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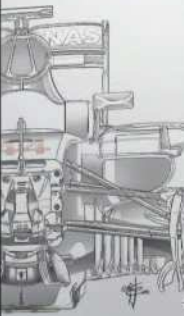


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Contributors



JAMES ALLEN

Within our new business section you'll find a monthly column (p29) authored by James, one of the most plugged-in experts in Formula 1



NIGEL ROEBUCK

You'll also find a new historic section this month; at its heart is a new column (p88) from the legendarily sagacious 'NSR'



PETER J FOX

'Foxy' is Toro Rosso's official F1 photographer, so who better to ask for some great pics of Pierre Gasly for our feature on page 70



BEN ANDERSON

Our technical view of the three top F1 cars of 2018 (p49) comes courtesy of Ben, senior F1 guru on our sister publication *Autosport*

Eyes on the (very special) prize

Look closely and you'll see 'Piedi per terra e a testa bassa' written on the lip of the peak of the cap that sits atop Sebastian Vettel's head when he's not driving his SF71-H. It's there on the cover of this month's magazine, declaring sentiments to the effect of: 'Feet on the ground and head down.'

The phrase speaks to 'humility' and 'industry' – two valuable watchwords for a team and driver about to enter the fight of their lives against Lewis Hamilton and Mercedes. Alone, they won't be enough to contain what looks like a formidable silver winning machine this season, but if Ferrari remain true to those values and manage to develop their car into something that can match the W09, then *maybe* we have the fight on our hands that F1 fans the world over would so relish.

Because yes, in case it had escaped your attention, dear reader, for the first time ever we have two four-time world champions going head-to-head for a fifth title and it seems certain that it'll be Seb and Lewis who duke it out for the big prize (unless the Red Bull-Renault combo conjure something to elevate themselves from being feisty contenders into genuine frontrunners).

With their win in Melbourne, Vettel and his Scuderia couldn't have hoped for a better start to their 2018 campaign, even if, on pure pace, they're some way from the peaks of performance Hamilton

and Mercedes seem certain to achieve. And they won't care a jot that it took a Mercedes algorithm mangle to offer Seb the sniff of the chance he needed to take a victory against the odds. Ferrari got the 'W' and who knows how valuable that position and the points that go with it will be, come Abu Dhabi in November?

If this all sounds a little too pro-Ferrari, it's not intended to, for the achievements of Mercedes these past four seasons, in winning four consecutive drivers' and constructors' title doubles, are worthy of the highest acclaim: they might just be the best F1 team ever assembled, which very notion serves only to increase the scale of the challenge ahead for their rivals.

What we wish for, in fact, is not Ferrari wins *per se*, but for *competition*. Give us three or four or five team-driver pairings capable of winning regularly and we'll truly be alive with anticipation for the season ahead.

Delivering those thrills is the challenge that F1's new owners Liberty Media have set themselves and by the time you read this, more of their plans for the sport's future direction will have been made public. Until then, settle down for the showdown.

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Creative content director

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Ticker tape parade

This is the first podium of the season – Albert Park – and once again hundreds of thousands of pieces of ticker tape shoot out from two cannons while the top three drivers are celebrating on the rostrum.

I'm able to access the walkway above the podium because we supply images for the Australian GP organisers. The only other people up here were an FOM TV cameraman and some of the new 'grid kids' with their parents.

The trick to this shot is to pre-focus the camera in the area the drivers are going to be and to keep shooting. There is so much ticker tape that you usually only manage to get one or two usable frames.



Photographer



LAT IMAGES: Steven Tee

Where Melbourne, Australia

When 5.48pm, Sunday
25 March 2018

Details Canon EOS-1DX MkII,
28mm lens, 1/500th @ F5

F1 PARADE

Max gets into a spin

For Australia, I decided to shoot the start of the race from the outside of Turn 2. I chose to stay by the barriers rather than up in the photographers' tower, as I think you get a much more dynamic shot close to the track.

In the early stages, Max Verstappen was pushing hard as he was stuck behind the Haas of Kevin Magnussen. I believe he damaged his diffuser, which caused him to spin in Turn 2.

I was pre-focused with the camera on a specific part of the kerb, but when his car took a different trajectory I had to suddenly press the autofocus button while trying to follow the spinning car as best as I could. It required lightning fast reactions to capture.



Photographer



LAT IMAGES : Andy Hone

Where Melbourne, Australia

When 4.27pm, Sunday
25 March 2018



Details Canon EOS-1DX,
500mm lens, 1/1000th @ F4



Standing ceremony

As soon as qualifying finished in Melbourne, I went with three FOM TV cameramen and presenter Will Buxton onto the grid for the interviews with the top three drivers.

I was watching pole position holder Lewis Hamilton drive down the main straight and wave to the fans before he climbed out of his Mercedes.

You could see his excitement about his pole achievement. The great thing about Lewis is that he does play to the crowd and there was this blink-and-you-miss-it moment when he shook his fists with delight.

There are two ways to shoot this and I went for the pits background rather than the grandstands on the other side.



Photographer

 LAT IMAGES: Steven Tee

Where Melbourne, Australia

When 6.12pm, Saturday
24 March 2018

Details Canon EOS-1DX MkII,
18mm lens, 1/800th @ F4





The Russian rocket

In Melbourne you can often experience 'four seasons in one day' and this year's Australian GP was no different. With rain forecast on Saturday, I decided to maximise the sunlight we had for Friday practice.

This is Williams' rookie Sergey Sirotkin on the throttle out of the final corner during FP2. The trick to this image is to capture the helmet so it's pin sharp, but that's much harder to achieve now with the halo in front of the driver.

This is a great place to stand because the cars are on full acceleration and it's quite exhilarating just being less than a metre away from the track. The only downside is getting covered in bits of tyre debris...



Photographer



LAT IMAGES: Glenn Dunbar

Where Melbourne, Australia

When 5.17pm, Friday
23 March 2018

Details Canon EOS-1DX MkII,
165mm lens, 1/15th @ F5







The silver bullet

Lewis Hamilton comes into view during the first practice session in Melbourne, while I'm shooting from the photographers' tower on the outside of Turn 2.

One of the limitations we had to take into consideration at this corner this year was the weather — in particular the wind. Because this is shot on a very large 600mm lens and we are positioned quite high up, it's very easy for a gust to jolt the lens and ruin the frame.

By shooting on a slow shutter speed with a longer exposure, it creates a blurred effect as Lewis drives across the kerbs. This gives a real impression of fast movement in a still image.



Photographer



LAT IMAGES: Glenn Dunbar

Where Melbourne, Australia

When 1.16pm, Friday
23 March 2018

Details Canon EOS-1DX MkII,
840mm lens, 1/320th @ F8

THREE TRIBES GO TO WAR

01 Is Formula 1 set for a three-way title fight between Mercedes, Ferrari and Red Bull this year? It looks possible after the first competitive blows of the season.

This issue of *F1 Racing* went to press before the Bahrain Grand Prix, but the season-opening race in Australia offered hints that the battle between the big three teams could be closer than some feared.

Mercedes certainly have a car advantage – Melbourne winner Sebastian Vettel admitted as much after the race in Australia. But it is not as great as it might have



Ferrari lucked in to Australia win after Mercedes got their calculations wrong

appeared after Lewis Hamilton's stunning qualifying lap, which put him on pole by nearly 0.7 seconds.

When Hamilton produced that time on Saturday afternoon at Albert Park, many rolled their eyes and attributed it to the Mercedes qualifying engine mode boost that has helped keep the silver cars clear of the rest of the field throughout the hybrid engine era. But that was not the main reason for Hamilton's huge advantage.

Analysis of the laps of the world champion and Kimi Räikkönen shows that in fact the Ferrari gained 0.2secs on the Mercedes down the three main straights.

The lap time all came in the corners – and much of that seems to have been thanks to Hamilton, who has always gone exceptionally well around Albert Park.

On his final lap, Hamilton was 11kmh faster than his previous run in Turns 1 and 2 and 16kmh up in Turn 6.



Mercedes have the quickest car, but Ferrari aren't far off and Red Bull are quick as well

This is simply a rarefied 'zone' in which Hamilton is sometimes capable of operating.

Vettel, meanwhile, is still not happy with the Ferrari's balance, and he made a mistake in Turn 13 on his pole-shot lap. His average advantage over Räikkönen is about 0.2secs in qualifying, which brings the gap to Hamilton down to 0.5secs. Still a lot, but it's the sort of margin Hamilton sometimes has over the field – as he demonstrated at Montréal, Silverstone and Monza last year, for example. Vettel remains a driver who needs a car to behave in a certain way to deliver his formidable best – he is less adaptable than Hamilton and Fernando Alonso.

"The car has huge potential but I'm still struggling a little bit," he said. "If we also compare to where we're still a bit weak, it's where I feel that the car is not yet there."

"So, what am I missing, when you talk about something that you miss as a driver, [it's that] the car doesn't respond the way you like and it's still sliding in places you don't want it to slide. I want the car to be spot-on when I hit brakes and turn in, and in that window I'm not yet happy, so it's always sort of a compromise."

"Of course, it's our job to drive around problems but if I could choose, I would like it a bit different. I think we can live with it but I feel also if we get on top of that then you feel more confident. If you then have the confidence and you trust the car, you don't think for a second, you just go out and do it. At the moment, it just feels a bit too conscious. So let's hope I get to think less."

Even with these limitations, the Ferrari was closely matched with the Mercedes on race pace in Melbourne. Hamilton said he found it hard to pull away from Räikkönen in the first stint – he had managed just over three seconds by the time of the pitstops.

After the stops and the fateful intervention of the Virtual Safety Car, which decided the race, Hamilton was able to stay within a second of the Ferrari for 16 laps. On the face of it, that suggests a significant pace advantage. On the other hand, how hard was Vettel pushing? He knew, as he said, it would be hard for Hamilton to pass.

After the race, Hamilton was as sure as he could be that he was in for a fight this season.

"I never know how it is going to pan out," he said. "You don't get a good understanding until after four races. There will be ups and downs. Ferrari are really quick on the straight. And they are always good on hot circuits."

Vettel said he felt Ferrari were not quite as competitive as they were last year – but then at this point last year they had the fastest car.

"At the moment we're a bit worse off," Vettel said. "Last year we had more pace at this point. If you look at the gaps the whole weekend, we're not yet a true match. If you look and you are fair, then Lewis was fastest, whereas last year I think we were fastest and it was very, very close and therefore at this point we know that we are not yet where we want to be."

“THE CAR DOESN'T RESPOND THE WAY YOU LIKE AND IT'S STILL SLIDING IN PLACES. IF I COULD CHOOSE, I WOULD LIKE IT A BIT DIFFERENT”

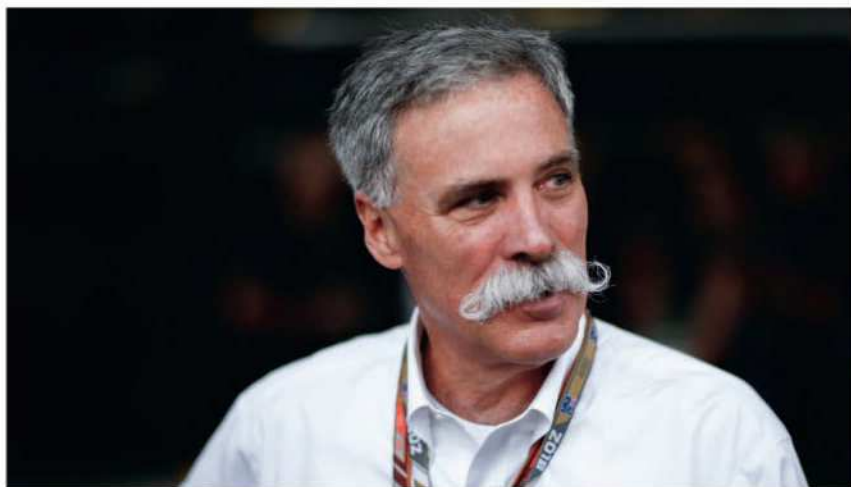
SEBASTIAN VETTEL

As for Red Bull, they appeared very closely matched with Mercedes and Ferrari until qualifying, when the big two teams turned up their engines, which the Renault teams are not able to do to the same extent.

But their race pace looks strong: Daniel Ricciardo set the fastest lap in Australia on the only lap he had in clear air, so the chassis is clearly good. Renault say they have engine upgrades coming and if Red Bull can be as close as they were on a power-sensitive track such as Melbourne, then at races such as Spain, Monaco, Hungary, Singapore and Malaysia they could be a real handful.

Mercedes team boss Toto Wolff said: "In terms of a pattern I don't know. I think it will depend on the circuits. On less power-sensitive tracks the Red Bull might be a bit closer but I expect these three teams to be able to win races and go for the championship."

20-21 VISION



Chase Carey and his cohorts have a fight on their hands securing a favourable post-2020 deal

F1's ever-present politics have taken a back seat so far this year, but that looks set to change with a presentation by owners Liberty Media to the teams on their plans for the future, scheduled for the Bahrain weekend.

Exactly what Liberty F1 bosses Chase Carey, Ross Brawn and Sean Bratches will present is unclear as *F1 Racing* went to press, but the general outline of where they are trying to take F1 isn't.

They want closer competition on track and a more spectacular show. They are planning to do this by simplifying the engines – technically an FIA decision (see Jean Todt interview, page 62) – and reducing the wealth gap between the biggest and smallest teams.

But the devil is in the detail. The engine manufacturers have already pushed back on a proposal to simplify the engines and made a counter-proposal which, unlike the joint FIA/Liberty proposal, suggests keeping the MGU-H – the part of the hybrid system that not only limits the ▶

“DEFINITELY I HOPE THEY [FERRARI] WILL NOT LEAVE. BUT IT CAN ALWAYS HAPPEN. YOU HAVE SEEN BIG COMPETITORS LEAVING. COMING BACK. BUT AGAIN, IT IS THEIR CHOICE”

JEAN TODT



noise of the engines but is also probably the single biggest performance differentiator between them. No substantial progress has been made on engines yet, but then no substantive talks have really been held.

As for costs, Liberty want to introduce a cost cap, but that is already looking unrealistic. Even Todt has questioned whether such a thing is workable. The likelihood is a switch to cost control. But how?

Ferrari have pushed back against cost-control proposals, saying they will leave if F1's essential DNA is diluted

Liberty are proposing more standard parts in places which they believe make little competitive difference but incur huge costs – for example, gearbox internals, suspension and brakes. This is unlikely to go down well with Ferrari, whose chairman Sergio Marchionne has already suggested that he could pull the brand out of F1 if the individuality of the cars is not maintained.

Meanwhile, also for 2021, Liberty and the FIA have a joint project that is aimed at coming up with an aerodynamic design philosophy that allows closer racing. Many have pointed out that the answer is staring them in the face, in the form of the underfloor-focused designs of IndyCars and sportscars, where downforce-heavy cars can race closer together.

All the while positions appear to be hardening. Sources inside Liberty say Carey and his boss Greg Maffei are prepared to call Ferrari's bluff.

Todt, for his part, has said of Ferrari and costs: “Speculation is they may leave. And honestly, that is their choice. They are free. Definitely I hope they will not leave. But it can always happen. You have seen big competitors leaving. Coming back. But again, it is their choice.

“Knowing those people, who are smart business people, who are rational people, in a way, now, that is why we also want to reduce the costs.

“At the moment [there are] about six or seven teams who are struggling in F1. So it is not acceptable to have the pinnacle of motor sport where 60-70 per cent of the field are struggling to survive.”

It might be observed that the engine issue is a red herring and the real arguments are financial – and that if Ferrari get the money they want, they will be more flexible. But how to square the circle of giving Ferrari more money while trying to create a more level playing field? This is not going to be an easy year off the track. ▶

F1 DIGEST THE MONTH'S BIG STORIES AT A GLANCE

03.03.18 *Fast and the Furious* composer records new F1 theme in London's Air Studios



06.03.18 McLaren take up their seat on the F1 board for the first time, along with Ferrari and Mercedes

06.03.18 Former Ferrari chief designer Nikolas Tombazis joins the FIA in senior technical role

08.03.18 Pirelli announce Canada as the first race for new hypersoft tyre compound

10.03.18 Red Bull promote chief engineer Pierre Wache to newly created technical director role



12.03.18 Toro Rosso admit the possibility of taking tactical engine penalties

14.03.18 F1 safety director Laurent Mekies quits FIA for Ferrari role

22.03.18 Launch of new F1 live streaming service delayed

23.03.18 Force India postpone team name change



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SPRING OF DISCONTENT

03 The start of the season has thrown up a host of interesting topics to feed the 2018 F1 narrative.

Bottas began the season under pressure after crashing in qualifying for Australia; other drivers are in the frame



First of all Valtteri Bottas, whose Mercedes contract runs out this year. He increased the already substantial pressure on himself by crashing in final qualifying for the Australian Grand Prix. Not a good start, when the Finn knows Wolff will spend the first half-season deciding whether or not he should pick Daniel Ricciardo or Esteban Ocon instead for 2019, and that Bottas's level of performance will be a crucial determining factor.

Haas threw away their best-ever result with finger-trouble at their two pit stops but that did not stop grumbling about what many people perceive to be the too-close relationship between them and Ferrari: Fernando Alonso and Christian Horner both referred to the Haas as a "2017 Ferrari" in Melbourne.

Team boss Gunther Steiner was not amused by the jibes, pointing out that the VF-18 cannot be that as it has the longer wheelbase of the 2018 Ferrari, dictated by suspension components bought from Maranello. A longer wheelbase means different airflow and therefore different, Haas-designed, bodywork.

Steiner says the critics "talk without intelligence and without knowledge. If they have a problem with that, I show them the way to the FIA. They can file a protest."

McLaren and Williams, meanwhile, are both having to come to terms with not delivering on their own performance expectations.

Alonso finished fifth in the McLaren, splitting the Red Bulls, but admitted his position owed much to reshuffling brought on by the Virtual Safety Car. The MCL33 appeared to be close to a second off the Red Bull, with which chassis McLaren last year claimed they had equivalency of performance. Racing director Eric Boullier attributed the deficit to challenges inherent in changing engines, which was the cause of the reliability problems that hit them in testing.

As for Williams, the race debut of the FW41, the first chassis designed under the technical lead of Paddy Lowe, was dispiriting. Lance Stroll said he was "not racing out there at the moment, [just] surviving," after finishing 14th. Their lack of pace arguably highlighted the flaw in their driver choice. With drivers so lacking both in experience and proven front-running pace, how will Williams ever understand the true potential of their car?

BOTTAS KNOWS TOTO WOLFF WILL SPEND THE FIRST HALF-SEASON DECIDING WHETHER TO PICK DANIEL RICCIARDO OR ESTEBAN OCON FOR 2019 INSTEAD



OBITUARY

HENRY HOPE-FROST 1970-2018

The world of motor racing is all the poorer following the untimely death of journalist and broadcaster Henry Hope-Frost in a motorcycle accident shortly after the previous issue of *F1 Racing* was printed.

As a life-long motorsport fan he was quite literally living the dream. He'd been expelled from the prestigious Stowe School for serial absenteeism, sneaking out of lessons to watch Formula 1 cars testing at nearby Silverstone, drawn almost magnetically by the screech of racing engines. This 'incurable fever' for the sport made him an incredibly knowledgeable and enthusiastic journalist.

'H' joined *F1 Racing*'s sister magazine *Autosport* in 1993, initially on the ad sales team before transferring to the editorial desk as a sub editor, where he demonstrated an intolerance of slack grammar almost equal to his love of all things motorsport. Pity the poor junior journalist who filed copy littered with hanging particples, misplaced apostrophes or mangled prepositions, for they would be lampooned mercilessly.

Henry also worked on *F1 Racing* and McLaren's in-house magazine *Racing Line* before launching his career as a freelancer, a journey in which he connected with fans and motor racing grandees alike through his effervescent and knowledgeable commentary at Goodwood's annual Revival and Festival of Speed meetings, and through hosting at the Autosport International Show.

Wickedly funny and great company, Henry was also a committed family man and *F1 Racing* extends its deepest sympathies to Charlotte and the 'HHF three-man junior team'. Henry's friends have set up a crowdfunding page to look after them: www.justgiving.com/crowdfunding/friendsofhenryhope-frost





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THE RACER'S EDGE

PETER WINDSOR

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with charity runs. Brilliant entrepreneurs like Enzo Ferrari and Colin Chapman built road-car empires to fund their racing; others – like Brabham and Cooper – sold lower-rung race cars in order to pay the bills. Sometimes they were in the black, most times the numbers were in the red. Bankruptcies were common.

Being smarter than the rest, and considerably richer, Ecclestone began to supply more money to the team owners than they'd ever known before. He also convinced them, while they were counting their dosh, to sign over to him such novelties as "TV rights", "hospitality rights", "circuit signage" and "travel/freight rights". Enzo and Colin and Ken Tyrrell and Ron Dennis never complained: they were also taking a percentage. The size of that percentage – or whether one was receiving more than another – was never questioned: without Bernie, the rights would never have existed.

To cement things, Bernie also persuaded the Union to build walls around their city – to make it impossible for anyone new to enter F1 and to keep the cake slices big.

Hence they agreed that each team owner would have to design and build his own F1 car and to enter two of these prototypes in every race. There was no talk about technology being Formula 1's DNA back then; it was about protectionism, pure and simple. In time, Bernie also produced his own TV feed, thereby controlling the air time apportioned to the team and track sponsors, and printed his own paddock and media passes. He had a currency.

And they all became millionaires.

2000 was when it all began to crumble: Ecclestone sold his F1 rights for €2bn. The initial cracks were small because the deal still allowed Ecclestone to maintain overall control. Likewise the re-sale to CVC.

Then Max Mosley made the front cover of *Private Eye*. Ecclestone touted Jean Todt as a replacement but Todt, once ordained, wouldn't play. His eye off the ball a little, Ecclestone compounded things by failing to adapt to the digital era – and failing even to spend money on PR and marketing divisions. "The teams will sell F1 on their own," he used to say. "The internet [and presumably, he believed, electric race cars] will never happen." The spat produced two major disasters – the current, crazy-expensive F1 engine rules and a Formula E category that runs independently of F1. Everyone with a brain knew, and knows, that FE should have been F1's from the start.

Media empires smelled blood.

The Liberty deal of 2017 ultimately means that Ecclestone has lost his executive power.

HOW DID WE GET TO WHERE WE ARE NOW?

With due deference to Prof Hawking, it's time, I think, for a Brief History of F1.

Imagine a Formula 1 world in which the teams dealt race-by-race with the circuit organisers – individually and on their own terms. Enzo Ferrari would tease the organisers of, say, the US GP into paying him x-amount in starting money for two or three cars and would race – or not – depending on the loot. Nothing was certain – particularly when it came to the presence of the Prancing Horse. Maranello quickly evolved into a sort of James Dean-ish here today/gone tomorrow race team of legendary stature. The spell was cast.

And picture an F1 in which you could buy just about any racing car you like – from an old BRM to a new Lotus, Brabham or Ferrari – and go racing when and as you choose. Three races only? No problem. One-car team? Go ahead: enter five cars if you like (as BRM did in 1972).

Bernard Ecclestone changed all of that. Quickly flushing down the toilet the remnants of the old FIA (in the form of Jean-Marie Balestre, whom he hung out to dry during the 1982 Kyalami drivers'

strike) and replacing them/him with his buddy, Maximilian Mosley, Bernie flashed a few fivers and persuaded the wide-eyed F1 team owners, including Ferrari, to form a club and to let him negotiate with the circuit owners on their behalf. The F1 Union was born.

F1 being capital-intensive, in that it demands all the money to be paid up front (as in 1st January, oh-nine-hundred-hours and the first of every month thereafter), Ecclestone found himself dealing with a bunch of guys who lived hand-to-mouth, race-by-race. What money they had they spent on racing. The profits were negligible; "sponsorship" in those days was something to do



Chase Carey and Bernie Ecclestone. Men with very different approaches to the business of Formula 1



The FISA/FOCA war of 1982 came to a head at Imola when the FOCA teams, led by Ecclestone, boycotted the race. McLaren driver Niki Lauda and designer John Barnard listen in to Bernie...

Yes, F1 can “unleash” global marketing campaigns and grid kids and agencies in China, but the big news is that the F1 Union meetings – basically unchanged for over 40 years – are now being chaired by a media guy with no history with the teams, no history with the FIA and a genuine, worrying desire “to do what’s best for the F1 brand”.

Thus the noises we hear from the big meeting rooms: “Ferrari are going to quit!”; “F1 can survive without Ferrari!”; “Equal pay for all!”; “Don’t tempt Marchionne!”; “Keep engines as they are!”; “Engine regs must be changed!”; “Budget caps are crucial!”; “Spend what it takes!”. And so on.

It’s 1981 all over again, except that there

are now six noughts attached to every digit.

To be fair, no auditing firm was ever going to be able to tell Liberty what they’d bought. Audits by definition are visible. F1 by definition is not. The best auditors would have been Bernie himself

“LIBERTY’S ONLY SOLUTION TODAY: PAY MUCH MORE MONEY TO THE TEAMS AND A HUGE, ANNUAL BONUS TO FERRARI; GET THE NEW AGREEMENT SIGNED. CONTINUE TO SPEND BIG ON F1 CITY DEMOS AND THE F1 BRAND”

(yeah, right!) and the real Formula 1 people on the ground.

F1’s P&Ls [profit and loss statements] no doubt made good reading – but beneath the surface there are too many imbalances. To fund the PR and the growth of the F1 show, you tighten the money-flow to the teams and expose the inequalities between them. Tighten the money-flow to the teams and you kill the show.

Bernie’s business model, all those years ago, was that fragile. Ferrari-fragile.

Liberty’s only solution today: pay much more money to the teams and a huge, annual bonus to Ferrari; get the new Agreement signed. Continue to spend big on F1 city demos and the F1 brand. Pour funds into the development of young drivers in countries like China, India, South Korea and the UAE. And underwrite two additional F1 races in the USA, return races in South Korea and India, and pay subsidies to ensure the future of the British GP at Silverstone.

Oh yes: and forget about the profit side of the F1 books. That disappeared when they said goodbye to Bernie Ecclestone.



Max and Bernie went back a long way. Here, at the 1973 British Grand Prix, the pair were simply team owners, of March and Brabham respectively



UNDER THE HOOD

PAT SYMONDS

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In the last turbo era, engine manufacturers used oil burning to circumvent the rules banning high-octane fuel blends

the formula through reading papers regarding fuel development for the highly boosted engines used by the Luftwaffe fighters in World War II. These fuels bore little or no resemblance to petrol, and indeed the rules didn't require that they should. Instead they were a mixture of hydrocarbons; the majority was blended from benzene, xylene and toluene. The primary component was the toluene at close on 85 per cent of the fuel mass, which had an octane rating of 121, significantly higher than the 100 octane standard aviation fuel.

Unfortunately toluene is highly carcinogenic. Having contemplated the implications, after a short while the FIA defined a fuel for the engines that was much closer to road fuels.

This left the engine developers with a problem as they could not run the boost anywhere near as high as they would like, since the new fuel didn't have the anti-knock properties of the recently banned fuel.

Some of the more resourceful realised that while the fuel may be limited, the oil wasn't, and on any engine it's normal for a small quantity of oil to enter the combustion chamber, either through bypassing the piston rings or through leakage of the valve guides.

In addition it wasn't too difficult to contrive a system on a turbocharged engine where the oil used to lubricate the turbo bearing could be encouraged to leak into the compressor and hence find a direct path to the combustion chamber. It wasn't long before the lubricating oils were being doped with anti-knock compounds to allow modest increases in boost. This wasn't illegal; it was just an example of the rule maker being one step behind the rule exploiter.

If we now fast forward to 2014 we had the potential to revisit this contrivance but for slightly different reasons.

In 2014 the current hybrid power unit was introduced. Just as significant as its novel architecture was the fact that this was the first F1 engine to be governed by a fuel-flow limit. Until then, all normally aspirated racing engines had been designed on the principle that one needed to get as much air as possible into the engine and then inject the right amount of fuel to obtain best torque.

One kilogramme of gasoline contains around 43 megajoules of energy. The 2014 regulations decreed that the maximum fuel

OIL BE DAMNED: FORMULA 1'S BURNING DESIRE

Pre-season testing always sparks some controversy based on creative interpretations of the 105 pages of Technical Regulations that govern the design of the cars. It's the first time that rival technical directors get a look at the opposition,

and inevitably this leads to discussion of the semantics that may be used to form the understanding of those regulations.

I've mentioned oil burning briefly in this column before, but since interest in this abstruse subject – which many thought had been put to rest – has been sparked afresh, it's worth revisiting and examining in more detail.

Perhaps the first thing to point out is that the use of lubricating oil to enhance power through improved combustion is not new. In the last era of turbocharged engines some pretty exotic but highly lethal fuels were used. These were pioneered by BMW, who had supposedly found



Exotic fuels are now outlawed in Formula 1; the blends used have to be closely related to pump fuel



rate was 100kg/hr or around 28 grams a second. Irrespective of efficiency, this means that the maximum available chemical energy is now dictated by the fuel-flow limitation. Consequently if you could add one per cent more 'fuel' with an equivalent chemical energy, then you would achieve one per cent more power on the assumption that the thermal efficiency remained the same.

People soon realised that this additional 'fuel' might be added through combining additives to the lubricating oil and then contriving for that fuel to enter the combustion chamber in a controlled manner.

Over and above the possibility of simply increasing the calorific value, or chemical energy available, it was soon realised that the old anti-knock chemicals could be of even greater value and it's likely that this was the road once again travelled.

In addition, due to a ruling made some years ago it was a requirement that the engine breather was vented into the air box. An ideal route to inject the additive and one that could be controlled by a separate valve if necessary. During 2017 it was accepted that the chemical definition of oil was free but that oil consumption must be limited to 1.2 litres per 100 kms or around 0.06 litres a

“THE MAXIMUM AVAILABLE CHEMICAL ENERGY IS NOW DICTATED BY THE FUEL-FLOW LIMITATION. IF YOU COULD ADD ONE PER CENT MORE ‘FUEL’, YOU COULD ACHIEVE ONE PER CENT MORE POWER”

lap. For 2018 that limit has been halved and the teams must supply the FIA with a continuous measurement of engine oil level. There's a ban on active valves into the engine air intake too.

Perhaps most importantly there's a new Article 20 which defines engine oil in such a way that to comply, oil must now be essentially a substance that we would all recognise as a lubricant...

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WHY FERRARI THREAT IS REAL

I'm fascinated by Ferrari chairman Sergio Marchionne's concern that the DNA of F1 is about technical differentiation and that this should be preserved at all costs.

He doesn't like the direction that Liberty Media is proposing to take the sport from 2021 onwards, whereby the engine is simplified and the rules package prescribed such that there is a more level playing field between teams. Marchionne sees no value in racing in a series where the difference between a Ferrari and a Mercedes is mostly paint colour. Mercedes feel the same way.

Unlike previous managers who have threatened to take Ferrari out of F1 in the past, such as Luca di Montezemolo, I believe he means it.

Marchionne's Ferrari needs to be handled very differently from Montezemolo's. They have a very much more corporate culture now, more akin to a US corporation than to the feline, aristocratic European operation Montezemolo ran.

But on one thing the two managers are aligned: Ferrari are not like any other F1 team.

One of Liberty's mantras is, 'we love all our children the same'. This is in marked contrast to Bernie Ecclestone's strategy of divide and rule.

STRAIGHT TALK

commercial agreements, which form the platform for the inequality of team payments which undermines F1 today. Other teams followed reluctantly. FOTA was dead and F1 was lopsided.

Liberty now have to renew the contracts with the teams from 2021 onwards, while attempting to rebalance and reduce the inequality. That's another thing Marchionne doesn't like.

So 2018 will be the year of political flash points and grandstanding as we pass through the pain of defining the future shape of F1, what engine format it will use and who will participate. But whereas Bernie provided a narrative through the media, Liberty will play it straight.

The lines are being drawn; Marchionne has evolved his sphere of influence among F1 teams, bringing Sauber and Haas under his tent. Toto Wolff at Mercedes has Force India and Williams in his tent.

Sitting on the other side of the river is Red Bull, who would love the influence of manufacturers in F1 to be diminished. It's always been the weak point in their F1 strategy and since the advent of

the hybrid turbo engine in 2014, it has left them powerless.

Marchionne might have expected support from the FIA president Jean Todt, given that the Frenchman has a long and illustrious history with the marque as Ferrari's most successful team principal in the Michael Schumacher era.

But instead Todt made it clear in a media briefing I attended mid-March that Ferrari are free to leave F1 if they so wish, although he hopes that does not happen.

The alignment between Todt and Liberty is now obvious and events have worked out in Todt's favour. He's the last man standing of F1's 'big beasts' – Mosley, Ecclestone, Briatore, Dennis, Montezemolo ? All gone.

And Todt is putting in place his legacy, such as the single-seater path from F4 to F1, and his final act as president will be to preside over the implementation of F1 2.0.

It is a critical set of decisions that Ross Brawn, Chase Carey and Todt will be making this time.

The world is changing quickly and by the late 2020s we will have become used to autonomous cars. They could be as prevalent then as Ubers are today. That will be how we first come into contact with them, via robotaxis. As people get used to the idea of being able to text, be drunk or do other things while being driven along, so fewer will think about driving and owning a car.

In that world, F1 needs to present a compelling spectacle of hero drivers in extreme cars doing death-defying feats. There will always be a market for that.

He prioritised Ferrari for a number of reasons. In addition to their historical significance to the sport, they have a global cachet and aspirational appeal that chimes perfectly with F1's values.

And Mr Ferrari was a very big influence on Bernie as he was coming of age in the 1970s and '80s as a manager and an operator in F1.

Bernie was brilliant with intangibles, with patronage and hidden meanings; things at which high-level Italians, like Enzo Ferrari and Marchionne, are masters.

When the teams got themselves organised in 2009 and formed the F1 Teams Association, Bernie knew he needed to break it up and he did so skilfully. By forming FOTA, the teams were trying to speak with one voice and have more say into how F1 should present itself and how it should be run.

This action forced an equal and opposite reaction as Bernie picked off Ferrari and Red Bull and signed them up to lucrative bilateral

The uniqueness of Ferrari is a huge part of the current DNA of Formula 1 and vice versa



THIS MONTH

Dr Andy Palmer

President and CEO
Aston Martin

Aston Martin have upgraded from innovation partner to title sponsor of Red Bull Racing – but since the engine is a rebadged Renault (as Tag-Heuer), what value can the iconic car manufacturer derive from being involved in Formula 1 apart from securing the services of engineering legend Adrian Newey to collaborate on the Valkyrie supercar project? And what value can Aston bring to F1?

CV

Age 54

2014 Appointed

President/

CEO Aston Martin

2010 Awarded

honorary doctorate

in Technology from

Coventry University

2004 PhD in

Engineering

Management at

Cranfield

1991-2014 Senior

roles at Nissan,

including Chairman

of Infiniti from

2011 onwards

1991 Joined Nissan

as Business

Administration

Manager

1990 Graduated

with MSc in

Product Engineering

from Warwick

1984 Chief

engineer of Manual

Transmissions at

Rover Group

1983 Project

engineer at UK

Automotive Parts

1979 Apprentice at

UK Automotive Parts

F1 Racing: Why are Aston Martin in this relationship with Red Bull?

Andy Palmer: I'm going to have to give you a bit of background on the turnaround of Aston Martin because it's fundamental to that story. It's a seven-year plan moving the company from being a great brand that's a financial basket case, to being a very profitable company keeping that strong brand.

What we're trying to do is become the LVMH [Moët Hennessey Louis Vuitton DSE] of luxury automotive. As you know, LVMH have lots of different brands, all looking for a different type of customer within the luxury area. So we're using the Aston brand, Lagonda and our partnerships, to do exactly that – to create the only car group that could address all aspects of the luxury grid. Ferrari aren't going to make a three-box saloon to compete with Rolls Royce, and Rolls Royce aren't going to make a mid-engined car to compete with Lamborghini. But we can, in all cases.

The first two years of the plan were to reconstruct the company, stabilise it financially. The second phase of the plan is to replace the cars that we are famous for. At the end of 2019 we go to portfolio expansion. One big segment is the mid-engined sports cars in which you've got McLaren, Ferrari and Lamborghini. We're missing that critical sector where we have nothing today. To be credible in it you've got to create history and provenance.

F1R: In terms of the partnership, what do you actually do with Red Bull, and for Red Bull?

AP: At the simplistic level, Red Bull technology provided an engineering service to Aston to create the basic design of the Valkyrie. Now it's a deeper partnership, and in fact I'm in the process of sitting 110 people on their campus in Milton Keynes. It's a collaboration hopefully with a deep future. But at its simplest level, we're bringing Adrian's way of designing an F1 car and embedding it in a road car. Adrian doesn't know too much about road cars and we don't know too much about F1 cars. You allow that clash of cultures to happen and see what comes out. The way of making that embedded, is to have the staff sitting next to each other.

INTERVIEW
ANTHONY
ROWLINSON

F1R: Fantastic name, brand, heritage, but what does Aston Martin bring to F1?

AP: With the name, you have the cachet of sporting elegance, luxury. But we also bring disruption.

The way that we're acting and behaving right now, we're upsetting the establishment. We've got people talking. Right now, what does F1 need? F1 needs a good kick up the arse and to remember what it's there for. It's not about an ever-greater arms race. At its heart it's about entertaining, appealing to petrolheads and about pushing technology. I think that when you think about the arguments that are going on, we can say, "We can be as disruptive to this as you want." And even if at the end we're not there, maybe we helped in the process of improving the sport.

F1R: When you say disruptive, what do you mean? That's something Red Bull have always said about themselves.

AP: That's probably why we get on so well. Liberty obviously want a new engine [for 2021]. They want to move the sport on. The incumbent teams don't want to change the engine very much. In the old world, they would have won, wouldn't they? Red Bull at one moment were left out in the open. But now they've got someone sitting behind them saying, "If you write the rules like this, we might be interested in providing an engine." Now there's an alternative. Now, when Ferrari threaten to leave the sport, Liberty can go, "Well, Aston and Ferrari, same kind of space, same kind of customer type, maybe it's not such a bad thing if you want to leave."

F1R: So would you build an F1 engine yourselves?

AP: I genuinely don't know. I'm not under any illusions about how difficult doing an F1 engine would be – I'm a powertrain engineer originally. Clearly we can't compete against today's engines. The money that's being spent on them – forget it! If we're really going to simplify, and cap development costs, there's a possibility we could be involved. But if I were to get involved, I'd do it with partners. If we can, we will, but we are not going to provide an engine to Red Bull that's going to sit at the back of the grid.



THIS MONTH

Martini's departure from F1

How the pay-to-view landscape is shaping up.

The ongoing difficulties faced by independent Formula 1 teams in generating income and attracting sponsors have been demonstrated by a number of developments in recent weeks.

In the most high profile of these, Williams title sponsor Martini have decided to pull out of F1 after the end of the season, ending a five-year partnership.

Williams maintain they are "financially stable", and the impact of Martini's withdrawal is not necessarily as large as it appears. The deal was relatively small for a title sponsorship package – starting at a reputed £14m in 2014 but reducing to around £11m this year.

Williams' budget is around £120m a year and their coffers are boosted this season by having two drivers paying substantial budgets for their drives.

Canadian Lance Stroll is into the second year of a three-year contract, which is said to be worth in the

“**THE DEAL WAS RELATIVELY SMALL FOR A TITLE SPONSORSHIP PACKAGE, STARTING AT A REPUTED £14M**”

region of £14m to the team. And Sergey Sirotkin is believed to be paying at least that for his debut season.

Williams accepted a lower than usual amount from Martini for a number of reasons, chief among them that they liked the look and feel of the association, and that the branding on the car, while apparently large, also left key areas open for other partners.

This is a view echoed at McLaren, who do not want to dilute their own brand with a 'title sponsor' per se, but are very keen to attract big sponsors. New deals with Brazilian fuel company Petrobras and computer giant Dell still leave large swathes of bare orange for bigger-paying partners. Non-paying companies are in prominent positions, such as Fernando Alonso's Kimoa clothing brand on the barge boards.

McLaren executive director Zak Brown admitted that the team's competitive struggles with Honda for the past three years "doesn't make selling to partners any easier" but insisted that "everything commercially is going really well".

All teams are finding new backers harder to come by than in the past and that any deals are for less money than previously. This is part of their concern at the five per cent drop in the value of team payments from the F1 Group in 2017, the first year with new owner Liberty Media at the helm.

Liberty are trying to introduce a budget cap, in the region of £150m a year. But some senior figures believe Liberty's policy is to impose this so it can get away with giving the teams less money in the new contracts that have to be negotiated for after 2020.

But while there is a desire among the teams to reduce costs, there is no strong will for it, and certainly not for a cost cap.

Declining sponsorship revenues, coupled with reducing payments, and F1's owners pushing for an unpopular form of cost control is likely to make commercial discussions long and tough this year.



WHO THE HELL ARE... PEMEX?

Who are they?

Pemex (Petróleos Mexicanos) are a Mexican gas and oil company. Founded nearly 80 years ago, they have been providing forecourt fuel in the country for the past 25 years. The

company are state-owned and generate approximately 2.5 million barrels of oil and 6 million cubic feet of natural gas a day.



Where are they? Pemex logos were first spotted when the covers were pulled off the new Force India VJM11 in testing. They appear on the car's wing mirrors, the drivers' suits and team clothing.



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FACE / OFF

T H E F I G H T F O R F I V E



For the first time in F1 history, two four-time world champions go head-to-head for a fifth title. And with both Lewis Hamilton and Seb Vettel in competitive cars, the fight for supremacy should be a thriller. It's one neither can afford to lose...

WORDS ANDREW BENSON

BY the end of 2018, the likelihood is that either Lewis Hamilton or Sebastian Vettel will have become a five-time world champion. In the statistical pantheon, that would move them ahead of Alain Prost and into a tie for second place with Juan Manuel Fangio, with only Michael Schumacher ahead – and one step closer to being matched.

So who will make the leap? The 2017 season provided the first head-to-head battle between these two titans of Formula 1's modern age, and 2018 could be the next: Ferrari's against-the-odds Melbourne win raised hopes of a tantalising face-off for a fifth title.

At this early stage in the season, however, there are doubts as to whether Ferrari can maintain the momentum of their first campaign under the new regulations. And, after 2017's end-of-year implosion, whether they can keep up a season-long challenge even if they manage to start competitively.

The drivers also have their fallibilities – Hamilton and his occasional off-weekends; Vettel and the sort of red-mist moments that proved so costly last year. But of their ability to deliver world titles there is no question. That fifth championship clearly matters to both. But is it about being the first to five? Or could it be something less tangible... more personal?



HAMILTON'S VOYAGE OF DISCOVERY

All racing drivers exist to win; it's the essence of their being. And for those as great as Hamilton and Vettel, not winning *hurts* – and it drives them on to achieve better things. But winning is a complex concept. In its simplest form, it means finishing first in a race, or a qualifying session. But it's more than that. All racing drivers quickly have to get used to the fact that they are going to be spending more time losing than they are winning. So to be a winner in their own minds is also about proving they are the best, and being seen to be the best. This is why beating a team-mate is so important. The same goes for earning the respect of your peers, and the acclaim of the outside world.

Hamilton is now statistically the most successful driver of both his era and his country. And in the last year or so he has passed a number of important landmarks. In Brazil 2016, he overtook Prost to become the second most successful driver ever in terms of wins. In Azerbaijan last year, he moved ahead of his childhood hero Ayrton Senna's tally of 65 poles, then in Monza surpassed Schumacher's all-time record of 68.

When his fourth title became inevitable, Lewis was asked about whether he felt he could beat Schumacher's record of seven world championship wins. "It has never been my desire," he said. "My goal as a kid was always to do something like Ayrton. I had never imagined what

would be beyond that. So to think I will have these four titles and I am still young and still have time ahead of me, the quest is to see exactly what I want. Inevitably I want to go for a fifth. I have never had a dream to chase Michael or other people's titles, but it is one chapter closed and it is how I want to write the future."

Speaking at the launch of the 2018 Mercedes-AMG F1 W09 EQ Power+ in late February, Hamilton claimed he "forgot about" what he had achieved in 2017 over the winter: "I had no one reminding me that I was a four-time world champion, so I went back to normality. Then when you go back to training, you start to work out, why am I training? What is my motivation? Where am I going to find the training and the drive? What are the goals? It was only in the last couple of days that I saw something about being up there with Fangio and that is quite exciting.

"You have the down time. You've had a successful year; how can you go back? What's next? Are you still hungry? Do you still want to go back there and sit and do interviews? Do you still want to win races and do qualifying? Do you still enjoy driving the car? Can you be better? In what areas can you be better?

"There are other passions I have that I feel as strongly about as I do racing. At what point do they take priority? It is not a case of 'I've got to go to the gym so I'll sulk on the way to the gym.' I don't force it, I take my time, and eventually I miss going for a run and I miss working out and I look forward to getting back to it. And when you get back into that training process you discover the goals.

"It is quite simple," Hamilton concluded.

"I want to somehow be better than I was last year. Last year I think was the best year I had performance-wise. How can I top that? I proved it was a very, very strong year, but there are lots of areas where I can improve, actually. Even in terms of my relationship with the team, how I interact with the team. How do I use their genius to help me achieve their goals and help them achieve what they want and what I want?"

So, what *does* Lewis want? How does he want to write the future? During last season, another answer he gave on the same subject revealed further clues as to how he sees the remainder of his career.

"I am going to continue to expand on it," he said. "There are other drivers who are relatively close, like Sebastian. Someone else will come along, but I have got to take it as far as I can take it."

For Lewis, it seems, the numbers themselves are not the thing. If anything, from now on the numbers are useful only as an objective measure of himself against others – a way of emphasising his already strongly held belief that he is the number-one driver of his era. And to

do that, he has to beat Vettel and then keep on beating him, so his rival – who is two-and-a-half years younger – cannot overtake his statistics.

IS IT PERSONAL?

The motivation behind this competition is not only external, in terms of how Hamilton is perceived, but also internal, in terms of how Lewis perceives himself and his contemporary rivals. Throughout most of last year, Hamilton's public utterances made it very clear that he held Seb Vettel in high regard.

"Competing against a four-time world champion, you know you are competing against the best," he said at one point. "You are competing against someone who is really on form and generally you are both on the knife edge and one of you is going to falter. I love that challenge of trying not to be the one that falters."

Then, on another occasion, he remarked: "He is an exceptional driver and he continues to show that year upon year and what he does in that Ferrari is fantastic."

And yet... Hamilton does not even think that Vettel is the best among his rivals. In an interview at the end of last season, he said he regarded himself, Vettel, Fernando Alonso and Max Verstappen as the top drivers. But discussing the prospect of a challenge that might be mounted by a future team-mate, he added: "I already feel like I've raced against the best here, which in my personal opinion is Fernando."

There was another point last year when he said: "I was team-mate to Alonso in my first year and I beat him." The truth of that statement is somewhat debatable. Yes, Hamilton technically finished second in the 2007 world championship, while Alonso finished third. But that was decided on a results count-back of second places, after they tied on both points and wins. Of the races in which they both finished, Alonso was ahead six-five. In most objective eyes, that is as close to a draw as you can get in Formula 1.

Nevertheless, Hamilton's remark is well worth emphasising, because it sums up his self-belief. Based on that collection of public utterances, it appears to be: "I'm the best. Alonso's the closest to me. And I'm damned if I'm going to allow myself to be beaten by anyone else – or be seen to be beaten – in a fair fight."

The lessons of 2016 appear only to have solidified this in Hamilton's mind. As that season was unfolding, he made much of the reliability problems that undoubtedly cost him the championship during his fight with team-mate Nico Rosberg. But since the start of 2017, he has rarely mentioned them when talking about 2016. He has tended only to talk about his own fallibilities – the dodgy starts, the off-weekends, the need to be at his best – without which he could have won in 2016 even with the skewed reliability record.



This awareness of his own potential weaknesses, and a sense that only he can beat himself, was also clear in his reaction to Vettel's moment of madness at the Azerbaijan Grand Prix in Baku last year, when the Ferrari racer deliberately drove into Hamilton in a fit of pique, believing incorrectly that he had brake-tested him. Once he had made it clear that Vettel had taken the accusation back, and once the dust had finally settled, Hamilton had this to say about the situation: "We are not 20-year olds. We are grown men now. Watching tennis, great players, great golfers, their mind is in control. You're having a battle with the guy and there is that famous saying: 'Keep your friends close and your enemies closer.' I watch Sebastian. I know what he has achieved. I know how consistent he has been. I know where his strengths and weakness are. I know the strengths and weaknesses of his car."

"Look at Nadal and Federer, the composure they have through a game and how they present themselves after a win or a loss. I try to follow that and take a lot of inspiration from that. There are times he probably hates me but I try not to contain any negativity. I have managed to build this barrier to bounce off negativity. Love conquers all."

"The feud after Baku and all that – even today, it doesn't matter. What matters when you fall is how you get up." ▶

The greatest of rivals; the greatest of respect. But for Hamilton, only because he is certain that he is the best



THE FIGHT
FOR FIVE

Championship year 2010 Team Red Bull Age 23 Wins 5 Podiums 10 Poles 10 Fastest laps 3 Points 256

Championship year 2011 Team Red Bull Age 24 Wins 11 Podiums 17 Poles 15 Fastest laps 3 Points 392

Championship year 2012 Team Red Bull Age 25 Wins 5 Podiums 10 Poles 6 Fastest laps 6 Points 281

Championship year 2013 Team Red Bull Age 26 Wins 13 Podiums 16 Poles 9 Fastest laps 7 Points 397

VETTEL

Races started 199
Wins 48
Win percentage 24.1%
Fastest laps 33
Points 2,450
Laps led 3,030
Races led 89
CHAMPIONSHIPS 4

WHOSE

Youngest ever race winner 21 years 2 months 11 days Youngest ever championship runner-up 22 years, 3 months, and 15 days

Youngest ever championship winner 23 years 4 months 11 days

HAMILTON

Races started 209
Wins 62
Win percentage 29.7%
Fastest laps 38
Points 2,628
Laps led 3,535
Races led 115
CHAMPIONSHIPS 4

HIGH FIVE?

Greatest number of poles 73 Greatest number of wins at different tracks 24 All-time highest number of career points 2,628

Statistics correct as of 2018 Australian Grand Prix





WHAT THEY'RE FIGHTING WITH

Backing up this towering sense of self-belief, Hamilton has a team who are redefining success in F1. On the foundation of a technological advantage with their engine, Mercedes have become a behemoth who are proving incredibly difficult to overcome.

Last year, they gave their rivals a chance. A fast but flawed car, weak on certain types of circuits, made them vulnerable. For a long time Ferrari looked ready to defeat them, only to display their own vulnerabilities – both Vettel's and those of the team in terms of reliability. If Mercedes have with this year's W09 kept the strengths of the W08 and eliminated many of its weaknesses, Hamilton could make the championship a walkover.

Ferrari, meanwhile, have lengthened the wheelbase of their car in an attempt to emulate Mercedes' strengths on fast circuits, but there is a risk that in doing so they may have affected its blistering high-downforce performance. Time will tell.

[For a full analysis of Mercedes', Ferrari's and Red Bull's 2018 technical approaches, turn to p49.]



The battle goes beyond Vettel vs Hamilton. With such blisteringly quick and equally matched machinery, who will come out on top?



If Ferrari have yet to prove that as a team they are a match for Mercedes, it is also valid to ask whether Vettel believes, deep down, that he really is a better driver than Hamilton, in the way that Hamilton very much believes he is a better driver than Vettel.

It's unlikely that question will be answered for some time – if ever. And it is almost certainly not relevant, because Vettel has a more tangible goal in mind than that. It's not just about a number for him either. He wants to be the next person to win the championship for Ferrari, and to follow in the footsteps of his hero – and later friend – Michael Schumacher.

"I want to win in red," Vettel said after signing his new three-year deal with Ferrari last summer. "We talked about inspiration earlier, about Michael, who was mostly dressed in red. He won most of his races and titles in red.

I don't want to step in his footsteps. The whole generation of the Ferrari team today have to leave their own footsteps. But certainly there is a huge inspiration. Something that for me is now the biggest challenge and dream I have. It's what I want to achieve."

For Vettel, this goes back to childhood, and watching Schumacher rack up all those wins and titles for Maranello. He was intoxicated by the Ferrari legend then, and it has never left him. Even through his dominant years with Red Bull, he had an eye on a move to Italy. There were quiet conversations for a number of years. Each agreed they would be the other's next move; it was only a matter of when.

When Alonso began to lose faith in Ferrari through 2013, the idea began to solidify in the mind of Ferrari president Luca di Montezemolo. In 2014, Alonso fell out with new team boss Marco Mattiacci just as Vettel was struggling to cope with his new team-mate Daniel Ricciardo at Red Bull. Depending on who you believe, Alonso decided to leave, or was forced out by Ferrari. Vettel exercised the option in his Red Bull contract that let him exit and his quest to emulate Schumacher began.

"Ferrari has something unique," says Vettel, "something that other teams don't have... it appears that this legend is still alive because of the people that work for it day-in, day-out. If you walk down the streets of Maranello the presence of Ferrari is huge, but if you see the people working at Ferrari it is even bigger what they carry inside them, the passion for the brand, and I am convinced it allows them to go an extra step compared to other teams. It is great to be part of that family. We haven't yet achieved what we wanted to achieve."

That fifth title, then? It matters very much to both Hamilton and Vettel. Just not necessarily for the same reasons – or for the number by itself.

Andrew Benson is BBC Sport's chief F1 writer

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66	991 GT3 RS 4.0 LHD Lava Orange/Orange Alcantara & Black Leather, Silky Black Alloys, PCCB, Front Axel Lift, 918 Bucket Seats, Sports Exhaust, Michelin Decals On Tyres, Sports Exhaust, 8,000m.....	£174,950
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THE DRIFTER

F1 drivers strive to eliminate mistakes because when they slide their car they lose time. But Lewis Hamilton needn't worry: for today's Mercedes passenger rides he can drift sideways to his heart's content

WORDS JAMES ROBERTS
PICTURES  LAT IMAGES: LORENZO BELLANCA



"I JUST LIKE DRIFTING,"

says Lewis Hamilton with a grin as the tyres beneath his Mercedes C63 squeal and throw up vast plumes of sky-blue rubber smoke. He makes it look so effortless. Through a right-hander in a beautifully balanced four-wheel drift, Lewis spins the steering wheel with his fingertips to shift the weight of the car in the opposite direction and slides around a left-hander. "I push the car to the limit," he adds. "And I try to get the drift to go on as long as possible..."

It was 110 years ago, on the very spot where Lewis has just left rubber marks on the asphalt, that the world's first motor racing circuit opened to great fanfare. Situated to the south-west of London, Brooklands was a 2.75-mile oval with banking almost nine metres high in places. Car manufacturers such as Fiat, Mercedes and Benz were beginning to understand how racing could be a shopfront for their newly created products, and Brooklands was built with the aim of kick-starting a British car industry that was already beginning to be left behind by continental developments. During construction, excavators uncovered the remains of ancient furnaces on the Brooklands site, enabling historians to divine that the Iron Age in Britain had begun much earlier than previously thought. A positive augury for a new era of industry?

It's perhaps apt that today one of Britain's highest paid and most commercially astute sportsmen is driving a Mercedes-Benz on the site of the original Brooklands circuit on a sponsorship day for Monster Energy drinks. The marketing of products through sporting talent is still going strong. And for *F1 Racing*, this is a rare chance to observe the skills of the four-time world champion close-up. As he throws the 4-litre V8 bi-turbo saloon around the little track built on the Brooklands estate, overlooking Mercedes-Benz World, Lewis reveals that drifting does take a bit of practice, even for a 62-time grand prix winner.

"I remember when I was young, I went to an event organised by a car magazine," recalls Lewis as he dances on the pedals. "It was on an oval and we had to drift a BMW Z3 M Roadster. There was a rally driver who was doing it perfectly and I was 16 and had never driven a car before. Trying to drift it was impossible. So, doing it now... it's just years of practice."

We leave the brakes smouldering on the C63 and head into Mercedes-Benz World to discuss the here-and-now. Lewis has built a career to be proud of: breaking Ayrton Senna's pole record and matching Alain Prost's tally of four titles. But despite the experience of 209 starts, he admits he approaches every race with trepidation.

"Every single race I do I have the same thought process," he says. "How is it going to go? You prepare yourself the same way, so you have the same anxiousness and it doesn't mean that you're always relaxed. Every single race you want to win, you want to perform at your best, you want to make the right moves. You never want to lose time, so you always have those same challenges, regardless of whether you're fighting for the championship or not."

After falling behind Ferrari's Sebastian Vettel during the opening stretch of last season, Lewis took advantage of the Scuderia's poor reliability and dug deep within himself – unleashing a level of performance that left even his own team-mate stunned – to ensure the world championship was his before the season's end. Early form suggests that Lewis will be pitched against Vettel again this season, but as the contact between them in Baku proved, he's not easily thrown by controversial flashpoints.

"Ultimately I think there's different ways you can handle things," he says, reflecting on 'biff-gate', the moment Vettel retaliated after feeling Lewis had brake-tested him behind the Safety Car. "I knew what I was there to do and I didn't want anything to distract me. I wasn't going to let myself say something or react in a way that would create some negative swirl that would steer me off course from my ultimate goal. ▶



"I remember when I was young, trying to drift it was impossible. So, doing it now..."

IT'S JUST YEARS OF PRACTICE"



Smoking rubber as
Lewis goes sideways
– tricks you wouldn't
normally see out on
track, but they're all
part of his skill set





Learning to keep calm and compartmentalise has helped Lewis stay sane and relaxed

“You learn to compartmentalise these things – honestly, in the race I was not fazed when he did it. But I did think: ‘What the hell is he doing?’ and when I spoke to him later I said, ‘That’s a sign of disrespect, don’t disrespect me like that again.’ I wouldn’t do that to someone, I’ve never done that and I don’t know what he was thinking to have done it.”

Along with his razor-sharp pace, one of Hamilton’s strengths last year was his calm and measured approach, and that will continue to make him a formidable opponent for the new season. There’s little in the way of unsettling change this year, regulation-wise, save for a reshuffling of the tyre compounds and the introduction of a new hypersoft option.

When Lewis was styling it up sideways in the C63 earlier he was giving no thought to its effects on the tyres, in marked contrast to his skill in finessing the life and performance of his rubber in an F1 car. In the Pirelli era, managing tyres, their temperatures and ultimately their wear rate has been critical in unlocking performance.

“There’s a window where the tyre is at its best and you try to keep the rear temperatures as low as possible – that’s easy,” he says. “The fronts always take a lot longer to come in. The

key is working the fronts without letting the rears come up at the same time. And traction is really important, so you try not to break traction throughout the lap. If you do, the temperatures start to rise and that’s what you’re fighting. You’re always on the edge of the grip level.

“I’ve always been able to make the tyres last, notably in GP2, but it’s a quest to try to do it in F1, particularly if you haven’t got the balance of the car quite right. Last year I was able to hone into understanding the tools you need and we had a really strong front tyre as a result.”

More tyre torture awaits as Lewis is called away to wow the queue of Monster Energy guests with a handful of laps on the edge of adhesion. The sight of the British world champion in a beautifully controlled, flat-to-the-floor sideways drift would have brought a smile to the face of Hugh Fortescue Locke King, the entrepreneur who paid £150,000 to have Brooklands built on his Surrey estate. His mission to raise the profile of British motor racing is continuing apace. 



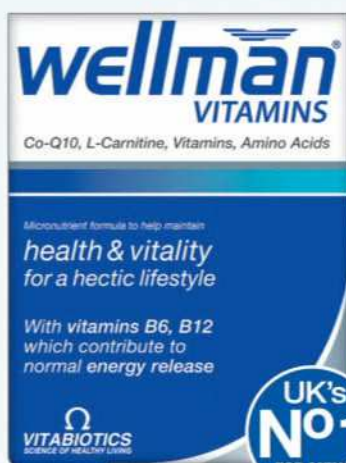
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SUPERPOWER SHOWDOWN

Lewis vs Seb for a fifth title is this year's headline contest. But the Mercedes vs Ferrari vs Red Bull superteam slugfest will be just as ferocious. **Ben Anderson** takes a peek beneath the leading contenders' intricately sculpted forms

PICTURES  LAT IMAGES

FORMULA 1 is a gladiatorial contest between drivers; a political dogfight between team bosses.

But the true nature of the beast is tireless pursuit of engineering excellence. Mostly, therefore, F1 is a battle of brains: the ingenious ideas of the brightest minds forged in carbon fibre, pitted against those of their rivals. A skirmish of pens, drawing boards and CAD machines. Think to victory: design or die.

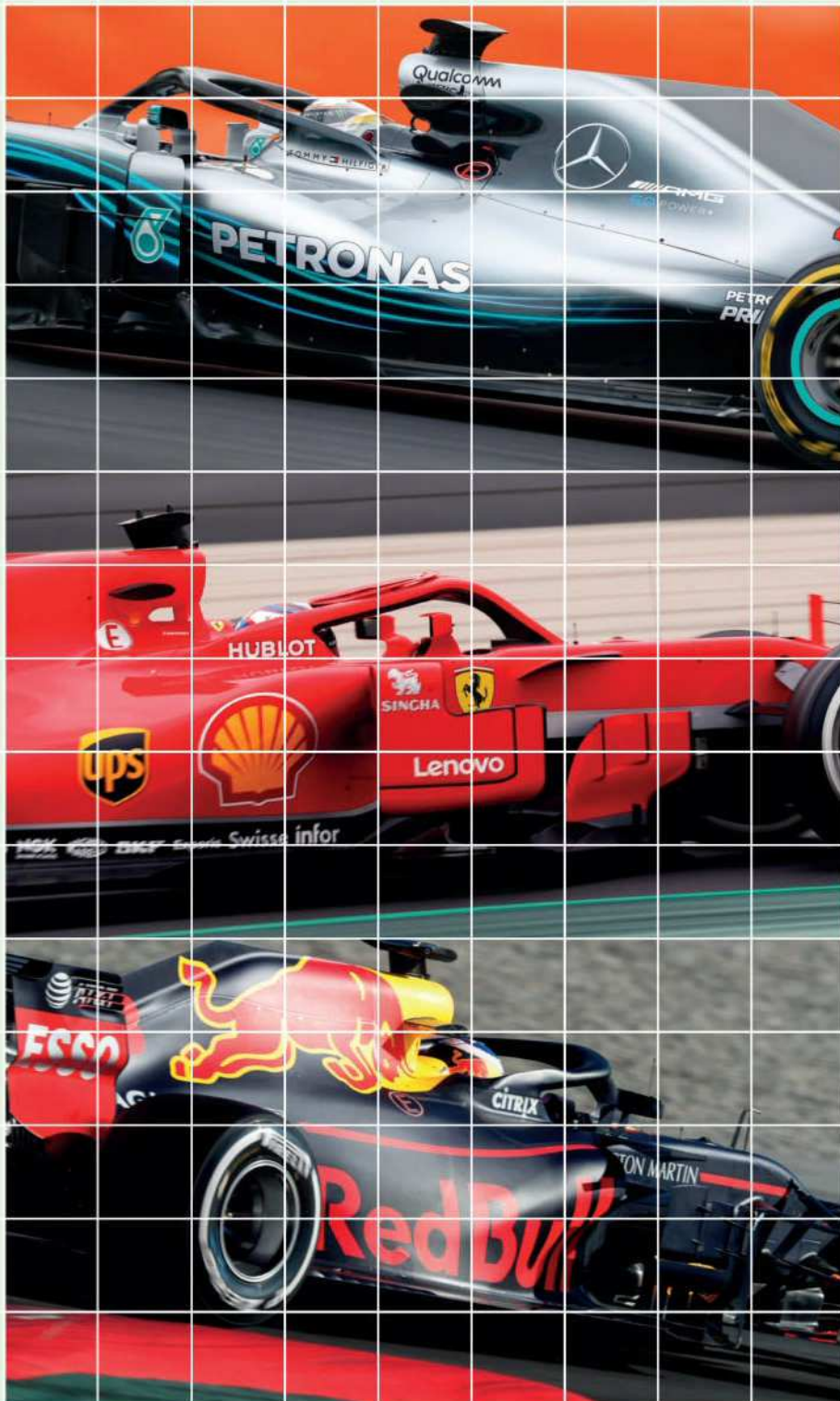
The cars are as intricate as Swiss clockwork; the engines a complex mix of fuel-starved, turbo-charged, gas-recycling, electro-powered, hybrid wizardry – capable of producing close to 1,000bhp.

The undoubted masters of this sorcery in the V6 era are Mercedes, but the new aerodynamic rules and wider tyres introduced for 2017 have, to some degree, scrambled the picture. Ferrari came close to denying

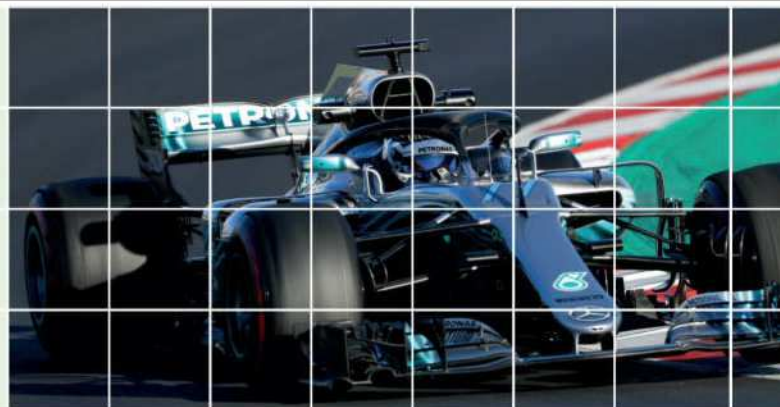
Mercedes last season, such was their leap forward with the SF70H – arguably their best car in a decade.

Snapping at their heels came Red Bull, charging into contention as the season wore on, too late to affect the outcome, but potent enough to upset the other big beasts. Red Bull – F1's V8-era masters – have been dethroned in the V6 age, but can never be discounted, thanks to their biggest weapon: Adrian Newey, the greatest F1 designer of the past 25 years.

Can his maverick genius outwit the methodical diligence of Mercedes and the passionate fever of Ferrari? This is the battle that will define the 2018 title race, fought out on the drawing boards and CAD screens of Formula 1's top three teams. ▶



MERCEDES W09



If it ain't broke... well, it still needs fixing

"Every time we make a big change there's always an opportunity to do things better. How can we make the flow in the exhaust pipes better? How do we make the cooling in the cylinder heads better? If we're making changes, let's refine all the good bits. You look and think 'it's only two milliseconds', but you do it in ten places and it's 20 milliseconds."

This statement by Andy Cowell, chief whizz at Mercedes' all-conquering engine department, exemplifies the attitude that has underpinned the team's recent dominance of F1. Team boss Toto Wolff talks of the team motto: 'See it, say it, fix it.' Identify every area of weakness and destroy it – and while you're at, make the good bits better too.

"What we do from a senior leadership level down is to blame the problem not the individual," says Wolff. "Blame the individual and people clam up: you won't see innovation, you won't see risk-taking. We are in a risk-taking business."

Nevertheless, chief designer John Owen says Mercedes deliberately built their 2017 car to 90 per cent of its design potential, to give the team room to react to unforeseen challenges. Last year's W08 had the longest wheelbase on the grid, affording great stability on high-speed tracks, and offering the aerodynamicists plenty of physical space on which to place performance-enhancing parts.

Alas, too many of those parts had to be over-engineered, to prevent their disintegration. The car was thus too heavy and too hard on its tyres. Extracting performance also required engineers to "ignore a lot of what we thought were the standard ways of engineering a car and go off in the opposite direction," according to technical director James Allison.

Despite these troublesome characteristics, which led Wolff to dub the car a "capricious diva", it still set more poles and won more races than the rest. So the team have opted for an evolutionary approach for the W09, while working diligently to refine the concept and eliminate the inconsistencies.

The front suspension has been altered and the rear ride-height slightly raised to improve the car's dexterity through low-speed corners. But nowhere is this process of refinement more apparent than in the incredibly tight packaging around the radiators and engine cover. This collaboration between chassis and engine departments has improved the car to the tune of 0.25 seconds per lap, according to Allison.

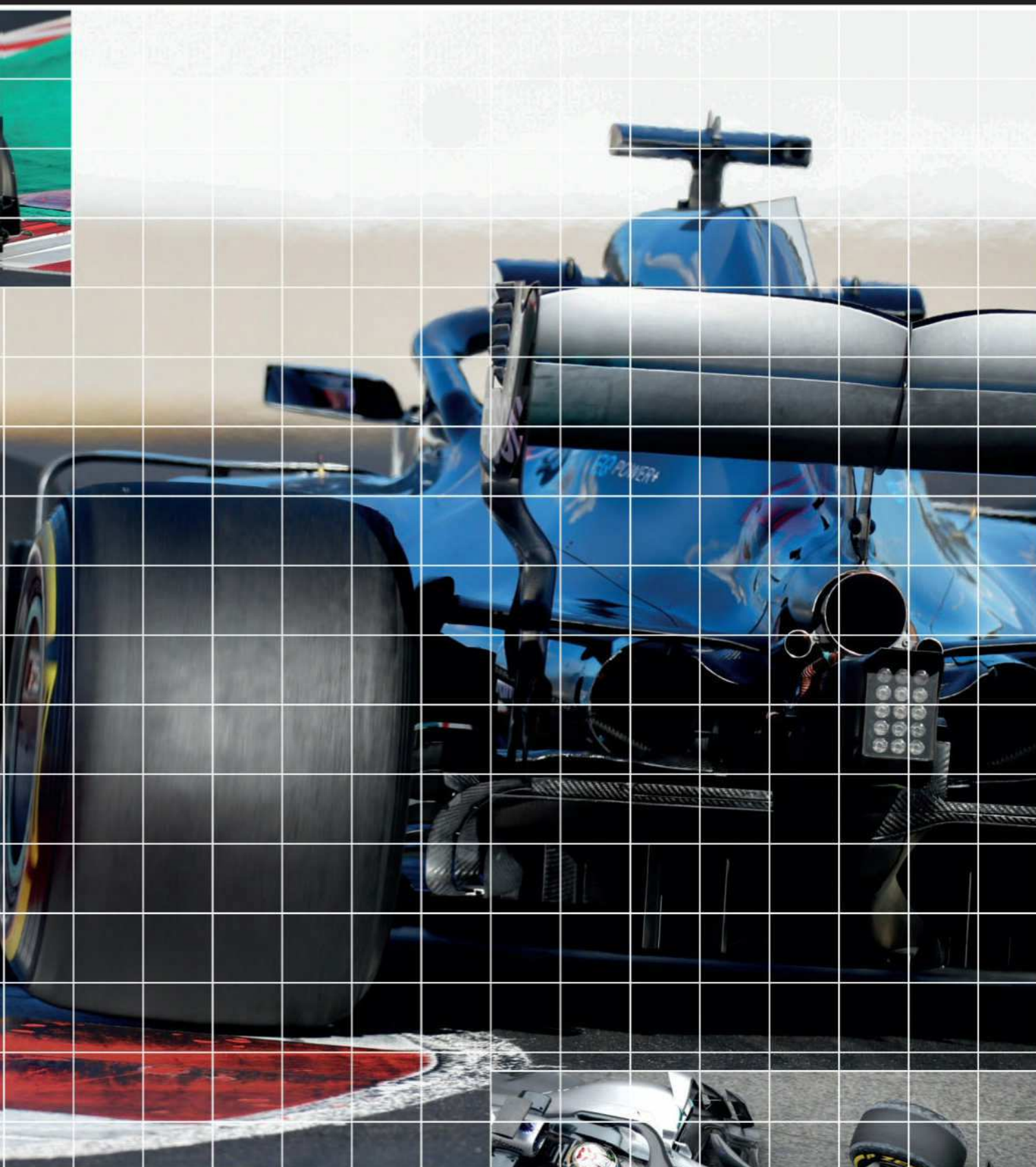
"Across the entire car, across every part of its surface, we've made it new," he explains. "We have found improved ways of getting downforce and performance into the car. Each one of them is small in isolation, but they add up in their totality to something that is enormous."

That's the Mercedes way in a nutshell – endless refinement of thousands of tiny parts that adds up to one mighty whole. ▶



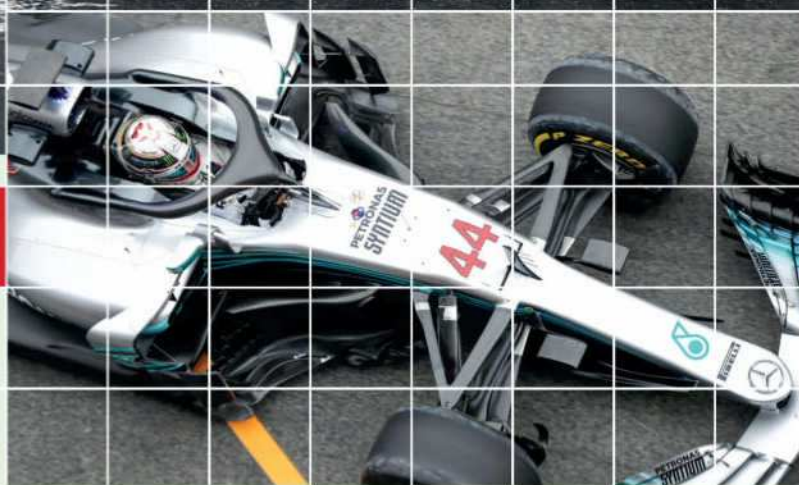
MERCEDES-AMG F1 W09 EQ POWER+ TECHNICAL SPECIFICATION

Engine	Mercedes-AMG F1 M09 EQ Power+
Front suspension	Carbon fibre wishbone and pushrod-activated torsion springs and rockers
Rear suspension	Carbon fibre wishbone and pullrod-activated torsion springs and rockers
Brakes	Carbon Industrie discs and pads, Brembo calipers
Weight	733kg



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FERRARI SF71H

Aurelio Lampredi, Franco Rocchi, Mauro Forghieri, Harvey Postlethwaite, John Barnard, Ross Brawn, Rory Byrne. The corridors of Maranello echo to some of the most legendary names in Formula 1 design through the ages. Ferrari tried to hire Newey, too, of course, but could never get the great British maverick to swap the UK for Italy, despite offering him "the crown jewels".

Ferrari's technical team has been through multiple cycles of hirings and firings in the decade since they last won a world championship in 2008, with notable technical names such as Aldo Costa, Nikolas Tombazis, Pat Fry and Mercedes'

SCUDERIA FERRARI SF71H TECHNICAL SPECIFICATION

Engine Ferrari 062 EVO

Front suspension

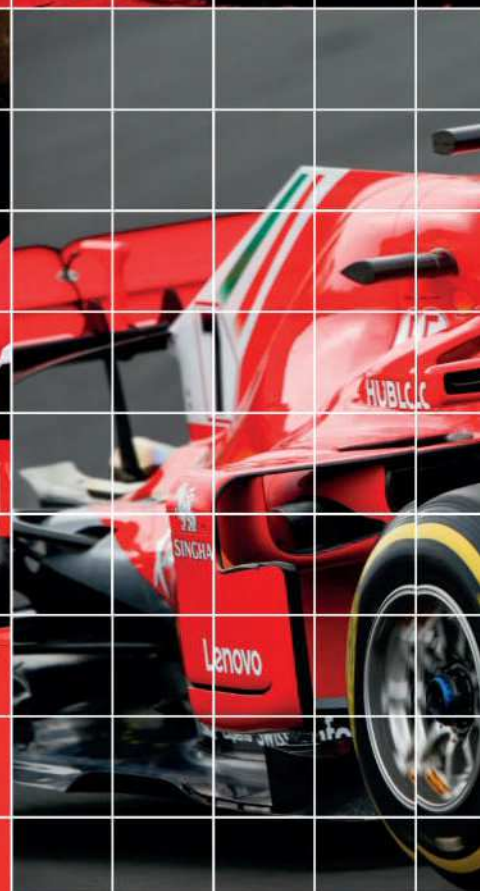
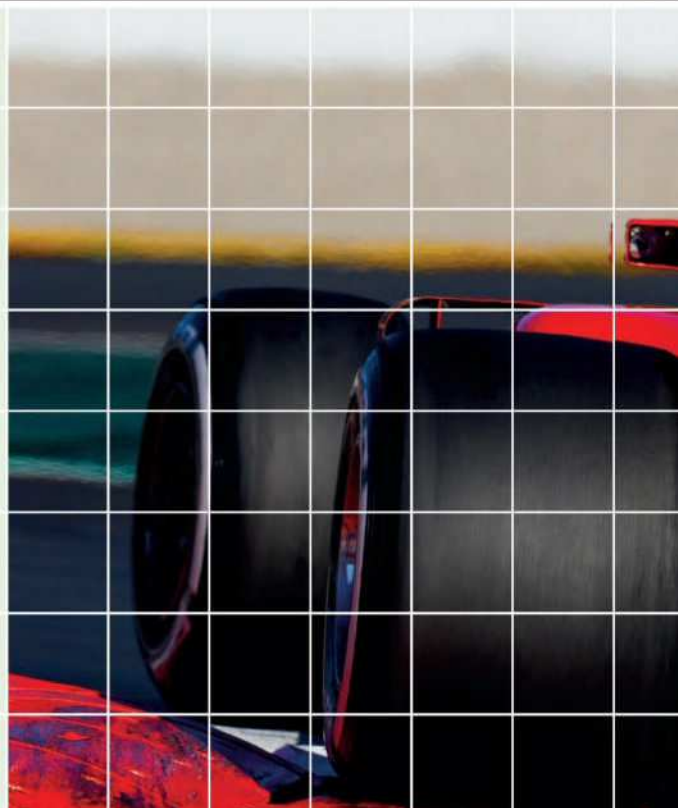
Carbon fibre double wishbone and pushrod-activated torsion bar springs and dampers

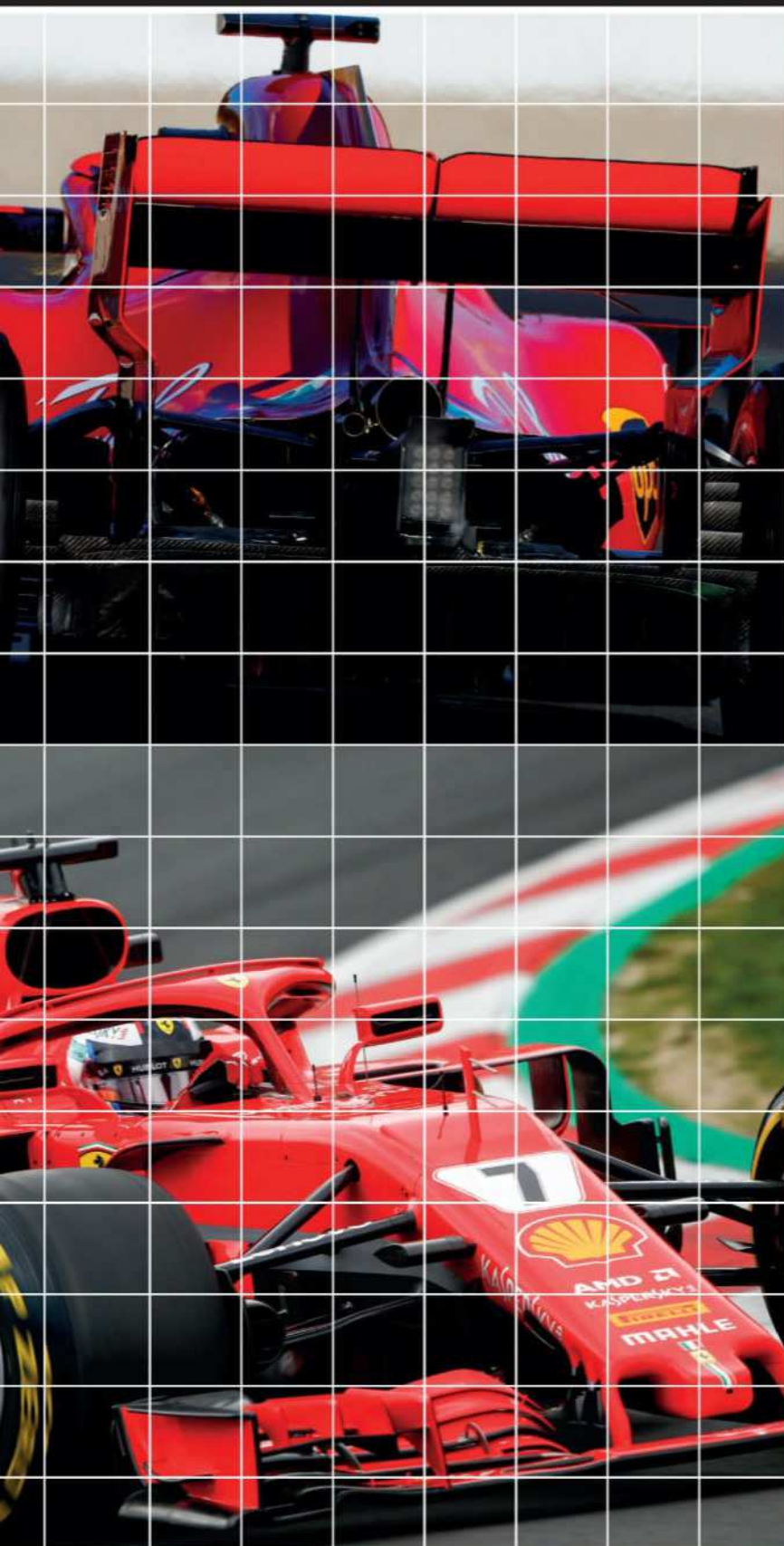
Rear suspension

Carbon fibre wishbone and pullrod-activated torsion bar springs and dampers

Brakes Brembo

Weight 733kg





F1 RACING VERDICT

**STEEPED IN GRANDEUR BUT HAUNTED
BY FAILURE. GRADUALLY LAYING GHOSTS
TO REST BY MARRYING HUMILITY WITH
PASSIONATE AGGRESSION.**

James Allison all sacrificed on the altar of failed ambition. Because *Ferrari must win*. Anything less is unconscionable failure. Bettering Byrne and Ross Brawn, however, has proved troublesome for the Scuderia.

With great responsibility comes great pressure, and currently that weight falls upon the shoulders of Mattia Binotto, an unassuming engineer of Swiss stock, who has risen gradually through Ferrari's ranks since joining the test team in the mid-1990s. Since becoming chief technical officer in the summer of 2016, Binotto has sought to implement a philosophy of greater collaboration between design departments, rather than the pursuit of excellence in isolation – though Byrne still lurks in the background, offering a guiding light through the design corridors.

Last year's SF70H was the first complete product of Binotto's process. Early in the season, it was by far the most consistently raceable car on the grid – particularly good on low-speed circuits and gentle on its tyres. Ferrari opted for a significantly shorter wheelbase than Mercedes in 2017, and also moved the sidepods rearwards to open up space in the bargeboard area – a zone ripe for aerodynamic development under the new regulations.

Notwithstanding their 2017 successes, Ferrari still ultimately fell short, producing a car that was slower than Mercedes across the balance of circuits on the calendar. So, Ferrari have opted to lengthen their car's wheelbase for 2018, to make it "strong and performing on high-speed circuits", according to Binotto. Ferrari also have "sidepods and radiator ducts that are even more aggressive, more innovative", as well as tighter bodywork around the engine.

Ferrari have decided to retain a high rear ride height – somewhere between the aggressive rake of the Red Bull and the flatter approach of Mercedes. Managing the aerodynamic consequences of the longer wheelbase, high rake, tighter engine packaging and halo means that this year's Ferrari has sprouted special tunnels on its floor, and even some turning vanes inside the mirrors.

Higher rake aids front-wing performance at lower speeds, so Ferrari have clearly tried to take the best of both worlds – borrowing the long-wheelbase concept that helps make Mercedes so strong at high speeds, the high rear ride-height concept that helps Red Bull's potency at low speeds, and twinning that with a front-wing concept that apes McLaren's.

But, as Britain is finding with Brexit, having your cake and eating it is difficult. In trying to square the circle, there remains the danger Ferrari will over-reach in pursuit of their obsessive compulsion to win at all costs. ▶

RED BULL RB14

The chassis king is back on his throne

Although he is preoccupied with other things these days, such as America's Cup yachts and Aston Martin hypercars, Adrian Newey's design genius still underpins Red Bull's deserved reputation for building the most aerodynamically efficient cars in F1. It's no wonder Mercedes and Ferrari studiously avoid supplying engines to this team, knowing the threat it would pose to their own competitive standing.


Formula 1's latest aerodynamic rules, drafted to beef up downforce figures and make the cars faster than ever, should be perfectly suited to a team of Red Bull's talents, one built around Newey's flair for seeing the ideal airflow structure for a car in his mind's eye and committing it to canvas. He is almost the Last of the Mohicans – a true artistic visionary among F1's modern breed of data-crunchers.

Newey took his eye off the ball somewhat in 2017, as Red Bull – the kings of modern F1 aerodynamics – endured an unexpectedly difficult start to life under the new regulations. They went with a low-drag concept that didn't correlate well between the windtunnel and the track, thanks to unexpected difficulty in accurately modelling the new, wider Pirelli tyres. Once that course was corrected, Red Bull transformed back into their normal selves – developing their car aggressively, quickly and successfully. At low speed, last year's RB13 was the standout chassis, particularly once it developed greater complexity in its bargeboard and sidepod designs.

The aim with the RB14, according to team principal Christian Horner, is to build on the successful concepts of RB13. Visually, the RB14 is stunning – very detailed and incredibly tightly packaged. It certainly caught the eye of Mercedes technical director James Allison, who singled Red Bull out for praise during pre-season testing in Barcelona.

Red Bull retain a shorter wheelbase than Mercedes and Ferrari, while following Ferrari in running short sidepods, which allows plenty of space to optimise the vital bargeboard area ahead of the radiator inlets. Red Bull are extraordinarily adept at developing their cars over a season – a trait that underpinned their title success in the latter days of the V8 era – but this year they imposed earlier production deadlines to arrive better prepared for testing and the early races.

Daniel Ricciardo reckons the team are in finer fettle than at any time since he joined ahead of the 2014 season, so Red Bull should start strongly and gain extra strength, rather than simply using their strength to dig themselves out of trouble.

The key to unlocking performance lies in the Renault engine. Renault's difficulties in reliably extracting proper efficiency from this hybrid engine formula have held Red Bull back throughout Ricciardo's time there. But if they can unlock extra power without compromising reliability, the genius of Newey and his team should do the rest. 

ASTON MARTIN RED BULL RACING RB14 TECHNICAL SPECIFICATION

Engine Tag Heuer RB14

Front suspension

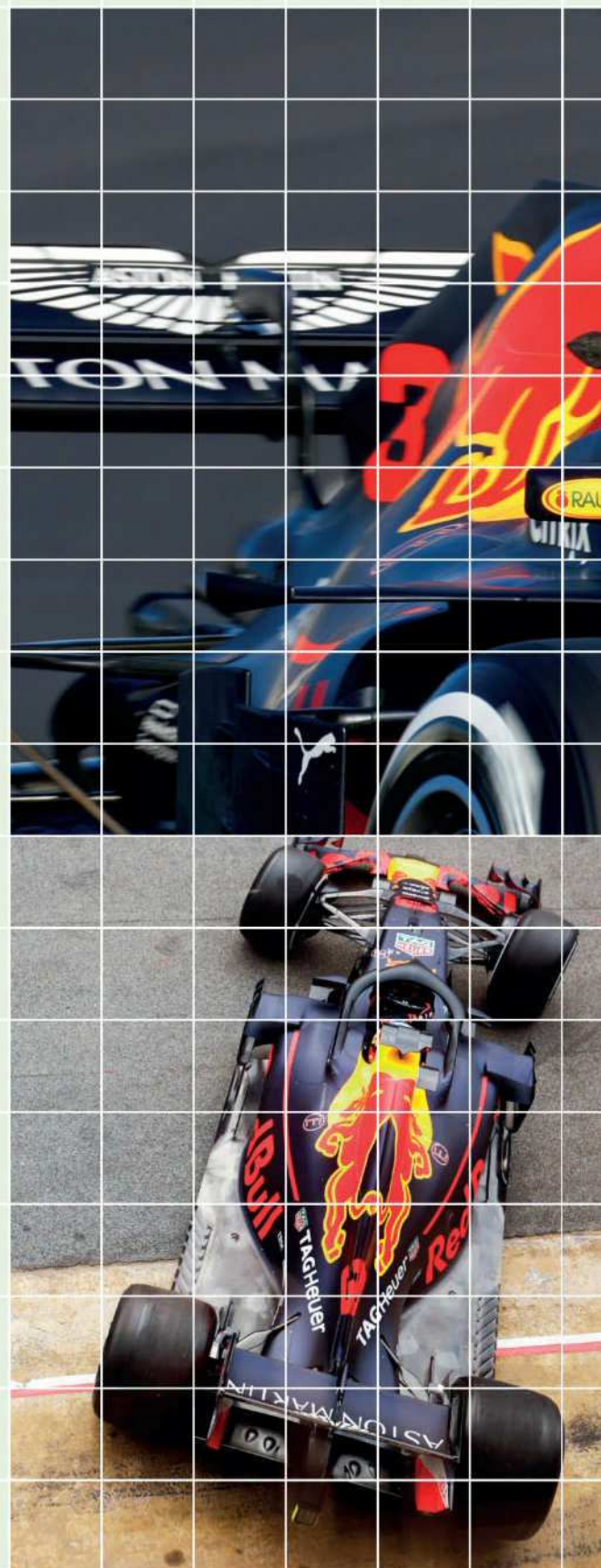
Carbon fibre double wishbones and pushrod-actuated springs and dampers

Rear suspension

Carbon fibre double wishbones and pullrod-actuated springs and dampers

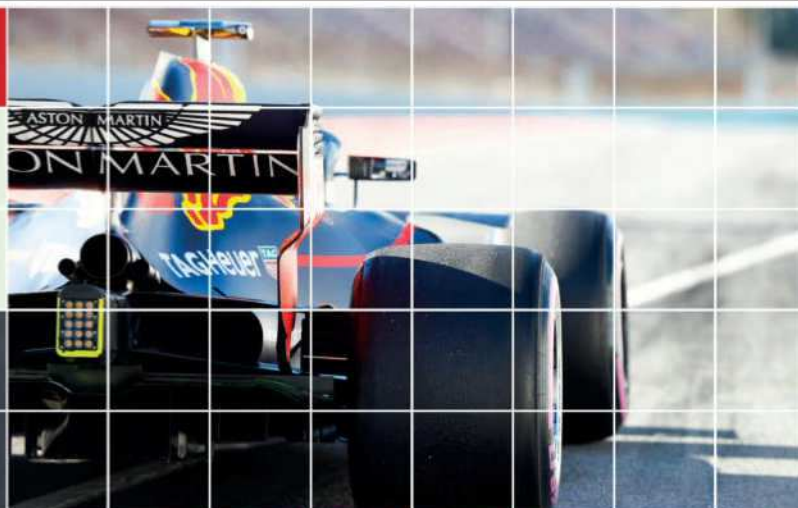
Brakes Brembo calipers

Weight 733kg



F1 RACING VERDICT

**F1'S MASTERS OF GUERRILLA WARFARE.
FIGHTING WITH THE BIGGEST AND THE
BEST, THANKS TO RAZOR-SHARP FOCUS
AND MAVERICK GENIUS.**




{ YOU ASK THE QUESTIONS }

CARLOS SAINZ

Sure, you know about his legendary dad. But how about his passion for pork-and-beef burgers – *without* tomatoes? Discover all this and more as Carlos Sainz faces *your* interrogation

WORDS STUART COOLING

PHOTOS  LAT IMAGES: ANDY HONE

Where are all these people coming from? Renault's hospitality has been flat-out through lunchtime, and as one of the crew guides *F1 Racing* to our appointed table, her face contorts into a rictus of disapproval as she clocks the stains left on the tablecloth by previous guests. Evidence of their offending splatter is promptly whisked away, thrust into a bag, and replaced with a spotlessly clean equivalent.

Such is the world of F1 testing in the Liberty era. Pre-season at Barcelona, in the spring sunshine, the paddock is bustling with paying guests on hospitality tickets. It's a microcosm of a grand prix weekend, and with more track time available and consequently less pressure, teams can offer a more accessible guest experience. Hence the hubbub in the Renault motorhome – in a corner Sauber boss Frédéric Vasseur is chewing the fat with his ex-boss, Cyril Abiteboul – and the throng of fans through which our interview subject is currently picking his way.

Carlos Sainz bursts through the door, slightly flushed and apologetic: "Sorry – I had to run here!" Unusually for a 'You Ask The Questions', he has an entourage: as well as the PR minder, our audience includes Sainz's physio, Rupert Manwaring, and his manager, Carlos Oñoro, who's having a sneak preview of your questions.

"They're all about food, mate," he cackles. "They've got your number..."

"Ah, I've done this before," says Carlos, surveying with a grin the pile of cards before him. "I know what to do..."

During the winter break you posted on Instagram asking fans to vote on whether it was okay for a Saturday 'cheat day' burger. We all know you love a good burger, but what is your all-time favourite?

Fern Lock, UK

That's a good question. My favourite burger is in London, but I can never choose between Honest Burgers and Patty & Bun. It's always a struggle trying to decide which one to go to when I'm in London. Once when I was in Honest Burgers I had a burger that had pulled pork in it as well as beef and it was absolutely incredible.

F1 Racing: You had pork and beef

in the same burger?

CS: Yeah. And it was – he tasted it! [He laughs and gestures at his manager, who is shaking his head.]

Carlos Oñoro: You can't imagine it.

F1R: Where do you stand on the important issue of having tomatoes in burgers?

CS: I don't like tomatoes in burgers. Salad, caramelised onions – I like them a lot. Some lettuce. Maybe you can have bacon, and cheese of course. But tomato? I'm not a big fan. They just make it wet. ▶



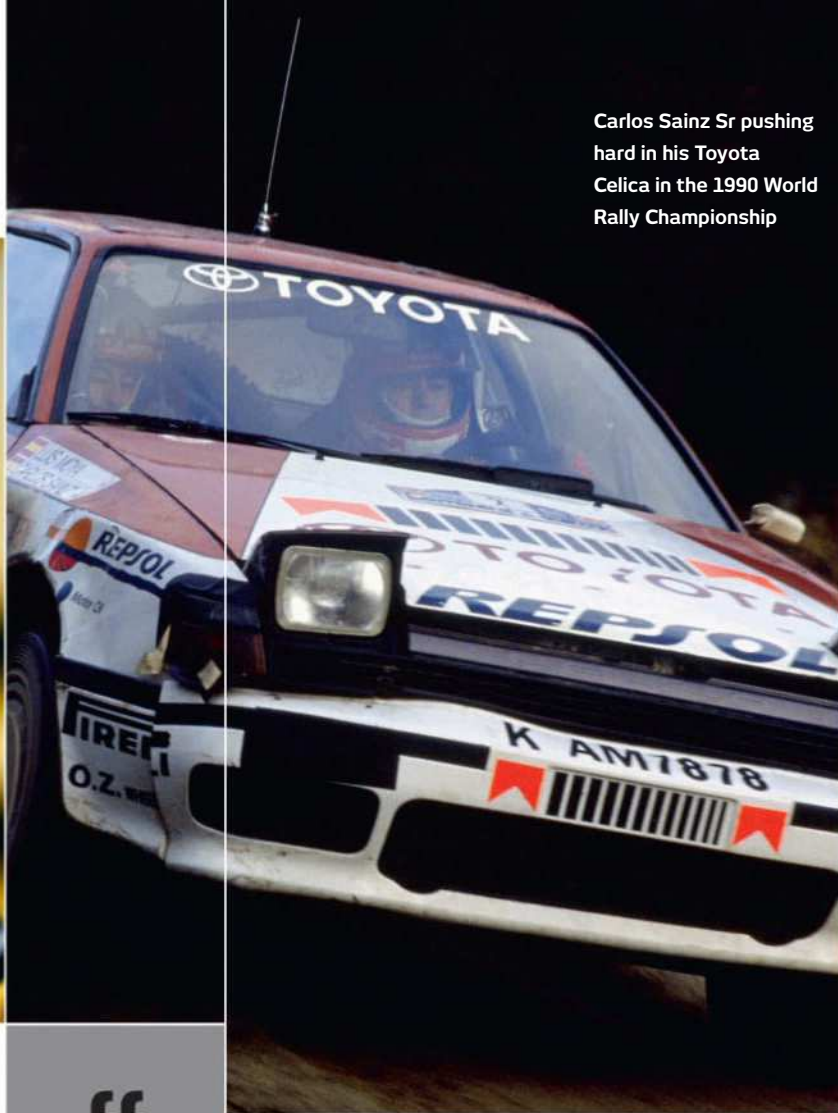
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CARLOS SAINZ



Carlos Sainz Sr pushing hard in his Toyota Celica in the 1990 World Rally Championship

LAT IMAGES

Has your dad ever taken you on a rally stage at speed?

Bruce Davis, USA

Yes, the first time I was very young. It was in Portugal, and I was so small that I couldn't see the road. Another time was in a Volkswagen Dakar car – it was incredible. We go rally driving at home in a Mitsubishi, and I enjoy it. I have a lot of respect for what he does. When he's co-driving me, he's saying, "Push more there! Push more here!" But I'm pushing as much as I can!

Have you ever driven any of your father's rally cars?

Waldemar Twarog, Poland

No. I've driven one of his Toyota Celicas but not properly – I drove around the streets but I haven't really tested it. It's something I look forward to one day. But it's pretty difficult for it to happen.

Last week he was testing the Peugeot in Spain, the one he won the Dakar with, but I had an event so I couldn't go.

Which is your favourite restaurant in Madrid? Would you be open to having a pincho de tortilla with me? I'll pay!

Luca Romagnoli, Italy

Don't worry – if you come to Madrid, you will be my guest. My favourite restaurant in Madrid? Hmm. There are so many, and obviously I'm not counting the hamburger ones [he laughs, but his manager and physio laugh louder]. There's one called 99 Sushi Bar – that's really good. But for more typical Spanish food, I would maybe go for La Española or something like that. You can have a good tortilla, *patatas*, good meat, this kind of stuff.

“DAD WAS THE FIRST WORLD RALLY CHAMPION IN SPAIN. HE WAS THE FIRST SPANISH DRIVER TO WIN DAKAR – AND HE WAS THE FIRST 55-YEAR-OLD TO WIN DAKAR. I'M A VERY PROUD SON”

Where do you see your future – at Renault or at Red Bull?

Tom Bryan, UK

Many people want to know what will happen with me next year but I really owe Renault all my attention, all my motivation, because they invested in having me this year and I owe them everything. So I'm not thinking about 2019 until the time comes. I'm being part of Renault as if I'm going to be here for many years – and then whatever happens, happens. That's my approach.

What is your biggest fear and why?

Laca Puran, Mauritius

My biggest fear? [Long pause] Good question. I'm trying to come up with one. Maybe snakes. Spiders – I don't mind them. Snakes I'm a bit more worried about. When I'm in the countryside in the summer in Spain, there are always little snakes around. What else? **CO:** Playing football against me? **CS:** Ha! Never.

What's the single biggest thing that makes you proud to be Carlos Sainz's son?

Tony Peacock, UK

Many things. He was the first [non-Scandinavian] to win in the 1000 Lakes. He was the first World Rally Champion in Spain. He was the first Spanish driver to win Dakar – and he was the first 55-year old to win Dakar. I'm a very proud son. ▶

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YOU ASK THE QUESTIONS



He's fully committed to the yellow cars for now – but there's speculation about a move to Red Bull



LAT IMAGES: STEVEN TEE

If you could race at any historic Formula 1 track that formerly held the Spanish Grand Prix, which one and why?

Brian Kenney, USA

I'd like to race in Madrid, at Jarama. It's my home circuit – I haven't raced there but I did some laps in a Formula 3 car back when I was in F3. And it's my home city, so if there could be a grand prix in Madrid, I would be extremely

proud of that. So, Liberty, I hope you are reading this.

What should F1 engines be like in the future?

David Brown, UK

Louder and also cheaper. If there's one thing with these engines nowadays it's how much they cost. But I wouldn't want

to go back too many years in technology. I liked the idea of KERS, where the driver had a button to give the possibility of overtaking. Nowadays it's all in the pedal.

What makes you stand out from all the other drivers out there?

Han Duiven, Netherlands

Anything I say will sound cocky [his manager and physio burst into laughter]. I don't want to say. I'll keep it for myself [he rolls his eyes as his entourage giggles].

Do you think there is an aerodynamic advantage to being clean-shaven?

Paddy Bates, UK

[Rubs his stubble ruminatively, accompanied by more laughter.] There might be a bit of a weight advantage. Maybe one gram from the beard! It depends. I always

shave every five to six days to give the weight up.

“THE AMOUNT OF TRAVELLING CAN BE HARD. IT'S PAINFUL WHEN YOU HAVE TO GET ON AN AIRPLANE ON 20 DECEMBER TO GO TO AN EVENT OR TO A PHOTOSHOOT INSTEAD OF BEING WITH YOUR FAMILY”

Who do you think would be fastest over a forest rally stage – you or Robert Kubica?

Phil Darby, UK

In this exact moment, I think Robert Kubica. But with more training and some proper testing, some proper rallying, I could be very good. That is what my father has told me. And again, this might

sound cocky, but my father has said to me, “You have the talent to be good in rallying and if you could prepare a good stage, do a year of testing, you could go well.” He's been co-driving me. He knows what I'm capable of.

What is the hardest aspect of being a Formula 1 driver?

Maria Lloret, Spain

I wouldn't say there's anything that is particularly hard for me. Maybe the amount of travelling, especially when you travel for events more than races. It's a bit

more painful when you have to get on an airplane on 20 December to go to an event or to a photoshoot instead of being with your family at the time when you want to be with them in December. But I tend to always take it positively and enjoy it out there – it's part of the job. You just need to get on with it.

F1R: And you can't eat as many burgers as you'd like...

CS: [Laughs] Definitely not, but this is something I have under control. I have my cheat day each week. I know when to do them and my weight has been good. I've had my burgers but it's also been pretty good. 🍔

YOU ASK THE QUESTIONS

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THE LONG INTERVIEW

Limelight-shy but power-driven, FIA President Jean Todt is an infrequent interviewee. But *F1 Racing* has been able to secure rare access to the boss of world motor racing to glean valuable insights into the future of our sport

THIS IS JEAN
TODT

INTERVIEW ANTHONY ROWLINSON
PORTRAITS ALISTER THORPE





JEAN TODT



This is a funny old time in Formula 1: a time of transition. F1's owners, Liberty Media, at the start of their second year in charge, are a welcome fresh face, centred on ever more ambitious marketing and promotional plans.

Cars are faster than ever and more powerful than any since the fully boosted mid-80s turbo monsters. In Lewis Hamilton, Formula 1 can boast a genuine global sporting icon – a rival in

eminence to the likes of Michael Schumacher and Ayrton Senna before him, while his team, Mercedes, are arguably more brilliant than even the greatest superteams of the past: '80s McLaren; '90s-era Williams; Ferrari at the turn of the millennium; and, latterly, Red Bull.

Yet turbulent undercurrents swirl beneath these superficially alluring waters. There's trouble brewing over the future engine regulations. The costs of competing in motorsport's premier echelon are frighteningly elevated. And the contentious issue of 'who gets what' from the sport's commercial rights holders remains a tinderbox in search of a spark – where's Bernie Ecclestone when you need him?

All told, there's quite a bit that could kick off this year, both on and off track, and it seems certain that the 'F1' tray in FIA President Jean Todt's desk stacker (he has one) will remain full-to-overflowing all season long, despite his insistence since day one in office that he would never allow Formula 1 matters to consume all of his attention.

So a good time, some might argue, to have a grandee at the head of the table. For Todt, FIA President since October 2009, is steeped in the sport, having authored championship-winning success first for Peugeot in rallying and sportscars, then, more famously, with Schumacher, Ross Brawn and co at Ferrari.

I AM COMPLETELY IN FAVOUR OF HYBRID TECHNOLOGY BECAUSE WE CANNOT DENY THE EVOLUTION OF THE WORLD. WE MUST HAVE SOME SENSE ABOUT WHAT IS HAPPENING BEHIND THE GOLDEN GATE OF FORMULA 1

Now 72, he's pretty much seen and done it all as a competitor, having faced down the likes of Ron Dennis, Flavio Briatore and Frank Williams, before succeeding Max Mosley as motorsport's top politician, then outlasting even Bernie Ecclestone. The time is surely ripe to gain his insights into the state of the F1 nation.

F1 Racing: Jean, there's a lot of below-the-radar political manoeuvring going on in Formula 1 at the moment, particularly with regard to future engine regulations and teams' financial rewards. What's the FIA's involvement with all this, as the sport's governing body?

Jean Todt: We are working right now on the 2021 regulations. Clearly, I think it would be very unfair to destroy all that has been done on the engine [the current V6 turbo-hybrid spec] and to start with a white piece of paper. So, for me, it is essential that we optimise what has been developed and work on what the engines are now and make them better.

What I feel is important for me as president of the FIA is to make sure that what we propose is good for the sport. Of course, I am completely in favour of hybrid technology because we cannot deny the evolution of the world. We must have some sense about what is happening behind the golden gate of Formula 1: pollution, climate change... all that must be taken into consideration, because Formula 1 has to be an ambassador of motorsport.

That means F1 has to be representative. Everybody with a modicum of good sense will agree that we need to take into consideration the evolution of society. We cannot be talking every day about the autonomous car, the connected car, hybrid, fuel cell, electric and then say, "Oh, Formula 1 – the pinnacle of motorsport – let's forget all that!" That would be foolish, so we must be responsible. So, that's what I want, but I shouldn't be involved in the detail.

There is a very selective memory sometimes in F1. A few months ago we all sat together and agreed unanimity on

certain adaptations of the engine for the future: the parameters were on the global framework of the actual engine – cheaper, more revs, no fuel consumption limitation, being able to go from the first lap to the last lap at full power, increasing the revs, increasing the fuel flow and improving the noise.

F1R: Are you suggesting that there is no longer unanimity?

JT: I am intending that they respect what they agreed. I am optimistic that we will find a solution and I think we need to be fair with regard to the investments that have been made in F1, and clearly we don't want to lose anybody. So it would be unfair to try to get some newcomers without respecting those who have been trusting us and who intend fully to stay.

But on the other side, we must have clear rules of the game and have them as soon as we can, because when I've been talking with some potential new entrants, they are interested to come in, but they want to know what the rules of the game are. I think that's a fair request and we need to give that as soon as possible.

F1R: Would those new entrants be manufacturer teams, independent teams or just engine suppliers?

JT: There is something here you must consider: at the moment we have ten teams in Formula 1 and it's amazing to have four engine suppliers [Mercedes, Ferrari, Renault and Honda] for ten teams. I hardly ever remember having four engine suppliers for ten teams. With the investment required for a new engine, how can you justify it if you're supplying one or two teams?

By some estimates, Mercedes have invested one billion dollars in their Formula 1 hybrid engine programme, which has helped them dominate the sport since 2013. Taking them on at their own game would require a similar level of financial commitment, and it's this very fact that prevents most from even contemplating the challenge.



IT IS NOT ACCEPTABLE TO HAVE THE PINNACLE OF MOTORSPORT WHERE 60 TO 70 PER CENT OF THE FIELD ARE STRUGGLING TO SURVIVE

JT: Maybe you will find a sponsor who is happy to pay for the development, whatever the consequences – you won't find many! Or you find new manufacturers willing to try to supply some teams. Then you must also consider the whole picture of all the FIA championships and see if you can use the engine in other categories of motorsport in order to have more appeal for potential engine producers.

I do not think we will suddenly have a solution that will suit everybody, but I am convinced that we will be able to find a solution in the end. If you have some good sense you will always find solutions. If you are with negative people, you will never find solutions. But I think if we put some sensible people around a table, we will find solutions.

F1R: Some teams and manufacturers have suggested they need a rule framework in place by the middle of this year, in order to allow them to start preparing for 2021. Is that realistic?

JT: On the day we propose rules in agreement with our partner, the commercial rights holder [Liberty], some may agree and some may disagree. Every week our people are meeting the teams and the engine suppliers individually or globally. And we listen to them. And after having listened to everybody and talked with our partner, we will come with some regulations. If we are talking about introducing new engine manufacturers to be ready by 2021, they must know what the rules will be by the end of this year. 2019 and 2020 to make the engine is a fair period.

F1R: How big is the FIA's role in this process? The other parties seem to be more vocal about their desires... *[To wit, the several-times repeated gambit by Ferrari chairman and CEO Sergio Marchionne that The Reds could quit F1, and others' frequent calls for effective cost caps.]*

JT: You can have influence and power – you know if you have influence, you don't need to say that you have influence –

it's clear! Have you ever seen powerful people saying "I'm powerful!"? It's obvious. So let's say I don't care about that. What I *do* care about is what the final achievement will be. And the final achievement will correspond to what we want.

F1R: But taking Ferrari as a very high-profile example, surely they are too important for F1 to lose?

JT: I will say each competitor is important to Formula 1, but you know that I've had some working relations with Ferrari... *[There's a twinkle in his eye, since Todt is referring to his time with the Scuderia from 1993 to 2009, most notably as F1 team principal when they won five back-to-back drivers' and constructors' title doubles from 2000-2004.]*

Even before that, Ferrari were the iconic brand for me. From ten years old, I was dreaming in front of a Ferrari. Then I got a position with Ferrari where I was still very attracted... Now I'm in a different position and I do realise the effect of Ferrari and their amazing success. So, we are very happy to have Ferrari as a strong key player in motor racing but I don't feel that Ferrari would be what they are if they had not also enjoyed the benefit of being involved in motor racing. Again there is speculation they may leave. That is their choice. They are free – but I definitely hope they will not leave, although it can always happen.

In a way that's why we want to reduce costs because to a company like Ferrari, racing should not be 'spending'. It should be at least equal and even with revenue. That would be more healthy than it has been over the years, when there has been too much spending. That often puts teams in difficulty. There are six or seven teams who are struggling in Formula 1. So it is not acceptable to have the pinnacle of motorsport where 60 to 70 per cent of the field are struggling to survive.

F1R: And as the regulator, do you think it's appropriate that Ferrari still have certain privileges, such as the right of technical veto in F1?



Now in his third term as FIA President, Jean Todt's current focus in F1 is a new set of engine regulations

JT: Ferrari were once the only team supplying engine and chassis against other teams which were all powered by Ford [Todt is referring to '70s-era F1], so, at this time it was decided that being away from what we now call 'the Silicon Valley of motorsport', they needed some protection. Now I feel I am not in favour of it, because times have changed.

That's part of the answer. As for the second part... is it normal that Leonardo DiCaprio gets more money than a TV actor? Yes, that's life: the better you are, the more money you

get... well, you *should*. [Todt grins at his witticism.] In this activity, yes. So it's normal they get more money. It used to be that they got more money with the best results. Now they get more money with among the best results.

F1R: Will you be involved in Liberty's commercial discussions with the teams about a post-2020 financial structure?

JT: Clearly, the FIA will still be the regulator and legislator. The commercial rights holder is dealing with the commercial rights, revenues and expenses specific to the teams. But there is a good understanding between the commercial rights holder and the FIA, which means we are informed about what they do and we are happy to have them included in what we do.

A successor to the Ecclestone-Mosley Siamese twin this is not, but clearly Liberty and the FIA seem ready to present a united front in any power-play against F1's grandee pair – Mercedes and Ferrari.

F1R: The initial outcry regarding the introduction of the halo seems to have died down somewhat, but are there any alternative head-protection solutions in the pipeline?

JT: I knew we would talk about this! Let me find a letter [Todt shuffles his papers] On 16 December 2015, I got a letter that was signed by Jenson Button, Sebastian Vettel and Alex Wurz [on behalf of the Grand Prix Drivers' Association], urging us to decide on head protection for the drivers. And I said that "we are there also to listen." So immediately we asked our technical people what they could come up with, as a priority. In July, the GPDA said: "Don't be weak and please respect what we have asked you on safety."

So, we committed to take into consideration their request and the halo is the result. And now... you know, we love F1, but I hate this part of F1. Because, for me, the biggest asset in life is loyalty and respect for what you have undertaken. And we *did* respect that, but some have forgotten that. ▶



FOR ME, THE HALO IS NO PROBLEM BUT I HOPED WE WOULD HAVE HAD MORE SUPPORT FROM EVERYBODY – THE FANS, THE MEDIA – FOR SOMETHING THAT IS FOR SAFETY

For me, the halo is no problem but I hoped we would have had more support from everybody – the fans, the media – for something that is for safety. I'm amazed to hear some people say "Okay, motor racing has to be dangerous." Why should we not protect all life – not just in Formula 1. In Formula E, for example [in which series the halo has been introduced for its 'Generation 2' car] I did not hear one complaint. I did not hear any complaint from Formula 2, or from Formula 3 [both of which will use the halo this season]. And we are going to implement it as soon as possible in Formula 4.

F1R: But there has been some *very* heavy criticism. For example, Toto Wolff said he'd like to take a chainsaw to it...

JT: All I will say is that I love F1 and I think everyone in this business of motor racing should love F1. I don't see the value in public criticism, which is not good for the sport. It's in all our interests to have the best product available and to have a healthy Formula 1: teams; manufacturers; sponsors; media; FIA; the commercial rights holder. We should all want to have the most healthy business ever.

And so many good things have happened – like last week I was finally able to present the single-seater pyramid from Formula 4 to Formula 1. The good things create more interest for me than controversy about the halo, grid girls or the second-rate problems.

F1R: What about the talk of growing the F1 calendar to maybe 25 races a season within a couple of years?

JT: At the moment we have 21 races and the calendar looks very good: the French Grand Prix is back; the German Grand Prix is back and we hear about potential new races in Argentina – I would love to see a race there! Fangio, Reutemann... a lot of heroes of motor racing have been from Argentina. Then Vietnam? I would be

happy to be in Asia and to bring F1 to developing countries would very good. If it can be put together, why not?

F1R: You're now in your third and final term of office as FIA President. What do you still want to achieve?

JT: I think we have done quite a lot but there is always a margin for doing things better and that's what we want to do, in terms of positioning. One of the strengths of the FIA is its two pillars: motorsport, where we are the regulator representing 150 countries; then we have automobile associations in about the same number of countries, who are there to facilitate the life of road users around the world.

I have been honoured to be appointed and now re-appointed by the UN Secretary General as a special envoy for road safety, which is for me a unique opportunity to exploit and optimise those two responsibilities. And I'm very concerned about a lot of things in society – 1.3 million people die on the road every year; 50 million people are injured. Pollution. Congestion. Traffic. We all lose so much time every day in traffic. And we should not be used to seeing people dying on the roads. We should not be used to seeing people hurt on the road. We should not be used to having so much congestion on the road. These are the most fascinating things and I have the privilege to be part of them.

And if I go back to motor racing, Formula 1 is the pinnacle of motorsport, but now we need to make sure there's a healthy pyramid below it. There has to be a synergy, because for me

motor racing is not only a show. It has also to be a laboratory for what is happening on the road.

All of these things are, for me, absolutely essential, but they're also challenging. So it seems like there is quite a lot to do.... And I clearly want to leave my eventual successor the best FIA I can. We must make sure that the end change is constructive – and that's what we will try to do.

The halo has long proved contentious, but Todt rejects any criticism of a device that could save lives









For **Pierre Gasly**, having Honda power in 2018 means more than just adapting to a new engine. His experience of racing in Japan may give him a technical edge with Toro Rosso's new partners...

LEARNING JAPANESE

WORDS **STUART COOLING**
PHOTOS **PETER J FOX/GETTY IMAGES**

For many young drivers hoping to ride a moneyed wave of high-energy carbonated beverage to the peak of motor racing, the Red Bull Junior Team has proved to be a ghastly business. Now, indubitably, it's Pierre Gasly's business, for he is the latest young talent to be

thrust onto the F1 stage by this most demanding of up-or-out mechanisms – presided over, as ever, by Red Bull driver consultant, former F1 driver Helmut Marko.

Students of history would determine that the signs aren't good: in over a decade of separating the wheat ►

from the chaff, the Red Bull Junior Team has groomed just one world champion. The road towards, through and beyond Sebastian Vettel's four world titles is littered with the career wreckage of also-rans who were merely quite good. Viewed through Marko's merciless prism, adequacy equates to inadequacy.

But while Gasly arrives with a spring in his step and a grin on his face – like some but not all of his predecessors – he's *not* attended by the miasma of entitlement that several of them exhibited. And when *F1 Racing* broaches the question of whether Marko has sat him down with a list of must-must-must benchmarks to hit, he doesn't equivocate about where his priorities lie, or what motivates him.

"Yeah, I think it's clear. We haven't had a detailed conversation about targets because it depends on the potential of the car; if you have a midfield car you can't fight for podiums or wins, so you need to be objective. The main things are to show speed, good racing, to be consistent and to be there when there are chances to score points. For me, the main thing is that what I do, I do *for myself* because I love racing. For me, the most important thing is to be happy with my own performance. I'm always looking for perfection, so I'm never really satisfied."

Uncertainty around the technical package gives Gasly and his team-mate Brendon Hartley – another Junior Team evictee, but one freshly returned from exile – a blank slate from which to work. Late last season, Toro Rosso's relationship with engine supplier Renault noisily self-destructed just as Gasly was drafted in to replace Daniil Kvyat. It's a sign of how desperate the team were to be shot of their partner that they paired up with Honda, whose wares promised little better on the evidence of a woeful 2017.

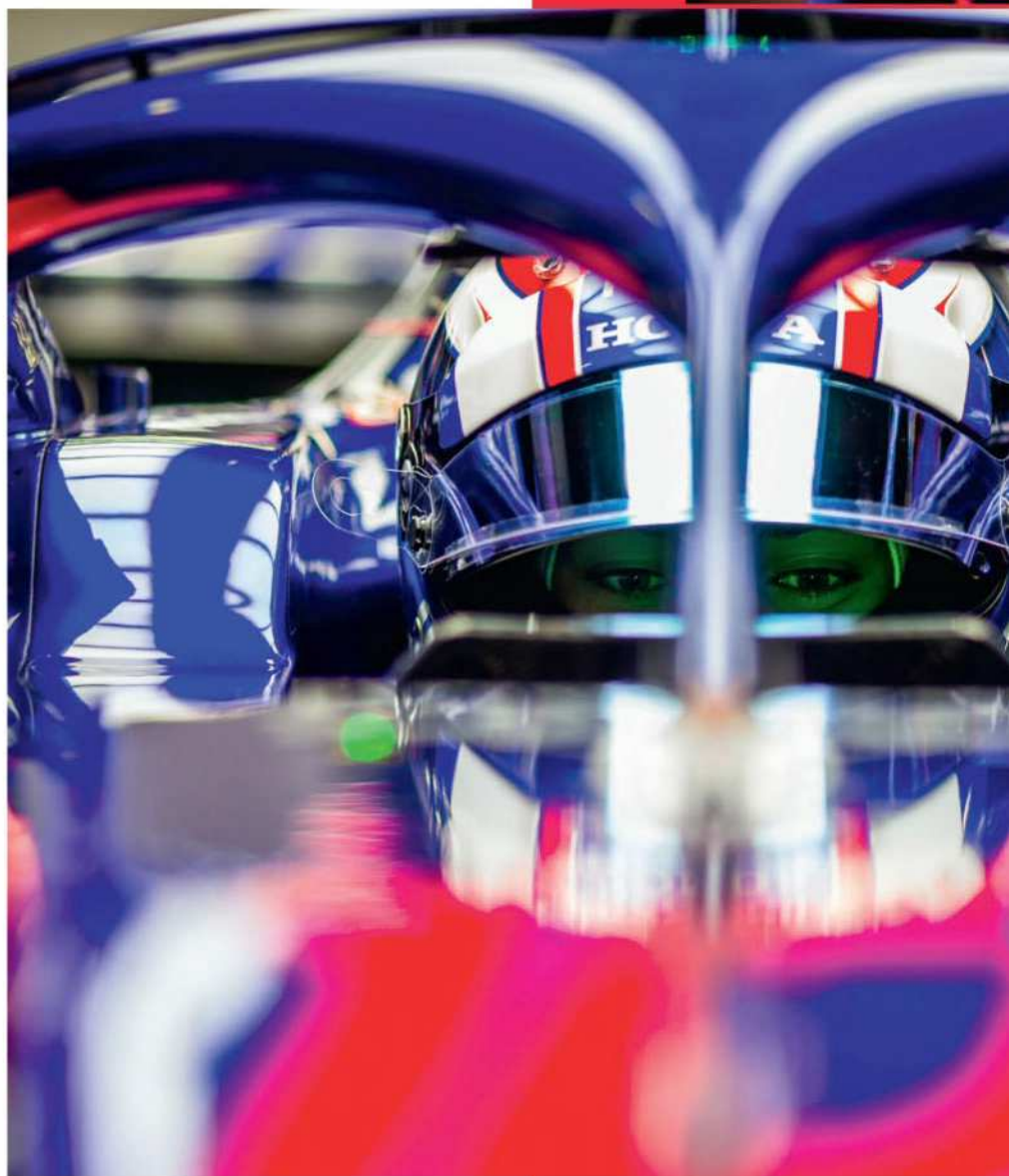
Over winter the Japanese might have turned that narrative on its head: in pre-season testing it was the nervousness of the STR13 on turn-in that caught the eye rather than a lack of oomph. An air of optimism suffused the garage, shot through with *schadenfreude* at the predicament of McLaren, Honda's ex-partner, whose MCL33 regularly ground to a smoking halt.

"The end of last year was pretty tough with all the [Renault] engine issues we had," says Gasly. "This year is going to be a big challenge for everyone in the team because we're not customers any more, it's a different kind of relationship than before. We have the same targets as Honda

"IN JAPAN, YOU NEED TO BE TRANSPARENT AND STRAIGHTFORWARD BUT IN A VERY DIFFERENT WAY THAN IN EUROPE"

and you really feel that the Japanese and the Italians are working as one team together. The atmosphere and the dynamic is positive.

"The Japanese are pushing massively because they want to show everyone they can make proper engines," he adds. "And the reliability [in testing] has been good so far. For me, the





Gasly has made the long-awaited leap from Japanese Super Formula to Formula 1 – and his new friends at Honda have joined him for the ride

Japanese engineers are the most committed people to work with – when they have a target they'll do anything to achieve it, even if they have to work 20 hours a day. They try everything."

It's Gasly's understanding of this key element of Toro Rosso's new technical ecosystem that could help him establish himself as the man to take the team forwards. Last season he was parked in Super Formula, Japan's premier single-seater series, having won the GP2 championship but not convincingly enough for Marko to place him in F1 straight away. Gasly buckled down, got on top of the technical and cultural challenges and became a race winner. Over the winter, Toro Rosso team boss Franz Tost put his staff through training courses in Japanese etiquette to equip them for the new relationship; his new driver had first-hand experience of the silken diplomacy required.

"I didn't know a year ago how useful it would become for me to live and work in Japan," he says. "I learned so much about how you communicate and how you approach things if you want to gain trust. You need to be transparent and straightforward but in a very different way than in Europe. Spending a season in Super Formula with Honda helped me to build the trust we have now – there are engineers here who I first met at the start of last year so we already have a good working relationship. Hopefully it will make things easier for all of us."














What marked Gasly out fundamentally from the driver he replaced last year was his approach to recovering from the engine-related grid penalties that peppered his five grands prix. Not once did he launch a Kvyat-style missile assault at Turn 1 in an effort to make up ground.

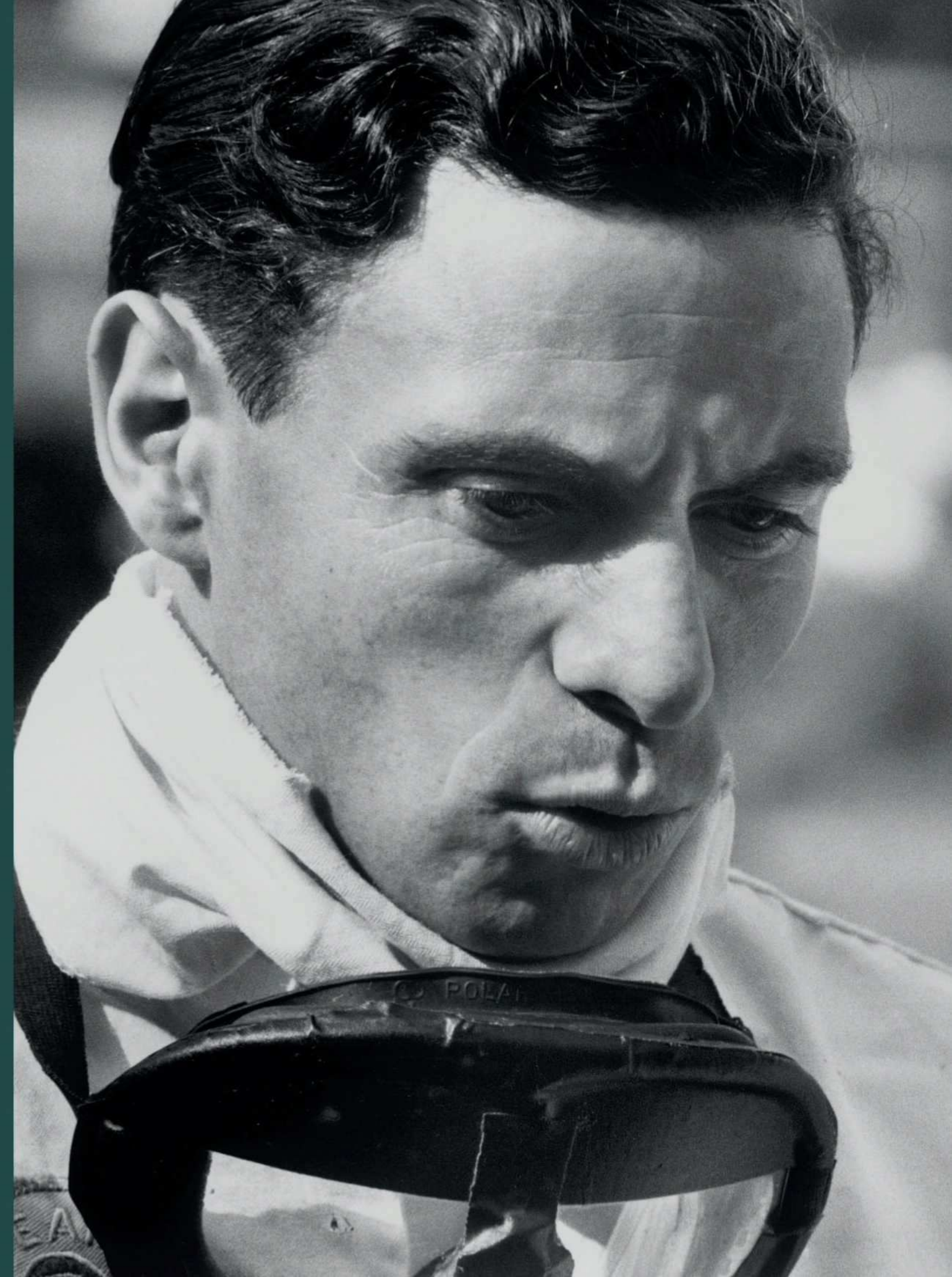
"I knew that every lap was important," he says, "that I had to get as much mileage as possible because that's how you gain experience, how you learn from the car and make progress. If you ruin your race at Turn 1, it's not good for the team, also you don't learn anything. I've been trying to build every weekend, racing in a smart way. It will be different this year because I'm doing the full season, and I know the car better. There will be opportunities but you need to understand how much risk to take depending on the situation."

So is he ready to get his elbows out? After all, no racer can afford a reputation as someone with whom you can take liberties. "Oh that's right," he says with an impish grin. "It doesn't mean you have to crash, but you have to show them..."

ROAD TO SUCCESS OR POISONED CHALICE?

Since Toro Rosso made their debut in 2006, 13 drivers have raced for them. So have their careers continued on an upward path, or have they been unceremoniously dumped?

Driver	Verdict
VITANTONIO LIUZZI Seasons 2006-2007 Races 35	 OUT
SCOTT SPEED Seasons 2006-2007 Races 28	 OUT
SEBASTIAN VETTEL Seasons 2007-2008 Races 25	 UP
SÉBASTIEN BOURDAIS Seasons 2008-2009 Races 27	 OUT
JAIME ALGUERSUARI Seasons 2009-2011 Races 46	 OUT
SÉBASTIEN BUEMI Seasons 2009-2011 Races 55	 OUT
DANIEL RICCIARDO Seasons 2012-2013 Races 39	 UP
JEAN-ÉRIC VERGNE Seasons 2012-2014 Races 58	 OUT
DANIIL KVIAT Seasons 2014-2017 Races 51	 UP & OUT
CARLOS SAINZ Seasons 2015-2017 Races 56	 UP
MAX VERSTAPPEN Seasons 2015-2016 Races 23	 UP
PIERRE GASLY Seasons 2017- Races 6	 IN
BRENDON HARTLEY Seasons 2017- Races 5	 IN



"THE STANDARD BY WHICH ALL OTHERS MUST BE JUDGED"

50 years ago, on April 7 1968, double world champion **Jim Clark** was killed in a Formula 2 race at Hockenheim. Peerless in his prime, for some he remains the greatest Formula 1 driver ever to have lived. Here, two of the most respected grand prix writers, **Peter Windsor** and **Nigel Roebuck**, share their memories of Clark and explain why he remains an inspiration to this day...

JIM

CLARK



Clark swept to victory in the 1962 Oulton Park Gold Cup; only Graham Hill was on the same lap

Nigel Roebuck: I was at Brands Hatch that day [when Clark lost his life in a Formula 2 race]. It was the BRDC 1000km sports car race. It was cold and I was in the Clearways grandstand. After a couple of hours the race had settled down, so I went off to buy a couple of books. I went to pay for them and the guy behind the till said to me: "Have you heard about Clark?" And I said: "No, what about Clark?" He said he'd been killed at Hockenheim that morning.

They talk about the world suddenly swimming before you and it was a little like that. It was a complete shock. He was the one guy it was never going to happen to, whatever else. It took a few minutes for me to kind of compose myself and get used to this idea. And then I knew I had to go back to the grandstand and tell my pal. That was one of the hardest things I've ever had to do.

Brian Redman [an F1 and sportscar driver of the era] who was racing that day remembers that he was just about to take over from his team-mate – he was there with his helmet on, ready to go – when a local journalist came up to him and said: "Have you heard, Jimmy Clark's been killed?"

Brian was no different to any of the others at the time – he idolised Jimmy. He said it was one of the hardest things in his life to force himself to concentrate through taking in this overwhelming news.

I remember driving back to London and because I hadn't heard it formally, I thought maybe it wasn't true. We were frantically searching for a news station that might have something about it and finally we found a French station. I remember this voice just said: "Un grand champion est mort aujourd'hui." We left that on and it finally became real. It was just one of those days you never forget.

Peter Windsor: For me it was disbelief as well, because I used to wake up after trying to follow motor racing as best I could in Australia. I used to wake up on Monday mornings in fear of turning on my little transistor radio to the 6:30 news and waiting for the newsreader to say something along the lines of: "South African racing driver... New Zealand racing driver" and

you never knew what was going to come next. "Yesterday, he won the Belgian Grand Prix," or "Yesterday he was killed at..." It was almost a 50-50 chance every Monday as to what he was going to say at the end of that sentence.

By 1968 – I was 16 – I'd heard a lot of these headlines, these "killed yesterdays." And I remember when I actually heard it, I was sitting in the little dining room we had, at home in Sydney... Mum was cooking breakfast and I was going off to school. The radio was on and I just remember: "Scottish racing driver Jim Clark was killed yesterday in a Formula 2 race in Hockenheim." That's all they said. And then they moved on to the next thing. It was complete and utter disbelief. I remember my hands started to shake and I burst into tears. I didn't go to school that day. I didn't actually go to school that week, from memory. I was distraught. I couldn't take it in at first. He'd become the centre of my life.

I was brought up in a spiritual environment – we used to go to church a lot, every Sunday – and I remember reading after his funeral that the vicar had said: "Jim Clark wasn't a regular churchgoer, but when he was around, he took his place in his regular pew." And I remember thinking he's going to be alright. It wasn't until I

heard that, that I started to recover again. I would say that I believe in life after death and I believe souls never die and that Jim's still with us in many ways. Everyone is.

F1 Racing: Obviously he'd made a huge impression on you both with the way he conducted himself both in and outside the cockpit. Was he a charismatic man? What made him so special?

Nigel Roebuck: He was intensely charismatic – Jimmy's voice had a quality. It was a light voice...

PW: A soft Scottish burr, wasn't it...?

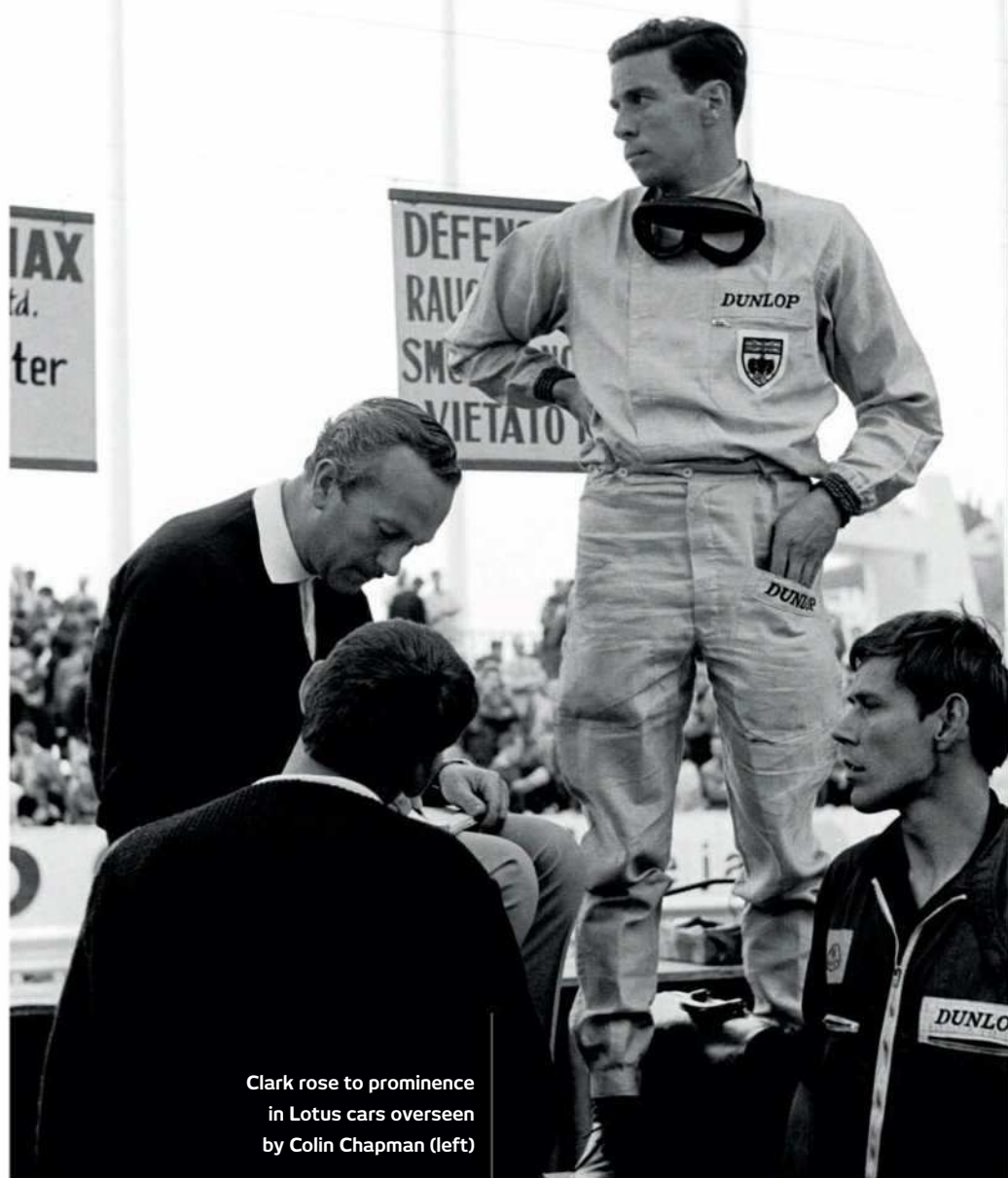
NR: Yes, it was. And it had a kind of a mid-Atlantic twang...

PW: And I think he had a feel, a taste, for colour and shape as well. The helmet said it all really. The dark blue with the white peak. Everything always looked right. His overalls always looked immaculate. They fitted him really well. And when he wore glasses, he wore Ray-Ban Wayfarers. He just looked great all the time. And he dressed in a very conservative Scottish Borders way. But he always looked great.

F1R: One of Jimmy's qualities that has passed down through the decades is his sheer speed and the immaculate driving style. Was that apparent when he was racing?

PW: Absolutely. The thing about Jimmy was how he liked to get into the corner early and extend the straight – that's kind of how he describes it in his autobiography. Colin Chapman [Lotus founder and Svengali figure for Clark] was sitting next to him once in a Lotus-Cortina and Jimmy was doing this and Chapman was saying: "What are you doing?! You're turning in too early!" And he said: "No, no, I like to do that." Jimmy was doing it naturally and didn't really want to talk about it or even think about it that much, because it was so natural to him.

Jackie Stewart says that Jim never spoke with him about the detail of driving, ever. Not because he didn't want to give away the information, but probably because he didn't want to start identifying it within himself, in case it made him change. He could just do it. And certainly when I saw him drive, the overriding impression compared with, say, Graham Hill, Chris Amon, or Piers Courage, was that Jimmy had this ability



Clark rose to prominence in Lotus cars overseen by Colin Chapman (left)

to make the car float. Everything appeared to be right on tiptoes but everything was very soft and incredibly co-ordinated.

NR: Jimmy's skill was a mysterious thing to me. I'd grown up watching – and worshipping – Stirling Moss and always thinking: 'What does he do that the others don't? Why is he just plain better than the rest?'

You could watch him and he was silky-smooth and everything else, but beyond that, where was he making up the times? Because it wasn't obvious. It was the same sensation watching Jimmy – you watched what he did and you could obviously see that he did it supremely well, but what was difficult to tell with Jimmy was where he made up the time.

F1R: You can see some of his driving qualities in pictures like one of him exiting a corner at the Nürburgring, during the 1965 German GP, which he won. He's kicking up stones, on the limit, but Clark and the car look totally under control...

PW: And that's a classic example of Jimmy, in the Lotus 33B. We kind of took Jimmy winning for granted. But pictures like this show it wasn't so



At Monaco Clark's panache was always evident, though reliability cost him several potential wins, such as 1964 when he qualified on pole but finished fourth

easy. He's completely on the limit – suspension compressed. Of course, if you've got everything perfect up to the apex, then the apex to exit is relatively straightforward, because it kind of takes care of itself – you've done the hard work.

F1R: Would it be fair to say that he stood above his Formula 1 peers – that he was 'The Man' of his generation?

NR: Absolutely.

F1R: Without rival?

NR: Well I remember Stirling [Moss] holding that position, but then Stirling had his accident [Moss suffered a career-ending shunt at Goodwood in 1962] and the next era was Jimmy.

PW: But you know, the thing about him was that even when you had your Dan Gurneys, your Graham Hills, your John Surtees and Jochen Rindts, at no stage was Jimmy ever worried about competing against those guys in a Formula 2 car that was patently less competitive. In quite a lot of F2 races when he didn't have the best car,

he would finish third or fourth – but he'd always drive absolutely to the maximum and he didn't mind because it had been great motor racing and he'd enjoyed it. That was just the love of driving a car on the limit and getting the best from it.

F1R: Peter, It's true to say that Jim Clark was your inspiration for becoming involved in motorsport isn't it?

PW: Well in 1968 I went out to the airport to see him off after the Longford race in Tasmania. He flew in to Sydney and then on to Indianapolis and his plane was delayed. I was with my dad and he said: "Come and have a coffee."

He was with one of the stewardesses – oddly – and we went up and he was in his famous check shirt, nice slacks and he had his briefcase with him and we sat down. The four of us chatted for about 20 minutes. It seems incredible today that that happened to me. But I remember saying to Jimmy: "I really really want to get a job in motor racing. I just hate that feeling on Monday morning of going back to school after being at a race meeting. How do I get through that Jim?" And he said: "If you really want it badly enough,



In his youth, Roebuck looked up to both Moss and Clark. Here he displays a poster from Clark's first F1 win, the 1962 Belgian GP



never ever give up. Whatever you want, you'll achieve as long as you never give up."

And I told him I really wanted to be a journalist and he said: "Don't give up." That was basically the last thing that he said to me and I was probably the last person to speak to him in Australia. Sadly he died a couple of months later.

Since then I've had ups and downs in life, like all of us, but whenever it's a down, I always think of that moment when Jimmy said: "If you really want it badly enough, never ever give up." That was actually a pivotal moment in my life. We often use phrases like that, but for me it was. Jim Clark, therefore, became the benchmark around which I judged everything in motor sport: attitude of drivers, approach of drivers, teams,



Clark's final win came at the 1968 South African GP, in a Ford Cosworth-powered Lotus 49

cars, livery... whatever it is, circuits... I always think: "What would Jimmy think here? What would Jim Clark have done there?" He's still the main man for me.

F1R: Nigel, do you have quite that idealised notion of Jimmy or do you see him differently?

NR: Everything Peter says makes sense to me, though oddly enough whenever I think of Jimmy, almost the first meeting that comes back to me is in a way the least likely. In April 1964, there was a national meeting at Oulton Park and I got there on race day, early in the morning, and went into the paddock, because of course in those halcyon days you could pay a quid and buy a pass.

There was nowhere for drivers to hide in those days – no motorhomes, not even any caravans and as I walked in, just about the first thing I saw was the reigning world champion standing there wearing his cardigan – the famous cardigan that he quite often used to drive in sometimes. He had that under a big anorak, since it was bitterly cold and he was just standing in the middle of the paddock talking to some fans. They were obviously quite overwhelmed by the fact they

were talking to Jimmy Clark, and why not?

A lady there was saying to Jim: "Now Jim, would you like some tea?" I remember that clearly. And Jimmy said: "Oh yes please!" So the woman produces a flask from her bag, unscrews the top, pours tea into it – this was utterly surreal. I stood there and was spellbound by him. You know, *Jimmy Clark? Is this Jimmy Clark?* That was the day I got Jimmy's autograph, but I couldn't quite believe it. This is the greatest driver on Earth and I'm standing here with three other people on a freezing cold Saturday morning in Cheshire and nobody else is around. Why isn't everybody here to listen to what he's got to say? It was completely surreal.

F1R: You've obviously both watched and known a lot of great racing drivers through your decades writing about Formula 1, so where does Jim Clark stand, for you, in a list of all-time greats?

NR: Well I know where he'll stand with Peter! But I guess I've got this thing about Stirling Moss. I think because when I started going regularly to races, by then Fangio had retired and Stirling was the man. And there's an element of when

you first fall in love with it, those memories stay with you most acutely. So for me, Stirling has always been the greatest driver who ever lived. That said, I've never seen anybody better than Jimmy Clark – that's for sure. I can remember, I went to a lot of races during Jimmy's career. I saw him race and win a lot. I knew in those days that Jimmy Clark was going to win again and it never bothered me in the slightest!

I can't really tell you why, except that, well, of course he's going to win, he's just better than everyone else and that's the end of it. In those days Chapman built great cars, but there weren't huge differences between them as there are now, so I think that made the driver more important than he is today. ►



Lotus 49 was unreliable at first; Clark had to nurse it to the finish in the 1967 US GP



Clark (pictured after claiming his first championship win, the 1962 Belgian GP, by 44sec) was Windsor's childhood idol



PW: For me he was the greatest driver of all time and the standard by which all others are judged. It's always been that way in my mind. I totally take on board what Nigel says about Stirling and would put Stirling right up there as well.

F1R: You say, Peter, that Jimmy was your number one, but has he had a spiritual successor in your view?

PW: Well if Jimmy were here now, physically, I think he would say Jackie [Stewart] was as good as he was, probably. I think Jimmy would say that because he was a humble person and there's no denying that Jackie was pretty well-rounded as a racing driver and pretty accomplished. Jim was very, very close to Dan Gurney and he loved Dan, I think, like a brother almost. And he had enormous respect for Dan as a driver.

NR: I think he was also very close to Chris [Amon] as well.

PW: Yes, he had a lot of respect for Chris, but beyond that, where do you go? He liked Mario [Andretti] very much too, so he would have been delighted when Mario won the championship [in 1978]... But I think when you're evaluating drivers – and this is how I evaluate Jim – he's not necessarily [the best] by F1 results or standards, but *everything he did*, as a human being, he did well. He was just a consummate professional.

NR: A consummate professional but also a simple man with simple, straightforward values. He was just an honourable guy, wasn't he? Who can have a bad memory of him? 🙏

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THE SIX ERAS
OF FERRARI
CHAPTER 5
1994-2004

RISE OF THE

WORDS DAMIEN SMITH
PHOTOS  LAT IMAGES

MACHINE

From the ashes of disaster rose an unstoppable winning force
– but what had Ferrari lost in the transformation?







BOOM AND BUST: THAT WAS FERRARI'S WAY. FROM THE PEAKS, THE VIEW WAS BREATHTAKING. ASCARI, FANGIO, HAWTHORN, HILL, SURTEES, LAUDA, SCHECKTER...

these were the blessed members of Formula 1's most exclusive club, all having filled their lungs with the heady, rarefied air as Ferrari world champions.

Yet, almost to a man, the oxygen turned sour on the inevitable plummeting descent. Backstabbing turmoil, bitter disappointment and, yes, even death seemed to follow the apparent anointment of Italian immortality. This was the nature of life at Maranello, and it only made the Scuderia all the more alluring.

But there was something different about Jean Todt and Michael Schumacher's version of Ferrari. This team won... and then kept on winning, for years. The team they forged, in harness with the clinical brilliance of Ross Brawn and Rory Byrne, were a Ferrari the like of which we'd never seen. And probably never will again.

Everything seemed weighted in their favour: politically, Ferrari carried more influence than other teams, and earned more money as a consequence; cynics liked to claim FIA stood for 'Ferrari International Assistance' when rulings and penalty appeals fell in the Scuderia's favour. Hell, even Bridgestone's tyres were moulded perfectly to their requirements. No wonder the wins kept on coming.

This wasn't Enzo's Ferrari, all flair and flaw in equal measure; this was a *machine*, a vision of F1 perfection designed to deliver the ultimate result, on repeat – no matter what. But the era that smashed the record books (and at times almost throttled the life out of F1) took time to cultivate.

Todt was into his sixth season at the helm before Ferrari claimed a constructors' title, and a seventh before Michael finally ended the drought to do what mattered most: to succeed Scheckter and join the Ferrari F1 canon.

It's easy to forget now how much pressure Todt faced in those early years, when the script appeared to repeat the same old yarn. After Luca di Montezemolo hired him in 1993, the initial plan called on familiar faces. John Barnard's genius had taken Ferrari so close to a title with Alain Prost in 1990, but the experiment to mastermind glory from Guildford fell apart long before Ayrton Senna's kamikaze move at Suzuka's Turn 1. Fiat politics and a lack of trust left the plan in tatters, yet within three years, Todt and di Montezemolo were trying it again.

Burnt by his experience at Benetton, Barnard returned for part two of his Ferrari revolution – and you could barely see the seam. FDD (Ferrari Design Department) replaced GTO (Guildford Technical Office), but it was based in the same Surrey town, and once again his ambition was to be left alone to design. Todt's job was to protect him from the distractions of day-to-day racing.

The svelte, low-drag 412T1 of 1994 certainly offered promise. But what had changed? Barnard met with the same old frustrations: an engine department not playing to his tune and the usual pull to fire-fight the latest trackside crisis. Gerhard Berger's win at Hockenheim ended a painful four-year drought, but one-off moments playing a bit-part to the starring role taken by

A NEW ERA OF DOMINANCE: BUT IT WASN'T JUST ABOUT SCHUMACHER

Jean Todt was hired by Luca di Montezemolo in 1993 but it wasn't until Todt hired Michael Schumacher (far left) in 1996, and then Ross Brawn (left) and Rory Byrne (far right) in 1997 that he had all the pieces in place for success.



Williams and, more significantly, Benetton – the team Barnard had just left – wasn't enough.

In the face of Renault V10 dominance, Ferrari persevered with their beloved V12 for 1995. The reward this time? Another single victory, for Jean Alesi in Canada, in the handsome 412T2. Same old story. Then Todt signed Schumacher.

Michael's first title, in 1994, had been tainted by Senna's death at Imola, the clumsy clash with Damon Hill in Adelaide, and the persistent insinuations that Benetton were traction-control aided. But in 1995, the evidence validated what was already blindingly obvious: Schumacher was in a class of his own.

Has there ever been a time when one driver was so much better than the rest? Fangio had Ascari, then Moss. Clark? Sure, he was head and shoulders above the rest in the mid-60s, but at least he had the likes of Surtees, Gurney, Brabham and Hill to contend with. Later, Stewart had Rindt and Fittipaldi; Lauda had Hunt and Andretti; Prost and Senna had each other, plus Piquet and Mansell.

But mid-90s Schumacher? Once Senna and Prost were gone, he had brave, valiant Damon Hill (usually in a quicker car), second-tier talents such as Berger and Alesi, a yet-to-mature Mika Häkkinen... Todt knew this was his man, the only genuine game-changer on the grid.

And somehow, despite all he had at Benetton, Schumacher needed Ferrari, too. Williams might have offered instant titles; Mercedes, with whom he'd matured in sportscars, were becoming a ▶

"THIS WASN'T ENZO'S FERRARI, ALL FLAIR AND FLAW IN EQUAL MEASURE; THIS WAS A MACHINE, A VISION OF F1 PERFECTION DESIGNED TO DELIVER THE ULTIMATE RESULT, ON REPEAT – NO MATTER WHAT"



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“WHAT PLAYED AGAINST TODT WAS THE BLIND DEVOTION HE BROUGHT TO HIS TASK. ‘WIN AT ALL COSTS’ HAS NEVER BEEN SO BLATANT”



SILVERSTONE ACCIDENT SERVES ONLY TO DELAY THE INEVITABLE REDWASH

When Michael Schumacher broke his leg at the 1999 British GP, his battle with Mika Häkkinen (above) was briefly put on hold. Ferrari just missed out on the double that year, but made no errors for the next five.



growing force with McLaren; but Ferrari... here was a chance to build something meaningful. Prost, and apparently even Senna, had felt the draw of Maranello. Alonso and Vettel would subsequently heed the calling, too. Schumacher just couldn't resist – and the reputed \$25m-a-year pay cheque might have helped.

But he knew what he was getting into. Todt's Barnard-era Ferrari was little changed from the misfiring behemoth of the 1980s. Unlocking those titles... this was a gamble, whatever the money. Still only 26, Schumacher was risking his best years on a team out of step with the times.

Still, the new marriage started well. After his first test, at Estoril, Michael proclaimed he could have won his '95 title more easily in the 412T2 than he had in his Benetton. Oh, and he was a second a lap faster than Berger and Alesi. Reality kicked in during 1996, though, with Barnard's markedly unlovely F310. Three wins, including a wet one for the ages in Spain, wasn't bad – but by joining Ferrari, Schumacher knew he'd blown any hope of a title hat-trick. All yours, Damon...

In fairness, the gamble could have paid off in 1997, as Schumacher brilliantly kept Ferrari in the title hunt against Jacques Villeneuve's superior Williams. Then all his work was overshadowed by another horrendous professional foul... Jerez and that backfiring barge sealed Schumacher's arch-villain status. The FIA stripped him of his second place in the points, but he kept his five victories – a meaningless punishment.

That 1997 car, F310B, was Barnard's Ferrari swansong. Todt knew the great experiment was over, that it was time to galvanise Maranello. As lone gun Barnard exited stage left, Todt hired the men who'd made Schumacher. Ross Brawn and Rory Byrne had witnessed up close how Michael's migration to Ferrari had punctured Benetton's bid for further titles. Neither Alesi nor Berger (transferring in the other direction) could claim a single victory in what surely would have been a winning car in Schumacher's hands in '96. The technical director and chief designer changed course for a life in red.

In 1998, Byrne's purposeful F300 would set the template for the wondrous machines that would follow, but Adrian Newey's first McLaren, the MP4-13, would delay the start of Ferrari's winning streak. For such a firebrand talent, Häkkinen's rise to greatness was a surprising slow burner, but when he peaked in 1998 and '99 Schumacher suddenly found himself with a worthy rival. Over one lap, the Finn was probably faster – and with Newey in his corner, he had a definable edge.

Italy was growing impatient, and the tension ratcheted further when Schumacher broke his leg at Silverstone in '99. Here was another title gone. Or was it? Eddie Irvine had never offered more than solid number-two form, but there was grit beneath his swagger. As Häkkinen lost focus without Schumacher's threat, Irvine stepped up – and nearly stole the crown for himself. How galling for Michael, returning after six missed races, to play obedient tail-gunner to Irvine for the first Malaysian GP. Pole (by more than a second) for Michael telegraphed how plain weird it would have been had the spiky Irishman been the one to end two decades of hurt.

As it was, a first constructors' title since 1983 was salvaged, helped in no small part by a post-Sepang technical controversy. Irvine's victory, shaped almost entirely by his teammate, appeared lost in parc fermé when his aerodynamic 'barge boards' (a suitably ungainly term for such ugly accoutrements) were found to be outside the regulatory parameters. Ferrari



FERRARI AND SCHUMACHER REIGN SUPREME FOR FIVE STRAIGHT YEARS

Other teams had dominated Formula 1 before, but Ferrari's hold over the sport from 2000-2004 was absolute: five drivers' titles, five constructors' championships and an amazing 57 grand prix wins.



appealed – and won. How? The governing body found the means of measurement, used by their own technical team throughout the season and before, to be untrustworthy... much like their verdict. When Irvine's challenge ended with a whimper in Japan and Häkkinen secured his second title, F1 sighed with collective relief.

How much longer would Todt have lasted had Schumacher, Brawn, Byrne and co failed to finally put the pieces together (quite brilliantly) in 2000? The superteam might have survived, but without his protection from Fiat interference – not to mention the meddling of President di Montezemolo, whom Todt always kept at a strict arm's length – for how long?

As it was, Schumacher defeated Häkkinen at the Suzuka finale with the aid of another perfectly executed Brawn strategic masterclass. This was how it would be from now on, as five consecutive drivers' titles and 72 GP victories attest. Added to what he'd already achieved at Benetton, Schumacher spent the first years of the new millennium re-writing F1's record books.

He didn't have everything his own way. The combination of canny Williams, monumental BMW V10 power, electrifying Juan Pablo Montoya and the determination of brother Ralf put the wind up Schumi and Ferrari from time to time, while a new threat from Finland almost derailed the run in 2003 – with the help of a new points system introduced directly to soften Ferrari's domination. Had Kimi Räikkönen's single win for McLaren proved enough to counter Schumacher's six that year, history would surely have recalled a title injustice.

Through it all, Schumacher remained a divisive figure. Aside from the questionable racing ethics, this was an essentially private man who shielded himself from his huge global fame by offering a mostly one-dimensional view of the character behind those boisterous podium jumps. For many, he could do no wrong; for many more, he was easier to admire than to love.

But surely it is Jean Todt who is most responsible for how this Ferrari F1 team is remembered. Foremost, he deserves enormous

credit for hiring the right people and creating a winning culture. What played against him was the blind devotion he brought to his task. 'Win at all costs' has never been so blatant: the team orders controversies of Austria 2002 and Indy 2005 were spectacular misjudgements. Todt appeared to have total disregard, bordering on disdain, for the sport and its fans. All that mattered was the right result for Ferrari, and usually for Schumacher. Rubens Barrichello always knew his place in this team.

But did Todt care what anyone thought? Probably not. And Enzo Ferrari might well have approved: the founder, after all, was the master "agitator of men". So perhaps Todt's Ferrari wasn't that different after all. That air of arrogance, of unquestionable superiority: Ascari, Fangio, Hawthorn, Hill, Surtees, Lauda, Scheckter... they'd have understood. ^①

NEXT MONTH

2005-PRESENT



NIGEL ROEBUCK'S GRAND PRIX GREATS

FRANCESCO CASTELLOTTI was a wealthy man, a lawyer who wished his son to take up the same profession, but from childhood Eugenio thought only of motor racing. Taught to drive by the family's chauffeur, he first raced in 1951, not long after his father's death.

This was not in some minor event, but the Giro di Sicilia, and Castellotti – just 20 – drove his own, black, Ferrari. From the outset he was overly brave: “After going off the road six times, I had to retire – I had no racing experience...”

Eugenio's second race was even more exalted, the Mille Miglia, and the following year he scored his first win, at Syracuse, then finished second in the Monaco Grand Prix, uniquely run in 1952 for sports cars.

There followed, though, a huge accident at Vila Real. “I was leading,” Castellotti related, “but missed a gear going into a corner, and hit a tree. I was lying in the road, but couldn't get up – my leg and pelvis were broken – and I thought I'd had it. Then two lads carried me to the side of the track, and cars went over where I'd been lying...” Five weeks later, he raced again.

In 1953, now driving a Lancia, Eugenio won the first of three Italian Mountain Championships, and when the company announced its plan to enter F1 Alberto Ascari, long his idol, recommended that Lancia sign him.

It was a dream realised, but the radical D50 was way behind schedule, and Castellotti's F1 debut did not come until 1955, an accident in Argentina being followed by second place at Monaco – where Ascari took his celebrated plunge into the harbour.

Four days later Castellotti was at Monza, testing a Ferrari sports car, and telephoned his mentor, suggesting he come out to the track. Ascari – resting after the shunt – agreed, and once there unexpectedly asked for a run in the car. On his third lap he crashed at the corner now named for him.

Distraught, Gianni Lancia at once suspended his company's racing activities, but Castellotti implored him to make a car available for the next race, Spa.

In one sense, at least, Formula 1 in 1955 was much like today: if you didn't have a Mercedes, you didn't have a prayer. Invariably Juan Manuel Fangio and Stirling Moss were out on their own, but at Spa Castellotti was on a mission,

and beat Fangio to pole position. It was a staggering performance, but unsettling to those who watched, not least Denis Jenkinson. “You saw what he'd taken out of himself,” Jenks told me, “and couldn't help but fear for him in the race...”

Next day the Mercs predictably

disappeared, leaving Castellotti to fight for third with the hardest of hard men, Giuseppe Farina: in the pits there was some relief when the Lancia's transmission failed.

Soon afterwards the company's racing department was handed over to Ferrari, who extended Eugenio's sports car contract to include Formula 1. Over the next 18 months he was invariably a front runner, although never a winner, but in sports cars there were several victories, notably in Italy's blue riband event, the Mille Miglia.

Given that Castellotti never shed his impetuosity, and that in 1956 most of the 1000 miles were run in torrential rain, few would have bet on him to finish, let alone win, but he drove beautifully, averaging 85mph for eleven and a half hours, trouncing team mates Collins, Musso and Fangio.

By now Eugenio was a hero in his homeland, and in other ways, too, his life was changing. “He was,” Moss said, “everyone's idea of a racing driver – dramatic good looks, like a bullfighter or something.” Rob Walker was succinct: “Castellotti made the girls gnaw at the back of their hands...”

Rich, charismatic, always elegant, Eugenio indeed never lacked for female companionship, but when he met Delia Scala everything changed. A leading actress, she was famous in her own right, and swiftly they were anointed as Italy's gilded couple.

The 1957 season started well, with victory in the Buenos Aires 1000 Kms, and Castellotti was shortly due to cross the Atlantic again for the Sebring 12 Hours, which he had won the year before. In the meantime he was with his fiancée, then appearing in a play in Florence. On March 14 Eugenio got an unwelcome call from Ferrari, demanding that he return immediately to Modena. Testing at the city's track, Jean Behra's Maserati had just set the lap record, and it was vital that a Ferrari should beat it.

Quite why this should have mattered so much was unclear, but some – including Villoresi – suggested that Enzo acted as he did after accepting a lunchtime wager at Modena's Biella Club.

Whatever, Castellotti did as bidden, arriving at the track in late afternoon. Out

EUGENIO CASTELLOTTI

La Dolce Vita

Formula 1 drive with Ferrari and relationship with Delia Scala made Castellotti a star



he went in a Lancia-Ferrari, and within a few minutes he was receiving the Last Rites. After going out of control at the S-bend after the pit straight, the car had somersaulted to destruction against a stone grandstand. Behra, watching, insisted it had been a gearbox problem, that Castellotti had arrived at the corner in neutral.

Delia Scala, informed of the tragedy early that evening, somehow kept faith with theatrical tradition, and ‘went on’, as ever.

The Modena autodromo is long gone, but, now a leafy park dedicated to Enzo Ferrari, its soul abides, with sundry pathways named for drivers

down the ages. There are memorials, too, including one for the man they called ‘Il Bello’.

As I stood by it, I thought of something Peter Ustinov once told me: “Peter Collins was a friend, and he told me the most terrifying story about the Commendatore. Peter was with him at Maranello when the phone rang. Ferrari said, ‘Pronto! Ferrari!’ Then he went pale. ‘Non e possibile... Castellotti morto...’ A pause. ‘E la macchina?’”

When I mentioned this to Phil Hill, he responded with a knowing smile: “We all knew who we were working for...”

THIS MONTH

70 YEARS OF SILVERSTONE

The history of grand prix racing at Silverstone will be prominent in the two biggest events at the circuit this summer as the British Grand Prix and the Silverstone Classic both pay homage to 70 years of Formula 1 racing at the former wartime airfield.

At the British GP (July 6-8) three parades will feature F1 cars and drivers from some of the circuit's most unforgettable moments. The first Grand Prix was held on a makeshift track in October 1948 and in May 1950 Silverstone hosted the inaugural race for the new world championship.

Stuart Pringle, MD at Silverstone, said: "We ran a similar parade and display in 2014 and it was extremely well received. The search is now on for suitable cars and drivers willing to join us in July."

In addition, historic F1 cars of the 1970s and early '80s will return to the grand prix support race pro-

“

THE FACT THAT WE HAVE BEEN ASKED TO ORGANISE A SUPPORT RACE AT THE BRITISH GRAND PRIX CERTAINLY REFLECTS THE QUALITY OF THE SHOW WE PUT ON IN MONTREAL, AUSTIN AND MEXICO CITY LAST YEAR

”



LAT IMAGES: GLENN DUNBAR, LAT ARCHIVE

Silverstone hosted the first world championship round in 1950 and remains a hugely popular venue

gramme with a grid of around 30 mainly Cosworth DFV-engined cars, for a pair of races organised by Masters Historic Racing. "It's a childhood dream to race these cars at Silverstone on Grand Prix day," said Arrows A5 racer Neil Glover. "I grew up watching these cars."

Masters founder Ron Maydon said: "The fact that we have been asked to organise a support race at the British Grand Prix certainly reflects the quality of the show we put on in Montreal, Austin and Mexico City last year."

Just two weeks later, many of the cars will be back for a round of the FIA Masters Historic F1 Championship at the Silverstone Classic (July 20-22).

Meanwhile former grand prix stars were in the headlines when the 76th Goodwood Members' Meeting kicked off the historic racing season in

mid-March. Regardless of the desperately cold weather, David Coulthard, Mark Blundell and Emanuele Pirro warmed the crowd with some spirited driving.

Coulthard raced a Mercedes 300SL 'gullwing' for the IWC team and finished ninth in the Salvadori Cup despite being pitted against far quicker 1950s sports-racers. "It's my favourite car of all time. I missed out on buying one in 1995," said Coulthard, who added that the snowy conditions were not a problem. "I grew up in Scotland and did a lot of karting in the snow. In fact, my first ever car test was with David Leslie in the snow at Knockhill, though I did end up off the track!"

Blundell was part of a winning team in the Gerry Marshall Trophy race for Group 1 Touring Cars, sharing the Ford Escort Mk2 of Kerry Michael. Pirro, always a hero at Goodwood, jumped at the chance to race the unique Ferrari 'Breadvan' in the two-driver Moss Trophy for early 1960s sports cars.



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THE MAIN EVENT

Driven by Ayrton Senna in the dramatic 1984 Monaco GP, a rare Toleman chassis goes under the hammer

The car that helped Ayrton Senna make his mark in F1 will be auctioned in the Bonhams' Monaco Sale on May 11, 34 years on from one of the most contentious races on the streets of the Principality.

The Toleman-Hart TG184-2 was the car driven by Senna that day in only his fifth grand prix. In soaking wet conditions, he was fast closing on the McLaren MP4/2 of Alain Prost when the red flag was shown on the 32nd lap as clerk of the course Jacky Ickx deemed conditions too dangerous for the race to continue.

The flag was shown just as Senna caught and passed Prost, but the results were taken back to lap 31 and Prost was declared winner over his future rival.

But Senna's performance had marked him as a new F1 star and it led to him joining Lotus for 1985.

The Toleman TG184 was designed by Rory Byrne and Pat Symonds for the small UK team headed by the Toleman family. It ran with Brian Hart's four-cylinder turbo engine, the 415T, and Senna's second place at Monaco was the car's best result.

Chassis 2 was sold for £1million in 2015, three years after failing to sell at auction with a £550,000 reserve, and Bonhams estimates a £750,000 to £1million price range this time around.

"We are delighted to present the very car that provided the opening chapter for Ayrton Senna's remarkable and record-breaking story at the Monaco Grand Prix," said Mark Osborne from Bonhams.



Senna was already highly rated when made his debut with Toleman in 1984; Monaco race confirmed his star quality

HISTORIC RACING AND AUCTION CALENDAR

April 20-22: Masters FIA Historic F1 Championship, Imola (Italy)

April 21-22: Historic Grand Prix Cars Association races, Silverstone

May 11: The Monaco Sales (Bonhams)

May 11-13: Grand Prix de Monaco Historique

May 12: Monaco Auction (RM Sotheby's)

May 12: Legende et Passion Monaco Auction (Coys)

May 25-27: Historic Grand Prix Cars Association races, Charade (France)

May 26-27: Masters FIA Historic F1 Championship, Brands Hatch

June 5: Classics and Motor Sport Hall of Fame Auction (H&H)

June 22-24: Masters FIA Historic F1 Championship, Most (Czech Republic)

Jun 30-Jul 1: Historic Grand Prix Cars Association races, Brands Hatch

Jul 5-8: Historic F1 races at British Grand Prix, Silverstone

July 11-13: Goodwood Festival of Speed

July 19: Silverstone Classic Race Car Sale (Silverstone Auctions)

July 19: BRDC Benevolent Fund Memorabilia (Silverstone Auctions)

July 21-22: Silverstone Classic Sale (Silverstone Auctions)

July 20-22: Masters FIA Historic F1 Championship, Silverstone Classic

July 20-22: Historic Grand Prix Cars Association races, Silverstone Classic

July 28-29: Shelsley Walsh Classic Nostalgia



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WORDS DAMIEN SMITH
PICTURES JAMES MANN



THE LOTUS 25

Did any car ever so typify the spirit of its age? In '62, the Lotus 25 did for F1 what the Beatles did for music

For those lucky enough to be there, the Beatles were never fresher nor more explosive than in their first bloom. *Love Me Do* charted only as high as number 17 late in 1962, but for anyone paying attention the revolution was patently here, and it was turning fast.

Some months earlier in that seismic year, an equally ground-shaking force had quaked through F1. Thanks to the British Racing Green cigar-shaped tube with vivid yellow stripe you see here, and Jim Clark, the sublime young Scot who lay almost flat within it, nothing in the motor racing world would ever be the same again.

The Fab Four were no overnight sensation, of course. They'd paid their dues before the Big Bang. Likewise, Team Lotus and live-wire founder Colin Chapman had endured more than a fair share of setbacks during their own slog for success. Landmarks had been and gone without title success: the 'mini-Vanwall' Lotus 16, with shoe-shaped body from the pen of Frank Costin; the boxy 18, as Chapman took Cooper's cue and plumped for mid-engined push rather than front-engined pull; the 18/21 that adopted the decade-defining

NOW THAT WAS A CAR

No. 66

THE LOTUS 25

low-drag body shape; and the Type 24 that honed the pleasing silhouette for the benefit of customer teams.

But Chapman had saved his own Big Bang solely for himself – and he wouldn't be sharing it.

Lotus customers seethed at Zandvoort in May '62 when the factory revealed their secret weapon. The Type 25 looked like their 24s and shared the same mechanicals, justifying (at least to the letter) Chapman's vow for factory/customer parity. But the reality was 'Chunky' had pulled a fast one. And then some.

In the Dutch GP paddock that day, under swept glassfibre bodywork, sat the first fully realised monocoque chassis in a single-seater racing car. In place of the 24's traditional steel tube frame was an aluminium riveted tub created from a pair of D-shaped pontoons joined fore and aft by bulkheads and a stressed floor, with subframes housing front and rear suspension. This thing was not only lower and much lighter, it was around three times as stiff in torsional rigidity than the customer 24. On Dunlop's increasingly grippy tyres, the potential of the 25 must have been aggravatingly obvious.

Now, monocoques were hardly new. Aeronautical engineers



such as Costin had built planes around them for 50 years, while Jaguar's Le Mans-winning D-type was underpinned by a full monocoque. But only after Chapman's napkin sketches while dining with Costin, and a wonderfully inspired trial-and-error build process from those basic drawings, did Team Lotus's mechanics realise just what the Old Man had hit upon, for the first time in an F1 context.

The genius was in the packaging. The problem of where to place fuel around the driver had dogged Chapman in his previous F1 attempts, but now he had a Eureka solution. Instead of tanks above the driver's legs, fuel would be carried in rubber bags posited within the aluminium pontoons, with an extra tank behind his back. Now Clark would lie almost horizontal to maximise the car's low-drag characteristics, thus establishing the straight-armed posture that would become the future two-time champion's visual signature. Then there was the new, powerful V8 engine from British builders Coventry Climax (previously known for fire pumps and forklift truck motors), which would sit within the monocoque as a part-stressed member, adding to the impressive rigidity.

At the dawn of the new era of 1.5-litre engines in 1961, Ferrari's 156 'Sharknose' had left teeth-marks in the British opposition. Now, a little more than half a year later, the wounds would become a faded scar thanks to Chapman's 25.

Still, Clark's explosion wouldn't be instantaneous. After clutch problems ruined the Dutch debut, he'd win three times in '62 at Spa, Aintree and Watkins Glen, only for a seized engine to thwart his title bid in South Africa, to Graham Hill and BRM's benefit.

But in the year that would follow nothing could stop Clark's velvet force. Seven of the ten championship rounds would fall to the quiet farmer and his Type 25 R4 – four of them consecutively and on the same set of Dunlops! With further victories in the numerous non-championship races, the Clark era was in full flow.

The return of designer Len Terry is credited for the 25's improved reliability in '63, as Team Lotus took inspiration from their creation to begin plotting their parallel campaign to conquer the Indy 500. A new Coventry Climax V8 would lead to low-slung exhausts replacing the straight pipes of the original, and suspension development brought ever greater gains from the improving Dunlops. Clark made hay.

In '64 the evolutionary Type 33 pressed home Lotus's advantage, although the 25 raced on. Clark claimed its final World Championship victory at Clermont-Ferrand during his annus mirabilis of '65. Sandwiched between his two title years, Ferrari hit back thanks to the brilliance of John Surtees.

**"WITHOUT
THOSE
FAILURES,
NOT OF HIS
MAKING,
CLARK WOULD
HAVE WON
FOUR TITLES"**



RACE RECORD

Starts	60
Wins	14
Poles	18
Fastest laps	14
Other podiums	4
Points (1962-63)	90



SPECIFICATION

Chassis	Fibreglass body on aluminium monocoque
Front suspension	Double wishbones, inboard coil springs over dampers
Rear suspension	Reversed lower wishbones, top links, twin radius arms, coil springs over dampers, anti-roll bar
Wheelbase	2310mm
Engine	Coventry Climax FWMV 90-degree V8
Engine capacity	1495cc
Power	195bhp @ 9,500rpm
Gearbox	ZF 5DS-10 5-speed manual
Tyres	Dunlop
Weight	451kg
Notable drivers	Jim Clark, Trevor Taylor, Peter Arundell, Mike Spence, Chris Amon, Mike Hailwood, Richard Attwood

The former motorcycle rider surely deserved to win in '64, although it admittedly only fell into his lap after another Clark engine failure – déjà vu of '62. Without those failures, not of his making, Clark would have won four consecutive titles.

We'd seen nothing like it since Fangio.

In those early months of '63, on the radio, on grainy TV sets and in theatres up and down the land, the Beatles sent Britain's youth into hysteria and simultaneously charmed the cognoscenti, as *Please Please Me* shot to the top of the charts to open a torrent of music that would change the world.

We'd seen nothing like it since Elvis.

Culture, society, sport... the pace of change was breathless. As the Sixties began to swing, Jimmy Clark and his pretty British Racing Green Lotus with the vivid yellow stripe represented everything that was fresh and inspiring. What a time to be alive. It seemed like those days would never end. 🍷

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A simple solution to being able to identify drivers? Just paint the halo the same colour as the car's camera

A different stripe

The halo has bought to the sport another level of safety for the drivers. Good.

But at the same time, it has made the recognition of the drivers far more difficult. It is possible, however, that it could greatly assist in this simply by being painted the same colour as the cameras fixed above the driver.

Many teams affix a coloured stripe to the camera on one of their cars to aid differentiation, but the cars move too fast for us to be able to pick them out.

Most of us can recognise the cars, but hardly any of us can read the numbers. Instigating the above will help a great deal.

Robert Goodchild

By email

Formula farrago

Just over 30 years ago Coca Cola, the most iconic brand in the world, decided to change its formula and call itself New Coke – and the change lasted about the length of a modern grand prix race!

We seem to be going that way in Formula 1. So far so we have lost the grid girls, and the iconic and excellent Formula 1 logo design (and the intro before the race) has changed to a rather bland scribble of two red lines veering off to the right, along with a slanted red line which I presume is supposed to be the '1'. Awful.

If this is how re-branding the F1 image has been decided amongst Liberty Media, then they need to stop inhaling the fumes and come back down to earth – quickly, or

they will end up with a PR disaster like Coca Cola did.

Nicholas Storrer

By email

Rage against the machine

As a Ferrari fan I was pleased to see Sebastian Vettel take the chequered flag first in Australia. True F1 fans want to see a more competitive grid, much tighter and more exciting racing, and different fates on the podium.

Lewis Hamilton might be a four-time world champion, but he is not head and shoulders above the rest of the grid. He might be talented, but has been very privileged to be in teams who have nurtured it. Like all champions he is still reliant on the car delivering the performance and the team getting their sums right.

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For all the plaudits he is just one cog in the Mercedes machine.

Adrian Townsend

By email

Channel hopping

Having followed Formula 1 since stumbling across the closing stages of the 1995 Portuguese Grand Prix as a channel-hopping 10-year old, I read James Allen's article in your April 2018 issue with some interest.

Witnessing David Coulthard's maiden win for Williams led me to a lifelong interest in the sport, including attending six live races over the years and countless early morning alarm calls to watch live races from Australia and Japan.

F1 is in danger of losing casual viewers with the new Sky deal. And Sky failed to publicise as much as they could the relatively good value (compared with a full satellite subscription) of their pre-season Now TV offer of £150.

What saddens me is that from next year, unless the average British 10-year old has £150 or more to spend, they will no longer be able to happen across F1 on TV as I did.

Richard Underwood

Ashford, UK

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Why Formula 1 needs Ferrari



FRENCH... MOI?

Four French drivers... and a quiz.



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Answers your questions

> Wolff & Neubauer: being a Merc boss 50 years apart
> Behind the scenes: how to build a halo
> Now That Was A Car: McLaren MP4/8
> Our epic history of Ferrari concludes



RACE DEBRIEF AUSTRALIAN GP

FINISHING STRAIGHT

THE WIN THAT GOT AWAY

Lewis Hamilton delivered on his pre-season form with pack-leading pace in Melbourne – so how did he lose a race that was in his pocket?



The man who was partying on Sunday night in Melbourne was Ferrari's Sebastian Vettel. He had benefited from a moment of good fortune to take the first victory of the season, ahead of title rival Lewis Hamilton and team-mate Kimi Räikkönen.

After qualifying, this race should have been comfortably won by Hamilton, but as the race was neutralised by a Virtual Safety Car, Ferrari seized on the opportunity to pit Vettel and reduce the time lost changing his tyres. He emerged ahead of

a "gutted" Hamilton and held on for the win.

In the Melbourne sunset, the Ferrari man conceded he had been "lucky", while at Mercedes there was a detailed debrief as they tried to understand how the win had got away...

QUALIFYING

The 12 intense minutes of Q3, late on Saturday afternoon, were the moments we'd been waiting for since the 2018 cars were unveiled in mid-

February. Finally, the stopwatch would prove who had done the best job over the winter.

Unfortunately, there was only one silver car in contention, for the W09 of Valtteri Bottas was on a flat-bed trailer in pieces after he carried too much speed into Turn 1 and smashed rearwards into the barriers at Turn 2. The Finn had dipped his left-rear wheel onto wet grass (a legacy of morning rain), picked up a heap of wheelspin and rotated hard into the barriers, bringing out the red flag.

That meant it was down to Ferrari and Red Bull to take the challenge to Hamilton on the second and final run of Q3. But second time around, there was no stopping Lewis. He had pole by 0.664s from Räikkönen, followed by Vettel and Max Verstappen.

Quizzed as to whether a so-called 'party mode' of the F1 M09 EQ Power+ had been available for qualifying and if that was why his second run was

“MERCEDES THOUGHT THEY HAD CORRECTLY CALCULATED THAT LEWIS WAS SAFE FROM VETTEL EVEN IF HE DID PIT DURING THE VSC – BUT THEIR CALCULATIONS WERE TWO SECONDS OUT”

so much quicker than his first, Lewis replied: "I can assure you, we don't have a party mode. I use the same mode from Q2 to the end of Q3. There was no extra button."

But Vettel couldn't resist enquiring about the slow pace of his rival's first run: "Then what were you doing before?" he jibed.

"I was waiting to put a good lap in," responded the world champ, "to wipe the smile off your face..."

Daniel Ricciardo had been demoted on the starting grid following an indiscretion in Friday practice. A piece of timing cable had worked loose on the start/finish line, bringing out the red flag and the stewards deemed that Ricciardo had failed to slow significantly. He was awarded two penalty points and a three-place grid drop. It was a decision he described on Friday as "shithouse" and when he reiterated this on Saturday, a member of his team suggested he "took a moment to calm down."

Make no mistake, the stakes are high this season and the drivers are feeling it.

RACE

From lights out Hamilton retained his position at the head of the field in front of fellow front-row starter Räikkönen. Behind them, Vettel had fended off Verstappen at Turn 1 and that enabled Kevin

ALBERT PARK / 25.03.18 / 58 LAPS



Hamilton leads Vettel (above) but Grosjean's retirement (above left) saw the tables turned in Vettel's favour (below)



Magnussen to overtake the Red Bull around the outside for fourth place.

Soon, though, the Haas became a bottleneck for the Red Bulls. That allowed the top three to easily make their sole pitstops and emerge ahead of the Haas 'train'. Räikkönen was first in, on lap 18, then Hamilton pitted a lap later from the lead.

But Vettel, on a 'deeper' strategy, decided to stay out, particularly as he was still clocking a good pace on his rubber. It proved to be a smart 'long' strategy from Ferrari since there followed a twist of fate that would determine the outcome of the race. Magnussen pitted from fourth, but as he approached Turn 3 after his stop, he slowed to a halt. The wheel nut on the left-rear had been cross-threaded and although the mechanic signalled thus, K-mag was allowed to depart anyway. Bad luck – but worse was to follow.

Romain Grosjean made his stop and this time the left-front was cross-threaded and – unbelievably – another Haas mechanic once again gave the signal that all was not right but the car was once again released. A despondent Grosjean stopped at Turn Two, prompting the activation of the Virtual Safety Car – the signal for the field to circulate at a reduced speed for safety reasons.

Pitting during a VSC doesn't cost as much time,

since your rivals on-track are not travelling at full racing speed. From entry to exit, a pitstop at Albert Park costs a driver roughly 23 seconds; under the VSC that's reduced to 13 seconds.

Mercedes thought they had correctly calculated that Lewis was safe from Vettel even if he did pit during the VSC – but their calculations were two seconds out. Lewis hadn't built enough of a lead to cover this.

When Vettel emerged from the pits ahead of the Mercedes, Hamilton was in disbelief. "What happened guys? Was that my mistake?" he asked on his team radio, but his engineer Pete Bonnington was equally surprised. "We thought we were safe," he replied.

When, soon after, the *actual* Safety Car was deployed to remove the stricken Haas (the team would later be fined \$10,000 for two unsafe pitstops), Vettel was able to keep his lead, despite a Hamilton challenge. A small lock-up at Turn 9 from a charging Lewis allowed Vettel enough of a breather to see him home in the lead, with Räikkönen finishing third.

Red and silver up front then, just as last year. But as a form guide for the true competitive landscape of F1 2018, Melbourne was tantalisingly inconclusive.

RESULTS ROUND 1



1st	Sebastian Vettel	Ferrari	1h 29m 33.283s
2nd	Lewis Hamilton	Mercedes	+5.036s
3rd	Kimi Räikkönen	Ferrari	+6.309s
4th	Daniel Ricciardo	Red Bull	+7.069s
5th	Fernando Alonso	McLaren	+27.886s
6th	Max Verstappen	Red Bull	+28.945s
7th	Nico Hülkenberg	Renault	+32.671s
8th	Valtteri Bottas	Mercedes	+34.339s
9th	Stoffel Vandoorne	McLaren	+34.921s
10th	Carlos Sainz	Renault	+45.722s
11th	Sergio Pérez	Force India	+46.817s
12th	Esteban Ocon	Force India	+60.278s
13th	Charles Leclerc	Sauber	+75.759s
14th	Lance Stroll	Williams	+78.288s
15th	Brendon Hartley	Toro Rosso	+1 lap

Retirements

Romain Grosjean	Haas	24 laps – wheel nut
Kevin Magnussen	Haas	22 laps – wheel nut
Pierre Gasly	Toro Rosso	13 laps – engine
Marcus Ericsson	Sauber	5 laps – power steering
Sergey Sirotkin	Williams	4 laps – loose wheel

FASTEST LAP



Daniel Ricciardo,
1min 25.945s on lap 54

FASTEST PITSTOP



Max Verstappen,
20.953s (entry to exit)

TYRE COMPOUNDS USED



Ultrasoft Supersoft Soft Inter Wet

CLIMATE

Sunny

AIR TEMP

23°C

TRACK TEMP

38°C

DRIVERS' STANDINGS

1 Vettel	25pts	11 Pérez	0pts
2 Hamilton	18pts	12 Ocon	0pts
3 Räikkönen	15pts	13 Leclerc	0pts
4 Ricciardo	12pts	14 Stroll	0pts
5 Alonso	10pts	15 Hartley	0pts
6 Verstappen	8pts		
7 Hülkenberg	6pts	Unclassified	
8 Bottas	4pts	Grosjean, Magnussen,	
9 Vandoorne	2pts	Gasly, Ericsson,	
10 Sainz	1pt	Sirotkin	

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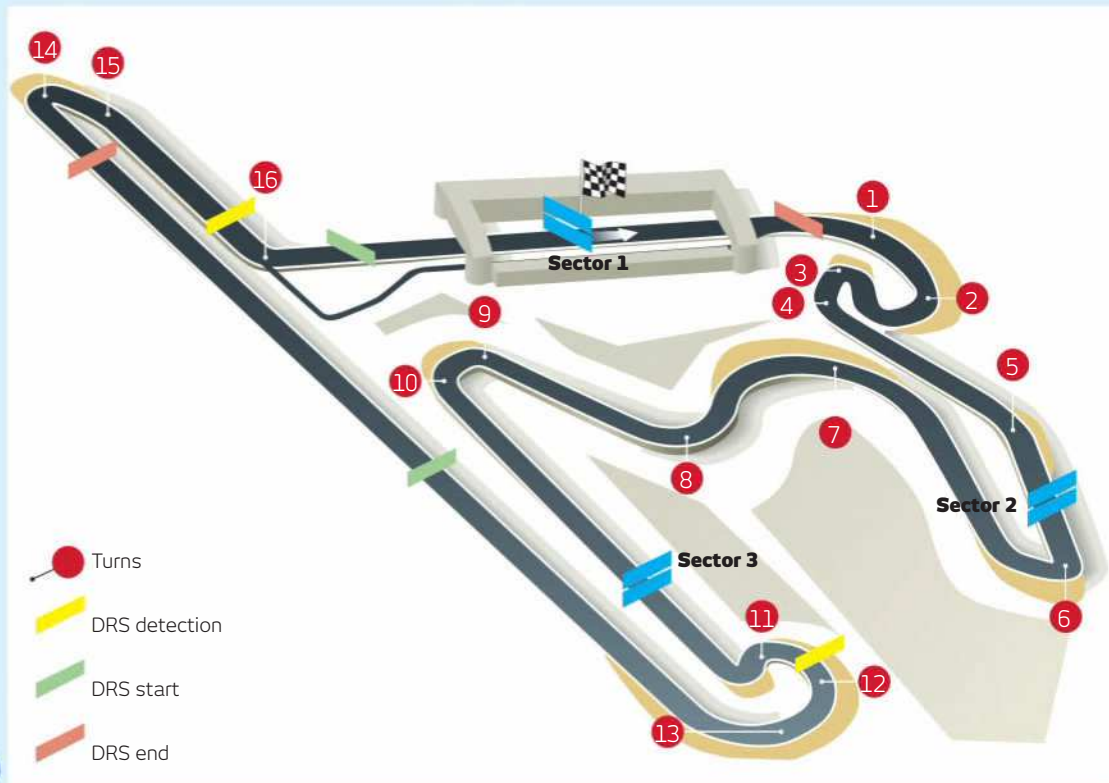
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FINISHING STRAIGHT

THE CHINESE GP



RACE DATA

Circuit name Shanghai International Circuit
First GP 2004
Number of laps 56
Circuit length 3.387 miles
Race distance 189.559 miles
Lap record 1m 32.238s (Michael Schumacher, 2004)
F1 races held 14
Winners from pole 9
Tyres Ultrasoft, soft, medium

TIMETABLE

(UK TIME)

Friday 13 April

Practice 1 02:00-03:30

Practice 2 06:00-07:30

Saturday 14 April

Practice 3 03:00-04:00

Qualifying 06:00-07:00

Sunday 15 April

Race 06:10

Live coverage Sky Sports F1

Highlights Channel 4

THE MAIN EVENT



China first appeared on the Formula 1 calendar 14 years ago, but the Shanghai International Circuit still looks like a new arrival thanks to its ultra-modern architecture and top-of-the-range facilities.

Built on reclaimed marshland and supported by 40,000 stone pillars, the circuit is roughly shaped as the Chinese character 'shang' (meaning 'high') while team paddock buildings are set on stilts within a lake, resembling Shanghai's famous classical Yuyuan Garden.

A huge main grandstand, which can hold up to 29,000 spectators, offers views of almost 80 per cent of the front-limited circuit, which largely comprises long-radius, late-apex corners. A lot of the engineering focus is to preserve the life of the front-left tyre, particularly through the high-loads at Turns 1 and 2 and Turns 11-13.

Low cloud, smog and rain often affect this region and it was particularly troublesome last year when Friday practice was cancelled as the medical helicopter was unable to fly.

CLASSIC RACE: 2007

Lewis Hamilton arrived in Shanghai with a shot at the championship in his rookie year, but China proved to be his downfall thanks to the wet weather of Typhoon Krosa.

He had made the perfect start to the weekend, storming to pole position and controlling the early stages of the race. But as the damp track dried, he stayed out too long on ageing intermediate tyres and overshot his entry to the pits, ending his race in a gravel trap.

Ferrari's Kimi Räikkönen took a crucial win, with Hamilton's McLaren team-mate Fernando Alonso second, and in doing so closed the points gap to the Brit as they headed to Brazil for the season finale.



THE WINNERS HERE...



2017

Lewis
Hamilton
Mercedes



2016

Nico
Rosberg
Mercedes



2015

Lewis
Hamilton
Mercedes



2014

Lewis
Hamilton
Mercedes



2013

Fernando
Alonso
Ferrari



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RECRUITMENT DRIVEN BY PASSION

THE AZERBAIJAN GP



RACE DATA

Circuit name Baku City Circuit

First GP 2016

Number of laps 51

Circuit length 3.730 miles

Race distance 190.170 miles

Lap record 1m 43.441s

(Sebastian Vettel, 2017)

F1 races held 2

Winners from pole 1

Tyres Ultrasoft, supersoft, soft

TIMETABLE

(UK TIME)

Friday 27 April

Practice 1 09:00-10:30

Practice 2 13:00-14:30

Saturday 28 April

Practice 3 10:00-11:00

Qualifying 13:00-14:00

Sunday 29 April

Race 12:10

Live coverage Sky Sports F1
& Channel 4

THE MAIN EVENT

Yet another of Hermann Tilke's creations, the Baku City Circuit is the fastest street track on the Formula 1 calendar, marrying tricky, technical sections with long straights – including a flat-out blast from the start of the final sector towards the start/finish line.

A mixture of old and new, the circuit steers through the medieval capital, passing the historic city centre and striking government house, before speeding along the promenade in the shadow of modern hotels and offices.

The streets of Baku first hosted this race in 2016 under the title of the European Grand Prix, but last year it became the Azerbaijan Grand Prix and it produced one of the most dramatic races of the season.

In a switch from last year, the race has moved from June to April for 2018, as the country plans a series of events this summer to mark the 100th anniversary of the republic. Organisers hope to return to a June date in 2019.



CLASSIC RACE: 2017



The second race in Baku couldn't have been more different from the first and Sebastian Vettel's savage reaction to a perceived brake test from Lewis Hamilton behind the Safety Car headlined the action. Vettel's penalty and Hamilton's loose headrest presented a chance to their rivals, which Daniel Ricciardo seized with a spectacular three-car pass into Turn 1 after a restart.

On the podium with Ricciardo were Valtteri Bottas and Lance Stroll, the latter losing second on the run to the line.

THE LAST TWO WINNERS HERE...



2017

Daniel
Ricciardo
Red Bull

2016

Nico
Rosberg
Mercedes

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THE ITALIAN GRAND PRIX

Monza, Italy, 31 August-2 September 2018



The tifosi and Ferrari at Monza are a must-see

WHY VISIT?

The Italian Grand Prix has been a constant on the Formula 1 calendar since the inaugural world championship in 1950 and all bar one of those races – the 1980 event at Imola – have been held at the evocative Monza circuit. Originally built in 1922, the Autodromo Nazionale Monza has undergone several changes over the decades, but the track's layout still retains its high-speed thrill and oozes history.

Add into the mix the passionate Ferrari tifosi, and a trip to the Italian Grand Prix becomes both an unforgettable and magical experience. No other circuit captures the speed and excitement

of grand prix racing as much as Monza does, and the atmosphere is something that every F1 fan should savour at least once.

The circuit is located in a royal park on the outskirts of Milan, and 40km south west of the historic city of Bergamo. Travel between the two takes an hour, making the location perfect for a mini-tour of Italy's most beautiful region.

The race is traditionally held in early September, which means much of the intensity of the summer heat has evaporated and the first signs of the European autumn are evident – all of which adds to the flavour of the GP.

WHAT TO SEE

La Città Alta, Bergamo

Bergamo's old town is a sight to behold and enjoys a UNESCO World Heritage Site title. Remodelled on the pre-existing medieval borough, it came to life during the Renaissance period and the ancient walled city is home to small, winding streets, alleys and yards, and features many interesting sights that make it definitely worth a trip. Explore your way around one of Lombardy's most precious locations at your leisure but be aware, the twisting corridors can be disorientating – perhaps take a ball of string to find your way home.



La Città Alta, Bergamo



Parco di Monza



Funicolare Bergamo Alta



Basilica di Santa Maria Maggiore

FAST FACTS

Currency £1 = €1.1

Timezone GMT or BST +1

Plug type Type F

Weather 19°C/sunny

Flight time London to Milan 2hrs

Opened in 1887, and modernised in 1917, the 50-seater cars are a convenient and novel way to travel. You'll find hopping on the funicular railway becomes part of your everyday routine as you settle into the city, and it takes just a few minutes to overcome the height difference of 85 metres, where the gradient reaches a maximum of 52 per cent.

Parco di Monza, Monza

At over 6km², the park is the largest walled garden in Europe and the fourth biggest of any park on the continent. Open all year round, the space has been a location dedicated to beauty and nature for over two hundred years, as well as the Autodromo Nazionale Monza racetrack. Spend a day wandering its various trails and enjoy the racetrack's disused and modern sections. The steady hum of low activity on a non-raceday will be a welcome change from the noise and rush of the grand prix.

Basilica di Santa Maria Maggiore, Bergamo

If you take the funicular to the lower town and head north towards the basilica, you'll be met with an incredibly detailed façade and dome. Originally founded in 1137, the church was under almost constant construction and development until 1521, when the south-western portal was installed. Head inside to see magnificent works of art and sculpture.

Funicolare Bergamo Alta, Bergamo

The city's funicular rail system is built onto a slope connecting the two main areas of Bergamo.

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- Ticket upgrades
- Qualifying day (Saturday) return circuit transfers by coach

WHERE TO STAY

Hotel Excelsior San Marco

Located in central Bergamo, the Hotel Excelsior San Marco faces an elegant square, with the city's most exclusive streets only a short walk away.

Mercure Bergamo Centro Palazzo Dolci

This four-star hotel is located opposite the Papa Giovanni convention centre, and 300 metres from the station. It boasts 88 rooms, bar, complimentary WiFi and a private paying car park nearby.

NH Hotel, Bergamo

The NH Bergamo hotel is close to the town's shops, museums and restaurants and has a gym on the first floor for guests.

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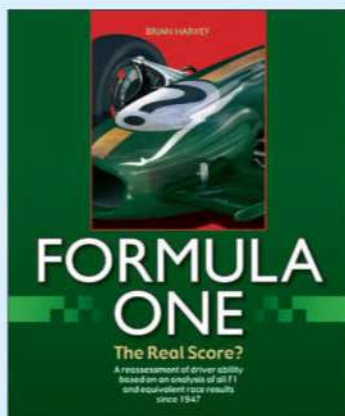
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FORMULA ONE - THE REAL SCORE?

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This is a great idea for a book and F1 statistics fans will love it. The premise is based on the argument that F1 stats are skewed in favour of modern drivers because so few races officially counted for the world championship in the early decades.

For example, when in 2016 Nico Rosberg equaled Stirling Moss's tally of 16 GP wins, that failed to take into account the races Sir Stirling won against the same level of competition in non-championship events.

The Real Score lists the podiums of every non-championship F1 event and then reworks the end-of-season points tally. This tome is essentially a list of races (700 no less), but credit is due for the detail in collating the info and essentially rewriting the record books.



RM 11-03 McLaren

Price £135,500

www.richardmille.com

This new watch is the first collaboration between McLaren Automotive and Richard Mille and is limited to 500 pieces. The RM 11-03 McLaren Automatic Flyback was unveiled at the 88th Geneva Motor Show and will primarily be available to the McLaren Ultimate Series supercar-buying clients.

The watch is made of carbon with quartz, featuring a resistant lightweight case with an orange hue that is synonymous with McLaren's traditional colours. The titanium side buttons are a nod to the headlights of the McLaren 720S, with a central crown shaped like a McLaren wheel.



MERCEDES-BENZ W196 STREAMLINER 1:8 SCALE

Price £6,500

www.amalgamcollection.com

When Mercedes-Benz entered the world championship in 1954, they appeared at the French Grand Prix with the remarkable W196. While the car would appear later in conventional open-wheel form, it made its debut with low-drag enclosed bodywork that perfectly suited the high-speed Reims.

A 1:8 scale model of the W196 (which Juan Manuel Fangio took to victory at Reims) has been handcrafted by the expert model makers at Amalgam with the co-operation of Mercedes-Benz as regards original finishes, materials, archive imagery and drawings.

A supremely accurate digital scanning of the original car has allowed Amalgam to perfectly recreate every detail at scale. Furthermore, it has undergone detailed scrutiny by both Mercedes-Benz's engineering and design teams to ensure complete accuracy of representation.



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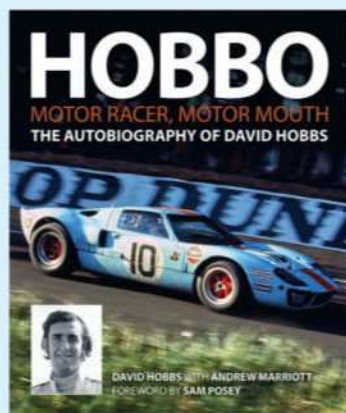
FINISHING STRAIGHT

F1 UPGRADES

HOBBO: MOTOR RACER, MOTOR MOUTH. THE AUTOBIOGRAPHY OF DAVID HOBBS

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www.evropublishing.com



For Formula 1 fans, David Hobbs is probably more famous in the US than he is in his native England. Over a number of decades Hobbs has been a commentator on F1 for American television working alongside Steve Matchett and Leigh Diffy on Speed and for the last five years on NBC.

In this detailed 300-page hardback, Hobbs talks at length to journalist and friend Andrew Marriott about his motor racing career, and the book is adorned with lavish photographs from the huge breadth of machinery in which he competed.

'Hobbo' raced from the 1960s through to the 1980s and made a handful of F1 appearances for BRM, Honda and McLaren – his best result was seventh at the 1974 Austrian Grand Prix. So, despite his extensive career, the Formula 1 detail in his autobiography is somewhat limited.



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If you followed any Formula 1 driver on Instagram over the winter, you will not have escaped their non-stop daily 'stories' from the gym or the ski slopes. And if you exercise as frequently as an F1 driver, then you'll know it's imperative to have something to help pass the monotony. Thankfully, Bose have come up with the ideal solution.

Long-haul F1 travelers will be familiar with Bose's Quiet Comfort noise-cancelling headphones, but these new SoundSport Free wireless in-ear headphones are engineered to

stay in place and remain comfortable no matter how intense the workout.

They feature a water-repellent mesh to ensure they work if you've built up a sweat on the treadmill, or if you're running along the beach in the rain.

Bose have focused on every detail, such as tweaking the antenna position for maximum Bluetooth signal strength (no wires in sight), to improving the sound quality.

If you can't afford a personal trainer barking orders in your ear, these are the next best thing.

WOW GILLES!

Villeneuve.
The Undying Legend
photographs by Ercole Colombo



WOW GILLES! VILLENEUVE. THE UNDYING LEGEND

Photographs Ercole Colombo

Price £40

www.fouchardfilippi.com

Hot on the heels of a similar book from the same publishers, *Ayrton Senna: The Last Night*, this is another collection of great images seen through the lens of Italian photographer Ercole Colombo.

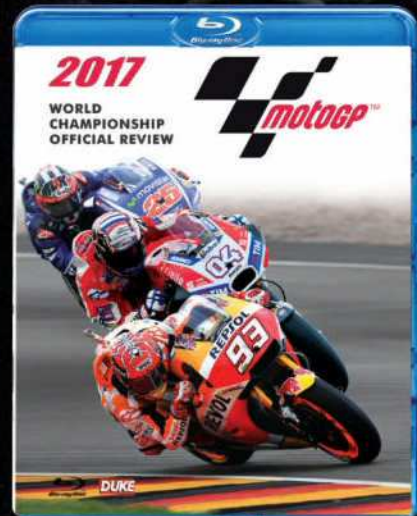
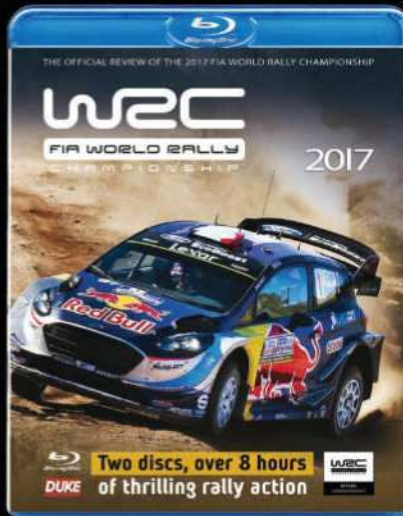
Running to just over 200 pages, this book has some fabulous pictures, many of them unseen. The front cover encapsulates everything about Gilles and the 'wow' factor of his foot-to-the-floor, sideways spirit.

We particularly enjoyed the casual launch pics of Gilles and his teammate Jody Scheckter 'hamming it up for the photographers' with the new Ferrari T5 at the end of 1979.

Not a bedtime read since it's just pictures, but if you're a fan of Villeneuve Sr, then it's a must.



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STOFFEL VANDOORNE ME AND MY LID

Apart from minor tweaks, Vandoorne's helmet hasn't changed much over the years as he always likes his lid to be easily recognisable



LAT IMAGES GLENN DUNBAR, JOE PORTLOCK, OTHER PICTURES: MCLAREN



I've had this helmet design for a while, and it was one of my very close friends that designed it for me. He's actually the son of the owner of the kart team I was racing for at the time. We came up with the concept of the design together – I've always been very freaky about helmets and

I remember spending hours going over it and trying different things.

In the beginning the helmet had a different colour scheme. It was more black-and-white based when I was racing in karts, but then I added the more Belgian touch to it with the

Belgian flag colours and since then I've kept it very similar all the way through my career.

Every year I make some small adjustments – for example to the S for my name on the sides, or small touches to the back or top. But it generally stays the same so that you'll always recognise it.

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