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McLaren's nightmare?

ROBERT KUBICA

Will he ever be
the same?



No 277
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March
2019



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*There is a new test used for fuel consumption and CO₂ figures. The CO₂ figures shown, however, are based on the outgoing test cycle and will be used to calculate vehicle tax on first registration.





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Seb's legacy hangs on his own red five

Sebastian Vettel's date with destiny awaits. After four years of unrewarded toil, can the man tasked with returning championship glory to the success-starved corridors of Maranello finally deliver? How Seb responds after two recent drubbings at Lewis Hamilton's hands will likely play a pivotal part in how this forthcoming season's title fight unfolds.

This will be Vettel's fifth year in Ferrari red. That's a significant milestone because it represents the point at which, in his own Ferrari career, Vettel's hero Michael Schumacher finally grabbed the Prancing Horse by the reins and rode it to the first of five consecutive championships. However, it also represents the point at which, having missed the mark repeatedly, Vettel's predecessor Fernando Alonso departed having failed to depose Kimi Räikkönen as Ferrari's last world champion.

Whether Seb can succeed where Alonso failed will depend on many things, not least the car and environment Ferrari builds around him under new team boss Mattia Binotto. As Andrew Benson explains on page 40, Vettel tends to perform better in a settled garage. Former boss Maurizio Arrivabene's management style perhaps played a significant part in Vettel's and Ferrari's unravelling in 2018. The team's decision to honour their late president Sergio Marchionne's plan to replace Arrivabene with Binotto offers renewal, though the

other part of that plan – replacing Kimi with Charles Leclerc – poses a fresh threat to Vettel, particularly against the backdrop of what Daniel Ricciardo achieved at Red Bull in 2014.

It is also vital Vettel eliminates his own mistakes. Had his driving been cooler and cleaner over the past 24 months, he would likely be entering 2019 as a six-time champion rather than stuck on four. Ferrari's latest talisman has lost some of his lustre as Hamilton has become the current grid's most decorated driver. Seb has two years remaining on his contract, but this is the season he simply must deliver for the Scuderia. His legacy depends on it.

We very much hope you enjoy this bumper season preview edition, which includes Vettel himself answering your questions, plus a range of expert opinion, special interviews and behind-the-scenes photoshoots. Starting this month, we are also asking you to pay £1 more to read these pages.

The unfortunate fact is our paper costs have increased significantly in the five years since *F1 Racing* last increased in price, with further turmoil anticipated after Brexit in what is already an extremely challenging market for our medium. We humbly ask you to pay a little more, so we may continue bringing you the very best of the sport you love, in a magazine maintained in the manner to which you have become accustomed.

Contributors



NIGEL ROEBUCK

The legendary F1 scribe has penned his final *Autosport* Fifth Column but you can still read him in *F1 Racing*. His take on Lewis is on p54



ADRIAN MYERS

This is the second time Carlos Sainz has been photographed by Adrian Myers, but the first in his new-look McLaren overalls. See page 82



OLEG KARPOV

Russian F1 driver Daniil Kvyat had a biography published by journalist Oleg Karpov back in 2017. Read his 26 facts about Kvyat on p106



ALISTER THORPE

It's been a busy month for Alister Thorpe, who photographed the two new Brits in Richmond (p74) before shooting Kubica at Williams (p98)

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Pushing the limits right from the off

It's been 12 weeks since the 2018 season finished in Abu Dhabi last December, so everyone was excited for the opening day of testing to unofficially start the 2019 Formula 1 year.

The reigning world champions Mercedes enjoyed a productive first day with Valtteri Bottas managing 69 laps in the morning and Lewis Hamilton taking over to run 81 laps in the afternoon.

This shot of Lewis was captured at the exit of Turn 12. I noticed there were a lot of stones on the circuit as drivers were pushing quite hard and just as I arrived Hamilton ran wide, sending a golden plume of dust into the air.



Photographer

Mark Sutton

Where Barcelona, Spain

When 5.10pm, Monday

18 February 2019

Details Nikon D5, 560mm lens,
1/1600th @ F8







Vettel's Ferrari in the golden hour

On the first day of F1 testing this year, sunset was at 6.28pm. That is half an hour after the session finishes, which means the final 60 minutes of track running is known colloquially by the photographers as the “golden hour”.

Much of the Circuit de Barcelona-Catalunya sits in a dip, and quickly falls into shadow. But the track crests into the sunlight at Turn 3, which is where I headed in the final hour of the day.

This slow shutter speed pan blurs the trees in the background while focusing on the new matt red livery on Sebastian Vettel's Ferrari.



Photographer

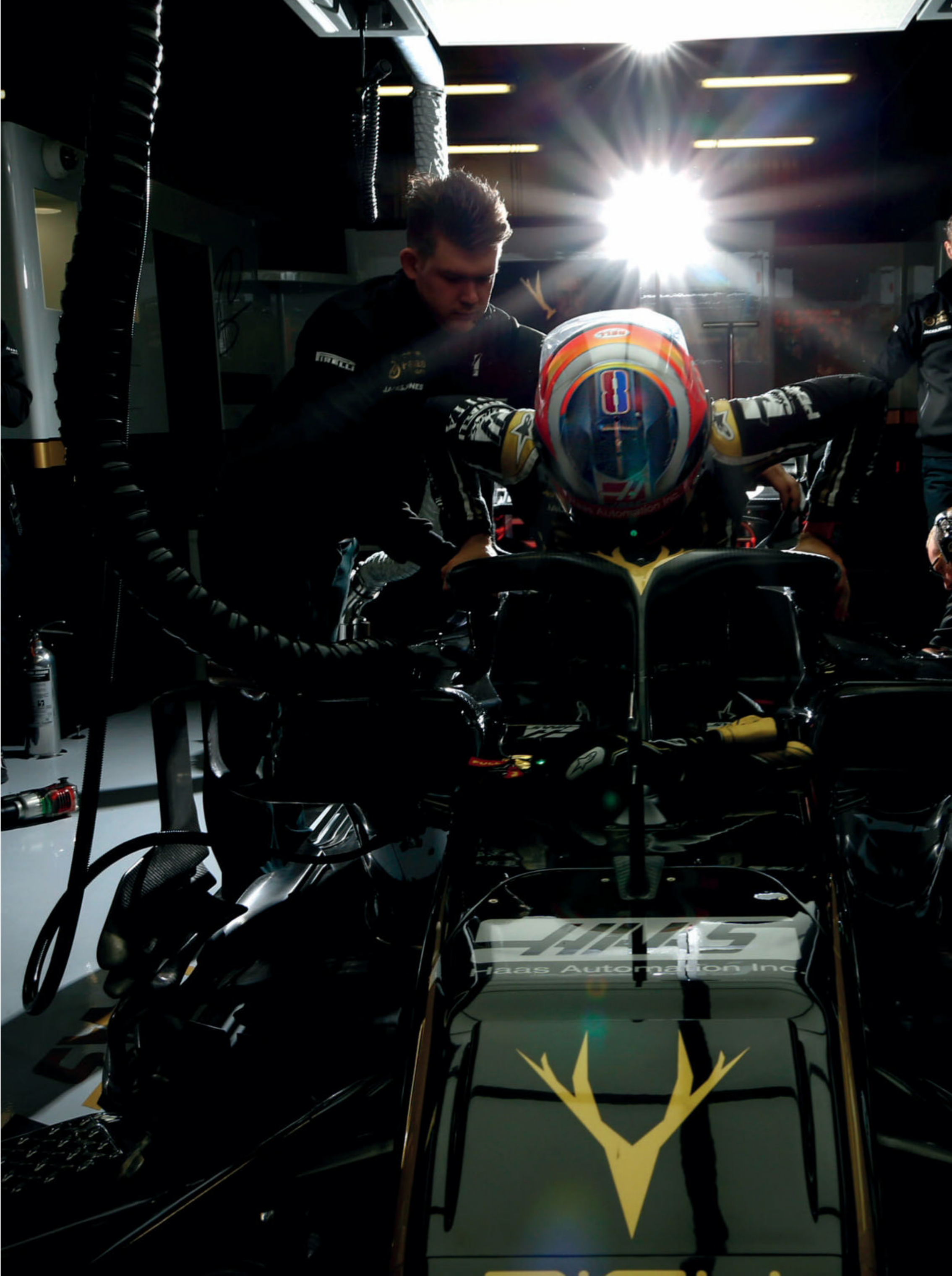
Glenn Dunbar

Where Barcelona, Spain

When 5.29pm, Monday
18 February 2019

Details Canon EOS-1DX MkII,
70mm lens, 1/125th @ F8







Stepping out in the limelight

One of the advantages of pre-season testing instead of a grand prix weekend is the opportunity to try different things from a photographic perspective.

We bring studio-style flash guns to Barcelona, for each team's filming days, and with the permission of Haas's chief mechanic, I was able to place one at the back of the garage.

Towards the end of the first day, Romain Grosjean completed his 65 laps and climbed out of his newly liveried Haas VF-19. By placing one of the flashes behind the car I was able to balance the ambient light to create an atmospheric halo above Grosjean's head.



Photographer
Andy Hone

Where Barcelona, Spain

When 5.28pm, Monday
18 February 2019

Details Canon EOS-1DX MkII,
24mm lens, 1/125th @ F14



Why Hamilton is the smoothest operator

The fastest corner on the Circuit de Barcelona-Catalunya is the right-hander at the top of the hill, Turn 9. I'm positioned on the outside of that corner, just before the turn-in point looking back towards the Turns 7 & 8 left-right sweep.

The key to giving this image a sensation of speed is to frame the red and white kerbs in the background, while panning with a slow shutter speed to blur the whole of the car in the foreground.

The challenge of nailing this requires a driver to be ultra smooth on the approach to Turn 9. Of all the drivers I photographed, I had a higher success rate with Hamilton, which I can only attribute to his driving style.



Photographer

Glenn Dunbar

Where Barcelona, Spain

When 4.01pm, Monday
18 February 2019

Details Canon EOS-1DX MkII,
600mm lens, 1/8th @ F14

Hunting laptime; chasing shadows

Thankfully, the opening day of the first test in Barcelona was clear with a bright blue sky, in stark contrast to the snow and miserably grey weather we experienced 12 months ago.

After spending the morning in the vicinity of the Haas garage, in the afternoon I walked down to the sequence of corners at Turns 1 & 2. Here the low-setting Spanish sun picked out the vapour trails criss-crossing the sky.

As I was directly facing the sun, you can see the lens flare in the image which occurs when the light refracts inside the lens. With no Williams cars running on this day, there were just nine cars on-track, so I was fortunate to snap two together.



Photographer
Glenn Dunbar

Where Barcelona, Spain
When 5.14pm, Monday
18 February 2019

Details Canon EOS-1DX MkII,
70mm lens, 1/2500th @ F6.3







JONATHAN NOBLE

@NobleF1

facebook.com/f1racingmag



LIBERTY UNDER FIRE

01 Liberty Media's acquisition of Formula 1's commercial rights 18 months ago seemed to have ended the rancour that has characterised F1 politics for much of the past four decades. A new mood of unity prevailed among the various stakeholders – until now.

Five grands prix – Britain, Spain, Germany, Mexico and Italy – face an uncertain future because their contracts end this year, but they are not the only events that are fighting for commercial survival. The Formula One Promoters' Association (FOPA), a body that represents the majority of race venues, went on the attack against Liberty Media by issuing a strongly worded statement in which they underlined their frustrations with the way the sport is run.

FOPA laid out three clear issues they wish to see resolved as soon as possible:

The contracts for five races end this year and the body representing race promoters is frustrated with the way F1 is being run



02

MACHINES RISE OF THE

Will use of A.I. mean fewer jobs in F1?

03

McLAREN 2050



★ *It is not in the long-term interest of the sport that fans lose free access to content and broadcasting.*

★ *There is lack of clarity on new initiatives [sic] in F1 and a lack of engagement with promoters on their implementation.*

★ *New races should not be introduced to the detriment of existing events although the association is encouraged by the alternative business models being offered to prospective venues.*

FOPA added: “As we enter a new season of the sport that we have promoted for many decades, the Promoters seek a more collaborative approach to the development of the championship and the opportunity to offer their experience and expertise in a spirit of partnership with Formula 1 and the FIA.”

The timing of the statement was significant – it was distributed the night before a scheduled meeting between all promoters and F1 chairman Chase Carey. In a subsequent interview with CNN, Carey questioned the need to engage in such a public show of sabre rattling.

“We already had a day set up to talk about initiatives and they – well, only a couple of guys – put out a press release saying we need to talk about initiatives,” Carey said. “That was the strangest part.”

The unity of the promoters is also open to question since both Russia and Mexico distanced themselves from FOPA’s stance. However, the future of the British, Spanish, German, Mexican and Italian races is bound up with the issue of what shape F1’s 2021 sporting and technical regulations will take.

Liberty’s aim is to make the sport more spectacular and fan-friendly – vital to the commercial sustainability of races – but the means of achieving that remain uncertain even as the deadline for ratifying the new rules draws closer. Hence the appearance of dissenting voices.

Red Bull boss Christian Horner, who has suggested that Liberty have perhaps underestimated the task of building F1’s value, says old ringmaster Bernie Ecclestone would not have tolerated the promoters’ rebellion.

“You would never have heard a promoter talk out about Bernie because they would probably not have had a grand prix the following year,” he said. “He had a different way of doing business.

“The problem is the way that Liberty are trying to operate in a democratic way. The promoters are getting far more from Liberty than they ever got previously in terms of freedom and ability to do things that there have been restrictions on. But the problem is the more you give, the more that they want.

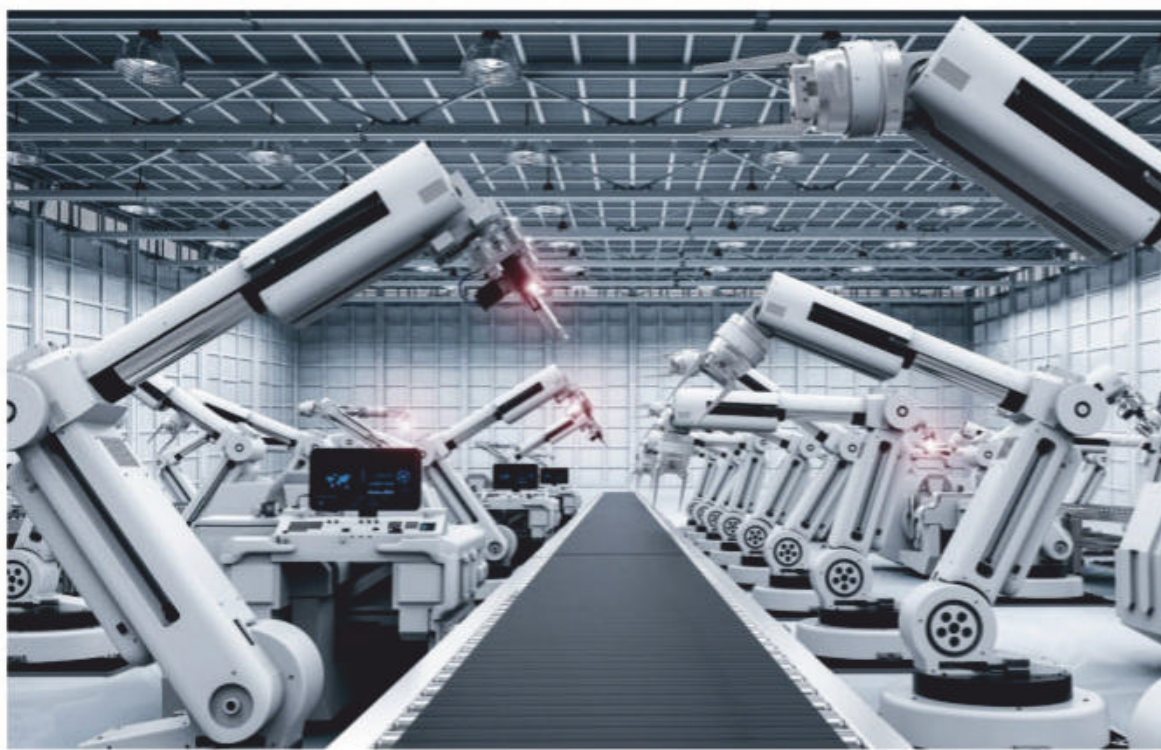
“I think what Liberty find frustrating is a lot of this business is conducted through the media. That is something that they are not used to with American sport. There is that constant comparison of American sports and franchises versus F1, and American sport

SOME OF THE MOST EXCITING DEVELOPMENTS IN TECH ARE BEING MADE WITH MACHINE LEARNING: THE ART OF A COMPUTER, IN EFFECT, TEACHING ITSELF HOW TO ACCOMPLISH TASKS

works in America – it doesn’t work globally. The learning curve that they have is that F1 has a different appeal and different markets.”

This tapestry of unhappy promoters, and questions about the 2021 regulations, means Liberty are under increasing pressure to give F1 the clear direction it needs. They have certainly been more dynamic in terms of embracing social media and expanding onto digital platforms. But the clock is ticking down to the moment when the 2021 rules must be set in stone, and Liberty have other commercial threats to deal with – only last month their Middle East broadcast partners declined to renew their five-year contract, citing the growing problem of piracy in the region. Liberty need to work quickly to have any chance of shoring up the calendar, keeping the stakeholders happy and ultimately winning over fans.

F1’S NEXT BATTLEGROUND



PICTURES: SHUTTERSTOCK

Computers that teach themselves could play a part in future F1 design

Formula 1 chiefs have been clear that drivers – human beings – rather than computers must be the stars of the show. But away from the track, the advance of technology means humans could play much less of a role in designing and operating race cars.

Some of the most exciting developments in tech are being made with machine learning: the art of a computer in effect teaching itself to accomplish tasks rather than obeying rigidly programmed responses to external stimuli.

Mercedes boss Toto Wolff explained during a conference with IT giants HP that his organisation was expanding the use of artificial intelligence. “For us, and many industries, with digitalisation the environment is changing,” he said. ▶

02

“Machine learning, A.I. and robots are going to take over a lot of the work that takes a long time to process.”

One company at the forefront of this advance is Williams sponsor Acronis, and their boss Serguei Belousov admits there are both opportunities and threats from computers: “In F1, there are ultimately three areas that you can apply machine learning: one is the race strategy. Secondly you can apply machine learning to logistics and operations. But mostly what teams want to do is in the third area: car design.

“A team like Williams has 110 aero engineers, while a top team has maybe 400-500. If Williams knows at the beginning of the season that the car is broken, it takes five-to-nine months for the 100 engineers to come up with a new design, test it and put it on the car. If it works it works but there is no guarantee. For Mercedes it takes one-and-a-half-to-three months. With machine learning, technically you can have a machine designing the car. You can do that with fewer people and much faster.”

As F1 heads to an era of greater cost control, investing now in a technology that can run by itself could be a game changer. Belousov added: “Teams are very sensitive about it because this is the most promising area right now.

“Up until two years ago, I was certain that it would be difficult to make a machine that would be more sophisticated than a human. But there has been such progress that I am no longer sure. It is quite possible that we will have very dangerous developments in this area.”

By that he means fewer jobs for humans. F1 has set itself against autonomous cars – but could we see a human racing a car designed by robots?

WITH MACHINE LEARNING, YOU CAN HAVE A MACHINE DESIGNING THE CAR. YOU CAN DO THAT WITH MANY FEWER PEOPLE AND MUCH FASTER



The MCLExtreme: a RWD, 310mph electric car with shape-shifting active aero

McLAREN'S F1 2050 VISION

McLaren's main focus might be on trying to elevate their Formula 1 team back to the front of the grid, but that has not stopped them dreaming about how the sport itself could look in the distant future.

McLaren Applied Technologies, the part of the group that uses F1-inspired tech to solve problems in the wider world, have visualised how F1 could be in 2050. In this potential future grand prix racing blends autonomous driving, electrification and artificial intelligence with traditional values of high drama.

Although F1 concept cars have been done before, McLaren's focus was more on how the sport itself would evolve. Having taken on board feedback from fans, enlisted the help of MA and PhD students, as well as researching wider economic, environmental and societal

03

F1 DIGEST THE MONTH'S BIG STORIES AT A GLANCE

12.01.19 Max Verstappen performs day of 'public service' at Marrakech Formula E round

15.01.19 Formula 1 announces 2019 race start times; French GP to begin an hour earlier

16.01.19 Niki Lauda released from hospital after recovering from a flu infection



18.01.19 Newly announced Renault Sport president Thierry Koskas leaves the company



19.01.19 Mick Schumacher officially joins Ferrari Driver Academy

24.01.19 Paul Ricard pitlane entry to be modified before French GP



31.01.19 F1 plans to rethink TV camera angles to increase impression of speed

01.02.19 Sauber team renamed Alfa Romeo Racing

11.02.19 Middle East F1 broadcaster BeIN rules out contract renewal over piracy issues



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2019's first wave of entertainment line-up features stadium rockers Muse, British DJ legend Fatboy Slim, Jamaican reggae icon Toots and the Maytals and American roots band Larkin Poe with many more to be announced.



***Artiste line-up subject to change. Visit the official website for artiste performance timings, zones and stages.**

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trends, they considered how F1 would change in line with the world.

There was of course a concept car – codenamed the MCLExtreme. It is a 310mph, rear-wheel-drive electric car, featuring shape-shifting active aerodynamics, an

on-board AI co-driver and tyres that heal themselves.

To cope with the physical demands of the car's performance, drivers would have to wear reinforced G-suits. The theatres of F1 would be longer, wider tracks with E-pitlanes to provide inductive charging. Fans would be looked after much better than they are today, and the cars themselves would be designed and operated in a way that improved the spectacle: their colours would change to indicate the driver's mood, transparent cockpits would demonstrate the work going on behind the wheel, and communication and AI blackout zones would place the onus on individual performance.

The viewing experience would also be very different: augmented reality would give fans access to multiple camera angles and race data. Esports competitions could also allow competitors to drive the race virtually.

Explaining the concept, MAT motorsport director Rodi Basso said: "We're always looking to innovate to find the solution for tomorrow today."

"In recent years, we've seen concepts and ideas about how a Formula 1 car could look and operate in the future. However, this is the first time anyone has given detailed thought and insight into a viable vision of motorsport in the future."

"Our hope is for this to stimulate debate about how motorsport responds to changes in technology and sports entertainment trends to ensure we can meet the needs of fans in 2050."

The MCLExtreme car is the latest in a series of concepts that have been unveiled over the years, including McLaren's own MP4-X in 2015. Renault marked their return to F1 with a flash forward to 2027 and the hybrid-powered, active-suspension R.S.2027 – the key point of which was reduced reliance on aerodynamics.

Liberty Media are also working on their own designs ahead of the 2021 regulatory change. Last year managing director Ross Brawn offered a glimpse of what the company expected to put into place – and perhaps there's a small irony here, since these represent F1's immediate future and yet there was considerably less detail than McLaren's own view of 2050...



Reinforced G-suits and very different race tracks also form part of McLaren's vision for F1 by 2050

F1 MASTERMIND

Your chosen specialised subject: the world's greatest sport

- Q1** Which driver recorded the fastest time over the two days of the post-season test in Abu Dhabi?
- Q2** True or false: Nico Hülkenberg has finished sixth 20 times in Formula 1 races?
- Q3** Who was on the front cover of the first issue of F1 Racing, back in March 1996?
- Q4** There have been three circuits over eight miles in length that have held world championship F1 GPs. Which are they?
- Q5** Who will be the youngest driver on the youngest ever F1 grid this season?
- Q6** Robert Kubica's only F1 win came in Canada in 2008, but who finished second?
- Q7** Who claimed their first F1 point in the 1993 European GP and their second and last one in the very next race in San Marino?
- Q8** Who won the last Dutch Grand Prix, held at Zandvoort in 1985?
- Q9** Which country has held more world championship F1 races: Spain, Brazil or Canada?
- Q10** How many races did Jody Scheckter start after his 1979 championship season: 13, 19 or 28?



- 1** Charles Leclerc (Ferrari) **2** True **3** Michael Schumacher **4** Spa, Nürburgring and Pescara **5** Lando Norris, aged 19 **6** His team-mate Nick Heidfeld **7** Fabrizio Barbazza **8** Niki Lauda **9** Canada (49) to Spain's 48 and Brazil's 46 **10** 13



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1965 FERRARI 275 GTB/6C RHD

1 of only 11 RHD examples fitted from new with the 6 carburettor set up. Original colours throughout and specified from new with a leather dash and Borrani's, one of the finest restored examples in existence, Ferrari 'Red Book' Classiche certified £POA



2014 FERRARI LAFERRARI

A total spec example, delivered new to Italy & now UK registered, only 789m from new, recently serviced & complete with all its factory accessories, indistinguishable from new throughout £POA



1967 FERRARI 330 GTS

1 of only 99 examples ever produced, a complete matching numbers car as confirmed by its Ferrari 'Red Book' Classiche certification. 1 owner from new until 2013, a very original car throughout, exceptional! £POA



2004 PORSCHE CARRERA GT

Only 2,669m & 1 owner from new, a UK supplied example that's complete with all its factory accessories including dedicated luggage plus its original handbooks, indistinguishable from new, a very special car £POA



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question of lack of car control, he could deal with it, but he's a driver who delivers his speed by taking momentum into and through the turns. Add that to a car that, particularly in the first half of the season, could hit aero problems when out of shape, and it played into Hülkenberg's hands. He's more of an improviser, not so dependent on a perfect entry to carry in so much speed, and that meant he outperformed Sainz often.

Hülkenberg has also got his feet under the table at Renault. He may not be the classic engineering driver, but he gives clear feedback, zeroes in on what aspects of the car need to improve and is well-regarded by the team. Ricciardo may be the star name, a Monaco Grand Prix winner who has shown potentially championship-winning class over the years, but he's walking into Team Hülkenberg.

Don't doubt Ricciardo's motivation. He didn't move to Renault for the cash, as Red Bull offered a similar financial package and were willing to accommodate Ricciardo's desire for flexibility with a one-

year deal. While he might have been sceptical about the Honda engine programme, Renault have yet to prove they can get to the level of the Mercedes or Ferrari power unit. Inevitably, reasons for making such a move are myriad, but it's clear Ricciardo felt it was time for a change after being on Red Bull's books for a decade and, crucially, he needed to get away from Max Verstappen.

Ricciardo's effervescent character has made him an instant hit at Enstone. It's not difficult for a team to get behind a driver both with the CV and the personality of Ricciardo. But the balance of power between Ricciardo and Hülkenberg will be decided by one thing – who the consistently stronger driver is. Who will get the upper hand is not clear cut, but if the handling characteristics that have prevailed in recent years at Renault are carried over it will be good news for Hülkenberg...

Behind the wheel, Ricciardo is more of a classicist. He would have had similar problems to Sainz with the 2018 Renault, although history suggests he might have mitigated them more effectively. But the Renault RS19 is a very different beast, with only the power-steering system carried over. The hope is these big changes, which include an overhaul and repackaging of many unseen non-performance components under the skin, should unlock the next level of performance for Renault.

Some familial traits will be passed on, but the changes could have a big impact on the dynamics of the car. F1 drivers since time immemorial have craved greater stability, it's never a bad thing, but generally the quicker the car, the greater the downforce and the

IS RICCIARDO'S RENAULT GAMBLE A FOOLISH ONE?

Fortune favours the brave, but destroys the foolhardy. The question is, which is Daniel Ricciardo? Defecting from race-winning Red Bull when they are on the cusp of starting a works relationship with Honda to join a re-emerging Renault team that still have a long way to go could prove to be either. Ricciardo may never win another grand prix as a result, but he could also establish himself as the focal point of a frontrunning works team. That's quite the coin toss.

Much of this is out of Ricciardo's hands, because we already know he can win races in the right team. Renault have invested heavily and their largely all-new car should allow them to slash the gap to the top three, but they're unlikely to clear the chasm in a single bound. Realistically, 2021 and F1's mooted major regulations overhaul is Renault's target and '19 is just a waypoint on that journey.

During this building period, Ricciardo has two objectives. First, he should do everything he can to assist the team on that trajectory and grab what big results are on offer. But on a personal level, the second is more important: he must establish



A proven winner, Ricciardo likely faces a long wait for Renault to give him a car to enable him to add to his tally

himself as Renault's spearhead. That means beating Nico Hülkenberg.

It's easy to dismiss Hülkenberg as a midfield lifer, whose record tally of 156 starts without a podium is that of a journeyman. But he has a touch of magic about him and has shown repeatedly how quick he is. Remember, this is a driver who took a pole position – on merit, with two laps fast enough for pole – in a mediocre Williams at a damp Interlagos in 2010 and fought for victory at the same track in a Force India two years later.

Last year, Hülkenberg saw off Carlos Sainz at Renault. The Spaniard struggled with the rear instability of a car that made it difficult to carry the speed he wanted to into the corners. It's not a



more predictable it should become if you've got your sums right. You'd back Hülkenberg to give Ricciardo a very hard time in last year's car, but this year's car could change things. Whatever happens, both are fast, accomplished racing drivers eminently capable of wins and podiums in the right equipment. But with two drivers capable of a similar level of performance, the balance of power could swing depending on factors such as car characteristics. Tyres will also play a part, as Hülkenberg has often struggled when thermal degradation is more critical, while Ricciardo often thrives in such conditions.

This is career-defining stuff for Ricciardo. While he is still only 29 and easily capable of another decade at the top level, you can never be sure when another big chance will come.

He's voluntarily forsaken a winning car for a losing one, and the history for drivers who have done that is patchy at best – just ask Fernando Alonso.

Comparisons have been drawn with Lewis Hamilton escaping the nurturing arms of McLaren to join Mercedes for 2013. But the similarities are superficial and don't stretch much beyond a

“WILL FORTUNE FAVOUR RICCIARDO? IF IT DOES, IT WILL PAY OFF BIG TIME AND IT WILL BE GREAT NEWS FOR A DRIVER WHO DESERVES A SHOT AT THE TITLE”

driver leaving a team he had a long association with to join an emerging manufacturer team. When Hamilton made his leap, he was moving from a team on the brink of a slump to one that had already emerged as a race winner. Paddock chatter had it that the Mercedes 2014 turbo hybrid engine project was far in advance of its rivals, and Hamilton was sold on that as part of the Mercedes sales pitch. Renault, by contrast, have underachieved with their engine for five years and have yet to prove the potential of Enstone can be fully exploited. Ricciardo has seen all the evidence, but while Renault have made a good enough case to land his signature it surely wasn't as strong as the one Mercedes built for Hamilton in 2012.

Will fortune favour Ricciardo? If it does, it will pay off big time and be great news for F1 and a driver who deserves a title shot. But it's far from a foregone conclusion. The Renault move could just as easily be a career breaker as a career maker.



Ricciardo's first challenge at Renault will be to beat Nico Hülkenberg, who is easy to dismiss but has a touch of magic about him



UNDER THE HOOD

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PICTURES **motorsport IMAGES**

that up during development in the season.

Amongst the teams I feel there is more to be proven than has been the case over the past few seasons. At the front the advantage of Mercedes has been eroded, albeit slowly, and Ferrari have had a long winter to think why they could not exploit this to the level they should have done. Red Bull have finally ditched Renault and with it the reason, they believed, for their comparative lack of success since 2013. The move to Honda is brave and not necessarily one that will bring short-term results, but it is not just the team who are wondering if a more holistic approach, as pioneered by Toro Rosso last year, could spring the surprise of 2019.

The midfield battle is more intense than ever. Haas need to build racing expertise to match the inherent performance of their car, Renault require a sustained challenge ▶

THE KEY STORYLINES OF F1 2019

There are many harbingers of spring, but to us petrolheads it is the excitement of dissecting the winter F1 testing days and the anticipation of the season ahead. I write this well before the testing has started, but attempting to analyse the results without intimate knowledge of conditions, fuel loads, engine modes and tyre age is a fool's errand. Much more interesting is to consider the many changes that we will see for 2019 and what the outcome of these changes may be.

Technically we have a reasonably significant change to the front wing aimed at reducing outwashing of front wheel wakes and improving the performance of following cars. The question being asked is whether it will improve the racing, and unfortunately that's a question which may never be answered. Undoubtedly it will not degrade downforce of a following car as much as previous designs, and certainly if nothing had been done the situation would only have got worse. The magnitude of change, though, may be such that determining an answer is difficult.

As always when changes such as these are made the cars lose performance. The fine-tuning tricks honed during development of previous designs are no longer applicable and new ones need to be found. Aerodynamicists up and down the pitlane set themselves a target of making up the loss, aiming at least to start the season with a level of performance equal to that of the end of the previous year. This seems to be the target almost irrespective of the magnitude of change and 2019 is no exception. On balance I suspect that teams will start the season with a few percentage points of deficit to last year, but they will go on to make



The changes to front wings will, in the short term, result in a drop in performance



Red Bull's decision to switch to Honda was a brave one but they could spring a surprise in 2019

PICTURES: JERRY ANDRE; ILLUSTRATION: BENJAMIN WACHENJE

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A change in team should suit
Kimi Räikkönen as he
makes a return to Sauber

PICTURES: MARK SUTTON, JOE PORTLOCK

to match their driving talent, Racing Point F1 (or whatever they may be called) hope that financial stability can return them to the top of the challenging heap, while Sauber – now rebranded as Alfa Romeo Racing – need to take their amazing 2018 season one step further and use Kimi Räikkönen's undoubted talent to the full in an environment that should suit him.

Perhaps more importantly there are two teams who know they need to stop the rot. McLaren made several operational changes in 2018 and although perhaps the most important of them, the employing of James Key, will have limited effect on 2019, one hopes a new philosophy will bring results worthy of the team. The one thing I see as difficult for them is changing both drivers. It might have been a position forced on them but one can never underestimate the value of continuity. At Williams it appears to be much more back to basics, and one hopes they can find the form that made them respected contenders from 2014 to 2016.

Driver-wise we also see more change than we have for a while. I make no secret of the fact that I'm a fan of Daniel Ricciardo and I think the people at Renault, particularly Alan Permane and Ciaran Pilbeam, have just the right attitude to get the best from him. Charles Leclerc has the hopes of many

“KIMI WILL PLAY A LARGE PART IN THE HOPED FOR RESURGENCE OF SAUBER AND WILL ENTERTAIN US ALL WHILE DOING SO”

resting on his shoulders and I hope they are broad enough. He has undoubted talent and his progress will be one of the main talking points of 2019. While he is still relatively inexperienced, the last time Ferrari took a bit of punt on a driver was with Räikkönen in 2007, even if Kimi was a McLaren stalwart at the time, and it worked out rather well. Speaking of Kimi, I am glad to see him still in F1. He'll play a large part in the hoped-for resurgence of Sauber and will entertain us all while doing so.

Charles Leclerc has a huge challenge ahead of him as he steps up to a Ferrari race seat



Of the newcomers I'm particularly excited by George Russell. To me he was the class of F2 last season, demonstrating skill in all the varied fields that a driver needs to excel in such as leading from the front, overtaking, fighting from a poor grid position, and racing in low grip. I hope he has a car under him capable of exploiting that. Lando Norris has to hope he has an easier time than the previous occupant of his seat, while Alexander Albon will probably have an easier time fitting in to a team well versed in getting the most from new drivers.

That leaves the intriguing question of Robert Kubica. Hardly a new driver but still one who has as much, if not more, to prove than any of the rookies. Only the team will know if he is capable of that, and in hiring him Williams must have that confidence. I knew Robert when he was part of the Renault driver development programme and he deserved more than he got at that time. I hope he can now write the fairytale story of his recovery.

GRAND PRIX GUIDE



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MARCHIONNE'S ALFA LEGACY

When the late Sergio Marchionne signed off on his deal with Sauber's Frédéric Vasseur to bring Alfa Romeo back into Formula 1 last season, it didn't generate quite the welter of enthusiasm the CEO of Fiat Chrysler and Chairman of Ferrari might have wished for. A splash of branding on the engine cover and the incorporation of Alfa Romeo into the team name appeared to some to be more about marketing or an astute political play, and less about racing.

One year later and the transformative power of that deal has changed F1, promoting the considerable talent of Charles Leclerc to Ferrari and returning Sauber to their rightful place as a serious midfield contender capable of embarrassing the big guys. The 'commercial and technical partnership' first announced in November 2017 has given Vasseur a degree of financial clout that the perennially underfunded Swiss team have long desired, combined with technical support and a current-spec Ferrari powertrain – which, as Mercedes will tell you, is right there.

Vasseur, something of an old-school team boss who actually understands racing and the ingredients necessary to win, saw the Alfa Romeo deal for what

it was: at worst a key part of the Sauber jigsaw, at best maybe even the whole picture. The timing of the deal could not have been better.

Everything about Alfa Romeo underlines the simplicity of Marchionne's strategy – namely that if the car company is to stage a resurgence, they should have the confidence to reposition themselves in F1. The company that won the first two F1 world championships with Nino Farina

The renaming of Sauber to Alfa Romeo Racing comes after a successful 'commercial and technical' partnership in 2018

and Juan Manuel Fangio might have bounced from one crisis to the next in the 1960s and 70s, including a torrid time in F1 between 1979 and 1985, but their fortunes have stabilised since Fiat took over in 1986. It's been a hard slog, but recent years have shown progress.

With global sales of 67,309 cars in the first half of 2018, up 28% on 2017, the success of the new Giulia and Stelvio models has finally given Alfa Romeo's bosses a decent sales trajectory, although China and North America is proving tough. Meanwhile the award winning and range-topping Quadrifoglio variants remind us of how closely motor racing is bound up with the brand. After all, it was Enzo Ferrari's friend and team-mate Ugo Sivocci who, according to racing legend, painted a four-leafed clover on his Alfa Romeo RL and promptly won the 1923 Targa Florio.

It's important to remember that Alfa Romeo played a big part in Enzo Ferrari's early career, initially as a driver and later as entrant under the Scuderia Ferrari banner. That the two companies remain

joined at the hip is one of modern F1's more unexpected outcomes, but the question arises as to whether Alfa Romeo are committed long term.

The news that the initial deal has been extended, to include the renaming of the team as Alfa Romeo Racing, bodes well. After a season of using F1 for consumer, media and dealer marketing, the bosses in Turin clearly like what they see.

If Vasseur can build on the momentum of last year, and get the best out of returnee Antonio Giovinazzi as well as the enigmatic Kimi Räikkönen, the outcome will be crucial in framing future direction. In short, the fortunes of Alfa Romeo Racing will quickly determine whether Marchionne's strategy becomes a defining legacy, both for the company and the sport.



PICTURE: SAM BLOXHAM; ILLUSTRATION: BENJAMIN WACHENJE

THIS MONTH



Benoit Poulet

Fuels development manager, Shell Motorsport

Shell's association with Ferrari, one of the longest in motorsport, has yielded plenty of grand prix wins, though regulatory changes in recent years have shifted much of the emphasis towards reliability as well as performance. But there's still room for functional fluids to make the difference in a development-restricted era

CV

2015-18

Fuels development manager, Shell Motorsport

2007-15

Research engineer, Total

2006-07

Maintenance engineer, Air France

2005

Engine development engineer, Renault

F1 Racing: Tell us how you got involved with Shell and became one of their scientists working with Ferrari in Formula 1?

Benoit Poulet: I've always been interested in technology and studied engineering at school and then majored on thermodynamics at college. I started my career at Renault, doing an internship looking at engine design, and then a few years later joined Total as a fuel scientist. It's very important to have that background in engine design to understand how the molecules in fuel best fit inside the engine.

F1R: What are your responsibilities trackside during a grand prix weekend?

BP: Shell bring a small laboratory to every race where we test both fuel and oil samples after all of the sessions. The tests on the fuel are to ensure legality, to make sure that the samples match the fuel blended in our facility in Hamburg, Germany.

We cannot afford any contamination in the fuel which would make it non-compliant. For example, if a mechanic touched the inside of the fuel tank with a dirty glove, we would need to flush all the fuel out of the car to get rid of the contamination.

F1R: And the oil samples are not to test legality, but to give Ferrari information on the age of their power unit?

BP: Correct. Since teams can only have three power units per driver, per season, they constantly need to be aware of what is happening inside the engine – and there isn't the scope to keep looking inside it.

To achieve that we take a small oil sample and analyse it in our trackside laboratory, which is located behind the Ferrari garage. Here we can determine if there is any additional metal wear in the oil to signify an issue with the power unit. We do this for the works and customer Ferrari-powered teams and, at the first sign of a problem, we alert Ferrari to the issue. It's primarily to check for defects in the engine that could affect reliability.

INTERVIEW JAMES ROBERTS

F1R: When the fuel is transported to the circuit, where is it stored?

BP: Firstly our logistical partners transport the fuel from Hamburg and then we work alongside both the FIA and Formula 1 to house the petrol at a fuel compound within the track. One of my roles as manager is to ensure everything is safe, and I also attend an annual meeting with the Formula 1 fuel advisory panel, who represent the other suppliers in the sport, to continually look at safety measures for transporting and storing fuel.

F1R: How much of your work is at Shell's technology centre in Hamburg and how much at a grand prix?

BP: I would say about 20% of my work is trackside while the other 80% is split evenly between Hamburg and Ferrari's own factory in Maranello. Our facility in Hamburg is where we blend the fuel and the oil, and we also have a team of scientists working on the development of the V-Power road car fuel. In addition, we also have research and development projects in our facilities in Houston, Bangalore and Shanghai.

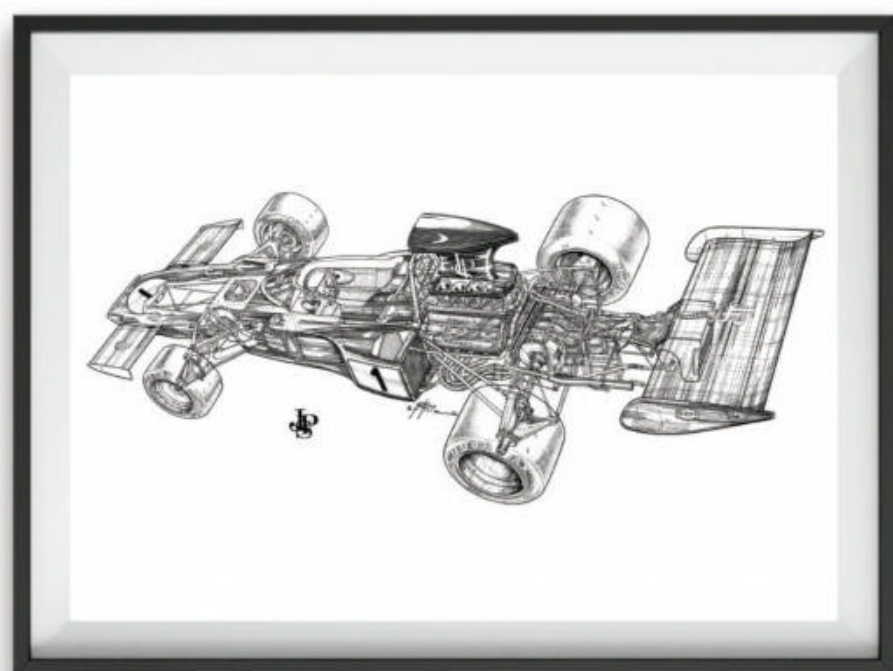
F1R: In developing products, how important is it to have a close relationship between Ferrari and Shell?

BP: It is vitally important to work closely together. I attend engine design meetings in Maranello so that we can get an understanding of the hardware package, and from there we can optimise fuels for their power units.

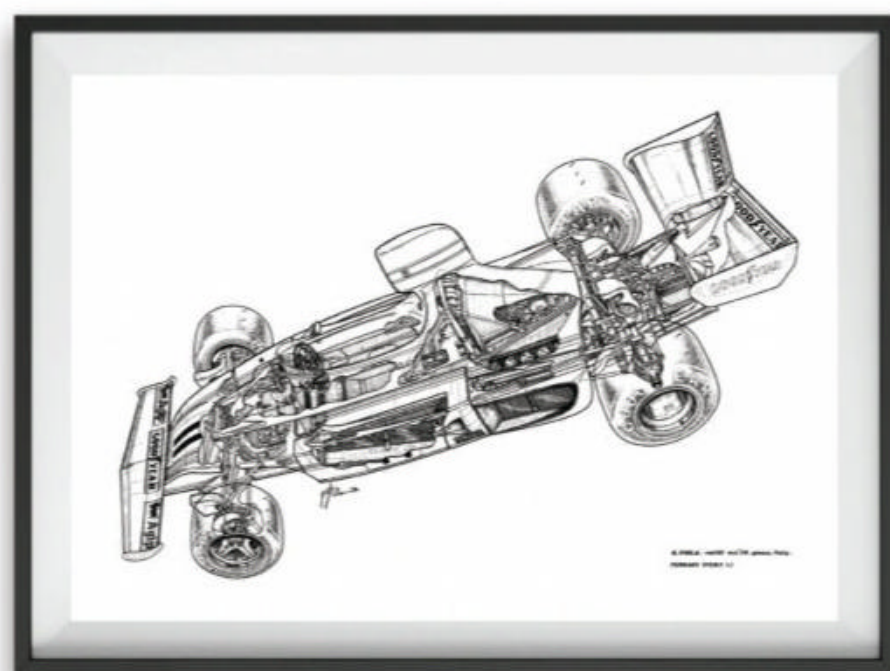
F1R: Can you give an example of some of the developments in the fuel you are working on?

BP: With a constant regulatory framework, you would expect gains to diminish over time, but we have found the opposite is true as we set ourselves ambitious targets. For example, the regulation says we must run 105kg of fuel [110kg in 2019] during a grand prix, but by increasing the density, we can reduce the volume, allowing Ferrari to run a smaller fuel tank and thereby driving efficiency in their chassis.

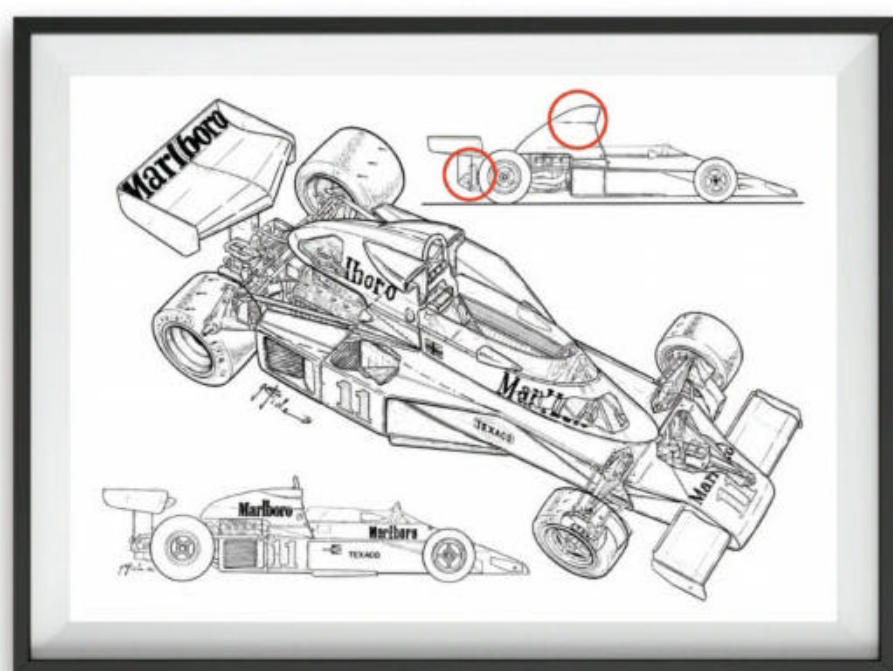




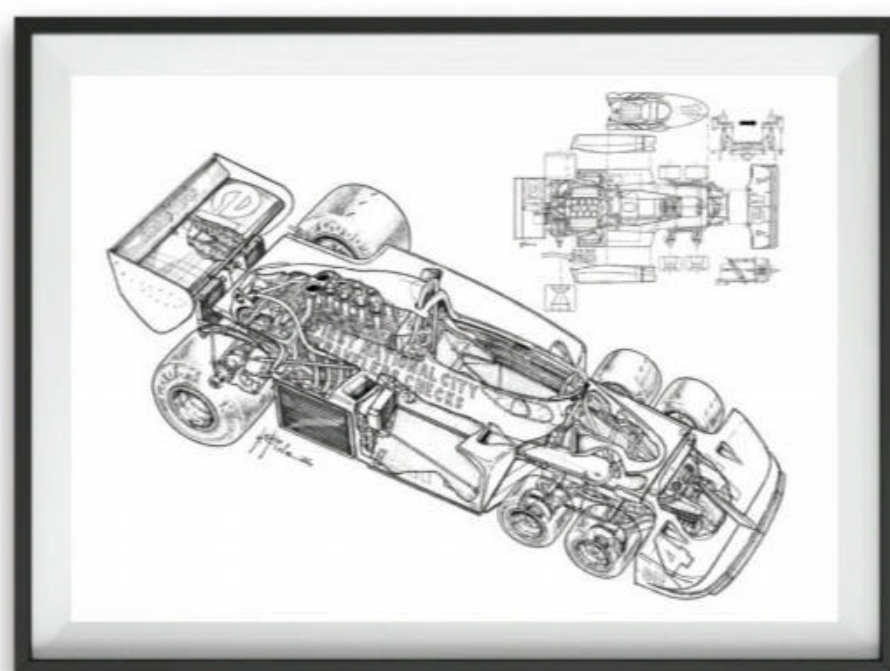
LOTUS 72 - 1971



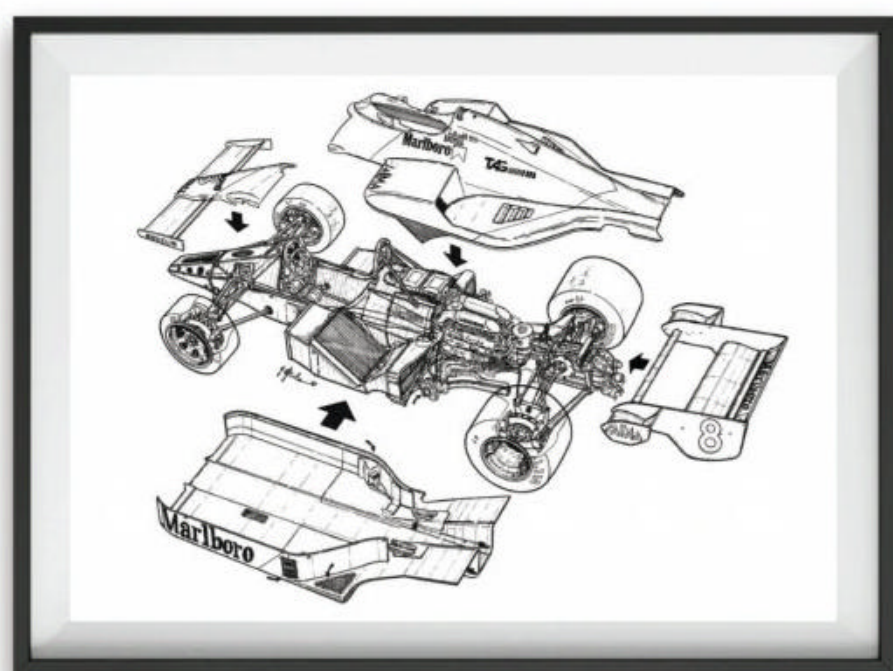
FERRARI 312B3 - 1974



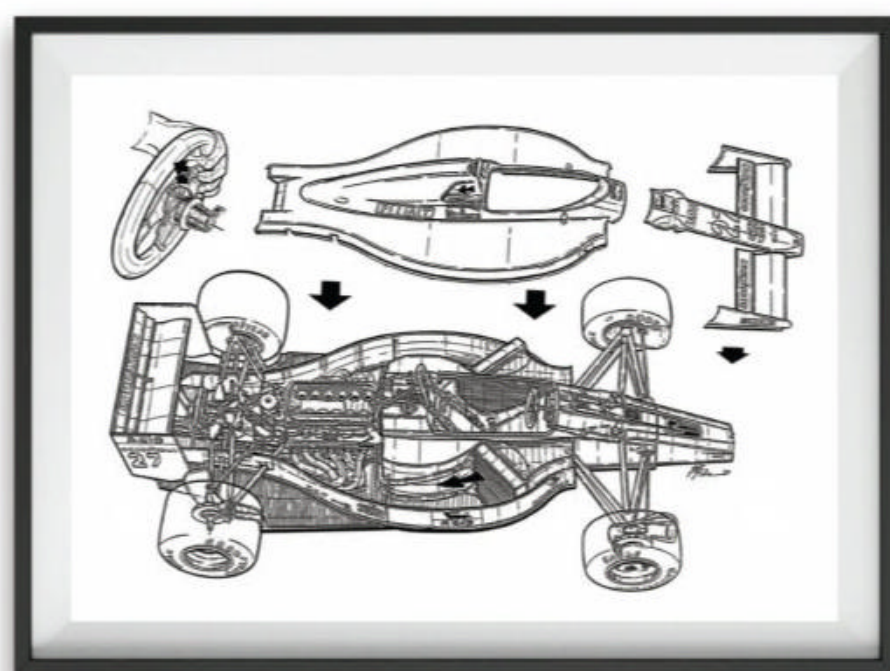
McLAREN M23 - 1976



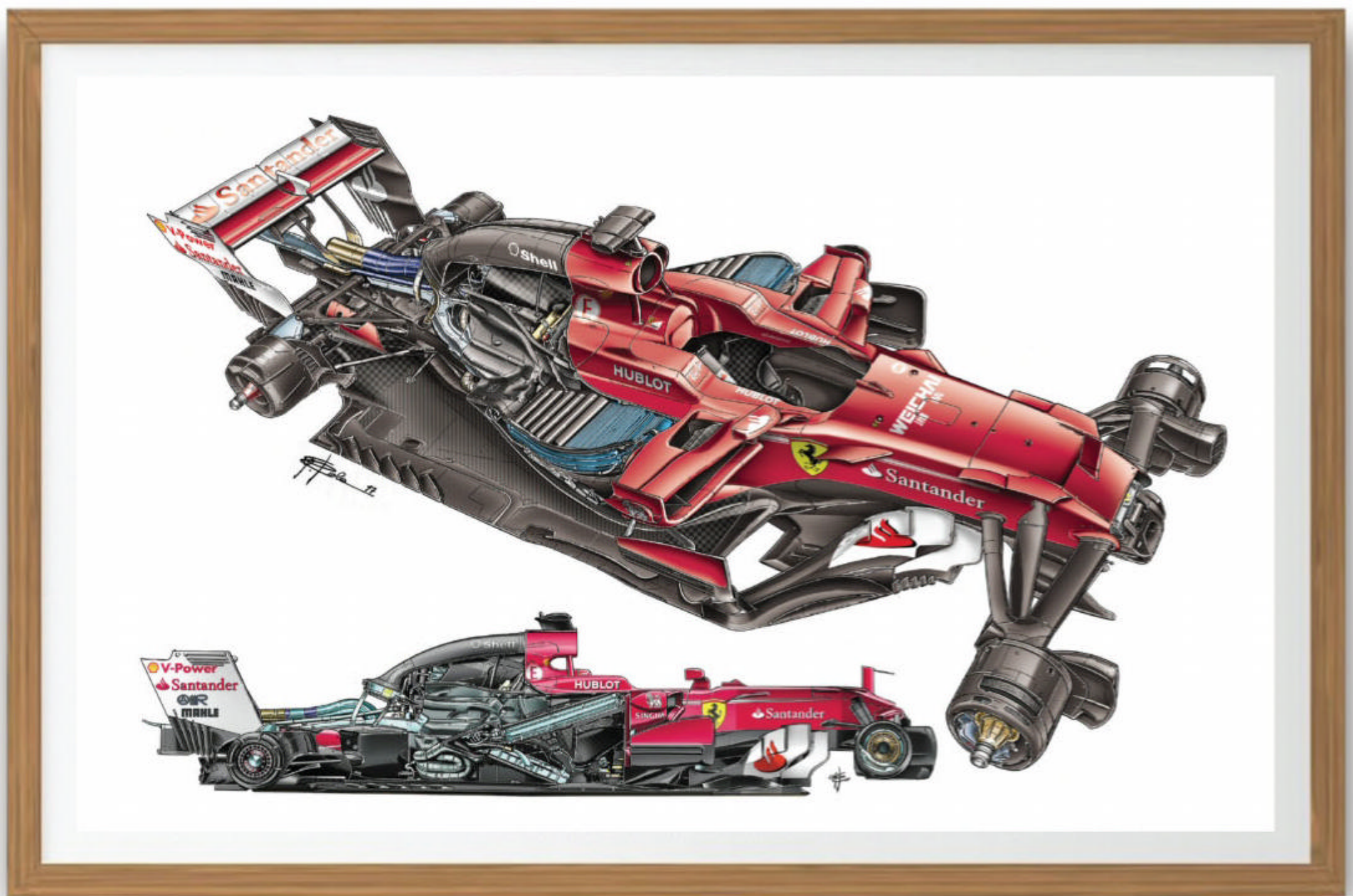
TYRRELL P34 - 1977



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From Australia to Abu Dhabi, the 21-round Formula 1 season gets under way in just a few weeks. New technical regulations and new faces – plus old faces in new places – mean the sport is heading for quite a shake-up...

PICTURES

**motorsport**
IMAGES

WORDS JAMES ROBERTS

PICTURE: STEVEN TEE



The fast and the furious get ready to compete at the first race in Melbourne for a new-look season of Formula 1



THIS YEAR

it's all change in Formula 1. Only two of the ten teams – Mercedes and Haas – will retain the same driver line-up from last season, and four of them feature a completely new pairing. And while it's likely Lewis Hamilton and Sebastian Vettel will be vying for title honours once again, the man in the second red car could apply just as much heat to Vettel as Hamilton will.

After four years of amicable co-existence alongside his friend Kimi Räikkönen, Vettel must now adapt to the presence of Charles Leclerc – the young rookie who was so impressive at Sauber last year. While we may wonder how the 21-year-old will handle the febrile environment of Maranello, equally, we should note that for Seb there can be no excuses this year as he makes his bid to topple Hamilton. Not only does Vettel need to bolster his prospects for long-term employment, he also has to guard against Mercedes breaking one of Ferrari's most cherished records – one they've already equalled. After five consecutive drivers' and constructors' championships, Mercedes' next target is to notch up a sixth.

Daniel Ricciardo, meanwhile, moves from Red Bull to Renault, in the hope that they can pull away from the mid-field and break-up the dominance of the top three. Carlos Sainz replaces a recently retired Fernando Alonso at McLaren, while Racing Point Force India undergo an identity change and welcome Lance Stroll from Williams. Pierre Gasly steps up from Toro Rosso to Red Bull, while Thai-born Brit Alex Albon makes his debut at the Faenza-based team alongside the freshly reinstated Daniil Kvyat. Both Red Bull teams will now be supplied exclusively by Honda, whose power units they believe to be at least equal to those of Renault.

The ranks of British drivers on the grid swells in 2019, since Formula 2's champion and runner-up will take seats at Williams and McLaren. It's been a tricky few years for these once-great teams, but George Russell, 21, and Lando Norris, 19, have impressed in the junior formulae and bring renewed hope to the British stalwarts. Williams will be further boosted by the racing return of Robert Kubica, eight years after he partially severed his right arm in a rally accident.



CLASSICS FACE THE END OF THE ROAD

The third race of the season, in Shanghai, marks a significant milestone as China hosts the 1,000th round of the world championship. It's perhaps ironic, then, that a sport steeped



When the lights go out, the greatest show on earth begins, entering its 1,000th round in China this year

in heritage is on the verge of losing some of its classic races. Owing to rising costs, Silverstone has activated a break clause in its contract and is set to join other established European venues, including Germany, Italy and Spain, in hosting its final race in 2019 unless a deal can be brokered to save it.

It's not the only commercial worry for Liberty Media, the sport's owners. Since the current Concorde Agreement ends in 2020, the coming months will be occupied by negotiations over new contractual terms and a potential budget cap for 2021, along with a slew of new technical regulations – some of which we will get a first taste of in 2019.

THE OVERTAKING CONUNDRUM


Twenty-three years ago, the very first issue of *F1 Racing* featured a story about the lack of overtaking in Formula 1.



PICTURES: GLENN DUNBAR; ANDY HONE; JERRY ANDRE

Now, 276 issues later, the topic is still at the forefront of grand prix racing. There have been many attempts to rectify the problem, such as introducing the Drag Reduction System (DRS) to give following cars an advantage. For 2019, modifications to the front and rear wings have been mandated in a bid to encourage more overtaking.

The hope is that the new rules will improve the spectacle – but how many people will be tuning in? For the first time in the UK, all races apart from the British Grand Prix will be available live only via a subscription to Sky Sports F1, although highlights will continue to be shown on Channel 4.

Liberty will continue to push Formula 1 through their own channels, but more than ever in a fragmented market, the sport needs to ensure it entertains its fanbase, while continuing to attract new viewers. 

WHAT ARE THE MAJOR RULE CHANGES FOR 2019?

AERO

- The front wings are now 200mm wider and 25mm deeper, dispensing with cascade wings and complex endplates to limit the outwash factor of the front wing, which is believed to impede the ability of the cars to get close enough to each other to overtake.
- The rear wings are 100mm wider and 70mm taller, with simplified endplates to reduce the vortices they produce. Together, the combination of new wing geometry should serve to reduce the amount of interference to the car behind, theoretically contributing to closer racing.
- Small LED lights now appear on the trailing edge of the rear-wing endplates to augment the rear-mounted rain light in low-visibility conditions.
- Further aero changes include a 100mm reduction in height to the bargeboards and more simplified brake ducts to pair up with the new breed of front wings.

WEIGHT

- To reduce the disadvantage faced by heavier drivers, a minimum weight of 80kg for the driver and their seat has come into force, supplementary to the minimum car weight of 660kg.
- Maximum permitted fuel weight has increased by 5kg to 110kg.

TYRES

- Pirelli have whittled down their range to five compounds labelled C1 to C5, from hardest to softest.
- Three consecutive compounds will be selected for each race (eg C2-C3-C4) and labelled hard, medium and soft.

SPORTING REGS

- The FIA has also tidied up the sporting regulations to reduce F1's oft-maligned complexities. Overtakes following a Safety Car period are now allowed only after passing the start/finish line.
- Drivers sent to the back of the grid after penalties will line up in the order in which they qualified.

Jake Boxall-Legge



ONE WAY...



...OR ANOTHER

PORTRAIT: ADRIAN MYERS; EMMA WRIGHT



SEBASTIAN VETTEL stands at a career crossroads as he enters his fifth season at Ferrari.

It's at this point that **MICHAEL SCHUMACHER** hit his winning stride and notched up five world championships in a row. It's also when **FERNANDO ALONSO** slammed the door on his way out after five frustrating seasons.

This is the last chance for fast but fragile Vettel to take control of his destiny...

WORDS ANDREW BENSON

PICTURES  **motorsport**
IMAGES

Sebastian Vettel finished 2018 a beaten man, demonstrating equal parts realism and denial. As he reflected on where things had gone wrong, he seemed to grasp the problem. But did he have it in focus? For under different circumstances, this man could have emerged from last season as world champion. At the very least he should have taken his title fight with Lewis Hamilton to the final race. Instead, he meekly surrendered to the Mercedes driver in Mexico, with two races still to go. ►



**“THE YEAR I’VE HAD, I DON’T THINK I EVER HAVE ANY PROBLEMS
RAISING MY HAND IF I MADE A MISTAKE...
BUT THERE ARE OTHER THINGS THAT WENT WRONG” SEBASTIAN VETTEL**

When asked about the way in which he lost the championship, Vettel would refer, in the first instance, to the stall in Ferrari’s development at Singapore when a new floor dropped them off the pace for three races until the problem was rectified. Only after emphasising that point would he talk about his own errors.

“The year I’ve had, I don’t think I ever have any problems raising my hand if I made a mistake,” he insisted. “I think knowing, as a racing driver, how quickly things can go wrong, how quickly things could have gone differently this year, yeah, I have to review a couple of things. But there are other things that went wrong and don’t need a lot of reviewing or overcomplicating. I know what I need to do. Certainly, here and there, looking back, I haven’t been at the top of my game. So I look at myself first; I think I can be better than I was at times.

“Having said that, we also had a lot of races where we got everything out of the car and the package and I felt that I did everything I could. I was happy with that. But that’s how it goes, that’s sometimes why you love racing and sometimes why you hate racing. For now, I need a bit of time just to shut things down. We have a little bit of time to digest and analyse and, yeah, I’ve always tried to improve things. I don’t think I need to change things upside down but certainly in there I can adjust and get stronger.”

Of course, a driver has to talk up the positives; it’s how they reinforce their self-belief. But the reality is that the driver failings had a far greater overall influence on the outcome of last year’s world championship than any perceived issue with the car. There were seven races in which Vettel made mistakes that had an effect on the championship. And five occasions when Ferrari’s operational management had an impact on those situations, creating the environment in which Vettel’s errors occurred.

So what happens if you undertake a hypothetical replay of the season, removing the effects of human error? Give Hamilton back the Australia win that Mercedes’ strategic error lost

him, for example, and expunge Vettel’s mistakes in Baku, Austria, France, Germany, Italy, Japan and the US, replacing them with the results he could or should have had. The result is that Vettel would have been champion, even with the technical issues in Singapore, Russia and Japan. So what went wrong for him in 2018? And how can he stop history repeating itself in 2019?

Post-season, but prior to the ousting of team principal Maurizio Arrivabene, Ferrari undertook an internal audit of what had gone wrong over the course of 2018. Their conclusion was that, fundamentally, all of their problems stemmed from needing a better car, that it was not as strong as depicted in the media, and that, above all, it needed much more effective development – a particular focus for them was the floor that didn’t work and simply should not have been introduced.

Ferrari accepted that Vettel’s error at Hockenheim – which caused a 32-point swing in the championship – came at the worst possible moment. But they also believe that his mistakes did not happen in isolation, and that this error, and others, arose from a feeling that he was having to force the car into places it was not quite capable of going.

And what of the times when Vettel appeared to be overanxious (such as when he swore at his mechanics, telling them not to damage the car’s floor during a pitstop in qualifying in Belgium) or questioned the team’s operations (such as when asking why he was being kept behind team-mate Kimi Räikkönen despite being on fresher tyres in Germany)? Ferrari’s view is that this was not Vettel losing it. He was just demonstrating his awareness that everything needed to be perfect in order to beat Mercedes.

Yet it’s easy to question this analysis. Without the lock-up that converted victory to fourth place in Baku, the crash with Valtteri Bottas at the start of the French GP, or the penalty he earned for blocking Renault’s Carlos Sainz in qualifying in Austria, Vettel would have ended the first ten races of a 21-race season with a 36-point lead ▶



Four seasons in and yet to collect a title with Ferrari, Vettel appears to be following in the footsteps of his immediate predecessor Fernando Alonso...



...yet he joined the team in the hopes of emulating his hero and countryman, Michael Schumacher, who suddenly turned things around in season five







over Hamilton, rather than eight. Had he then gone on to win in Germany, with Hamilton in second place, Vettel would have headed into the final ten races 50 points ahead, rather than 17 behind. And there were more mistakes to come.

But rare is the sporting year that goes by without any errors – even if Hamilton himself pretty much managed it last year. And it is unquestionable that Ferrari *did* lose their way on development with the new floor, and did not manage to recover until they took it off again in Austin. After that they were faster than Mercedes in two of the last four races. So, Ferrari argue that mistakes were made by both driver and team, but that while the car was competitive they never had the sort of pace advantage shown by Mercedes from time to time – such as in Melbourne or Russia, when the silver cars were around 0.6secs clear of the Ferraris.

Ferrari know they can be a winning team, they say they've proved it. They just have to sustain that standard more often and in more areas. Yet many will not be entirely convinced by this. After all, how can you argue the case that the Ferrari car wasn't good enough, when without Vettel's mistakes he could have taken nine wins to Hamilton's eight in 2018? And could Vettel's errors be attributed to pushing too hard in a car that was not fast enough? Or did they result from the pressure of carrying a team whose management decisions he felt he could not entirely trust and rely on?

All of this happened in the context of a year in which Ferrari lost their hugely influential president, Sergio Marchionne. The 66-year old, who died in July, was not only a powerful and dominant figure within Ferrari, he was the architect of the team's revival. The reorganisation that transformed Ferrari from being a competent but fundamentally conservative team in 2016 into one of design innovation and standard-setting in 2017 had been championed by Marchionne. How far might the ramifications of his death extend?



Could 2019 bring a reversal in fortunes between rivals Hamilton and Vettel? Or will Hamilton widen the title tally to six-four

In the short term, Marchionne's influence is extending beyond the grave. Before his death, following complications during surgery for cancer, Marchionne had decided to do two key things ahead of 2019: replace Kimi Räikkönen with Charles Leclerc; and remove team principal Maurizio Arrivabene, making technical director Mattia Binotto the new team boss.

Both of these moves have now happened just as he planned. Having installed Marchionne as president, and watched the company flourish under his leadership, both in the marketplace and out on track, it should be no surprise that the interconnected boards of Fiat and Ferrari – and Ferrari chairman John Elkann – decided to follow through with Marchionne's wishes.

Arrivabene's fan club was not extensive within the F1 paddock, nor, it seems, within Ferrari. It was Marchionne who imposed the strategy of not building pressure on the team through ill-advised comments in the media, but Arrivabene who interpreted that as a virtual blanket media silence. The two men also had differing approaches in public. Marchionne, true to his reputation, was bullish and direct, but respectful and engaging, while Arrivabene, on the occasions he did talk, was aggressive and curt.

As far as Vettel is concerned, you had only to watch the body language between him and Arrivabene in unguarded moments to see the tensions. And this occasionally burst out into the open. To give just one example of this, towards the end of 2016 Arrivabene told Italian TV that

Vettel needed to earn his place and salary at the team, just like anyone else.

Mattia Binotto is highly rated as a manager and, while it is obviously as yet unknown how he will fare in his new role, it is not hard to imagine that, assuming the culture of intimidation is removed, Vettel will respond better. In recent years Vettel has at times seemed weighed down by the pressures of being at Ferrari. Where, for example, is the amusing, jokey Anglophile, who used to talk of his love for The Beatles and Monty Python? Vettel was at his best driving for Red Bull, where, yes, he had a car advantage, but where he was also left to get on with the driving. And where, more importantly, the team was run sufficiently well that he felt he did not have to worry about anything else.

How all this plays out under Ferrari's new leadership will be revealed as events unfold over the course of 2019. But these issues provide a backdrop to the season; a context for Ferrari's situation that does not apply at Mercedes, where Hamilton has grown ever more comfortable – especially since the departure of former teammate Nico Rosberg. Equally, whether intended or not, there is an implicit conclusion to Ferrari's analysis: they realise that they will need a better car even than they had in 2018 to make up for what, on the evidence of the last two seasons, is a shortfall in the cockpit.

Vettel moved to Ferrari with the ambition of emulating his childhood hero Michael Schumacher and winning at least one world title with them. But he is in danger of following in the footsteps of a more recent predecessor – Fernando Alonso. All three men spent their first four seasons at Ferrari falling short of the title. Will Vettel's destiny echo that of Schumacher – who won in his fifth year, ending a long drought for the team – or Alonso, who, overwhelmed by frustration, quit at the end of his, having lost faith that the team could deliver for him.

Both Alonso and Vettel were involved in two close title fights in their first four seasons at

**COULD VETTEL'S ERRORS BE ATTRIBUTED TO PUSHING TOO HARD IN A CAR THAT WAS NOT FAST ENOUGH?
OR DID THEY RESULT FROM THE PRESSURE OF CARRYING A TEAM WHOSE MANAGEMENT DECISIONS HE COULD NOT TRUST?**

Maranello. But it is here that the parallels end. Alonso came within four and three points of his rival in 2010 and 2012. The closest Vettel has managed, despite a car significantly and demonstrably closer on performance in 2017 and 2018 to Hamilton's Mercedes than Alonso's was to Vettel's Red Bull, was 46 points in 2017. He was a massive 88 adrift by the end of last season. In Alonso's case, the shortfall was very clearly ►



Vettel's relationship with team boss Maurizio Arrivabene has shown increasing strain over the years. But with Arrivabene's exit, there is a chance of a fresh start



Despite having what was often the fastest car in 2018, Ferrari imply they need a better one to make up for deficits in the cockpit



IN ALONSO'S CASE, THE SHORTFALL WAS VERY CLEARLY IN THE MACHINERY - HE OVERACHIEVED IN LESS-THAN-COMPETITIVE CARS.

VETTEL HAS UNDERACHIEVED IN COMPETITIVE ONES

in the machinery – he overachieved in less-than-competitive cars. Vettel has underachieved in more competitive ones.


Meanwhile, just as Hamilton's situation within his team has started to become more settled, Vettel's is facing increasing upheaval. Kimi Räikkönen has now departed, a team-mate who was not only reliably slower than Vettel, but also obediently compliant on the few occasions the team needed him out of the way. In Räikkönen's place comes Charles Leclerc, an ambitious rookie racer, showing every indication of being a potential future superstar. The 21-year old is a Ferrari protégé. His arrival is sure to change the dynamic within the team, and there will inevitably be questions as to whether Leclerc can do to Vettel what Daniel Ricciardo did at Red Bull in 2014 – namely arrive and start beating the nominal team leader – and how Vettel and Ferrari would respond to that.

Of course, it's easy to speculate about that, but much harder to actually do it. As drivers go, Vettel is still a class act. But if Ricciardo can do it in a situation in which Vettel was coming off the back of four consecutive world titles, it seems justified to question whether the talented Leclerc will do the same thing after four seasons in which Vettel's reputation has been anything but enhanced. Five years at any team is a long time, especially if the dominant emotion is one of frustration at constantly falling short. Vettel has one more year remaining on his contract after 2019. Whether he stays on at Ferrari any longer is likely to depend on his and Leclerc's performances over the next 18 months.

On the positive side, Vettel heads into 2019 as the lead driver of the team that certainly had the fastest car for much of last season and, all things being equal, he should definitely be looking forward to another solid title campaign in which he has a very good chance at equalling Hamilton's haul of five world championships. But while he has the opportunity to make it work, the reality is that he provokes as many questions as answers. He's clearly very fast, but equally obviously fragile and prone to making

errors under pressure. Can he turn things around? Can Ferrari provide him with the environment in which that's possible?

"For now I need a bit of time just to shut things down," Vettel said, as he headed off to spend the winter break at home with his partner and children in Switzerland. "I don't know. It's a bit like skiing; maybe you learn something

overnight before you go on the slopes again the next day. Obviously our night, it would help to hibernate. But I think we have a little bit of time to digest and analyse. I don't think I need to change things upside down but certainly in there I can adjust and get stronger." 

Andrew Benson is BBC Sport's chief F1 writer



LECLERC: VETTEL'S GREATEST THREAT?

Ferrari's second tweet of 2019, right after wishing their 2.2 million followers a happy new year, was to welcome Charles Leclerc to the team. Their third, posted the next day, celebrated his achievements.

Leclerc, Ferrari announced, had never finished lower than second in any championship throughout his junior career. And he had won eight of those titles over the course of ten years. It was a reminder of the impeccable credentials that have earned the Monegasque a Ferrari seat in only his second year in F1, following his stellar debut with Sauber in 2018.

Leclerc comes from a racing family. His late father, Hervé, competed in Formula 3, and was best friends with Philippe Bianchi, father of the former Manor driver Jules Bianchi, who died of injuries sustained in a crash at the 2014 Japanese Grand Prix. Jules Bianchi was Charles Leclerc's godfather, although being only eight years older he was more like a big brother. Leclerc has talked frequently about the help Jules gave him as he made his way through the junior categories. It was Jules who introduced Leclerc to his influential manager Nicolas Todt, son of FIA president Jean. Todt opened the doors, and Leclerc has pushed them wide apart.

It is extremely unusual for Ferrari to promote a driver into their team so early in their F1 career. Leclerc is the least experienced driver they have taken on since Gilles Villeneuve was given a seat after just one race for McLaren back in 1977. But former Ferrari engineer Rob Smedley sums up what so many feel about Leclerc's promotion. "He's a guy with great talent and a huge future – probably the biggest talent we've had come into the sport in a while," Smedley notes. "It's a pleasure to watch him. As long as Ferrari manages it correctly, he will be a huge success."



New recruit Charles Leclerc will not be an accepting number-two. So how long before friendship turns to fireworks?

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{ YOU ASK THE QUESTIONS }

SEBASTIAN VETTEL

Interviews with this man aren't easy to come by, but we've tracked down Ferrari's elusive ace to discover why he's so noticeably absent from social media and what it is that draws him to the British sense of humour

WORDS JAMES ROBERTS

PICTURES



motorsport
IMAGES

In an F1 paddock not exactly renowned for its levity, Sebastian Vettel is reliably always up for a laugh. This aspect of his personality isn't immediately obvious, since he prefers to keep his press appearances to a minimum and Ferrari like to keep their star driver happy by acceding to such wishes. But he has a brain that fires on more cylinders than those of a number of his peers. Unless something has gone very wrong for him out on track, his interviews are laced with a wry, cheeky humour – and his impersonation of Jean Todt at the Autosport Awards a few years ago was comedy gold.

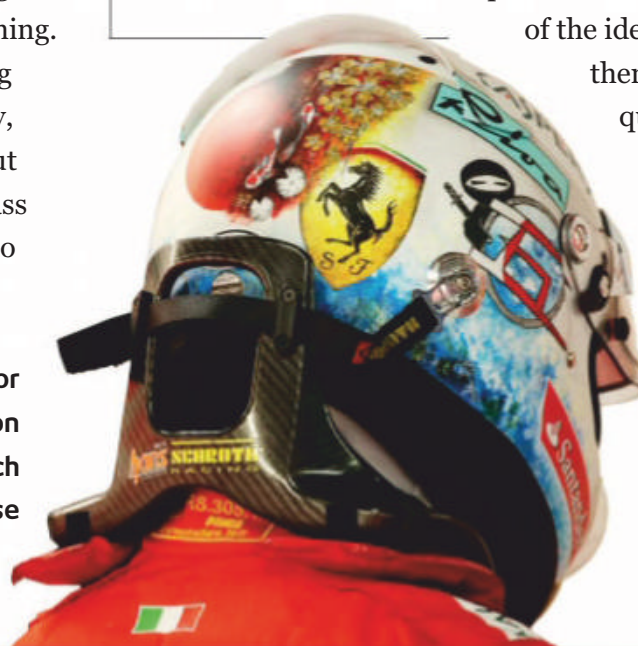
So, this appointment with *F1 Racing* has been a long time coming. The last time we did 'You Ask the Questions' with Seb was during his early days at Red Bull – and that's a shame, since his honesty, openness and capacity to talk intelligently and passionately about racing are a delight to experience. Still, having so much water pass under the bridge since means there's plenty of material for *you* to work with – along with a wealth of life experience (including four world championships) for Seb himself. So, it's with good-humoured curiosity that he reaches for the question cards before picking up the first one and turning it over...

Seb's one-off design for Suzuka 2017, based on the character 'go', which means '5' in Japanese

Of the helmets you've had designed in your career, which one is your favourite – and how much input do you have in the designs?

Lucy Hanson & Michael Staniforth, UK

Sebastian Vettel: There are a lot. I don't know how many, but I must have more than 100 helmets. Together with Jens Munser [his designer], we just have fun. In Japan last year I had a design that was a little bit different. In Germany and Singapore we often do something special, too. Jens comes up with a lot of the ideas and then I choose from them. Sometimes it's very quick and we're both happy; other times there's a bit of an argument – and then we find an agreement. It's a nice thing to do, because it's a personal thing. But my favourite one... I couldn't tell you. I don't remember them all. ▶







Karaoke time: what song will you perform?

Philip Holtrust, Canada

SV: 'Hey Jude' by The Beatles. And it goes on and on and on and on... [laughs]

What's the best bit of advice you've ever received?

John Wall, Ireland

SV: That's a difficult one – not that I've had a lot of advice.

F1 Racing: Could it be something that your dad said? Or someone

else in the sport? The mayor of Heppenheim? An old school teacher, perhaps?

SV: School teachers didn't really give me much advice, instead they would give me a hard time. I don't know... there are a lot of good things I can think about that people have told me, which were very powerful at the time. I'm sure there was a lot my parents said and a lot I should still remember now. But sticking with racing, Rocky [Guillaume Rocquelin], my former Red Bull engineer, decided to write 'Monza' on my balaclava just ahead of the race in Abu Dhabi in 2010 [where Vettel won his first world championship]. In the races leading up to that he had asked me what racing meant to me in one word, so I told him 'Monza' and the reasons why [Seb took his first grand prix victory at Monza in 2008]. And that was quite powerful – it broke it down to the essence of what I was doing.

We had quite a lot of long strategy meetings that day, discussing various possibilities and scenarios, and everybody was super nervous with having both drivers in the team fighting for the championship for the first time. I was on the grid when I saw the balaclava with 'Monza' written on it, and that relaxed me and reminded me of the reasons I was there.

I heard something similar from one of my trainers; he was trying to break it down in difficult times and remind me of why I was here and why I had started racing in the first place. It's because I love driving and he told me to enjoying my driving and not to worry about anything else.

“
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”



Why do you sometimes sing over the radio at the end of qualifying and races?

Elton Lam, UK

SV: I guess it's joy. Some people dance, I can't do that, I'm strapped in – but I could try! I share my joy by opening up over the radio.

F1R: We used to hear the crazy frog...

SV: Years ago. Well, it's not that hip now – I'm not down with the kids any more. I'm more into old songs anyway.

F1R: 'Hey Jude' next time?

SV: Yeah.

The German press called you 'Baby Schumi' when you started in F1. How did you feel about the nickname then, and is it something you fondly look back on now?

Paulo Ocampo,
The Philippines

SV: Now I can laugh about it, but back then, I don't know. I thought my chin wasn't as big as Michael's – so I don't think it was very fitting. I didn't like it because Michael was not just a German guy in Formula 1, but he was the best guy in Formula 1. So I don't think it was fair, because I hadn't achieved anything, so how could you... just because I come from the same country. But I got the

story and fine, if that's what people call me. I was once called the 'fastest braces' in Germany, but I think Baby Schumi is better than that – it was an upgrade. Now I don't have any nicknames any more.

F1R: But Michael has been a huge inspiration for you?

SV: Yes, it's a real shame that I can't just pick up the phone and talk to him. Initially he was my hero and someone I looked up to, and then later I got to know the person. Now when I look back, it's Michael the person I remember – not so much the racing driver. But I am still full of admiration for the racing driver. I talk to the guys here at Ferrari who were also here in Michael's time and they speak very highly of him. This proves that he left behind something special.

What is more fun: a flat-out, on-the-limit qualifying lap, or a wheel-to-wheel battle fighting for the lead?

Phil Taylor, UK

A wheel-to-wheel battle fighting for the lead. When you are driving a qualifying lap you are racing yourself because the car is at its peak, with new tyres and low fuel. Whereas in the race the car is not at its best. But if you are fighting for the lead in a race,

for example the battle I had with Valtteri Bottas at Silverstone last year where I had to make a move for the lead and then somehow make it stick – that can be very satisfying. In qualifying it's more about focus, whereas in a wheel-to-wheel battle you have much more adrenaline and excitement.





F1R: And you need to have your wits about you...

SV: Yes, obviously, you don't have ages to prepare, there are usually not too many shots to make a pass. Some things you line up, others are spontaneous and when they work, it feels really good.

How easy is it to shrug off a big mistake, and how exactly do you do that? For instance last year's German GP?

Chris McAlees, UK

SV: Well, to be frank, last year's German Grand Prix wasn't a huge mistake. It was a huge consequence, but the mistake itself was really small. And that was the annoying thing about it. It wasn't like I'd tried something that nobody else has ever done

before, but there I have to be honest because it was one of the biggest consequences of a mistake that I have experienced in my career. But it wasn't by far the biggest mistake I have made – it was a tiny one; a misjudgement. And it was also the wrong corner to pick because with all the others, I would just have carried on into the run-off areas. But it happened.

The man in mirror asks what went wrong, how badly? Why did it go wrong, was I not focused? No, I was focused. Was I too focused? No. Then you do a yes/no list in your head, apply logic and it helps you to overcome it.



Top: Battling Bottas for the lead at Silverstone last year – with satisfying results

F1R: Did you find the answer via that logical process?

SV: Yes, in the end there was a mistake, otherwise I wouldn't have gone off. I'm not denying it, but as I said it wasn't a huge mistake, so you can't give yourself a massively hard time for a small thing. But the consequence was there and I had to live with that. Usually I find it quite easy to turn the page, once you have understood the problem. If there is more to understand then you have to dig a little bit deeper.

What is your favourite thing to do to switch off from racing and Formula 1?

Emma Jones, UK

SV: Family. I find it easy to switch off as I enjoy normal things, I'm pretty relaxed when I'm at home. I enjoy time with the family mostly, then with friends. Have a drink, simple, nothing fancy.

F1R: Do you find it easy to compartmentalise your life?

SV: It depends. First of all the job that I do is the job that I love. Obviously I tend to talk about the job when I'm not at work. And then it depends, whether it is good or bad times, difficult times, easy times. Sometimes there is more to talk about, other times less. Overall I think it's important to switch off and I try to do that at home. ▶



You're known for your British sense of humour, so what is currently your favourite joke?

Iain Eckersall, UK

SV: British humour is not so much about telling jokes, it's much more about being there, being sharp...

F1R: Witty and observational?

SV: Exactly. So, I don't know my favourite joke. I have long ones, but I need to translate them and I don't think they'll work. But I really like British humour.

Is there a reason you are reluctant to use social media such as Instagram or Twitter, unlike other drivers?

Charlotte Webster, UK

SV: Yes. I don't like it. Why I don't like it is that I don't like talking about myself, and I think it's a waste of time, to be honest.

F1R: Do you look at what other people are up to?

SV: No. I can see that there are some really nice things about people, but I think the principle behind it is wrong and that's what I struggle with. Social media is made to make money...

Which driver in the history of Ferrari is your favourite?

Sarah Bolton, UK

SV: Seriously?

F1R: Other than Michael. Nigel Mansell?

SV: Yeah, I like Nigel. There's something about him. Even though statistically in numbers he's not right up there as the most successful...

F1R: We won't ask you to do your impression of him... 🎤



Vettel's calming vinyl collection includes plenty of records by The Beatles, of course

How did you get into collecting Beatles memorabilia?

Greg Kanaga, USA

SV: Okay, now you can download everything on the internet, but when I started collecting stuff there was not actually that much to download, so I had to go and

physically buy the compact disc. Then I spoke to my parents and they told me about vinyl. As I didn't grow up with it, I wondered: what's vinyl? Now I find it has a calming influence, because you need to take your time, to switch the record on. It's a slow process compared with now, so it's something that you enjoy more – that whole process, sitting down, putting nice music on, and not getting distracted with your phone again.

F1R: Did you see James Corden took Paul McCartney back to Liverpool?

SV: Yes! The Carpool Karaoke guy. It was great!



There's something about Nigel: Ferrari forebear Mansell is one of Vettel's favourite racers



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WHY LEWIS WILL WIN... THEN WALK AWAY

Legendary Formula 1 journalist **Nigel Roebuck** believes Lewis Hamilton will dominate the next two seasons and then depart grand prix racing without a backwards glance



LEWIS HAMILTON

can be charming, as we know, and he can also be churlish. After qualifying poorly at Monaco in 2017, his mood was not good when he was asked about Fernando Alonso's Indianapolis 500 bid the following day. If Alonso could qualify fifth in his first venture into a wholly new environment, Hamilton suggested,

it didn't say much for the level of competition.

Not surprisingly, that didn't sit well with the Indycar regulars, and Tony Kanaan's response raised many a smile at the Brickyard that afternoon: "I'm really not too interested in the opinion of someone who finished second in a two-car championship..."

The year before Hamilton had indeed been runner-up to Nico Rosberg, the Mercedes pair between them winning all but two of the 21 races. To date, though, that was the only season of the hybrid era in which Lewis came up short. Five years into it, four world championships have been added to the one scored with McLaren back in 2008.

Waspish as Kanaan's remark may have been, in describing contemporary Formula 1 as a two-car championship he was on the mark. If Ferrari and Red Bull have troubled Mercedes once in a while, fundamentally since the arrival of the hybrids one marque has held a steel grip on grand prix racing.

Protracted periods of domination have been very much the way of it in

the 21st century. First it was Ferrari with Michael Schumacher, then Red Bull with Sebastian Vettel, and most recently Mercedes with Hamilton. Since the beginning of 2014, Lewis has won more than half the races.

"Remembering the Red Bull era, when Seb won his four titles," commented Martin Brundle, "Lewis was quite dismissive of him, saying, well, he had the best car – which is a bit of a laugh when you think what he's had in the last five years! If Mercedes carry on like this, in a couple of years we could be looking at Lewis's seventh championship – and perhaps his 100th victory..."

The odds may be long, but don't bet against it. If on occasion last year Ferrari had a quicker car, no team can match the stamina of Mercedes, and as well as that Hamilton's season was unquestionably his best, not least because for the first time in his career he managed to shed those mysterious 'off' weekends.

Assuredly all the ingredients were in place. Week in, week out, a Mercedes is the thing to have, and operationally the team is unapproached. Throw in that Valtteri Bottas – rarely a threat to Hamilton, yet quick enough, as Toto Wolff put it, to be an effective 'wing man' – is a dream team-mate, and you can say that, with a new, crazily lucrative contract in his pocket, all of Lewis's stars were aligned in 2018.

Looking at the exotic superstar of today, it is salutary now to remember the smiling kid who burst on the scene with McLaren in 2007, the electrifying rookie lucky enough to be starting his F1 career with the best car, forever repeating the mantra that he was 'living the dream'.



PICTURES: STEVEN TEE; STEVE ETHERINGTON; MANUEL GORIA. OTHER PICTURES: SHUTTERSTOCK

Lewis has free rein to follow his passions outside of Formula 1. Running his own fashion label didn't impact negatively on his 2018 performance. It could be argued it had the opposite effect

Still living in England, being paid a relative pittance, wearing a yellow helmet in homage to his hero Ayrton Senna (whose achievements he has now eclipsed), racing a grand prix car was all he wanted to do.

Hamilton's has been very much a career of two halves. When Ross Brawn convinced him in 2012 that the Mercedes engine was going to dominate the forthcoming hybrid era, Hamilton's six seasons with McLaren had yielded one fortunate championship and 22 wins – impressive statistics, certainly, but well short of what his freakish talent had initially promised.

As Martin Whitmarsh has said, Lewis was anything but easy to manage in those years: “Underneath it all I liked him, but he could be maddeningly frustrating to work with. Quite often he came off the rails, and that affected his performance in a lot of races.”

Back then Hamilton overtly wore his heart on his sleeve, a trait which some found appealing, others less so. This was especially apparent during his on-off relationship with Nicole Scherzinger, but once that ended Lewis's persona began to change, and these days he has about him an iron-clad quality. As Brundle says: “He's the one guy I never try to talk to on my grid walk – I don't need to be blanked, thank you!”


Undoubtedly McLaren people were indulgent of Hamilton during his years with the team – from childhood he had been ‘in-house’, after all – but Mercedes folk have been even more so, reasoning that if Lewis were allowed to lead what is an unconventional life for an F1 driver, his performances would

be all the better for it.

Although one cannot imagine a man like Ron Dennis cutting him such slack, the results suggest they are right. Come to that, in the old days – when testing was a ceaseless activity – it would have been impossible for him to hotfoot it to California or wherever until the day before practice for the next race. Perhaps Alain Prost has a point when he says today's drivers have it easy.

Whatever, so long as he maintains his Olympian fitness, Hamilton has pretty much free rein to live as he wishes. Some have pointed out that, for all his numberless celebrity acquaintances, he appears to have few close friends in or out of the paddock, and perhaps this is by choice, strengthening his impervious image.

Like Nigel Mansell, Lewis is very much a ‘Marmite’ driver, engendering strong feelings – for and against – among fans across the world, and of course the tattoos and gold bling have their part to play in this, just as did Jackie Stewart's long hair half a century ago: in fundamentals, the world doesn't change.

These days Hamilton's interests – chiefly fashion and music – extend far beyond motor racing, and many believe that when he quits, probably in a couple of years, it will be without a backward glance. 

“IN A COUPLE OF YEARS WE COULD BE LOOKING AT LEWIS'S SEVENTH CHAMPIONSHIP – AND PERHAPS HIS 100TH VICTORY...”

-MARTIN BRUNDLE





Mercedes' technical director **James Allison** guides the hands that have drawn Lewis Hamilton's last two title-winning cars, so

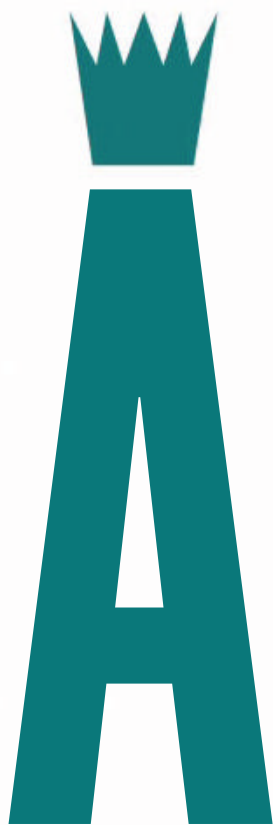
THE KINGMAKER

F1R caught up with him to find out how tough it is to stay on top of Formula 1's relentless flow of

innovation. As he unveils his team's latest creation, Allison cautions us not to expect a seamless extension of their winning streak

PICTURES  **motorsport**
IMAGES
WORDS JAMES ROBERTS



**wintry mist hangs**

heavy as dawn breaks over one of Oxfordshire's many former Royal Air Force bases. The first rays of sunlight unveil objects previously hidden in the gloom; a disused runway and hangars that once housed some of the most advanced fighter aircraft of their time. Inside a warehouse on the site of what was RAF Bicester are some of the greatest engineering creations of the past few years: they have wings, but they were not built for the skies.

This sleepy corner of Oxfordshire is now a retirement home for racing cars. The last five title-winning Mercedes Formula 1 cars, along with earlier incarnations, sit eerily still and silent here, the very opposite of what they were designed to do. And while James Allison has spent much of his recent career wearing *rosso corsa* – the colours of the opposition – today he is clad in white and standing between the two championship machines he has overseen from a technical perspective.

He concedes that he feels very little emotion for the redundant entities around him, his mental energy now being entirely directed at the current challenge taking place ten miles north of here at Mercedes F1 HQ in Brackley. He also points out that while he is the team's *de facto* technical leader, being photographed on his own fails to adequately acknowledge the toils of the thousand craftspeople who put two silver racing cars out on the track every year.

It's in Brackley where those same craftspeople are currently applying the finishing touches to the 2019 car. The immediate concern is whether enough performance has been clawed back after the FIA mandated a change in the regulations to cut downforce in a bid to improve overtaking. As Mercedes aim to win a sixth consecutive world championship, they are anxious about how they'll stack up against the opposition. Testing will provide early clues, but it's not until everyone has arrived for the season opener in Australia that the competitive order will become apparent. And Allison is as wary about form as he is about the success of the new rules.



The intricate front wing on last year's Mercedes W09 featured tiny wings to redirect airflow – but the new rules will mean a clean slate for 2019

"This is a new year, so we go in with very little true expectation of being at the front," he notes. "We hope we've done enough, but there are no guarantees. Although the recovery in performance has felt steep, we don't yet know whether it will be steep enough.

"I'd say 2019 presents quite a chunky regulation change. Look at the detail on the front wing of last year's car," he adds, pointing to the left edge of Hamilton's title-winning W09. "That's not there for a laugh. Those tiny wings set the conditions for where the low-energy wake of the tyre goes. If that crappy air gets too involved in the rest of the car, it doesn't produce enough downforce. So you have to re-invent the front wing, plus the brake duct and barge board and, together, this threesome creates this favourable behaviour.


"We've been pretty good at getting this right over the past few years and so in terms of the new regulations, the better your aero concept,

the bigger the hit. Getting the 2019 car back up the performance slope has been exhilarating for the aerodynamicists, who are used to fractional gains and are suddenly finding big chunks, but there is no knowledge of how big the hit has been for our competitors. This feels like a year laden with excitement and opportunity – but jeopardy too. The emotions are heightened on this occasion by the regulation change."

As a precursor to a wider series of technical changes for 2021 that will aim to improve the spectacle of F1, the teams agreed to a moderate revamp for 2019. Although the degree of change might sound minor, it affects key areas that, as Allison explained, interact with each other to produce a sizeable effect on the car's overall performance. Whether this will deliver the desired outcome of cars being able to follow one another more closely remains to be seen.

"My guess is that it will have little impact," says Allison, "but I hope that's not the case, as we want exciting, wheel-to-wheel racing. That's only speculation, though, because even a team as big as ours has limited resource and we've spent that getting the car to go as quickly as possible. You wouldn't use your limited aerodynamic resource on academic experiments to find out if following another car was better than it used to be."

It's appropriate that we're discussing aerodynamics in a workshop on a disused air force base, since Allison's father is Air Chief Marshal Sir John Allison, and James himself is an accomplished stunt pilot in his spare time. RAF Bicester has been saved from dereliction ►

A man with short, light brown hair and a slight smile is sitting in a dark, industrial-looking space, possibly a garage or workshop. He is wearing a white long-sleeved button-down shirt with a small logo on the left chest. His hands are clasped together in front of him, and he is wearing a black leather watch on his left wrist. A bright, starburst light flare is positioned behind his head on the left side of the frame. In the background, there are blurred shapes of what appear to be cars or machinery.

“THIS IS A NEW YEAR, SO WE GO IN WITH VERY LITTLE TRUE EXPECTATION OF BEING AT THE FRONT. WE HOPE WE’VE DONE ENOUGH, BUT THERE ARE NO GUARANTEES. ALTHOUGH THE RECOVERY IN PERFORMANCE HAS FELT STEEP, WE DON’T YET KNOW WHETHER IT WILL BE STEEP ENOUGH”



and converted into a hub for automotive history, not just focusing on the past decade of the Mercedes AMG F1 team. Thirty companies are separately housed in what's now known as Bicester Heritage, which specialises in storing classic motors. Among the silver arrows paraphernalia on display in this building, there are two damaged sidepods hanging on the wall: the battle-scarred pieces of carbon fibre are a reminder that even for a successful and well-drilled organisation things can go wrong, very

“WE HAVE CONSCIOUSLY SET OUT TO TRY TO CREATE AN ORGANISATION WHERE ANYONE CAN FEEL COMFORTABLE SAYING: ‘I KNOW WHAT WENT WRONG AND I’LL PUT IT RIGHT NEXT TIME.’ IT’S IMPOSSIBLE TO MAKE PROGRESS UNLESS YOU ARE PREPARED TO EMBRACE FAILURE”

quickly. They are a legacy of that famous first-lap collision between Nico Rosberg and Lewis Hamilton at the 2016 Spanish Grand Prix.

That was the season Allison left Ferrari – his second stint at Maranello after an interregnum with ‘Team Enstone’. After serving his gardening leave, he replaced Williams-bound Paddy Lowe at Mercedes. Since then, Allison’s technical creativity has been allowed to flourish, thanks to Toto Wolff’s relaxed management style. It’s a different environment to Ferrari, where, until recently, a stifling blame culture prevailed. So different are the regimes, that at Mercedes failure is considered to be a healthy aspect of progress.

“It’s certainly something we have consciously set out to do,” explains Allison. “We’ve tried to create an organisation where anyone can feel comfortable saying: ‘I know what went wrong and I’ll put it right next time.’ It’s impossible to make progress unless you are prepared to embrace failure.

“If you take two different parts of the organisation, an aerodynamicist and a sponsor procurer, you will find the statistics are similar. If you consider the amount of cold calls and follow-up interviews a commercial person will take compared with the actual amount of sponsors they get, it will be only two to three per cent that reach a conclusion. They have to deal with a vast river of failure for every glorious success.

“An aerodynamicist has almost the same thing. They are trying to improve something that is already amazingly brilliant and has had ‘man millennia’ of effort poured into it. Only a tiny percentage of their ideas work out, but you learn

from those failures and you need to embrace them because they give you the clue for where the success is.

“If we have a system for operating that is screwed up, we have to say it’s not working and make it better. Feeling safe to say ‘That’s my area, I’ll fix it,’ is a really important part of improving quickly. It’s also necessary to have the bravery to take a certain amount of calibrated risk to innovate with new ideas. If someone feels their head is going to be swiped off because of a risk we all decided to take, then they’ll keep their heads below the parapet.”

Technical innovation has not only given Mercedes a solid foundation for their championship-winning creations, but also enabled them to reassert themselves when their rivals caught up. When it looked as though Ferrari were gaining the upper hand at times last season, Mercedes’ competitive urge produced truly pioneering solutions, such as the rear-wheel spacers that proved so controversial. That, in tandem with Hamilton’s brilliant driving, brought them back into contention.

“Spa was a tough experience because we were beaten by a quicker car,” admits Allison. “And if that was a bellwether for the remaining races, it was going to be pretty desperate. But one of the many things that makes me proud to be a part of this team is that despite the body blow, from Toto leading at the front, down to the someone who has just joined us from university, no one had anything else in their mind but putting it right. This team has got a brilliant spirit.”

Absolutely crucial to the uplift in performance was Hamilton himself, who barely put a wheel out of place and raised his game to arguably the highest it has been in his career. The question is whether he can sustain that momentum, transforming it into yet another fruitful title challenge. Allison admits that, over the winter





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GPX7237

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 - Saturday 7th September 2019 (Qualifying Day)
 - Sunday 8th September 2019 (Race Day)

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£2,699^{PP}

4 NIGHTS / DEPARTING 23 MAY 2019

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- 2 day Grandstand ticket to the Monaco Grand Prix including:
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“SEBASTIAN VETTEL COMES OUT OF THE BLOCKS RAINING PUNCHES AND IS REALLY IMPRESSIVE, BUT WITH LEWIS, HE FINISHES STRONG. IT’S NOT THE FIRST TIME WE’VE SEEN FROM MID-SEASON ONWARDS SOMEONE WHO MOVES TO A DIFFERENT PLANE”



months, Mercedes did a data-crunching analysis to find out if they were lucky or good in 2018.

And how much of that ‘good’ was simply Lewis.

“We were more good than lucky because, on balance, our car was the strongest throughout the whole season,” says Allison, “but boy-oh-boy, did Lewis make a difference. He was remarkable. I think all Lewis observers would pick out 2018 as the most complete season that he has put together. And arguably, look at any performance by any racing driver and it would be right up there.

It’s remarkable that any champion in top-level international sport can keep digging as deep as they do, to produce the results they do.

“Ignore the driving bit for a moment. Think of the punishing schedule to get himself fit and at the right weight and travel several times around the world. Then to have his entire professional life lived under the closest scrutiny, where we can even see every single twitch of his body recorded on sensors. There is no hiding mistakes from us, even if they aren’t visible to the outside world. The degree of exposure and the pressure they operate under – I wouldn’t wish it on anyone. Drivers who produce performances year in, year out, show how hungry they are. That hunger propels them to a greatness that the rest of us can only look upon and marvel at.”


Working with Hamilton for past two seasons has given Allison a deeper insight into the five-time champion’s methodical approach and how Lewis establishes what Allison describes as the ‘lie of the land’ before building to a focused effort as he closes in on his target. It’s like watching a predatory animal identifying and then stalking its prey before making the move for the kill.

“At the beginning of the year I think he is ‘feeling out’ our strengths, the opposition’s strengths and our respective weaknesses, but he hasn’t really got his enemy in his crosshairs,” says Allison. “Then as the first few races unfold and the pressure of the championship ramps up he gets stronger and stronger.

“In contrast Sebastian Vettel comes out of the blocks raining punches and is really impressive,

but with Lewis, he finishes strong. It’s not the first time we’ve seen from mid-season onwards someone who moves to a different plane from all the others.”

From both a technical and racing perspective, Australia can’t come soon enough. The opening grand prix of the year will supply some early clues about form, but if the season just gone offers any indication of what is to come, then this will be another championship where the relative performances of the key protagonists will ebb and flow across the 21-race season.

In 11 months from now, the contents of this hall will be shuffled around to accommodate a newcomer, and the W10 will take up retirement here in Bicester. It will have to be another razor-sharp silver arrow if it is to live up to the illustrious company it will keep here. 

Allison is proud of the success of his previous machines, but is already firmly focused on the challenges of the all-new W10



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PORTRAIT: GLENN DUNBAR



THE NEW HONDA ACCORD

Red Bull have ended their acrimonious association with Renault to form a new engine partnership with Honda. We visit their factory where team boss **Christian Horner** explains how this new alliance will avoid falling into the same trap that ruined McLaren-Honda's hybrid F1 dream

PICTURES



motorsport
IMAGES

WORDS JAMES ROBERTS

A S

HE LOOKS
OUT OF HIS
OFFICEWINDOW, FOR
JUST A MOMENT,
CHRISTIAN
HORNER could be forgiven

for thinking he was in Salzburg. It's the lunch break and he notices a few members of Red Bull staff on a patch of snowy grass, first rolling the head and then the belly of a makeshift snowman. An Austrian flag flutters above them. It's a reminder of the wealthy investment supporting this title-winning F1 team.

But this snowy vista is not from an Alpine retreat, merely a wintry weekday in Milton Keynes. "Ah, but we do have our own ski slope," jokes the Red Bull team principal. He has reasons to be cheerful, despite the fact it's been five seasons since he last guided Red Bull to championship glory.

Another building in Milton Keynes, closer than the dry-slope 'SnoZone' to the Red Bull

Racing factory, is of much more significance: Honda Racing's European R&D facility. The geographical proximity is already a metaphor for the closeness of the new working relationship in this latest British-Japanese joint F1 venture, compared with what went before.

The high-profile failure of McLaren-Honda has been well-documented, with both sides admitting errors, but this new relationship is filled with optimism. After Toro Rosso ran Honda engines last year, Red Bull decided to take the plunge too.

For obvious reasons, neither Mercedes or Ferrari were keen for Red Bull to get hold of their power units, and with Renault deciding to invest into a works team once more, Red Bull's only option outside of their previous customer deal with Renault was forming an accord with the maligned Japanese manufacturer.

Although all 12 Renault victories in the V6 hybrid era have been scored by Red Bull, the partnership fell into acrimony on a similar parallel to McLaren's relationship with Honda (see sidebar), which ultimately led to the termination of the collaboration.


"It was a no-brainer for Red Bull with the aspirations we have for the future – which are also shared by Honda," explains Horner.

"With Renault having their own team now, and their own plans, we were rapidly becoming an inconvenience and a thorn in their side. The route we have chosen to take suits all parties."

With the complexities of the hybrid engine formula, Honda struggled initially with reliability, committing some fundamental mistakes and proving slow to react to the required scale of development. McLaren were particularly vocal of their disappointment in Honda, while also failing to acknowledge their own weaknesses. The most vocal critic was Fernando Alonso who humiliated Honda on home soil at Suzuka, describing their power unit as a "GP2 engine". Red Bull start their new alliance looking to avoid the same mistakes.

"Clearly, it didn't work for either side of the relationship," says Horner of the failed McLaren-Honda programme. "There were probably lessons that could be learnt from both sides. Honda have been very open and our approach has been to understand their culture, *their* approach, and not force them into solutions they are uncomfortable with."

While he won't be drawn on specifics, Horner is quietly confident that both reliability and performance have improved. On the other side of Milton Keynes, Honda's technical director ▶



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WE WERE RAPIDLY
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A THORN IN THEIR
SIDE. THE ROUTE
WE HAVE CHOSEN
TO TAKE SUITS
ALL PARTIES”

Toyoharu Tanabe still feels there is a “bit of a gap” to the frontrunners.

“Nobody stands still in Formula 1,” adds Horner. “And we are hopeful and optimistic that progress has been made on all fronts. But what we don’t know is what is happening in Maranello or Brixworth in comparison. Certainly, after the early, painful growing years for Honda, they do seem to have hit a vein of development, which is being fruitful for them.”

For Honda, this year will be a significant shift in terms of data-gathering as they will have

double the amount of resource to analyse thanks to supplying two teams for the first time in the hybrid era.

Following the departure of Toro Rosso’s former technical director James Key (who is McLaren bound), the Italian team will enjoy a much closer working relationship with Red Bull than in recent years, utilising Red Bull Technologies and employing a technical partnership that is similar to the one Haas enjoys with Ferrari. “There is a closer synergy with Toro Rosso this year,” confirms Horner.

“They will take our gearbox solution, rear suspension and other elements on the non-listed supply list – which excludes aerodynamics. I think from a Honda perspective, having the same drivetrain gives them a degree of commonality in mapping between the four cars. Hopefully that will be four consistent data sets coming back, which gives them added knowledge and track time.”

Graduating from Toro Rosso to the Red Bull A-team is Frenchman Pierre Gasly, who brings his knowledge of racing the Honda power unit ►

last year. This youthful partnership with Max Verstappen leads Horner to joke he used to be younger than his drivers, now he is four years older than their combined age of 41...

"I've known Pierre through the junior programme a long time," he says of his newest charge. "Although he has been elevated 12 months before we'd ideally like, he had a great debut season with Toro Rosso and alongside Max they'll be a strong pairing."

"Max has a good degree of experience, while Pierre is on a different point on his learning curve trajectory so Max, as the experienced driver, will be leading development and shoulders a lot of responsibility now."

"Max is a driver very much at the top of his game and up there with the very best. Last year he outqualified Daniel Ricciardo 15-5, which is significant, as Daniel is certainly no slouch. He's hugely competitive, has a tenacious determination to succeed and is fiercely driven."

"I bumped into David Beckham before Christmas and he said to me how impressed he was how Max stood up to the backmarker [Esteban Ocon] that took him off in Brazil and how he had 'fire in his belly' – that passion ignites a following and support."

However, that tenacity and fight will need to be tempered heading into this new era with Honda. As the youthful, independent-spirited Red Bull team forge a relationship with a culturally reserved Japanese manufacturer,

"THIS IS A COMBINED PROJECT, WHERE THE ENGINE PARTNER IS INTEGRATED INTO THE DEVELOPMENT AND ASPIRATIONS OF THE TEAM"

team leader Verstappen's competitive angst will need to be moderated. Honda will not take kindly to a repeat of the public humiliation they suffered at Alonso's hands. Verstappen was vocal amid retirements caused by Renault last year, but Horner has no expectation there will be a repeat of Max's expletive-fuelled tirades.

"There is a much different approach," Horner says. "The deal with Honda is no longer a customer and supplier relationship, this is a combined project, where the engine partner is integrated into the development and aspirations of the team, rather than an off-the-shelf service."

"It's a totally different relationship and from the beginning. Max very much buys into that

and, obviously, he's not being goaded as well from the supplier. I think it will be a different scenario, it's a much different relationship."

Before arriving at Horner's office, we meet on the other side of the growing Red Bull campus on Bradbourne Road. A new building opened at the end of last year – dubbed 'MK7' after the postal code the team is based in – which houses every Red Bull car from 2005, the year they took over the factory and F1 entry from Jaguar.

As he walks across the car park towards his office (after proudly showing off the new Aston Martin Valkyrie workforce), Horner passes each member of his team with a "good morning" or "how are you?" It's a reminder of his personable and relaxed management style.

"In the Stewart Grand Prix days, this was originally Jackie's office," says Horner. "But it was slightly different back then, with a tartan carpet, chaise-lounges and even a couple of Labradors. We have many people in the business, in facilities, on the test team, that were Paul Stewart Racing die-hards and have 25 years of service with us now."

On the factory floor, you sense a growing energy for this new season. For the first time in Red Bull's history they have essentially a 'works' engine deal and that has had a significant impact on the design of the RB15 and on the morale of the workforce.

"Walk around the factory and the one thing you feel stands out is optimism," says Horner.

PORTRAITS: GLENN DUNBAR



PARALLEL UNIVERSE

There are striking similarities between the breakdown of the Red Bull-Renault relationship and the McLaren-Honda one...

POOR START

28 Jan 2014

As the new Red Bull breaks cover, it spends most of the first day of the hybrid era in the garage. Sebastian Vettel can only manage three laps on the opening day of testing

1 Feb 2015



The new McLaren-Honda breaks down repeatedly as Fernando Alonso manages just six laps on the first day of pre-season testing at Jerez

PUBLIC PRESSURE

22 Jun 2014

"The performance is unacceptable." After failure for Vettel in the Austrian GP, Christian Horner puts public pressure on Renault to make drastic changes

5 Sep 2015



At the Italian GP Honda boss Yasuhisa Arai refuses to apologise publicly for poor performance. Later that month Alonso lambasts Honda's "GP2 engine" in Japan

CHANGE IS MADE

3 Jul 2014

Ex-Caterham team boss Cyril Abiteboul takes over management of Renault's F1 engine project

1 Mar 2016



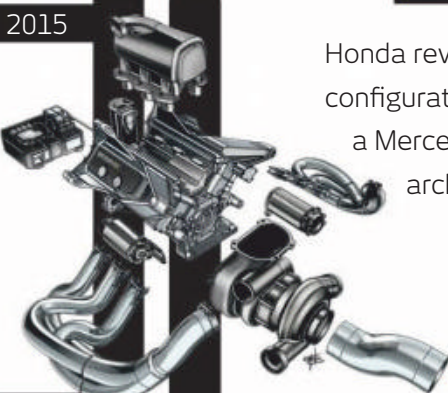
Honda replaces Arai with ex-BAR engineer Yusuke Hasegawa as the new head of the F1 engine programme

6 Jan 2016

NEW ENGINES

28 Jan 2015

Renault reveal "fundamental" changes for their new engine



Honda revise their engine configuration to follow a Mercedes-based architecture

ENOUGH IS ENOUGH

19 Jun 2017

Amid an increasingly strained relationship with Renault, Red Bull agrees a new engine deal with Honda following encouraging work by the Japanese manufacturer with sister team Toro Rosso

15 Sep 2017



McLaren successfully exit their Honda contract and sign a three-year customer supply deal with Renault




"We used to go into a season knowing our engine was 50-60hp down on the best and that was tough on the whole group. We've punched above our weight before, but now we might be on the dawn of something changing."

"Adrian Newey's motivation has sky-rocketed since the Honda involvement because, from a technical point of view, instead of there being a very clear firewall between what the chassis is and the engine, it's far more integrated. This collaborative way of working is what Mercedes and Ferrari obviously enjoy and it's as close to an in-house engine as we can get."

Despite the good vibes, Horner notes a touch of caution. It is only the first year of a long-term partnership and there will inevitably be teething troubles – combined with the arrival of a new set of regulations. He points out that Mercedes have won 75 per cent of races since the start of the hybrid era...

"This team is capable of great things and we have a desire and hunger to have success again in the future," Horner adds. "From Mr Mateschitz in Austria, to the engineers in Milton Keynes, there is a great energy and enthusiasm for F1. We have a strong driver line-up and we hope to be challenging more often than we were in 2018."

Red Bull with a works engine deal is arguably the strongest they can hope to be. Back in September 2014, a former McLaren employee said the following about their new deal with Honda: "You cannot be world champions if you are a customer: it's impossible. The path with a manufacturer to be a works team is absolutely the way to go."

So it's time for Red Bull to try to succeed where McLaren failed. 



TOYOHARU TANABE

Honda's Formula 1 technical director has had a busy winter as his team gears up to supply Red Bull

CV

Age 58

Nationality Japanese

2018-present

Technical Director,
Honda F1

2013-2017

Senior manager
and race team
chief engineer,
Honda Performance
Development,
IndyCars

2009-2013

Mass-production
engine development
at Honda R&D

2008

F1 development
project leader at
Honda R&D

2003-2007

Chief engineer for
Jenson Button at both
BAR and Honda,
and Honda race and
test manager

1993-2003

Race Engineer,
IndyCar engine
developer

1990-1992

Engineer for
Gerhard Berger with
McLaren-Honda

1984

Joined Honda R&D

How much of an evolution is the new power unit compared with the 2018 model? Can you explain where additional resource and development work has been focused?

Apart from a 5kg increase in the amount of fuel that a car can use during a race, the technical regulations relating to the power unit are unchanged from 2018. Therefore, the RA619H is very much an evolution of last year's power unit. Indeed, some of the development work we undertook throughout the previous season was with this one in mind.

It looked as though Honda eradicated their early weakness of reliability last year, to allow more focus on performance. Can you quantify how much performance has been gained? We hear talk of a 'party mode'?

We do not give out power figures, but we can say we are pleased with the performance increase we saw over the course of last year. However, we know there is still a bit of a gap to the frontrunners, so we cannot be fully satisfied with how things are at the moment. Therefore we want to continue on this path but there is always the need to balance performance against reliability and engine life. Party mode? You did not hear it from us...

By analysing GPS data, would you say Honda are now ahead of Renault and closer to Ferrari and Mercedes in the power stakes?

All we will say is that, at the end

of 2018, we were closer to the championship leaders than before but there was still a clear gap remaining. As for 2019, a lot depends on what the other PU manufacturers have managed to do over the winter.

Did you find any problems or unusual vibrations on the dyno with the new PU?

It would be unusual not to have any problems when trying to increase performance in a Formula 1 environment, although we won't specifically mention what they are. Dealing with issues that arise on the dyno are a normal part of any engine development programme.

With Toro Rosso now using the whole of the Red Bull rear end, including suspension, how will running engines in four cars help with development?

The fact that Toro Rosso is sharing some parts with Red Bull Racing will

be beneficial for us as we can use the identical parts related to the installation with the chassis. Also, the fact that we have four engines running on track every day (two every day during winter testing) is a significant factor. In simple terms, it means we can acquire twice as much data as in the past three years and, with the lack of in-season testing, this is very important and it is something that our competitors have benefited from over the past few years.

Were you satisfied with the progress made at Toro Rosso last year? What targets do you have for 2019?

In F1, or in any sport, you cannot be really satisfied unless you are winning. However, we were more than satisfied with the way we established an excellent working relationship with Toro Rosso, which allowed us to work very well as one complete team. Our 2018 results do not necessarily reflect the actual progress we have made. For 2019, we want to continue like this, moving forward and we must do better with both teams.

Can you explain why the communication and relationship with Toro Rosso was different to that experienced at McLaren? How did it improve?

I personally was not working in F1 when we were last supplying McLaren, so it is difficult for me to comment. All I can say is that Toro Rosso made a lot of effort right from the start to help us and to try and understand the Japanese way of working and even Japanese culture. 🇯🇵

“THERE IS ALWAYS THE NEED TO BALANCE PERFORMANCE AGAINST RELIABILITY AND ENGINE LIFE. PARTY MODE? YOU DID NOT HEAR IT FROM US...”

RAISING THE BAR

As young Brits **Lando Norris** and **George Russell** prepare to bring their Formula 2 rivalry to Formula 1, we sit them down in the pub to talk racing, the road to the top, fish finger sandwiches, and spiking Fernando Alonso's coffee...

WORDS BEN ANDERSON

PORTRAITS ALISTER THORPE

As Lando Norris and George Russell cast furtive eyes across The Cricketers lunch menu, for a fleeting moment it looks as if both will order fish finger sandwiches and chips. It seems Britain's two newest F1 racers have momentarily forgotten themselves and, more importantly, the regimented nutritional code that governs the lives of modern athletes. A sense of dietary professionalism eventually prevails and George dashes back outside to purchase the requisite lean-meat sandwich and salad. Lando isn't far behind, returning with his own salad and fruit salad combo.

There is a sense both would prefer to indulge in some hearty British fare – but a collective sense of duty has overcome. George and Lando need to be in tip-top shape for the challenge ahead, as they get set to join reigning champion Lewis Hamilton in representing Great Britain on the Formula 1 grid. In the decade since David Coulthard hung up his helmet, the likes of Paul di Resta, Max Chilton, Will Stevens, Jenson Button and Jolyon Palmer have come and gone. Norris and Russell represent fresh hope for a bright British future in F1, and that future is clearly not built on fish fingers.

F1 Racing: Lando Norris, George Russell, welcome to The Cricketers, a good old English pub. You've been very professional in going for the clear liquid [both drivers have opted for pints of water with 'ice and a slice', rather than ale. For the record, *F1R* is drinking Coca-Cola].

George Russell: I pressured Lando into going to M&S earlier...

Lando Norris: Yeah, I wanted a fish finger sandwich and then you made me go to M&S!

F1R: Peer pressure. We thought you might have been tempted to go for the pub grub?

GR: I was, but after this I have to go to the gym and do a core workout.

LN: I've got Zwift to do later.

F1R: You've got what?

LN: Zwift. Online cycling. So, it's like a trainer basically – you hook it up to your bike, put a motor in and that connects to the computer and tells you how many watts you're pulling, and does your speed and everything.

F1R: It seems we live in a world of virtual everything now: virtual racing, virtual training...

GR: He's well into the virtual stuff, I'm behind the times!



It's a very cheap round as *F1R* catches up with Norris and Russell for an afternoon chat in the pub

New McLaren driver Norris spends much of his time driving and racing 'online'. He even has his own simulator set up in his Guildford flat.

F1R: Turning to the racing season, we are in a quintessentially British environment here, a British pub, and you represent the new hope for British motorsport at the top of single-seater racing. How do you feel about stepping up to the plate in F1, representing your country and following in the footsteps of Jenson Button and Lewis Hamilton?

GR: It's very nice to be doing it for Britain, flying the flag for Britain, but there is no additional pressure on my shoulders because of that. It's more that we have achieved this dream of ours, that we have been working ▶



“ I GOT TO SEE HOW FERNANDO APPROACHES EVERYTHING. YOU BUILD UP YOUR OWN ATTRIBUTES COMING UP THE LADDER, BUT WHEN YOU GET TO SEE HOW A FORMULA 1 DRIVER IS REALLY MADE, A DOUBLE WORLD CHAMPION, *THEN* YOU UNDERSTAND HOW IT’S POSSIBLE ”
-LANDO NORRIS

towards for so long – doing it for ourselves and our families, who have supported us throughout.

LN: Lewis is still in the sport. I don’t know how many more years he’ll do it, but if he’d left at the end of last year, then I guess there would maybe be some more pressure in terms of everyone wanting a top British driver.

It’s natural that every driver should want to build up their own reputation, and not try to stand on the shoulders of those who came before, but valuable lessons can still be learned from other successful racers. While beating Norris to win last year’s Formula 2 championship, Russell also spent time as Mercedes’ reserve driver, which meant he got to watch Lewis at work first hand.

GR: I’ve been very fortunate in the past two years, to be in the shadow of the Mercedes team and Lewis. He has built an amazing team around him – the engineers, performance engineers, the data guys on his side of the garage – and there’s a great understanding among everybody. It has helped me appreciate that a guy like Lewis isn’t just sunshine and glory. This guy is absolutely flat-out off the track, and not just in terms of his personal commitments. He’s not just living the dream then chilling when he’s not at a race track. There is a reason that he is the best in the business.

F1R: Lando, have you got a similar insight with Fernando Alonso at McLaren? What did you take from being in that environment?

LN: When you come up through F4, F3, you never know what to expect until you get to be in George’s position, or my position. Being team-mates



last year with Fernando at Daytona [they competed for Zak Brown's United Autosports LMP2 team in the 24-hour sportscar race], I got to see how he approaches everything. You build up your own attributes coming up the ladder, but when you see how an F1 driver is made, a double world champion, *then* you understand how it's possible.

F1R: Did you mine them both for tips, or were you more fly-on-the-wall – letting them do their own thing and taking notes?

GR: I flew on the wall, I suppose.

F1R: Lando, you made Fernando coffee, didn't you, in the garage?

LN: I was just trying to be nice!

GR: Who knows what else you put in there... maybe you spiked it!

LN: I wanted to race!

GR: If he'd been ill the following day, you would have been driving the car!

These two raced each other hard in 2018, at the level just below F1, but you sense from their rapport that there is no animosity. It seems Britain's two newest F1 drivers get along pretty well, perhaps helped by the fact they didn't cross paths much until reaching Formula 2.

GR: In my career, I'd say Lance Stroll is the driver I've raced against most. And Charles Leclerc. In my first year of KF3 [karting], I raced Max Verstappen, Esteban Ocon, Charles Leclerc and Lance Stroll. I raced with Alex Albon, Lando, Antonio Giovinazzi – we were team-mates in F3 – as well. I've raced against seven guys on the grid, or six now Ocon's not there. ►



Side by side as they will be in F1 in just a few weeks' time, new Great British hopes Norris and Russell are ready to take their friendly rivalry up a notch



It feels a bit bizarre. When you're younger, you look up to F1 and all these amazing drivers, and then suddenly you're there with the guys you were in the paddock with for all your youth.

Russell's hopes of renewing many of these battles this year will largely depend on how drastically his new team can improve. Williams endured one of the worst seasons in their proud history last year, leading to further upheaval behind the scenes, while Norris could also be set for a season at or near the back of the grid as McLaren work through a post-Honda, post-Alonso rebuilding process.

LN: In some ways it's a good thing, since you don't have as much pressure on you as you would going into a race-winning team or a championship-winning team. We know the cars are not going to be amazing, but at the same time you can improve your driving alongside the car. Just knowing the history of McLaren, or Williams, and what the drivers have gone on to do, gives you belief that you can become part of that in the future.

GR: It certainly takes a bit of pressure off, because it is a longer-term project. There is no pressure to go in there and get results from race one, because realistically that isn't going to happen.

“ WHEN YOU'RE YOUNGER, YOU LOOK UP TO F1 AND ALL THESE AMAZING DRIVERS, AND THEN SUDDENLY YOU'RE THERE WITH THE GUYS YOU WERE IN THE PADDOCK WITH ALL

OF YOUR YOUTH ”

-GEORGE RUSSELL

It also helps that Norris and Russell aren't strangers to this world. Russell tested repeatedly for Mercedes while on their junior scheme and set a new track record at the Hungaroring, which played a part in securing him a Williams seat, while Norris effectively won a shoot-out with Stoffel Vandoorne at McLaren, by driving impressively in place of Alonso on practice outings at last year's Belgian and Italian Grands Prix.

GR: I think Alex [Albon, who finished third in F2 last season and graduates to F1 this year with Toro Rosso], compared with us, is in a tricky position because he's been thrown in out of nowhere. No sim work, no testing. Whenever I've driven in an F1 car I've felt better than the time before.

LN: I think we've been nurtured a lot more, into Formula 1.

GR: We know what the tyres are like, know what the procedures are, we know the teams...

LN: And Alex has done nothing. It's going to be tough for him.

GR: Yeah there's going to be a lot of pressure on his shoulders in that team.

F1R: That could've been you Lando. They were keen on you at one point...

LN: [Laughing] No comment.

F1R: You didn't fancy it?

Norris adeptly switches the subject back to his preparation for F1, rather ▶

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“THE ‘LIVING THE DREAM’ PART IS THE DRIVING PART. AS AMAZING AS IT IS GOING AROUND THE WORLD, WE DON’T GET TO SEE THE WORLD”

-GEORGE RUSSELL



than discuss reported interest from Red Bull during the early part of 2018...

LN: You’ve got to do a lot more preparation now than in other years, because there’s so much more to do when driving. It’s a lot more complex, and you have to think about it a lot more because this is the top level.

F1R: How are you both feeling about the prospect of this new life in F1? Are you mentally ready for the hectic schedule?

GR: Yeah, I think the ‘living the dream’ part is the driving part. As amazing as it is going around the world, we don’t see the world. We fly from London to the airport to the hotel; then the hotel to the track, the track to the hotel, every day... and the last day it’s the track to the airport. Then you go home.

LN: Everyone thinks it’s so glorious!

GR: The track may as well be on a desert island really. We’re in F1 and racing against the best guys in the world, in the best cars in the world, on the best tracks in the world, but we don’t get to see these amazing places, unfortunately, because we’ve got a bigger and more important job to do.

F1R: Are there any creature comforts you take with you that you absolutely cannot do without?

GR: Teabags. Fortunately, at Williams, I think teabags are already covered.

F1R: What about you Lando? How will you get your Weetabix fix? [Norris is a self-confessed Weetabix fiend].

LN: I’m not drinking milk any more so I can’t have my Weetabix...



F1R: Not even with soya milk?

LN: Who does soya milk?

GR: Loads of people use soya milk. My girlfriend does...

F1R: With that touch of sweetness you can afford less sugar on your Weetabix.

LN: I never have sugar on my Weetabix!

GR: That’s why he’s in F1 and you’re not...

LN: What was the question?

F1R: Creature comforts you’d take with you on the road. A teddy bear perhaps?

GR: I’d take a pillow with me, because I prefer a thin pillow and quite often in hotel rooms they only have these big thick pillows. They’ll have hundreds of pillows but no thin ones...

LN: I’d take nothing except a bed. And a double mattress.

GR: I thought I was over the top taking my pillow and you’re taking a bloody bed with you?!

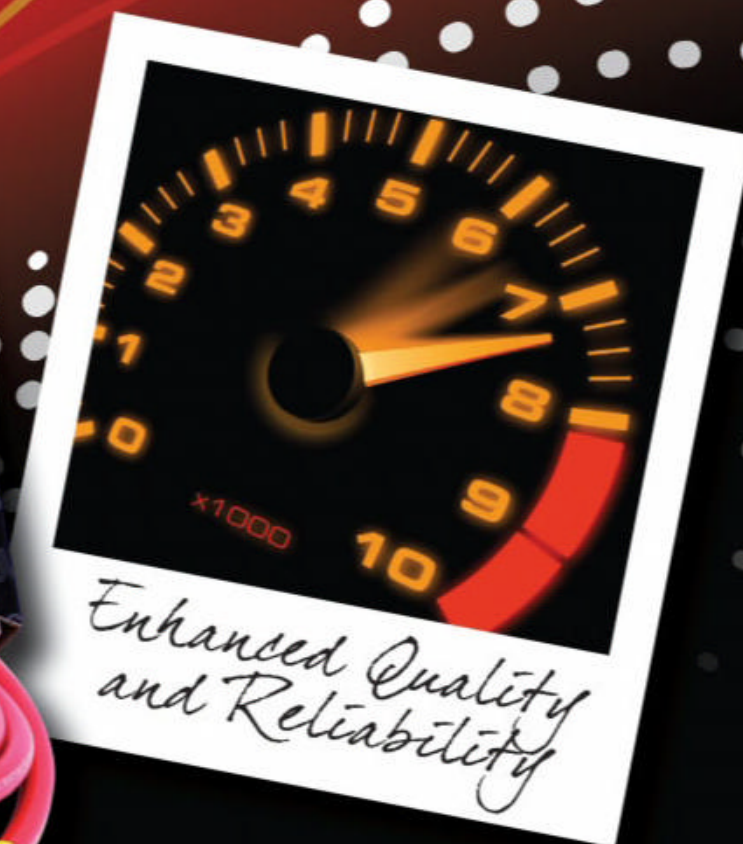
LN: Duvet, mattress... it’s like two different mattresses, memory foam... I never stay on hotel beds.

Brits often make for eccentric travellers and it seems these two are no exception. But theirs is soon to become a life of professional precision and absolute dedication. To become the best, you need to beat the best, and the road towards becoming Britain’s best in F1 is a potentially long and arduous one. When embarking on such a journey, small details like the peculiarities of sleep truly matter. As does choosing an M&S salad over a fish finger sandwich, however tempted you might be...

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TOUCHDOWN

Carlos Sainz is beginning a new chapter at McLaren. But can he realistically hope to achieve much in what is likely to be another transitional season for the beleaguered British team in 2019?

WORDS JAMES ROBERTS PICTURES ADRIAN MYERS

A

Adios Red Bull. Hola McLaren. After ten years in the energy drink company's young driver programme, Carlos Sainz has been set free to take the next step in his career. The boy from Madrid has arrived at the McLaren Technology Centre to build a new life and move into a new home. Welcome to Woking.

After a season-and-a-bit on loan at Renault, this latest move offers Sainz the prospect of stability. During his time on the Red Bull books he was jostled and leapfrogged by Daniil Kvyat and Max Verstappen on the path to a works team seat he never got to fill; at McLaren he has a two-year contract that should give him time to develop.

Although he is only 24, Sainz is embarking on his fifth season in F1, and this will be his first as *de facto* team leader, since the garage next door is occupied by rookie Lando Norris. Fittingly, Sainz will also occupy the race seat vacated by his hero and countryman, Fernando Alonso. You can understand, then, why he is all smiles as he strolls confidently around the majestic steel-and-glass MTC on this bright winter morning.

Sainz poses with the team's last championship-winning car, the 2008 McLaren MP4-23

"Impressive," says Sainz. "That was my impression when I came into the McLaren Technology Centre for the first time. It's a facility that would impress pretty much any human being. And it's been great to see such a good vibe inside the team; there is a buzz here, a real sense of excitement."

For much of this decade, McLaren's form has been patchy and, as the switch to Renault power proved last year, the reasons for that are manifold and not confined to the engine bay. It's clear now that certain work practices and disciplines caused inefficiencies to take root – and three seasons of laying the blame for underperformance at Honda's door meant those problems went unaddressed.

Poor relationship with Honda aside, what came out of Woking was a series of cars that carried too much drag for the given level of downforce and were difficult to develop. Alonso worked miracles out on the race track, but in doing so he eroded the self-confidence of his team-mate Stoffel Vandoorne, before finding himself distracted by goals beyond F1, such as

Le Mans and the Indy 500.

McLaren's CEO Zak Brown had to make structural changes to the organisation, and following the departure of Eric Boullier (a Ron Dennis hire), Zak has appointed Gil de Ferran as sporting director, former Toro Rosso man James Key as technical director, and former Porsche LMP1 boss Andreas Seidl as managing director tasked with leading the racing team. These moves are the first steps in taking McLaren back to their rightful place at the sharp end of the grid.

"After such a tough year for the team, it was important for me to see everyone working hard, not having lost any kind of motivation," says Sainz. "There is a lot of excitement about the project and with Zak's strategy to make some changes and sign new people, the plan is to make McLaren great again."

Key is yet to be released from his Toro Rosso contract and is





expected to begin his new role too late to have any abiding influence on the MCL34, but he will be instrumental in the development of the 2020 machine. Having previously worked with Key at Toro Rosso, Sainz hopes that the favourable aspects of cars he drove there will be developed into McLarens of the future.

Sainz's appointment as Alonso's heir was the result of a flurry of driver switches that took place last summer. Dan Ricciardo's move to Renault left Sainz out of a drive there, while Red Bull refused their option to draft him in alongside Max Verstappen for 2019 as a direct replacement for Ricciardo. Given the rather fractious relationship between Sainz and Verstappen when they were team-mates at Toro Rosso, Red Bull took on Pierre Gasly instead.

Freed from the whims of Dr Helmut Marko, Sainz signed a two-year deal with McLaren (with an option for a third) and is now enjoying a new degree of control over his affairs. This is the first deal he's had in racing where he hasn't had to worry about where he'll be driving the following season, and he can keep his management within the family. Quite literally, since his cousin, also called Carlos, manages his affairs.

"I knew from the moment I left Toro Rosso two years ago to go to Renault [replacing Jolyon Palmer after the 2017 Japanese Grand Prix] that I was reducing my chances of going to Red Bull one day," says Sainz. "But I felt that it was a necessary step for my career to do my fourth year with Renault, a manufacturer team, and that experience has helped me move to McLaren in a much more confident way. It's impossible not to be grateful to Red Bull for everything they have done with my career, but this is a new chapter in my life."

McLaren will be Sainz's third team in three years, but this time he won't be up against such an established team-mate. Nico Hülkenberg might not have a podium to his name, but he is no slouch and was a formidable opponent last season. But once Sainz had settled in at Renault he impressed, losing out just 13-8 in qualifying in 2018 and amassing a decent haul of points.

"I wouldn't say last year was a bad season at all," says Sainz. "Maybe in the first five races I paid the price for the extra year of experience that Nico had in the team. ▶

Looking forward to the good times when McLaren are resurgent once more



“But as soon as I got to grips with the car – from Barcelona on – I was as fast as him, and sometimes even faster.

“I was particularly happy with the second half of the season. After the summer break I started to be a bit more aggressive, because I knew my future with McLaren had been decided. I was driving with more freedom and I think that’s a natural thing for anyone. It’s important for a driver to feel at home with a team and have stability. Before the summer break, nothing was stable, but once I’d signed my deal with McLaren I decided that I was going to commit full-time to Renault from August through to November. I wanted to finish on a high and show them what they were going to miss.”

Unless McLaren have made great strides during the off-season, in the short term at least Sainz should expect to be further down the

grid than he’s accustomed to. But the margins between the midfield teams are narrower than the gulf between them and the top three, and some experience in the McLaren at the post-season Abu Dhabi test gave Sainz cause for optimism. In any case, in the long term, the ambition for McLaren has to be to get among the leading group once again rather than benchmarking themselves against midfielders.

“It was clear as soon as I’d tested the car,” says Sainz. “You can’t forget that when it’s said the McLaren wasn’t as strong as the Renault last year, we are only talking 0.3s or 0.4s – not the one or two seconds to the leaders. The gap between McLaren and Renault is much smaller than the gap we need to cut to the frontrunners. In Abu Dhabi there are 21 corners. If you tell me where the 0.3s exists and then divide that into 21 – then we might only be talking about 0.014s per corner. So, the differences are not huge, it’s not like going from a different category of racing car. There are small details, but you wouldn’t expect to jump from one car to another which is 0.3s different and find a completely diverse performance.”

It was the relative pace to the leaders that finally frustrated Alonso. He decided not to continue with McLaren in favour of pursuing other high-profile racing events. Sainz grew up idolising Alonso and befriended his hero once he arrived in Formula 1. But, according to Carlos, he didn’t seek Fernando’s advice about the move to McLaren.

“To be honest, the conversations didn’t start until the season had finished,” says Sainz. “Not that I didn’t care, but I was so focused on my Renault campaign that I didn’t really care too much about anything else. But as soon as Abu Dhabi finished, I switched 100%. After the test and visits to the factory, I had something to talk about with Fernando because until I’d tried the car we couldn’t talk about anything. I finally did the test and then we could share opinions. Don’t forget I’ve been fighting against McLaren over the past four years, often against Fernando, so it was quite interesting to open up with him and share our impressions together.”

Just one floor below us, from our vantage point in the MTC, is McLaren’s famed boulevard with its illustrious parade of title-winning

“YOU CAN’T FORGET THAT WHEN IT’S SAID THE McLAREN ISN’T AS STRONG AS THE RENAULT LAST YEAR, WE ARE ONLY TALKING 0.3S OR 0.4S – NOT THE ONE OR TWO SECONDS TO THE LEADERS”





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cars. Fluorescent red-and-white Marlboro-sponsored machines with their bulbous tyres from the 1980s sit alongside the more-streamlined silver machines of the late 1990s and 2000s. Like so many McLaren drivers before him, Sainz can't help but stop and stare at the roll-call of winners as he walks past.

"I cannot stop posting pictures on my Instagram or Twitter when I come to the factory and see the cars here," he sighs. "It's just very special seeing some of the most incredible cars in the history of Formula 1 driven by the likes of Ayrton Senna and Alain Prost. When you walk between various areas of the factory, there must be another 30 or 40 cars that aren't on display – some of them under dust sheets. When I walk through the corridors it often takes too long because I just have to stop and stare at all the cars. It's the same when I go to the Automotive side and discover the attention to detail that goes into building the road cars. There are a lot of machines, but so much is done by hand."

Everyone has their favourite car on the MTC boulevard, usually coinciding with the era in which they fell in love with Formula 1. For Carlos, perhaps surprisingly, his favourite is the MP4-22 from Alonso's first foray to Woking in 2007 – when Sainz Jr was just 13 years old.

"I really like the 2007 car, although it wasn't the best year for

McLaren internally [he's referring to the 'Spygate' furore]. I think it's one of the most beautiful cars in Formula 1.

But if you ask me which is the best in McLaren's history – you might be surprised by my

answer. It's the 2012 car. The reason for that is that this team was winning that year with that car and it's only six years ago. That's why I'm optimistic that in just six years this team can't have forgotten how to build a racing car that can win in Formula 1.

"It's true that in the hybrid era Mercedes and Ferrari have set a new bar in terms of where you need to be to be successful in F1, with how much



“WHEN PEOPLE ARE SURPRISED AT MY MOVE AND SAY ‘WHY ARE YOU HAPPY TO GO TO McLAREN?’ I REMIND THEM OF 2012 AND THEN THEY UNDERSTAND IT”

you need to spend and what resource you need. But I know this team has been able to beat both of those teams six years ago. Not many teams on the grid right now can say that. So when people are surprised at my move and say 'Why are you happy to go to McLaren?' I remind them of 2012 and then they understand. I'm proud to be here and we have a long-term plan to be successful. We need to work hard and deliver."

There are more smiles as Carlos stands up, straps on his Richard Mille watch and heads downstairs for another series of meetings with his team, including one with race engineer Tom Stallard. The day after we meet, Sainz is active on Instagram, having visited John Lewis to buy high-tog duvets for his new Weybridge home – all part of making a new life for himself in Surrey as he bids to spearhead McLaren's Formula 1 revival. He hasn't been given a road-going supercar to commute with yet, but one has been ordered. Spectators will watch his first season at McLaren with interest – and none more so than Fernando Alonso... 

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IN CONVERSATION WITH

WORDS JAMES ROBERTS
PORTRAIT RACING POINT

SERGIO PÉREZ

He played a major role in the process that led to Force India rebranding under new ownership. Here, the Mexican explains he's twice turned down Ferrari and why this is the best place for him to be in 2019

A new year, a new team-mate and new ownership for this team. What are your hopes for 2019?

I'm really excited about this year because it's as if I'm joining a new team. But I'm working with the same people that I have for the last five years, so I really feel at home. There's a new structure in place and everyone is motivated. The struggles we used to have at the start of every season, with getting new parts, are not there anymore, so I foresee a lot of success.

How difficult was it last year, to put Force India into administration and force a new buyer, in the form of Lawrence Stroll?

It was months of work with lawyers and my manager Julian Jakobi, and the communication we had with [team principal] Otmar Szafnauer, to work out where we stood.

In the end, everything worked out, but that meant a lot of stress – everything a racing driver shouldn't be doing. I ended up in a position I never expected. Ultimately, that took a lot of energy out of me. At the end of 2018 I felt I really needed a break. I went back home to Mexico and recharged my batteries.

Why did the process to initiate the administration fall to you and have you had much contact with former Force India owner Vijay Mallya since then?

I was owed money by the team, so I ended up in a position where I could do something. The team had other creditors which they owed money to, so there was a winding-up petition – I'm an expert now with all the legal terms – and it was

critical that I put the team into administration to make sure a good buyer came along. I have spoken to Vijay two or three times in the past couple of months and we are still friends.

Whatever I achieve in the future here, I want him to be proud because he was one of the key people behind this success.

What changes have you seen since Lawrence Stroll has taken over?

Straightaway I could see his energy, his passion and his commitment. I don't think there is anyone more motivated than Lawrence to make his investment successful and to help make this team go to the next level. It's great to have someone like him owning the team. It makes a massive difference. I've always said, if I had the money, I would have bought this team because it's a great investment and it will be worth three or four times more in the future. It has so much potential and there are so many good engineers

“I'VE ALWAYS SAID, IF I HAD THE MONEY, I WOULD HAVE BOUGHT THIS TEAM BECAUSE IT'S A GREAT INVESTMENT AND WILL BE WORTH THREE OR FOUR TIMES MORE IN THE FUTURE”

here. I've worked with top teams, Ferrari and McLaren, and the level of engineering at Racing Point is very high.

This will be your sixth year with the team. Have you ever been tempted to look at offers from elsewhere?

Every year I've had a couple of options but the best one was to stay. I always listen to offers, because as a driver you want to feel valuable. There have been talks here and there – Ferrari was close in 2016 and '17 – but I have always felt happy here.

How well do you know your new team-mate Lance Stroll?

I first worked with him in the Abu Dhabi test and I was quite surprised to see a very hungry young boy. He was working hard with the engineers, trying to learn as much as possible. The first time I met Lance, in 2011, we were Ferrari juniors in their academy. He was 12 years old, so it makes me feel very old now that he is my team-mate!

What can be achieved with the new car, thanks to the increase in investment?

The car has a lot of potential, so we are targeting to have the best season in our history. Everything is on time this year. In the past we always went to winter testing knowing there were so many parts still to arrive. There is so much potential to develop across the rest of the year too. I would be disappointed if at the end of the year it was not my best season in Formula 1. 🏆

WHO IS RENAULT'S



M

WITH THE



S MAN



Renault controversially poached **Marcin Budkowski** from the FIA to head up team operations. What can he do to deliver on the manufacturer's ambitions to break clear of Formula 1's also-rans?

WORDS STUART COOLING

PICTURES



motorsport
IMAGES



PLAN?



ou can solve most problems by throwing time, money and people at them – but maybe not so much in Formula 1. Deadlines whoosh past as the clock ticks relentlessly on, each team competing to outdo the other by piling new developments on the car.

When Renault bought back ‘Team Enstone’ at the end of 2015 they set a target of competing for race wins – perhaps even championships – within three years. This proclamation was nothing if not brave, and to nobody’s great surprise the goalposts were quietly relocated at the beginning of last season as it became apparent there was still work left to do. Three years became five...

Among the many expectations bearing down on executive director Marcin Budkowski is the key one that five years should not have to be extended – humiliatingly – to anything else. The former McLaren aero chief was a controversial hiring, having headed the FIA’s technical department until his resignation in September 2017. That position gave him privileged access to technical innovations from across the grid, since teams exploring the boundaries of the rules regularly submit ideas in confidence to the governing body to get a read on their legality. News of Budkowski’s move to Renault prompted such a rumpus that he didn’t officially start at the team until April last year.

Budkowski’s remit, according to team principal Cyril Abiteboul, is not to be hands-on in technical development but “basically to move Enstone from being a very strong midfield contender to becoming a top team”. Essentially his job is to continue “building the organisation and the operation to make sure we are aligned with our ambition for 2020-2021, when we want to start fighting for the championship”.

If that sounds suitably vague, bear in mind that while Renault finished fourth, ‘best of the rest’ last season, there’s still a vast performance deficit between them and the top three. Closing that would be difficult enough, but this is a team still in the rebuild phase after years of chronic under-investment by the previous owners – and Renault are only looking to spend up to 85% of the sums Mercedes invest. This isn’t a money-no-object programme.

“The works are ongoing, but obviously I’ve found [since starting last April] something that was largely transformed already in terms of infrastructure since Renault bought the team,” says Budkowski. “There’s a lot that’s going to be

done: we’re getting a brand-new gearbox dyno and we’re working on the windtunnel. We put a lot of effort and money into bringing it back where it should be.

“One of the most notable aspects is the growth in headcount. Adding 50% in three years is massive. When Renault bought the team, it wasn’t at its best place in terms of infrastructure, but also in terms of personnel as well – knowing that there were issues in paying people on time etc that led to a lot of people leaving the team.

“It was a low point in the team’s history in terms of head count, but still, 50% growth is massive. It’s clear that when you grow so quickly, the efficiency of how you work takes a hit. Evolving the processes and the way of working and how we plan, how we interact between departments, is my main area of focus.”

So, Renault have added resources, money and people. Recruitment is due to slow down this year – Budkowski expects the headcount to rise from 700 to 740, still around 200 fewer than the likes of Red Bull, Mercedes or Ferrari – as the new facilities come on stream. The next tasks are to maximise the usefulness of the new resources and banish some of the existing weaknesses, of which the much-maligned engine is just one.

“We’re still working on implementing some technologies and systems that will get us to the top level,” says Budkowski. “On the CFD front, I don’t think we have anything to envy the top teams for, and the aero department has been invested in significantly. Are we at the level of the top guys? No. Are we on the right trajectory? Yes.


“We’re very optimistic on the engine side, but it’s like the chassis side, it’s never finished until you actually close the [specification of the] engine that’s going to go to the first race, so it’s very promising in terms of performance. In the end performance and reliability is a trade-off. You can extract more performance from any engine but it might not last the number of races and number

of sessions you want it to, so we have to see where that cursor stops in terms of performance versus reliability – but we’re optimistic.

“Now, we have a regulation change so that could influence the pecking order. There are some changes at the front [of the car] as well that could jeopardise some people’s performance or reliability, so there are external factors – but we’re not in control of these. From our point of view, it’s to get the best possible car out and do the best possible job with the regulations – do our homework and reach our targets.”

F1 Racing is speaking to Budkowski ahead of the new car launch and first test, and he’s at pains to defer any official announcement of what those targets are until the wraps come off. But what he will say is that “we’ve progressed in the past three years in terms of championship ranking, and clearly in terms of points scored, reliability, operational excellence, how well we cope at the track, how well we execute our strategies etc and the goal is to continue progressing”.

Unless the new regulations bring about a major upset, the likelihood is that the top three teams will remain at least a second a lap quicker than the rest. That is a colossal gap to close, especially for an organisation committed to spending less than the leaders. But ending this season in the same position as the last is not an option as Renault’s self-imposed deadline edges closer.

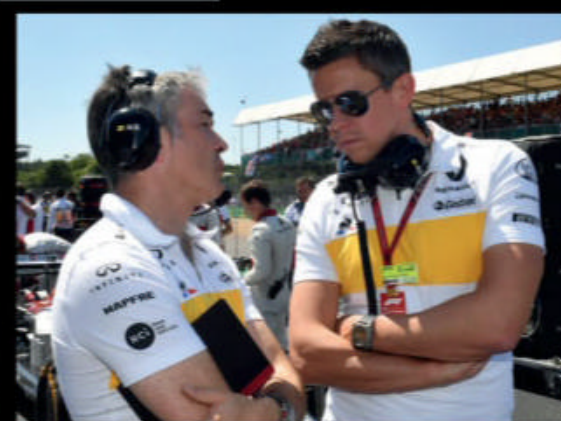
“We need to show progress,” insists Budkowski. “And that means if we’re fourth again it needs to be a solid fourth - not one that’s contested until the last race.” 

“ARE WE AT THE LEVEL OF THE TOP GUYS? NO. ARE WE ON THE RIGHT TRAJECTORY? YES.”





The top three teams may remain out of reach but Budkowski is fully aware that Renault must continue to improve and show progress this season



RENAULT IN NUMBERS

As Renault enter a fourth season back in Formula 1 as a fully fledged constructor, we examine the stats that back up their operation

2,674

Renault's windtunnel takes up square metres of space at Enstone and can only run a maximum of 520 times over a defined eight-week period,

£1

– cost of the team when bought back by Renault in 2015

500

or more items return to Enstone after each race to be inspected, serviced, repaired and sent to the next event

676

employees at Enstone by mid 2018, an increase of around 50% from 2015 levels

Design office contains over 70 people and they produced 19,000 CAD drawings using 150,000 man hours to produce the 14,500 components needed for a new car



Viry-Châtillon, Renault's engine factory, is a **25,300m²** site, half the size of Enstone; you could fit two Virys into one Enstone.

33,000 KWH

produced by solar panels at Enstone, supplying 75% of the energy used by the team's simulator

OPERATIONS ROOM: first used in May 2017, it features six 75-inch TV screens and 24 work stations, all with double-screen 24-inch monitors



3

cars on display at Enstone: R26 from 2006, E21 from 2013 and the RS17 from 2017



Comparisons with recent top 3 teams Red Bull and Mercedes after their first three years in F1

	Points Finishes	Best finish	Pts	Pts as % of champions	Position
Renault					
2016	3	Seventh	8	1.05%	9
2017	10	Sixth (five times)	57	8.53%	6
2018	24	Fifth (twice)	122	18.63%	4
Mercedes					
2010	27	Third (three times)	214	43.97%	4
2011	25	Fourth	165	25.38%	4
2012	18	First	142	30.86%	5
Red Bull					
2005	15	Fourth (twice)	34	17.81%	7
2006	7	Third	16	7.77%	7
2007	7	Third	24	11.76%	5

446

employees live within 25 miles of Enstone



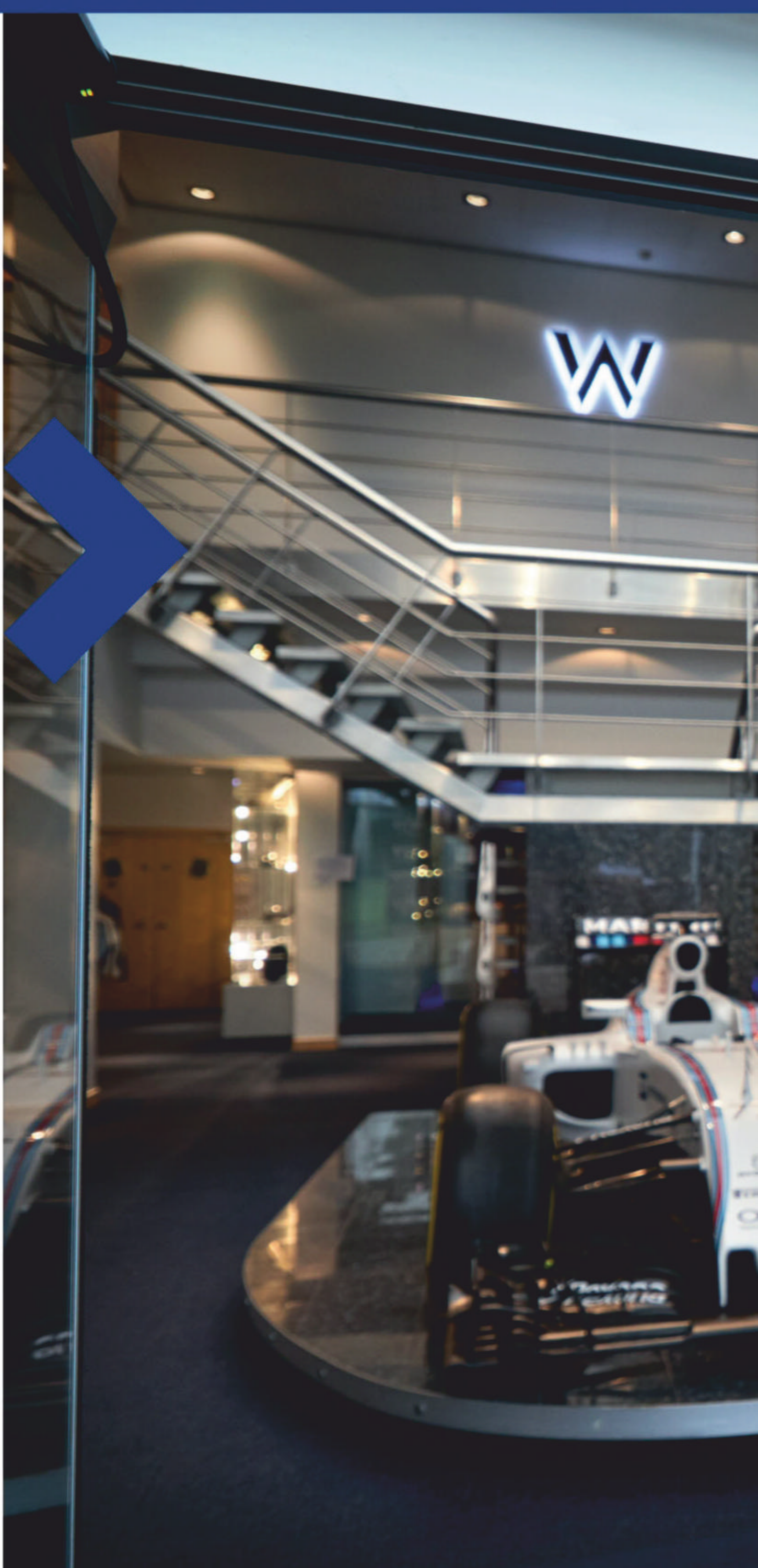
LOOK WHO'S BACK

Formula 1's feel-good story of the year is Robert Kubica's long-awaited return to a race seat with Williams. And he's not there simply to make up the numbers...

WORDS STUART COOLING PORTRAITS ALISTER THORPE

Robert Kubica is about to race a Formula 1 car again for the first time in just over eight years. Savour that thought – he certainly is. Kubica's journey back to F1 after the rallying accident that nearly claimed his life has been dogged by doubts and setbacks. A man once considered by his employers and peers, not by votes and popularity contests, to be among the most talented drivers of his generation has had to prove his own ability all over again, to himself as much as to anyone else.

"Do it properly or not at all" is a mantra drummed into him by his father, since his first days in racing, when the characteristics that defined him on the ultra-competitive Italian karting scene were his incredible raw speed and the austerity of his plain white crash helmet and kart. The Robert Kubica of today is more open, philosophical, grown-up and reflective than the terse, laser-focused competitor Lewis Hamilton ▶







“I ALWAYS LIVE WITH THIS IDEA: WHAT IS FUNDAMENTAL IS TO HAVE THE KNOWLEDGE THAT YOU’VE TRIED EVERYTHING AND TRIED TO DO THINGS PROPERLY. THERE ARE BETTER PERIODS AND WORSE PERIODS”



once described as “one of the fastest drivers I’ve ever raced against”. But that’s probably because Robert’s spent the past few years methodically navigating around each one of the many obstacles placed in his way.

“It’s the correct approach, and it’s the approach my father encouraged in the early days,” he announces as he guides *F1 Racing* around his new F1 home on a wintry British afternoon. Williams have offered Kubica a career lifeline: refuge from the F1 wilderness, the chance to clear that final hurdle and continue an extraordinary comeback story. “My father was the man to inject, let’s say, the passion to start in karting. When you’re growing up, the sport has a big effect on your character, on how you grow up, and I was brought up with this culture – with this focus on doing things properly, or you’re better off not doing them.

“There’s no guarantee that you will be doing things properly, but you have to try. You need to be realistic, but I always live with this idea: what is fundamental is to have the knowledge that you’ve tried everything and tried to do things properly. There are better periods and worse periods. There were races where I finished on the podium and was less happy than, say, when I finished ninth. But I knew I’d done everything and that was that.”

It was the sheer magnitude of Kubica’s accident on the Ronde di Andora rally in February 2011 that defined the protracted timescale of his recovery. At the time, he was at the height of his powers, having won a grand prix for BMW Sauber, worked crowd-pleasing miracles in an underfunded Lotus-Renault, and

signed a contract to become Fernando Alonso’s team-mate at Ferrari in 2012.

Aside from outright pace, what set Kubica apart from many other drivers was his ability to see not just the big picture of car performance but also the small details – and how those small details contributed to that bigger picture. He’s not the kind of driver who believes their job begins when they strap themselves into the car and ends when they climb out. He has spoken in other interviews of how the rally programme wasn’t purely for fun or to engage in competition during F1’s off-season; his aim was to experience all manner of different surfaces and augment his sensitivity to changing levels of grip, thereby making him a better grand prix driver.

As he prepares to make his racing comeback at the very top level, attention naturally focuses on his right arm, which was partially severed in the crash and which still has reduced strength and mobility. But his injuries extended far beyond that, requiring around 20 operations – not all of them successful – to repair. “What do you want to know?” he says with a chuckle as *F1 Racing* gently broaches the subject.

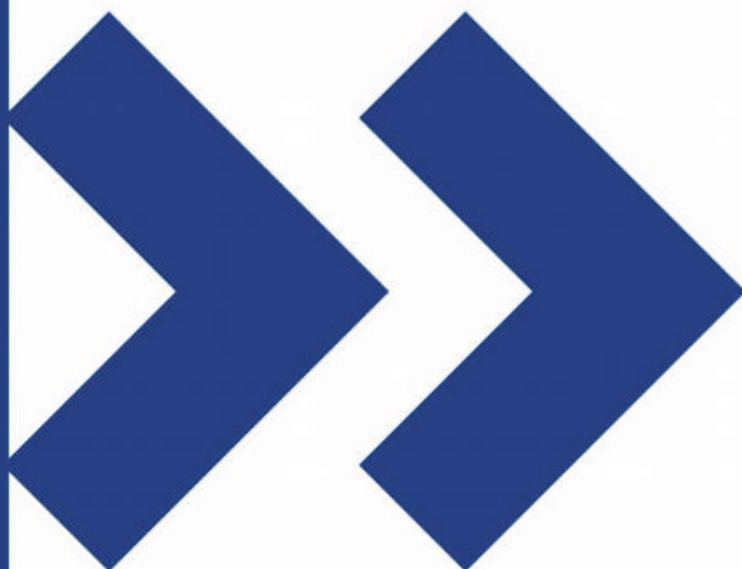
“Just to sum it up very briefly, I was injured from my feet up to my shoulder – all the right-hand side. So, yeah, foot, leg, knee, hand, elbow, and all the other bones in between...”

In the spirit of doing it properly or not at all, Kubica has steered himself back to F1 gradually, and he’s not here to make up the numbers; he had enough of that when his initial racing comeback, a shoestring-budget World Rally Championship campaign, petered out after a promising start. His return journey appeared to have stalled when he had to shutter his eponymous WRC team in 2015, but in private he weathered the setback and took up cycling, a sport whose keenest adherents seek to attain self-improvement through suffering. So he was in great shape when Renault offered him an F1 test out of the blue in the summer of 2017.

“Cycling became a big passion, which is good,” he says. “It put me in the... right direction, three or four years ago. It’s not that I discovered it, because I knew cycling from the past, but I hadn’t done it for five or six years. Not only physically, but mentally it helped me quite a lot. You go to places you wouldn’t – or couldn’t –

Robert Kubica explains his racing philosophy to *F1R* after eight years spent stoically battling his way back to the top.





ROBERT WAS - /S - DIFFERENT. HE COMMANDS THE UTMOST RESPECT OF A TEAM WHO ARE IN THE PROCESS OF THEIR OWN DIFFICULT JOURNEY BACK TO THE TOP



normally go by car. When you want to have fun with friends you can go with them, or you can ride alone when you just want to think about things. And it's good for another aspect – you can eat what you want!”

Sergey Sirotkin's sponsors were paying for Sirotkin to have F1 seat time with Renault (albeit in a 2012 car, to comply with testing regulations) in June 2017, so it was relatively simple to bolt on an extra day for Robert and modify the gear actuator so he could shift with his left hand alone. *F1 Racing* attended the day to document proceedings: Kubica clocked up 115 laps and was impressively quick. He'd been offered the opportunity more as a courtesy than anything else, for many of the senior engineering staff remained from Team Enstone's previous ownership and remembered him fondly. But his performance on the day was enough to persuade those further up the food chain that he could still do the job. Certainly, strength and stamina weren't problems.

Renault furnished another day's running in the 2012 car later that summer, and were sufficiently convinced by that to put him in the 2017 car during an official test at the Hungaroring in August. But although excitement was building in the wider world at the prospect of a Kubica comeback, Renault's enthusiasm dimmed after this excursion. Although it's difficult to compare pace rigorously at an event such as this, since teams would have been running different programmes with varying goals, his headline lap time, 1.5s off Sebastian Vettel's benchmark, was less impressive than the fact he completed the equivalent of two Hungarian Grand Prix distances. The leap to contemporary machinery was too great to make in one day.

At the post-season Abu Dhabi test, Williams evaluated Kubica for a 2018 race seat but had misgivings about his single-lap pace, which is chiefly a consequence of tyre preparation. That, and a record-breaking sponsorship purse from SMP, led them to choose Sirotkin instead,

although they saw enough potential in Robert to offer him a gig as test and development driver. Recognising that he needed to consider himself a rookie again, Kubica accepted – subject to certain conditions.

“I didn't really say that I could *not* come back [to a race drive],” he says, “but it was definitely something where... when I first got back in a Formula 1 car, it was a 2012 car, and I felt at home within three laps. And then when I tested the 2017 car, the technology was in a completely different area with the power unit modes and the tyres. Suddenly everything I knew from the past was – I'm not saying 'wrong', but it was different. And you need time to adapt. Sometimes it's easier to learn from zero than to switch from a different way of driving. Not many people might have thought of this, but when you're a regular driver you get maybe a couple of changes each year.

“So, just a couple of numbers. The cars when I was racing before were 620kg. Modern



cars are 730kg or more. This 110kg has a big effect on how the car behaves, how it operates dynamically and how great the inertia is. If I were a regular driver I would get this increase step by step [it went up to 642kg in 2011, 691kg in 2014, then 728kg in 2017] but instead I got it in one shot. Same for the tyres. Even the size of the car – I was driving narrow cars with narrow tyres, then suddenly everything was a lot bigger. I felt – not uncomfortable, but that there were many things I had yet to discover. And thanks to the opportunities last year I’ve had the time, the laps, to discover these things. So, I’m feeling a lot more comfortable and confident now than I was 12 months ago, thanks to the knowledge that I’ve had a chance to store and understand.”

After the disappointment of not getting the ’19 race seat, Kubica focused on building a case for the following year. Chiefly that meant he would need seat time and he insisted on this forming part of his role. “One of the fundamental aspects for me was to get the opportunity to

drive,” says Kubica. “I wasn’t interested in going to races and just standing there doing nothing all year. My target over the past few years has been to come back to the highest motorsport category, so 13 months ago, if I’d been given an offer to be a reserve and simulator driver and that’s all, I would never have signed.

“For me, last year’s opportunity was a step towards achieving what was possible. I definitely wouldn’t have kept trying for ages – I gave myself another year and said ‘This is a good opportunity for me to be back in F1, of course not as a race driver, but with the chance to drive the car on a few occasions, work with the team and understand modern F1 better.’ And I was living my passion. F1 can be stressful and sometimes harsh, but it’s the highest motorsport category in the world and I’m passionate about motorsport.”

A vignette from last year’s Abu Dhabi Grand Prix perfectly illustrates Kubica’s competitive focus: early in the weekend, *F1 Racing* understands, he took it upon himself to peel

off the stickers covering the Williams cars’ Martini decals in compliance with sensibilities in this dry state. Interrupted in his labours by the mechanics, who understandably wanted to know what on earth he was up to, he responded that the stickers were adding weight to the car so it would be better to scrape off the Martini branding rather than covering it.

Most ‘third drivers’ would be in line for a P45 for stepping over the line in this way, but Robert was – is – different. He commands the utmost respect of a team who are in the process of their own difficult journey back to the top. As we walk around the factory, past huge rapid-prototyping machines in which experimental components are taking shape, people drop what they’re doing to walk over and greet him warmly. In the race bays his chief mechanics Ben Howard and Gorka Norbarte offer cheery salutations before getting back to work. The affection is palpable.

Williams’ chief technical officer Paddy Lowe admitted late last year that his team had found


“the bottom of the trench” competitively, and that they needed a complete change of mindset. And while Kubica made a compelling case for employment by sourcing a sponsorship deal with the Polish petrochemical company PKN Orlen, perhaps what’s in his head is of greater long-term value: that ability to see the big picture and the myriad elements therein.

“Sometimes it is a question of small details,” he muses, “although last year we had bigger issues. I always say that as a team you have to operate in such a way that the day you get a car

that performs, you are prepared for it and can go out and win or perform well. You have to approach each race weekend saying, ‘I’ve done nearly everything but I can still improve, because we can always do better.’ We can always find ways to be more efficient, more precise, and then you can be happy and satisfied with what you’ve achieved. There are no short cuts.”

For Williams, Kubica will provide an element of leadership from the cockpit that has been lacking for several seasons. Although getting back to the top level of motorsport has been his

goal these past eight years, it’s clear he won’t rest now he’s attained it. Reaching Formula 1 is not an end in itself; he isn’t simply here just to fill a Nomex suit in the annual drivers’ photograph on the grid in Melbourne.

“It is real, and I’ll start enjoying it once I...” He trails off and pauses thoughtfully before resuming. “You know, in the past, what I’ve looked forward to are challenges and competition. These things motivate me to work and perform well. And this is something that’s been missing. Until now.” 

**“YOU HAVE TO
APPROACH EACH
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SAYING, ‘I’VE
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OF DANIIL KVYAT

In which we present 26 things you quite possibly never knew about the Toro Rosso comeback king

PICTURES



motorsport
IMAGES

WORDS OLEG KARPOV

ANTHEM

When Daniil Kvyat won his first FIA European F3 race at Zandvoort, race organisers didn't have a copy of the current Russian national anthem to hand, so they played the old one, Mikhail Glinka's 'The Patriotic Song', instead. Afterwards, Kvyat's compatriot Vitaly Petrov started taking a CD of the correct anthem with him to races.

BACKGAMMON

Kvyat was taught to play backgammon by former F1 supremo Bernie Ecclestone, and received a set from his father for his 22nd birthday. He regularly takes a travel set with him on tour so he can play against his girlfriend.

CARLOS SAINZ

Throughout his career, Kvyat's closest rival has been Carlos Sainz. In 2009, Kvyat joined the Red Bull junior programme at the same time as Sainz. They became team-mates in Formula BMW and would share a garage three more times in different categories – including Formula 1.

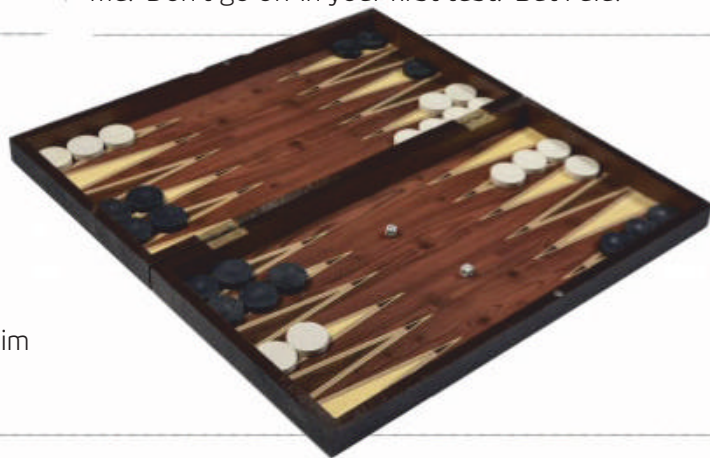
DR HELMUT MARKO

Nobody has had more influence over Kvyat's career than the head of the Red Bull junior programme. Kvyat's first brush with demotion came in 2010 when Marko told him: "It's time to deliver results. You have to – it's now or never."

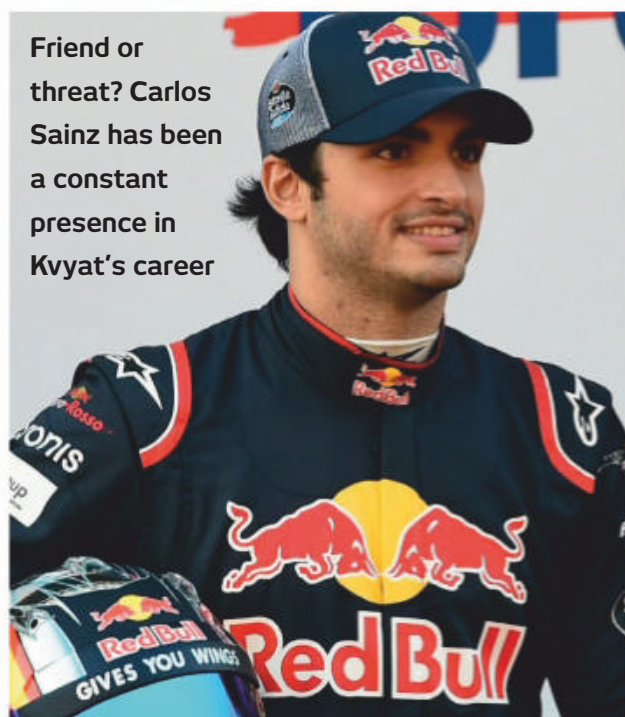


ERROR

Aspiring racers are always told not to risk the car by shooting for lap time on their first test – but Kvyat didn't heed that warning on his first Toro Rosso run at Silverstone in 2013. He planted it in the gravel after just 22 laps. "Well... that was bad," he said afterwards. "Everyone kept telling me: 'Don't go off in your first test.' But I did."



Friend or threat? Carlos Sainz has been a constant presence in Kvyat's career



FERRARI

Not the team who employed Kvyat as a sim driver last year, but the man who organised his first car test. Antonio Ferrari runs junior racing team EuroInternational, and invited Kvyat to test at Varano in 2009 on behalf of Red Bull.

GAME OF THRONES

No character is safe in TV's *Game of Thrones* and, in a case of life imitating art, Kvyat was sitting on his father's sofa watching the show in May 2016 when Dr Helmut Marko phoned to say he was demoting Kvyat from Red Bull to Toro Rosso in favour of Max Verstappen.



First time unlucky: Daniil disappears in a cloud of smoke on his first F1 test run

HORNER

When Red Bull boss Christian Horner married ex-Spice Girl Geri Halliwell in May 2015, he saved a bit of money by hiring Kvyat to drive one of the wedding cars. "The vintage Rolls Royce contained the bridesmaids and I was happy with his performance," joked Horner. "He didn't crash and kept the tyres in good shape."



ITALIAN FLAG

After leaving his homeland, Kvyat moved to Italy aged 12 to further his career. To gain as much experience as possible he started entering races, but some of them were closed to non-Italians. To circumvent that restriction, he raced under an Italian flag with a local licence.

JENSON

Invited by Helmut Marko to attend his first F1 race, Kvyat went to the 2009 European GP at Valencia and was overawed by the experience. Having been asked by a friend to get Jenson Button's autograph, the Red Bull junior duly asked the Brit when he bumped into him in the paddock. ▶



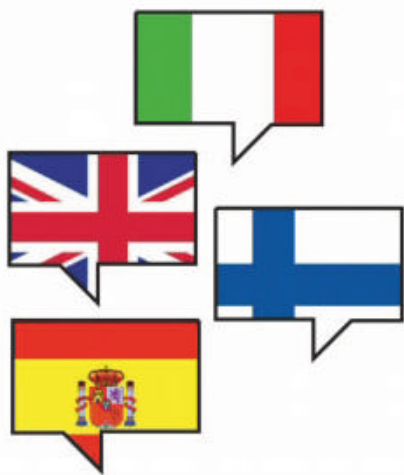
KUBICA

One of the first people to recognise Kvyat's talent was Formula 1 driver Robert Kubica, who wanted Kvyat to joining his karting squad. He even invited Daniil into the BMW-Sauber garage during a test in 2009. "From an early age, it was clear Daniil had a better chance to get to F1 than many others," said Kubica.



LANGUAGES

When Kvyat moved to Italy in 2007, he spoke only Russian, but enrolled at a prestigious school in Rome to learn Italian – which was then supplemented by the colourful language used by his mechanics. He also learnt Finnish when he raced for the Koiranen GP team in Formula Renault, and is fluent in English and Spanish.

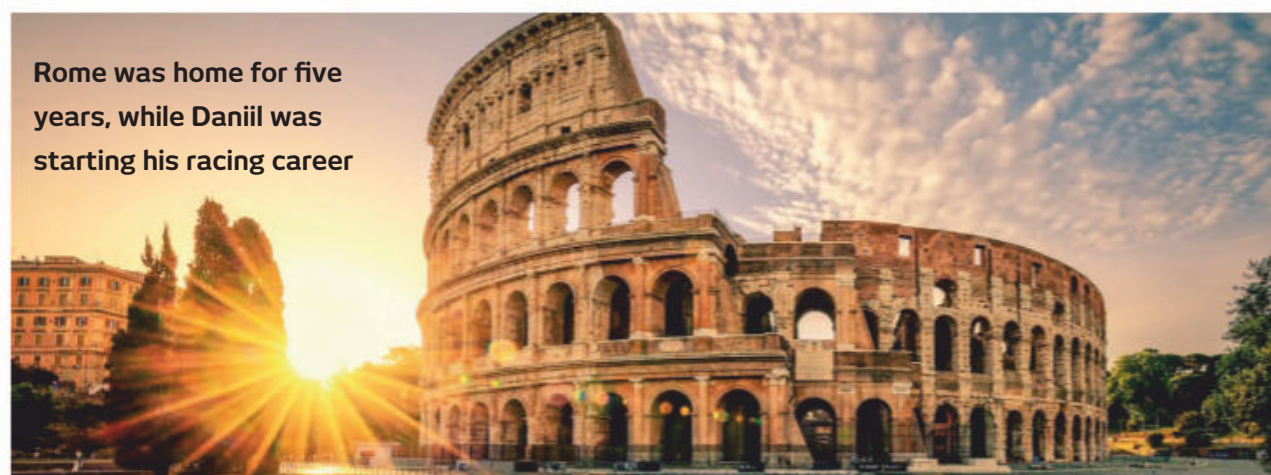


MOSCOW RACEWAY

Before he entered the 2014 Russian GP, the only car race Kvyat had competed in on home soil was a Formula Renault race at Moscow Raceway three years earlier. He won both races that weekend and for the first time in his career was the driver most sought out by autograph hunters.

NASR

Former Sauber F1 driver Felipe Nasr, then racing in Formula BMW, coached Kvyat on his very first car test at Varano in 2009. He was employed to advise on driving a single-seater and to help with gear changes. He recalls a "very skinny" Kvyat requiring a cushion for his seat to enable him to see over the top of the monocoque.



Rome was home for five years, while Daniil was starting his racing career

OVERTAKING

It was during the 2011 Formula Renault season that Kvyat displayed a prowess for passing. At Paul Ricard he started 14th and finished on the podium, and at the final round in Barcelona he qualified 18th and finished in third place.

PIQUET

During the summer break in 2016 Kvyat met Kelly Piquet, the daughter of triple world champion Nelson, in Monaco, and the pair are still together: "Kelly was the first girl I brought to races and tests," says Kvyat. "But we have a clear border between personal and private life."



QUALIFYING

At an Italian karting round at Sarno, 2009, Kvyat found himself 78th and on the back row in the heats after being disqualified for a burnt clutch. He was able to score three top-seven finishes, which qualified him for the pre-final race, where he finished in third place. After originally qualifying dead last he then won the final.

ROME

The Kvyat family moved to Italy's capital when Daniil was 12 to help support his burgeoning karting career. Five years later he moved to Milton Keynes to be close to the Red Bull simulator before settling in Monaco.



S

SOCHI
The first ever kart race Kvyat took part in was held on a rudimentary circuit in Sochi, long before the idea of the Winter Olympics or grand prix was conceived. Kvyat was just ten years old in January 2005 when he won the Christmas Cup. The race also happened to be the first for Sergey Sirotkin, who finished third.



T

TENNIS
Kvyat's regular Monaco tennis partner is Renault's Nico Hülkenberg and it's clear Daniil has got under his neighbour's skin. "I am the better player," says Hülkenberg. "But he [Kvyat] is always slicing and goes for the lob, which always frustrates the hell out of me."

U

FA
The town where Kvyat grew up and lived until the age of six is Ufa, the capital of the Republic of Bashkortostan. The Kvyats moved 850 miles west to Moscow when he was six, but he counts Ufa as his home town. One of Daniil's favourite authors, Sergei Dovlatov, was also born there.

V

YACHESLAVOVICH
Daniil's middle name is Vyacheslavovich, which translates as 'son of Vyacheslav'. Daniil's father financed his karting career and accompanied him to all his junior races. "I'm very thankful to him," said Kvyat Jr. "The two of us have gone through a lot, and he always supported me, stood by my side and never turned away."

W

HISKEY IN THE JAR
Although Kvyat claims to have a broad musical tastes, he cites Metallica's cover of 'Whiskey in the Jar' as one of his favourite tunes, along with Motörhead's 'Ace of Spades'. He says: "I'm also a fan of AC/DC, Kings of Leon, electronic music... anything up to ABBA."



X


XVI
Ahead of his Formula 1 debut in 2014, Kvyat chose 26 as his permanent race number. As a nod to his Italian schooling, he had it painted on his helmet in Roman numerals. He was born on 26 May, but says this has no bearing on his choice of race number.

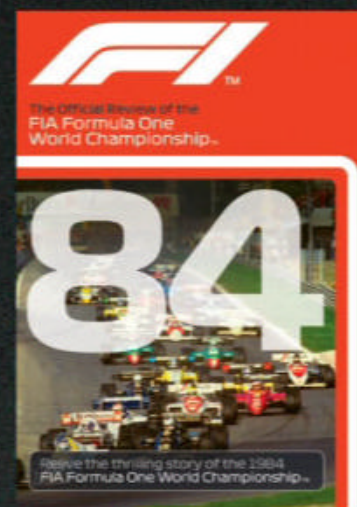
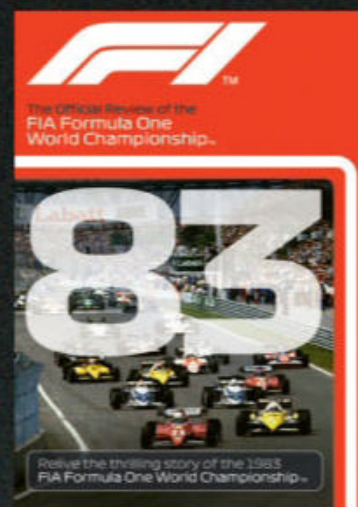
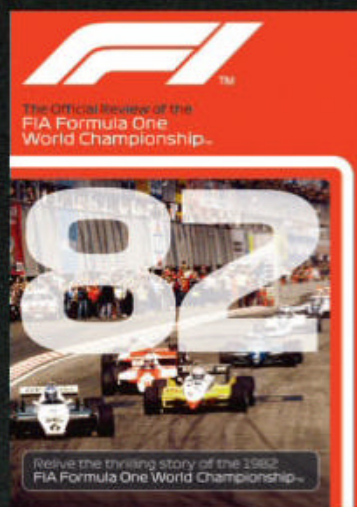
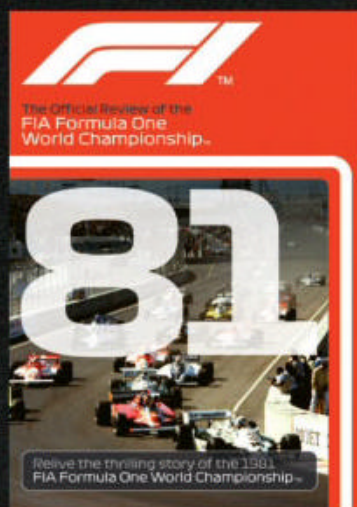
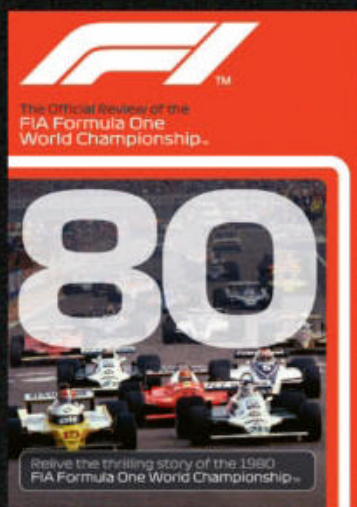
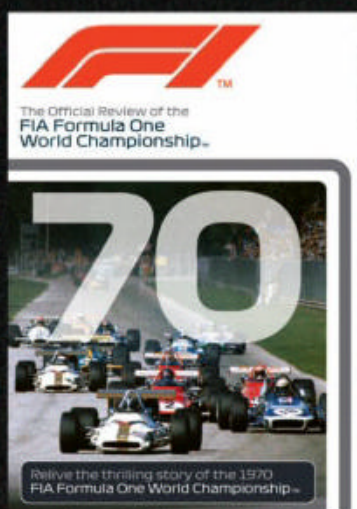
Y

OUNGEST POINTS SCORER
When Kvyat finished ninth in his first race in Australia in 2014, he beat Sebastian Vettel's record to become the youngest ever points finisher in F1, at 19 years and ten months – a record since eclipsed by Max Verstappen.



Z

ZULFIYA
Although she is supportive of Daniil's career, his mother Zulfiya has never attended an F1 race and says she's often too nervous to watch them on TV. She moved with the family to Rome, but stayed in Italy after Kvyat moved to Milton Keynes at the age of 17. 





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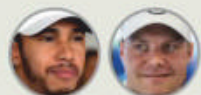


2019

TEAM & DRIVER GUIDE

MERCEDES

LEWIS HAMILTON
VALTERI BOTTAS



FERRARI

SEBASTIAN VETTEL
CHARLES LECLERC



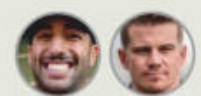
RED BULL

MAX VERSTAPPEN
PIERRE GASLY



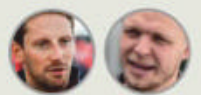
RENAULT

DANIEL RICCIARDO
NICO HÜLKENBERG



HAAS

ROMAIN GROSJEAN
KEVIN MAGNUSSEN



McLAREN

CARLOS SAINZ
LANDO NORRIS



RACING POINT

SERGIO PÉREZ
LANCE STROLL



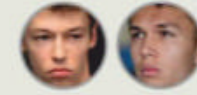
ALFA ROMEO

KIMI RÄIKÖNEN
ANTONIO GIOVINAZZI



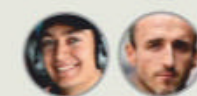
TORO ROSSO

DANIIL KVYAT
ALEXANDER ALBON



WILLIAMS

GEORGE RUSSELL
ROBERT KUBICA



You've waited long enough. F1 is back, and rarely has a new season been so ripe with potential. We've got new-look cars and new driver partnerships – new *rivalries* – up and down the grid. If Vettel vs Hamilton sounds familiar, what about Vettel vs Leclerc? Verstappen vs Gasly? Ricciardo vs Hülkenberg? Answers are coming – so just turn the page to get the lowdown on F1 2019-style...



+
RACE
CALENDAR



2018 RESULTS Position 1st Points 655 Wins/podiums 11/14 Poles 13 Fastest laps 10

MERCEDES



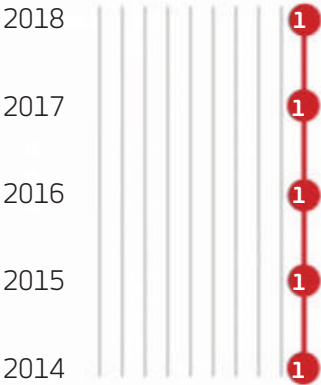
TEAM DETAILS

Base
Brackley, UK
Chassis
F1 W10 EQ Power+
Power unit
Mercedes
Team principal
Toto Wolff
Technical director
James Allison

TEAM HISTORY

First GP France 1954
Races started 189
Wins 87
Poles 101
Fastest laps 66
Points 4,512.14
Drivers' titles 7
Constructors' titles 5

LAST 5 YEARS



THE DRIVERS

44
LEWIS
HAMILTON



Age 34
Debut 2007
Starts 229
Wins/podiums/ poles 73/61/83
Points 3,018
 Titles 5

Last year Lewis Hamilton emphasised why he should be considered one of the greatest grand prix drivers of all time. His fifth world championship puts him within two of Michael Schumacher's tally and he's just 18 victories behind Michael's all-time win record. Against a competitive Ferrari, Hamilton raised his game, eliminating mistakes and displaying a relentless will to win – clinching the title with two races to spare. Hamilton's continual quest for self-improvement has kept him on top of his game – and he's somehow getting better and better.

F1 RACING VERDICT
Hamilton and Mercedes go into 2019 as title favourites as the Brit hunts down Schumacher's records.

77
VALTTERI
BOTTAS



Age 29
Debut 2013
Starts 118
Wins/podiums/ poles 3/27/6
Points 963

This is a crucial year for the amiable Bottas. As team-mate to Hamilton, the Finn has one of toughest jobs in motor racing, but his relative pace in qualifying last year was decent. He was also incredibly unlucky. If Safety Cars and a puncture hadn't hampered his early season, he could have led the championship. Unfortunately, his season tailed off very quickly and Mercedes put their efforts behind Hamilton to ward off the threat from Ferrari. With one year left on his Mercedes contract Valtteri needs to shine this year.

F1 RACING VERDICT
Bottas won't beat Hamilton, but needs to better a winless 2018 to prove he deserves a top F1 seat.

KEY STATS

83
poles for Hamilton – an all-time record

74%
Mercedes wins in turbo-hybrid era

5
successive drivers' & constructors' titles



2018 RESULTS

Position 2nd

Points 571

Wins/podiums 6/18

Poles 6

Fastest laps 4

FERRARI

THE DRIVERS

5 SEBASTIAN VETTEL



Age 31

Debut 2007

Starts 219

Wins/podiums/
poles 52/59/55

Points 2,745



Titles 4

Despite starting brightly, 2018 was a season of disappointment for Sebastian Vettel. A litany of unforced errors – the most high profile of which was sliding out of the lead of the German GP – turned a championship lead into defeat. There was also turmoil at Ferrari with the sudden death of their chairman and CEO Sergio Marchionne and political infighting between management, which led to team boss Maurizio Arrivabene's departure over the winter. Vettel has to regroup, ignore the politics and come out fighting.

F1 RACING VERDICT

This will be Vettel's fifth attempt to win the championship for Ferrari. Second again will not be good enough.

16 CHARLES LECLERC



Age 21

Debut 2018

Starts 21

Wins/podiums/
poles 0/0/0

Points 39



Those who watched Charles Leclerc win the 2017 FIA F2 championship will know just how good this youngster is at dealing with pressure. When his father passed away early in the season, rather than lose focus on his racing, Leclerc was spurred on to victory on the streets of Baku. After taking the crown, he continued to shine when he stepped up to F1 with Sauber last year – regularly hauling the C37 into the points. Ferrari will bring added pressure, but no one is expecting him to mount a title challenge in his first year.

F1 RACING VERDICT

Leclerc will be expected to score a couple of wins and maybe even unsettle Vettel.

TEAM DETAILS

Base

Maranello, Italy

Chassis

SF90

Power unit

Ferrari

Team principal

Mattia Binotto

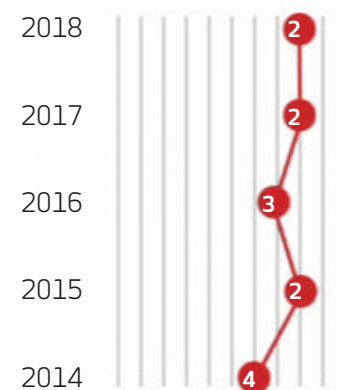
Technical director

TBC

TEAM HISTORY

Debut Monaco 1950**Races started** 970**Wins** 235**Poles** 219**Fastest laps** 248**Points** 8,655.27**Drivers' titles** 15**Constructors' titles** 16

LAST 5 YEARS



KEY STATS

56%

Vettel's podium ratio with Ferrari

219

pole positions in the team's history


168

race suits used by both drivers in 2018



**2018 RESULTS**

Position	3rd
Points	419
Wins/podiums	4/9
Poles	2
Fastest laps	6



THE DRIVERS

33
MAX
VERSTAPPEN



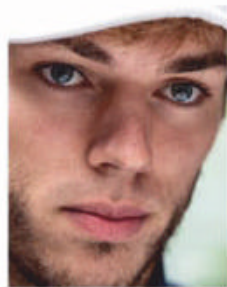
Age 21
Debut 2015
Starts 81
Wins/podiums/
poles 5/17/0
Points 670



Which Verstappen will turn up in Melbourne? The incident-prone Max who threw away wins in the first six races last year? Or the post-Canadian GP Max who steered clear of on-track controversy and drove supremely, taking wins in Austria and Mexico. Verstappen is only 21, but has done a lot of growing up in the last four seasons he has been racing in Formula 1. Although his physical response to Esteban Ocon taking him out of the lead of the Brazilian GP perhaps shows he still has some maturing to do.

F1 RACING VERDICT
For daring overtaking and on-track thrills, there is no one better to watch, but don't expect a title challenge.

10
PIERRE
GASLY



Age 23
Debut 2017
Starts 26
Wins/podiums/
poles 0/0/0
Points 29



To paraphrase George Orwell, 'All Red Bull Junior drivers are equal, but some are more equal than others'. So, when Max Verstappen signed a big bucks deal to remain at Red Bull until the end of 2020 it left no one in any doubt that he was central to their aspirations. When Dan Ricciardo decided to switch, Pierre Gasly was given the sudden promotion from Toro Rosso. Don't underestimate the Frenchman. He's quick, confident and will be close to Verstappen. But this season expect Gasly to play a supporting role.

F1 RACING VERDICT
It's been a quick rise to the top, but Gasly is a no-nonsense racer. Expect podiums; a win would be impressive.

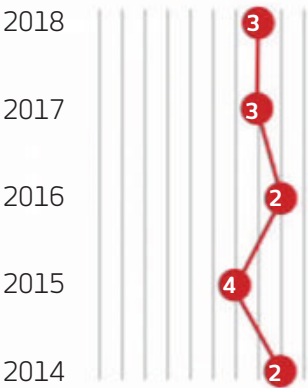
TEAM DETAILS

Base
Milton Keynes, UK
Chassis
RB15
Power unit
Honda
Team principal
Christian Horner
Technical director
Adrian Newey

TEAM HISTORY

Debut Australia 2005
Races started 265
Wins 59
Poles 60
Fastest laps 60
Points 4,307.5
Drivers' titles 4
Constructors' titles 4

LAST 5 YEARS



KEY STATS

12

DNFs for the team last season

4.3

miles from Red Bull to Honda in Milton Keynes

57

podiums for Red Bull in the hybrid era



2018 RESULTS

Position 4th

Points 122

Wins/podiums 0/0

Poles 0

Fastest laps 0

RENAULT



TEAM DETAILS

Base

Enstone, UK

Chassis

RS19

Power unit

Renault

Team principal

Cyril Abiteboul

Technical director

Nick Chester

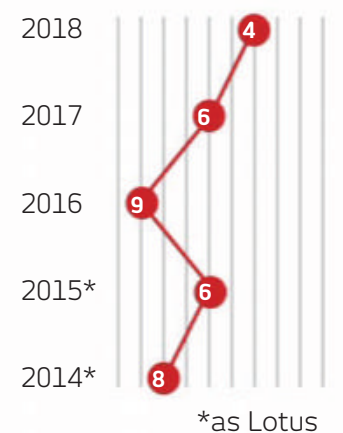
TEAM HISTORY

Debut Great Britain

1977

Races started 362**Wins** 35**Poles** 51**Fastest laps** 31**Points** 1,505**Drivers' titles** 2**Constructors' titles** 2

LAST 5 YEARS



THE DRIVERS

3 DANIEL RICCIARDO

**Age** 29**Debut** 2011**Starts** 150**Wins/podiums/****poles** 7/22/3**Points** 986

This is something of a reset for Ricciardo in 2019. After five years at Red Bull, he commences a new chapter of his career at Renault. It was getting tough for the 29-year old to retain his smile last year as reliability blighted his campaign so much he described his RB14 as "cursed". Only twice did he finish on the podium in 2018, but on each occasion it was on the top step. His victory in Shanghai was characterised by a series of typically brilliant overtaking moves. A similar win this year would be a mighty achievement.

F1 RACING VERDICT

Ricciardo's first mission at Renault will be to topple his new team-mate Nico Hülkenberg – not an easy task.

27 NICO HÜLKENBERG

**Age** 31**Debut** 2010**Starts** 156**Wins/podiums/****poles** 0/0/1**Points** 474

It's still a mystery that Nico Hülkenberg has yet to stand on the podium in his nine seasons and 156 race starts in Formula 1. He has consistently proved to be one of the quickest drivers in the sport – as his team-mates will testify. Hülkenberg had the measure of the highly-rated Carlos Sainz last year and was unofficially crowned 'Class B' champion for being best of the drivers outside the top three teams. Hülkenberg's biggest challenge in '19 will be handling the arrival of Daniel Ricciardo at the team...

F1 RACING VERDICT

Renault need to challenge the top teams and this must be the year Nico stands on his first podium.

KEY STATS

59

Renault-powered
Red Bull victories

116

laps Daniel Ricciardo
led last year

229

races since team's
last title



2018 RESULTS

Position 5th

Points 93

Wins/podiums 0/0

Poles 0

Fastest laps 1

HAAS



TEAM DETAILS

Base

Banbury, UK

Chassis

VF-19

Power unit

Ferrari

Team principal

Guenther Steiner

Technical director

Rob Taylor

TEAM HISTORY

Debut Australia 2016

Races started 62

Wins 0

Poles 0

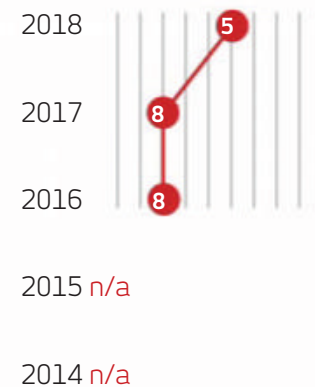
Fastest laps 1

Points 169

Drivers' titles 0

Constructors' titles 0

LAST 5 YEARS



THE DRIVERS

8 ROMAIN GROSJEAN



Age 32

Debut 2009

Starts 143

Wins/podiums/

poles 0/10/0

Points 381



Last August, Romain Grosjean's future participation in Formula 1 was looking rather shaky. The first part of the year was characterised by errors which cost Haas valuable points. An opening lap shunt in Spain was followed by an inexplicable spin into the Baku wall while running behind the Safety Car. But when the VF-18 was suited to his style and his mind was focused, he was capable of great performances. Only five times did he fail to qualify outside of Q3 on pace. Going into 2019, it's safe to assume more of the same.

F1 RACING VERDICT

On his day, Grosjean can be difficult to beat, but by his own admission he can over-think his performances.

20 KEVIN MAGNUSSEN



Age 26

Debut 2014

Starts 81

Wins/podiums/

poles 0/1/0

Points 137



Kevin Magnussen has carved out a reputation as a hard-nosed, give-no-quarter racer. In Haas he has found an environment in which he's allowed to be himself and can let his talent flourish – a stripped-down team focused on racing. He demonstrated his speed against Grosjean in the opening half of last year, and delivered a solid haul of points for the team. Along with Mercedes, Haas is the only other team with the same driver line-up going into 2019, so both Magnussen and Grosjean should hit the ground running.

F1 RACING VERDICT

Haas should be in the fight to be best of the midfield teams so K-Mag has a shot at being the 'best of the rest'.

KEY STATS

1,300

people employed by Haas Automation

7

penalty points on Grosjean's licence

11

top 10 starts by Magnussen in 2018



TEAM DETAILS

Base

Woking, UK

Chassis

MCL34

Power unit

Renault

Team principal

Zak Brown

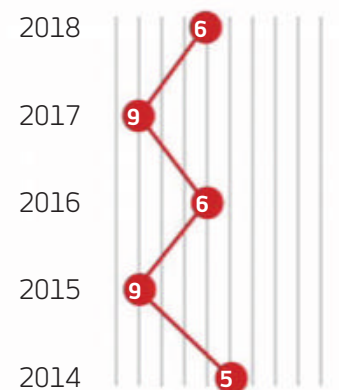
Technical director

James Key

TEAM HISTORY

Debut Monaco 1966**Races started** 842**Wins** 182**Poles** 155**Fastest laps** 154**Points** 5,526.5**Drivers' titles** 12**Constructors' titles** 8

LAST 5 YEARS



2018 RESULTS

Position 6th

Points 62

Wins/podiums 0/0

Poles 0

Fastest laps 0

McLAREN

THE DRIVERS

55 CARLOS SAINZ

**Age** 24**Debut** 2015**Starts** 81**Wins/podiums/****poles** 0/0/0**Points** 171

Sainz has been a Red Bull-managed driver since 2009, but with Ricciardo and Verstappen locking out the main team, he was loaned out to Renault last year. Up against Nico Hülkenberg, who was already established at the team, Sainz struggled on occasion. By mid-summer he'd decided to split with Red Bull and sign for McLaren, replacing his hero Fernando Alonso at the Woking-based team. It's a clean break and a fresh start for Sainz, but in the competitive order, switching from Renault will be a move down the grid in 2019.

F1 RACING VERDICT

If Sainz is able to mirror some of Alonso's performances for McLaren – he'll become the team's new hero.

4 LANDO NORRIS

**Age** 19**Debut** 2019**Starts** 0**Wins/podiums/****poles** 0/0/0**Points** 0

A glance at young Lando Norris's racing CV suggests he has all the credentials to be a future star. He's won in virtually every category he has competed in and last year took victory on his Formula 2 debut. Big things were expected of him, but as his McLaren simulator and testing duties increased (seven practice sessions), so he struggled with his F2 campaign. He didn't win another race, but did finish second overall in the standings. Did it matter when his F1 drive was secured? One thing is certain: it will be a difficult first year.

F1 RACING VERDICT

It will be a baptism of fire for Norris against a quick team-mate. He just needs to stay out of trouble.

KEY STATS

119

races since their
last GP victory

9

different engine
manufacturers

743

kilos: the weight
of the MCL34



2018 RESULTS Position 7th Points 52 Wins/podiums 0/0 Poles 0 Fastest laps 0

RACING POINT

THE DRIVERS

11
SERGIO
PÉREZ



Age 29
Debut 2011
Starts 155
Wins/podiums/
poles 0/8/0
Points 529



Now entering his sixth consecutive season at the team, Sergio Pérez has matured into a consistently quick driver who will almost certainly guarantee a good points haul. In 2018 he scored Force India's only podium – in Baku – and while he was beaten in qualifying by former team-mate Esteban Ocon, he finished four places higher up in the drivers' standings – with 13 more points. Strong financial backing from Mexico ensured his continuation in the wake of the change of ownership to his new team-mate's father, Lawrence Stroll.

F1 RACING VERDICT
Pérez should be able to keep ahead of his new team-mate, but should be wary he doesn't get sidelined

18
LANCE
STROLL



Age 20
Debut 2017
Starts 41
Wins/podiums/
poles 0/1/0
Points 46



There should be a renewed vigour in Lance Stroll this season as he joins the team his father took over last August. There was visibly a waning enthusiasm for driving for Williams as last season wore on, with frustrations over the car's outright pace. At times Stroll gave the impression he would rather be anywhere else than racing in a grand prix. The 2016 European F3 champion should be higher up the grid in 2019, but will have a daunting task going head-to-head with Sergio Pérez, who is quick in qualifying and should have the edge on race pace.

F1 RACING VERDICT
If Stroll can out-qualify Perez a few times and stay on the road to score regular points, it will be a decent year.

TEAM DETAILS

Base
Silverstone, UK
Chassis
RP19
Power unit
Mercedes
Team principal
Otmar Szafnauer
Technical director
Andrew Green

TEAM HISTORY

Debut Belgium 2018
Races started 9
Wins 0
Poles 0
Fastest laps 0
Points 52
Drivers' titles 0
Constructors' titles 0

LAST 5 YEARS



KEY STATS

59
points forfeited after
Force India's demise

4
races Pérez has
led in his F1 career

332
laps Stroll has
spent in 15th in F1



2018 RESULTS*

Position 8th

Points 48

Wins/Podiums 0/0

Poles 0

Fastest laps 0

ALFA ROMEO



TEAM DETAILS

Base

Hinwil, Switzerland

Chassis

C38

Power unit

Ferrari

Team principal

Frédéric Vasseur

Technical director

Simone Resta

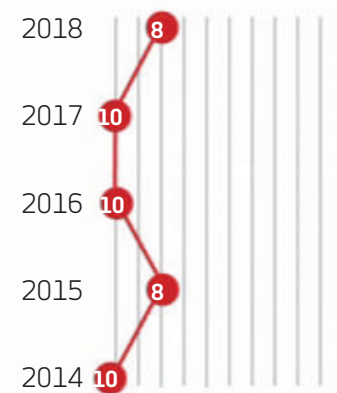
TEAM HISTORY

Debut Great Britain

1950

Races started 112**Wins** 10**Poles** 12**Fastest laps** 14**Points** 214**Drivers' titles** 2**Constructors' titles** 0

LAST 5 YEARS*



*as Sauber

THE DRIVERS

7 KIMI RÄIKKÖNEN

**Age** 39**Debut** 2001**Starts** 291**Wins/podiums****poles** 21/82/18**Points** 1,816**Titles** 1

For many fans, Kimi Räikkönen's stay of execution in F1 will be met with delight. His bluntness, honesty and appetite for fun has cemented Kimi as one of the most popular drivers in the sport's history. His antics at the FIA awards gala last winter have already established legendary status. At 39 (the oldest driver on the grid) he's still quick – as his victory in the US Grand Prix last year proved. There will be no major expectations of him at Alfa Romeo, so he can enjoy the next two seasons driving flat-out and dicing in the midfield.

F1 RACING VERDICT

Returning to the team that gave him his debut in 2001, Kimi will be free of Ferrari pressure and a joy to watch.

99 ANTONIO GIOVINAZZI

**Age** 25**Debut** 2017**Starts** 2**Wins/podiums/****poles** 0/0/0**Points** 0

Giovinazzi will be ineligible for a 'rookie of the year' award, because the Italian has already started two grands prix for Sauber (in early 2017), standing in for the injured Pascal Wehrlein in both Australia and China. While he finished 12th in his first GP, Shanghai was a disaster, as he crashed at the final corner in both qualifying and the race. Having spent the time since as a simulator driver for Ferrari, he's been given a second chance to perform at the Alfa Romeo-backed team this year. He'll be hoping for better luck this time around.

F1 RACING VERDICT

Team-mate Räikkönen is still one of the quickest drivers in the sport. It will be very tough to beat him.

KEY STATS

557


races since Alfa
Romeo's last F1 start

670K

followers of the
team on Twitter

58

laps raced in F1
by Giovinazzi



2018 RESULTS

Position 9th

Points 33

Wins/podiums 0/0

Poles 0

Fastest laps 0

TORO ROSSO



TEAM DETAILS

Base

Faenza, Italy

Chassis

STR14

Power unit

Honda

Team principal

Franz Tost

Technical director

TBC

TEAM HISTORY

Debut Bahrain 2006

Races started 247

Wins 1

Poles 1

Fastest laps 1

Points 415

Drivers' titles 0

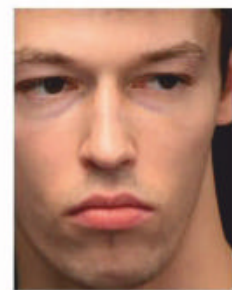
Constructors' titles 0

LAST 5 YEARS



THE DRIVERS

26
DANIIL
KVYAT



Age 24
Debut 2014
Starts 72
Wins/podiums/
poles 0/2/0
Points 133

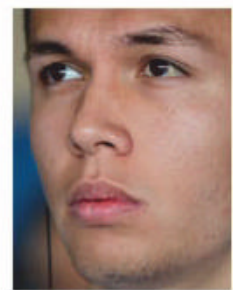


With both Daniel Ricciardo and Carlos Sainz leaving the Red Bull family last year, the fizzy drinks firm suddenly found they were short of suitable drivers (the hapless Brendon Hartley was dropped). The result is that Russian Daniil Kvyat gets a reprieve, having been discarded by Red Bull in 2016 and by Toro Rosso at the end of 2017. Kvyat has spent the past year as a Ferrari simulator driver and should have no trouble slotting straight back into his former team and being straight on the pace. Third time lucky, perhaps?

F1 RACING VERDICT

Toro Rosso slipped down the order in 2018 and so Kvyat won't be expecting to trouble the front-runners in 2019.

23
ALEXANDER
ALBON



Age 22
Debut 2019
Starts 0
Wins/podiums/
poles 0/0/0
Points 0



British-born Thai racer Alexander Albon's great season in F2 last year helped earn him a reprieve from Red Bull, who dropped him from their junior scheme in 2012. After a poor 2017 campaign, he upped his game in '18 taking four wins and three poles. He finished behind George Russell and Lando Norris in the standings, just losing out the runner-up spot after stalling at the start of the final race in Abu Dhabi. On average he finished higher in the feature races (where the grid isn't reversed) than Norris, so deserves his shot at F1.

F1 RACING VERDICT

Adapting to F1 isn't easy but Albon must be mentally strong, otherwise his tenure could be short-lived.

KEY STATS

535

2018 test miles by
Kvyat for the team

200K

Honda Motor
Company employees

4

wins scored by
Alex Albon in F2



W

2018 RESULTS

Position 10th

Points 7

Wins/podiums 0/0

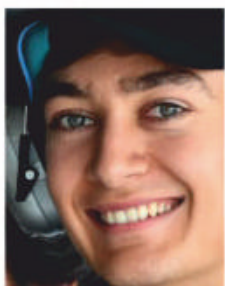
Poles 0

Fastest laps 0

WILLIAMS

THE DRIVERS

63
GEORGE
RUSSELL



Age 21
Debut 2019
Starts 0
Wins/podiums/
poles 0/0/0
Points 0



Despite a few mechanical gremlins, Russell was in a commanding position throughout last season's F2 championship, securing six victories on his way to the title. The 21-year old has been on Mercedes' young driver scheme for the past few seasons, and Toto Wolff has shown his faith in Russell by helping to facilitate a seat at Williams to gain experience of Formula 1. As Williams aren't expected to make huge strides up the grid in 2019 the spotlight should be off Russell, so he can learn his trade quietly.

F1 RACING VERDICT

Keep an eye on how Russell copes with the returning Robert Kubica on the other side of the garage.

88
ROBERT
KUBICA



Age 34
Debut 2006
Starts 76
Wins/podiums/
poles 1/11/1
Points 273



It's been eight years since Robert Kubica had his horrendous life-threatening accident in an Italian rally. Although he has limited mobility in his right arm, the extraordinary comeback has finally materialised as – with a little help from Polish sponsorship – Kubica will return to the grid in 2019. The competitive spirit burns brightly in the Pole, so expect him to be extremely demanding on the Williams team to improve performance and get themselves up the grid. Hopefully, Kubica will bring some much-needed cheer to Grove.

F1 RACING VERDICT

Given his long road to recovery, even seeing Kubica back on an F1 starting grid is worthy of high praise.

TEAM DETAILS

Base

Grove, UK

Chassis

FW42

Power unit

Mercedes

Team principal

Frank Williams

Technical director

Paddy Lowe

TEAM HISTORY

Debut Argentina 1975

Races started 711

Wins 114

Poles 128

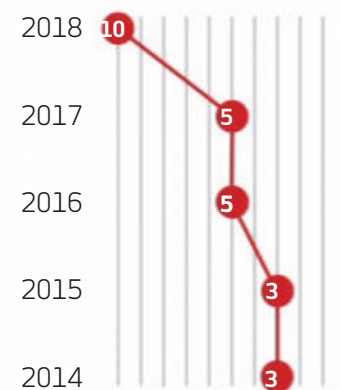
Fastest laps 133

Points 3,566

Drivers' titles 7

Constructors' titles 9

LAST 5 YEARS



KEY STATS

16

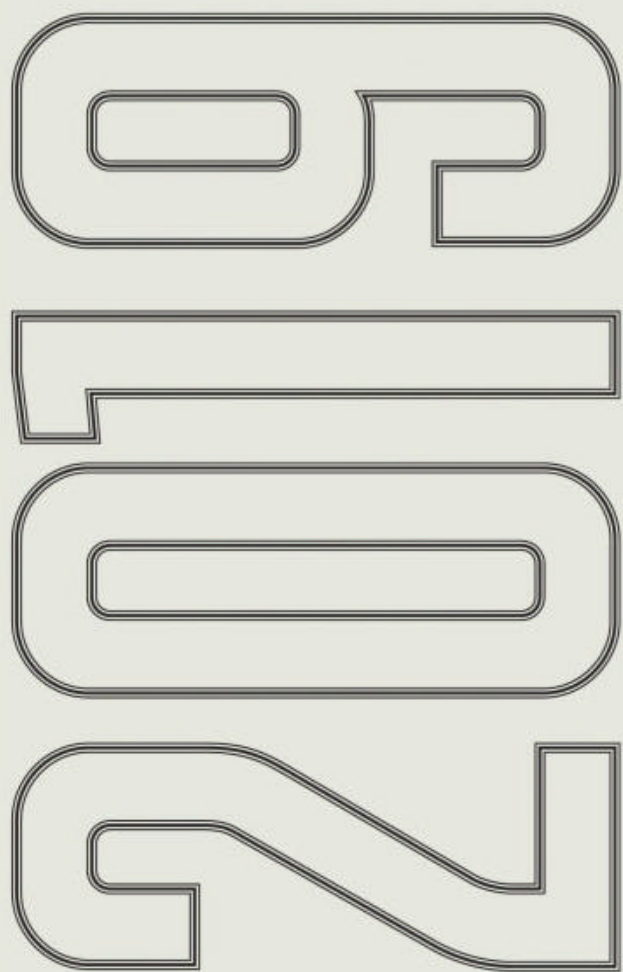
drivers have won
races for Williams

33

races since the
team's last podium

8

years since
Kubica's last finish



CIRCUIT GUIDE

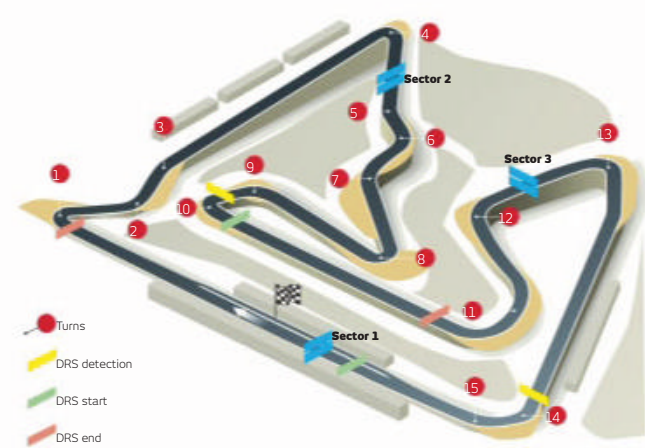
Even though we're still waiting for the arrival of the much-hyped Miami GP, the F1 calendar remains a continent-spanning epic: 21 thrilling races all over the globe...



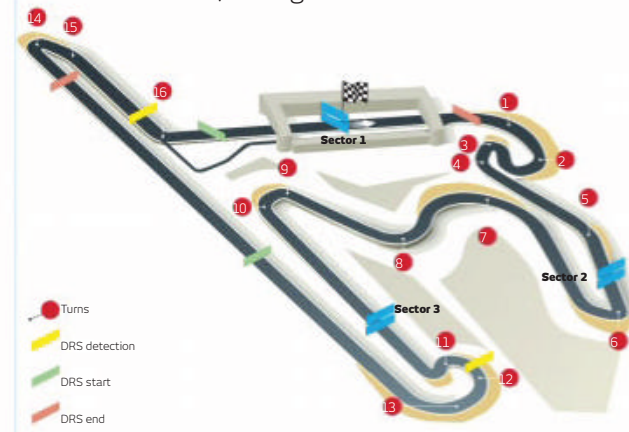
Round 1
AUSTRALIAN GRAND PRIX
15-17 March, Albert Park, Melbourne



Round 2
BAHRAIN GRAND PRIX
29-31 March, Bahrain International Circuit, Sakhir



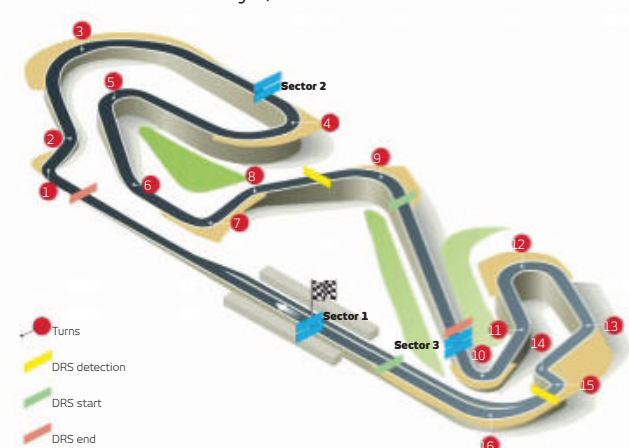
Round 3
CHINESE GRAND PRIX
12-14 April, Shanghai International Circuit, Shanghai



Round 4
AZERBAIJAN GRAND PRIX
26-28 April, Baku City Circuit, Baku



Round 5
SPANISH GRAND PRIX
10-12 May, Circuit de Barcelona-Catalunya, Barcelona



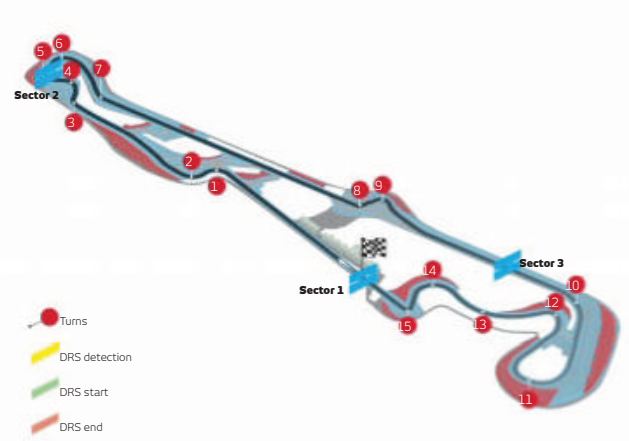
Round 6
MONACO GRAND PRIX
23-26 May, Monaco, Monte Carlo



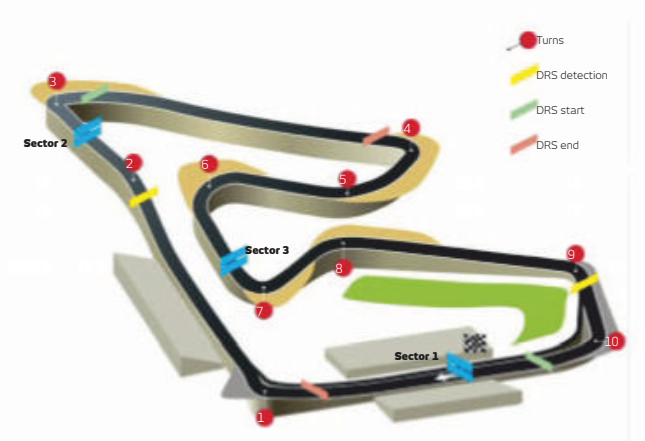
Round 7
CANADIAN GRAND PRIX
7-9 June, Circuit Gilles Villeneuve, Montreal



Round 8
FRENCH GRAND PRIX
21-23 June, Circuit Paul Ricard, Le Castellet



Round 9
AUSTRIAN GRAND PRIX
28-30 June, Red Bull Ring, Spielberg





Round 10

BRITISH GRAND PRIX

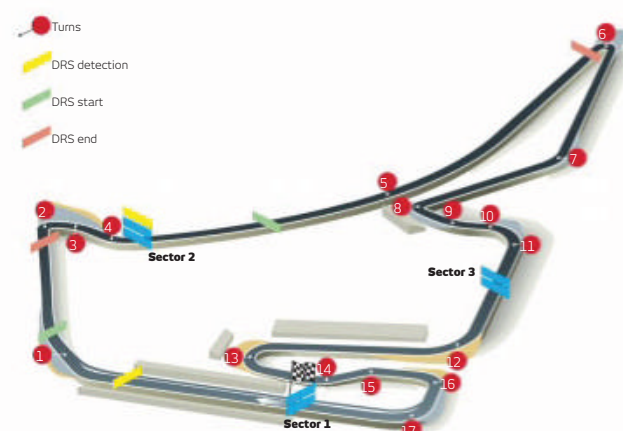
12-14 July, Silverstone, Northampton



Round 11

GERMAN GRAND PRIX

26-28 July, Hockenheimring, Heidelberg



Round 12

HUNGARIAN GRAND PRIX

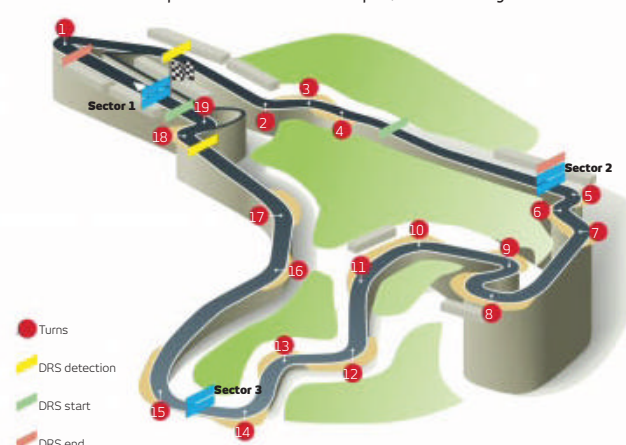
2-4 August, Hungaroring, Budapest



Round 13

BELGIAN GRAND PRIX

30 August-1, September
Spa-Francorchamps, Malmedy



Round 14

ITALIAN GRAND PRIX

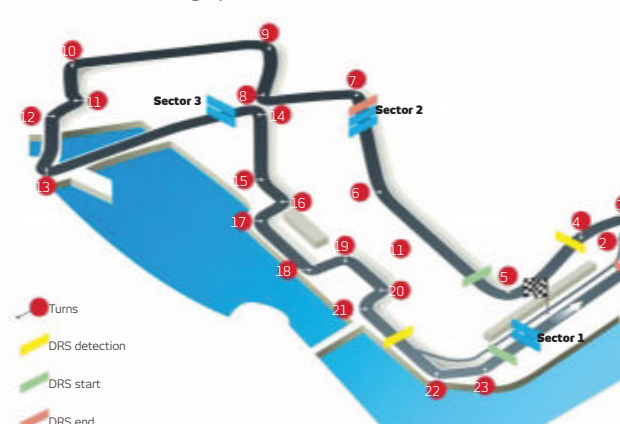
6-8 September, Monza, Milan



Round 15

SINGAPORE GRAND PRIX

20-22 September, Marina Bay Circuit, Singapore



Round 16

RUSSIAN GRAND PRIX

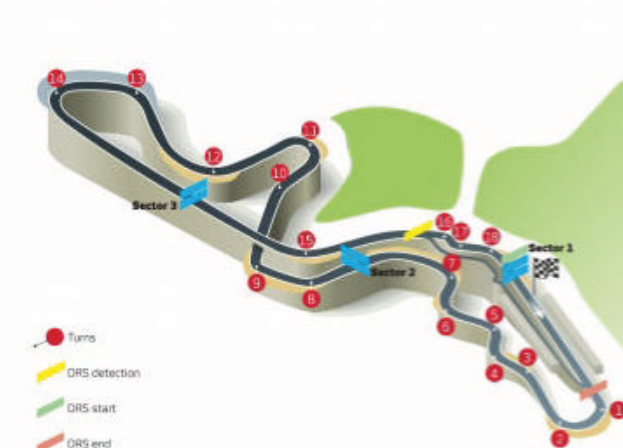
27-29 September, Sochi Autodrom, Sochi



Round 17

JAPANESE GRAND PRIX

11-13 October, Suzuka Circuit, Suzuka



Round 18

MEXICAN GRAND PRIX

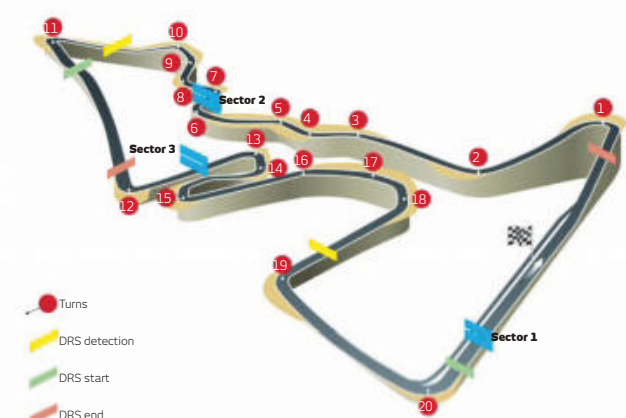
25-27 October, Autodromo Hermanos Rodríguez, Mexico City



Round 19

UNITED STATES GRAND PRIX

1-3 November, Circuit of the Americas, Austin



Round 20

BRAZILIAN GRAND PRIX

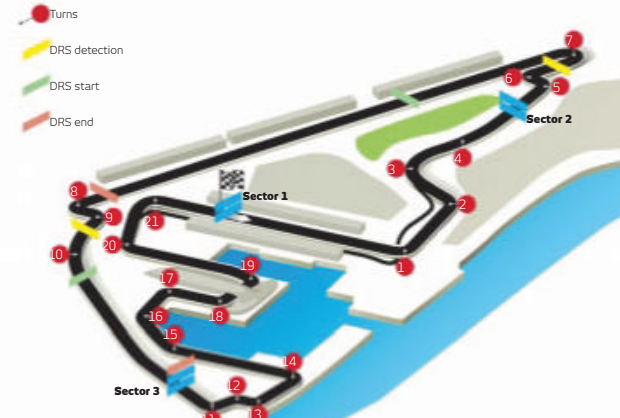
15-17 November, Autodromo Jose Carlos Pace, Interlagos



Round 21

ABU DHABI GRAND PRIX

29 November-1 December, Yas Marina Circuit, Abu Dhabi



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DRIVERS, NEW RULES

**SCHUMACHER
OR ALONSO?**

WHY 2019 WILL
DECIDE VETTEL'S
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FERRARI LEGACY

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NEW HONDA WINGS**
Can they avoid repeating
McLaren's nightmare?

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Will he ever be
the same?

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- Glamping (on request)



A few highlights from 2018



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FINISHING STRAIGHT

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INBOX

PICTURES **motorsport**
IMAGES**If Formula 1 and Silverstone can't reach agreement soon, a long-running love affair may be about to end**

Is this the final British GP at Silverstone?

I have to confess that I only visit Silverstone for the British GP, but last week was driving along the Dadford Road next to the track. I was struck by the eerie presence of the huge grandstands that lay dormant and stopped to admire the dramatic 'Wing' complex.

I couldn't help thinking what an incredible waste it would be if F1's owners and the circuit failed to negotiate a new contract to keep the race beyond this year.

Silverstone is awesomely quick and has the infrastructure and space to host a grand prix, accommodating hundreds of thousands of passionate, die-hard F1 fans like me.

I'm all for new races in Singapore

and Baku, but these races are far too financially prohibitive for me to attend. It's enough to fork out the subscription to Sky just to be able to watch them live on the TV this year!

I hope both parties will see sense and the money that has been used to upgrade Silverstone over the years doesn't go to waste...

Lee Bishop
Hurstpierpoint, UK

More means success?

As a lifelong Ferrari fan – they are the team that, more than any other, epitomise the glamour and prestige of F1 – I'm delighted to see they will be loosening the purse strings in pursuit of success in 2019.

As much as I admired the late president Sergio Marchionne for shaking Ferrari awake from a

period of slumber, I worried his commitment to balancing the books and public tubthumping over F1's future rules and commercial arrangements might genuinely lead to Ferrari quitting the sport.

How heartening to see that improved results over the past two seasons have led to increases in sponsorship revenue and prize money, and that Ferrari is prepared to plough a portion of that back into the team that generates it.

Ferrari is F1's most important team – its biggest team, its grandest team, its most recognisable asset. F1 would not be the same without Ferrari, and is not the same when Ferrari is not winning, or at least able to challenge for wins regularly.

That's why it's vital Ferrari are

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funded to win too. Happily, that will be the case in 2019. So, watch out Mercedes!

Tony Butler
By email

Tales from the crypto

I noticed with bemusement that Romain Grosjean and Red Bull Racing are both being sponsored by cryptocurrencies this season.

It was only curiosity that drove me to discover these things existed after the spam bin in my email program began to fill up with a range of badly spelled offers to invest in such. Each to their own.

But I have to ask: are these sponsors paying in 'bitcoin', cash, mud and sticks, or tulip bulbs?

Michael Staniforth,
By email

No gimmicks please

Not at all sure about this Alfa Romeo and Sauber thing. I feel one Fiat team from Italy is enough.

It would be much better if they put the Alfa Romeo name back into the WEC to challenge Toyota and breathe new life into that series.

Aleš Norský
By email

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Ricciardo on his new Motorsport Images life at his new team special feature How the Ferrari new boy fared in Oz



- > Has Formula 1 broken Britain's greatest teams?
- > All the latest technical trends from testing
- > Racing Point's plans to move to the next level
- > History of McLaren part 5: 2002-2012



FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 1

AUSTRALIAN GP

15-17 March 2019
Melbourne

PICTURES: ZAK MAUGER; MANUEL GORIA; ILLUSTRATION: ALAN ELDREDGE



RACE DATA

Circuit name Albert Park
First grand prix 1996
Number of laps 58
Circuit length 3.295 miles
Race distance 191.117 miles
Longest straight 0.52 miles
Elevation change 8.5 feet
Lap record 1m 24.125s
 Michael Schumacher (2004)
F1 races held 23
Winners from pole 9
Pirelli tyre compounds
 C2, C3, C4

CAR PERFORMANCE

Downforce level High
Cooling requirement Medium
Fuel consumption 1.81kg/lap
Full throttle 61%
Top speed 203mph
Average speed 128mph

TIMETABLE
(UK TIME)

Friday 15 March
Practice 1 01:00-02:30
Practice 2 05:00-06:30
Saturday 16 March
Practice 3 03:00-04:00
Qualifying 06:00-07:00
Sunday 17 March
Race 06:10
Live coverage Sky Sports F1
Highlights Channel 4

THE MAIN EVENT

The new season gets under way at its traditional venue, the popular Albert Park lakeside circuit in Melbourne, Australia. For the teams this is the longest single trip of the year as they unpack their new cars and equipment after a 10,500 mile journey across the globe.

In preparation for the opening grand prix of 2019, teams will transport up to 23 tonnes of sea freight (which will have left Europe in mid-January) and 40 tonnes of air freight.

Mechanics, engineers and drivers also need to prepare for the long-distance voyage and handle the 11-hour timezone shift so that jet lag doesn't impair performance. Fortunately the anticipation of a new season will keep the adrenaline levels high.

KEY CORNER: Turn 3. A tricky third-gear right-hander taken at 70mph. At the end of the second DRS zone, it's the optimum place to attempt an overtake.



2018 RACE RECAP

Lewis Hamilton led away from pole position, but lost the lead when his Mercedes team miscalculated how much the Virtual Safety Car would affect his pitstop strategy. The VSC had been deployed after both Haas drivers stopped on track because their wheels had been incorrectly fitted during their pitstops.

Vettel emerged from his stop ahead of Hamilton and he held on to take victory. Kimi Räikkönen took the final podium slot ahead of local hero Daniel Ricciardo.



THE LAST FIVE WINNERS HERE...



2018
 Sebastian
 Vettel
 Ferrari



2017
 Sebastian
 Vettel
 Ferrari



2016
 Nico
 Rosberg
 Mercedes



2015
 Lewis
 Hamilton
 Mercedes



2014
 Nico
 Rosberg
 Mercedes

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FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 2

BAHRAIN GP

29-31 March 2019
Manama

PICTURES: MANUEL GORIA; GLENN DUNBAR; ILLUSTRATION: ALAN ELDRIDGE



RACE DATA

Circuit name Bahrain

International Circuit

First grand prix 2004**Number of laps** 57**Circuit length** 3.36 miles**Race distance** 191.53 miles**Longest straight** 0.75 mile**Elevation change** 55.44m**Lap record** 1m31.447s

Pedro de la Rosa (2005)

F1 races held 14**Winners from pole** 10**Pirelli tyre compounds**

C2, C3, C4

CAR PERFORMANCE

Downforce level Medium**Cooling requirement** High**Fuel consumption** 1.7kg/lap**Full throttle** 66%**Top speed** 199mph**Average speed** 136mph

TIMETABLE

(UK TIME)

Friday 29 March**Practice 1** 12:00-13:30**Practice 2** 16:00-17:30**Saturday** 30 March**Practice 3** 13:00-14:00**Qualifying** 16:00-17:00**Sunday** 31 March**Race** 16:10**Live coverage** Sky Sports F1**Highlights** Channel 4

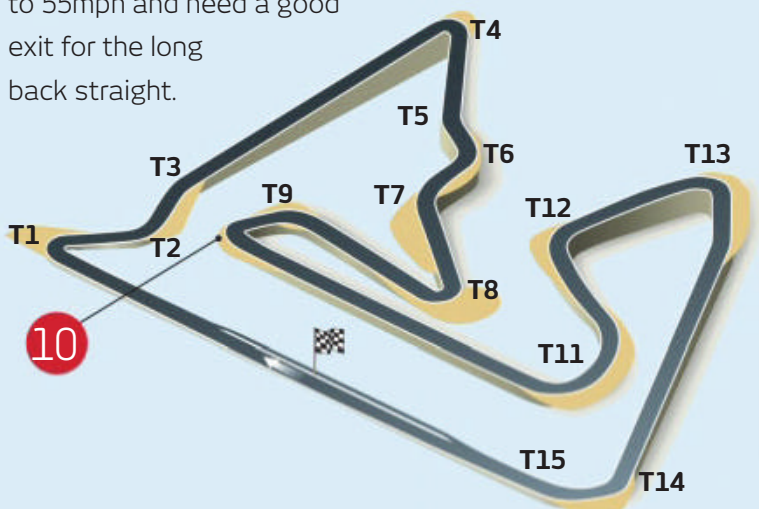
THE MAIN EVENT

After the long-haul trip to Australia, the second round of the world championship is a little closer to the team's bases – just a seven-hour flight to the Middle East.

The Bahrain International Circuit is in the south of the island kingdom, a 30-minute drive from the capital Manama. This race will be a tougher test than Melbourne because the heat and dust are notorious engine breakers, while the stop-start nature of the abrasive track is punishing for both tyres and brakes.

The most representative practice session is Friday's FP2, held in the local evening time. As the track temperature drops away the balance of the cars changes, and it's important for teams to find a baseline set up because the race begins at sunset and finishes under floodlights.

KEY CORNER: **Turn 10.** A second-gear, off-camber left-hander. Drivers brake from 170mph to 55mph and need a good exit for the long back straight.



2018 RACE RECAP

This was a duel between Ferrari's Sebastian Vettel and Mercedes' Valtteri Bottas because Lewis Hamilton started ninth on the grid after a penalty for a gearbox change.

The Brit charged through the order in the opening stages and made contact with Max Verstappen, causing the Red Bull to suffer a puncture. Kimi Räikkönen had to retire when an unsafe release caused him to injure one of his mechanics. Bottas, on fresher tyres, tried to pass Vettel on the final lap, but had to settle for second.



THE LAST FIVE WINNERS HERE...



2018

Sebastian
Vettel
Ferrari

2017

Sebastian
Vettel
Ferrari

2016

Nico
Rosberg
Mercedes

2015

Lewis
Hamilton
Mercedes

2014

Lewis
Hamilton
Mercedes

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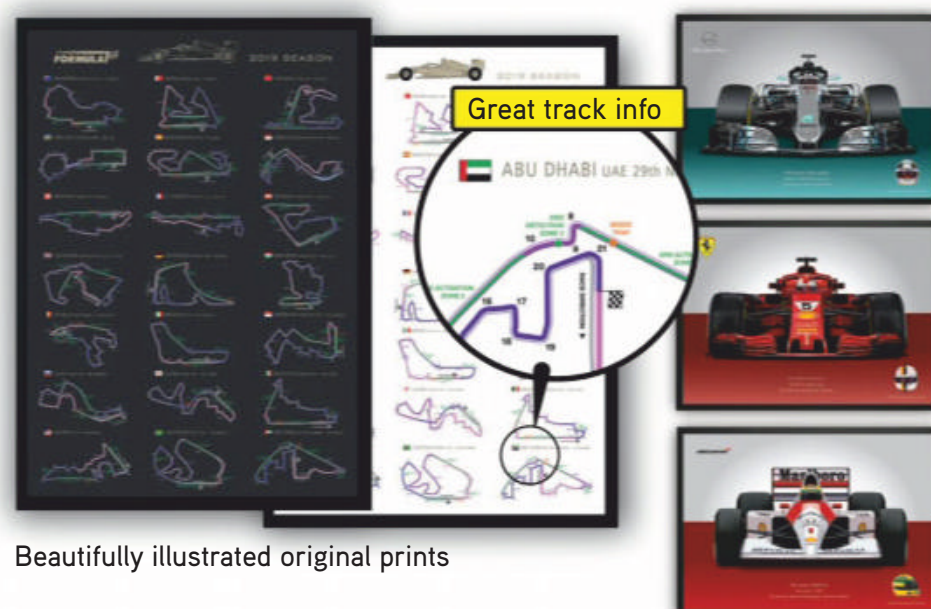


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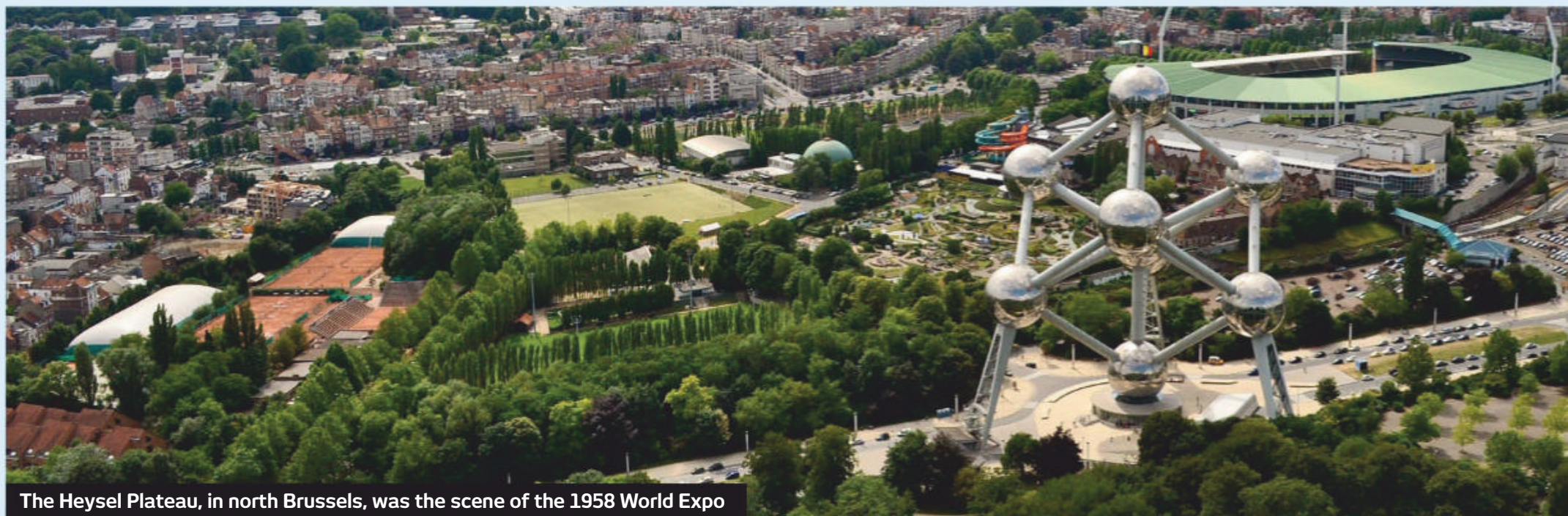
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TRAVEL GUIDE

FINISHING STRAIGHT



The Heysel Plateau, in north Brussels, was the scene of the 1958 World Expo



Spa's spectacular Eau Rouge, one of the famous corners in Formula 1

PICTURE: ANDY HONE. OTHER PICTURES: SHUTTERSTOCK

VISIT THE BELGIAN GRAND PRIX

SPA, 30 AUGUST-1 SEPTEMBER, 2019



YOUR GUIDE TO BRUSSELS

Fans looking to soak up some Belgian culture love to spend their pre-GP time in the country's ancient capital, Brussels, before travelling to the dauntingly quick Spa-Francorchamps, one of the favourites on the Formula 1 calendar.

Your time in Brussels will likely centre around the Grand-Place in the very heart of the old part of the city. The large open square was developed in the 10th century and is surrounded by market buildings and civic halls.

It was awarded UNESCO World Heritage Site status in the late 1990s for its incredible beauty

and historic significance, and is home to plenty of great restaurants and bars.

Just a short walk from the Grand-Place is probably one of the city's most important symbols. The Manneken Pis is a tall bronze water feature of a boy urinating into the fountain's basin and it is symptomatic of a playful brand of humour you will find evident throughout the city, known as *zwanze*.

The original 1619 figure is now found in the Museum of the City of Brussels, but the current 1965 incarnation is just as famous and revered around the city. You'll often see the young

boy dressed up in various costumes, such as a vampire, jazz saxophonist or even a judo fighter.

Heading north from the Grand-Place is La Monnaie de Munt. Built in 1700, this is the home of the National Opera of Belgium and one of the most highly regarded settings in the world. Check the venue's website for the latest show times, or just head there anyway to absorb the breathtaking architecture and atmosphere which comes with such an impressive cultural hub.

Brussels' Royal Museums of Art and History are home to some of the nation's most incredible treasures and cultural artefacts. Take your



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Cook
Sport**



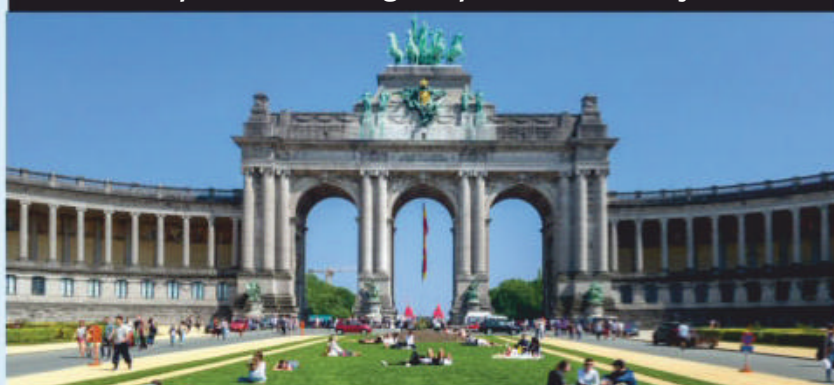
The open space of the Grand-Place is the heart of Brussels



The futuristic Atomium has a restaurant in one of the spheres



Parc du Cinquantenaire is a great place to end a city tour



FAST FACTS

Flight time 1hrs 25mins from Manchester; 2hrs Eurostar from London

Currency Euro **Time zone** GMT+1

Temperature 15°C (average high)

pick from the Horta-Lambeaux Pavilion, Halle Gate, Museums of the Far East and the Musical Instrument Museum. The group, founded by King Leopold II, is a must for any history buffs who want to understand the cultural history of the city and how it became such an integral part of the European political sphere.

Outside the city centre, you'll find the Atomium on the site of the city's 1958 World Expo. The building was designed to match the molecular structure of an iron crystal – but 165 billion times larger – and is a spectacular sight. Standing 335 feet tall with nine 60-foot diameter spheres

on the end of gleaming tubes jutting from its central spire, the structure is a unique piece of architecture. It accommodates an array of exhibitions and events, as well as a restaurant in the uppermost sphere.

Parc du Cinquantenaire is the ideal spot to finish your whistle-stop tour of one of Europe's quirkiest cities. Opened in 1880, to mark the 50th anniversary of Belgian independence, the park is vast with several gardens and museums to explore and an incredible centrepiece triumphal arch, comprising three separate arches and a huge U-shaped arcade.



ASK THE EXPERT THE THOMAS COOK SPORT REP'S VIEW

What's your favourite part of the track?

It has to be Eau Rouge, one of the most exciting parts of the circuit where drivers are flat out. An F1 fan's dream to watch.

The best thing to do away from the track?

It has to be the Grand-Place, the beautiful centrepiece of Brussels, which contains numerous spectacular restaurants. There's stunning food, great beer and amazing views. A meal here is a genuinely special experience.

Any local food or drink to recommend?

Probably everything Belgium is famous for: beer, chocolate and waffles. They are an absolute must. You won't struggle to find any of these but as usual, expect to pay a little more in the tourist spots.

How long is the transfer?

Transfers from Spa to Brussels take between two and three hours, so I'd recommend some music to listen to. With plenty of drinks and snacks the time will fly by.

What's your top tip for this race/destination?

Spa's fan village is one of the best. There is loads to see and do, from racing simulators to merchandise stalls, and plenty of places to eat and drink. If you are predominantly interested in F1, look to stay in Liège, since circuit transfers are shorter than Brussels.

THOMAS COOK SPORT BREAK DETAILS

Flight, 3-night break, Eurostar from London, £589 per person

YOUR BOOKING INCLUDES:

- ★ Return Eurostar from London to Brussels
- ★ 3-nights accommodation with daily breakfast
- ★ Weekend general admission ticket
- ★ Return race day circuit transfers
- ★ Service charges and taxes

For more info visit
www.thomascooksport.com/motorsports

Or talk to an expert: **01733 224 573**

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F1 UPGRADES

Enhance the F1 experience with the latest must-have products



THE OFFICIAL REVIEW OF
THE 2018 FIA FORMULA 1
WORLD CHAMPIONSHIP

Format Blu-ray

Price £16.99

www.dukevideo.com

While you wait for the new F1 season to kick off, why not remind yourself of the events of the year just passed. The 2018 content, produced by Formula 1, has received some criticism for being shorter than previous years, but at a run time of 136 minutes the tighter edit offers a perfect summary of each grand prix. And unusually, rather than offer a

re-voiced overview, commentary has been taken from the live Sky Sports F1 broadcast voiced at the time by David Croft and Martin Brundle.

The 2017 offering ran over two discs, whereas this uses just one. Aside from the race-by-race action, there is also an extra 56 minutes of bonus features. That includes the on-board of every pole position lap and a couple of behind the scenes features – plus a tribute to Fernando Alonso.

As ever, if you have a Blu-ray player, it's worth forking out the extra for the higher quality footage. Distributors Duke Video are currently offering a discount.



F1 SEASON REVIEW BOX SETS

1970-79

Price £79.99

1980-89

Price £109.99

1970-2009

Price £379.96

www.dukevideo.com

The change in Formula 1's ownership hasn't just brought a focus on new output, such as the F1TV app or the highly rated F1: Beyond The Grid podcast. The owners have also delved into the archives and, with the help of Duke Video, converted the old VHS season reviews onto DVD. Each decade (from 1970-2009 inclusive) is now a boxed set.

There is nothing new about the collection if you bought the originals, but having a large slice of the history of F1 boxed up in one place is very satisfying. All in 4:3 format, the 1970s collection runs to 520 minutes in total and is the original Brunswick Films compilation.

In the 1980s FOM began to annex the TV rights to races, and the result is that the collection in this era is much more extensive. The total of ten discs runs to nearly 18 hours.

Those familiar with the old reviews will reminisce as they hear the witty tones of Clive James's narration (in 1982, '84 and '86), combined with the rudimentary on-board footage. These F1 box sets are pure nostalgia.

MERCEDES-AMG PETRONAS
MOTORSPORT 2018 REPLICA
STEERING WHEEL 1:1 SCALE

Price £3,495

mementoexclusives.com

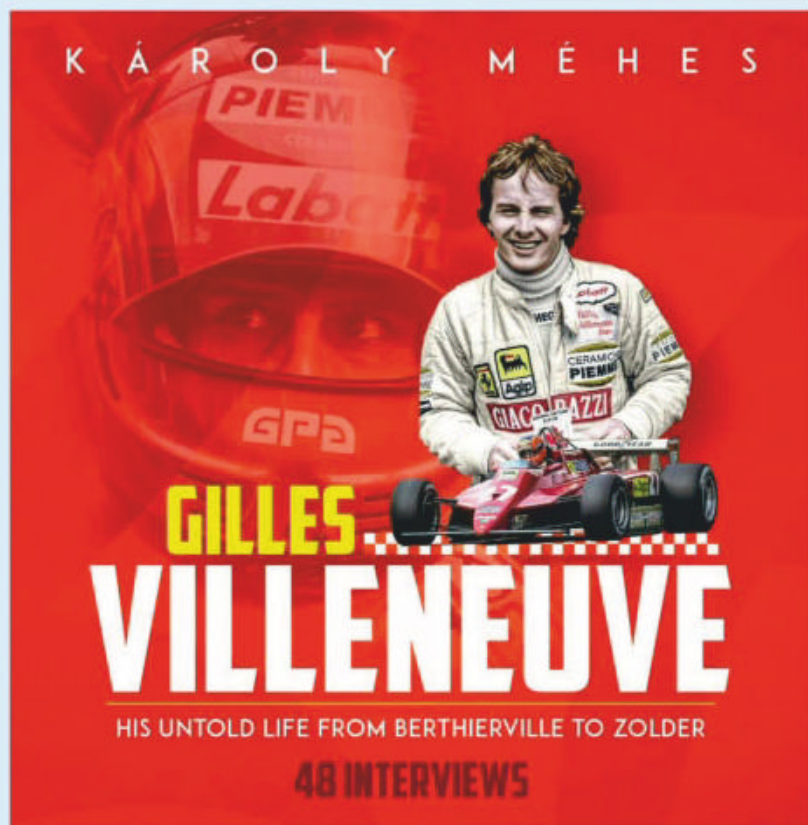
To celebrate Mercedes' title-winning success, a limited edition of just 99 pieces of this collectors' replica 1:1 scale steering wheel have been commissioned. They exactly match the original, as used by Lewis Hamilton and Valtteri Bottas in the Mercedes W09, complete with working

buttons, switches and paddles.

To ensure complete accuracy of representation, they have been created with CAD data and in full consultation with Mercedes' aero and design offices. The steering wheels have been hand-crafted by the expert model makers at Amalgam, taking 2,500 hours to develop the first model and two weeks to finish each replica.

The model measures 280mm x 164mm x 150mm and comes complete with an acrylic luxury display case.





GILLES VILLENEUVE:
HIS UNTOLD LIFE FROM
BERTHIERVILLE TO ZOLDER

Author: Károly Méhes

Price: £25

www.pitchpublishing.co.uk

If Gilles Villeneuve were alive today, he'd be in his mid-60s. Instead, images of the French-Canadian are frozen in time: the mop of dark hair, the easy smile, the studies of deep concentration. But it's the action photographs in skittering Ferraris that really capture the man in the orange and deep-blue crash helmet.

The fascination for Villeneuve lingers for those who saw him race or grew up with Formula 1 in the late 1970s and early 80s.

Journalist Károly Méhes was one of those mesmerised by Villeneuve, who died in a horrible qualifying crash at Zolder in 1982. In this tribute, he has gathered 48 short Q&A interviews from those who raced against him, knew him – and loved him.

It is to the author's credit that not every interview is complimentary. Some had their doubts about Villeneuve's genius, claiming his talent was overrated. Those views are absolutely part of the Villeneuve story and deserve their place in this nicely presented book.

WAITING

Author: Richard Kelley

Price: £30

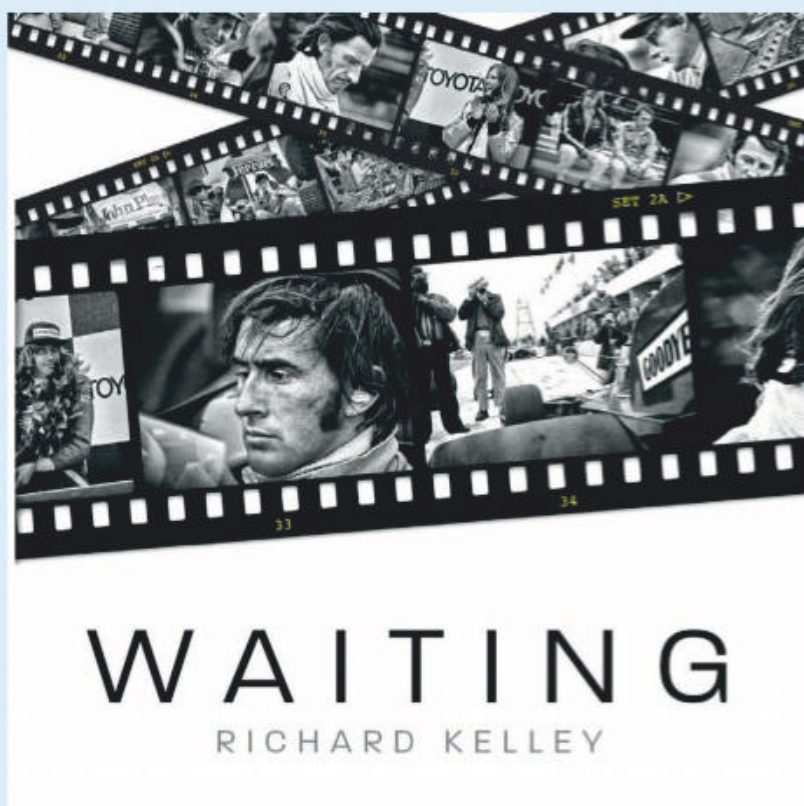
www.pitchpublishing.co.uk

The motor racing photo-journalist is like the cricket all-rounder. As Ian Botham was as deadly with the ball as he was with the bat, so the photo-journalist must be able to add context and depth to his images and convey a narrative. From the images presented here, in Richard Kelley's first book, it's clear this American is a talented proponent of the art.

Kelley fell in love with Formula 1 at the right time for a photographer. His images capture the heroes of two decades, spanning 1972 to '84, after which time access to the sport began to tighten.

Moody monochrome portraits are plentiful, offering an essence of a time when racing drivers looked properly tough, worn around the edges by the rigours of a deadly sport.

This is a gritty, grainy perspective



that looks past the colour and glamour of 1970s F1 – and it's all the better for it. Highly recommended.



TECH WATCH
RACING TIMER
CHRONOGRAPH

Alpinestars

Price \$235

www.alpinestars.com

Established in 1963, the Italian company Alpinestars is a leading manufacturer of motorsports clothing, apparel and safety gear. They currently supply a number of Formula 1 teams including Renault, Williams and Haas.

The company's new timepiece, the Tech Watch Racing Timer Chronograph, has been inspired by the precision of timed racing.

Available from selected Alpinestars dealers, the new watch features a 45mm stainless steel case, a rotating bezel and an integrated durable silicon strap. On the right, stopwatch-inspired buttons operate the high-tech countdown racing timer.



FLAT CHAT

{ FULL THROTTLE
MUSINGS WITH
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2019 amendments have been rushed into being. Apparently, FIA president Jean Todt was nonplussed by the lack of overtaking during last year's Australian Grand Prix, and in a bid to avoid nodding off he began to place phone calls demanding that something be done. Perhaps he should join Twitter – oh, he has...

Formula 1 itself is undertaking a huge research effort to get the 2021 rules right, involving time-served technical staff drawn from within the sport, consultations with teams, and advanced computer simulations. The commercial rights holders were not, we understand, best pleased when they learned the FIA wanted to fast-track at least part of the process (especially since Albert Park

is an unrepresentative track on which it's always been difficult to overtake).

In the more cooperative spirit of the post-Bernie age, though, F1 played nicely and the only dissenting voices among the other stakeholders have come from the usual suspects, such as Red Bull's 'driver advisor' Helmut Marko. He's been outspoken enough for everybody, claiming that Red Bull spent €15million complying with the new regulations – and that the car is already up to mid-2018 performance levels. Team principal Christian Horner said as early as last May that the 2019 concept was based on "immature research".

That's quite churlish. The new rules have had plenty of brainpower and creativity directed at them, led by ex-Ferrari designer Nikolas Tombazis, but the benefits are still theoretical. And even if the net result is little or no tangible change, perhaps that's not such a bad thing – aside from the expense.

"If we hadn't done anything, the 2019 cars would have been even harder to follow than the 2018 cars were," says F1's chief technical officer Pat Symonds, who is heading up Formula 1's conceptual research for 2021. "So what we've done is pegged it back a bit. Don't expect a transformational change, but believe me it would have got worse – what we've done is at least maintained the status quo and, I suspect, even improved things a little bit."

Have all those millions really been wasted if you can't actually see a result? At least let's wait to pass judgement until after F1 reaches an overtaking friendly circuit...

NOTHING TO SEE DOESN'T EQUATE TO FAILURE

Remember when you partied and it *was* 1999? As the clocks ticked inexorably towards midnight, so too imminent doom approached in the form of the so-called Millennium Bug. Who knew what catastrophes would ensue as the new century began and computers all over the world went into meltdown, unable to cope with a quadruple-digit date change?

In the event, no nuclear reactors went critical, aeroplanes remained in the sky, and humanity rubbed its collective head and got on with the traditional New Year business of clearing out the empties, setting irresolutions, and praying for a decent James Bond film in the afternoon. In the public consciousness, the abortive apocalypse was filed away as a pointless (if highly lucrative) beano for the IT industry.

But absence of evidence doesn't equate to evidence of absence. The threat *was* real and it took months (and in some cases years) of detailed toil as well as investment to achieve the net result of no noticeable change. And something similar



**The aero tweaks for 2019
may not make it easier
to follow a car but it
shouldn't be any harder**

might be about to happen in Formula 1.

The mild tweaks to the aerodynamic regulations this season are supposed to be the first steps towards a completely new set of technical rules in 2021. Reducing the outwash effect of the front wings *could* facilitate more overtaking opportunities, by allowing cars to run closer to one another in the corners, but equally they may not. Even before a single new car turned a wheel in anger, the naysayers were rehearsing their I-told-you-sos.

You can see why. While the post-2020 ruleset will be the most rigorously researched and scientifically evaluated formula ever – as opposed to the days when changes were dictated because the likes of Bernie Ecclestone or Max Mosley disembarked from the wrong side of bed – the



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4 – 7 JULY



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