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Chloe Targett-Adams, global director of promoters & business relations at Formula 1

F1 RACING RETRO

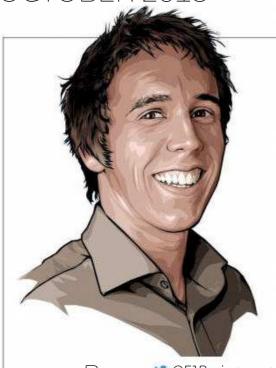
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NOW THAT WAS A CAR

The car that returned McLaren 78 to the winners' circle, the controversial MP4-12

IGNITION

OCTOBER 2018



Anderson

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Contributors



PAUL RIPKE

Since 2016, German photographer Paul has had exclusive access to the Mercedes F1 team. Learn the secrets to his art form on page 54



JONATHAN NOBLE

For over two decades Jon Noble has been breaking news from the Formula 1 paddock. Read his latest from the world of F1 on p14



EDD STRAW

Edd returned to the Formula 1 paddock this year and on page 38 he analyses the reasons behind Kimi's switch to Sauber for 2019



DAMIEN SMITH

Last year Damien penned for us a brilliant history of Ferrari. Starting in this issue is a new six-parter on the history of McLaren (p68)



Formula 1 cannot just hope for the best

Formula 1 is wonderful for those of us invested in it: a compelling concoction of high-speed complexity and adrenaline-filled competition. We 'insiders' hang on every twist and turn. But step outside the echo chamber for a second and all is not well.

Fernando Alonso is right - F1 is too predictable. Far too often, to the untrained eye and mind, it is simply boring to watch. Every race cannot be a classic, and it's tricky to produce consistently great racing without resorting to artifice, but sport sold as spectacle cannot simply hope for the best.

Singapore and Russia were two perfect cases in point. Japan, saved by Sebastian Vettel and Daniel Ricciardo starting out of position, was only marginally better. Few other major sporting events can be over so quickly yet drag on for so long...

Momentum is key. In most major sports – football, tennis and boxing, to name but three - one party won't hold continuous advantage. No football team enjoys 100 per cent possession; tennis players must share responsibility to serve; boxers only fight for three minutes at a time before the bell tolls.

Momentum always travels in two directions, or is at least periodically arrested, even if one side wins comfortably overall. In F1, momentum too often travels in only one direction: the quickest driver, in the quickest car, gains a head start in qualifying and remains unchallenged - unless some random

occurrence intervenes.

It will require fundamental change to make F1 more appealing. I would suggest binning Friday practice altogether; turning qualifying into a bespoke event (with championship points awarded); and starting each grand prix in reverse championship order (because reversed grids make racing unpredictable). 'Purists' will scream blue murder, but people must be persuaded to care in this outrageously competitive media age.

As Alonso regularly points out, the main source of intrigue lies in off-track "polemics". Such stories form the centrepiece of this month's magazine, as we analyse the circumstances behind Esteban Ocon's difficulty in securing a 2019 race seat, and bring you extracts from a new tell-all book about Kimi Räikkönen – one of F1's most enigmatic characters.

That Räikkönen will continue in F1 bevond his 40th birthday, despite losing his Ferrari seat, suggests he still loves racing enough to make a backwards step. It's little wonder Kimi can't shake the bug – he gets to feel the rush of F1 like few can.

And therein lies the rub. F1, and all of us invested in it, must find new ways to engender enthusiasm for a world few people can fully appreciate. It's time for a sport whose mission statement is to 'unleash the greatest racing spectacle on the planet' (at eyewatering cost) to get on with the unleashing.

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STYLE OR PERFORMANCE? IT'S WIN-WIN.



595 turismo 595 competizione

ABARTH 595 RANGE

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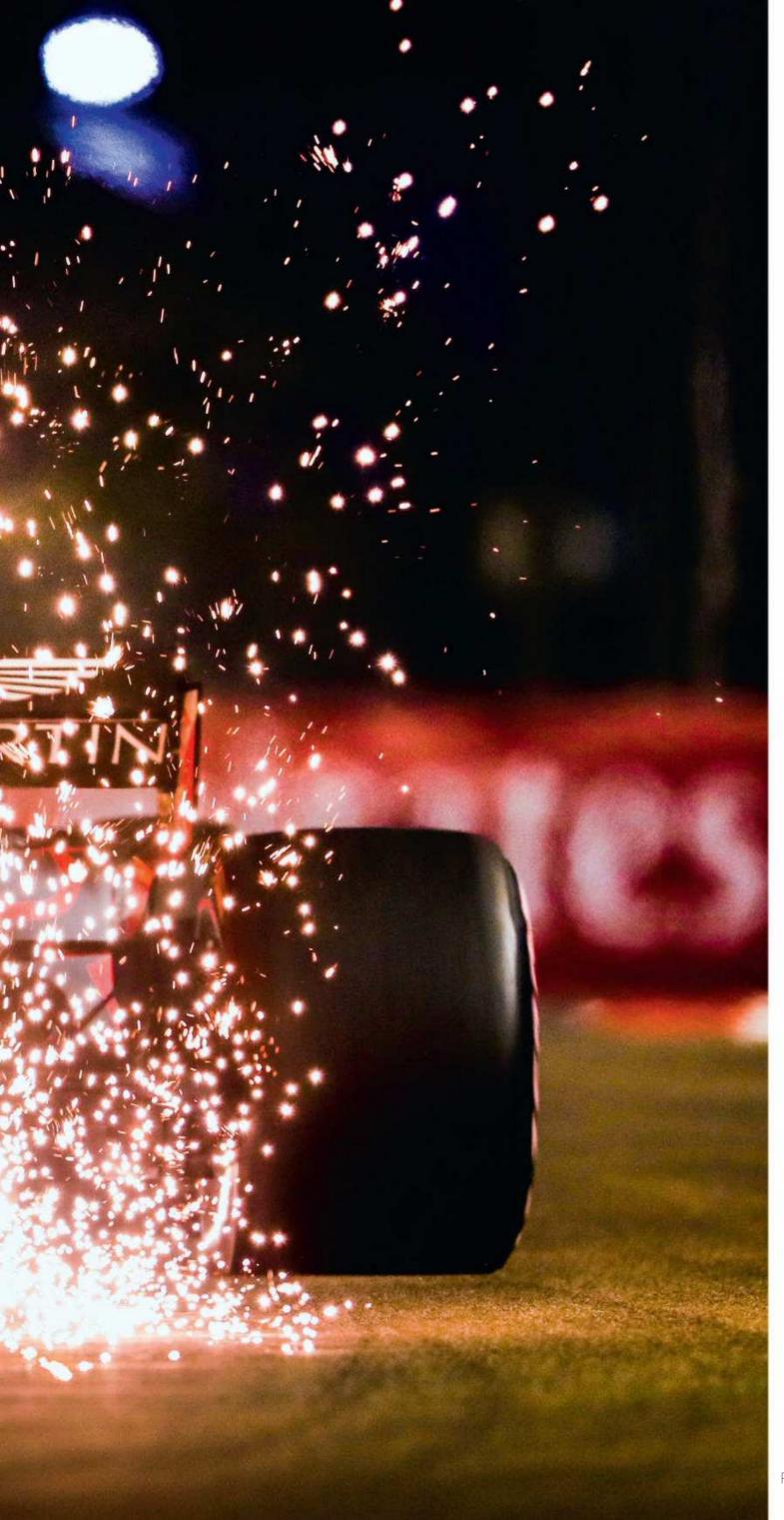
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Another sparkling performance

Renault's new 'C-spec' power unit had given Red Bull the performance uplift they wanted at Monza, but Singapore's humidity exposed unforseen problems with the engine mapping, and Max Verstappen and Daniel Ricciardo were plagued by false neutrals throughout.

Both cars were running aggressive setups and threw up plenty of sparks, particularly here at Turn 15 in qualifying. Rather than go for 'speed blur' I chose a fast shutter speed to freeze the sparks and capture the edginess of the car. This is a fiercely competitive team that expects to win; both Verstappen and Ricciardo (pictured) were right on the limit all weekend.



Photographer Zak Mauger/LAT Where Marina Bay, Singapore When 9.52pm, Saturday 15 September 2018

Details Canon EOS-1DX MKII, 600mm lens, 1/1600th @ F4



Spinning is a Gasly business

Photography is all about standing in the right place, but motorsport adds another element to the list of 'musts' — being there at the right time to capture notable incidents. At any given grand prix you choose your position by a process of informed pot luck; in Sochi, the fast sweeper at Turn 4 is a prime location for trading paint.

Unusually for the Russian Grand Prix, the opening lap passed without incident here, but on the fourth time around Pierre Gasly's Toro Rosso entered the frame backwards at around 174mph. His front brakes were totally cooked. The car came to rest a matter of centimetres away from the barrier. Lucky boy...



Photographer
Andy Hone/LAT
Where Sochi Autodrom, Russia
When 1.18pm, Sunday
30 September 2018

Details Canon EOS-1DX, 500mm lens, 1/1600th @ F5







FANTASY FORMULA 1 2021 concept car makes a splash



YOU WEREN'T SUPPOSED TO SEE THIS CAR

Formula 1 chiefs recently revealed their vision of how grand prix machinery could look in 2021, and the images quickly went viral in the fan community. It's a trifle unfortunate, then, that not only were these images not intended for such widespread dissemination, the cars are unlikely to look like this come 2021 anyway.

F1 owners Liberty Media see the end of the present technical regulations in 2020 as a key opportunity to relaunch the sport with their stamp upon it, and to grow the audience by appealing to a younger demographic. As such they are exploring means of making the on-track action closer, more exciting and spectacular. Naturally the cars themselves are a crucial element of the package.

With this in mind, last year Liberty commissioned designer Antonio Paglia to help evolve some outline ideas that would form the basis of future rule changes. The concept sketches were never intended to be widely distributed until the sport's various stakeholders had got closer to agreement on the shape of the new regulations.

However, Liberty were left with no option but to go public after F1 managing director Ross Brawn innocently Industrial designer
Antonio Paglia was
commissioned to sketch
possible 2021 concepts

used some slide images of one of the concept cars during a fan event ahead of the Singapore Grand Prix.

"I did a lecture to young people about getting involved in engineering, and science and technical topics," explains Brawn. "Rather naively I put up this image on the screen and all the phones came out..."

Brawn had expected the images to remain 'in the room', but within minutes they were circulating on social media, where they were quickly picked up by mainstream news outlets. Liberty then had little choice but to arrange a briefing later that weekend to explain all.

The concept images featured a more sculpted and futuristic overall design theme, which Brawn felt would capture the attention of young fans more than the intricate aero-optimised shapes on current cars.

"I see no reason why we cannot have exciting-looking cars," says Brawn. "It frustrates me when a car in a video game looks better than the car we're racing out on track.



KVYAT'S COMEBACK Why Red Bull have hired back a driver they've fired twice already

"That is not to say we pay total homage to what will look great in a video game. It has to be a great racing car."

Several design elements stood out, including a sharkfin front to the halo, and a marked reduction in the number of winglets. In emphasising that these were just outline concepts, Brawn also hinted at the possibility of later designs having covered wheels to help improve airflow.

"One of the interesting things we are looking at is the area around the tyres," says Brawn. "One of the great things about an F1 car is we have open cockpit and open wheel, but the airflow around the tyres and the wheels is very dirty. It disturbs the airflow a great deal.

"We are looking at not enclosing the wheels, but perhaps having detailed fairings around the wheels, which will help clean up that flow and improve the conditions for the car behind."

But while the slides he showed were mere pointers to a possible future, Brawn was resolute about one principle. The aim of the 2021 rules is to make cars that can race more effectively rather than just look better.

"One of the primary objectives has been to work on the raceability of these cars and how well they can race each other - how close they can get to each other without losing substantial amounts of performance," he explains.

"The current cars, once they get within two or three car lengths, they can lose up to 50 per cent of their performance. This is why when drivers are on the same tyres and same age they struggle to race each other on some tracks.

"When you get into that condition, where you are 2-3 car lengths behind and you are losing grip, the tyres degrade more and it becomes very challenging.

"So the prime purpose of the work we are doing is to try to produce cars which are more raceable."

F1 teams are already working on early CFD models of 2021 concepts to evaluate ways in which Brawn's 'raceability' targets can be achieved. Naturally they will also be identifying means of gaining an advantage over their competitors. As such, the likelihood is that the final designs will differ greatly from blank-sheet images conjured by an industrial designer working to a less competition-oriented brief.

"I'm not going to pretend that from day one we will have the perfect solution, certainly from the aesthetics because try as hard as we can we can never anticipate every move that the teams will make," says Brawn.

"We have to do our best to arrive at a set of regulations and make them as unambiguous as possible, but there is no guarantee.

"The key thing is being able to respond quickly when we see things happen that are unintended. We are quite encouraged with the cooperation with the teams at the moment, but that will change at some point in the future, when they move into their competitive mode rather than cooperative mode."



66 RATHER NAIVELY I PUT UP THIS IMAGE ON THE SCREEN AND **ALL THE PHONES** CAME OUT... **ROSS BRAWN**

RULES SHAKE-UP

Third cars are off the menu, but other changes are coming

I HIRD TIME DANIIL KVYAT?

In what has turned out to be one of the most remarkable driver silly seasons on record, Red Bull have turned to a man they have already discarded twice.

Back in 2016, Kvyat found himself relegated from Red Bull Racing to Toro Rosso after a difficult start to the season - opening the way for Max Verstappen to take his place and secure a memorable maiden victory at the Spanish Grand Prix.

Kvyat endured a further 18 largely unproductive months at Toro Rosso, during which he and the team began to blame each other for shortcomings in performance. He was dropped for Pierre Gasly, and failed to regain a seat when Carlos Sainz moved to Renault.

Kvyat became a Ferrari development driver, to all intents and purposes a simulator jockey, and his racing days appeared to be over. But only superficially; quietly, Kvyat was working towards making a comeback, and to



Kvyat didn't take rejection lying down, and saw a future for himself beyond being a Ferrari 'sim jockey'

that end he even engaged the management services of Nicolas Todt, one of the sport's key movers and shakers.

The opportunity came with Daniel Ricciardo's defection from Red Bull to Renault. Red Bull quickly promoted Gasly to fill the vacancy, leaving a void at Toro Rosso: not only was Brendon Hartley's future uncertain, Red Bull currently have no junior drivers who can qualify for a superlicence. Kvyat spied an opportunity.

In fact, Kvyat was well-informed enough – perhaps as a result of Todt's connections – to have opened





66 IT'S A SECOND COMING FOR HIM. HE'S STILL YOUNG, HUNGRY, AND A BIT OF TIME OUTSIDE F1 GIVES AN OPPORTUNITY TO REFLECT, REBUILD AND REGROUP 11 CHRISTIAN HORNER



Kvyat was demoted back to Toro Rosso and ultimately sacked towards the end of 2017

communications with Red Bull motorsport advisor Helmut Marko even before Ricciardo served notice.

Marko says: "He was informed about Ricciardo's move before it was announced, so he rang me before Ricciardo did. But we had been in contact before that already."

Those earlier conversations had left Marko with the impression that Kvyat's year on the sidelines had actually helped his mental strength – and helped him to develop a resilience and maturity that had perhaps been lacking during previous spells at Toro Rosso and Red Bull.

"He's more hungry, and he saw how difficult it is to get a seat in F1," says Marko. "He told me the reasons things happened. His whole environment is a much better one."

Red Bull boss Christian Horner – who was instrumental in both the promotion and demotion of Kvyat during his Red Bull years – reckoned that rejection was the biggest obstacle Kvyat had to surmount.

"That was very tough for him," says Horner. "In 2015 he was very strong. Montreal and Mexico were very good races for him. But 2016 was much tougher. It's a second coming for him. He's still young, hungry, and a bit of time outside F1 gives an opportunity to reflect, rebuild and regroup. He's still a very talented driver."

During Kvyat's brief time in a top seat, and during his fall from grace, what often distinguished his performances was a fragility under pressure. His tendency to make poor decisions under duress evinced by a number of high-profile first-lap crashes undermined a reputation built on tremendous natural speed. The question now is whether his enforced sabbatical has enabled him to develop sufficient resilience when he enters the spotlight again.

"Obviously one thing I know for sure I am very positive now, very happy to be back, and that's all," Kvyat says. "But you know you cannot be happy forever."

THE MONTH'S BIG STORIES AT A GLANCE

12.09.18 Channel 4 announces new freeto-air broadcast deal for 2019 including live British GP





from racing each other after Singapore crash

18.09.18 F1 commits to improving mobile app after fans slam the latest version

24.09.18 Kimi Räikkönen has first seat fitting at Sauber

27.09.18 Unsuccessful Force India bidder launches legal action against administrators



29.09.18 Toro Rosso confirms return of Daniil Kvyat to race seat

04.10.18 Ferrari unveil revised livery at Japanese Grand Prix







NEW RULES BUT NO THIRD CARS

Talk of teams running third cars in Formula 1 has ebbed and flowed for over a decade, and the generally unloved idea reappeared on the agenda this summer courtesy of Mercedes boss Toto Wolff. For him it presented a neat solution to his problem of what to do with Esteban Ocon (see page 42), but while Wolff found some receptive ears – F1 race director Charlie Whiting said there was some merit – it failed to go the distance.

Third cars were discussed briefly at the most recent meeting of F1's Strategy Group, but the idea was shot down and Wolff admitted he didn't fight to save it. The majority of teams fear that extra cars from the biggest outfits would simply lock out more positions at the front of the field, thereby making life harder for those outside the privileged circle.

However, while third cars will not be coming to F1 soon, there are other rules changes in the offing that could have a substantial impact for fans and teams.

The first is an idea for a shake-up of F1's qualifying system – adding one more session to the hour of action on

a Saturday afternoon. In practice this would mean four cars would be eliminated in Q1, Q2 and Q3, leaving just eight for a final shoot-out in a new Q4 session.

In theory, adding a session should create uncertainty and opportunities to fail, since the top drivers would need to nail at least one more quick lap than they do under the current system. Also, having only eight cars in Q4 should make the competition in Q3 more intense.

A change such as this would require some thinking about unintended consequences – at the moment, rules regarding tyre choice can make it strategically advantageous to start just outside the top 10 – but Whiting believes the concept has potential.

"Slightly shorter [sessions], less time between them, four go out in Q1, four, four, leaving eight. I personally think it's quite a nice idea," he says.

Another, more significant change is the likelihood of more standard parts in the future. This is a philosophical battleground since a number of manufacturers believe it dilutes the power of their brands – and brand image is what drew them to F1 in the first place.

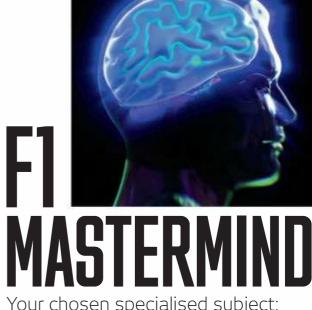
But movement on cost control is now virtually inevitable because it is the wish of the commercial rights holder and has the tacit backing of the FIA. A budget cap is highly likely to be part of the 2021 regulations.



Being able to run three

cars would solve Toto

OF THE MAJORITY
OF TEAMS FEAR
THAT EXTRA CARS
FROM THE BIGGEST
OUTFITS WOULD
SIMPLY LOCK OUT
MORE POSITIONS
AT THE FRONT OF
THE FIELD



Your chosen specialised subject: the world's greatest sport

Q1 What feat, attained five times during the 2017 season, had not yet been achieved by any driver up to and including the Singapore GP?

Q2 Esteban Ocon began his F1 career with Manor in 2016. How many races did he do with the team?

Q3 When did a BRM-engined car last win a world championship race: Italy 1971 or Monaco 1972?

Q4 At which circuit, in 2017, did Lando Norris first drive a McLaren Formula 1 car?

Q5 Which team's 2011 driver line-up consisted of Vitaly Petrov, Romain Grosjean and Bruno Senna?

Q6 Korea held four GPs from 2010 to 2013 but who were the only two drivers who won races there?

Q7 Three Venezuelans have started at least one GP.
Pastor Maldonado and Ettore Chimeri are two, but
who is the third?

Q8 How many times did Jody Scheckter win his home race, the South African GP: 1, 2 or 3?

Q9 True or false: Johnny Herbert managed two podiums with Sauber.

Q10 Which former GP circuit is located just 14 miles from Lisbon's Rossio Square?

Inotea OI

1 A hat-trick of win, pole and fastest lap **2** Nine **3** Monaco L972 **4** Hungaroring **5** Lotus Renault GP **6** Fernando Alonso and Sebastian Vettel **7** Johnny Cecotto **8** 1 (1975) **9** True

PROMOTION

INFINITI ACADEMY WINNER REVEALED

An automotive engineering student has won the opportunity of a lifetime to pursue a career in F1. 25-year-old James Gourlie, a student of RMIT University in Bundoora, Australia, was revealed as the Infiniti Engineering Academy 2018 Asia and Oceania winner by Renault F1 driver Carlos Sainz during the Singapore GP.



His prize is a six-month work placement at Renault F1 in Enstone and a further six months at Infiniti's Technical Centre Europe.

"This is the place to be," said Gourlie. "Formula 1 is the cream of the crop."



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TYRES: 10+ MANUFACTURER PROFILES

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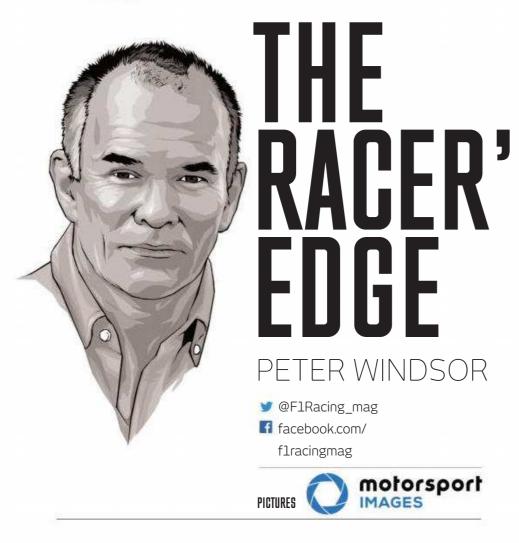
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nighter. And still there were the CV driveshafts to finish... cleaning, measuring, re-fitting...

For Mario, this was retribution for memories of a Monza that still rankled. He'd tested a 49B at the Autodromo in the week before the race and been quickest overall – quicker than Hill and quicker than the Ferraris of Chris Amon and Derek Bell. And, although he'd been committed to the Hoosier 100 USAC dirt race at Indiana State Fairgrounds the weekend of the Italian GP, he had managed everything to perfection. The Monza organisers had no problem with him flying back to the US after first practice – and the time change had worked in his favour. The plan was to be back at Monza by Sunday, ready to start his first GP.

It had all worked perfectly. He'd qualified top ten on the first day at Monza and he'd slept soundly on the flight back to Chicago. By the time he flew into Indy he was ready to race. He qualified on the pole, relishing the feel of the big, front-engined Offy sprinter after

the lightness and agility of the 49B – and he finished second in a frantic, dirt-spraying final to AJ Foyt. Then came the news from Colin Chapman: the Italian GP organizers, led by clerk of the course Giuseppe Bacciagaluppi, were now refusing to allow Mario to start at Monza. Probably Ferrari were behind it. Probably he had been too quick in testing....

Lotus didn't need the complication of having to run a third car at Watkins Glen, thousands of miles from home, and a man down after a chassis-breaking Canadian GP... but then nothing was ever easy at Lotus. The upside, for everyone, was that Mario was in some ways another Jimmy: he was a superquick, class act. They knew that from Monza – and they knew that Mario could drive anything, anywhere, like Jimmy. He'd won the 1967 Daytona 500 NASCAR classic. He'd been Rookie of the Year at Indy in 1965, the year Jimmy had won.

No matter that he'd never driven at Watkins Glen before. Mario would handle it.

Practice began in the rain. Graham shrugged off his dark blue Speedwell/Hill rally jacket and tried a new "closed-face" Bell visor. Mario, in red Firestone jacket, remained calm and relaxed. Chris Economaki and the American press followed him at polite distance. They watched as he tip-toed the high-wing 49B through the sweepers, between the light blue Armco barriers, squeezing on the power and jinking the rear as rooster tails of spray defined his progress.

Although the rain stopped on Saturday, clouds still gathered at Team Lotus. Early

ANDRETTI'S HISTORIC POLE AT THE GLEN

They were one man down. Trevor Seaman, a tough wrench who'd served in the armed forces before joining battle at Team Lotus, felt woozy even in Canada. Now, after the drive down through the Finger Lakes district to Watkins Glen, he was out of it. Confined by the local doctor to bed and to complete rest, Trevor could only stare at the ceiling of the sparse motel room over the days that followed, trying not to think about the workload the other five boys would face...

Munching a bacon sandwich in Watkins Glen's Kendall Tech Centre, staring at three Lotus 49Bs – the race cars for Graham Hill and Jackie Oliver, plus a spare – Bob Dance, Gold Leaf Team Lotus chief mechanic, wondered if he could take much more. They'd lost Jim Clark earlier that year; they were fighting hard to win Graham the championship; everyone was scared of the high wings that had become the F1 norm; and everything, as ever, was on the limit.

Ahead of him: three engine changes plus new upper and lower engine mountings, new driveshafts on all three cars... and the usual stuff



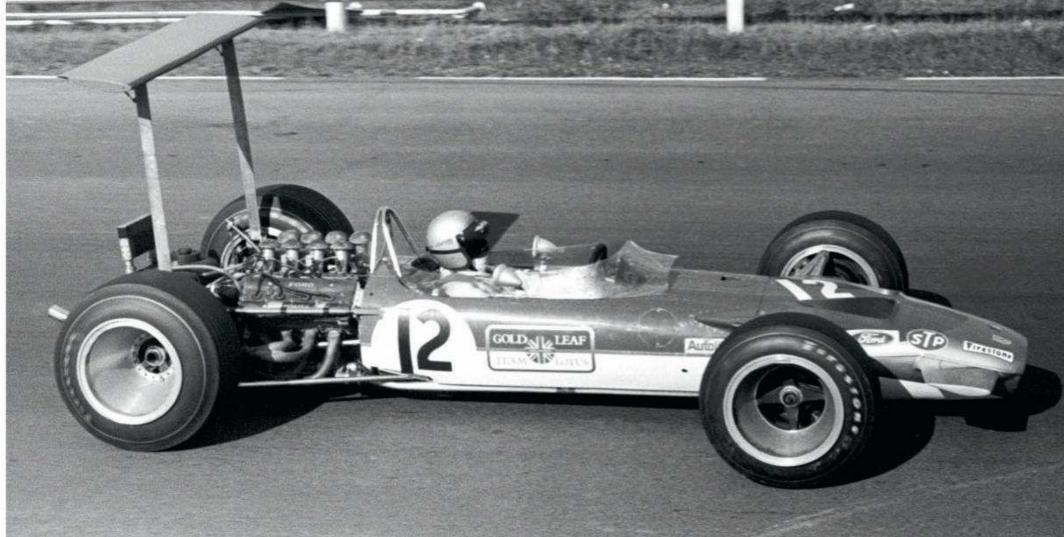
A smiling Andretti after claiming an amazing pole on his F1 debut at a circuit he'd never driven on before

in between. The driveshafts alone were a massive job, and he was probably going to have to do those himself, leaving Bob (Sparshott), Eddie (Dennis) and Dale (Porteous) to focus on the other work...

It was three days before practice — and well after the engine swaps had been completed — that Colin Chapman flew in from England with the news that would forever change the racing world: Mario Andretti would be racing a third 49B at the Glen. Oh yes. And there would be a change of plan regarding the engines: Mario would race with the team's second-best Cosworth DFV. Graham, as the championship contender, would have the single fresh engine but Oliver's Cosworth would have to go to Mario.

Stunned by the last-minute increase in workload, but delighted to be seeing Mario again, Bob sat the boys down to prepare for another all-





in the morning, Jackie Oliver walked away from the second huge accident of his season. A rear wing had failed in France; at the Glen, a rear wheel broke, tearing his 49B apart against the guardrail. The Lotus compound, inside the Tech Centre, became a scene of horrified chaos:

Colin Chapman (black-eyed): "Why was Jackie running the old Melmags? We flew in the new wheels specially last night!"

Bob Dance (red-eyed): "Why didn't anyone tell us about it? We were flat out! They obviously just got put in a corner..."

Everyone – Chapman, chief designer Maurice Phillippe, Graham, Mario – then set to work on the wheels, bolting together the new ones, rushing them over to Firestone and in between times fetching the tea. Graham and Mario kept the ship afloat, firing wisecracks and one-liners, bringing a smile even to the face of Colin Chapman.

Until, finally, they were ready. A dry track, a golden afternoon. Autumn in New York.

Graham ran new Firestones; Mario began with used ones. They thought he wanted to

FIYOU COULD RUN THE TYRES UNTIL THE TREAD BEGAN TO GO AWAY AND THEN - ONLY FOR A LAP OR TWO - THERE'D BE A SWEET SPOT AROUND WHICH THE GRIP WOULD BE IMMENSE **55**

put in more laps on a circuit still new to him. They thought he would later switch to fresh rubber.

Mario had another plan. In tyre testing that year, in the USAC Hawk on road courses, he'd unlocked the power of the slick. You could run the tyres until the tread began to go away and then - only for a lap or two - there'd be a sweet spot around which the grip would be immense. He never mentioned this to Colin or to Maurice – and he didn't talk about it with other drivers, or even with Firestone. He knew about it, though. He could feel it just as surely as he could feel the downforce of a high rear wing. And he was going to apply it at the Glen.

He tied up his face mask. He strapped on his

Bell Magnum. He pulled on his skin-tight leather gloves, spitting on the palms. He climbed into the 49B before settling back as Eddie tightened the belts. And then he was off.

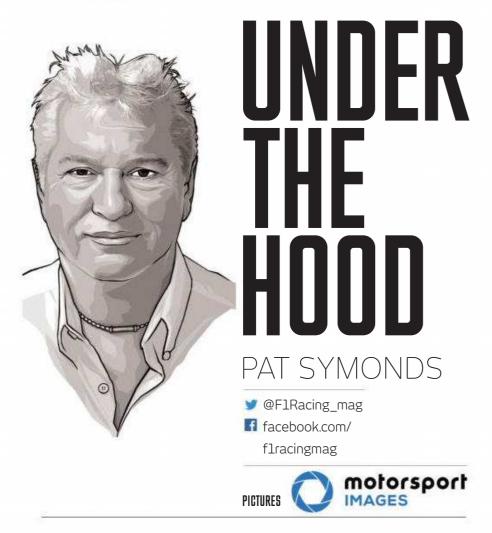
He put in the laps. One. Two. Three. Four. Jackie Stewart had pole in the Tyrrell Matra... but now Mario was closing on the powerful Honda of John Surtees. Maybe he'd get a tow down the back straight. The Firestones were by now well-worn across the line...

1m 4.2sec!

Mario Andretti had taken pole for his first F1 race on a circuit he'd never seen before. It was October 5, 1968.

It was fifty years ago.





results. But surely the sophistication of the tools these days should put paid to that type of concern? Oh, that it were so.

The aerodynamics of an open-wheel racing car are immensely complex. Much of the flow is turbulent and this makes it more difficult to predict using Computational Fluid Dynamics (CFD), and even a windtunnel, since there are many aspects of the flow that are difficult to model.

Both CFD (in the form commonly used by teams) and windtunnel testing operate in a time-averaged domain. What this means is they effectively measure forces or conditions which will be varying over a period of time, and then take an average result over this time period. In isolation this can give a very poor picture of actual performance.

Let's take a simple case where the downforce is varying in a simple, relatively slowly repeating pattern, like a sine wave with a variation that goes both 10 per cent above the average and 10 per cent below. The aerodynamicist will report the average number

but the driver will only be able to exploit something around the minimum downforce, which is maybe eight or nine per cent below the average.

Now consider a car that has nominally the same downforce, in other words the average figure is the same, but now the variation is plus or minus 15 per cent from that average.

The driver once again will drive to somewhere just above the minimum, say 13 or 14 per cent, which will give him considerably less downforce than on the previous car, even though the reported number is the same. In fact it may be worse than this because the second car, having more variation, will undoubtably give the driver a feeling of severe instability, discouraging him from finding the limit.

In addition to these sort of problems, it is common to hear teams reporting that they have lost the correlation between their windtunnel and the car on the track. Most people assume this means that the aerodynamic measurements made in the windtunnel are different to those measured on the car. There is an infernal triangle consisting of CFD results, windtunnel results and car results, and none of them give a true answer. One might think that the car must be the best measurement but unfortunately a racing car isn't a scientific device, and by instrument standards the measurements are somewhat crude.

On top of all that, the aerodynamic forces experienced by the wheel, be they the lift of the rotating wheel or the downforce produced by the brake duct winglets, are difficult to

AERODYNAMICS MAKE ALL THE DIFFERENCE

One of the surprising aspects of this year has been the astonishing lack of performance from Williams and McLaren – and, at the beginning of the season, Force India. People often wonder how, with the incredible array of technology available to the teams, performance drop-offs like this are possible. They're not just confined to the lesser-funded teams; in 2015 Red Bull produced a car that didn't begin to show the team's normal potential until mid-season.

So what can be the reason? The first thing to remember is that a Formula 1 car needs to be thought of in system engineering terms. Performance isn't a function of any single aspect of those inter-related systems. Wise choices at the design stage, together with a full understanding of the influence of certain parameters on lap time and straight line speed at different circuits, pay dividends throughout the season.

While all design variables influence each other, there are certainly some that have a greater connection to overall performance than others. The three most influential over a range of circuits



McLaren and Williams have stuggled this season, but the reason is not necessarily as simple as a lack of funding

are power, grip and aerodynamic efficiency. The first two, to some extent, can be compared across cars. There are only four types of power unit and, with the exception of Honda's, they are used in different chassis. This can rule out gross differences in performance in this area. There will always be some differences associated with the installation of the power unit in the car, but these are very much second-order influencers.

Similarly, all the cars are using the same tyres, which gives a degree of performance normalisation – especially on a single qualifying lap on new tyres. While it's true that the current tyres are very sensitive to operating conditions, when analysed statistically over a number of events, a pattern should rapidly emerge.

This leaves aerodynamics as the most likely cause of disparity between expected and actual



Good correlation between windtunnel and the car on track means that aerodynamic trends can be followed with confidence

THE LEADING EDGE OF THE REAR WING IN PITSTOPS BECAUSE THE DEAD FLIES IT COLLECTED COULD ADVERSELY AFFECT ITS PERFORMANCE 35

measure because they aren't passing through the sprung mass.

So what is good correlation? The answer lies not just in being able to measure numbers that when fed into a simulation will give a reasonable prediction of lap time, but more importantly a situation whereby trends can be followed with confidence. If the flow field predicted by CFD or even that experienced in the windtunnel is somewhat different to that seen on the car, then it becomes extremely

difficult to predict the effect of changes.

When Williams had a problem after fitting a new rear wing at Silverstone this year the problem didn't lie in the rear wing itself, but in the flow detaching from the floor when the DRS was used and then not re-attaching when the DRS closed again. Not only was this not detected in the windtunnel, it also wasn't detected during practice the previous day.

This is a measure of just how critical the aerodynamic performance can be to the conditions

under which it performs. When I was at Williams we even used to clean the leading edge of the rear wing in pitstops because the dead flies it collected could adversely affect its performance.

Good correlation exists when any trend seen on the car is predicted by the experimental techniques used to develop the car. Easily said but not easily achieved, and the more complex and critical the flow fields are that deliver performance, the more difficult that nirvana of correlation becomes.





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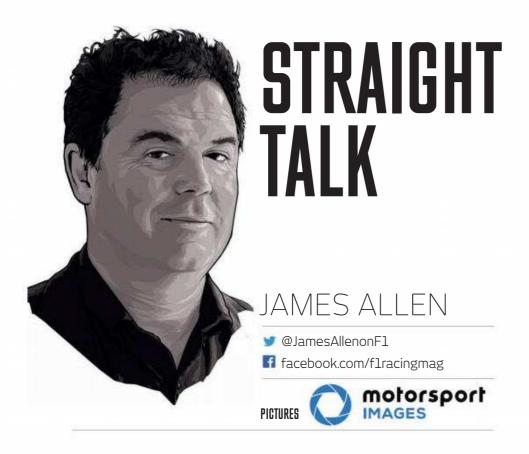
2015 PORSCHE 918 SPYDER







Essential guide to the business of F1



is Roborace, which this year demonstrated a driverless car at Goodwood. Impressive as it was, it didn't stir people's passions and they are now evolving the series concept to be machine plus human – as team mates, like at Le Mans. This helps prove the autonomous technology *and* demonstrate it. The idea would be to show that automated cars can be exciting. Accidents in these racing situations are more acceptable than on the roads. They are also experimenting with drone battles taking place in the skies above the racing.

Formula E CEO Alejandro Agag was clear in his view that the human will be central to motorsport for years to come. "I'm sure 95 per cent of people enjoying the racing at Ascot don't know how to ride a horse," he said. "We have to have good motor racing, we have to give them a show. I think the human element will always be a key part."

No-one has a clear road map because the automotive industry is in a phase of major disruption.

"What's important is that motorsport is ahead of what's going

RACING'S ROLE IN A TECH WORLD

Drone battles, flying cars and autonomous vehicles; are these the future of motorsport?

Regular readers will know that I spend a lot of time thinking about the future of our sport and the industry around it. I've always cared passionately about motor racing and thrill to the primitive rumble of a 1970s V8-powered CanAm car.

But I'm also fascinated by where it's all heading and how motorsport interacts with the fastevolving technology agenda.

So it was very interesting to attend a panel discussion at the recent Motorsport Leaders Business Forum in London asking the question, "If autonomous cars are the future, will anyone care about racing?"

Racing cars have evolved a lot since the days of Moss and Fangio, but today the rate of change of technology in the world is exponentially faster. Things like ABS and traction control were on Nigel Mansell's car in 1992, but were banned soon after as they didn't help the racing. So in some respects technology has evolved ahead of what's going on with F1 cars. Autonomous technology appears to be another example in the same vein.

All the world's car makers are working on

autonomous technology and at the same time we see a steep decline in young people taking up driving licences, while new car sales were down 20 per cent in the UK in September. All three of these things are negative to the prospects of motorsport.

Balancing out what technologies motorsport should be embracing, while keeping out those that would harm the sporting competition is a big challenge for rule makers. Keeping the emphasis on showcasing the skills of the drivers is also paramount. But if people don't drive cars any more, will they still get a thrill out of seeing Lewis Hamilton or Max Verstappen's car control?

A Nielsen survey conducted for the Leaders event noted that 77 per cent of motorsport fans surveyed said technology should be centrally involved in motorsport.

One series that is at the vanguard of next-gen motorsports as technological entertainment

Autonomous cars and racing were on the agenda at the Motorsport Leaders Business Forum



to happen (in automotive)," said Agag, who noted that silicon valley investors are pouring into flying cars. If car manufacturers follow into flying cars then motorsport might pivot more in that direction. However, what could be more important than autonomous technology is what happens in the virtual space, with the growing influence of Virtual Reality and Augmented Reality and the extent to which people can participate in race events. The mythical 21st car in a GP, driven virtually by millions of gamers around the world in real time, is not far away and is likely to bring a new generation to the sport.

So gaming and real racing merge and the lines between them blur. Arguably under 18s find it easier to relate to esports races than to grand prix races involving real cars.

One of the key benefits motorsport provides is to enhance a brand; it helps differentiate Ferrari from other luxury brands not in F1. In an autonomous future, where robotaxis pick you up, you'll have a subscription to a service based on brand preference for the experience you want, like your choice of airline and class of travel.

The conclusion of this thought leadership panel was that motorsport can and should be the innovation agenda of the global manufacturers – such as the demonstration by the engineers of the F1 hybrid turbo engines in 2014 that they could drop the amount of fuel needed to cover a GP by 30 per cent, while going at the same speed. Super fast battery charging is a similar technological step that will be demonstrated in Formula E in the next few years.



THIS MONTH

Chloe Targett -Adams

Global director of promoters & business relations at Formula 1

The size and scope of the Formula 1 calendar is an almost constant talking point. The line between retaining traditional 'grandee' races, such as the British Grand Prix, while adding exciting new locations is a fine one to tread. And just how many more races should be added to an already packed schedule? If it's your call, then it's enough to keep you awake at night...

INTERVIEW

DAMIEN

SMITH



Global director of promoters and business relations at Formula 1

2009

Senior counsel for F1 activities on a wide range of commercial and corporate matters

2007

Solicitor for Harbottle & Lewis LLP working in the media and entertainment sector

2005

Trainee solicitor for S J Berwin

F1 Racing: How much of your time is dedicated to working with traditional race hosts and investigating new races?

Chloe Targett-Adams: All of my time... Not only do

I get to work on new races – the business development and
negotiation of the deal to bringing them on to the calendar
– but also to build great relationships with all our current
promoters. We work with them closely because they are
investing a huge amount into our sport.

F1R: Each promoter has their own deal. How do you manage those relationships when they all know each deal is different?

CT-A: At times it is a complex challenge: 21 race promoters with 21 different commercial deals. We are fortunate enough to have a good few in the pipeline, too. Every location has a different commercial dynamic in terms of why they would have an F1 race. In terms of managing it, it's about communication and working closely together.

F1R: The future calendar is always a talking point. How would you describe the strategy for the future?

CT-A: We are taking a much more strategic view than maybe was done in the past. We are a global series and it is important our calendar reflects that. We've got a great calendar as it is, racing on five continents in 21 countries. So when we look at growing and adding new races, it's key that the objective of it being a global series comes into play.

F1R: Are there specific areas of the world you are looking at?

CT-A: We have two core markets we are trying to gain more traction in: the US and China. We are lucky to have races there already: we have been in Shanghai since 2004 and Austin has been a great addition since 2012 and we want to remain there for a while to come. I think our calendar could definitely add more races in both without undermining existing locations. Equally it would be great to race on six continents rather than five, so if there was an opportunity in Africa that would be beneficial, interesting and exciting.

F1R: Do you have a number in mind when it comes to how big the calendar should be?

CT-A: There's obviously going to be a ceiling on it. If we can get to 24, 25 that would be something to aim for, while being mindful of how it would work for the teams and the FIA.

F1R: Some suggest shorter events would be helpful. Is there any chance of a change to the weekend schedule?

CT-A: Ross Brawn and his department are working with the FIA and the teams to look at the race format, and how we maximise fan engagement and the spectacle across the weekend. From the promoters' side, we want as many days as possible, to build that festival element of when F1 comes to town. For me, our events work well over three or four days.

F1R: Do you prefer street circuits or permanent circuits.

CT-A: I prefer variety. There's a uniqueness to something like the Singapore street circuit, for example. What a phenomenal event but you counter that with heritage locations such as Spa, which is so atmospheric.

F1R: What is your biggest challenge in your job?

CT-A: On a personal level, you start your day with Australia, move on to Asia, then Europe and finish in the Americas — so to get some sleep. From a business perspective, we've come a long way since the changes to the business last year. The biggest challenge is how we continue to improve events. We want them to be the best in the world.

F1R: Where are you at with the future of the British GP?

CTA: We have had some really constructive discussions and negotiations with Silverstone. They felt it was necessary last year to activate their option to exit their contract early. It was obviously not something we wanted. We would love to retain Silverstone on the calendar and our core focus is to have a British GP. We are actively working to make that a reality.







FROM SKIES TO MOTORSPORT

AND BACK AGAIN

erospace technology underpins
Formula 1's status as the world's
fastest and most competitive
motorsport: everything from the
aerodynamics science that defines
each car's performance envelope to the carbon fibre
construction techniques that keeps them strong and
safe flows from the skies. But it's a two-way connection,
and it goes beyond science to art.

The Huslig Collective is an innovative, concierge-style design agency operating at the most rarefied end of the design space. It's created everything from cufflinks to A380 cabins, and its specialism in transforming the interiors of private aircraft into amazing spaces has provided a gateway into Formula 1, translating 22 years of bespoke VIP aviation design experience into extraordinary motorhome spaces.

"Private aircraft make up 75% of our projects," says company founder Mark Huslig, "from helicopters like the brand new Airbus H-160 to the new Gulfstream 650ER, up to wide-bodies like the Boeing 747-8i.

"About 20% of our projects are in the world of motorsport, including motorhomes and driver suites

as well as hospitality units and technical trailers. The last 5 per cent of our projects are the client requests for something truly unique and we're supremely happy to have their trust to help them create their grand vision."

The Huslig Collective is based in Austin, the capital of Texas - the US state that's one of the world's most important locations for the global aerospace and aviation industry. From this global hub the company supports and connects with a worldwide customer base - but, as Huslig points out, the Collective is a boutique organisation, purposefully small in scale,











cultivating uniquely personal relationships with clients and walking them through the entire design process step-by-step. This scale enables it to remain detail-focused, delivering a vision that's and personally tailored to the customer's tastes, whatever the budget. It manages the entire process from the initial sketches through to a luxurious space that's ready to inhabit.

"I've purposely kept our core team small," says Huslig. "We constantly maintain a tight focus on each client's project and the myriad details associated with each. As a direct benefit, I am always the person our clients meet with. This relationship insures getting every detail right and making their dreams become reality.

"I love seeing the grand plan of a project come together incorporating all of the intricacies and subtle nuances of a client's personality. That's where the real magic happens.

"When the client first sees the finished project, the grand reveal if you will, there's no greater satisfaction for me than seeing them at a loss for words with a huge smile on their face "

Huslig's background in aviation interiors and product design opened the door to other intriguing projects in chic resort-style hotels and motorsports; clients involved in those industries liked his work in aviation so much that they invited his company to work its magic there, too. That's why at any moment the team might be working on a bespoke interior for a Bombardier Global 7500 (the latest transonic longrange business jet, endorsed by no less an expert than three-time F1 world champion and airline magnate

Niki Lauda) for an individual, corporation, head of state, or a penthouse on wheels for a Formula 1 driver.

"We first entered motor racing at the request of a long-time client who needed a motorhome to take to various events around the USA," says Huslig. "That one motorhome turned into two, then the manufacturer was so impressed that we designed another three motorhomes for them for other clients.

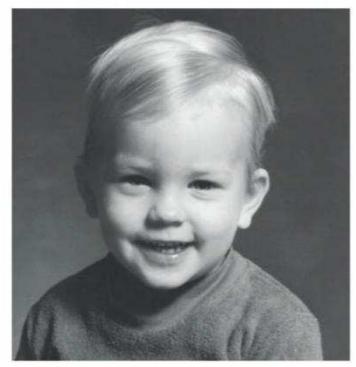
"That led to working with a NASCAR driver and doing several technical trailers as well as another motorhome. When a client started racing in Europe, we began designing motorhomes in Europe, including multistory hospitality units. To date we've designed eleven different motorhomes, trailers, and hospitality units.

"We currently have a new NASCAR client who saw one of the motorhomes we designed and was so thrilled with it that he asked us to refurbish his jet for him. So the cycle has gone full circle now - from jets to motorhomes and back to jets again..."

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THE UNSEEN Räikkönen



THE UNSEEN RAIKKÖNEN

A new book, emanating from Kimi's native Finland and now available in English, sheds fresh light on the true nature of one of Formula 1's most enigmatic stars

WORDS JAMES ROBERTS PICTURES KIMI RÄIKKÖNEN

hen Kimi Räikkönen was a child, his parents became increasingly concerned about him. At the age of three he was mute – still yet to utter a single word. When they took him to see a doctor, nothing was found to be wrong, and, indeed, his other responses were reassuringly quick: his legs worked far faster than his tongue and

His lack of speech and peculiar tone – the result of accidentally falling off his bike aged five and damaging a vocal chord through impact with the handlebar – is the first of many revelations in an extraordinary new biography of the Iceman. It perhaps explains why, as an adult, Räikkönen has often seemed so uncomfortable when speaking publicly, using words sparingly when he does so.

soon this flaxen-haired boy had broken loose.

But like so many facets of Räikkönen's enigmatic personality, all is not necessarily as it seems. In this new biography, which has been written by the Finnish novelist and screenwriter Kari Hotakainen, Räikkönen bares his soul in a way seldom glimpsed by a world desperate to know what makes him tick.

While he is not a passionate motor racing fan himself, Hotakainen has spoken to a host of individuals who have known Kimi since he was small, and his book sheds bright light on the true nature of a famously guarded character. Hotakainen won the trust of both the Räikkönen family and Ferrari to interview Kimi at length, both in his home and at races, gaining a fascinating insight into the 2007 world champion.

The Finnish version of the book, *The Unknown Kimi Räikkönen*, was launched in the summer, while the English translation is set to go on sale in the UK on 18 October. It offers a detailed narrative of how Kimi came to prominence, wowed onlookers with his dazzling speed and yet never lost touch with his humble, working-class roots despite spending 17 years (and counting) in the lavish world of Formula 1. Packed with honest observations and amusing anecdotes that delve deep into Kimi's psyche, it reflects on his new-found role as a family man, the untimely death of his father and his partiality to the occasional drinking session. "It's worth noting," writes Hotakainen, "that Kimi is still keen on supermarket beer in good company".

Over the course of many interviews, Hotakainen discovered that there is much more to the monosyllabic Iceman than meets the eye. So here *F1 Racing* presents three selected extracts from *The Unknown Kimi Räikkönen*. This is Kimi... but certainly not as you've seen him before...



THE UNSEEN RÄIKKÖNEN





McLaren was a tough school. It was overseen by a strict headmaster, team boss Ron Dennis. The pit garage was filled with easy-going, down-to-earth blokes: race engineer Mark Slade and mechanics Marc 'Elvis' Priestley, 'Gearbox-Philly', Marcus Prosser and many other characters with their feet on the asphalt. And, of course, there was Mark Arnall, the physiotherapist who has stayed with Kimi to this day.

Arnall also functioned as Ron Dennis's grapevine. Every time Kimi did something inappropriate, Ron phoned Mark to ask what had actually happened.

In joining the McLaren team, Kimi entered an unpredictable world where the quickest of the day could become the slowest in the blinking of an eye when the tyres or the car fell apart. It tested the driver's character, which proved strong. A team spirit was cultivated outside the paddock, too, and there were times when the spirit smelt of liquor.

Kimi sits on the grey divan and recalls his time with McLaren and Ron Dennis with equanimity, though it wasn't always calm in those days. Distance evens things out.

"Ron Dennis is a control freak. I suppose he's that in everything he does. He doesn't watch you on purpose, it's just him. Everything has to be straight, papers and things. These days I like things to be in order at home, so it doesn't look like a bombsite. I'm sure that dates back to Ron. And Kimi (left) with his elder brother Rami (right), when they were eight and ten

he didn't stress me out that much; maybe he was more stressed by what I did, for example by a newspaper report of my partying. I didn't really give a flying fuck but I expect it was harder for him."

Fire and water, two opposites with a common passion: the will to win. But they had totally different ideas of leisure pursuits and public relations. It was enough that one was a 23-year-old rascal from a working-class family and the other a 55-year-old team boss with heavy responsibilities. Ron had polished manners and a sense of style; Kimi was a country boy dependent on his instincts.

McLaren's sponsors included two luxury brands: Swiss watchmaker TAG Heuer and German fashion house Hugo Boss. The latter naturally wanted to clothe the drivers.

"How you dressed was really important during the McLaren period. The Boss suits were really awful, black and shiny. Terrible to wear. But Ron thought that everything had to be just so."

Iceman. Ron Dennis gave this name to Kimi. It amounts to no more than half of what Kimi is, but defines his professional identity accurately: he comes from a cold climate, drives fast and talks little; he doesn't explain anything, does his job to the best of his ability, and then moves on to the next race. A little later, the role will entail wearing dark glasses everywhere except in the shower.





It's the second day of testing. Today it's Sebastian's turn to drive, and Kimi comes to the boat to eat and spend time. We order Thai food, Vichy water fizzes, words fly around, freedom of speech reigns, nothing has been put on paper yet. Kimi talks, exaggerates, invents comparisons, waves his hands and spits out a traditional swear word here and there. He lets his hair down, colours his stories, breaks off and finds a rhythm. This is how a storyteller works.

That's not the Kimi who grunts a couple of syllables to reporters and leaves in a huff. His public image is rough and fuzzy and often snapped through a bush. But it's also true. Things are what they seem. He has done some wild partying. He has thrown money around. All the same, a public image is also always blurred, overexposed and limited.

"I LIKE PEOPLE WHO LISTEN. WE'RE BORN WITH TWO EARS, TWO EYES BUT JUST ONE MOUTH. THIS FELLOW USES THEM IN THE RIGHT RATIO"

LOUIS C. CAMILLERI

And it's no wonder: Kimi has given people plenty to talk about but hasn't talked himself. That's why the difference between the public and the private is big in his case, or to put it more precisely: it's a ravine.

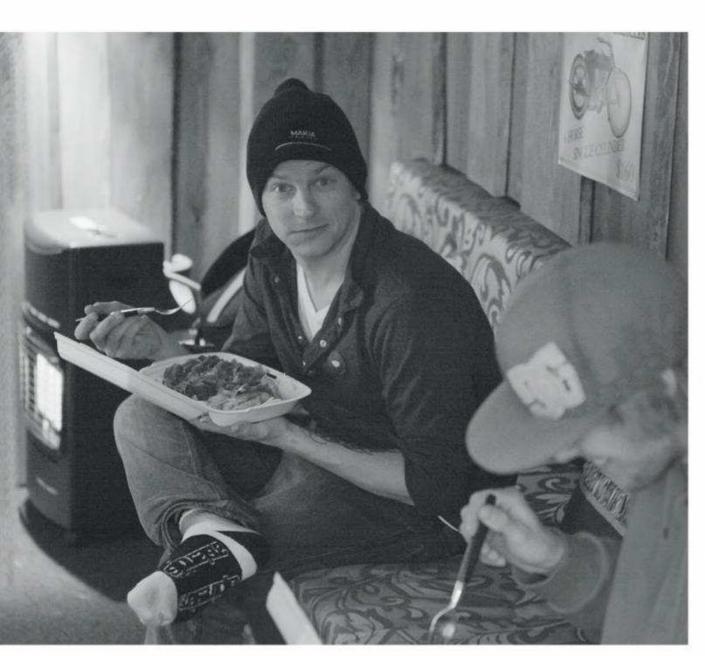
The winter tests are true to their name; sleet sweeps across the landscape, and it's cold for Spain but only cool in Finnish terms. The team announces that we won't know until two o'clock if we drive today or not. We start killing time, which is made a lot easier because Ferrari's facilities are filled with people who may have something to say about Kimi.

The espresso machine gurgles, strong coffee drips into small cups. A man walks past, a man so ordinary-looking that he must be extraordinary. The most important person in an organisation is usually the one who doesn't make a lot of noise but who walks quietly in the background. He is surrounded by an aura that says he's above everything around him.

I learn that the man is Louis C. Camilleri, chairman of the board of Philip Morris International. The tobacco firm he represents is Ferrari's main funder. He says that he met Kimi for the first time in 2006, in Paris, when the driver's managers Dave and Steve Robertson were negotiating the Ferrari contract at Jean Todt's home. Todt was Ferrari's team boss at the time.

"Kimi seemed like a smart chap. I like people who listen. We're born with two ears, two eyes but just one mouth. This fellow uses them in the right ratio."

I remember Jean Todt talking to me about the same thing using different words. Kimi is reserved and shy but direct.



Not-so-fine dining: Kimi tucks into a kebab at a New Year's party in 2012

Camilleri says that he has become friends with the driver over the years. They've been to an ice hockey match in his home city of New York, and Kimi has also visited his vineyard.

"He doesn't differentiate between people. He treats everyone the same, whether it's a director or a cleaner. He's emotionally intelligent. There's a lot of superciliousness in Formula 1, but he has none."

Finally, Camilleri describes an interesting detail about Kimi's wedding: "All of a sudden, Kimi stood up and gave a speech which he hadn't written down. It really sticks in my memory – it touched me. It's one of the most beautiful speeches I've ever heard. He spoke for something like ten minutes."

Camilleri has to go to another meeting. I thank him for the chat. Kimi, hidden behind dark glasses, walks past. He disappears into his small room to take a nap. Maybe there will be no testing today, no driving.





Baar in Switzerland at the end of April 2018. The layer of flesh over Kimi's bones is thin and glistens with drops of sweat. The body has no opinions, or at least no one asks if it does. Physiotherapist Mark Arnall sifts through the elastic bands hanging on his arm. He's looking for one that has a maximum impact when stretched. It's eleven o'clock; the training session will last another hour. Kimi's weight is currently at the optimum level and he doesn't want any more muscles; they are too heavy.

The two men are currently working on the upper body and hands. Mark presses Kimi's chest while the driver executes a movement with the rubber band, repeating it 15 times. Another movement follows and is repeated 12 times.

Next, Kimi holds a five-kilo weight in each hand. He moves his hands sideways to the front and performs eight repetitions. After a break, he lies on his back on the floor and stretches the band, raising his hips at the same time. The exercise is repeated 12 times.

Kimi is on his way to Azerbaijan and doesn't spare the flesh. The Baku race is due in a week's time. How long will this torture carry on? No one knows but, at this point in time, mortifying the flesh and making car tyres squeal still seems good to Kimi. Ending a sports career isn't easy. The quitter is often at the halfway stage of his or her life, or even younger. A lot has happened, at least half as much is yet to come. The end is the beginning of something new. It's the start of a new life.

HOW LONG WILL THIS TORTURE CARRY ON? NO ONE KNOWS BUT, AT THIS POINT IN TIME, MORTIFYING THE FLESH AND MAKING CAR TYRES SQUEAL STILL SEEMS GOOD TO KIMI



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THE UNSEEN RÄIKKÖNEN





Kimi with his wife Minttu (left); having fast food at Dallas airport in 2010 (top); and driving to Sepang (below)



Some have processed their experiences into words and sentences, which are used at life management seminars. We won't see Kimi Räikkönen at management training events talking about resources and body language. It's quite certain we won't see him commentating on F1 races at the circuits. He has led a tightly-scheduled life, rushing from one place to the next. When he quits F1, he'll stay put for a bit.

He was born with grease on his hands. He has the soul of a mechanic and the physique of a motorist, so alternative motor sports would be the most natural progression. But nothing is set in stone – except he won't miss anything about the job.

"IT WON'T BE HARD FOR ME TO QUIT THIS JOB. I'LL BE RELIEVED WHEN THE TRAVELLING AND SH*T-MONGERING COME TO AN END" "It won't be hard for me to quit this job. I'll be relieved when the travelling and shit-mongering come to an end. Driving is great – I can't say the same about anything else that goes with the job."

Kimi's voice is determined and defiant but he doesn't raise it. Right now, everyday life is much more eventful than a racetrack. Robin, aged three, and Rianna, aged one, develop at a faster pace than F1. Robin says a new word for the first time only once and it would be great to be there to catch it.

When Rianna takes her first steps, her dad may well be at the interview that follows Friday's free practice, scratching his

> neck and hiding his irritation. Kimi hasn't yet decided what he'll do after the end of his career.

> He only knows what he definitely won't do. ②

THE UNKNOWN RÄIKKÖNEN

The hardback English translation of The Unknown Kimi Räikkönen by Kari Hotakainen is due to be released on 18 October 2018, published by Simon & Schuster UK, and priced at £20.









SHUTTERSTOCK; SHELL



"RACING. THAT'S ABOUT IT"

Kimi Räikkönen is a straight-talking man. So his perfunctory explanation as to what convinced him to sign up for two more years in Formula 1 with midfield Sauber, having been dropped by Ferrari in favour of rising star Charles Leclerc, is characteristically to the point.

By the end of 2020, Räikkönen will be 41. He doesn't need the money, he doesn't need the hassle... and he has made it very clear that he doesn't need the media scrutiny. Yet his insatiable appetite for competition remains. Don't mistake the monosyllabic replies, the stone-faced expression, or even the lack of success in recent years for a lack of enthusiasm. As Kimi puts it, he's going back to Sauber, the team where it all started for him way back in 2001, "because I want to". It's that simple.

Räikkönen returns to Sauber older and wiser than the fresh-faced upstart whose mere presence in Formula 1 that season proved so controversial. It required special dispensation for a driver straight out of Formula Renault to be issued with the requisite superlicence to make the huge step up to grand prix racing, and many believed he shouldn't have got it. But Kimi Räikkönen was, and still is, a very special case.

The impressive talent that burned so brightly during the first decade of the 21st century – one that moved Michael Schumacher to ask the Sauber team *who was* this unknown driver sharing the Fiorano test track – has faded to something steadier. But Räikkönen, with his unique brand of anti-charisma, remains one of the most popular drivers on the grid. He has also been a dependable presence at Ferrari alongside Sebastian Vettel in recent seasons.

The respect for Kimi within the Scuderia is staggering. Not only is he their last world champion, an honour he secured 11 years ago, but he's also enormously valued for the precision of his excellent feedback and for how well he gels with the rest of the team. He is held in such high regard, in fact, that Ferrari abandoned their tradition of brief press statements detailing driver comings and goings to pay glowing tribute to his contribution.

"The way we wrote the press release was absolutely intentional," Ferrari team principal Maurizio Arrivabene later confirmed. "We were using a different style, breaking a bit the rules of Ferrari, that is normally going to communicate this in one line, giving also tribute and respect to Kimi for what he has done with us and wishing him the best for the future."

He's certainly going to be missed by his team-mate Sebastian Vettel, who insists results aren't the only – or even the most important – measure of Räikkönen's contribution. But of course he would say that, for in addition to being his friend, Kimi poses no threat to his leadership at Ferrari. Even so, Vettel is sincere in being complimentary about Räikkönen.

"One thing you can express is numbers and results and so on, but that's not the most important thing," says Vettel. "The most important thing if you are team-mates is the respect that you have for each other, or the degree of bullshit going on between each other. With Kimi it has been zero from the start, and I don't think it will change until the end. It's a great chance for Charles, but also it's sad to know that Kimi is not there any more because I think we get along even though we are different. We have this mutual respect for each other."

Räikkönen's move to Sauber came as a big surprise even to Ferrari. When it was first announced, many assumed Ferrari's deep-seated appreciation of Räikkönen had led them to place him in the seat they control there. In fact, this was a deal struck quickly between Räikkönen and Sauber once Ferrari had informed him, during the Italian GP weekend, that he would no longer drive for them. Kimi subsequently had just two meetings with Sauber team principal Frédéric Vasseur – and the deal was done.

Some also assume that Räikkönen has simply signed up for a few more seven-figure paycheques – but that's not the case. It's true that on occasion he has struggled to motivate himself when the car has not been to his liking, but overall he still has the desire to succeed.

"Kimi wants to drive F1 cars; he loves it," insists Steve Robertson, Räikkönen's manager, who, along with late father Dave, was instrumental in getting Kimi into F1 in the first place. "People are surprised because having driven for Ferrari for so many years most people expected him to retire, sit on his yacht, and enjoy the rest of his life. But he loves driving F1 cars, he gets a buzz from that. Kimi loves being on the edge. If he's not doing this he wants to ride motocross, but this is the pinnacle for him. And once we knew that it wasn't going to happen at Ferrari, he wanted to do a deal with Sauber."

There is a bit of a shift in this messaging. In recent years, it's been said that winning is Räikkönen's main motivation in Formula 1.

And oddly, for a driver who hasn't won a race in five seasons – and one whose strike rate of 20 wins out of 100 podiums makes him more Mr Consistency than Mr Excitement – he has repeatedly stated that winning was his objective at Ferrari. At Sauber, winning races isn't a realistic proposition, and he's characteristically vague when it comes to explaining his new objectives in the midfield.



Kimi's roots at the Sauber team run deep. This was where he started out in 2001 and where he will most likely finish his Formula 1 career



SUTTON IMAGES

"Obviously the aim is always that [winning]," he maintains. "Is it realistic? Who knows. You can only aim for the best positions and see what comes up."

Frédéric Vasseur is no fool, and needed to be convinced that Räikkönen would do more than just turn up to play. While Kimi isn't especially talkative, he has displayed a clear interest in the situation of a team who are rebuilding after a period of dire financial peril. And they're doing well, with title sponsorship from Alfa Romeo, an ever-closer relationship with Ferrari, and now a world champion driver, so there's the chance to build on an encouraging 2018 season.

"Kimi convinced me at the first meeting of his motivation," says Vasseur, "because he was just focused on the good questions: 'What is the simulator position?' 'What is the relationship with Ferrari?' 'How is the team running?' 'Who will be the chief engineer?' 'Where are we with the next car?' He was just focused on this; the questions were just on performance. I loved the approach, and I know that if he has this kind of approach, he will be very supportive with us.

"He loves racing, and I think he will enjoy it like this – he will be able to spend more time with the team and come to the factory. The first time we talked, he said: 'I can come to the workshop.' He wants to be part of the project, and this is probably much easier with us than someone else."

Realistically speaking, Räikkönen's challenge will be to get the car into Q3 on its good weekends and to score points consistently. How well he will rise to the challenge remains to be seen, but Sauber are a team with whom he has a great affinity. He never forgot the opportunity he was given by the team, and over the intervening years would often pop down to the Sauber hospitality unit for lunch during race weekends.

Some personnel from his first season are still working for Sauber, and they're excited about

Räikkönen's return. Most of the employees don't go back that far, and will be fascinated to see how the reality of working with Kimi compares with the myth, because from the outside he is still indubitably an enigma.

Everyone has what might be termed a 'game face', a character they adopt in a working environment, but in the case of Kimi Räikkönen the contrast is extreme. At the circuit, he is quiet, with many who have worked with him for extended periods of time saying they would exchange only a handful of words. But in his own time, when he is relaxed and enjoying himself, those close to him report a more garrulous, easy-going character with a good sense of humour. A different personality altogether.

He's still sure to be a popular figure among those working on his car. There are plenty of stories in circulation about his first stint with Sauber, including tales of some legendary nights out with his then work-mates. After all, he is, at heart, a mechanic himself. And, with a few exceptions, most who work with him talk of Räikkönen as a loyal and likable character.

One rumour that can be dismissed is that he has gained some kind of stake in Sauber, or has started on the path towards a management role with the team. Räikkönen has scotched the rumour, making it very clear that this is an arena of little interest to him. He already has a team, the IceOne motocross team, which competes at world championship level.

He has also long held a stake in the Double R Racing team (Räikkönen-Robertson), which currently competes in both British F3 and F4. The team is run by the well-respected Anthony 'Boyo' Hieatt, an engineer with a lengthy record of success in junior single-seaters, who believes Räikkönen's interest in the realities of running race teams is underestimated.

"I spent a good amount of time at the British Grand Prix with him, and [Double R Racing] is the only thing he talked about," says Hieatt. "What people don't realise is that he likes the nuts and bolts of motor racing. He likes the private jets, too, but his job was as a kart mechanic and that's never changed.

"Motocross is part of Kimi's relaxation; he's got his own track in his back garden! When you're riding a motocross bike, nothing else matters. It's total mental freedom. I imagine that appeals to him."

It's this simplicity that has won Räikkönen such unstinting affection from his fans. Unlike other drivers, he doesn't play games, and he doesn't self-mythologise. What he does is to race hard, race clean, and offer the kind of blank slate that allows everyone to project their own favoured qualities onto a driver who reveals so little of himself to the outside world. Whether you favour the hard-living James Hunt-style Kimi Räikkönen, or the quieter family man with two children, he is a driver who offers a hint of something for everyone.

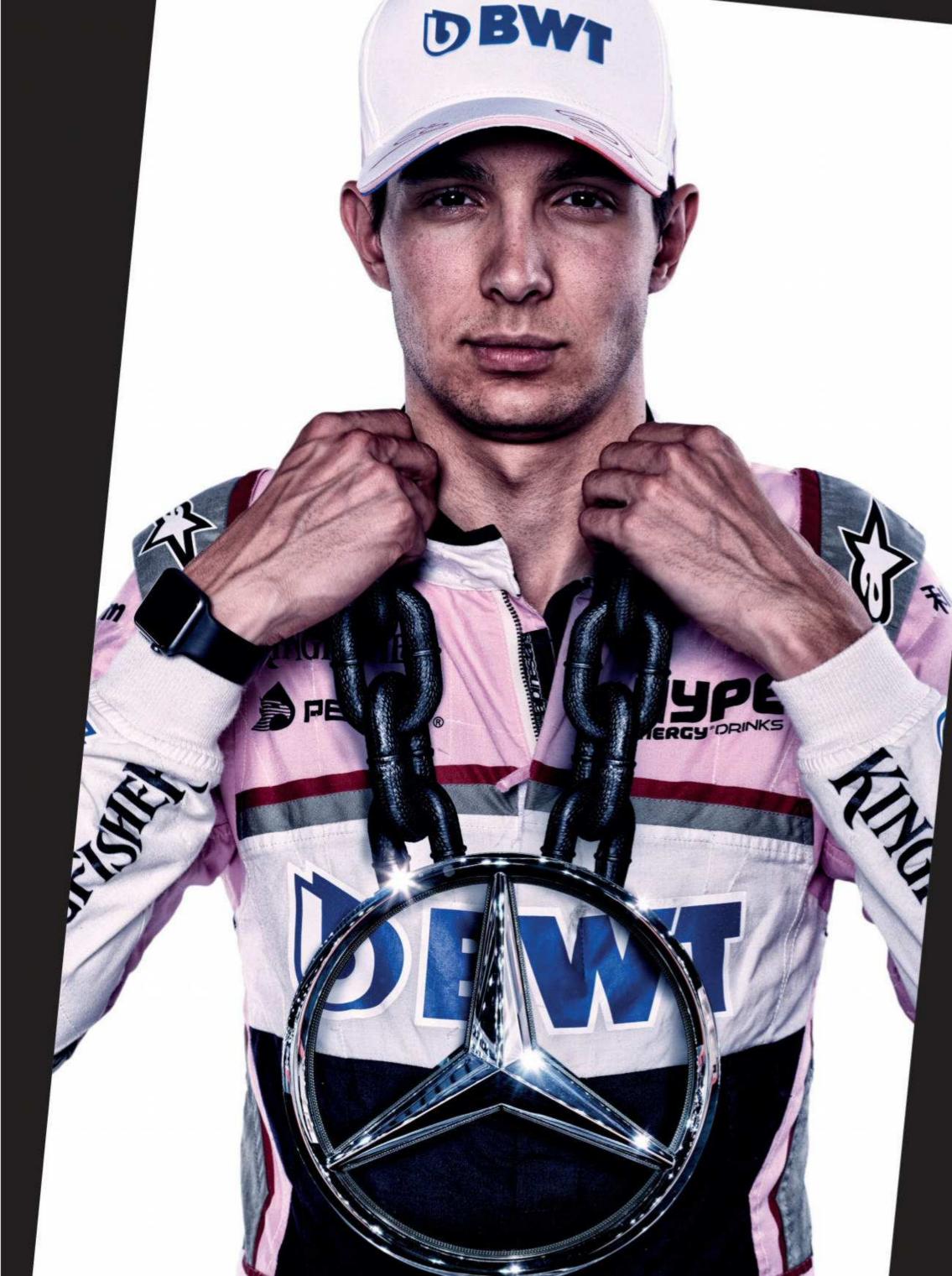
What cannot be doubted, though, is that Räikkönen still gets something out of F1. How much he has to offer to Sauber is a question that will be answered only once the new season kicks off, but given the quality of drivers available, it has to be assumed that the team considers him a valuable asset – even if his most competitive days are likely now behind him.

As for Räikkönen himself, unless you are part of his inner circle you can never really be sure what motivates him, what drives him. You can only follow the hints, the insights offered from those who know him, and the simple fact that nobody would put themselves through two more gruelling years of competing in elite sport unless they were truly motivated to do so.

But that's the point of Kimi Räikkönen: he's not answerable to anyone other than himself. And if he's satisfied he's joining Sauber for the right reasons, that's all that matters.

"I HAVE MY REASONS AND THAT'S ENOUGH FOR ME, I DON'T REALLY CARE WHAT OTHERS THINK"





WHEN YOUR FACE DOESN'T

Why has one of Formula 1's hottest prospects backed by Mercedes, no less - been shut out of a prime seat? And does Esteban Ocon's career crisis point to a deeper malaise in which manufacturer politics rather than individual talent can now make or break a driver's future?

WORDS JONATHAN NOBLE PORTRAITS ADRIAN MYERS



ISAPPOINTMENT, FRUSTRATION AND A RAGING SENSE OF INJUSTICE

have attended Esteban Ocon's struggle to retain a place on the Formula 1 grid — and understandably so. After all, if Mercedes believe that the brilliantly talented Ocon has the potential to be a future race winner and world champion, and yet they have been unable to find him a seat, then surely something in the system is broken.

It would be easy to conclude that Ocon's baffling lack of options signifies a wider structural problem with F1's talent ladder, but the truth is considerably more nuanced.

Digging deeper into what happened over the summer to leave Ocon facing a year on the sidelines gives rise to two lines of conjecture.

The first is that Ocon is a victim of broken promises and circumstance rather than collateral damage in the off-track war between F1's manufacturer teams. The second is that while his plight doesn't signify a full-blown crisis either for F1 or its aspiring stars, it has demonstrated that the landscape has changed: the destiny of rising talent is now in the hands of teams in a way that it never was before.

Ocon's spiral into limbo is actually relatively straightforward to unpick. Mercedes have been guiding his career ever since his previous arrangement with Gravity Sport Management came to an end when that entity collapsed in 2014. It was Mercedes who then smoothed the way to his F1 debut with Manor and subsequent placing at Force India.

In the run-up to this year's summer break, Mercedes were still weighing up their driver options, since they had yet to finalise contract extensions with Lewis Hamilton and Valtteri Bottas. While Hamilton's new deal was a relative certainty, and the timing simply a question of getting the contractual fine print across the finishing line, the team had a more open mind about who would occupy the second seat from 2019 onwards. Mercedes boss Toto Wolff wanted to see some solid progress from Bottas in terms of pace and results before he was prepared to renew his contract, and in Ocon he had a useful insurance policy: a keen, young ace, already in the Mercedes family and hungry to step up if a place became available.

Bottas, however, proved his mettle, displaying sufficient vigour in the first half of the year to quell Wolff's misgivings. And Ocon's position seemed assured, since both McLaren and Renault had registered interest. Mercedes had no reason to anticipate what would happen next.

Ahead of the German Grand Prix, Ocon was all set to join McLaren for 2019 – possibly even sooner since the struggling Stoffel Vandoorne had fallen out of favour with team management, who were prepared to swing the axe. Mercedes and McLaren had already reached a preliminary agreement, and Ocon duly visited Woking for his seat fitting. But just before Mercedes and Ocon committed to a McLaren contract, Renault came knocking and urged them not to go ahead: they wanted to run Ocon as Nico Hülkenberg's team-mate in 2019.

Not wishing to lose the definite McLaren opportunity for the more ephemeral possibility of something elsewhere, Mercedes sought as solid a guarantee as possible from Renault. A verbal agreement was made, a handshake was put to a deal, and contracts were drawn up ready for signatures to be appended.

Still feeling comfortable with this turn of events, Mercedes went ahead and confirmed their 2019 line-up of Bottas and Hamilton at the German Grand Prix, fully expecting the Ocon/Renault deal to be signed in the days following the Hungarian Grand Prix. So when a press release landed the week after Hungary, confirming that Renault had signed Daniel Ricciardo, Ocon and Mercedes were blindsided.

Mercedes now had nothing else to offer Ocon. Renault had already chosen Ricciardo, and McLaren, feeling snubbed, were no longer interested: they pursued and completed a deal with Carlos Sainz.

There was no longer any certainty that Ocon would remain at Force India either. That team's financial troubles, along with their takeover by a consortium led by billionaire retail tycoon Lawrence Stroll, introduced the possibility that Stroll's son, Lance, would move there sooner or later. Since Sergio Pérez brings a portfolio of lucrative Mexican sponsors, Ocon was the more likely to be directed towards the door.

Williams were considered as a possible new home, but not only are they in competitive disarray, they are also facing the imminent loss of their title sponsor, and so are a sub-optimal destination for Ocon at this stage of his career. Other potential seats came with close ties to either Red Bull (Toro Rosso) or Ferrari (Sauber and Haas), essentially closing them off to a driver so closely associated with the Silver Arrows.

The perception that Ocon's Mercedes affiliation curtailed his options is what has fuelled the narrative of injustice and woe. But Toto Wolff claims to be unconvinced that Ocon's Mercedes ties influenced decisions that turned against him. "I'm not sure," he muses, "because there wasn't any resistance [to Ocon joining non-Mercedes teams] in July. There was interest in July, but then everybody took other decisions.

"In the end, to be absolutely clear here, I understand that Renault taking Ricciardo is

MERCEDES NOW HAD NOTHING TO OFFER OCON. RENAULT HAD CHOSEN RICCIARDO INSTEAD.

AND McLAREN, FEELING SNUBBED, WERE NO LONGER INTERESTED



On the edge: no room at Mercedes, and Ocon's links with them put off the likes of Red Bull



DBW1



a great decision for them. I don't have a problem with that decision *per se* because Ricciardo is also somebody who deserves to be in a seat, and probably Renault is a happy place for him.

"It is not Mercedes losing out here. We are running a team in the F1 championship and



"IT IS NOT MERCEDES LOSING OUT HERE. WE ARE RUNNING A TEAM IN THE F1 CHAMPIONSHIP AND WE ARE FIGHTING FOR WINS AND CHAMPIONSHIPS.

ESTEBAN IS A YOUNG DRIVER WHO HAS LOST OUT"

TOTO WOLFF

we are fighting for wins and championships. Esteban is a young driver who has lost out. I don't think it was particularly against Mercedes, because back then there were a lot of offers."

Even if Ocon's status as a Mercedes works driver didn't cause those doors to slam in his face, his situation has provided a case study of the huge influence the big teams now have on the driver market. Mercedes, Red Bull and Ferrari have all made significant investments in young driver programmes, and many faces on the present grid would never have reached F1 without such backing earlier in their careers.

The ever-growing costs involved in scaling the racing ladder means that it is now very rare for a driver to break through if they are not bankrolled by the major teams, free-spending sponsors, or a mega-rich father. The days of a manager independently funding a promising youngster to

try to take him to F1 – as happened with Jenson Button and Kimi Räikkönen – are long gone.

Steve Robertson, who helped steer both those former champions to Formula 1, expands on this: "The driver market is really different now for one reason. Now, unless you've got a multibillionaire father, then you need to be in one of the young driver foundations. The big teams all have their foundations.

"It wouldn't be possible to do now what we did then. We had a ceiling – the ceiling was that we would spend an amount of money, and by the time we had spent that money we would know if a driver was good enough or not. Now there is no ceiling. It is millionaires to billionaires, and there are far fewer billionaires out there. So it is a very different dynamic."

The result is a lack of independence. Rather than being able to make their own moves in the



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market, as happened in the past, youngsters are now more subject to the changing priorities of their patron manufacturers. And these priorities are not always directly aligned with the driver's best interests. Even a talent as highly rated as Max Verstappen was aware of this fact, choosing to guard himself against it as he and his father Jos plotted their path to Formula 1.

"I could also have joined the Red Bull junior team in 2010 but I didn't," says Max, "because you want to keep it in your hands as long as possible and then you can make the best deals. That is how we did it. But sometimes you don't have people behind you, so you have to sign those kinds of contracts where you have nothing to say, because basically it is the team deciding for you where you have to go."

Regardless of whether Ocon's Mercedes ties

really have become the proverbial albatross around his neck, there is clear evidence to suggest the need for drivers to become part of junior schemes has led to teams becoming much more territorial. It's a perfectly logical proposition: continuity

is useful in Formula 1, so teams naturally want to employ talented drivers for the longer term – rather than acting as a temporarily convenient stop-off for someone who could be recalled to the mothership at any time.

McLaren CEO Zak Brown agrees, saying:
"When you sign a driver you want to know that,
if it all goes well, you have longevity. When you
are taking on a driver who you know you can't
have a certain amount of longevity with, that can
then become a detraction."

Ocon's misfortune is that he has found himself in a tenuous position not because F1 isn't interested in young talent, but because there is so much talent in circulation that there aren't enough seats to accommodate it all.

"I think we are in a cycle where there are many drivers who deserve to be in F1," says Wolff. "Young ones and more experienced ones. A good example is Ferrari: Räikkönen and Leclerc, you can justify either of them being in a car, the same way you can justify Bottas and Ocon in our car. And I think this is just a time where, because of the various young driver programmes, the kids who have won the championships are now making their way up into F1."

The unfortunate thing for Ocon, unlike the juniors at Ferrari and Red Bull, is that Mercedes don't have two teams with which to juggle the talent on their books and provide a clear trajectory to the main seats. Mercedes don't believe the investment in a second squad makes good financial sense, and while Wolff may like the idea of third cars as a solution, he is in a minority at decision-making level.

Red Bull team principal Christian Horner says: "The young driver situation in F1 is healthy at the moment. We've got the next generation coming through: we've got Verstappen, we've got Gasly joining the team next year, we've got Leclerc in a Ferrari, which is great to see. And Ocon is arguably one of those drivers who should be finding his way, so it's unfortunate for him that he will be on the bench next year due to his contractual association. Really, the responsibility lies with his owners to find the solution."

Ocon's plight is a simple case of bad timing and bad luck. He is neither the first F1 driver nor the last to be left without a seat despite all the praise in the world being heaped upon him.

Yet Fernando Alonso, Felipe Massa, Romain Grosjean and Nico Hülkenberg have all proved that even the best drivers sometimes have to sit on the sidelines for a year. Each went through that pain before coming back and achieving the greatest success of their careers.

"MAYBE NOT NEXT YEAR, BUT THE YEARS AFTER, HE WILL HAVE A GREAT CAREER IN F1. IT IS JUST AT THE MOMENT THE TIMING IS WRONG"

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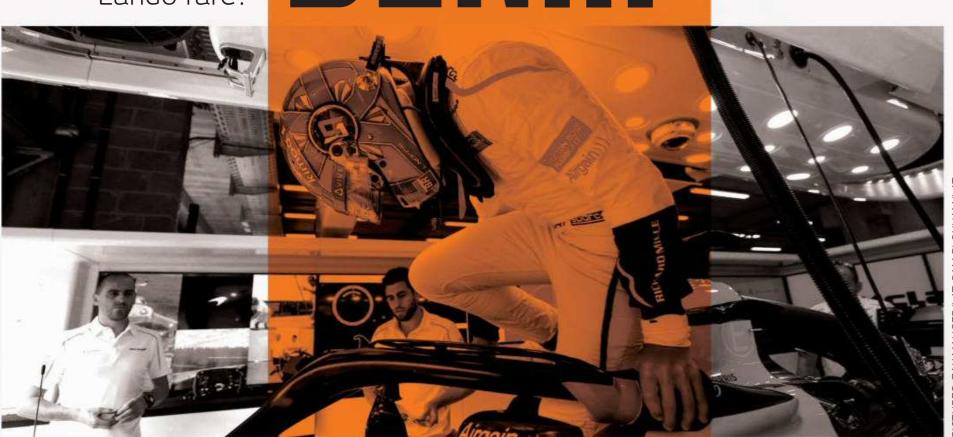
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Formula 2
hotshot Lando
Norris gets his F1
debut next year
with McLaren. But
the troubled team
have mangled the
career paths of
recent recruits
including Sergio
Pérez, Kevin
Magnussen and
Stoffel Vandoorne.
So how will
Lando fare?



PICTURES: ZAK MAL





Vandoorne first arrived at McLaren in 2013.

A star of the team's young driver programme, insiders lavished praise on his simulator pace. They cited his engineering prowess, his methodical approach and his success on track: champion in F4, Formula Renault and GP2.

McLaren couldn't wait to get him in the car.

Rewind to the end of 2006 and the same positivity surrounded Lewis Hamilton. He'd also achieved major honours in all the junior categories and had impressed in GP2 with his daring double-passing moves and fearless wet-weather wins. It had been a no-brainer for McLaren to sign him up for 2007. The remarkable story of that year is well documented, and a rookie Lewis finished the season level on points with his double world champion teammate Fernando Alonso, just one point behind that year's champion, Kimi Räikkönen.

By way of contrast, these past two seasons have been altogether less stellar for 'Stoff', partnered against the hardest F1 nut of all: Fernando Alonso. Over 2017, qualifying was 15-3 in Alonso's favour. So far this year, up to and including the Japanese GP, it's 17-0.

So it was no surprise, given these damning stats, that Vandoorne was dropped from the team. On the Tuesday after Monza, McLaren revealed that 18-year-old Lando Norris will drive alongside Carlos Sainz in an all-new pairing for 2019. And once again a sense of anticipation surrounds the arrival of a young and exciting driver to the glass-and-steel corridors of McLaren's Woking HQ. Norris, indeed, has been likened to Hamilton. But is the hype justified?

"I think when you bring in a young driver, there is always an element of risk," says McLaren Racing CEO Zak Brown. "Some drivers who haven't been dominant in junior formulae come along and have brilliant careers. Then there are those like Jan Magnussen, who was absolutely outstanding in F3 and broke Ayrton Senna's records, who didn't go on to have the F1 career he should have had.

"Lando is going to need space. For example, he's not driven the Melbourne track before, but that's one of the things [new sporting director] Gil de Ferran has been brought in to get involved with: the human performance of the team and drivers. Historically with our environment, we have not been great with young drivers, so with Gil we can learn from some of the mistakes we have made in the past."

A look at Norris's CV makes for impressive reading. Aged 14, the teenager from Somerset beat Hamilton's record to become the youngest-ever karting world champion, following that up with Formula Renault and F3 titles at the first attempt. Then, on his Formula 2 debut in Bahrain this year, he won from pole. Until failing to score in the penultimate round in Russia, Norris was still in contention to win that championship.

Norris further impressed when he raced alongside Alonso for Brown's United Autosports team at the Daytona 24 Hours in January. And in his FP1 outings and tests for McLaren, he's convinced the team that despite his tender years, he has the right temperament to cope with F1.

"We've been watching Lando for a few years now and, as we've seen, he's effectively won everything in the junior formulae," Brown explains. "We gave him practice runs in Spa and Monza, which were less about speed — because we were already confident of that — and more about how he would react to being in that environment. He did extremely well. He approached it as he would have done an F3 race, which proves that he has a really good temperament and won't be rattled easily.

"He also shows outstanding racecraft. There was a race in Monaco this year where he started

towards the back [18th] and came through the field [to finish sixth]. He's quick in the wet; he was a match for Alonso in the Daytona 24 Hours, and the fact that he has raced a sportscar shows he has adaptability. He's clearly a very naturally talented driver."

Norris's performances have attracted interest from other F1 teams, so McLaren were keen to get him signed up before he could be poached by the likes of Toro Rosso. Since his stellar F2 debut, Norris has struggled with outright pace, but is honest enough to admit his failings and identify where he needs to improve.

"F2 qualifying is my biggest weakness and through no obvious reason," he notes. "In my career so far, qualifying has been my forté. In F4 I never qualified outside the top two, I had loads of poles in F3 and Formula Renault and it's always been my strongest point. But this year it has changed and I've never been able to find that last 0.2 or 0.3s.

"I think a bit of it is the driving style in an F2 car, which doesn't suit me as much as F3 or Formula Renault, since you have to drive in a different way, particularly with the tyres. I have to adjust slightly and that has let me down in terms of qualifying pace, which makes my race harder than it should be.

"Perhaps it's good I haven't been able to win easily... it's made me look and work harder!" he says with a chuckle. "I've been going to the factory before and after races, working through data, looking at what's good and bad and what I need to work on. I've been trying to improve myself by focusing on the smaller things.

"When you have good drivers in the championship, the smaller things count more and this has put a different perspective on things and helped me to become a better driver."

In preparation for his F1 debut in 2019, Norris will take part in further FP1 sessions



"PERHAPS IT'S GOOD I HAVEN'T BEEN ABLE TO WIN EASILY... IT'S MADE ME LOOK AND WORK HARDER!"

this year, timed so as not to clash with his F2 commitments, and he will continue with his simulator work to help develop McLaren's F1 car. He also admits he needs to lose weight over the winter to come down from his current 69kg.

Significantly, the difference between Norris's rookie season and Hamilton's in 2007 is that it's highly unlikely McLaren will have a car capable of scoring podiums, let alone race wins. "It's going to be a tough year for us and we're not going to be competing against Ferrari or

Mercedes," Norris confirms. "But I hope that we will make a step forward from where we are. It will be about developing the car for the next few years so we can target podiums."

Perhaps then, it is unfair to make comparisons with Lewis Hamilton, who was immediately in contention to win the world championship in his first year in F1. "I think it's hard to get into driver comparisons," agrees Zak Brown. "It's natural to ask that because Lewis started here, he's British, he won multiple junior championships and at

the rate he's going he may be the most successful Formula 1 driver of all time.

"I think you can look at Lando and what he's accomplished and say he's a future star. But given the current state of McLaren, which is in a rebuilding mode, we do have two young quick drivers which is a perfect base to look out from over a five-year horizon. For all those reasons, we quickly came to the conclusion that Lando is the driver we wanted and that with the right car he could be a future world champion." 💿





^

"I like to get as close as I can.

Lewis is always very focused,
but you see what he's feeling,
how much of himself he's put
into the on-track performance."



SINGAPORE 2018 HE'S GIVEN IT HIS ALL

EYE ON THE CHAMPION

Paul Ripke's behind-thescenes shots of Nico Rosberg's title-winning year impressed Mercedes and Lewis Hamilton so much that they invited him back. Now Ripke lifts the lid on his own unique photographic style

WORDS STUART CODLING PICTURES PAUL RIPKE/MERCEDES

Stand in the middle of the bustling Formula 1 paddock, close your eyes, and throw a dart. Chances are you'll hit a photographer. From seasoned pros (*F1 Racing's* Steven Tee has missed only three GPs since 1984) to how-did-they-get-accredited amateurs, our sport faces no imminent dearth of image artistes.

And yet when Nico Rosberg's manager, Georg Nolte, decided he wanted to chronicle Nico's 2016 title bid from a unique insider's perspective, he turned not to one of these long-lens specialists but to a bearded outsider who looked as if he'd rolled in on a skateboard. More than that, Paul Ripke's tools of the trade pretty much amount to just two cameras: a Leica with a 24mm lens and an iPhone. And the man himself has a startling confession.

"I can't take pictures of cars," he announces. "I'm very bad at it."

Fortunately, as we've already established, the F1 paddock is veritably awash with people whose specialism is photographing cars, whereas Ripke brings to the party a more people-focused reportage style. He *can* and indeed does do artfully-lit studio-style portraiture, but that's not what Nolte was looking for when he commissioned Ripke to document Nico's championshipwinning journey from the inside in 2016. Seeing the

results, Mercedes and Lewis Hamilton had a Victor Kiam moment ('so impressed, they bought the company'), bringing Ripke in as a regular fixture at the team, after Nico had sailed into the (artfully desaturated) sunset.

"My style of photography is trying to put the spectator into the perspective of the person I'm taking pictures of," says Ripke. "So it's authentic, not perfect pictures... more of a kind of snapshot style. You can move the reality around a little bit, but it's still reportage photography: one lens, one camera, and no flash, ever. I started in music, with German bands and hip hoppers, and then I slowly went into sports a little bit."

That 'little bit' culminated in his spending four years as the German national football team's official photographer, a stint that included capturing the rapturous aftermath of their 1-0 victory against Argentina in the final of the 2014 World Cup. Ripke's in-the-thick-of-it visual style – the 24mm lens gives a field of vision similar to that of the human eye – puts the viewer right in among the subjects, and those images fed into the well-received picture book *One Night In Rio*, a visual calling card that led to his Mercedes commission. What Nico wanted then – and Mercedes and Lewis are eagerly receiving now – is a bank of still and moving

I'M NOT A TRADITIONAL

<u>first of the digital</u>

GENERATION. I NEVER

TRAINED. IF YOU GIVE

ME A FILM CAMERA, I'LL

FAIL HARD. I JUST TAKE

LOTS OF PICTURES...

PHOTOGRAPHER, I'M THE

images that can be deployed on social media or fed to mainstream media outlets on request. "A one-man army" is how Ripke describes himself.

"I'm not a traditional photographer," he notes. "I'm the first of the digital generation. I never trained. If you give me a film camera, I'll fail hard. I just take lots of pictures and it's a bit of trial and error, which you can do with digital. Some of them turn out okay..."

In the pre-digital era, such an approach would have been both costly

and cumbersome: shooting hundreds of rapid-fire pictures was possible, given a camera with a motor drive, but limited by the availability of film (*F1 Racing* recalls a shoot at a chilly Barcelona circuit with Jarno Trulli back in the 2000s, during which the subject flounced off after growing tired of waiting for the photographer to change the roll of film). Sourcing raw film and getting it developed added to the variable costs of the enterprise.

Now only hard drive capacity and the photographer's time present the limits. Ripke has 820 Gigabytes of images — around 174,000 pictures — in the cloud ("that's just the export," he adds) and sifting the results of a shoot takes discipline. "I'm good at selecting, I guess," he muses. "Over a weekend I'll take up to 15,000 pictures, but I'm very quick at selecting the ones I want to keep. That's what you need to have — more so than an eye.

"I filter out the ones that aren't good. If there's a problem – if it's not in focus or the emotion isn't transported – then it's out straight away. I've never gone

"I want to find a different angle to everybody else – I'm not really interested in taking the same pictures as all the other photographers."



"This was taken in Monaco in 2017, which wasn't a high point of the season for Lewis, but it was where he came back strongly afterwards and I wanted

to capture that sense of 'Still I rise.' I don't have a problem shooting into sunlight – I use the same lens to give a consistent look and feel."



F1 RACING NOVEMBER 2018

AUSTRALIA 2017 FACE TO The future





"The person holding the phone adds to the effect of you being there – it adds an imperfection." SINGAPORE 2017 CROWNING GLORY

MONACO 2017 Light on the Horizon





"This is also very back-stagey

- it's after Lewis had finished
running around with the flag and
celebrating his fourth title. He
just sat down and the reality of

what he'd achieved sank in. He was crying a bit as well – and so was I! I like to get up close to my subjects, but doing that here would have ruined the moment."

MEXICO 2017 The Price Of Victory "Here he is with Toto after qualifying. Again, nothing is is staged... I'm just following Lewis and trying to capture the moment exactly as it happened."



SINGAPORE 2018 CONGRATULATIONS ARE IN ORDER



back to the first big selection and found something in a shot I'd rejected. A picture has to work instantly."

The sheer horsepower of modern laptops — Ripke has a big-screen MacBook Pro with a GPS tracker taped to the lid — lets photographers flip through their selections briskly and apply a plethora of changes. How much visual adjustment you make is a question of personal taste and, for some, ethics. How much artifice does it take to invalidate a shot's authenticity? Ripke says he's not averse to "moving things around a bit" but primarily it's a question of filtration: he's even developed a set of Adobe Lightroom and iPhone filters you can buy to ape his look.

"It's a filter set mainly," he says. "Sometimes I adjust the exposure, but I take no more than 40 seconds per image. Perfect pictures are not authentic. Proper press work — long lens, controlled lighting — doesn't work on social media because people want to believe it's a real picture. They don't want a Photoshopped advertising picture. A picture doesn't have to be technically perfect and I like them when they're not."

Having a photographer permanently in attendance must be mildly disconcerting, and Ripke says that forming a personal connection with his subjects is the foundation of creating great pictures. You'll see in a

number of the images on these pages that he has made a conscious decision at various points not to reveal his presence, shooting from a distance even when the wide-angle lens will introduce foreground and background clutter into the composition. One of his most striking images is of Lewis Hamilton alone and lost in the moment as he digested title number four while wrapped only in a towel. The peripheral objects within the backstage milieu stand in stark contrast to the

team's polished outward image, magnifying the emotion.

"A big part of it, for sure, is the social part," says Ripke. "I try to get along with the people I'm following – you need a personal connection with them because you're spending a lot of time in their private space. It would never work if you weren't trusted. It's very good that Lewis is so visual. With Nico, sometimes we'd have talks about which shirt he should wear, things like that – I never talk to Lewis about clothing! He knows exactly what he wants, what image he wants to convey. And I like his style a lot – I'm a hip-hop kid as well."

But while Ripke remains enthused by the task in hand, he confesses that he isn't so interested in Formula 1. Perhaps, it's this facet of Ripke's outlook that fuels his distinctive visual take on the F1 circus: a world inhabited by people and emotions as well as by machines.

"A little distance helps in photography," he says. "I like F1 but I'm not, let's say, its biggest fan. But I like the people, and I'm here for the human side of the sport."

PROPER PRESS WORK
DOESN'T WORK ON
SOCIAL MEDIA BECAUSE
PEOPLE WANT TO
BELIEVE IT'S A REAL
PICTURE. THEY DON'T
WANT A PHOTOSHOPPED
ADVERTISING PICTURE

YOU ASK THE OUESTIONS

MARCUS ERICSSON

Sauber's Swedish stalwart discusses his diverse music tastes – Roxette, anyone? – explains why constructing IKEA furniture isn't a solo undertaking... and why he's sitting out 2019 as 'third driver'



Marcus Ericsson has been involved in Formula 1 for longer than you might think. He first drove a grand prix car at the age of 18, nearly nine years ago. F1 trivia buffs may recall that this first outing was for Brawn GP, in that dramatic title-winning season of 2009.

Mercedes were poised to buy Brawn as Marcus, newly crowned All-Japan Formula 3 champion, spent three days lapping Jerez in early December. From there he spent four seasons in GP2 before making his F1 race debut for Caterham in 2014. When that team died, he relocated to Sauber, where he has been ever since — and will remain as 'third driver' next season as Kimi Räikkönen and Ferrari protégé Antionio Giovinazzi move into the race seats.

If Ericsson starts every race this year, he'll still be 26 shy of the 123 starts notched up by F1's most famous Swede, Ronnie Peterson. There are links between the two: both hail from the city of Örebro, and Ericsson's manager, Eje Elgh, was Peterson's racing protégé. Ericsson even raced with the colours of Ronnie's helmet at the 2014 Monaco GP. So it's appropriate, then, that the first question card concerns one of F1's principal exponents of opposite lock...

How do you think
Ronnie Peterson would
cope with today's cars?

Glen Howell, UK



Super Swede Ronnie Peterson has long been Ericsson's inspiration

Marcus Ericsson: He would probably struggle to get them sideways as it's a bit more difficult to do that these days. But I'm sure he would have found a way around it with his talent.

F1 Racing: You're a bit of a Ronnie Peterson fan, aren't you?

ME: Yes, he would be my number one pick if I had to choose any driver from the history of Formula 1. He comes from my home city of Örebro and I also know his daughter, Nina, quite well. There are actually quite a lot of things that connect us, and Ronnie has always been an important source of inspiration for me.



YOU ASK THE QUESTIONS

What are your memories of driving the Brawn BGP 001 car in post-season testing in 2009?

Philip Kelly, UK

ME: Those were good memories for me. It was my first time in a Formula 1 car and to be driving the world championship-winning car was unreal. My strongest memory was before I went out on the first run: the adrenaline

was high – I was probably on maximum heart rate. I was shaking, but I was only 18.

It was a very special feeling and when I got out there it was an incredible car to drive; the way it felt on the track and the balance of the car was amazing. I couldn't believe how much grip it had — it was probably the best car I have ever driven, balance-wise.

F1R: Was it only afterwards that you realised not every Formula 1 car is like that?

ME: Yes, especially since the next car I drove after that was a Caterham... that was very different.

What sports do you like to play in the off-season?

Daniel Jones, UK

ME: These days I play a lot of padel. Do you know padel tennis? I actually opened a padel centre in Sweden, which is one of the biggest in northern Europe.

It's in my home town of Örebro and it has nine courts. I play that quite a lot when I'm at home and I enjoy it immensely. Padel is a mix between tennis and squash, so the court is smaller than a tennis court, but you play two against two and you can use the glass walls. The racquets don't have strings — they are hard plastic. It's really fun and it's booming in Sweden.

Aside from that, I'm also a massive ice hockey fan. I try in the winter to go out on the ice to play with friends.



An early taste of success: Marcus got to test the title-winning Brawn BGP 001 car at the end of 2009

Who is the nicest driver you've ever met in your career? And the best for a night out?

Pedro Eca, Portugal

ME: Jenson Button is definitely one of the nicest guys around and we miss him here in the paddock. He's someone to look up to, not only as a driver but as a person. Probably Daniel Ricciardo, too.

He's a good friend of mine and we drove in British Formula 3 together, almost ten years ago. He's fun for a night out – we go out a couple of times a year.

What type of music do you like? Who are some of your favourite bands?

Mark Kintgen, USA

ME: I like all types of music. Some of my favourite bands are Swedish...

F1R: Abba?

ME: Of course! But I don't listen to them a lot. I like Roxette. Avicii: the music he did was amazing. Punk, too: Millencolin, Rise Against. I like a bit of everything.

Are you jealous of drivers who have a home grand prix?

Viktor Ljungström, Sweden ME: Yes I am — it must be an amazing feeling. At the European races I see a lot of Swedish fans coming to support me. I see the flags and that gives me such a boost, but to have your own home

grand prix must be a great feeling. I hope in the future that there is, if not a Swedish Grand Prix, then a race in the Nordic countries at least. There's been some talk about Copenhagen. We have so much motorsport history and so many fans that I think it would be great for F1 to have a race there in the future.

F1R: What circuit would you most like to see added to the Formula 1 calendar?

ME: I like the Nürburgring Nordschleife, but that's not realistic. The shorter Nürburgring circuit is fun and I've always been strong there. A track I love, which isn't up to F1 standards now, is Brands Hatch. That is amazing.



Barry Cosgrave, Canada

ME: Forsberg for sure. He was one of my childhood heroes growing up and he's still one of the biggest stars out of Sweden ever. I also really look up to Erik Karlsson of the Ottawa Senators: he was one

of my guests at the Montréal race last year. Ice hockey is a big passion for me. I also like Henrik Lundqvist, the King of New York, who plays for the New York Rangers.

Who was your idol when ME: It was Michael Schumacher you were growing up? Michael Gillespie, USA

when he was very strong in the Ferrari. Then when Kimi Räikkönen came into the sport

I was fascinated by him and his personality – and his speed, obviously. And also Fernando Alonso. For me to get the chance to drive against those two is very special.

How many pieces of IKEA furniture do you own?

Arjen Falter, The Netherlands **ME**: I think my sofa is IKEA. My table and chairs are definitely IKEA – in my living room. There are quite a few pieces...

F1R: Did you build them yourself?

ME: Mmm... with some help from my parents, yes.

How did you react to before your first race for them in 2015, and did you think Giedo van der Garde would be in your seat?

Bartlomiej Stryjski, Poland

ME: That whole weekend was very Sauber's defeat in court strange with everything going on [when Sauber announced their 2015 race duo would be Ericsson and Felipe Nasr, van der Garde took legal action to try to enforce a contract that he claimed assured him of a full-time drive]. My main memory from that weekend was of Giedo walking around wearing

my race suit with my name on it! That was very weird.

It was such a mess and I tried to stay out of it and prepare for racing. But it was difficult. Still, another memory from the weekend was how we turned it around and Felipe Nasr finished P5 and I finished P8.

Do you enjoy the **Swedish delicacy** surströmming? Is it true that it has the most hideous smell in the world?

Michael Nieckarz, Poland

ME: I haven't tried *surströmming*. Maybe I shouldn't admit to that, being Swedish! It's true, it does smell disgusting. I think it's fermented fish. Not good...





WAS OF GIEDO *v*an der garde RACE SUIT

Mobile phones: Nokia or Ericsson?

Abdullah Cetiner, Turkey

ME: Ericsson, obviously. Sometimes people ask me if I'm connected - no pun intended – and I'm not, no.

when you heard that you won't be driving for Sauber next year, but will be retained as a test driver?

Adam Price, UK

What was your reaction ME: When Kimi signed, that was bad news for me. I was still hoping there might be a chance for 2019 until I heard Antonio [Giovinazzi] had signed for the other car. It's obviously disappointing, but I'm happy to be able to continue my

relationship with the team.

I still want to race, so I'm looking at different options on how to keep doing that and looking in what series that could be – but it's a bit early. It's quite fresh, this news, so I need to look at my options. Overall, of course, I would like to stay. My goal is still to be in Formula 1 and that's not going to happen for 2019, but hopefully after that there will be possibilities to come back.

Want to get involved? For your chance to ask drivers questions, sign up at: flracing.com/global-fan-community

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Red Bull's team principal volunteered to drive a car on two wheels to raise money for the Grand Prix Trust but could he actually do it? VOUR TURN, CHRISTIAN.... motorsport **PICTURES** WORDS STUART CODLING 64 F1 RACING NOVEMBER 2018





The Red Bull team principal gestures

nervously in the direction of 'this' – an Aston Martin Vantage wearing an RBR 'wrap' and ticking gently as its engine cools after a tyre-cooking drift demo by stuntman Terry Grant. At last year's Autosport Awards, Horner volunteered to tackle the inaugural Industry Leader Challenge for the Grand Prix Trust, a charity that offers support to long-serving F1 workers who have fallen on hard times.

While flush with the bonhomie of a convivial evening, and perhaps a glass or two of champagne, Horner may have viewed the task of driving a car on two wheels as one accomplished easily with a little time and application. But now, beneath threatening skies at Bedford Autodrome, and with a Sky Sports F1 camera crew fronted by Martin Brundle looking on, he's admitting to second thoughts.

"I don't think [Aston Martin CEO] Andy Palmer's going to be very happy if I put it on its roof," Horner says. "But I've brought a spare pair of underpants with me, so I'll be alright.

"And I'll be thinking about who to pass the baton on to — maybe we should make Toto Wolff jump out of a plane without a parachute, or go swimming with piranhas, or something."

Grant is donating his time to the GP Trust by tutoring Horner for the day. "There's no need to be nervous," he says. "You'll take a few knocks, but you won't get too badly beaten up..."

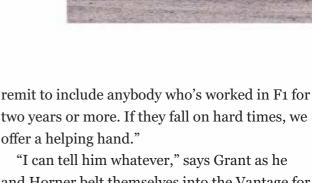
Indeed, knocks are guaranteed. The Vantage has been modified for stunt purposes, including a set of mountings for a fifth-wheel rig that should stop it toppling onto its side (or its roof), and it's rolling on tyres pumped up to a rock-like 90psi. Grant recently taught Sir Chris Hoy to drive on two wheels, but it took the Olympian-turned-racer ten days of crunching back to earth before he could master the knife-edge equilibrium of tyre rim on asphalt. Today Horner has three hours before he's due back at Red Bull HQ.

"Sir Chris didn't even stop for meals," says Grant. "He just did it thousands of times over until he got it right."

Thousands? It's hard enough to persuade any car onto two wheels *and* keep it balanced there for more than a couple of seconds, but Red Bull's ties to Aston Martin mean Horner can't be seen driving any old motor. So Grant has had to redesign his launching ramp, giving it a curving profile to suit the low-slung 1,600kg sportscar and its growling dry-sumped 4.7-litre V8. The whole enterprise seems improbable; then again, Grant *did* set a world record by careening around London's Olympic Stadium on two wheels in a Range Rover SVR with 16 passengers on board.

"If I fall out," jokes Horner, "I can become a beneficiary of the Trust..."

"Yeah," says Brundle. "We'll look after you!"
In jest they've highlighted an important point, as Brundle, chairman of the trustees, explains:
"People think of F1 as cash-rich. But over 150 teams have gone out of business since it began, and a lot of people fall out of the sport without a support network. When Sir Jackie Stewart set it up as the Grand Prix Mechanics' Trust back in the 1980s, it had a remit to look after mechanics because their employment was insecure and most didn't have pensions. We've widened that



"I can tell him whatever," says Grant as he and Horner belt themselves into the Vantage for a sighting run. "But when you're doing it, your body takes over. I've been doing this for 20 years

body takes over. I've been doing this for 20 years and I still feel scared for the first three seconds. It's an alien feeling: instincts take over because your body thinks you're having an accident."

Horner absorbs Grant's pep talk. There's a trick to hitting the ramp square on, at the right speed; how you wedge yourself in and process the asphalt whizzing by a few centimetres from your face is a matter of personal preference.

Gently, Horner purrs the Vantage around to face the ramp, then edges it forwards, frontleft wheel rolling on to the lip of the metal and then up. The Aston angles onto its side, halting





halfway along the ramp, rear-left wheel cocked in the air like a dog attending a lamp-post.

Confident of hitting his marks, Horner engages reverse and rolls back to the edge of the asphalt apron, slots it into a forward gear, then nudges the throttle. With a surge of revs the Aston darts forwards, strikes the ramp cleanly, and, for a tantalising second, teeters on its side before returning to four-wheel mode with a bang loud enough to loosen your fillings.

Horner tries another run but mounts the ramp askew and, with a screech of metal on metal, the car launches ineffectually halfway up. Even as bright sunshine suffuses the Autodrome, the optimism generated by that first attempt begins to dwindle. Time and again the Vantage touches down straight away, or bounces off the stabiliser wheel. The camera crew shuffle their feet, wondering if they'll ever get the money shot.

Finally, Horner delivers, and it seems effortless: the Aston sails past *F1 Racing* on two wheels as if it might stay there forever.

"Now do a donut and stand on the bonnet..." muses Brundle.

Horner is almost trembling with excitement as he returns – on four wheels. "It's the most unnatural thing," he says. "It does not feel right. You feel as if the wing mirror will scrape the ground. It's like waterskiing: you pop up for the first time and think, 'What do I do now?'"

It's a germane question. Now this Industry Leader Challenge is not only in the bag, but also committed to film, someone else must step up to the plate. But who? All will be revealed at this December's Autosport Awards.

• For more on the Grand Prix Trust or to make a donation, visit *grandprixtrust.com*





THE HISTORY OF MCLAREN

CHAPTER 1: 1964-1970



WORDS DAMIEN SMITH

The story of Bruce McLaren's rise from near-crippling childhood illness to founding a race-winning Formula 1 team 'on the other side of the world' is so unlikely as to be almost unimaginable. Yet it's true. All of it...

"TO DO SOMETHING **WELL IS SO WORTHWHILE** THAT TO DIE TRYING TO DO IT BETTER CANNOT BE FOOLHARDY. IT WOULD BE A WASTE OF LIFE TO DO NOTHING WITH ONE'S ABILITY; LIFE IS MEASURED IN TERMS OF ACHIEVEMENT, NOT IN YEARS ALONE."

When Bruce won 1959 US GP, aged 22, he was then the youngest ever F1 race winner



These words are Bruce McLaren's, relayed eloquently through his trusted friend and secretary Eoin Young. The context was a philosophical reflection following the death of a McLaren racer, Timmy Mayer, whose Cooper hit a tree at the fearsome Longford road course in Tasmania. Bruce McLaren Motor Racing Ltd were in their infancy; Longford marked the final round of the first Tasman series of early 1964, with Bruce emerging as champion in the nascent team's maiden campaign. But in the awful circumstances, there was little to celebrate. This was motor racing in the 1960s, and this was how McLaren started.

In the context of all that was to follow, particularly in the traumatic aftermath of his own violent demise six years later, McLaren's words would come to carry a deeper meaning – not only for his distraught team, who would pick themselves up and simply carry on, but for every racing driver since who has assessed the mortal risks of this sport, and chosen to do it anyway.

Bruce McLaren spoke for them all, without intending to: that wasn't his style. Those crafted words that would become his epitaph were a measure of the man and, as a consequence, the tight-knit team he founded. McLaren, as we know them today, are built in his bright image and everything he stood for: honesty, integrity, loyalty, ambition, excellence.

Those values have been stretched and contorted at times over the past decades – and then some. But through the glories and controversies the line has always gone directly back to the founder. Lord knows what he would have made of it all.

The grit in the oyster was the debilitating childhood illness, according to those who watched him grow from solid roots in Remuera, Auckland. At the age of nine Bruce was knocked off his feet by Perthe's Disease, a condition that limited blood circulation to his developing femur bone. That explained the pain in his hips. He'd spend more than two years lying on a frame with weights hanging from his legs or sitting in a wheelchair, confined to a children's home for so-called 'cripples'. How this bright, likable boy responded is remarkable. He read, he studied, he used his wheels to race when no one was watching... and it changed him. Of course it did. But rather than bitterness and anger, the experience instilled empathy and compassion, traits that would remain throughout his short adult life.

Upon recovery McLaren had to learn to walk again, but with one leg now shorter his gait would feature a pronounced limp. By 12, he'd been through so much. And yet, ten years later, aged 22, Bruce would be the youngest ever F1 world championship grand prix winner. His victory, in a Cooper T51 at the 1959 US GP at Sebring, was a landmark. But he'd come so far and had so much more to give.

By 1963, Bruce was team leader at Cooper in the aftermath of double world champion and friend Jack Brabham's decision to leave and begin his own racing empire. Not for the first time, Bruce took a leaf from his old mentor's book. Bruce McLaren Motor Racing Ltd was born partly of frustration. While Lotus and BRM were in the ascendant, Cooper's form was sliding, and instinct told McLaren, an inquisitive engineer at heart, that it was time for him to become master of his own destiny. When Charlie Cooper baulked at McLaren's plans for the new Tasman series 'Down Under' in the first months of 1964, Bruce drove his own path home, with a pair of self-modified Coopers. Mayer's subsequent death, while horrifying, would not derail him. After all, that 'waste of life' philosophy had percolated into his soul, perhaps from those long days of illness as a boy. There was a reason to carry on.

Before F1, Can-Am was the true foundation of McLaren. The Canadian-American Challenge Cup for 'big banger' open sportscars would prove a happy hunting ground for the team through the 1960s. It was in this arena that the first 'McLaren' competed, even if it wasn't technically eponymous. Bruce's Cooper Oldsmobile was significant in more ways than one. Bought from Roger Penske, who had raced it successfully with a Ford engine as the Zerex Special,





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TO TRUST. HERE WAS
A MAN TO BELIEVE IN"

McLaren's 1964 campaign with the sportscar based on a modified T53 single-seater was central to his team's future. Without it, sharp-minded lawyer Teddy Mayer probably wouldn't have been convinced to leave the US for cold, grey England to help build a company from scratch to go motor racing – the sport that had just claimed the life of his younger brother Timmy. That he followed Bruce across the Atlantic says everything about McLaren's quiet power. This was a man easy to like, to trust. Here was a man to believe in.

As momentum grew with the early Can-Am cars, Bruce considered his team's expansion into F1. By 1965, he was juggling roles: he was still driving for Cooper, but needed help to design and build his first F1 car. His solution again offers insight into his character. He could have hired a trusted old hand, but instead chose a promising 24-year-old aeronautical engineer and motor-racing fanatic – with no previous experience.

Robin Herd was a brilliant Oxford graduate who had been at school with F2 racer Alan Rees. It was Rees who mentioned his name to Kiwi McLaren mechanic (and future F1 racer himself) Howden Ganley. Herd met McLaren and Mayer, and suddenly found himself pitching up for work at the team's basic HQ in Feltham. Bruce was about to head out for the Tasman series again and Herd's brief was to design and build an F1 car while he was gone. This was trust.

Herd's employment at McLaren was short-lived. He'd leave for an ambitious four-wheel drive F1 project at Cosworth that never graced a grid, before founding the March team with Rees, Graham Coaker and a suave fellow Oxford graduate named Max Mosley. But in subsequent years, Herd would openly admit he never worked with a tighter, more professional and talented bunch than the small band of brothers at McLaren.

Inspired by Bruce, Herd was innovative from the start. His M2A, McLaren's first F1 car, was made from Mallite, an aluminium/balsa wood sandwich material drawn from his aerospace experience. McLaren had to be careful here: he was still a works Cooper driver, after all, and played down his F1 intentions. He said the M2A's purpose was to test tyres for Firestone, who were returning with new ambition to grand prix racing. That was no lie, but the full truth was far more interesting.

At Zandvoort, there were experiments with aerofoils long before Brabham, Ferrari and Lotus tried them. Fitted with a crude wing, the M2A flew... but in the best sense, by sticking to the ground. The designer claimed the car was immediately three seconds quicker. Keen to throw watching journalists off the scent, the team made



a show of breaking up the wing and throwing it in the bin. This was something they would return to.

Having finally quit Cooper at the end of 1965, Bruce came clean about his intentions by entering his own F1 car for the following season. Herd persevered with Mallite construction for the M2B, but a modified Ford Indy engine proved inadequate for the task, as F1 prepared to usher in a 'return to power' for '66 with a new 3-litre formula that would double engine capacity. Heading out under your own name was all the rage in the mid-60s. As McLaren took their first steps, Bruce's friend Dan Gurney launched his Anglo-American Racers and their beautiful Eagle-Weslake, while wily old Jack Brabham found a new lease of life with Repco power to claim a deserved third world title.

In 1967, Gurney's Eagle would soar to victory at Spa, while Brabham's Kiwi team-mate Denny Hulme would add to the points he needed for his own crown. Stateside, 'The Bruce and Denny Show' cleaned up in Can-Am, though McLaren's F1 ambitions continued to stutter with the BRM V12-powered M5A. The Ford Indy engine of '66 had been part of a plot to entice Ford into F1; Bruce had even won Le Mans for them, partnering fellow Kiwi Chris Amon in a GT40. So it must have been galling when Ford's Walter Hayes sourced funding

for an F1 entry for 1967 – in partnership with Cosworth and Lotus. The motor funded by Ford's bounty, the DFV V8, moved the game on when Jim Clark won on the debut of the Ford-Cosworth-powered Lotus 49 at Zandvoort. Only early niggles thwarted his title hopes.

The engine was exclusively Colin Chapman's for that first year, but Ford had potential domination in sight. There were deals to be done, and finally in 1968 McLaren had on his hands a potent F1 engine. Herd's M7A, svelte of line and resplendent in vivid papaya for the first time (Mayer wanted their cars to stand out), would power McLaren into the premier league.

The Race of Champions at Brands Hatch in March marked McLaren's first F1 win in a car bearing his own name, while Hulme – who had left Brabham despite his title, hoping to recreate the Can-Am 'Bruce and Denny Show' in Europe – claimed Silverstone's International Trophy the next month, with Bruce completing a team one-two. These were dark days, however. Between the races, motor racing had been shaken to its core by the loss of Clark, killed in a Formula 2 race at Hockenheim.

At Spa, one year on from Gurney's breakthrough,
McLaren echoed his friend's success with his own
victory – his first in the world championship since
Monaco 1962 and his team's first world championship

Above left: Bruce (centre) at work with Robin Herd (left) and Teddy Mayer (right) Above: McLaren enters the 1966 Monaco GP driving his own car for the first time





F1 win. Sure, it had been a race of attrition typical of the era, but a points-counting victory was a clear signal. This was also the race where experiments with aerofoils moved from the test tracks to a race weekend – but not on a McLaren. Herd must have been kicking himself.

It was Hulme, not McLaren, who built momentum thereafter, winning at Monza and inheriting from unlucky Amon's Ferrari at Mont-Tremblant, pitching himself into a joint points lead with Graham Hill, who was stoically lifting a deflated Team Lotus still in shock at Clark's absence. A DNF for Hulme at Watkins Glen dented those title hopes, but he headed to the Mexico City finale still in with a chance, six points down on Hill and three on Matra's Jackie Stewart. Hill would power to his second title as Stewart suffered a fuel-feed problem and Denny retired early with rear suspension failure. Still, McLaren finished second to Lotus in the constructors' standings, ahead of Matra.

The momentum stalled a little the following year, even though Bruce ended it a respectable third in the drivers' standings, as Stewart's DFV-powered Matra and new Lotus convert Jochen Rindt starred. But as the decade closed, McLaren could have allowed himself a moment to reflect on his team's life measured in (significant) achievement. But he was probably too busy. There was the next big thing to plan.

His attractive M6GT road car offered a view into Bruce's limitless ambition. But such optimism was wiped out on 2 June 1970 – the day McLaren set out for one more test run at Goodwood in his new Can-Am M8D, and didn't return. The rear bodywork had lifted on the Lavant Straight and the car smashed into a marshals' post. The team that would go on to be one of the most successful in F1 history, second only to Ferrari, could have died with him that day. But that wasn't the McLaren way. His band of brothers, hewn in his image, were too fiercely loyal to the man they would have followed into the Sahara had he told them to.

At the dawn of a new decade, our visual image is of Bruce frozen in time: a still-youthful 32-year old, with a glint in his eye. And his spirit would live on, blazing through the 1970s and beyond through his increasingly vibrant team. This had been no waste of life. ②

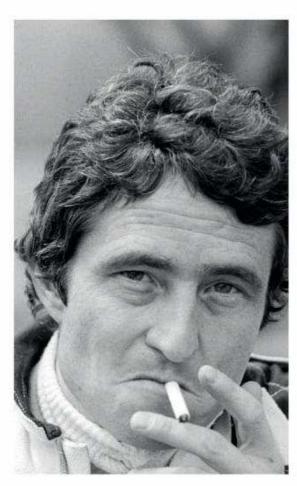
NEXT MONTH
THE PHOENIX RISES
1970-1980

'THE TEAM THAT WOULD
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ONLY TO FERRARI,
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BUT THAT WASN'T THE
McLAREN WAY"

Glory as Bruce takes the first points-paying GP victory for his own team at Spa in 1968







SGRAND BPRIX EGREATS

PICTURES



IN TODAY'S FORMULA I WORLD I THINK of Kevin Magnussen as something of a throwback, in terms of his attitude to racing – like Stirling Moss, he thinks danger an ingredient essential to it – and to life itself: if Magnussen reminds me of any driver from the past, it is Patrick Depailler, a throwback even 40 years ago.

Like all his fellows, James Hunt was fond of Depailler, but told me once of his belief that Patrick had carried a death wish. "Look at the way he lived his life – riding big motorbikes without a helmet, all that sort of thing. Patrick seemed to need to find risk in everything."

While Depailler was never a man to give a thought to safety – in motor racing or anything else – still I couldn't go along with Hunt's suggestion, and neither did Nick Brittan, Depailler's manager for many years. "No, no, far from it. Patrick loved life more than most people – but what he did, he accepted the inevitability of death."

Depailler was killed in a testing accident at Hockenheim in August 1980. As he turned into the fabled, flat-out *Ostkurve*, his Alfa Romeo's front suspension broke, and the car was pitched head on into, and over, a guardrail. Pictures of the accident scene were more than usually poignant: bits of shattered car lying across catch fencing folded up neatly *behind* the guard rail, in readiness for the German Grand Prix, a week hence. No one thought to erect it for a mere test.

Safety in motor racing was light years from what we have today, but if I disagreed with Hunt's theory about a death wish, so I always doubted that Depailler would survive the sport he so much loved. Brittan concurred: "He knew he floated right out to the edge – and I think he knew it was going to happen one day. Retirement never crossed his mind.

"Patrick was like a professional combat soldier – he was the nearest thing to a sort of automotive SAS man, and people like that, you know, are aware there's a good chance one day you're not going to pack your kit bag..."

The majority of Depailler's F1 career was spent with Tyrrell, and Ken always spoke of him with consummate affection: "Patrick was *very* French – never without a Gauloise, loved red wine, and so on. In a lot of ways he was a little boy all his life, always wanting to do risky things – and always with a trusting belief that everything would be all right in the end. He lived absolutely for the present.

I gave Patrick his first F1 drive at Clermont-Ferrand in 1972, and then offered him a third car for the North American races in '73. This was his big chance – and 10 days beforehand he breaks his leg, falling off a motorbike! When he started driving full-time for me, it was in his contract that he had to keep away from dangerous toys."

In 1978 Depailler won at Monaco, a result celebrated throughout the paddock, but after five seasons with Tyrrell, he left in some sorrow for Ligier, where there beckoned a more competitive car. After winning at Jarama in '79, Patrick shared the world championship lead with Gilles Villeneuve, but if Ligier's JS11 was the quickest car of the moment, his rivalry with team-mate Jacques Laffite, while amicable, inevitably brought problems. At Zolder the pair of them ran away from the rest – and into tyre troubles.

Jody Scheckter's Ferrari won that day, and if Guy Ligier was furious, a few weeks later he was apoplectic. Unlike Tyrrell, he had unwisely not precluded 'dangerous toys' in Depailler's contract, and in late May Patrick went hang gliding – his latest passion – and suffered dreadful leg injuries when pitched into a rockface after flying too close to a mountain.

The worst thing about the weeks in hospital, he told me, was not knowing if he would recover properly. "For a long time there was the chance of amputation, and I was very frightened – not for five months was I sure to drive again." I noted without surprise he said 'drive', rather than

'walk': being alive meant being a racing driver.

I liked Patrick immensely, not least because his approach to life – laid-back, not a little disorganised – reminded me of Chris Amon in a world increasingly peopled by ultra-professional automatons. Racing had a narcotic hold on him, as I remember from his speaking sadly of the end of his marriage: "She is scared of what I do – how can I blame her for that? But how can I stop this? I can't…"

On the mend after the hang gliding accident,





Laid-back but with racing in his blood

Depailler's first win, a popular victory in the paddock, came at Monaco in 1978 with Tyrrell





Depailler thought only about returning to F1. Accepting an offer from Alfa, he hobbled through the paddock in the early races of 1980, but in the car nothing had changed.

the lop-sided grin, the eternal cigarette: "People say I should not smoke. Pah! I am driving a racing car, not running 1500 metres..." And I recall his love of scuba-diving, motorbikes, hang gliding, and his bewilderment as fellow drivers boarded flights with tennis racquets. If they spoke with reverence of Borg or Connors, Patrick's heroes were Anquetil and Merckx, multiple winners of the Tour de France.

When I think of him now, I remember the sense of humour,

After success at Jarama in 1979 in the Ligier, Patrick was the joint leader of the world championship... Francois Guiter, Elf's legendary competitions boss, and a major figure in the sport, held Depailler in special regard. After the British GP in 1980 they holidayed together, and Guiter said he had never seen him happier. "He was with a girl he loved, and completely relaxed and at peace – but then, of course, he left early to do the test at Hockenheim."

Nick Brittan recalled a dinner at Zandvoort one year. "We were talking about getting his chaotic finances into shape, and I said, 'Patrick, we really ought to think about the future'. And I remember he smiled at that. 'No, no,' he said. 'The future is for other people...'"

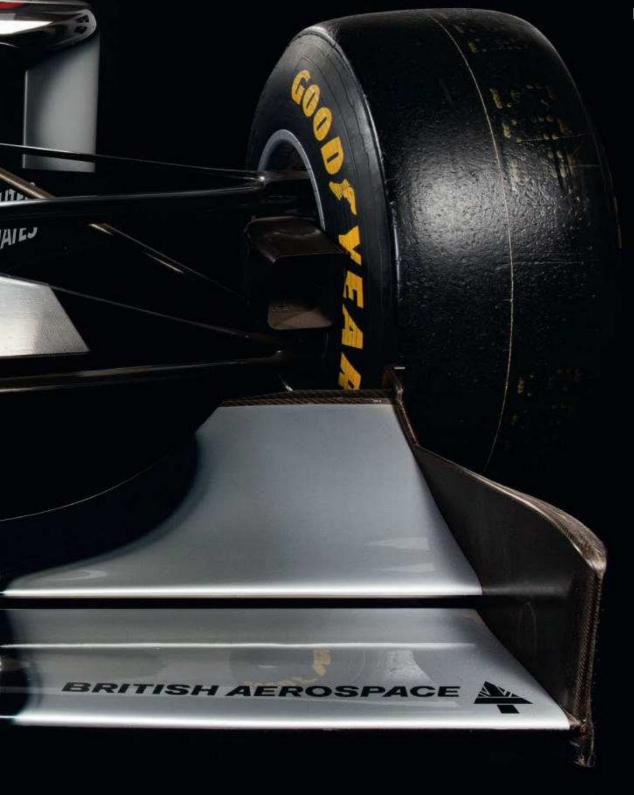






THE MCLAREN

Struggling McLaren looked for new inspiration with this harbinger of new hope





he dry patch lasted three full seasons and 49 races.

At the time, it seemed inconceivable that McLaren

– the superpower with which first Niki Lauda, then
emphatically Alain Prost and Ayrton Senna, bestrode
Formula 1 – should have fallen so low. Today, after a
win drought that is now well over double the length
and shows absolutely no sign of being quenched, the
mid-1990s seem just a blip. Perspectives have changed.

The loss of Honda at the end of 1992 triggered McLaren's downfall, although Senna led a valiant charge with customer Ford power in '93. The ill-advised shotgun marriage with Peugeot lasted all but a season, before Ron Dennis cracked the deal that would regenerate his company. It would take three years, but the partnership with Mercedes-Benz would prove bountiful. And it was with this car that it first bore fruit.

Today, the 1997 McLaren MP4-12 tends to be overlooked, lost in the shadow of its successor. That's understandable. The 1998 MP4-13 was Adrian Newey's first McLaren and majestically carried Mika Häkkinen to drivers' title glory and the team an eighth – and to date last – constructors' crown to kickstart a bright new era. But the seeds of its success were sown here, before Newey joined from Williams, and included one of the great grand prix technical innovations that was both devastatingly effective and simple all at the same time.

NOW THAT WAS A CAR No. 72



Steve Nichols, the designer largely responsible for the sublime 15-wins-out-of-16 MP4/4 of 1988, has been credited with the idea for the clever brake-steer system deployed on MP4-12. Devised in the winter, tested in the spring and on the race car by Canada in June, brake-steer gave Häkkinen and team-mate David Coulthard the ability to pull the anchor on a single inside rear wheel mid-corner, via the use of an extra brake pedal, to offer significant assistance to their change of direction. It represented a form of stability control now common on road cars, but activated manually by the drivers.

Genius – but not particularly complicated. It worked by splitting the rear brake line in two, with one linked to an extra master cylinder connected to the inside rear wheel. The team would choose which rear wheel would benefit from the extra braking before each race, depending on the right/left bias of that track's turns. When the driver braked normally, stopping power would pump straight through this cylinder to slow both rear wheels. But when he depressed the extra pedal – while accelerating through the corner – it would kick in and add braking power only to the wheel it was connected to. Understeer could be neutered and traction enhanced, enabling the car to leave the bend on the best line and at a greater rate of knots. Newey, who joined in August 1997, reckoned it was worth at least 0.3s a lap.







SPECIFICATION

Chassis carbon fibre and honeycomb composite
Suspension double wishbones, pushrod-operated
inboard coil spring/damper
Engine Mercedes-Benz FO 110E/FO 110F V10

Engine capacity 2997cc
Power 740bhp @ 16,000rpm

Gearbox McLaren six-speed longitudinal semi-automatic

Tyres Goodyear

Weight 600kg

Notable drivers Mika Häkkinen, David Coulthard







RACE RECORD

Starts 34
Wins 3
Poles 1
Fastest laps 2
Other podiums 4
Points 63

Marlboro to West, ended an F1 sponsor partnership dating back 23 years. The winter interim also provided an opportunity for McLaren to acknowledge their distant past: when MP4-12 took its bow in January '97 it was painted papaya orange, just like founder Bruce's cars had been.

For the big reveal of their dramatic makeover, McLaren went to town. Precisely, north London. The Alexandra Palace launch extravaganza featured the Spice Girls, no less – who at the time were at the zenith of their (girl) power. Oh, and Jamiroquai, too.

In Melbourne, McLaren's new-look flying cigarette packet smoked 'em at the first time of asking, as Coulthard clinched his second career victory. The drought was over. But a torrent of wins didn't exactly follow. Not yet. Coulthard wouldn't

"THREE VICTORIES.
NOT BAD.
BUT THE REALITY WAS MCLAREN WERE STILL ONLY FI'S FOURTH BEST TEAM"

win again until Monza in September, while Häkkinen's own breakthrough followed in controversial circumstances at the Jerez season finale. In the wake of Michael Schumacher's failed move on Jacques Villeneuve, the man who would become world champion apparently stuck by an alleged pre-race agreement between Williams and McLaren to move aside, if the latter kept their red-tipped noses out of the title denouement. Häkkinen also appeared to benefit from Coulthard's obedience to an intra-team order from Dennis. Hardly the best way for Häkkinen to break his duck, but they all count, don't they?

Three victories. In the context of their fallow patch, not bad. But the reality was McLaren were still only F1's fourth best team according to the standings, way behind

Williams and Ferrari and four points behind winless Benetton. Unreliability had cost them, Häkkinen retiring three times from the lead of grands prix with engine trouble, and Coulthard's clutch problem in Canada letting another slip by.

But the signs looked clear: Mercedes were getting there. Their new V10 was at least a match for Ferrari's and not far off the Renault benchmark. Newey's Midas touch and his intuitive translation of F1's new narrow-track regulations, on grooved Bridgestone tyres, would complete the regeneration.

As for brake-steer, McLaren moved it on a step for 1998. On the MP4-13, the drivers enjoyed the added power of choosing which wheel to brake corner by corner — only for the FIA, following a big nudge from Ferrari, to ban the system from Brazil. Cue understandable fury.

The old rivalry, born during the Hunt vs Lauda duel of 1976, had been injected with new dose of venom.

News broke about it through this very magazine after *F1 Racing* photographer Darren Heath noticed McLaren's inside rear discs glowing under acceleration. At the Nürburgring, where both cars retired while running one-two with embarrassing Mercedes failures, he took the opportunity to stick his camera in the cockpit, capturing incontrovertible proof of McLaren's extra pedal. Scoop!

Häkkinen, a natural left-foot braker, loved it. For right-foot-braking Coulthard, the system must have required more adjustment. Both felt the benefit. Yet even before its introduction, MP4-12 had already proven its worth.

The car, conceived by long-time McLaren design wizard Neil Oatley, was significant for a number of reasons. First, the obvious: it was silver and black rather than Dayglo and white – which took some getting used to.

The switch of tobacco brands, from Philip Morris's



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I've been watching Formula 1 for nearly 40 years, but after the Russian GP I won't be watching any more... F1 is supposed to be competitive but what do we have: team orders determining results. Who wants to watch a race where a driver outqualifies his team-mate, but is told to allow him through because it is "for the championship".

We are going back to the Schumacher days when team-mates were told to "let Michael through". It's just not racing any more. Let's hope Liberty Media and the FIA put a halt to this once and for all and try to win back the fans – of which I am now one - who have turned their back on F1 through the years.

Kieren Mcaleer

By email

PICTURES: STEVE ETHERINGTON; STEVEN TEE. *CONTENTS MAY BE SUBJECT TO CHANGE

Should have been Dan

So it looks like for the second straight season Ferrari clearly have the fastest car, but Sebastian Vettel's propensity for driving into 'red mist' and throwing wins away will cost them another title.

I think Ferrari may look back and realise they've missed a perfect opportunity. Dan Ricciardo was on the market and they should have snapped him up. Dan would never make the same mistakes as Vettel under the same circumstances. Seb 'may' be faster in perfect conditions, but when the heat is on, that's another story.

They should have taken the opportunity to put Dan alongside Seb, knowing that Vettel would either lift his game, or leave at the end of 2019, when DR would take

over as number one driver. Instead I fear another repeat of mistakes under pressure for Seb and Ferrari in 2019. Let's see hey?

Stephen Bitmead Uleybury, Australia

Failed for sure

I have to take serious issue with your cover headline on October's edition... It's a travesty that a driver of Alonso's ability can't find a competitive drive but I don't believe the blame lies entirely at F1's door.

Having, for various reasons, made himself undesirable to Ferrari, Mercedes and Red Bull, he didn't exactly have to go and pitch up at a Sauber or a Haas... he went to a team with huge resource, history and backing of a manufacturer in McLaren. They delivered sub-par

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machinery, laid the blame at the door of Honda, and did nothing with customer Renault engines. Alonso has been failed for sure. But don't lay the blame at F1's door! Alistair Downs

New York

The wildcards are calling

I loved the feature on Marc Marquez sampling an F1 car in your September issue – but the reality is that no MotoGP star would compromise their guaranteed success for a long-shot in F1, nor would a team take a punt.

Toto Wolff has suggested that teams should run third cars for young drivers. Why not instead allow teams to run wildcard drivers? The FIA could allow six additional slots per GP (allocated on a lottery basis) which in a 20-race calendar would mean every team could run a third car at 12 GPs, on the condition that they cannot use the same driver for more than six races. Imagine the possibilities: guests from Indycar and MotoGP, plus other drivers looking to showcase their talents.

Daniel Stafford Oxford, UK

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- > Brendon Hartley answers your questions
- > Part two of the history of McLaren
- > Pizza with Haas team principal Guenther Steiner



HAMILTON STEALS ANOTHER VICTORY

Sebastian Vettel and Ferrari couldn't take the heat in Singapore, but for Lewis Hamilton it was no sweat at a track where Mercedes have previously struggled







Lewis Hamilton and Mercedes swept to a virtually unchallenged win in the 2018 Singapore Grand Prix as yet another Ferrari tactical blunder cost Sebastian Vettel the chance of victory. On a weekend in which they could reasonably have expected to be dominant, Vettel and Ferrari once again demonstrated their propensity to wobble under pressure.

Instead, Vettel had to settle for third place behind Max Verstappen, even though Red Bull had struggled throughout the weekend with a 'spec C' Renault power unit that rarely ran cleanly in the humid air.

QUALIFYING

Vettel arguably laid the foundations for his undoing during Friday second practice, when a moment's inattention led to a brush with the wall at Turn 21. This was the only practice session in which both the time of day and track conditions overlapped with those of qualifying and the race, and Vettel spent 45 minutes of it parked in the garage while mechanics attended to an impact-induced leak.

Initially Vettel waved off suggestions that this might prove critical, saying he and Ferrari had learned enough about the SF71H already this season to not miss that track time. But 24 hours

later he would be ruefully relating a different narrative after Hamilton and Verstappen plucked mega laps out of nowhere to occupy the front row. Red Bull had been fastest in first practice before dropping off the pace as Kimi Räikkönen and Vettel dominated the times in the following sessions, but Hamilton was typically peerless when it counted on Saturday evening, annexing pole with a lap even he couldn't beat on his second run.

The leading trio left their de facto number twos – Valtteri Bottas, Räikkönen and Daniel Ricciardo trailing in third to sixth, while Sergio Perez claimed 'class B' pole for Force India in seventh from the Haas of Romain Grosjean.

RACE

Hamilton and Vettel made the best starts of the top three and the polesitting Mercedes cut cleanly through the first two corners as second-placed Verstappen had to defend his position from Vettel.

Behind them, Sergio Perez nudged Force India team-mate Esteban Ocon into the outside wall at Turn 3, eliminating Ocon from the race and bringing out the Safety Car. But before race control took the decision to neutralise the race, Vettel made use of a better exit from Turn 5 to draw alongside Verstappen and pass him on the outside into Turn 7.

In their wake, the majority of the top 10 got away in grid order - Bottas in fourth followed by Räikkönen, Ricciardo, Perez and Grosjean - but ultrasoft runners Fernando Alonso and Carlos Sainz each gained two positions, at the expense of Nico Hulkenberg and the now-absent Ocon.

The race got under way again at the end of lap 4 but the frontrunners were running cautiously, nearly 11 seconds off qualifying pace, so as to manage their fragile hypersoft tyres and extend the first stint as far as possible.

As the lap count entered double figures the frontrunners lifted their pace in anticipation of the pitstops. Vettel was the first to dive in, on lap 14, taking on a set of ultrasofts. The stop would prove disastrous for Vettel, since he emerged behind Perez and spent two laps bottled up behind him. Meanwhile Hamilton and Verstappen pitted on successive laps to take on soft Pirellis with a clear strategy of running to the end with no further stops.

Hamilton returned seamlessly into the net lead, and although Verstappen's engine stuttered slightly as he left the pit apron, he just squeaked ahead of Vettel into Turn 3.

The initial pitstop phase left Hamilton with a 3s lead over Verstappen once Ricciardo became the last of the frontrunners to change tyres, on lap 27. Vettel was a frustrated third, telling his team "We will not make it to the end."

As at the Monaco GP, drivers starting outside

RESULTS ROUND





lst	Lewis Hamilton Mercedes	1h 51m 11.611s
2nd	Max Verstappen Red Bull	+8.961s
3rd	Sebastian Vettel Ferrari	+39.945s
4th	Valtteri Bottas Mercedes	+51.930s
5th	Kimi Räikkönen Ferrari	+53.001s
6th	Daniel Ricciardo Red Bull	+53.982s
7th	Fernando Alonso McLaren	+103.011s
8th	Carlos Sainz Renault	+1 lap
9th	Charles Leclerc Sauber	+1 lap
10th	Nico Hülkenberg Renault	+1 lap
11th	Marcus Ericsson Sauber	+1 lap
12th	Stoffel Vandoorne McLaren	+1 lap
13th	Pierre Gasly Toro Rosso	+1 lap
14th	Lance Stroll Williams	+1 lap
15th	Romain Grosjean Haas	+1 lap*
16th	Sergio Pérez Force India	+1 lap
17th	Brendon Hartley Toro Rosso	+1 lap
18th	Kevin Magnussen Haas	+2 laps
19th	Sergey Sirotkin Williams	+2 laps

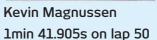
Retirements

Esteban Ocon Force India 0 laps - accident

Includes 5-sec penalty for ignoring blue flags

FASTEST LAP







Lewis Hamilton 1m 36.015s

TYRE COMPOUNDS USED

Hypersoft Ultrasoft Soft









ter W

CLIMA	TE
Night	

AIR TEMP



DRIVERS' STANDINGS

1 Hamilton	281pts	11 Ocon	45pts
2 Vettel	241pts	12 Sainz	38pts
3 Räikkönen	174pts	13 Gasly	28pts
4 Bottas	171pts	14 Grosjean	27pts
5 Verstappen	148pts	15 Leclerc	15pts
6 Ricciardo	126pts	16 Vandoorne	8pts
7 Hülkenberg	53pts	17 Stroll	6pts
8 Alonso	50pts	18 Ericsson	6pts
9 Magnussen	49pts	19 Hartley	2pts
10 Pérez	46pts	20 Sirotkin	lpt





CE ONCE CLEAR, THOUGH, HAMILTON STRETCHED HIS MARGIN OUT TO 3S AND REMAINED OUT OF REACH UNTIL THE CHEQUERED FLAG, EVENTUALLY FINISHING 8.9S CLEAR - WITH VETTEL A FURTHER 30.9S DOWN THE ROAD **35**

the top 10 with a free tyre choice benefitted as some of those ahead on softer rubber pitted first. Conversely, when Perez, Nico Hülkenberg and Grosjean shed their hypersoft boots they emerged behind the trundling tail-end Williams pairing of Lance Stroll and Sergey Sirotkin, who were on soft tyres and had no plans to stop promptly.

This prompted the race's second significant incident when Perez grew impatient with Sirotkin and swerved at him as he finally went past at Turn 17 on lap 33, picking up a puncture in the process and enabling Hülkenberg to nip through. As Grosjean tried to follow Hülkenberg through the pair baulked Hamilton as he came up to lap them, enabling Verstappen to enter attacking range.

This came to nothing, though, and Hamilton stretched his margin out to 3s, remaining out of

reach until the flag, eventually finishing 8.9s clear – with Vettel a further 30.9s down the road.

While Hamilton, Verstappen, Vettel and Bottas nursed their tyres to the finish, a battle for fourth place erupted in the closing laps as Ricciardo closed in on Räikkönen, who in turn crept up on Bottas. But nothing came of it and Bottas crossed the line 1s clear.

Alonso took seventh for McLaren from 11th on the grid, using a long first stint on the ultrasofts to gain track position at Grosjean's expense, and then rebuffing an attempted undercut by Sainz when he made his single stop on lap 38. Charles Leclerc, another to start outside the top 10 on ultrasofts, followed Sainz home in ninth, while Hülkenberg completed a recovery drive from his indifferent start to round out the top 10.



DISORDER IN THE AUTODROM

The pressure of the title battle told in Sochi as Mercedes intervened to hand Lewis Hamilton a win that by rights belonged to team-mate Valtteri Bottas







Mercedes team boss Toto Wolff revealed he struggled to sleep the night before the Russian GP, worrying about the potential need to impose team orders. Will he lose further sleep now that he's done the deed?

Valtteri Bottas had outqualified team-mate Lewis Hamilton and led the early laps from pole. But when a strategic error put Hamilton under threat from his main championship rival, Ferrari's Sebastian Vettel, Wolff had to call upon Bottas to sacrifice his likely victory for the greater good.

Hamilton took his eighth win of the year in Sochi, crossing the finish line just 2.5 seconds ahead of

Bottas, with Vettel in third. Team orders secured him a net gain of seven points over his rival with five races left. Neither Mercedes driver was happy, but Wolff evidently decided the move was worth the consequent criticism..

QUALIFYING

The performance of the Mercedes in practice on Friday afternoon and Saturday morning suggested that the battle for pole position would come down to a straight fight between the two silver cars. And so it came to pass.

On his first run in Q3, Hamilton was quicker in

the first and final sectors of the 3.6-mile lap, but Bottas held the advantage in the middle sector. The margin between the pair was just 0.004s in Bottas's favour. Hamilton knew he had to dig deep to overcome his team-mate and when the pressure was on, he made a mistake on his final run and lost the rear of his Merc entering Turn 7: lap aborted. Meanwhile Bottas improved and took his first pole position since Austria, and his second of the year.

The Ferraris of Vettel and Kimi Räikkönen took up the second row (Vettel was 0.556s off Bottas's pole time) while Kevin Magnussen equalled his best result of the season with fifth in the Haas. Another impressive lap came from Charles Leclerc, who was seventh in his Sauber.

Their performances were flattered somewhat by the fact that the Red Bulls, Pierre Gasly's Toro Rosso and the Renaults sat out Q2. The reasoning

IN HIS BID TO GET PAST, HAMILTON HAD DEVELOPED BLISTERS ON HIS TYRE. AFTER A MODICUM OF HAND-WRINGING, WOLFF INSTIGATED TEAM ORDERS AND DIRECTED BOTTAS TO MOVE ASIDE, IN EFFECT SACRIFICING THE WIN 55

was that the Red Bull duo and Gasly were facing grid penalties for power unit changes (Verstappen was also hit with a three-place penalty for failing to slow for a waved yellow flag for Sergey Sirotkin's spun Williams in Q1), while Renault wanted to ensure they started outside the top ten so they could run an alternative tyre strategy on race day.

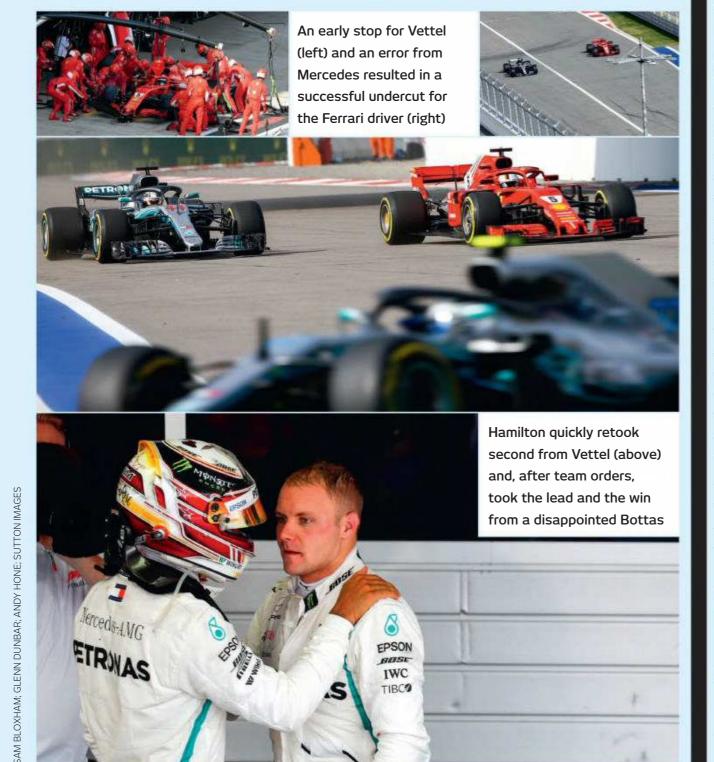
RACE

As discussed in Mercedes' pre-race briefing on Sunday morning, both Bottas and Hamilton positioned their cars perfectly off the starting grid. Their aim was to prevent third-placed Vettel from getting a tow and taking the lead. As Hamilton ran in his team-mate's slipstream, he expertly muscled the Ferrari out of the way to snuff out any attack.

As the two Mercedes approached the braking zone for Turn 2, Hamilton pulled alongside his team-mate; but despite a late lock-up he wasn't in a position to challenge for the lead. Bottas, Hamilton, Vettel and Kimi Räikkönen would remain in their positions until the pitstops.

So far so Sochi: a typical tyre-management grand prix around the Russian resort. But it was during the pitstop phase that Mercedes dropped the ball. Bottas pitted from the lead on lap 12 and switched from the hypersoft to the soft tyre, and Hamilton should have pitted the following lap – but, owing to a communication error, he stayed out for one more tour.

SOCHI AUTODROM / 30.09.18 / 53 LAPS



Wolff apologized after the race, explaining he was talking to chief strategist James Vowles at the crucial moment and they missed the opportunity. Vettel *did* pit and when Hamilton finally stopped a lap later, he found himself behind the Ferrari.

Realising their mistake, Mercedes asked Bottas to slow down and back Vettel into Hamilton. On the approach to Turn 13 on lap 15, Vettel was caught out and locked up, allowing Hamilton to get a run on his title rival as they started the next lap.

Using DRS, Hamilton closed on Vettel, but the Ferrari moved to the middle of the track, then moved again to the inside to block the Mercedes in the braking zone for Turn 2. Hamilton simply followed Vettel around the outside of Turn 3 and then outbraked him into Turn 4.

"Mercedes kept me out for another lap which I think was not the right decision to make," said Hamilton later. "Sebastian came in, undercut massively, and I lost 0.6s or so. It was quite frustrating when I came out behind them both.

"I slipstreamed [Sebastian] down to Turn 2 and pulled out. From my view, he moved and then moved again. At the time, if I didn't brake I would have been in the wall and we would have crashed. It was a double move which we often talk about, and that we shouldn't do."

In his bid to get past, Hamilton had developed blisters on his tyre. After a modicum of hand-wringing, Wolff instigated team orders and directed Bottas to move aside, in effect sacrificing the win. Max Verstappen was leading on an alternate strategy running long on softs, but when he pitted Hamilton was in the clear.

Despite much criticism Wolff felt the decision was right, since it put Hamilton into a 50-point lead over Vettel with five races remaining.

"Look at Austria, where we were 1-2 and we lost 43 points," said Wolff. "I've seen freak results before in motor racing and it can happen again. We cannot take our performance for granted for the rest of the season."

RESULTS ROUND





lst	Lewis Hamilton Mercedes	1h 27m 25.181s		
2nd	Valtteri Bottas Mercedes	+2.545s		
3rd	Sebastian Vettel Ferrari	+7.487s		
4th	Kimi Räikkönen Ferrari	+16.543s		
5th	Max Verstappen Red Bull	+31.016s		
6th	Daniel Ricciardo Red Bull	+80.451s		
7th	Charles Leclerc Sauber	+98.390s		
8th	Kevin Magnussen Haas	+1 lap		
9th	Esteban Ocon Force India	+1 lap		
10th	Sergio Pérez Force India	+1 lap		
11th	Romain Grosjean Haas	+1 lap		
12th	Nico Hülkenberg Renault	+1 lap		
13th	Marcus Ericsson Sauber	+1 lap		
14th	Fernando Alonso McLaren	+1 lap		
<u>15th</u>	Lance Stroll Williams	+1 lap_		
<u>16th</u>	Stoffel Vandoorne McLaren	+2 laps		
17th	Carlos Sainz Renault	+2 laps		
<u>18th</u>	Sergey Sirotkin Williams	+2 laps		
Retirements				
Pierre (Pierre Gasly Toro Rosso 4 laps - brakes			

FASTEST LAP



Brendon Hartley Toro Rosso

Valtteri Bottas 1min 35.861s on lap 50

POLE POSITION



4 laps - brakes

Valtteri Bottas 1min 31.387s

TYRE COMPOUNDS USED

Hypersoft Ultrasoft Soft











CLIMATE

Sunny

AIR TEMP

TRACK TEMP

DRIVERS' STANDINGS

AIVDIIVG.	3	
306pts	11 Ocon	47pts
256pts	12 Sainz	38pts
189pts	13 Gasly	28pts
186pts	14 Grosjean	27pts
158pts	15 Leclerc	21pts
134pts	16 Vandoorne	8pts
53pts	17 Stroll	6pts
53pts	18 Ericsson	6pts
50pts	19 Hartley	2pts
47pts	20 Sirotkin	lpt
	306pts 256pts 189pts 186pts 158pts 134pts 53pts 53pts 50pts	256pts 12 Sainz 189pts 13 Gasly 186pts 14 Grosjean 158pts 15 Leclerc 134pts 16 Vandoorne 53pts 17 Stroll 53pts 18 Ericsson 50pts 19 Hartley





RACE DEBRIEF JAPANESE GP

FINISHING STRAIGHT

HAMILTON EDGES CLOSER TO CROWN

With his sixth victory in seven races, Lewis Hamilton moved a step closer to a fifth world championship as Sebastian Vettel's and Ferrari's implosion continued







Suzuka was a microcosm of the year. A disciplined, well-executed fourth one-two of the year from Mercedes and all a bit shambolic by Ferrari.

When, logically, Ferrari would have mirrored Lewis Hamilton's tyre strategy as unpredictable weather arrived at the start of Q3, they alone sent Sebastian Vettel and Kimi Räikkönen out on intermediate Pirellis and missed the best of the track conditions.

Vettel, starting eighth, drove a great opening lap but a later move up the inside of Max Verstappen at Spoon was overly optimistic. It was not the first time that wheel-to-wheel combat had exposed Vettel's lesser instinctive racing IQ than that possessed by nemesis and fellow four-time champion Hamilton.

Seb spun to the back and from that point Mercedes had it easy. Hamilton took his 71st GP win and ninth of 2018, Vettel went home with eight points for sixth place, his title hopes all but over.

QUALIFYING

You had to wonder what Ferrari was up to. Qualifying at Suzuka was supposed to be wet. Initially though, it wasn't. By Q3 the rain was thinking about it, drops falling at Turns 1 and 2. Down to the end of the pitlane went Vettel and Räikkönen, both on inters. The rest of the top ten all ventured out on the red-walled supersoft slicks.

"It's too dry..." Vettel radioed in, knowing immediately they'd made the wrong call. In trundled the Ferraris to go back onto slicks, by which time it was raining more heavily at Spoon Curve at the other end of the track and they'd missed their crucial slot.

You needed to be out straight away on slicks to get the best of the track conditions and so Lewis Hamilton's 80th F1 pole was almost a formality, without detracting from the usual sure-footed commitment and skill. Valtteri Bottas made it an all Silver Arrows front row, three tenths back.

Facing a championship mountain looking increasingly unscalable, surely Ferrari needed to cover Hamilton's moves with Vettel, even if they fancied splitting strategy with Räikkönen? But no, by the time the red cars got to Spoon on supersofts the road was greasy and both had moments. Vettel's was bigger and the upshot was that Kimi would start fourth, the better part of two seconds from Hamilton's pole, and Sebastian ninth, almost four and a half seconds adrift. The one consolation was moving up to eighth after Esteban Ocon was given a three-place grid penalty for failing to slow sufficiently for a red-flag in FP3.

Verstappen was third quickest, the only Red Bull representative in Q3 after Daniel Ricciardo found himself hobbled by a faulty throttle actuator on Renault's latest spec 3 power unit in Q2. Laid back is Ricciardo's default setting. Today, though, there was much venting of spleen.

VETTEL WAS IN NO MOOD TO HANG AROUND AND ATTACKED VERSTAPPEN'S RED BULL DOWN THE INSIDE INTO SPOON. PREDICTABLY, HE CAME OFF SECOND BEST 55

RACE

When the lights changed, the Silver Arrows easily repelled any threat from Verstappen's Red Bull and headed into a lead they would never lose.

Poor Brendon Hartley got a stinker of a start from his best grid position of sixth and dropped four places, which gave Vettel the opportunity to run straight inside one Toro Rosso before moving ahead of Pierre Gasly's sister car through the Esses.

Vettel then demoted Romain Grosjean around the outside entering Spoon. That put the Ferrari fifth, which became fourth before the end of the lap. Verstappen out-braked himself into the chicane, ran





Max and Kimi tangle at the chicane (left). Seb's run in with the Red Bull relegated him to the back (right). For Lewis (below) it was a easy run to the flag





straight on and re-joined across the grass, forcing Räikkönen wide over the exit kerb, earning himself a five-second penalty in the process.

STEVEN TEE; GLENN DUNBAR; SAM BLOXHAM; ZAK MAUGER; SUTTON IMAGES

Vettel jinked around his team-mate and blasted across the line right behind Verstappen. Then came a four-lap Safety Car intervention as puncture debris from a Kevin Magnussen/Charles Leclerc ontrack clash was cleared.

Leclerc had been trying to take 12th from the Haas down the main straight when Kevin moved to slam the door shut – very late. "Magnussen is and will always be stupid. It's a fact!" was the Monegasque's message to the Sauber pitwall. The FIA saw things differently, however, and took no action against Magnussen.

Once racing again on lap 8, Vettel was in no mood to hang around and attacked Verstappen down the inside into Spoon. Predictably, he came off second best. Seb knew Max had a penalty but his race was with the Mercedes pair, so that was of little interest to him. The problem was that Vettel wasn't side-by-side when they turned in, which is why contact was wheel-to-bargeboard rather than wheel-to wheel, the Red Bull losing only a couple of seconds while the Ferrari spun to the back.

Vettel should have known the chances of passing Verstappen there ranked alongside beating Rafa Nadal on clay or scaling Everest without oxygen. The clash was investigated and ruled a racing incident by the stewards.

Mercedes thus had the luxury of a pressurefree afternoon for the remaining 45 laps. Yes, Verstappen was still just 4s behind Bottas when the Red Bull abandoned its starting set of supersofts on lap 21 and bolted on a set of softs, but Max's penalty served at that stop, meant he was no undercut threat.

Ricciardo made great progress from 15th on the grid, getting into the points by lap 3 and ultimately finishing fourth, behind his team-mate. A measure of his pace was that on the same medium compound as Hamilton from lap 23, he lost just 2.8s to the winning Mercedes over the remaining 30 laps, earning himself the Driver of the Day award.

But another horror show from Ferrari meant that as far as bragging rights for newly crowned five-time world champions go, another Mercedes 1-2 in Austin will mean that they belong exclusively to Lewis Hamilton.



lst	Lewis Hamilton Mercedes	1h 27m 17.062s
2nd	Valtteri Bottas Mercedes	+12.919s
3rd	Max Verstappen Red Bull	+14.295s
4th	Daniel Ricciardo Red Bull	+19.495s
5th	Kimi Räikkönen Ferrari	+50.998s
6th	Sebastian Vettel Ferrari	+69.873s
7th	Sergio Pérez Force India	+79.379s
8th	Romain Grosjean Haas	+87.198s
9th	Esteban Ocon Force India	+88.055s
10th	Carlos Sainz Renault	+1 lap
11th	Pierre Gasly Toro Rosso	+1 lap
12th	Marcus Ericsson Sauber	+1 lap
13th	Brendon Hartley Toro Rosso	+1 lap
14th	Fernando Alonso McLaren	+1 lap
15th	Stoffel Vandoorne McLaren	+1 lap
16th	Sergey Sirotkin Williams	+1 lap
17th	Lance Stroll Williams	+1 lap
Retire	ments	

Kevin Magnussen Haas

Charles Leclerc Sauber

Nico Hülkenberg Renault

POLE POSITION FASTEST LAP



38 laps - mechanical

37 laps - handling

8 laps - damage

Lewis Hamilton 1min 32.318s on lap 53 1min 27.760s

TYRE COMPOUNDS USED









Inter



CLIMATE

Sunny

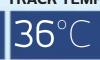
Supersoft Soft

AIR TEMP

Medium

TRACK TEMP





DRIVERS' STANDINGS

1 Hamilton	331pts	11 Ocon	49pts
2 Vettel	264pts	12 Sainz	39pts
3 Bottas	207pts	13 Grosjean	31pts
4 Räikkönen	196pts	14 Gasly	28pts
5 Verstappen	173pts	15 Leclerc	21pts
6 Ricciardo	146pts	16 Vandoorne	8pts
<mark>7</mark> Pérez	53pts	17 Stroll	6pts
8 Magnussen	53pts	18 Ericsson	6pts
9 Hülkenberg	53pts	19 Hartley	2pts
10 Alonso	50pts	20 Sirotkin	lpt

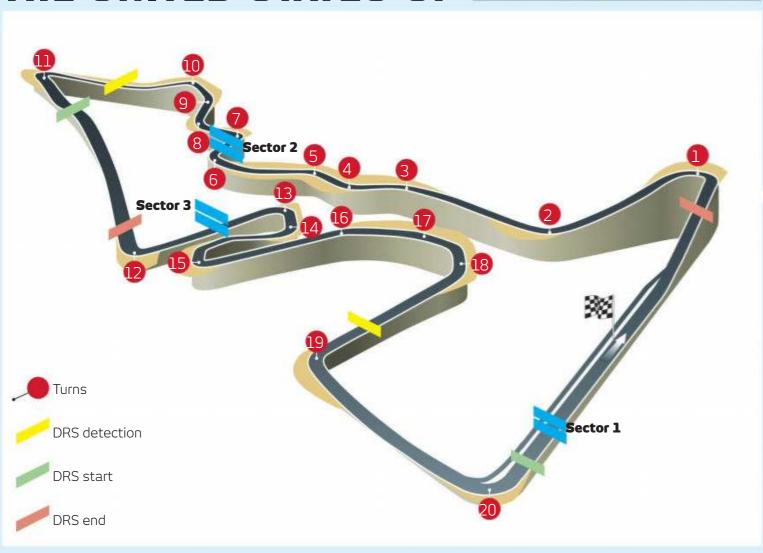




FINISHING STRAIGHT

THE UNITED STATES GP







THE MAIN EVENT



Just six years on from its debut appearance on the Formula 1 calendar, the Circuit Of The Americas has established itself as a firm favourite among drivers and other F1 personnel. The track itself is challenging, and away from the circuit Austin has a distinctively bohemian vibe.

COTA was designed from a clean sheet and makes intelligent use of the local topography, particularly the sharp climb before Turn 1 where the track rises almost 30m, regularly tempting drivers to outbrake themselves. The rest of the circuit is generally fast and flowing, with a couple of hard braking areas to facilitate overtaking and some blind and off-camber corners to boost the difficulty level. But there is plenty of run-off, so generally the only punishment for mistakes comes in the form of lost time.

Some of the kerbs have been modified to militate against corner-cutting after Max Verstappen's controversial laterace mugging of Kimi Räikkönen last year, but this will still be a tightly contested race...

CLASSIC RACE: 1990

The one and only time a Minardi started on the front row of the grid came in the 1990 United States GP at Phoenix. Rain on Saturday meant the grid came from Friday practice, and Goodyear were caught out by Pirelli's soft rubber which meant Pierluigi Martini lined up alongside polesitter Gerhard Berger's McLaren on the front row.

At the start Jean Alesi (Tyrrell) took the lead from Berger and Martini at the first corner, and led for over 30 laps until hunted down by Ayrton Senna's McLaren. When the



Brazilian passed the Tyrrell on lap 34, Alesi retook the lead before Senna finally made the move stick and went on to win. Alesi was second with Martini a battling seventh.



RACE DATA

Circuit name Circuit Of

The Americas

First Grand Prix 2012

Number of laps 56

Circuit length 3.425 miles Race distance 191.634 miles

Lap record 1m 37.766s

Sebastian Vettel (2017)

F1 races held 6

Winners from pole 3

Tyres Ultrasoft,

supersoft, soft

TIMETABLE (UK TIME)

Friday 19 October

Practice 1 16:00-17:30

Practice 2 20:00-21:30

Saturday 20 October

Practice 3 19:00-20:00

Qualifying 22:00-23:00

Sunday 21 October

Race 19:10

Live coverage Sky Sports F1 & Channel 4

THE WINNERS HERE.











2017	2016	2015	2014	2013
Lewis	Lewis	Lewis	Lewis	Sebastian
Hamilton	Hamilton	Hamilton	Hamilton	Vettel
Mercedes	Mercedes	Mercedes	Mercedes	Red Bull

THE MEXICAN GP





THE MAIN EVENT



Just days after Austin, the whole travelling Formula 1 circus makes the 750-mile trip south to the Autódromo Hermanos Rodríguez circuit, which has been the sole venue for the Mexican GP. The circuit has hosted the race in three distinct eras: 1963-70, 1986-92, and after a revamp, reappeared on the Formula 1 calendar in 2015.

The biggest technical challenge for the teams is the altitude. At 2,200 metres above sea-level the track is nearly three times as high as Interlagos, the next highest on the calendar. While the lower atmospheric pressure does not affect the turbocharged power units as much as the old normally-aspirated machines, it does affect drag and downforce. As a result the teams run high-downforce packages but they are rendered less efficient, which can make the cars a handful for the drivers in the corners.

The 2.6-mile track is also tough on brakes as the frequency of use, in combination with a reduced amount of available air for cooling, contribute to high temperatures.

CLASSIC RACE: 1986

After a 16-year gap, Mexico returned to the calendar and, since it was the penultimate race in the season, Nigel Mansell had the chance to clinch the world championship, but at the green light he stalled from third position on the grid. Mercifully the field dodged the Williams but he dropped to the tail of the field.

The heat was causing the Goodyear runners to blister their tyres and Alain Prost (McLaren), Ayrton Senna (Lotus) and Nelson Piquet (Williams) were all forced to pit for fresh

rubber. Running on Pirellis was the Benetton of Gerhard Berger - hard compounds on the left side and softs on the right and he completed the 68 laps without needing to pit for tyres, so comfortably took his, and Benetton's, first win.





RACE DATA

Circuit name Autódromo Hermanos Rodríguez

First Grand Prix 1963

Number of laps 71

Circuit length 2.674 miles

Race distance 189.738 miles

Lap record 1m 18.785s (Sebastian Vettel 2017)

F1 races held 18

Winners from pole 9

Tyres Hypersoft, ultrasoft, supersoft

TIMETABLE (UK TIME)

Friday 26 October

Practice 1 16:00-17:30

Practice 2 20:00-21:30

Saturday 27 October

Practice 3 16:00-17:00

Qualifying 19:00-20:00

Sunday 28 October

Race 19:10

Live coverage Sky Sports F3

Highlights Channel 4

THE LAST FIVE WINNERS HERE...











Charles Till			1.500	71.5-0.00
2017	2016	2015	1992	1991
Max	Lewis	Nico	Nigel	Riccardo
Verstappen	Hamilton	Rosberg	Mansell	Patrese
Red Bull	Mercedes	Mercedes	Williams	Williams

THE BRAZILIAN GP





THE MAIN EVENT



The penultimate round of the 2018 world championship takes place on the undulating Autódromo José Carlos Pace circuit, located in the heart of São Paulo. The track first hosted the Brazilian Grand Prix in 1973, until the race switched to Rio in the 1980s. A shortened and revamped layout returned to the championship in 1990 and has featured on the calendar ever since.

In altitude terms, this is the second highest track of the season and the climb from the final corner, Junçao, to the braking point for the Senna Esses features a 40 metre incline, which combined with the thin air means it's a tough circuit for the turbocharged power units.

Teams also have to find the ideal compromise between high levels of downforce for the twisty infield section, while minimising drag for the straight between Turns 3 and 4.

Add into the mix the typically unpredictable Brazilian weather, where rainstorms are commonplace, and this is often a race that throws up surprises.

CLASSIC RACE: 1993

Right from the off, the 1993 Brazilian GP was full of drama. Heading towards Turn 1 at the start, Ferrari's Gerhard Berger tangled with the McLaren of Michael Andretti and sent the latter flying through the air.

There was more trouble for McLaren when Ayrton Senna was given a stop-go penalty for overtaking a backmarker under yellows. It looked as though all hope of victory was gone for the local hero, until there was a sudden tropical downpour. Senna immediately pitted for wets as leader

Alain Prost - on slicks - aquaplaned into retirement.

As the track dried, Senna overtook the remaining Williams of Damon Hill to secure his final home win.





RACE DATA

Circuit name Autódromo José Carlos Pace

First grand prix 1973 Number of laps 71 Circuit length 2.677 miles Race distance 190.082 miles

Lap record 1m 11.044s (M Verstappen, 2017)

F1 races held 35 Winners from pole 15

Tyres Supersoft, soft, medium

TIMETABLE (UK TIME)

Friday 9 November **Practice 1** 13:00-14:30

Practice 2 17:00-18:30

Saturday 10 November **Practice 3** 14:00-15:00

Qualifying 17:00-18:00 Sunday 11 November

Race 17:10

Live coverage Sky Sports F1 **Highlights** Channel 4

THE WINNERS HERE.











15 - 31	
Y. Complete	,
STEEL	

2017	2016	2015	2014	2013
Sebastian	Lewis	Nico	Nico	Sebastian
Vettel	Hamilton	Rosberg	Rosberg	Vettel
Ferrari	Mercedes	Mercedes	Mercedes	Red Bull

ESSENTIALS

FINISHING STRAIGHT

F1 UPGRADES

Enhance the F1 experience with the latest must-have products



RETRO PHONE CASES

Price £14.99

retrosportslocker.co.uk

A new range of retro F1 phone cases, based on drivers' overalls, are now available for various versions of Apple or Samsung mobile devices – in a gloss or matt finish. They range from a 1971 Jackie Stewart model to various 1980s and 90s options, including an Alonso 2005 and a Michael Schumacher 2000 design.

It's not only phone cases. Retro Sports Locker also produce a 1988-spec Ayrton Senna square cushion decked out in his McLaren overalls, measuring 42cm x 42cm for £16.99 (Mansell 1992 and Schumacher 1994 versions are also available).



PIRELLI P ZERO SOUND SPEAKER

Price £2,135

ixoost.it

A 1:2-scale model tyre that Formula 1 teams use for windtunnel testing has been converted into a brand-new range of top-end speakers.

Pirelli have joined forces with highend car audio specialists IXOOST to integrate a state-of-the-art Bluetooth speaker inside a replica P Zero tyre. The acoustic system includes a powerful amplifier with a 100-watt digital signal processor and is equipped with a 100-millimetre midwoofer as well as a 25-millimetre silk tweeter.

The tyres – which come in any of Pirelli's nine different Formula 1 colours – are made in Italy by the Modena-based firm. They measure 330mm in diameter with a maximum depth of 200mm.



HAAS F1 TEAM SIDEPOD

Price £1,505

mementoexclusives.com

For the first time, racing fans will get the chance to own a genuine part of a Haas F1 car for interior furnishing. A new tie-up with Memento Exclusives and Haas began in September resulting in re-engineered pieces of sidepods, rear wings and barge boards that can be wall-mounted.

The deal also includes genuine overalls and boots worn by race drivers Romain Grosjean and Kevin Magnussen. There are a variety of offers, depending on how much you're willing to spend. At the lower end of the price bracket is a Haas VF-17 skid block phone holder for £99, while the most expensive item is an engine cover worth £5,000. Every piece of these race-used components comes with an official certificate of authenticity and can be purchased online for shipping worldwide.

TRAVEL GUIDE





VISIT THE ABU DHABI GRAND PRIX

ABU DHABI, 23-25 NOVEMBER, 2018



YOUR GUIDE TO ABU DHABI

Joining the calendar in 2009, the Abu Dhabi Grand Prix was the calendar's first day-intonight event and the race has since become a must-visit spectacle that ends the Formula 1 season with a dramatic flourish.

When visiting this event in the United Arab Emirates, most fans opt to commute from neighbouring Dubai. The city is just 90 minutes along the coast from the Yas Marina circuit.

Even if you choose to stay in Abu Dhabi for the race, it's certainly worth visiting Dubai for some sight-seeing either before or after the GP.

Officially opened in 2010 and standing 829 meters tall and boasting 57 elevators, the Burj Khalifa tower dominates the city's skyline and gives you a bird's eye view of downtown Dubai. The world's tallest structure is also home to some amazing bars, restaurants and shops.

If you like shopping, the Dubai Mall is the world's largest shopping centre and is open for business in the city's downtown. Accessible by metro or car, the mall received 56 million visitors last year and it includes a zoo, an aquarium, the SEGA theme park, a 22-screen cinema and over a thousand shops.

Take time to recuperate in Dubai's Miracle Garden, home to more than 100 million planted flowers. The garden gives visitors a chance to get away from the busy downtown area and surround themselves with some of the world's most beautiful flora. Easily accessible via public transport, the garden is the perfect place to relax.

After the short trip along the coast to Abu Dhabi, the go-to sight is the Sheikh Zayed Grand Mosque. The country's key site of Muslim worship is an incredible feat of architecture. Completed in 2007, the building cost more than \$500 million to create, is adorned with 82 domes in association with

Thomas Cook Sport





It's impossible to miss the stunning Burj Khalifa tower in Dubai





Dubai's Miracle Garden is home to over 100 million flowers



FAST FACTS

Flight time 8hrs from London **Currency** UAE Dirham Time zone GMT +3 Temperature 31°C (average high during race weekend)

and receives 40,000 visitors during Eid alone the Grand Mosque is a must when in the UAE.

Racing fans should also immerse themselves in the world's only Ferrari-branded theme park: Ferrari World. Here you can spend the day riding one of the world's fastest rollercoasters, Formula Rossa, which goes from 0 to 240km/h in 4.9 seconds, before trying your hand on the flight simulators, getting behind the wheel of Ferraris, and a whole heap more. More sedate rides are also available for those interested in a less fullthrottle experience.

Part of what makes these two modern-day

cities in the United Arab Emirates so incredible is their stark surroundings since they stand on the edge of the desert. Tours are available from both Abu Dhabi and Dubai, with various options on offer for visitors to experience the sheer scale and beauty of the Arabian Desert. Whether you want to ride dune buggies, be shown the sights in a 4x4 or even take it slow on a camel - the Arabian Desert is not one to be missed.

The tours usually run in the mild earlyevening temperatures and offer a welcome change of pace from the bustling city.



If you are celebrating a special event, how can the experience be made more amazing?

You could treat yourself to the luxury of a Thomas Cook Sport 5* hotel option or take a trip up the Burj Khalifa where you can enjoy lunch and an afternoon of drinks. When it comes to racing, try the Mercedes-AMG Petronas Motorsport Experience which offers fans the chance to attend a live Q&A with a member of the team with complimentary food and drinks.

Are the transfers long?

It's around an hour and a half from Dubai to Abu Dhabi and the area can be made busier due to the evening concerts. Bring lots of water and plenty of sun cream.

What local food or drink can you recommend?

Be prepared because drinks can be quite expensive and can only be consumed in the hotels (if alcoholic), so you have to plan ahead. When it comes to food, I'd recommend stuffed camel as it's a famous Arab delicacy.

What's your top tip for this destination?

If you are looking for a choice of restaurants Dubai is more vibrant, with lots going on, especially down by the marina. Whereas Abu Dhabi is the home to the race circuit and concerts, but is a much relaxing destination with the emphasis on luxury.

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ME AND MY LID ALAIN PROST

FINISHING STRAIGHT



It was the helmet that he used when winning his fourth world title, but the design of Prost's final lid has links back to his early days



ALCOLM GRIFFITHS; LAT A



This helmet is very special because it's from the last year of my Formula 1 career, 1993. As you can imagine, there was an evolution down the years but I always tried to keep a consistent design from year to year.

When I first started in motor racing I won the

Volant Winfield. [a famous racing scholarship scheme, relaunched in 2016 and now based at Paul Ricard]. Because of that I wanted a design that would incorporate the colours of the French flag – the blue, white and red – as well as acknowledging Winfield.

So, if you look at the side of the helmet you'll see the shape of the coloured blocks looks like a W turned through 90 degrees.

I kept that basic design all through my years in Formula 1, with just a few occasional changes to incorporate different sponsors.





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