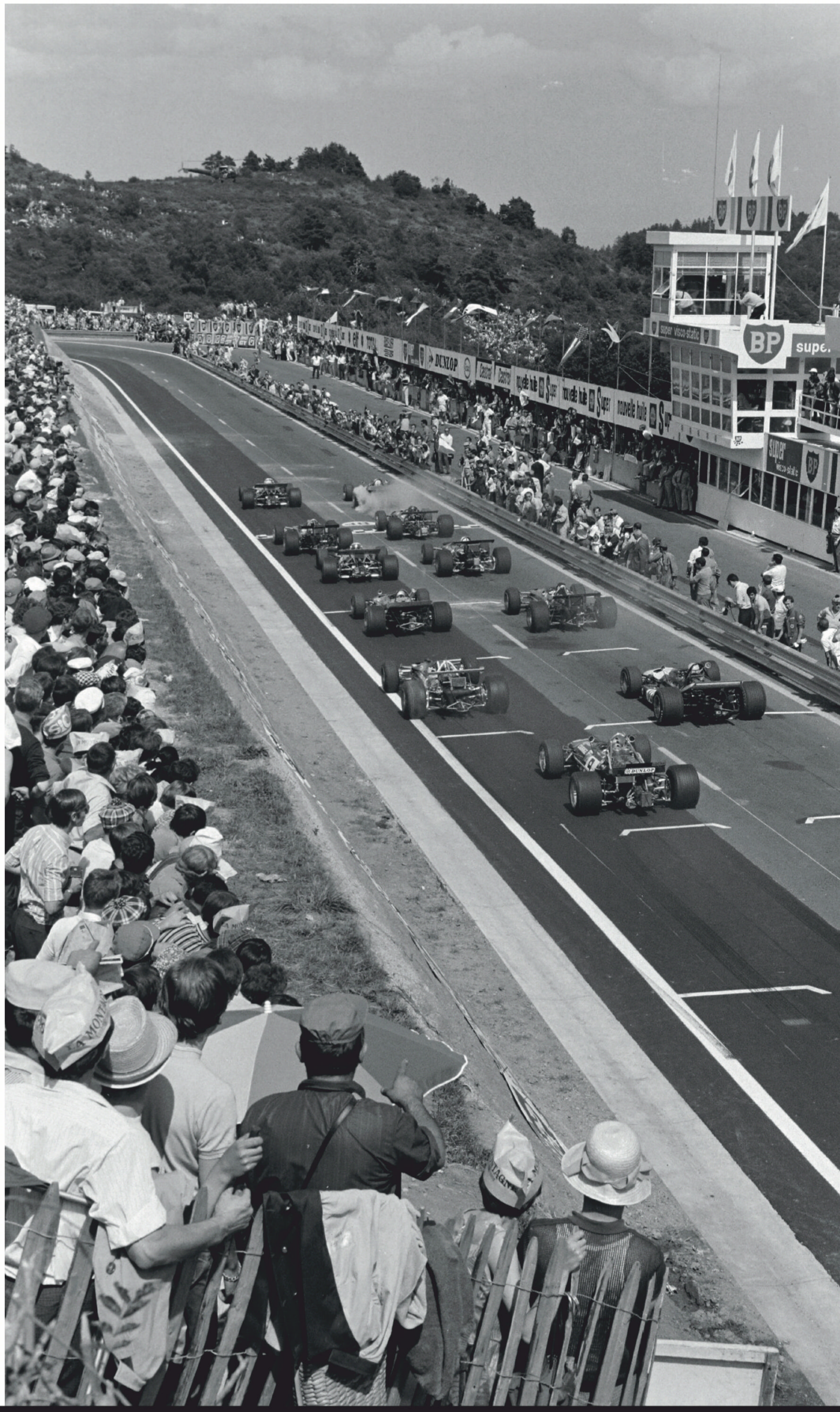
*Grids for many races in 1969 were low and the French race at Charade that year suffered more than most, with 11 of the 13 starters pictured in this shot. Denny Hulme smoked his tyres at the start to allow pole man Jackie Stewart to lead into the first corner. Stewart went on to win by nearly a minute from Matra team-mate Jean-Pierre Beltoise*



*Alex Zanardi's 1994 French GP didn't promise much with only three cars, a Larousse and the two Simteks, behind him on the 26-car grid. When the Mugen-Honda engine in his Lotus let go in spectacular fashion on lap 20 he became the race's first retirement, and all Alex could do was leave the scene as quickly as possible*



*Dan Gurney with Graham Hill as his passenger on Gurney's Porsche 718 during practice for the 1961 French GP at Reims. Gurney qualified just ahead of Hill and almost delivered a first F1 win for Porsche, in what was actually an uprated Formula 2 car. He missed out by a mere tenth of a second to Ferrari's Giancarlo Baghetti*



*The 2005 GP at Magny Cours came just two weeks after the debacle at Indianapolis but for Fernando Alonso it was just another race, one he led from start to finish for a fifth win from ten races. He was aided by a ten-place grid penalty for nearest rival Kimi Räikkönen, who still recovered from 13th on the grid to finish second*

*A happy James Hunt celebrates what would turn out to be his second win of the 1976 season, at Paul Ricard, once his Spanish victory was eventually taken away from him. At this point, he was a massive 28 points behind championship leader Niki Lauda, with only eight races left. But we know how that one finished...*




*It's 2006 and Michael Schumacher wins the French GP for an unprecendented eighth time, all of them at Magny Cours. The German still holds the record for the most wins at the same grand prix and this was Schumacher's sixth triumph there with Ferrari, to add to the five victories in 1997, 1998, 2001, 2002 and 2004 respectively*

*It was the day all of France hoped would come. At Dijon in 1979 Jean-Pierre Jabouille claimed an historic win on home soil, the first Frenchman to win the race since 1948. And to top it off he was driving a French car (Renault), on French tyres (Michelin), with a French engine (Renault) and burning French fuel (elf)*

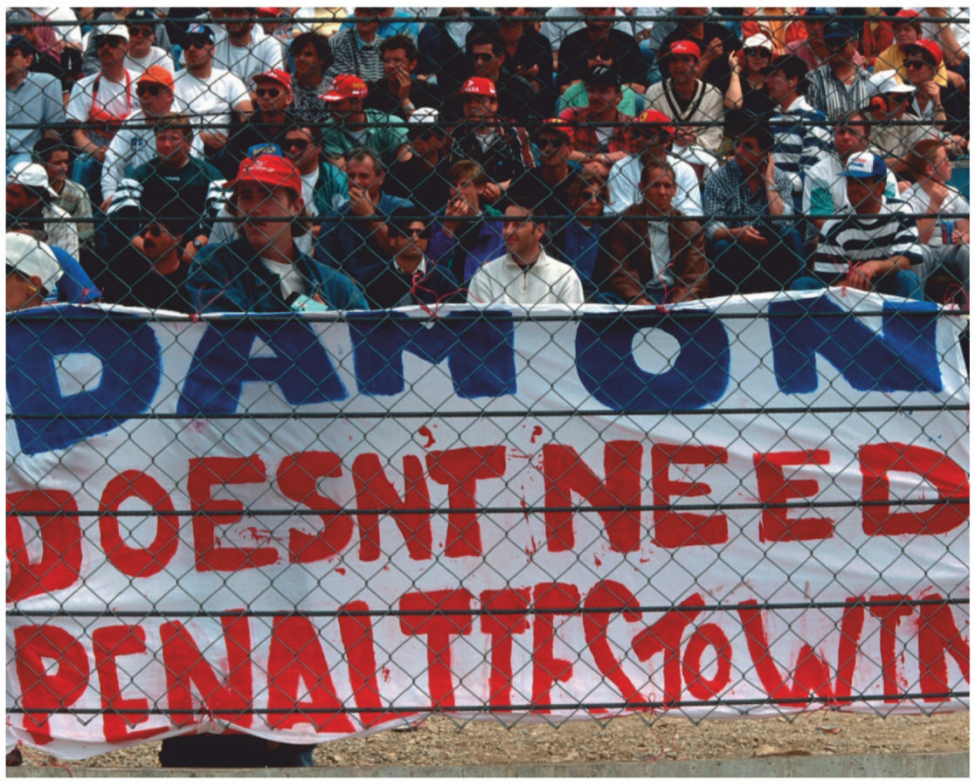



*The remains of the Arrows A6 of Chico Serra after a high-speed spin at Signes in qualifying for the 1983 GP at Paul Ricard. A rear tyre blew and pitched the car into the catch fencing that was prevalent at most circuits at the time. The car was too badly damaged to be repaired, but Serra sneaked onto the last place on the grid in the team's spare*




*Up close with Jochen Rindt in the Lotus 72 at Charade in 1970. It was the fourth race for the new Lotus and Rindt overcame nausea and a blow from a rock thrown up by another car to record a second victory for the 72. Wins in the next two races saw him crowned champion posthumously after his death at Monza in September*



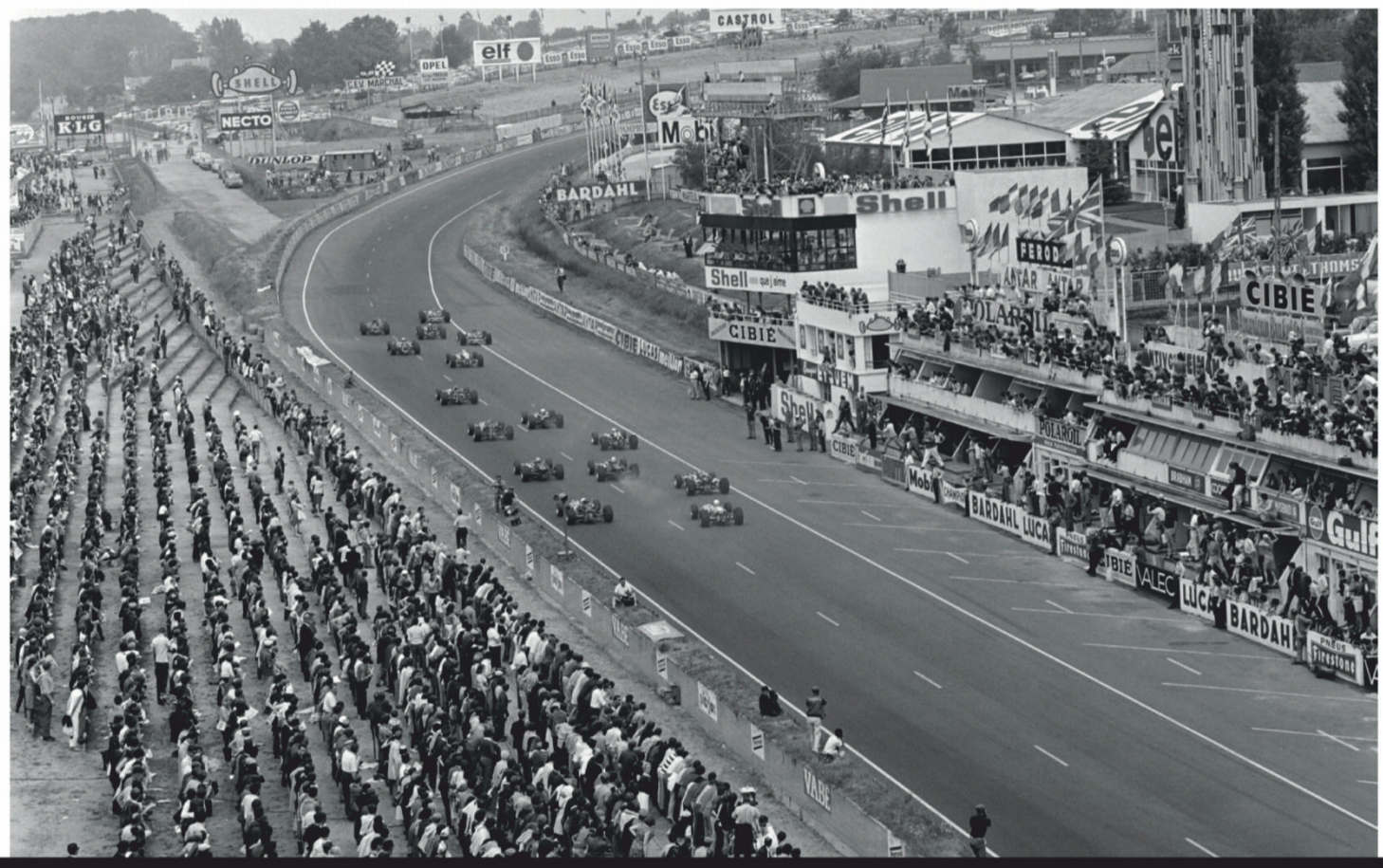

*It's the day of the 1996 French GP and England's Damon Hill is in the middle of his battle with Germany's Michael Schumacher for the world championship. The banner refers to the fact that four days earlier England had been knocked out of the European Football Championship, on penalties, by Germany*




*Michael Schumacher looked to have Magny Cours' 2000 race sewn up when he led in the early stages. However, tyre issues after his first stop allowed David Coulthard to close on the Ferrari and, on lap 40, the McLaren dived ahead at the hairpin. Coulthard went on to win but Schumacher eventually retired with engine failure on lap 58*

*The Circuit de Charade, near the city of Clermont-Ferrand, is set around the base of an extinct volcano and the tight and twisty circuit hosted four French GPs, the last in 1972. That race also marked the last of eight Formula 1 victories for the Tyrrell 003, all of them in the hands of Jackie Stewart*

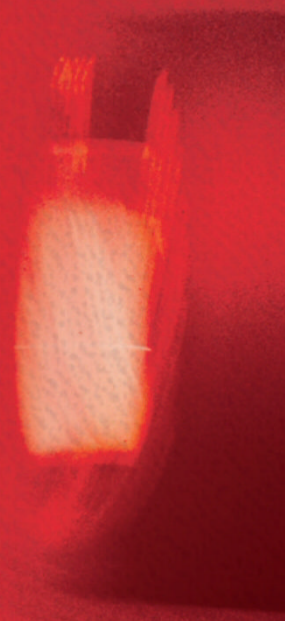



*Famous for the annual 24-hour sportscar race, Le Mans has only hosted a single French GP, in 1967. Graham Hill was on pole but retired in the early stages, and the win went to Jack Babham. Sadly, the race wasn't held on the full circuit but on the new Bugatti layout, an unpopular move with both the crowd and the drivers*

# GRAND PRIX GREATS

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# TECH TALK



WITH RODI BASSO

# THE IMPORTANCE OF BEING FERRARI

***GP Racing* technical expert Rodi Basso** was a performance engineer at Ferrari during Michael Schumacher's glory years. This is his view from inside Formula 1's previous period of almost total dominance by one team...

To understand how important Ferrari was (and still is) in the Italian consciousness, let's start at the beginning – of my Maranello journey, at least. I had no fewer than four job interviews over several months before joining Scuderia Ferrari as a performance engineer for the test team in August 2000. Much has changed since then – the sheer expense of maintaining a separate team just to test seems almost unthinkable today – but one thing is fixed, immovable: Ferrari is Italy's second religion, and the pinnacle of engineering excellence.

That's why I applied for the job. I wouldn't have described myself as a motor racing fan – I was an aerospace engineer by training. But to work with Ferrari was like attending a finishing school for engineers, and that's what interested me. My first interview was with a guy from HR who talked for ages, explaining what they were looking for. Then I think he tried to catch me out by asking me to recap what he'd just said. "Basically," I replied, "you're looking for a technical interface for the driver."

This seemed a satisfactory enough response for him to get on the phone and arrange the next interview straight away. That involved going to Fiorano, Ferrari's test track, and there I was hooked. As I was walking under the bridge one of the Formula 1 cars was going over the top of it. I could hear the V10 engine screaming and roaring over my head. It was incredible – the thrill coming from the vibration, the sound, all the senses. And it was Michael Schumacher driving – even if I wasn't too much into motorsport at this time, I knew who he was. Everybody knew Michael.



PICTURES: FERRARI



After an initial interview Basso was immediately sent to Fiorano, Ferrari's own test track, where he was taken aback by the attack on his senses



Basso with Rubens Barrichello before the 2004 US GP. It was with the Brazilian whom Rodi worked with when moved to the race team




**“SINCE TESTING WAS UNLIMITED IN THOSE DAYS I WAS THROWN INTO THE TEST TEAM AT THE TRACK VERY SOON AFTER STARTING AT FERRARI, AND I WAS INVOLVED IN EVERYTHING FROM THE ASSEMBLY OF THE CAR UPWARDS”**

My final interview was with Jean Todt himself, the team principal at the time. I was told he was interviewing all the candidates personally – that he wanted to check whether they had the right attitude for the job. That would be an incredible level of detail for a team boss today, let alone then, when at least half the grid operated separate test teams. He was asking the usual stuff about my strengths and weaknesses, and then he said, “This world [Formula 1] is an incredible world. You can really grow and develop yourself as a person and as an engineer, but it’s important to be humble. Humility is a key value in this world.”

Now, you can make a joke and say Jean Todt is maybe not the humblest person in this world but if you look at his work, both then and now, as president of the FIA, he keeps a low profile and a quiet public tone while overseeing all the championships as well as working to improve road safety. Very different from the previous management. I often think back to this conversation because he was right. In the world of motorsport there’s a lot of glitter and champagne, very superficial stuff that can distract you and make you miss the important stuff.



**Basso started with the test team, which had its own dedicate test driver in Luca Badoer**

Since testing was unlimited in those days I was thrown into the test team at the track very soon after starting at Ferrari, and I was involved in everything from the assembly of the car upwards. It was an incredibly steep learning curve because I’d trained as an aerospace engineer and I had to learn a lot about vehicle dynamics, and how to measure and understand the aerodynamics on a race car.

Even if you’re a mechanical engineer or whatever, a racing car is something else. Now there are courses you can take, institutions to attend, that give you some grounding in motorsport engineering, but in those days you could only learn by being in the environment. And nothing compares to being at the track, or in a design office, and being really hands on.

For two years I was part of the test team, which ran in parallel to the race team. We even had our own driver, Luca Badoer, plus the race drivers sometimes. That’s when I started getting some experience in dealing with and managing the race drivers, but then when I moved to the race team it was a whole other level – almost another discipline entirely. It’s not the atmosphere, the pressure of being in a race environment, or even the sheer number of people. In testing – on track or the engine dyno – you’re working in a very experimental environment. It’s a scientific process built on repeatability, so you need to be very disciplined in planning, and having your rituals and best practices in understanding how to test new items without jeopardising other tests. You’re building an understanding of what makes an impact on performance and reliability.

Whereas during a race weekend it’s about the psychological, strategic and sporting elements, and having the trust with the driver. You are looking to extract the maximum potential of the car based on the knowledge you’ve built through testing. Here you don’t want to make too many changes to the car, not just because track time is limited, but because for the driver one of the key aspects is predicting what the car is going to do. It’s a completely different mind game – and here the game is where the driver has to be managed. You support your driver to understand where he was stronger and where he was weaker than his team-mate, and when it was because of his driving and when it was because of the car. That’s where you become a competitive engineer.

You need to think like a sportsperson. The tools are different – it’s not your body in terms of what’s making the majority of the effort,

it's about getting into the psychology of the driver and understanding what's best to get them up and running from the moment they arrive in the morning. That's what I found fascinating in my work.

At this point Ferrari was at its competitive peak – a benchmark as a business as well as a sporting operation – and I was very privileged to be part of it, dealing with incredible people. You had the feeling of being part of something special, because not only were all the individuals outstanding, the glue – the chemistry – was something different and special. You had the feeling of having the right and the duty to ask for the best: a faster computer, a better algorithm to manage a particular system on the car. And on the car itself – can we make the hubs lighter? There was this philosophy of pushing all of us try to find one millimetre of advantage because when you put everyone's contribution together, that's where you get hundreds of metres.

My first race weekend was the Italian Grand Prix in 2002. Michael had already won the drivers' championship and Ferrari the constructors' title, but the team hadn't lifted off the throttle, as it were – and not just because it was our home grand prix. Everybody was pushing just as hard. I was working with Rubens – and he won! As an Italian, to be part of the winning team at Monza was the best way to start my race career, but all the while I was telling myself to keep my feet on the ground. "Rodi," I said to myself, "you're fucking lucky."

And, yes, I was indeed very lucky to start where things were working brilliantly. In some phases of the championship we had our struggles, sometimes with reliability because we were pushing the limits too much. But even then, in the debrief, Ross Brawn would say, "Guys, we know we have a fast car, but maybe it's not as fast as it could be. Let's imagine it's in the middle of this table, and each of us has to think on how to improve by a tenth of a second each bit we're managing. If we do this, we get into seconds of advantage." For me, this is the highest expression of system engineering and team spirit, and it defined modern F1: there's no such thing any more as the one new component or magic bullet that makes you one or two seconds faster per lap.

It also helped that we had two great drivers. Both Michael and Rubens were respected and loved by the team. Rubens knew he had some gaps in performance compared with Michael. Rubens was very strong at circuits where you get a lot of understeer, because he had no problem with it and because he used his right foot to brake and accelerate. He was always good in Austria, for instance. But the problem was that out of 16 races there were only a few front-









**Basso's final interview was conducted by Jean Todt (left, with Barrichello), Ferrari's team principal. When promoted to the race team Basso's first GP with Barrichello was Italy in 2002 which Rubens won (above and below, left)**

limited circuits such as this. The majority of them had longer corners where you had to carry a lot of speed in – and that's where a driver like Michael, who braked with the left foot, could balance the action of his feet to gain an advantage.

Plus we were running Bridgestone tyres at the time, which were very strong in terms of one-lap performance. A lot of the tracks were killing the rear tyres very quickly, particularly in hot places such as Malaysia, so a driver who was more comfortable with a nervous rear axle would find greater performance. Michael liked to unsettle the back end of the car to make it turn, and while that burned the rear tyres he was comfortable with it. Rubens liked to go deeper into the corners before turning, sometimes snapping the car quickly under power.

I think at a certain point in 2003 Rubens decided he needed to change something in his driving style. He began to use his right *or* left foot to brake, depending on the type of corner he was approaching. That's how he took pole position *and* won at Suzuka, a circuit which historically favoured Michael. In sector one Rubens was left-foot braking for the long right-hander and the esses, then for the hairpin and the chicane he would brake with the right, and that gave him an advantage over Michael there.

Rubens had a remarkable ability to replay a complete lap for you in the debrief. He would sit between me and my colleague, his race engineer, with his hands out in front of him, holding an imaginary steering wheel, and his feet outstretched as if they were working the pedals. And he could talk us through the feelings of the lap, correlating it with the data. It was as if we were on board the car with him.

Rubens could describe point by point how the car was behaving. I think he had a massive influence in Ferrari's development and success. In the car, he and Michael were very different, though. Michael would almost go into a trance – he was focused but also relaxed, and on the radio you'd never hear a trace of anxiety. Rubens tended to be much more excitable.

It was fascinating to work with Michael too. One time I was substituting for his performance engineer in a test at Jerez, and as I was looking through his data I could see at Turn 10, the corner just before the chicane, he was going really wide and doing all sorts of corrections on the steering. It was like Tommi Makinen was driving the car.

So after his run I said, "OK Michael, I can see you've got a lot of oversteer in this corner so maybe I can help you a bit with the differential settings to make it more stable." We did another run with just this change, and he came back and said, "Can we go back on the diff? I've got *dangerous* understeer in Turn 10."

Dangerous? Rubens would have kissed me for giving him understeer like that!

**"RUBENS COULD DESCRIBE POINT BY POINT HOW THE CAR WAS BEHAVING. I THINK HE HAD A MASSIVE INFLUENCE IN FERRARI'S DEVELOPMENT AND SUCCESS"**

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## HOW SERIOUSLY SHOULD WE TAKE ESPORTS?

**"Gaming" can be a taboo** word in Esports and sim racing. As the pastime has become increasingly professional – and, in the case of motorsport, serious – to call it a game may provoke those invested in it to take great umbrage.

McLaren driver Lando Norris has previously said he was too embarrassed to reveal his playtime on iRacing, the premier motorsport simulation, which one would imagine stretches into days and weeks, if not months.

But Norris has been leading the professional charge for sim racing in recent times. He's even linked up with his former F1 performance engineer, Andrew 'Jarv' Jarvis, to go over data and telemetry to prepare for some IndyCar events. That's how serious the discipline has become.

And then at the other end of the spectrum is Charles Leclerc, who has come to the virtual cockpit in a banana suit, played games such as Truck Simulator, and raced lawnmowers around Silverstone with George Russell and Alex Albon.

The trio of Leclerc, Albon and Russell in particular have been enjoying themselves during the enforced break, taking part in social events together online, streaming for their fans to watch and follow. But they've shied away from taking things too seriously, preferring to have more fun. Russell in particular has enjoyed making Albon's life hell on the virtual track, even spawning a video compilation of young Alex crying "GEORGE!" each time Russell has deliberately taken Alex out.

F1's official Esports programme has blurred the lines between serious and fun racing. The headline event has featured a mix of F1 drivers and celebrities from other arenas, including One Direction singer Liam Payne and England cricketer Ben Stokes. It's been beneficial to the viewing figures, and made for some fun racing.

**DRIVERS CAN GET AWAY WITH RISKIER MOVES KNOWING THERE IS NO COST IF THEY GET IT WRONG**

But F1 has never professed its Virtual GP series to be anything more than entertainment for fans. There's no big prize money or sponsorship at stake. For those wanting to see the best exponents of Esports going wheel-to-wheel, F1 set up a series where only pro sim racers take part, meaning both 'sides' are catered for.

The "it's only a game" debate caught fire last month after IndyCar's iRacing finale, in which a couple of major incidents, where drivers deliberately took others out, brought the series to a sour and controversial conclusion. Norris – a high-profile guest – called 2019 Indy 500 winner Simon Pagenaud "salty" after Pagenaud deliberately crashed into him, while Santino Ferrucci denied Oliver Askew victory with a NASCAR-style swerve, later seeking to justify his actions by saying "it's only a game".

In some ways, Ferrucci is right. This is just a virtual event, some fun that will never truly replace real-world racing. Drivers can get away with some riskier moves knowing there is no physical or financial cost if they get it wrong. But that devalues the amount of effort many have been putting into sim racing over the past few months. Norris and his engineers gave up a lot of their free time to prepare for events. What was the point if it was going to end in farce?

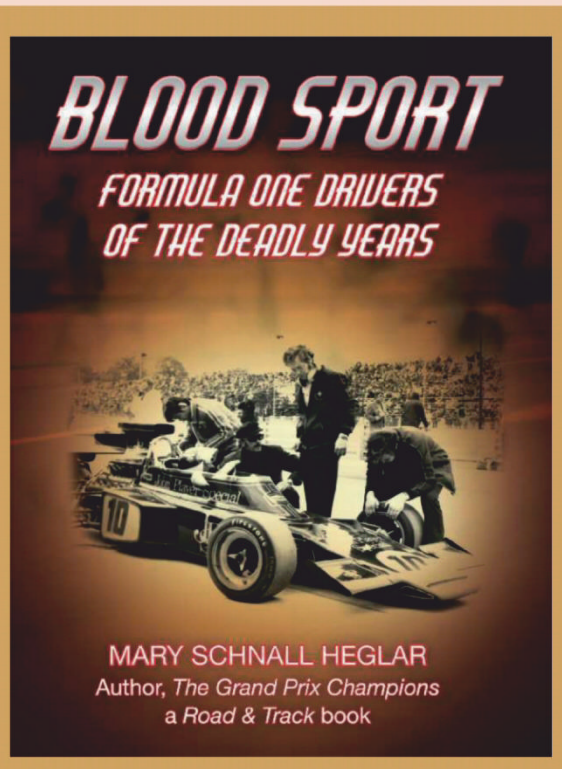
The important thing during this break is for Esports events to have a united message in their levels of professionalism. While it may be no substitute for on-track action, virtual racing is the closest thing we have right now. Some will treat it as seriously as possible – and that should be respected. And for the rest, looking for more fun, perhaps sitting in their banana suits, that should be encouraged too. But it should not spoil the experience for those taking it seriously.

All Esports is gaming, but not all gaming is Esports...

**Leclerc has been successful in Esports but obviously isn't taking it too seriously**




PICTURE: SCREENSHOT TAKEN FROM CHARLES LECLERC'S TWITCH STREAM. ILLUSTRATION: BENJAMIN WACHENJE




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# ESSENTIALS

# F1 UPGRADES

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F1 MANAGER

**Price** Free (in-app purchases)

hutchgames.com

While the 2020 Formula 1 season is yet to start for real, the acclaimed F1 Manager mobile game has been refreshed with the current team identities and driver line-ups. So AlphaTauri appears on the grid, Nicholas Latifi slots in at Williams, and Hanoi and Zandvoort join the virtual calendar.

While progress has been reset to give new players a chance, a new Constructors' Championship store function gives seasoned players a reward for past performances.

The play mechanic is intuitive: as team manager you call the strategy as your drivers do the business. Races are short but frenetic and, initially, your options revolve around optimising tyres, pitstop timing and driver pace to suit the (finite) fuel load and tyre wear. Progress unlocks car and driver upgrades as well as various performance boosts.

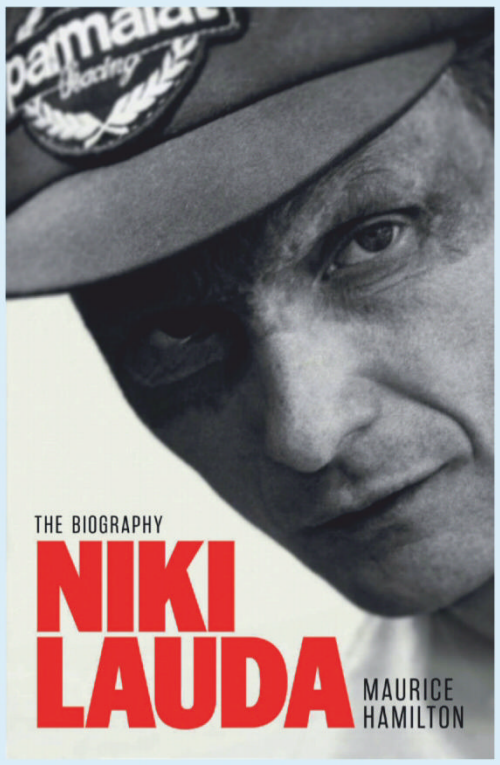
This being a tablet/mobile game, it is free to play but various upgrades can be expedited by watching adverts or bought via in-app transactions.

NIKI LAUDA: THE BIOGRAPHY

**Author** Maurice Hamilton

**Price** £20 (hardback)

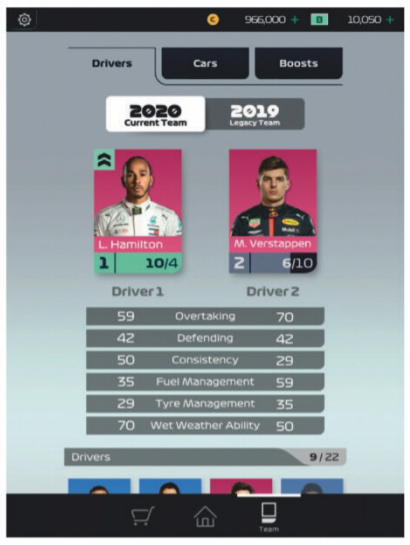
simonandschuster.co.uk




Hot on the heels of Niki Lauda's autobiography being reissued (*GP Racing*, April), comes this scrupulously researched biography from longtime *GP Racing* contributor Maurice Hamilton, a five-decade veteran of Formula 1 reporting. Covering Lauda's background and racing career, as well as his many activities after hanging up his helmet at the end of 1985, the book features a host of other voices beyond the author's own recollections of speaking to Lauda. Maurice has interviewed many of the triple world champion's friends, colleagues and contemporaries, giving a fresh perspective on what is already a well-documented life.

As well as being a fine companion to Lauda's own autobiography, this book goes beyond events chronicled in those pages, covering Lauda's time in management and consultancy roles at Ferrari and Jaguar, and his part in shaping Mercedes into the winning machine it is today.

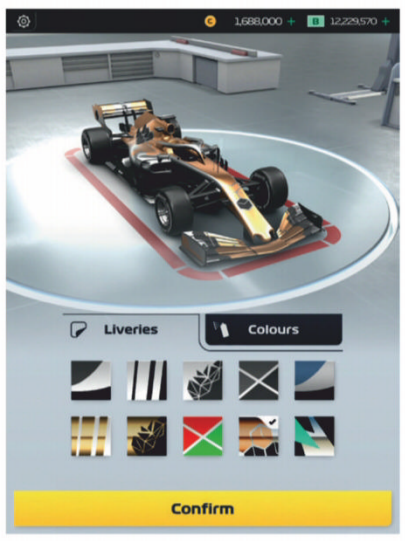








## DAN GURNEY ROUEN 1962 PRINT

**Author** Alex Pieussergues

**Price** €39-€99)

last-corner.com

Renowned French artist Alex Pieussergues has produced a new work paying tribute to Dan Gurney's 1962 French Grand Prix victory for Porsche – the marque's only F1 win at world championship level.

Powered by an air-cooled flat-8 engine, the stubby 804 lagged behind cars from manufacturers beginning to embrace monocoque chassis designs and (crucially in the lower-powered 1.5-litre era) placing the driver in a reclined, more aerodynamically advantageous position. But in 1962 the stars aligned in France: the GP was held at Rouen rather than flat-out Reims, Ferrari had to scratch its entry owing to a strike in Italy, and mechanical woes eliminated pacesetters Graham Hill and Jim Clark.

The print features a painstakingly detailed render of the winning car below a map of the (sadly no longer extant) Rouen circuit's layout. Prices vary depending on your choice of paper grade.

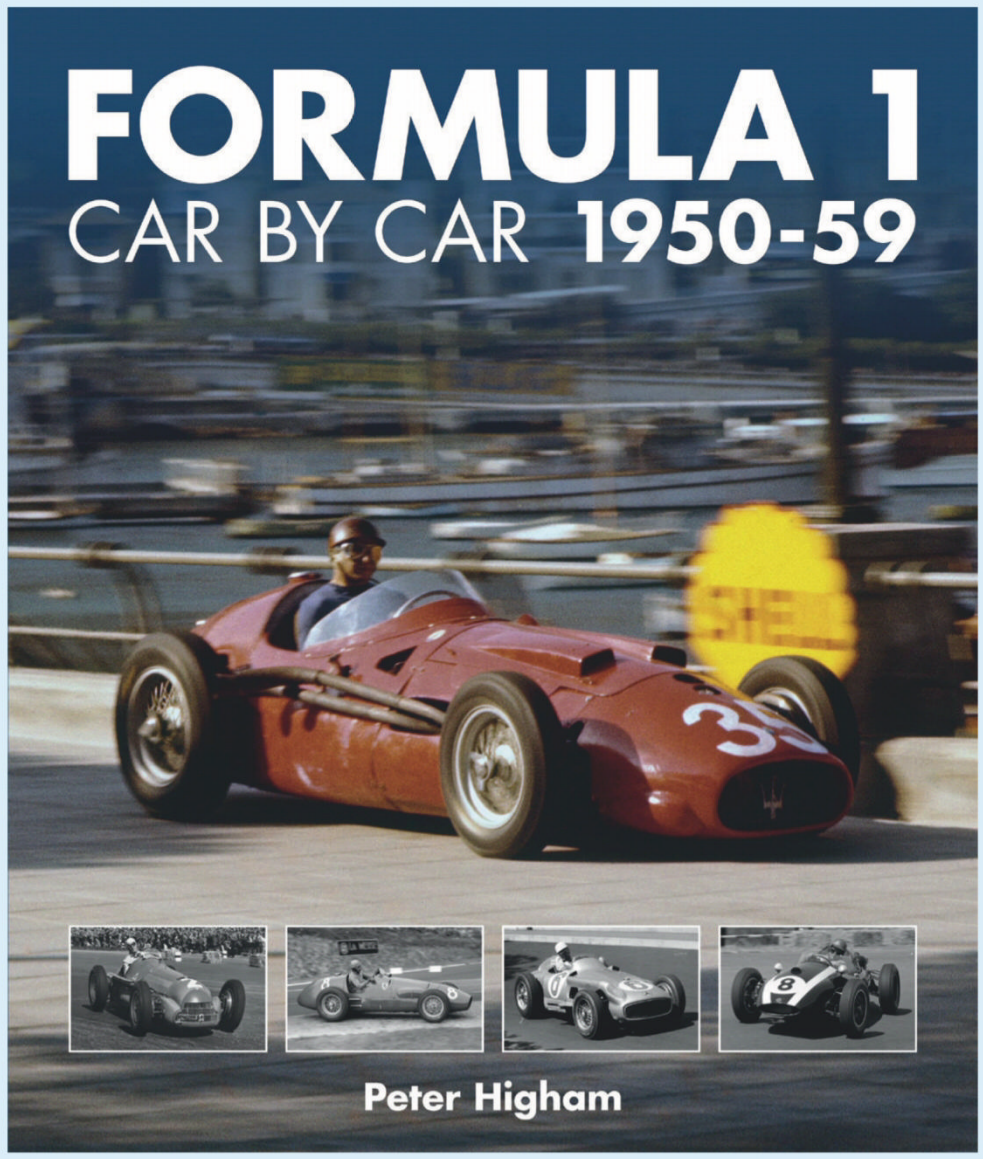











## FORMULA 1 CAR BY CAR 1950-59

**Author** Peter Higham

**Price** £50 (hardback)

evropublishing.com

Arriving just in time for the 70th anniversary of the world championship, this latest of Peter Higham's decade-by-decade series covers every car and team from the 1950s. And what an eventful decade that was, with the Indy 500 counting towards the world championship (not that this enticed many competitors from either side to cross the Atlantic), Formula 2 cars filling the grids for two seasons in the absence of sufficient F1 machinery, and rear-engined cars changing the tapestry of the competition forever.

The price tag marks this large-format book as one for the completist, and it is indeed incredibly complete. Most of the pictures are sourced from Motorsport Images, whose archivists have clearly enjoyed their task. Chronicling each season in turn, the author describes each team in order of importance – and one of the greatest joys in this series has been the ability to dip into the less well-known end of the grid. Among the fabulous obscurata in this one is the Kurtis-Kraft midget in which Indy 500 winner Rodger Ward contested the 1959 US GP at Sebring. With a rigid front axle, lever-operated brakes and 12-inch wheels, this dirt-track racer is one of the unlikeliest GP entrants of all time.

There's also a photo of what's arguably the first rear-engined car to contest a world championship race – the Heck-BMW in which Ernst Klodwig "circulated at a leisurely pace" on his way to last place in the 1952 German GP at the Nürburgring. Pleasingly, the data pages also list results for the many high-profile non-championship races which were popular at the time.



# FLAT CHAT

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## ANOTHER FOR THE FERRARI DISCARD PILE

**A highly sagacious individual** – formerly on the staff of this very magazine, in fact – once said to me, "You know, the problem with Ron Dennis is that he *always* falls out with his best drivers…" And indeed, let's take a brisk roll-call of handy pilots who've said "do one, Ron" over the years: Niki Lauda, Alain Prost, Ayrton Senna, Mika Hakkinen, David Coulthard, Fernando Alonso, Lewis Hamilton…

But those fall-outs were generally transacted behind closed doors, and were predominantly a result of the McLaren boss having an occasional tendency to be gauche. On-track performance – or the lack thereof – seldom came in to the equation. Quite the opposite: the majority of those drivers departed with at least one world championship courtesy of Woking machinery.

Ferrari, on the other hand, has a rich history of reverse alchemy – of turning partnerships freighted with promise into a soap opera of frustrations and disappointments. You could argue it's been happening since the early days of the world championship itself, when Alberto Ascari fell out with Enzo Ferrari over his salary and slung his hook. The tradition has continued down the years, no matter who happens to hold the Scuderia's reins: John Surtees, Niki Lauda, Alain Prost, Michael Schumacher, Kimi Räikkönen, Fernando Alonso and Sebastian Vettel have all jumped or been pushed, and these are just the high-profile names.

Ben Anderson has skewered Vettel's tale of diminishing returns in detail on page 38,

**The marriage of Vettel and Ferrari was probably in trouble from day one…**



and it's pretty clear that some responsibility for Seb failing to bring the world title to Maranello resides with Ferrari. The Scuderia's peculiar ability to shoot itself in the corporate foot is almost maddening. In the past decade and a half alone we've had the tawdry spectacle of Schumacher being pushed into early retirement to make way for Räikkönen, who was then paid off to leave a year early to furnish a vacancy for Alonso, who then took his leave after one screaming match too many during the Year Of The Three Team Principals.

**TOO OFTEN THE DESIRED OUTCOMES ARE SKEWED BY THE NEED TO FIGHT FIRES**

There's more than one common thread in this narrative, beyond sub-optimal on-track performance. It's a blend of short-sightedness and internal politics. Luca di Montezemolo decided that Schumacher was yesterday's man and Räikkönen was a better fit for the future (millennials might well describe the timing of the press release announcing Michael's retirement – mid-way through the 2006 Italian Grand Prix – as "a dick move"). Montezemolo moving-and-shaking was also the reason for Räikkönen being elbowed out – and, indeed, Luca also lubricated the wheels for Alonso's early departure.

Too often at Maranello the desired outcomes are skewed by the need to fight fires: rumblings from senior management in the Fiat empire, pressure from the Italian media. Ditching a driver who is perceived to have under-performed, or who is seen to be demotivating the team by complaining too much, is a cheap way of buying time and positive PR. Yet the irony with the Vettel situation is that he was on a sticky wicket from the minute he arrived: Montezemolo was in the process of being shunted aside even as he tied up the deal to bring Seb to Ferrari. For once, a high-profile recruitment wasn't enough to save Luca's career.

And that meant – for all the *grazie ragazzi* over the next couple of seasons – Vettel arrived in an environment that was already potentially hostile, for he was the previous regime's hire. New chief Sergio Marchionne and his yes-man, Maurizio Arrivabene, immediately began spinning against him. In hindsight, it's a surprise Vettel lasted this long…

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PICTURE: MARK SUTTON. ILLUSTRATION: BENJAMIN WACHENJE

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