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March 2017

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36

MAX VS DAN

With Red Bull tipped to take the fight to Merc this year, which of their drivers will come out on top? We meet Dan and Max to try to find out

CONTENTS APRIL 2017

SECTOR 1

IGNITION

A new dawn
for F1 and F1R

PARADES
The very best
Fl photography

F1 INSIDER
Expert opinion and analysis

F1 WORLD
Your ultimate
F1 event guide

RACER'S EDGE
Peter Windsor
on Stirling Moss

THIS F1 LIFE
Pat Symonds on
F1's new regs

POWER PLAY
Dieter Rencken
on Liberty Media





50

F1 SUMMIT

Our panel of experts talk tyres, teams and regulations – and make their predictions for the winner of this year's championship



SECTOR 3

123 INBOX
What's on your
mind this month

RACE PREVIEW
Our guide to the
Australian GP

RACE PREVIEW
Our guide to
the Chinese GP

2017 F1 TEAM SUMMARIES

All the teams; all the drivers

138 NOW THAT WAS A RACE

Peter Windsor remembers the 1965 British GP

70

LEWIS HAMILTON

The triple champion opens up about a philosophy that lets him balance intense work with the most incredible lifestyle



80

AT HOME WITH THE TIFOSI

There's a carnival atmosphere when the SF70H takes a spin around Fiorano



SECTOR 2

36 BULL FIGHT

We talk to Fl's strongest driver pairing: Verstappen and Ricciardo

2017 AT A GLANCE

The top ten major changes as
Formula 1 enters a new era

F1 SUMMIT
Brundle, Windsor and Symonds
discuss the season ahead

A WEEK IN F1
2017 is go, and we've got all
the news from the first F1 test

THE LONG INTERVIEW
F1 Racing talks to Lewis Hamilton
about his past, present and future

SCARLET FEVER
The tifosi crowd Maranello, for a first glimpse of the Ferrari SF70H

SHINING LIGHT
All change at McLaren as Stoffel
Vandoorne takes up his race seat

GO FIGURE
A numerical look at the forthcoming season

SHARPENING LANCE
We sit in on Williams rookie Lance
Stroll's rigorous training programme

IN THE PALM OF HIS HANDS
A race driving masterclass from
Renault's Jolyon Palmer

2017 CIRCUIT GUIDE

All the stats from all the tracks on this season's Formula 1 calendar

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APRIL 2017



Damien Smith

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Contributors



LORENZO BELLANCA

Returning as our principal photographer, Loz took the pictures for our trip to Fiorano (p80), and the first test in Barcelona (p60)



ADRIAN MYERS

Adrian provided this month's brilliant cover shoot with the Red Bull duo. See the rest of his work in our cover feature on p36



BEN WRIGHT

Ben's last F1R shoot with a McLaren newboy was Lewis Hamilton ten years ago. Now see her pics of Stoffel Vandoorne on page 88



ANTHONY PEACOCK

We sent 'Piccolo' to Maranello where he joined the tifosi to get a glimpse of Ferrari running their new car for the first time (p80)



A new dawn for F1 – and for F1 Racing

Martin Brundle declares himself an "eternal optimist" in our 'F1 Summit' season preview feature on page 50 of this issue. We like his style. Yes, the fear that brooding clouds might dull Formula 1's bright, new dawn might well prove justified. But right now, in these sweet moments of anticipation for the unwritten season ahead, let's take our cue from Martin and smile: the dark winter is behind us, and it's time to go racing.

The new tech regs have delivered on the promise of a faster, better-looking racing car breed (in spite of those missed-a-trick infernal dorsals). Pirelli's big new boots look the part, too, and, from what we've learnt so far, they tick the box in terms of what they're intended to do - relative, at least, to the high-degrading rubbish that made a mockery of the term racing driver in recent years. Now, it appears, the boys can seriously go back to work.

The doubts? We can't ignore them. "The starting point for these regulations had no mention of overtaking or closeness of racing," says Pat Symonds in our 'F1 Summit' feature. 'More speed' was the oh-so-loose brief for these regs, so pile on the downforce and to hell with the consequences. Astounding. Did they really think this through?

Still, this is a bright, new dawn, remember - and you won't have missed that the whole F1 world has tilted on its axis overnight. The definition of 'liberty' describes 'the state of being free within society from oppressive restrictions imposed by

authority on one's behaviour or political views' - appropriate right now, in this post-Bernie world. There's genuine hope that joined-up thinking might now lead F1 into the future, arguably for the first time in the world championship's 67 years.

So much has changed since Abu Dhabi last November. Nico Rosberg? Who? And in this atmosphere of new beginnings, it seemed only right that your favourite grand prix magazine should enter into the spirit as well.

This issue is the start of a new era for *F1 Racing*. Now under the ownership of Motorsport Network, we've dug deep to upgrade to luxuriously thick new paper – a sign to you, our loyal readers, that the quest continues to reach new heights of quality and value, befitting a sport where excellence counts above all else. You'll see bright, fresh design, too, and, in the best motor racing tradition, the first of a series of upgrades in new features.

Alongside my good friend Anthony Rowlinson, who kicks off proceedings as your personal guide to F1's current affairs on page 20, I'm delighted to be part of a new chapter for F1 Racing. Embellished by the stunning photography of Lorenzo Bellanca, who also returns to the fold this month, this magazine will reach new heights in 2017. Eternal optimism? We'll take that any day.

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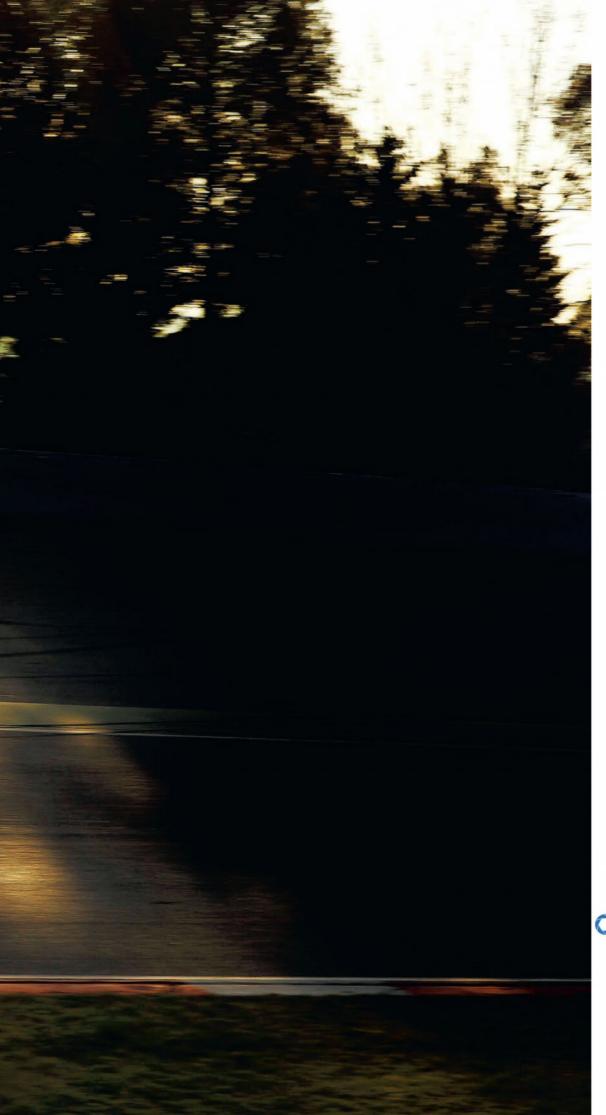


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Vettel and Ferrari: going for gold?

This could be a critical year for Ferrari, and the signs from the first Barcelona test were very encouraging for them.

I took this picture of Sebastian Vettel towards the end of the first day of running, when I walked up the inside of the circuit and stood close to the exit of the long righthanded Turn 3.

There is just enough height in the trees to create some dappled shade, and you can also see the glints of sunlight bouncing nicely off the scarlet Ferrari.

The golden light in the photograph reminds me of similar shots that used to be taken at the nearby Montjuïc Park, when the Spanish Grand Prix was held there in the '70s.



Photographer

LAT IMAGES: Steven Tee

Where Barcelona, Spain When 5.23pm, Monday 27 February 2017

Details Canon EOS-1DX Mkll, 200mm lens, 1/500th @ F9 ▶



Chasing shadows in the Red Bull

Max Verstappen completed almost 90 laps on the second day of running in the first Barcelona test.

I photographed him on the downhill run after the Turn 5hairpin, just as he was turning in to the left-right sequence that rises up again. The low shutter speed I've used gives some motion blur, which creates a sense of speed in the picture.

This was the final run of the day and the sun is already sinking down over the grandstands. As a result the RB13 is backlit, and the Tarmac takes on a golden effect.

You can also see the dazzle of the last rays of light reflected in Max's visor and across the top of the Red Bull's monocoque.



Photographer Lorenzo Bellanca

Where Barcelona, Spain When 6.01pm, Tuesday 28 February 2017

Details Canon EOS-1DX, 300mm lens, 1/30th @ F32 >







A lesson in dealing with turbulent air

One of the big unknowns for the new, high-downforce F1 cars is how closely they will be able to run in each other's wake and whether they will be able to easily overtake one another.

This shot shows a moment late in the afternoon on the first day of testing, when Lewis Hamilton's Mercedes came up behind Kevin Magnussen's Haas. It's quite unusual to have cars running so close together in testing, and Lewis later said that he found it much harder than last year to follow another car.

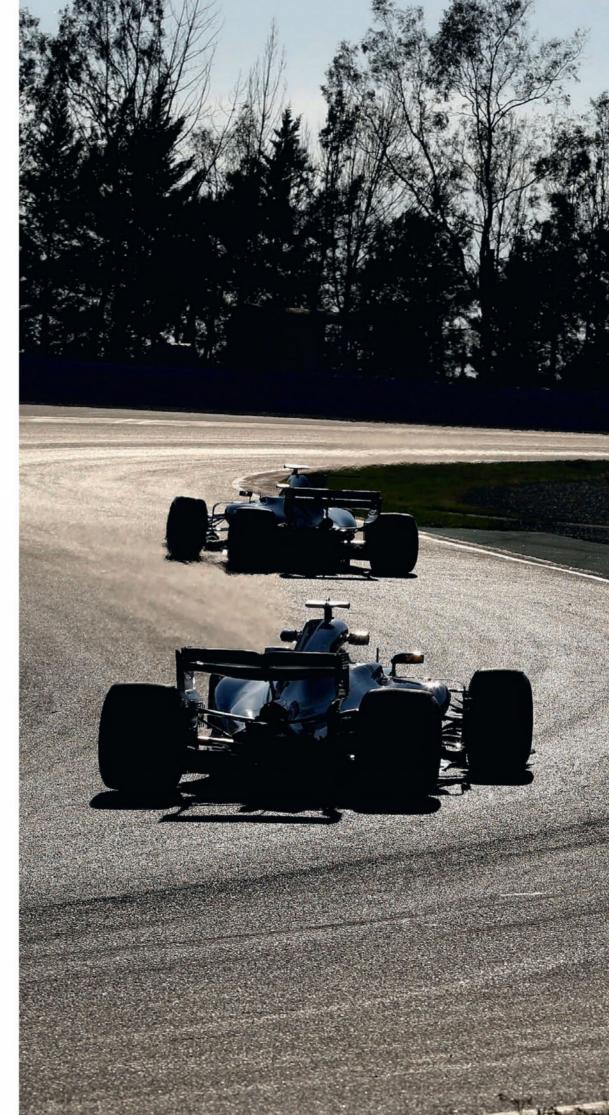
The location is the Turn 2 exit, and this year the drivers will take it flat-out. It's noticeable how much quicker they are compared with last year.



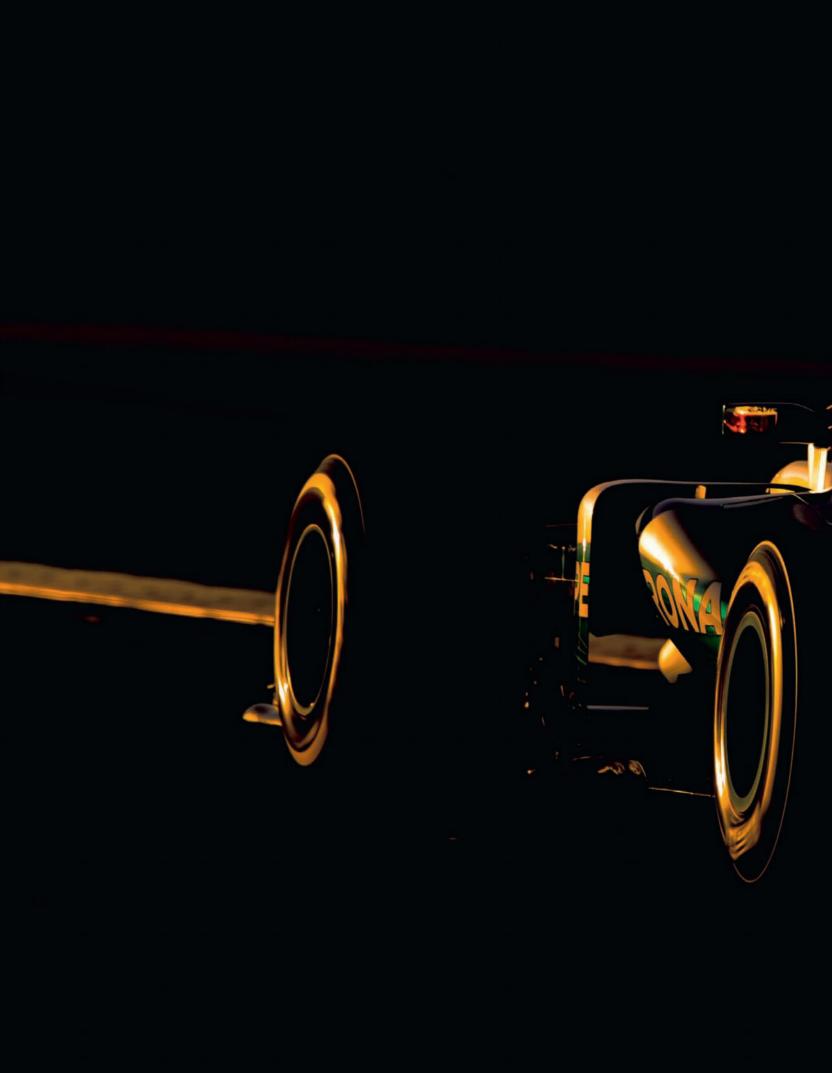
Photographer
LAT IMAGES: Steven Tee

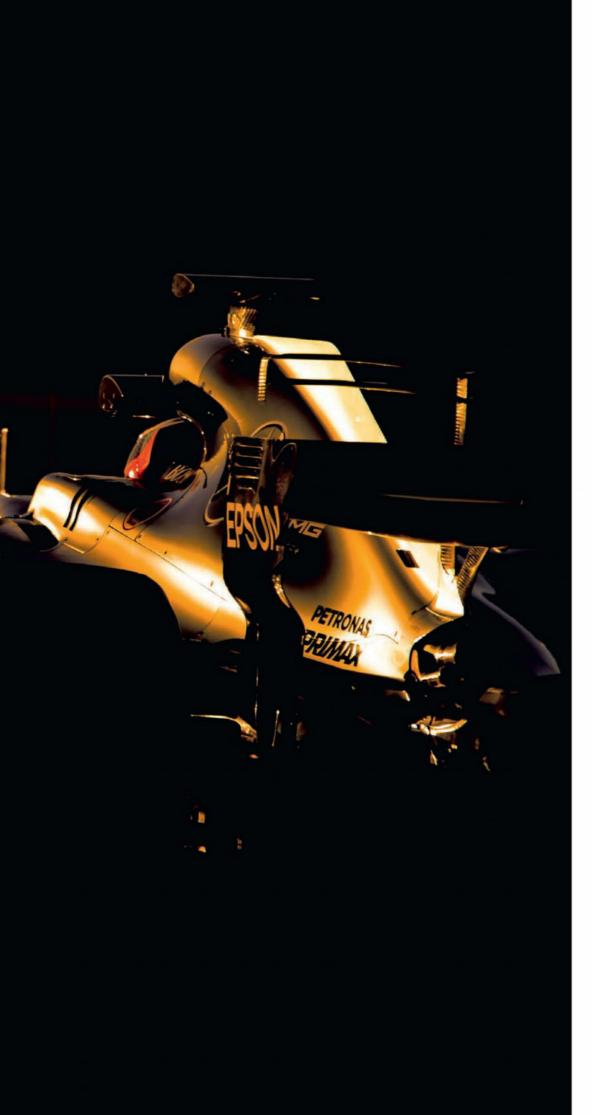
Where Barcelona, Spain **When** 4.44pm, Monday 27 February 2017

Details Canon EOS-1DX MkII, 200mm lens, 1/2000th @ F9











Hamilton revels in the Spanish limelight

The first F1 test took place later than usual this year, on account of all the changes to the regulations. Usually we're in Spain earlier on in February, but this year the later date means there is more daylight, so the tests run for an extra hour each day, finishing at 6pm.

This shot was taken from the inside of the track, looking across to the short straight before Hamilton enters the left-right of Turns 11 and 12. By the end of the day, the sun was very low, which produces this highlighting effect on Hamilton's Mercedes. The golden sunlight really picks out the sleek curves on the new car, which is arguably one of the best-looking machines this year.



Photographer Lorenzo Bellanca

Where Barcelona, Spain **When** 5.50pm, Wednesday 1 March 2017

Details Canon EOS-1DX, 600mm lens, 1/320th @ F6.3



Bottas gets to grips with his new machine

Valtteri Bottas was impressive as he familiarised himself with the new Mercedes F1 Wo8. He completed 324 laps in total and ended the first test with the fastest time.

I took this shot from the access road behind the barrier just before Turn 10 at the end of the back straight. I used a 600mm lens with a 1.4x convertor to give 840mm – that's about as long a lens as you can get.

The idea was to get a backlit shot of the cars locking-up under braking for the tight left-hander. Bottas has just overtaken the Sauber of Antonio Giovinazzi, and you can make out the puff of dust as he brakes hard for the corner.



Photographer

LAT IMAGES: Glenn Dunbar

Where Barcelona, Spain **When** 5.56pm, Tuesday 28 February 2017

Details Canon EOS-1DX MkII, 600mm lens, 1/640th @ F8 **1**







McLAREN: It's apocalypse now - right now

How low can they possibly go?



ANTHONY ROWLINSON

@Rowlinson_F1

This was the unfortunate, lingering thought after watching the first two captivating days of 2017 Formula 1 testing at Barcelona and, for once, it had nothing to do with some unspeakable moment of skullduggery enacted by a practitioner of paddock dark arts.

No. This regrettable observation arose during the lunchtime break from track action on day one of the first Barcelona test. Fernando Alonso's MCL32, resplendent in its 'orange-is-the-new-black' livery, had been largely becalmed, owing to an oil tank design flaw, and The Great Fernando restricted to a single installation lap. In total he clocked only 29 tours that day, while Seb Vettel, second fastest for Ferrari, clocked 99 more.

"We have only four days for each driver before the world championship starts – and now one is gone for me," he said. His heavy expression and the defensive mood within the team said more than any sanitised soundbite. Yet again, he knew, it was going to be a very



McLaren and a very glum Fernando Alonso lost out on most of the first day's testing, after all-toofamiliar power-unit woes



long season and, in the late hours of his racing prime, he has no time to waste.

Grumpily, he apologised to fans the world over for the substandard spectacle F1 has offered in recent years, before dwelling on his invidious position at being delivered a third underperforming McLaren-Honda.

"We are disappointed; we are sad to not be able to run. We are aware of the time we lost. No one is happy to lose a day and no one is hiding their frustration. There's an infinite amount of things to test and we couldn't do it."

Who could blame Alonso for his disgruntlement? He's one of the two greatest drivers of his generation and as his own clock ticks inexorably toward the late 30s (he'll turn 36 this July), he will see another year squandered.

The reasons for this iniquitous situation are multiple and complex; some certainly relate to Alonso's own character traits and the scorched-earth policy he has applied in the past to in-team relations. It's that very fire that has always made him such a ferocious competitor on track. But the sadness here is that his loss is *our* loss: Formula 1 is diminished by the lack of Fernando on pole, winning races. Alonso-McLaren-Honda should be a competitive match for Hamilton-Mercedes, Vettel-Ferrari and Ricciardo-Red Bull-Renault.

Instead he'll approach Melbourne not knowing even if the McLaren-Honda partnership is sustainable. Dark March rumours suggested that break-up scenarios had already been evaluated at the McLaren Technology Centre, and while the prospect of McLaren losing an engine parter who contribute a net \$100m to the team's annual budget (via free engines, driver salary payments and straight funding) is almost unconscionable, how much more strain can this troubled marriage endure?

Year one, 2015, was a write-off; Honda admitted they'd have been wiser to delay their entry and develop their power unit to a higher state of readiness behind closed doors. Last year was better, although with best results of two fifth places, it could hardly be described as stellar. Sixth in the constructors' table, 62 points behind fifth-placed Williams, is the F1 wilderness for a team with such explicit title-winning intent.

Of greatest concern was the admission by Honda's F1 chief Yusuke Hasegawa that the nature of their day-two problems (which restricted Stoffel Vandoorne to just 40 laps) wasn't fully understood, as they struggled to get to grips with an all-new design that copies Mercedes' splitturbine approach. At least five engines were used during week one. "The mechanical issue, I don't know enough yet to be confident about that," Hasegawa said. "Of course I worry about it. In the tests we need to overcome a lot of trouble. So sometimes we need to argue or we need to have constructive discussion, but I think we are doing a very good job and we have a very good relationship."

The signing of Honda to replace Mercedes at the end of 2014 was the last great strategic play made by ex-CEO Ron Dennis, and the notion of McLaren and their Japanese allies recapturing past glories seemed



Honda's Yusuke Hasegawa is baffled: "The mechanical issue, I don't know enough yet to be confident about"

as pragmatic as it was romantic. Sure, the challenge of producing a competitive hybrid PU was stiff, but if any car manufacturer would be equal to the task, mighty Honda – maker of more engines per annum than any other company – would be that concern. Wouldn't they?

Alas, the evidence so far is to the contrary and times during the first test suggested lack of power as the cause of slower laps, rather than any chassis shortfall. Alonso's top speed on day one was 189.5mph; chart-topping Daniel Ricciardo posted 205.1mph.

Laying all the blame at Honda's door would be overly simplistic, however. If an engine partner becomes 'strategically sub-optimal' (as Mr Dennis might have put it) then it behoves a team to enforce change – be that by finding a new engine partner or by battering competitiveness into them, as Red Bull did to Renault quite ruthlessly throughout 2015.

It must be noted that profound change *is* afoot at this fabled team. The departures of Ron Dennis and his loyal commercial lieutenant Ekrem Sami will result in a new direction being taken, as the likes of executive director Zak Brown and COO Jonathan Neale exert increasing



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influence. But turning a tanker takes time, and there's a growing suspicion that things might have to get worse for McLaren before they get better; that a very bitter pill might have to be swallowed to effect a cure.

Perhaps McLaren's F1 echelon should be spun off into an entirely separate entity, driven by the 'Skunk Works' mentality required of a top race team, away from the jewel that is the McLaren Technology Centre, and free to operate like a down-'n'-dirty race shop. Visit any other Formula 1 team and you'll be struck by three things: smell (the unmistakeable reek of fuel and metal filings); noise (a distant air jack being fired up for pitstop practice); and industry (busy people going about their business). This is how Red Bull, Mercedes, Ferrari and Force India operate: lean, uncluttered, physically self-contained, from unstarry premises on the edges of unremarkable towns.

At the MTC, meantime, there is serenity. This in itself is a wonder, as it's still a factory, even if it resembles some alien craft landed – appropriately enough – on Horsell



Common, which was made famous by The War of the Worlds. From its futuristic innards are spawned technological wonders, yet beneath that shiny shell McLaren's racing mojo has gone missing, for these facilities that should be the envy of all have produced only a sole world title - Lewis Hamilton's in 2008.

McLaren is an organisation crammed full of brilliant, gifted and dedicated individuals, yet in F1 terms the whole is less than the sum of its parts. Might the unthinkable therefore be about to happen? Could divorce be on the cards, leaving Honda tainted by another lacklustre F1 adventure and McLaren forced into a shotgun alliance with a new engine partner? It seems almost too shocking a proposition to envisage, yet the sight in Barcelona of that mighty warrior Alonso, unable to compete in his chosen arena, was surely enough to make any fan think to themselves: 'Anything would be better than this.'

Reasons to be cheerful

At least Alonso found it within himself to acknowledge the wider thrills that re-set F1 2.0-17 will offer, for despite McLaren Honda's travails, elsewhere there are reasons aplenty to be cheerful about what lies ahead.

The always-thrilling tingle of anticipation that accompanies that first sight of new F1 prototypes being ragged hard was giddily fulfilled, as it dawned that newgen F1 is fast. Fast against the stopwatch, yes - Valtteri Bottas's 1:19.705 beat the fastest ever pole time for the Circuit de Catalunya in this configuration, Mark Webber's 1:19.995 of 2010 - but also fast to the eye and visceral in a way that hasn't been seen for several seasons.

between Turns 6 and 7, I flinched and jumped back from the guardrail as Seb Vettel's Ferrari SF70H hammered

Downforce is up by 25 per cent and despite the battering drivers take from increased G-forces, they're wildly enthusiastic about higher speeds



66 NEW-GEN FI IS FAST... FAST TO THE EYE AND VISCERAL IN A WAY THAT HASN'T BEEN

down from the exit of T5, through T6, at around 170mph, before hard braking - with a trigger-fast four-gear sequential drop - into T7. F1 hasn't delivered that kind of punch for years; maybe not since 3-litre V10s were outlawed at the end of 2005. It's breathless stuff.

That was just from the outside. Those in the hot seats returned from the fray with giant grins. They admitted to being battered by the 25 percent increase in downforce delivered by 2017 cars and G-loadings that have made slow corners quick and quick corners flat, but were speeddrunk and wide-eyed. "I'm like a kid on a roller coaster," gushed Hamilton as he raved about the cornering grip and braking capacity of his Wo8. Meanwhile, Seb Vettel said high downforce and fat tyres had "fixed everything". And Max Verstappen allayed fears that extra cornering speed and reduced braking distances had diminished overtaking. "I think it's the same as last year," he said. "I've done some overtaking, so it's okay. It works."

SEEN FOR Watching on the Monday afternoon of the first test, **SEVERAL** SEASONS 11

F1 DIGEST THE MONTH'S BIG STORIES AT A GLANCE

06.02.17 BMW confirm they have no plans to return to Formula 1

07.02.17 McLaren team manager Dave Redding leaves for Williams

10.02.17 McLaren announce BP/Castrol fuel and lubricants deal

16.02.17 Williams sign ex-Ferrari aero chief Dirk de Beer

21.02.17 Alain Prost takes a 'special advisor' role at Renault

22.02.17 BRDC declare Silverstone is no longer for sale

27.02.17 Antonio Giovinazzi replaces injured Pascal Wehrlein in first test for Sauber

28.02.17 GP3 racer Tatiana Calderon signs up with Sauber as a development driver



28.02.17 European Commission rejects calls to investigate F1 sale

28.02.17 FIA warns teams against using suspension systems designed to boost aero performance

01.03.17 F1 sporting chief Ross Brawn suggests non-championship F1 event to test new race formats

01.03.17 Renault are instructed to change rear-wing design after

protests from other teams

01.03.17 Manor withdraw their F1 entry 01.03.17 Williams miss final day of Formula 1 test following

Lance Stroll's crash



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The race is always a highlight of the season; a great city, which looks really spectacular under the lights with the tricky street circuit below my favourite kind of track to drive.

- Lewis Hamilton, 3-time Formula 1® World Champion, Mercedes AMG Petronas F1 Team



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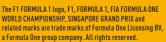
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Let there be light!

Formula 1 is suddenly more accessible, with teams now allowed to

post their own F1 footage



The drivers' words will have come as a great relief to F1's 'three wise men' charged with taking hold of this too-fat cash cow of a sport and making it spectacular, fan-friendly and financially sane. Both Sean Bratches, who'll head up media and marketing for the restructured Formula 1 Group and Ross Brawn, its sporting MD, were in Barcelona to start explaining their vision.

This in itself was a novel and welcome step and its significance should not be underestimated. For decades, Bernie Ecclestone's F1 operated under a cloud of fear. Wary of reprisals, few would speak out about the sport's shortcomings, while the outgoing FOM operated a policy

> of obstruction and obfuscation. The tootrue gag about FOM's modus operandi was: "The answer's no, what's the question?"

> This tyrannical approach worked brilliantly for a very long time, enriching and empowering Ecclestone, his acolytes and his CVC venture capital overlords - even when Bernie was adopting the Ratner-esque tactic of rubbishing his own product, or speaking publicly in praise of Hitler. These hand grenades got F1 noticed,

while diverting the attention of the mainstream media away from discussion of races in questionable regimes, bribery trials or dwindling TV audiences.

Thing is, with the growing power and influence in F1 of motor industry titans such as Mercedes chairman Dieter Zetsche, FIAT Chrysler CEO Sergio Marchionne, and Renault-Nissan Chairman-CEO Carlos Ghosn, not to mention the involvement of blue-chip backers such as Rolex, Santander, Pirelli, Shell, BP, Petronas (and on and on and on), a more corporate and, yes, conventional approach to business was required if F1 was to flourish.

Ecclestone's elevation to the position of 'chairman emeritus' marks the end of F1's entrepreneurial era, and some will mourn the loss of the edgy pioneering spirit he embodied. But it also heralds the advent of something

> more 'normal', bringing welcome moments of sanity, such as the appointment of a global comms director, Norman Howell; of being able to book a time and place to meet Bratches and be confident that he'll actually be there; of teams and drivers now allowed to - shock! - take five-second iPhone clips of themselves being brilliant in their daily

business and post them for the enjoyment

of their followers on social media.

This is the stuff of a modern global sporting franchise, and while there's so much still to be done to make F1 a sport of which everyone can be truly proud, Liberty have taken the first baby steps in the right direction. Your next job, Ross, Chase, Sean - admittedly tricker - is to get Alonso in a decent car. Then everyone's a winner. @





for decades, bernie ECCLESTONE'S FI OPERATED UNDER A CLOUD OF FEAR. WARY OF REPRISALS, FEW WOULD SPEAK OUT ABOUT FI'S SHORTCOMINGS



Your essential F1 briefing

#No 37 Lazarus



Name Lazarus

Age c2,000 years

Appearance Unexpected

A pox on these ticket resale websites!





I spent an age on the internet, trying to get hold of tickets to the London run of Lazarus - that David Bowie musical starring the bloke who played an undertaker in Six Feet Under, and all of them seemed to have been bought by shady types determined to flog them on for thrice face value.



Tragic indeed, but such is the fate of many who have a penchant for musical theatre. Still, that was not the Lazarus act I had in mind.



Really? Perhaps some sort of meta reference to the reports of this column's death turning out to have been mildly exaggerated?



Hold your horses there, chum. We won't be back every month...



An irregular regular? Ye Gods!



Beyond the pale, I know. Still, not such an affront as something else that's come back from the dead: 'shark fins' on the engine covers of F1 cars.



I thought this aesthetic horror-show had been banned years ago. So what's brought this about?



It was allowed back in under the new rules. Red Bull's Christian Horner says he lobbied to have it struck out - but the other teams didn't agree, and his proposal didn't get through the F1 Commission.



If I had a pound for every time that august body permitted a staggering cock-up, I might be rich enough to be able to afford lunch in that posh food emporium under F1 Racing's new premises.

Do say Fins ain't what they used to be Don't say Lewis Hamilton will certainly be hoping for a useless fin(n)...



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Classic time for creative minds



Your guide to modern and classic F1 happenings across the globe



MARCH

26 March

> F1 Australian GP, Albert Park, Melbourne

APRIL

9 April

- > F1 Chinese Grand Prix, Shanghai
- > FIA Masters Historic F1 Espíritu de Montjuïc, Barcelona

16 April

> F1 Bahrain Grand Prix, Sakhir

21 April

> Historic Grand Prix Cars Association Test Day, Silverstone

28-30 April

> Donington Historic Festival As the venue for the first grands prix to be held on British soil, Donington Park holds a special place in the historic racing firmament. F1's presence will be limited to demo runs by owners

30 April > F1 Russian Grand Prix.

Sochi, Russia

MAY

14 May

- > F1 Spanish Grand Prix. Barcelona
- > HGPCA Most Historic Grand Prix, Most, Czech Republic

20-21 May

> Silverstone Historic Festival Top billing on this weekend devoted to classic racing weaponry goes to a recreation of the Daily Express International Trophy. During its 30-year life, this popular annual non-championship F1 fixture also admitted F2 and F5000 machines to present a truly eclectic grid. Expect to see machines from the '50s



between grand prix weekends (and even, sometimes, on the same bill). To cater for the disparity in performance between cars built a decade or more apart, the historic F1 grid is split into four classes. Last year Nick Padmore won the overall title in Max Smith-Hilliard's ex-Carlos Reutemann Williams FW07C; ground-effect cars tend to run at the sharp end, but the rest of the grid is a fascinating mix of machinery, mostly from the 1970s

27-28 May > FIA Masters Historic

Festival, Brands Hatch Flash back to the days when this evocative Kent venue hosted the British Grand Prix and a packed home crowd roared their approval at the antics of James Hunt. The FIA Masters Historic F1 championship headlines a full programme of racing. which includes touring cars and sportscars from the 1950s through to the 1970s, recalling the days when F1 drivers regularly





28 May

> F1 Monaco Grand Prix, Monte Carlo

JUNE

11 June

- > F1 Canadian Grand Prix, Montréal, Canada
- > HGPCA Grand Prix de l'Age d'Or, Dijon-Prenois, France

25 lune

> F1 Azerbaijan Grand Prix, Baku

JULY

- > FIA Masters Grand Prix de France Historique, Magny-Cours, France
- > Goodwood Festival of Speed, West Sussex
- 9 July

> F1 Austrian Grand Prix, Red Bull Ring, Spielberg

16 July

> F1 British Grand Prix, Silverstone @















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Face







"Stirl, do you think the video recorder will work with a black-and-white TV?"

"What?" he cried in disbelief. "Only a **** would have a black-and-white TV!"

I drove up to Silverstone with Stirl when he was due to test his BTCC Akai Audi in 1980. He took the country roads from the A40, up near Aylesbury and his old family home near Tring. We were in a manual Audi and so I spent most of the time watching his perfect hand-foot

RAISING A GLASS TO SIR STIRLING MOSS

As illnesses go, it was classic Stirling. One minute he was in pre-Christmas London, dining with friends at the Royal Autombile Club and rushing around in his Renault Twizy, the next he was in Singapore, prior to a cruise, and feeling a bit off-colour. At the time of writing, he's still there, which is a worry, but hopefully there's light on the horizon. It was only last week that he and his wife, Susie, were reminding me that Chardonnay is Chardonnay, wherever you drink it...

Which made me think that I've always been a Stirling fan, but it's only over the past few months that I've come to realise exactly how big a role he has played in my life – and how much of a treasure he is to motorsport in general.

He was amazingly helpful to me when I was starting out as a journalist in the 1970s, and I was struck then by the intensity of his everyday life. He was motor racing personified, yet for Stirling there was nothing more urgent than beating the traffic and attending to the water pipe that needed to be re-fitted in one of his Little Venice flats. He'd zip over to the plumbers, buy the new part, race



over to Elgin Mansions and do the work himself. Mario Andretti would be winning somewhere with a Lotus 78; Stirling would be ratcheting a box-spanner in a tiny North London bathroom.

We'd chat about motor racing, of course, but not

at any great length: there wasn't time. I'd ask him about Fon de Portago, Peter Collins or Tony Brooks, but the answers would be short and to the point. Of far greater import was the impending traffic build-up around Hyde Park or the cost of the new parking meters on Curzon Street.

Stirling bought his house as a bomb-site in 1963 and designed it to what would then have been called 'space-age' standards. The TV that rose from the foot of the bed; the heated toilet seat; the shaft that runs vertically from living room to kitchen, facilitating the supply and departure of TV dinners; the closet with its remote-controlled hangers; the hidden speakers. That was Stirling, way ahead of his time. He was also one of the first men in London to buy a video tape recorder; I remember staring at it while he showed me the reverse, pause and fast-forward functions.

I was so impressed that I spent everything I had on a similar unit (a Philips). I couldn't wait to try it but suddenly realised that Stirling had a colour TV, while I was still using my black-and-white Sony. I rang him with trepidation:

co-ordination as he heel-and-toed down for the roundabouts and slower corners. He sat with his arms slightly bent, shoulders relaxed, both hands holding the wheel.

Later, during the lunch break at Silverstone, Stirl took me for a run in the BTCC car. There was no excess steering wheel movement; there was no tension. Everything was calm and very, very precise, even when he was balancing a slide. We accelerated out of Becketts and down Hangar Straight.

"Blast!" he said suddenly. "There's a barrier up in the middle of Stowe," (which in those days was a very fast right-hander).

"Hang on. Should be okay. I think we can just squeeze through..."

At 120mph, positioned on the left-hand-side of the road, the barrier appeared to be solid. Then, as the corner approached and Stirl began to finesse the car to the centre of the track, I could see a gap starting to emerge by the left-centre of the barrier — or between the two barriers as they obviously now stood. He then braked hard, flicked the steering a little, changed down to third and straight-lined it through the gap...

The tiny gap.

We were probably doing 90mph.

Many great drivers would have done
this; many drivers today would be
able to do it. This was Stirling Moss in
retirement, though, supposedly well



past his prime. On the following lap, he slowed for Stowe and I was able to measure the clearance: half an inch either side of the mirrors.

I asked him during the drive back to London about his thoughts on the art of driving – about what he considers to be the factors that distinguish the best from the very best.

"Oh, it's all in the braking and the settingup for the corner, old boy. Anyone can balance a slide from apex to exit. The skill is in shortening the corner with your entry, but keeping the car absolutely balanced and stable as you do so. I saw few drivers who could do that. Fangio obviously. And Brooks.

FEET FROM THE GROUND?

"Of course, it all comes down to the tightrope – walking the tightrope. It's all about balance and feel. And what's the point, old boy, if the tightrope's only three feet from the ground?

There has to be a penalty if it's going to *mean* anything to anyone."

In time, and thanks largely to Goodwood's Lord March, the motor racing world rediscovered Stirling Moss. In 2000, he was made a Knight. He backed off (perhaps by about five per cent) from his full-throttle life. Then, one day in 2010, by accident, he fell down the lift shaft in his house.

I visited him in hospital a couple of days later. Sir Stirling confirmed that this had indeed been one of the biggest shunts of his career – bigger than Spa, 1960, and not too far away from Goodwood in 1962.

I looked at the plaster and the splints – but then noticed the bruises on his arms.

"What happened there?" I asked. "Did your arms catch something as you fell?"

"Oh no, old boy. I realised that if I was to have any chance at all I would have to put my elbows out and rub them against the side of the shaft and try to slow things down that way. Bit like a parachute. Seems to have worked. Doc says I was very lucky to survive..."

Cheers, Stirl. And yes. Chardonnay, please. @







Regarding the bodywork, the front wing width has been increased, as has the rear wing, although its lower position negates some of the increase in downforce that may have been obtained. The diffuser is also larger and the area for the 'barge-boards' in front of the sidepods has been opened to a significant relaxation in the rules, which should allow better control of the front-wheel wake and hence increased downforce.

BLAME YOUNG MAX VERSTAPPEN FOR F1'S REBOOT

The 2017 regulation changes have been hailed as one of the biggest shake-ups for many years, but the motivation behind them is somewhat strange. Some while ago, the Strategy Group, strongly influenced by Bernie Ecclestone, decided that the current cars were both too slow and too easy to drive. The fact that an 18-year-old Max Verstappen could immediately perform at the forefront of grand prix racing was taken by them as proof that there was something wrong with Formula 1, and that a universal panacea might be to make the cars faster, the thinking being that this would make the cars more spectacular and more difficult to drive. The notional target was to make the cars five seconds a lap faster, but while there were suggestions as to how this should be done, the detail was left to the teams' technical departments.

Over the 40 years that I have been involved in racing, major rule changes have always been centred around reining in performance as the ever-increasing development compromised the safety of the sport. So this is the first time the teams have actually been asked to consider rules that



increased performance. That may sound somewhat anomalous, but bear in mind that the machines of 2016 were still considerably slower than those of ten years ago – particularly in the highspeed corners.

One of the various reasons

why Formula 1 cars are much slower these days is that they are significantly heavier. It is an inescapable fact that hybrid cars will always be heavier than conventional cars and, on an average circuit, 10kg of increased weight pushes lap times up by about 0.3 seconds. In 2006, the racing weight of the cars was 600kg. This had risen to 702kg by 2016 with a consequential increase in lap time of around three seconds.

Because of this, the starting point that the teams discussed was how to reduce the car mass and, as a result, some small savings have been made, for example by having a shorter, pocketed, skid block. Although, ironically, the increased dimensions of the 2017 cars have ultimately added 20kg to the minimum weight.

The focus was to produce more downforce through relaxed bodywork regulations and increase mechanical grip by expanding car width and widening the tyres. Consequently, the overall width of the cars has been boosted from 1,800mm to 2,000mm, and the tyre widths have increased by a nominal 60mm at the front and 80mm at the rear.

There are other areas that are affected. The 'monkey wing', the name given to the small 100mm-wide wing that sits above the rear crash structure, is now of greater significance, since rear downforce is more enhanced by exhaust flow than was the case in 2016. This can provide a significant performance boost, although some of the tricks used to increase exhaust flow on the old normally aspirated engines are much more difficult to achieve on a turbocharged engine.

The tyres are also changing for 2017. You might think that the increase in grip should simply be proportional to the increase in width, but this is an oversimplification because although the contact patch is wider, it will not be as long on the 2017 tyres. One of the reasons for this is that when the tyresupply agreement was renegotiated last year, the teams and the FIA worked together to provide a statement of desired characteristics for the 2017 Pirelli rubber.

To be able to push the tyres harder, it was asked that they be made less thermally sensitive and better able to recover performance quickly if overheated for a short duration. A shorter contact patch can help the situation, as will the introduction of a new family of tyre compounds.

The complexity doesn't end there, though, since the increased loads also require a much more robust tyre. One



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of the ways of achieving this, as we saw in 2016, is to increase tyre pressures. Unfortunately this also reduces ultimate grip and so the increase in downforce follows a law of diminishing returns.

There will still be four compounds to choose from, with three of the four taken to any given race. For the first few events, Pirelli will make the choice until the teams have built up experience of the tyres. Degradation targets have been set so that the performance loss should equate to around two

seconds a lap at 60 per cent, 30 per cent and 15 per cent race distance respectively for the hardest, medium and softest compounds at any event. There should also be a performance step of around one second in ultimate lap time between each of the compounds. Naturally, all these targets are averages across the year and can be expected to

The big question is: will these changes improve the racing? They have every chance of upsetting the

vary from circuit to circuit.

For 2017, Pirelli have made tyres that are less thermally sensitive and better able to recover performance quickly if overheated, allowing drivers to push harder

on following cars, increased downforce produces increased wake and hence has a greater effect on a car behind. The new regulations will also increase the amount of time on full throttle and decrease braking distances, neither of which is conducive to overtaking.

All these changes will favour the bigger teams, since they are going to be in a better position to apply greater development resource than the small teams. I remember a time when regulations were far less prescriptive, which meant that change could favour the small teams. Early on in my career when I was working for Toleman, we interpreted new 'flat bottom' rules for 1983 in such a way that we went from being a team who often failed even to qualify for races, to becoming regular top-ten finishers. Unfortunately, this level of design creativity is no longer a part of our sport. 4



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Neither concept got beyond hot air, but that is not the point; that this mindset prevails in the face of Formula 1's myriad issues surely, though, provides cause for concern. If anything, a FOTA (or FOITA) should by definition work for the benefit of all teams, and the wider sport – and not a Mercedes or Red Bull or Ferrari or whatever.

Competition between teams is, of course, another of Formula 1's macromolecules. Indeed, it was the relentless rivalry between drivers, team bosses, manufacturers, engine suppliers, oil and fuel brands and, an age ago, tyre companies, that elevated Formula 1 to the top of the motorsport tree over a period of 60 years. Even current-day Formula 1, beset by problems or not, massively overshadows all other categories.

There is, though, a crucial difference between rivalry and destructive competition. And over the past 20 or so years, the sport's players have too often failed to make that distinction. Domination by a team or individuals for sustained episodes occurs in any sport – look at European football's Big Four, Tiger Woods' years at the top in golf,

or Roger Federer's tennis hegemony.

Did those periods destroy their respective sports? No. Indeed, if anything, their sustained successes added to the lures of their chosen fields. The challenge for others in each of these sports was to meet this domination head-on, and then conquer the previously invincible.

By contrast, the challenge for Liberty Media is to ensure that the playing fields – on- and off-track – are levelled such that teams beyond Mercedes, Red Bull, Ferrari and McLaren are able to meet the domination of the majors head-on. That can be achieved only by all players – from front to rear, top to bottom, left to right – putting self-interest aside and focusing on the bigger picture, namely the future health of Formula 1.

Brawn played a key role in Ferrari's late 1990s revival, so he knows exactly what is required to rebuild a fallen entity, no matter how iconic it once was. Jean Todt, who was then Ferrari team principal and is now FIA president, was chief architect of that particular resurgence. Even then it took more than six years before Ferrari scored their first title in almost two decades, and then only after the entire team, motivated by Michael Schumacher's genius, pulled in unison.

The primary task facing Liberty is not reviving Formula 1, but uniting it. Only then can the rebuild commence. •

LIBERTY AT LAST; NOW IT'S TIME FOR UNITY

Right now, the words 'Liberty Media' are being bandied about in Formula 1 circles as though they were a compound two-word term. This similarity does not, though, make the terms synonymous, as many in the paddock patently believe when suggesting that Formula 1's change of ownership will instantly fix all F1's problems.

Those who believe that change at the top will return Formula 1 to its former glory as the world's premier annual sporting block will be sorely disappointed. Simply replacing Bernie Ecclestone with three (admittedly extremely capable) individuals and granting them the powers to revamp Formula 1 cannot be a silver bullet.

So deep-rooted are the sport's underlying issues, from its inequitable revenue distribution through an unwieldy (and too often dysfunctional) regulatory structure, and dwindling public interest – that it will require protracted and concerted effort by all players: Liberty and the FIA, teams and technical partners, circuit owners and broadcasters, and, last but not least, Formula 1's media and the world's popular press.



Chase Carey's biggest challenge will be to unify F1

For too long now, the sport has been subjected to 'divide-and-rule' governance. Ecclestone was a master at picking off teams (or circuits, or broadcasters) one by one, whether by fair means or questionable, to achieve his immediate objectives.

So ingrained is what Romans called *dīvide et īmpera*, that sports-geneticists undertaking a study of

Formula 1 would surely discover this to be one of F1's DNA macromolecules. So the first task facing Liberty's trio of Chase Carey (chairman and CEO), Ross Brawn (managing director, F1 operations) and Sean Bratches (managing director, marketing) is to break down lingering suspicions that they will pursue the same policy.

Last month, news broke that a group of teams intended to join forces to form a sort of latter-day FOTA. On investigation it became apparent that the operative word was 'group', with this faction planning to maintain the present structures in the face of Liberty's stated objective of levelling the financial and regulatory playing fields.

No sooner had the disenfranchised teams got wind of the plan, than one of their number suggested the formation of a "FOITA" – effectively an independents' teams association. Can you spot the fragmentation?





Red Bull are blessed with what is probably F1's strongest current driver pairing. Daniel Ricciardo and Max Verstappen will certainly knock spots off each other this year, but, as they admit to F1 Racing, their sights are set on a greater target:

THE F1 WORLD **CHAMPIONSHIP**





YEAR TWO,

day one for Max and Dan and there's helmet banter going on between the Red Bull tyros.

They're filling an interlude during an *F1 Racing* cover-shoot and the objects they're holding are, evidently, the most engaging topic of conversation. Verstappen's Arai has a new design and an on-trend matte finish; Ricciardo's sticking with the tried and trusted.

The duo stand almost shoulder to shoulder, reluctantly juxtaposed like caged cats, each

unable to ignore the presence of another alpha male. Team-mates, yes, but rivals first and foremost. And as a super-fast pairing for a squad tipped to emerge as true championship challengers this year, possible title contenders.

That degree of anticipation brings a certain charge to their relations – flint against steel – and while there's no frost in the air as there was when Seb Vettel and Mark Webber had to share air for this very team, conversation is stilted rather than flowing.

We stage an intervention.

"Dan, is the honey badger still there?"

The honey badger, as any Dan-fan or regular *F1 Racing* reader will know, is an animal motif carried on the rear of Ricciardo's helmet in homage to one of the most fierce creatures to prowl this planet. Even by the extreme standards of other bad-ass wildlife, it stands out as a bit of a nutter. As Donovan Rosevear relates in *The Carnivores of West Africa*, this angry beast is: "...virtually tireless in combat and can wear out much larger animals in physical confrontation."

Not a bad totem, then, for a famously spirited racing driver noted for his ability to mount a bold attack and defend his territory with vigour.



THERE ARE PLENTY

of reasons to believe that the Max vs Dan show is one of the most titillating prospects of the season to come. Almost irrespective of the competitiveness of the Red Bull RB13, their duel for supremacy promises to be unmissable; 2016 gave several glimpses of what to expect.

From Verstappen's Red Bull debut at the Spanish Grand Prix last May, it was obvious that he wasn't remotely fazed by going up against the man quick enough in 2014 to make his quadruple-champion team-mate Sebastian Vettel look a bit shabby.

For much of final qualifying at the Circuit de Catalunya, Verstappen sat on P2, in a car he hadn't driven until the day before (after his sudden promotion from junior team Toro Rosso,



to replace Daniil Kvyat) and in which he was still not fully comfortable. His qualifying pace was a huge statement of intent from an 18-year-old phenom (he turned 19 last September), but Ricciardo dug deep for his own final qualifying run to post a time that was 0.4s faster and place his junior briefly back in his box.

One day later Max would re-write the history books by becoming F1's youngest ever winner, but even so it was not a performance that would have caused Dan undue disquiet. Sure, having led the first 30 laps (after the notorious and mutually race-ending shunt between Nico Rosberg and Lewis Hamilton), Ricciardo would have liked the win, but his speed advantage had been blunted by a questionable three-stop strategy and a late-race puncture. He had lost, but he hadn't been *beaten*.

Far harder to take was the Monaco debacle a fortnight later, when, after being The Man throughout the weekend, Ricciardo was denied what should have been a deftly crafted and bold victory due to a pitstop fumble that dropped him behind eventual winner Hamilton.

Verstappen grew stronger as the season wore on, and, at Spa, the nearest thing this Flying Dutchman has to a home event, he was brimmingly confident, flaunting his thrilling gifts around one of the last great driver-challenging circuits. Stunning in qualifying to take P2, Max's race was ruined by T1 contact with Kimi Räikkönen that wiped off half a front wing. Ricciardo charged to second, but this was a 'Max' weekend. Later, in Brazil, Verstappen dazzled with his wet-line brilliance, leaving Ricciardo five places back and complaining about visor misting.

41



But the Malaysian Grand Prix delivered a true taste of the fireworks that may be in prospect this year, when, moments before Lewis Hamilton's engine blow-up and retirement, Max and Dan got stuck into a high-speed battle that would become an arm-wrestle for the lead.

Through Sepang's 4-5-6 sweepers they went wheel-to-wheel, racing inside and outside each other before Ricciardo eventually outbraked Verstappen into T7 and held on. It was raw, it was pure, it was proper racing between two sublimely skilled drivers – the kind of thing that might have ended in tears had there been any shortage of mutual respect.

Happily, there wasn't, and that reciprocal regard is evident as Verstappen and Ricciardo chat to *F1 Racing*; for while they're not backslapping amigos, they're comfortable enough in each other's company and each is capable of giving the other... space.

"We're not Lewis and Nico yet," quips Dan, grinning, when quizzed about possible tensions

ahead, "but I hope we can be in that position, because we would both absolutely love to get to a point like that, where we're fighting. When we are, that basically means we're doing what we want to and reaching what we want to achieve in the sport, so it's hard to predict or anticipate what will happen, but I think that would be a nice position to be in. Anything else... I think that's a bridge we'll cross when we get there."

Feisty stuff, and doubtless he means every punchy word, but his comments are offered in good, competitive spirit; there's not yet an edge, or a barb. Dan's good, he knows it. But he knows, too, what he's up against – and he relishes it.

"The most important thing is that you need to respect each other," adds Max, "on and off track. So far we have been doing that pretty well. Even that fight in Malaysia – fighting for a victory – if we can race like that, it would be amazing. For sure, if you fight for a world championship, you can be a bit more nervous, but I think that's pretty normal. When you are in a fight, you know pretty well when you're about to crash or not, so it shouldn't cause any problems."

They're quite the double-act these two. Max *intensely* gifted – the genetically perfect product of two racing parents, Terminator-like in his simmering intent and purpose; Ricciardo, the sunnier son – always laughing, smiling, ready to lighten the room with instinctive *joie de vivre* – but possessed of an inner passion that's almost palpable, such is his lust to succeed.

MAX VS DAN:

Advantage Ricciardo... for now

Max Verstappen's 2016 was sensational. Picking up where he'd left off in 2015 as one of the hottest rookies ever to grace F1, he won his first grand prix on his Red Bull debut and provided some of the season's most memorable moments.

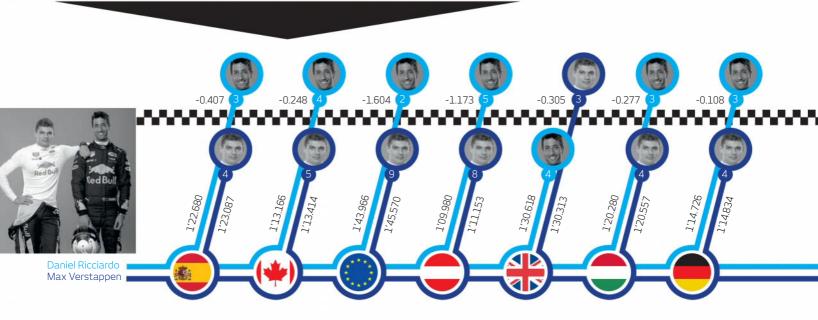
There was his brilliance at Spa and Interlagos, his fierce battle with Ricciardo in Malaysia, and his incredible comeback in Abu Dhabi, featuring a ferocious dice with soon-to-be-world-champion Nico Rosberg.

Such was Verstappen's excellence that Ricciardo's own undoubted talent was almost overlooked. But as an analysis of their qualifying performances reveals, Ricciardo was the quicker qualifier; he also took Red Bull's only pole that year, at the Monaco Grand Prix.

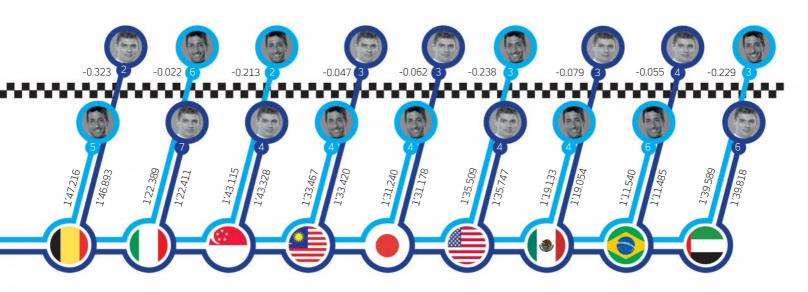
Over the course of 16 qualifying sessions from Spain

to Abu Dhabi (and discounting Monaco, where Verstappen started from the pitlane after a monocoque change), their head-to-head tally was 10-6 in Ricciardo's favour. His average qualifying advantage was 0.282s over Verstappen and the largest margin was at the European GP in Baku – 1.604s – although Max's best lap there was compromised by Valtteri Bottas's Williams.

2016 OUALIFYING: HEAD-TO-HEAD







BULLEIGHT

Their clash will certainly be compelling. It could be combustible. And if they catch the scent of a title – sharks after blood – any residual pleasantries will be the first casualties of battle.

Red Bull have form in these matters, of course: Webber vs Vettel produced a series of memorable flashpoints throughout 2010-13. First came Turkey '10 (Vettel eliminated after Bull-on-Bull contact at Turn 12). Then there was Silverstone later that summer ("not bad for a number-two driver" declared victor Webber, having bullied Vettel wide on the first lap). And infamously, the seminal 'Multi-21' team order call at Sepang 2013 that guaranteed Vettel a lifetime's antipathy from one gritty Aussie.

That was a handful. This is child's play so far, but even racing buddies can 'go nuclear' when they sense fulfilment of a life's ambition is within reach. Just ask Nico and Lewis.

Team boss Christian Horner, older and wiser after those four tense 'superteam' seasons, speaks of his drivers' "genuine respect for each other and for the team". But he acknowledges the potential for

pyrotechnics should Red Bull find themselves in a title fight.

"Of course that raises the pressure," he says, "because they'd be looking at a much bigger reward and that brings an added dimension. The first person they want to beat is their team-mate and that's the person they're going up against, as well as the opposition."

Horner has no doubt, however, that both are capable of a full-blooded fight at the front. "I genuinely believe we have the strongest driver pairing," is his assessment. "They're extremely talented drivers who bring out the best in each other. They're focused, demanding and at the top of their game. Max has less experience and Dan delivered at an incredibly high level last year, so his confidence will be high going into the season. But it's going to be a battle a bit like Nadal and Federer recently in the final of the Australian Open." [For the record, that match, already storied, was an epic three-and-a-half-hour five-setter, eventually concluded in Federer's favour.]

WE'RE NOT LEWIS AND
NICO YET, BUT WE
WOULD LOVE TO GET TO
A POINT LIKE THAT

The catalyst for any in-team eruption is the introduction of that third vital element: a car fast enough to win a title. And if modern F1 history tells us anything, it is that the team who employ Adrian Newey at the moment of a major regulations reset – such as the package about to be unleashed for 2017 – will be the one to emerge with the best chassis.

Newey, latterly Red Bull's chief technical officer and resident design Svengali, was the first to master narrow-track, grooved-tyre regs for 1998. Result? A title double for McLaren. In 2009, when F1 adopted cleaner surface aero,

along with a low, wide front wing and a narrow rear, his RB5 was the fastest car by season's end. Yes, Brawn GP beat Red Bull to the titles, but only with the help of a double-diffuser chassis floor Newey believed to be illegal. From 2010-2013, Newey-authored Red Bull Renaults were dominant, taking a full house of title doubles.

This year is again about smart interpretation of aero regs: cars are wider, with bigger, swept-back wings and a downforce increase of up to 30 per cent. It would be a brave punter who bet against a Newey-led tech team creating the fastest and most aggressive version of the '17 script.





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BULLEIGHT

Horner won't be drawn into rash pace predictions before the new car has turned a wheel, but he will admit to "a buzz throughout the factory", charged by the potential of that hotshot driver pairing. "It's exciting for all of us to be going into this season with these two drivers in our armoury," he says.

That leaves engine partner Renault as the unknown performance parameter. France's finest were overwhelmed by the engineering onslaught unleashed by Mercedes to meet the challenge of the 'hybrid' F1 era introduced for 2014. Even by the end of '16, year three of the hybrid formula, Mercedes remained completely dominant, with

untapped engine performance potential held back for the sake of greater reliability.

As of last season, though, Renault are again committed to F1 as full manufacturer entrants and their engine plant in Viry-Châtillon has stronger technical leadership and renewed focus on full competitiveness. So if Renault get their act together, Red Bull have everything they need to be title fighters, just as Mercedes enter a period of relative instability following the departure of tech chief Paddy Lowe to Williams and champion Nico Rosberg to his sun-lounger.

The prospect of a four-way title tussle has Ricciardo salivating: "For the fans, it would be great to have two teams fighting for a title as opposed to one," he says, "and if we're in that position, it would be cooler if it's me, Max, Lewis and maybe Valtteri fighting, as opposed to just me and Max. It creates more of a challenge and it's more rewarding as well, if you win. For the past few years, sure, Lewis and Nico have won world titles, but they've won them against each other. They haven't beaten twenty of us."

Verstappen expresses his competitive desires somewhat differently, looking ahead to the pursuit of his own maximum performance – his destination – rather than anticipating an exciting journey: "My dad [ex-Formula 1 driver Jos] always told me 'You have to be as fast as you can straight away within five laps' so I always was because in formula racing you always have to be on it straight away.

"As for the championship, to be honest, I

haven't been thinking
about it yet. When
I get the car to do it,
of course I know I'm
able to fight for it.
When I see where we
are with the car, then
I'll make my mind up
whether we can fight
for the championship
or not."
Phlegmatic? Most

or not."
Phlegmatic? Most certainly, but young
Max can easily afford

this calmness of spirit, so much time does he have on his side.

Ricciardo, a little older at 27 and perhaps beginning to wonder when he's due a taste of the really big time, is the more urgent soul, the one impatient to get to it and start racing.

We wonder, in parting, what each of these rather special drivers might immodestly consider to be their special power – the unique attribute that sets them apart from their peers.

Verstappen, earnestly, though not without humour, suggests: "I can walk on water."

Ricciardo, after a brief pause, breaks into that wide, wide smile and offers: "I believe I can fly."

And with that, they're off, Ricciardo still in high spirits and breaking into a passable *a cappella* rendition of R Kelly's monster hit, while throwing a water bottle ten feet in the air and catching it one-handed with effortless grace.

Max, back turned, foot forward, is already out the door. ②



MY DAD TOLD ME 'YOU HAVE TO BE AS FAST AS YOU CAN WITHIN FIVE LAPS' SO I ALWAYS WAS







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TOTAL AT A GLANCE

It's all change in F1 for 2017. After a highly eventful winter, we present the ten most significant changes for the new season

No more Bernie

After four decades in power, Bernie Ecclestone had to hand over control of F1 as Liberty Media completed their \$8bn acquisition of the sport in January. New CEO Chase Carey is flanked by former Mercedes team chief Ross Brawn, who takes charge of racing matters; and Sean Bratches, a former TV marketing boss, who will handle the commercial side.



Only ten teams

The Manor F1 team went into administration in January. They joined the grid as Virgin in 2010, changing their name to Marussia in 2012 and Manor in 2016, and accrued just three points over seven years. Last year's drivers have secured seats elsewhere: Pascal Wehrlein joins Sauber, while Esteban Ocon moves to Force India.



Faster cars

This season ushers in a wholesale set of regulation changes that are aimed at making the cars quicker by five seconds a lap.
The 1.6-litre hybrid turbo engines remain, but car, bodywork and tyre width have all increased. The rear wing is lower, the diffuser is larger and the maximum weight has increased by 20kg to 722kg.



No title defence

Nico Rosberg shocked F1 by retiring the week after he won the 2016 title. Mercedes quickly set about finding a replacement, securing Valtteri Bottas on a one-year deal. Bottas's former team Williams then had to ask Felipe Massa to come out of retirement; the Brazilian veteran will now partner 18-year-old rookie Lance Stroll.



Return of the Stoff

He's made only one GP start, standing in for Alonso in Bahrain last year, but the talented Stoffel Vandoorne already has an F1 point as a result. He makes a full-time return in 2017, replacing Jenson Button at McLaren. Further down the grid, Nico Hülkenberg moves to Renault, while Kevin Magnussen replaces Esteban Gutiérrez at Haas.



Bigger, grippier tyres

Tyres are now 25 per cent wider than in 2016, with rear width increasing from 325mm to 405mm, and front width raised from 245mm to 305mm. Tyre diameter has also increased very slightly, although wheel rims remain unchanged at 13 inches. Once again, teams will have three compounds to choose from at every GP weekend.



A shorter race calendar

There are only 20 races on the calendar this year now that the financially troubled German Grand Prix has been dropped. The street race in Baku remains, but this year it's called the 'Azerbaijan Grand Prix' rather than the 'European GP'. There will also be two in-season tests in 2017, which will take place in Bahrain and Hungary.



Wet-weather standing starts

As of 2017, if a Safety Car is required at the beginning of a grand prix on account of wet weather, a normal standing start will occur once the track is deemed to be dry and safe enough to race on. The new process replaces rolling restarts, and will see the Safety Car returning to the pitlane and the cars reassembling on the grid for the restart.



Technical shuffles

The main driver line-ups have remained fairly static: it's the technical chiefs who have been jumping on and off the merry-go-round over the winter. Paddy Lowe has left Mercedes to take up a key role at Williams, with former Ferrari man James Allison taking Lowe's place at Brackley. Jörg Zander returns to Sauber after a stint in sportscars with Audi.

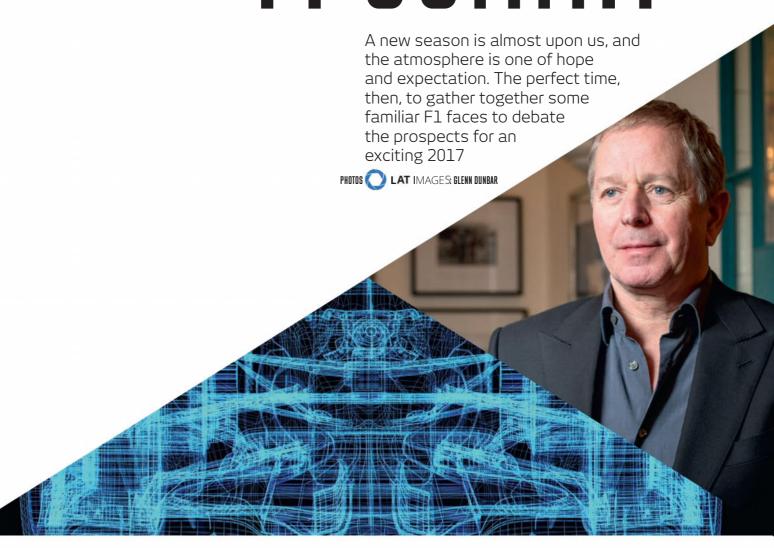


Power changes

10

The sport has abandoned the much maligned 'token' system to allow more freedom for in-season engine updates. And teams can no longer accrue grid penalties in a bid to stockpile spare power-unit elements. Toro Rosso have ditched Ferrari power in favour of Renault, while Sauber will use a year-old Ferrari powerplant.





TODAY, THE TALK IS OF TYRES.

Back in 1911, Michelin opened their UK headquarters on the Fulham Road in West London. Now known as Terrance Conran's Bibendum restaurant, it's a fitting location for us to preview a new season of F1.

On the side of Michelin House are mosaics featuring historic drivers, cars and races from 1906. Appropriately enough, there's a Mercedes, a Renault and an engraving of the Circuit des Ardennes – a destination that F1 still visits for the Belgian Grand Prix more than a century later.

The dining area still gently slopes down towards the road, where mechanics used to roll tyres into a fitting area. Sitting around one of the tables today are three Formula 1 experts, ready to offer their views on the year ahead.

Joining us this late February lunchtime are Sky Sports F1 analyst and commentator Martin Brundle, former Williams technical chief Pat Symonds, and respected writer and broadcaster Peter Windsor. *F1 Racing's* James Roberts is also present to chair the debate.

There are a multitude of changes for our pundits to discuss, from the new technical regulations to the arrival of Valtteri Bottas at Mercedes. Here, then, are their thoughts on the new season.

THE NEW REGULATIONS

James Roberts: Pat, what was the motivation for the new technical regulations and what can we expect to see this year?

Pat Symonds: The starting point was the notion that the cars needed to be five seconds a lap quicker. Where that idea came from and became the thing we were chasing, is debatable. Initially there was a suggestion that the wider cars and tyres would be very retro, and I was



concerned that we were just going back to something from 20 years ago. But luckily a little bit of styling came into things, and we have Red Bull to thank for that. They did a good job with the concept that the car should *look* fast even when it's standing still.

The cars have increased to two metres in width, which they haven't been for a long while. The bodywork is wider, the diffuser is bigger, the front wing is wider in line with the bodywork, while the rear wing is narrower.

Peter Windsor: Why didn't the technical group just ask Pirelli to create faster tyres?

PS: Well, initially, when we were looking at why the cars are slower, we found it's because we've put 100kg on them since we've gone hybrid and that absolutely kills performance, particularly in the

quicker corners. Yes, we could have just added grip, but is that the right thing to do? I don't necessarily agree that if you take aerodynamics away and add mechanical grip, you get better racing. There's no evidence to support that.

Martin Brundle: I'm looking forward to this year, but then I'm the eternal optimist. In theory it seems like we've gone the wrong way, giving it more grip so the car will stick to the road. For me, a car that is sliding looks faster, and *going* faster isn't absolutely necessary. I can get super-excited watching a Caterham battle on television or even an old Formula Ford race.

Valentino Rossi goes around the Circuit de Catalunya just under half a minute slower than an F1 car, and that still looks incredibly impressive. So I don't think it's all about speed – it's about cars





MARTIN Briindi F "A Formula 1 car should be the scariest, fastest thing out there, and we should look on with amazement that a human being can actually drive one"

being side by side, nose to tail, and looking exciting.

A Formula 1 car should be the scariest, fastest thing out there, and we should look on with amazement that a human being can actually drive one. If the drivers are really challenged and it frightens them a little bit and they're enthusiastic, then that will translate via the media to the fans. Last year, the drivers got out of the car and said: "If I spin the wheels three times the tyres have gone. I'm taking it easy, I'm saving here and there." This year, I'm hearing that the tyres won't degrade like they used to. **PS**: I think that's an interesting point, Martin. Peter, you asked why don't we give the tyres more grip, but it's not about grip. In my mind, this premise of going five seconds a lap faster has no basis in entertainment at all. **PW**: So where *did* it come from?

PW: So where *did* it come from? **PS**: I know it came from Bernie and through the Strategy Group. He felt affronted, initially, that a 17-year-old [Max Verstappen] could get into a Formula 1 car and drive it. I actually think the opposite. I think it's great that a 17-year-old can get in and drive a Formula 1 car. If you want to attract a younger audience, you need younger drivers. The feeling was that if they were five seconds a lap quicker, they would be that much more difficult to drive and a young driver wouldn't be able to do it. Facts don't really come into these suppositions that are made. One of the things that has come in to spoil the racing in recent years is this requirement to look after the tyres and the fact they are very unforgiving in a thermal sense.

Last year a number of people, including myself, got involved in writing a wish-list for Pirelli. We specified what the degradation should be, what the step between each compound should be – but above all, we felt the tyres should

be less thermally sensitive. Of course if you overheat them you will lose performance. That's been the case with visco-elastic materials since day one. We're sitting in the Michelin building from many years ago and I'm sure that back when they were selling tyres, they behaved in exactly the same way but not to the extreme we've seen in F1 tyres in recent years. There is evidence that degradation is lower than it has been and they are a little more forgiving in a thermal sense. MB: I'm really excited to hear that. My concern though, Peter, is when I think back to my commentary box for the past three seasons, most of what we've had to talk about has been Hamilton versus Rosberg which we've no longer got. And also the high-deg tyres. If they put a set

of tyres on that did the whole race, I'd be concerned about what we'd talk about — unless the racing turns out to be absolutely brilliant. For me, the whole litmus test of this exercise and, dare I say, the gamble of the 2017 cars, is: will they be able to follow each other? If they can, we are going to see some exciting races and some red-faced, breathless drivers. Imagine Singapore; I heard someone say that it might be as much as 7-10 seconds a lap faster around there. But if they can't follow one another...

PW: Well, I was about to say, they might be able to follow each other but not be able to overtake because, as you said, the cars are wider, so there's less road. Stopping distances will be shorter and cornering speeds will be higher.



MB: Mistakes will be fewer.

PW: But Pat, to go back to you and the premise of the new regulations, 'let's have more overtaking' was dumbed down this time, whereas it was a big deal in the last shake-up. This time it seems it's more about making the cars quicker. How much talk has there been about 'let's have more overtaking?'

PS: The starting point for these regulations had no mention of overtaking or closeness of racing or anything like that.

MB: Has anyone got a handkerchief because I'd like to have a little cry at this point...

PS: It just started with this one statement. A statement like that people *should* challenge. But it's been followed blindly and these things should be thought through

a lot more carefully than they have been in the past. I hope in the future that is going to be the case, but I'm afraid the mechanism by which the 2017 regulations arrived was flawed from the outset.

MB: I've often thought the answer was right under our noses and is called 'GP2'. They turn up threewide, nose-to-tail, sometimes one of them backwards. Simple front wing, venturi channel underneath and they stick to the track like sportscars and can follow other cars because the downforce is generated by the car and the racetrack, not by the free air going over the top of it. Yet with the new front wings in F1, they are only going to fail in the hot, dirty air of the car in front. I just don't understand why we haven't gone the GP2 route to save costs.

PS: I think the trouble is, I respect your experience, and you've driven cars like that – but the physical elements aren't really there.

MB: Have we tried it?

PS: Yeah, we have. When I was part of the Overtaking Working Group, that was looked at and the evidence wasn't there. The trouble was, it wasn't looked at in enough detail. Once again the teams were involved and we need to take this out of their hands. Coming to your GP2 point, they *do* have good races. One of the things there is incentive. The GP2 drivers want to win...

MB: Last-chance saloon for them. PS: Yes, very much so. Whereas in Formula 1 it's all become a bit cautious when it comes to risk-taking. And you've got the reverse grids in GP2 – they certainly work.

RED BULL: BACK TO THE TOP?

JR: So will the new regs shake up the competitive order this year? Will we see Red Bull challenge Mercedes - will it be Dan Ricciardo versus Max Verstappen fighting for the world championship this year? PW: I think we will. I think Red Bull will be very competitive this year, not because of the new regulations but because the Renault engine will not be far off the Mercedes now. There are no more tokens, so if they wanted to have a dramatic upgrade they could do it without a problem. I'd be surprised if, between them, we don't see Dan and Max win





five races, which means it'll be a close championship if you also factor in Ferrari winning a race or two. JR: Martin, you know Christian Horner well; how will he handle Max and Dan?

MB: I think he'll handle them fine. They have a different contractual position than, say, a champion being parachuted into a team. Both have come up through the same system and they know if they don't do well they'll be replaced. I think it'll get very aggressive; Max will keep learning and moving forward so Daniel will have his hands full. I think he has all the tools to cope with it, but he'll have to produce his best drives. I think the youngster will just dazzle next year.

We don't know yet if someone will 'do a Brawn' this year and find a magic solution - probably not. The new regs will scatter the pack because of those with greater resource; that will extend the gap between pole and last place. What will be fascinating will be the rate of development. It strikes me that this will be the toughest challenge ever for an F1 team, although Pat might say I'm talking rubbish. The obig teams will have the resource

to bring an update every race and so we might get an evolving championship over the year.

PS: All of the above, I think. It has every chance of mixing up the order, and I agree Red Bull will be the team at the front. Partly, as you said Peter, because the engine was pretty good last year and I think it'll improve further. We mustn't forget that Mercedes have lost a little bit of continuity and that is important. They've not only lost Nico Rosberg, but Paddy Lowe, [technical director], too. No one's irreplaceable, but continuity counts for a lot. New rules will spread the field. Some will get it right, some will get it wrong. I don't think there's a loophole like there was in 2009, but we'll see. I spent a long time looking and couldn't find one - but maybe someone else has.

I agree there will be an arms race this year, but this time there are restrictions on windtunnel time and CFD. In windtunnel terms, that's 65 runs per week and that does hinder your ability to develop. But I do see Red Bull as being the ones to beat this year, and Daniel has a good chance of getting the title while Max just needs to polish those edges.

MERCEDES: BOTTAS'S **BIG CHANCE**

JR: At Mercedes, Rosberg has quit the sport, Valtteri Bottas has moved from Williams to go up against Lewis Hamilton, You've worked closely with Valtteri, Pat - how will he get on this year?

PS: That's a really difficult question to answer. I think Valtteri is a very talented driver. It's great that he knows the Mercedes power unit because things like that count for something these days. That said, I think Lewis is in a class of his own and for Valtteri to go up against him in a team within which I suspect Lewis feels very comfortable is a lot to ask of anyone.

PW: What's more, Lewis will love being in a team where he doesn't have to worry about the other guy at all, in his own mind. Of course there will be times when Valtteri will win races if Lewis has a problem or an off day. Martin, I'm sure you'll agree, every racing driver likes the idea that the other guy isn't a problem for them mentally. He's only had that once before - with Heikki Kovalainen at McLaren.

MB: I think that's underestimating Valtteri somewhat.

PW: Well, it probably is, but he's had to contend with Nico Rosberg over the past three seasons and I don't think Valtteri is going to get as close to Lewis as Nico did. I think he'll be in a class of his own.

MB: I think he's hard to beat, whoever goes up against him. But as I always say, never underestimate anyone in motor racing as they'll always come up and surprise you. I think Valtteri has the speed and the calm head, but as an F1 driver you are in a spotlight and he's just moved under a brighter spotlight. If you're not in a front-running team, you can have a couple of weekends off the pace and no one really notices. In a championship-winning position, every lap is noted and you can't have an off day. That's the difference between the great and the merely good. If you're a flower under a spotlight you can either grow or wilt. Has Valtteri got the head to cope with it?

PS: One thing you can be sure of with Valtteri is that his work ethic is fantastic. At Williams he was in the factory every time he needed to be, and he did put in that effort. Yes, he had his off days, not many of them, but they were there. He is calm, he has that Nordic quietness, but we definitely saw in 2015, when



Ferrari were approaching him, that it was affecting him mentally; his concentration wasn't quite there. If he finds it difficult up against Lewis, that might happen again.

MB: Would any of you put Valtteri in your top five drivers in any season he's been on the grid?
PS: In 2014 I might have done.
There was some good overtaking from him there, too. Think of Silverstone, when he came through the field very well.

FERRARI: VETTEL UNDER PRESSURE

JR: Let's look at Sebastian Vettel — the pressure was building up last year. How will it play out this year? PS: I think that a lot is going to depend on how good the car is. I'm afraid that with a big shake up of the rules and the structure of Ferrari at the moment, they might drop down the field a little bit, so Sebastian is going to find it that much harder to cope with. We could well see a few more of those rants that are highly entertaining...

MB: I agree. When they put the car on the track and it's not on the pace, there are two things that will annoy him: his second year at Ferrari not being as strong as the first; and any time he's following a Red Bull – which is the car he stepped out of.

PW: Good point.

MB: If the Red Bulls turn up this year and he is struggling in sixth and sees politics and aggravation, then he'll try to get in a Mercedes, like Alonso, for 2018 presumably?

PS: One would assume so. **PW**: The difficult thing is that

signing a four-time champion isn't the same as when they signed Schumacher who was as hungry as a dog. All Michael wanted to do was work 24/7 with Ross Brawn and the boys. It's a completely different thing for Ferrari, and I think they were expecting him to come and work his magic - and of course there's no magic at all, it's all logic. MB: The first spark I saw in Sebastian for a long time was in Abu Dhabi. I know he was catching a pack held up by a slowing Lewis, but I thought I saw a bit of the old magic there. I don't get the moaning, groaning thing. When you lose your emotion inside the car,

you might as well just come back into the pits.

PS: I agree; you're always going to make mistakes. **PW**: I disagree. The more we have

of that, the better and the more it should be seen in public. Helmet throwing is great for television.

PS: Ah, that's a different thing. I think we want a show, but Martin's absolutely right: the minute you lose the calm, analytical side of driving a racing car, you are not going to go as quick.

MB: As soon as you get angry inside the car, you start going sideways and backwards; you start prodding the throttle and braking too late. All year he was on the radio saying "Get him out of my way!" Arrogance does not make a car go forwards. PW: I think if we had radio over the past 40 years of F1, we'd have a lot of racing drivers saying the same things. Sebastian is quite an emotional guy and I'm a fan and I'm not going to criticise him. PS: Don't get me wrong, I'm a fan too, but over my years of working with established, quality drivers, the most common thing I see is overdriving when everything is starting to get a bit desperate.

McLAREN: COULD ALONSO BE A FACTOR AGAIN?

JR: Switching to McLaren now and the resources they have, do you think Fernando Alonso will be in the mix this year?

PW: Well, McLaren versus Force India is an interesting battle. If McLaren can beat a Force India-Mercedes with Esteban Ocon and Sergio Pérez then they'll be having a very good year indeed. And I do think that they're capable of it. Honda, like Renault, are getting better all the time. Hopefully the engine will *sound* a lot better than it ever has.

Stoffel Vandoorne is part of the future of Formula 1. Potentially you can see Stoffel versus Max Verstappen as a new Senna/ Prost era. He's incredibly good and it'll be interesting to see how Fernando reacts to Stoffel, bearing in mind how he responded to Lewis Hamilton back in 2007.

I guess Fernando has mellowed a little bit. He's still very quick, and at the back end of last year he was



"To keep continuity, Williams' only option was to bring back Felipe. He didn't want to retire, but in mid-2016 they couldn't afford to keep him"

> Massa and Lowe return to Williams for 2017: Massa after a four-month break, and Lowe after an absence of 24 years and multiple championships won with both McLaren and Mercedes

WILLIAMS: **HOW FAR CAN LOWE GO?**

really, really good. So McLaren have a great driver line-up, no question about that. For me, it looks as if there isn't a clear delineation of engineering, but they have enough resources and money, which means, in theory, that they should be able to do a good job.

 $\ensuremath{\mathsf{MB}}\xspace$ I still think that they are a little bit concerned about what Honda are going to be able to give them. How will the aero be? I think there will be a lot of transitioning and restructuring, so we might have to give them a bit longer yet, but they are certainly on their way back. Will they start challenging Williams and begin fighting for regular podiums? I agree with Peter; if they beat Force India it will be a good step forward. They're already convinced that if they had full power they could have won at Spa last year.

PS: Having been able to study the data in some depth last year, I believe it's true to say their chassis was pretty damn good by the end of the year and I could see what they were losing on the straights. If Honda do make that step forward then they could be competitive but that's only if we're developing from last year. And, of course, we're not; we've got a new set of rules.

JR: Peter, you've spoken to your old friend Paddy Lowe. So what can we expect from Williams this year? PW: With respect to Pat, it can only be a good thing for Paddy and the team that Paddy's going back to Williams. Paddy is very good with people; he's good at identifying the right person for the right job. Very low ego, just keen to be part of the racing package and, like Pat, he's an engineer who's interested in much more than just engineering. He's interested in drivers, mechanics, sponsorship, truckies, catering, livery: he loves the whole thing. PS: When I left I hoped there would be a safe pair of hands to take over, and in Paddy there is just that. MB: Why did Paddy leave Mercedes? PW: I don't think he did leave Mercedes, I think Mercedes left him. He had a contract that expired at the end of 2016 and he was keen to continue and discuss the renewal of the contract, but the discussions never happened. He got the message that once they'd signed James Allison his time was up there. The question is why. If you've got a good thing in racing, don't change it. I'm guessing now, but I suppose there wasn't room for two

people at the top to share the glory.

MB: Yeah, there would be a bit of that, I imagine.

PW: I think you'll probably see Toto Wolff on the pitwall this year. MB: Just Niki Lauda to go then, is what you're saying?

PW: I discovered the other day that when there was a bit of movement going on at Ferrari, Toto did a crash course in Italian, too...

MB: He's very ambitious, he's done well for himself.

PW: It will be interesting to see how Toto works with Liberty and everything that's going on there. JR: Pat, can I ask you about Williams? You left at the end of last year and so did Felipe Massa - but now he's on his way back.

PS: He is indeed. That's why you should never say never. We talked about continuity earlier and when I was there I was adamant that when we crossed into a new set of regulations it was important to stabilise everything else. In an ideal world I would have kept both drivers, but budgets at the time were not there to sustain that. Williams needed to at least keep Valtteri and that didn't happen. To keep some continuity, the only option was to bring back Felipe. I think you've got to remember that

Felipe didn't really want to retire, but in mid-2016 they couldn't afford to keep him.

MB: It sends out a bad signal from Williams to let Valtteri go. They should have kept him. Is everything for sale? In my mind, a Williams line-up is Mansell and Piquet or Prost and Hill. I saw a comment saying they felt uncomfortable asking him to come back, which I thought was a strange thing to say. Knowing Felipe as I do, he would have planned to do other things, but it's nice to see him back.

Felipe Massa and Lance Stroll. That's not where Williams should be. I don't know how much money they got out of it - as there is money coming in from Stroll. Give him a chance I say. I don't care what money is behind him, the stopwatch and the points table won't lie. Let's see what he's got before we judge him. But it doesn't feel like Williams have ambition. PW: Compare that with Vijay Mallya, who seems like the ultimate rent-a-driver man, but actually asks his engineers to go out and find the best young drivers they can get and they came back with Esteban Ocon. In that context, Massa-Stroll

doesn't look strong. >

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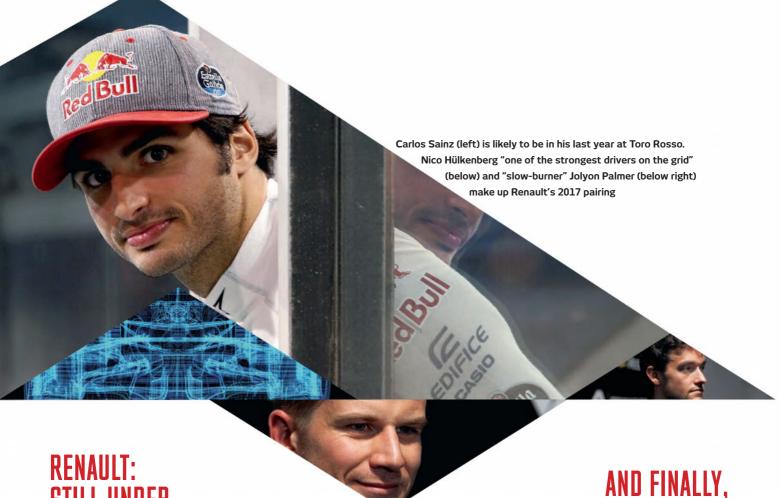
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STILL UNDER CONSTRUCTION

JR: Pat, one of your former teams, Renault, are looking stronger... PS: And they're employing a lot of new people, too. Nico Hülkenberg is a really good driver who will capture the public's imagination. The team are still rebuilding and I don't expect them to work miracles in a short space of time, but I hope to see them improving this year. MB: Hülkenberg is one of the strongest drivers on the grid, but he's underperformed in terms of his potential quite dramatically. He needs managing but now Frédéric Vasseur has gone, who will help direct Nico to deliver what he's capable of? Which is more than having his pants taken down by Pérez again, like last year. Nico has a lot of latent potential. PW: Why has Vasseur gone? He believed in Nico, and it would have been a good thing for Nico to be working with Frédéric. It's got to be bad news for Nico that he's left. MB: Jolyon's a slow burner, I've watched him in karting, T Cars,

"Personally, I'd like to see Carlos Sainz in the Williams this year, he's the one guy who would have brought that team to life"

TORO ROSSO: SAINZ IN THE **SPOTLIGHT**

JR: We're on the Fulham Road just a couple of blocks from Carlos Sainz's London apartment. What are your thoughts, Peter, on his season with Toro Rosso this year?

PW: Personally, I'd like to see Carlos Sainz in the Williams this year, he's the one guy who would have brought that team to life. He's got a lot of personality, he's good in the wet, throws the car around, and is good on cold tyres. He started eliminating mistakes last year and developed a lot, but maybe he's

reached a plateau. I think Daniil Kvyat is potentially quicker over one lap, he's more linear and keeps the car flatter, but again it's been a tough year for him. I'm sure Williams would love either of them. PS: Carlos is a huge talent and a thoroughly nice individual as well. PW: As is his dad.

MB: He's a winner like his dad. PS: They came to talk to me at Williams a while ago and I was so impressed. Senior has always been a bit of a hero of mine, but Junior is such a great guy as well and he showed last year what a good driver he is. I think it will be his last year at Toro Rosso, and I hope someone realises that latent talent and picks him up for the following year.

PS: Daniel Ricciardo.

WE PREDICT

world champion?

JR: Final question: who do you

think will finish the year as the

MB: Lewis Hamilton.

PW: I thought you'd both say Lewis Hamilton and I was going to say Daniel Ricciardo, but Pat's stolen my thunder. I'll say Dan, too. @

An extended version of this interview, in which the trio give more detailed answers, as well as their thoughts about the sport's new owners - Liberty Media - and the future direction Formula 1 should take, is now available as a special F1 Racing audio download. Check the Autosport podcast channel on iTunes. Our thanks also go to the Bibendum restaurant on the Fulham Road, London, for their kind hospitality.

Palmer Audi and GP2. In his second

year he'll keep improving, but

he'll have his work cut out to



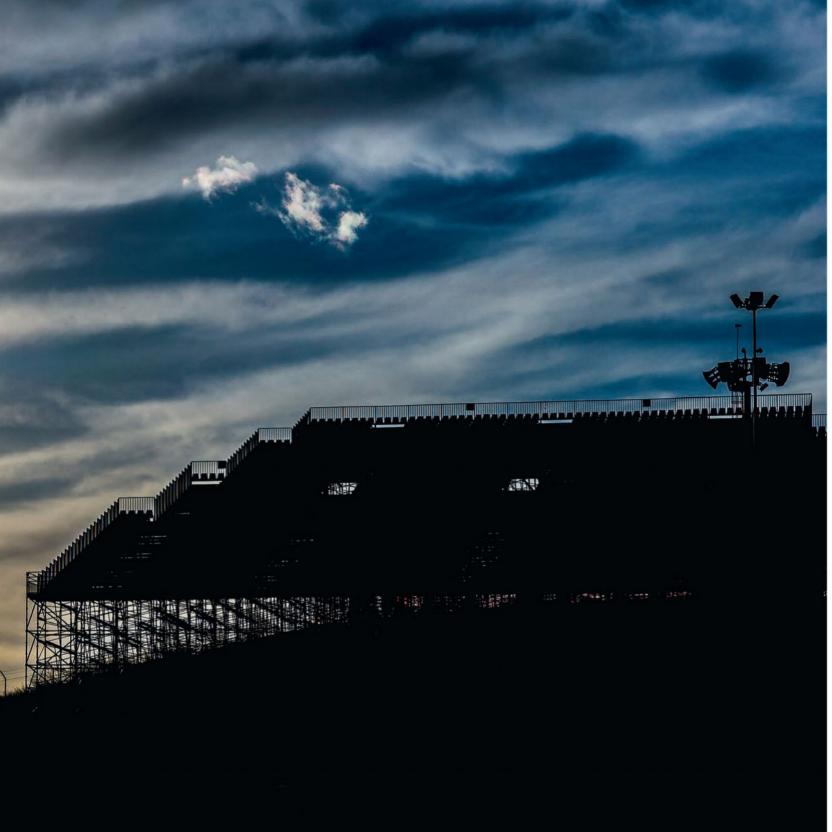
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They say a week is a long time in politics, but running new cars over the four days of the first F1 test had its own challenges...

ANEWDAWN









III HAAS REVEAL THE VF-17

The first morning of pre-season testing is typically characterised by a flurry of launches, but this year only the Haas team revealed their new challenger on the opening day

02 HULK'S NEW HOME

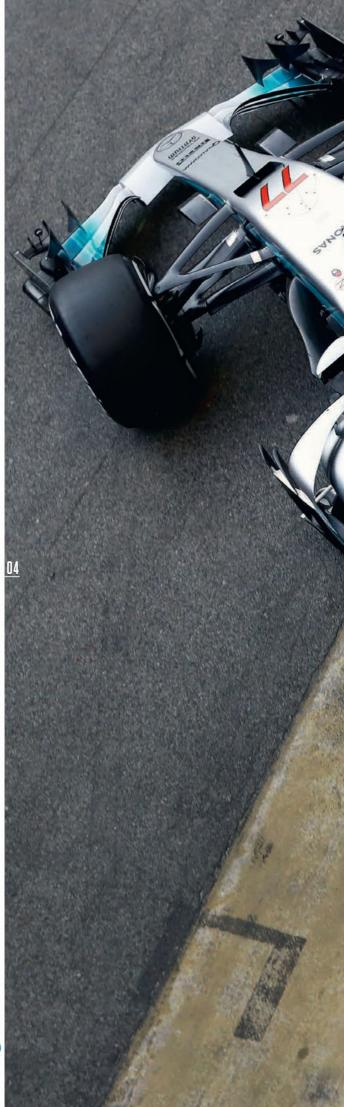
Nico Hülkenberg completed 57 laps on day one of testing in Barcelona, but the FIA took a closer look at the rear wing of the R.S.17 and asked Renault to make modifications

03 FERNANDO'S FURY

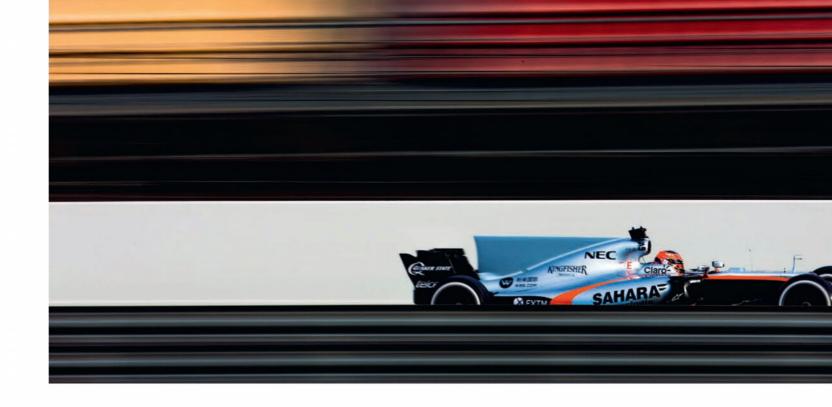
There was an air of disbelief when Honda struck trouble on the very first morning. Alonso was unhappy to be sidelined when problems were discovered with the new Honda PU

04 BOTTAS'S MERC DEBUT

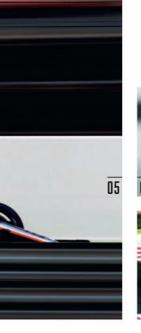
Nico Rosberg's replacement, Valtteri Bottas, admitted that swapping from Williams to world champions Mercedes over the winter was a "bigger thing" than he'd expected















05 DYNAMIC AERO KITS

A brand new set of regulations has led to some innovative solutions. This year, cars have sprouted T-wings and shark fins, the latter looking very ungainly on the Force India VJM10

06 MR BRAWN, I PRESUME?

In case you missed it, Formula 1 has new owners. As part of Liberty Media's shake-up, former team boss Ross Brawn has been appointed F1's managing director of motorsport

07 TORO ROSSO REVAMP

Toro Rosso get fresh livery for 2017 along with a similar approach in front suspension to the Mercedes. The raised wishbones free up airflow around the chassis

08 DECENT MILEAGE

It was a trouble-free first test for Ferrari. Sebastian Vettel and Kimi Räikkönen ended up with the second and third fastest times, having completed a total of 468 laps





09 STROLL'S TOUGH START

It was an inauspicious public debut for 18-year-old rookie Lance Stroll. He spun a number of times and that, combined with a lack of spare parts, curtailed his running in the Williams

10 DODGY PAINT JOB

In an attempt to understand the flow structures around their cars, teams coat their new aero appendages in fluorescent paint and monitor the direction in which the streaks travel

11 HELLO STRANGER

He quit the sport last November after winning the world championship, but Nico Rosberg couldn't resist a return to take advantage of F1's newly relaxed rules on social media usage

12 QUIETLY BULLISH

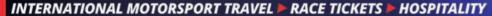
Red Bull's initial running was first thwarted by battery, then exhaust problems, but Daniel Ricciardo and his team-mate Max Verstappen start 2017 as true title contenders







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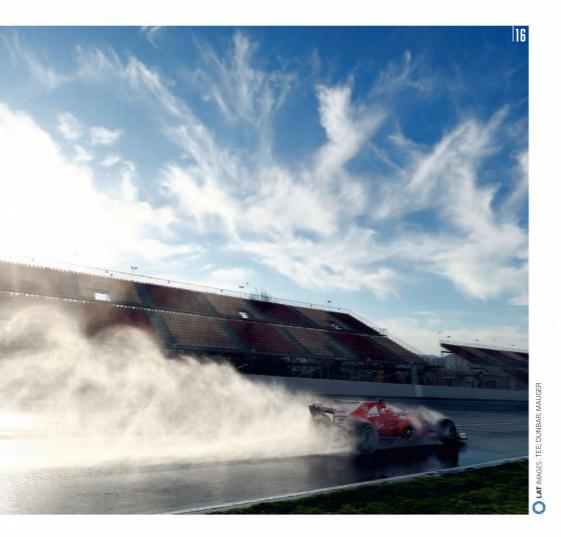












13 MORE WOE FOR HONDA

As the week wore on, there was more trouble for Honda. McLaren had completed fewer miles than any other team bar Toro Rosso and were slowest of all through the speed traps

14 I'LL GET MY COAT

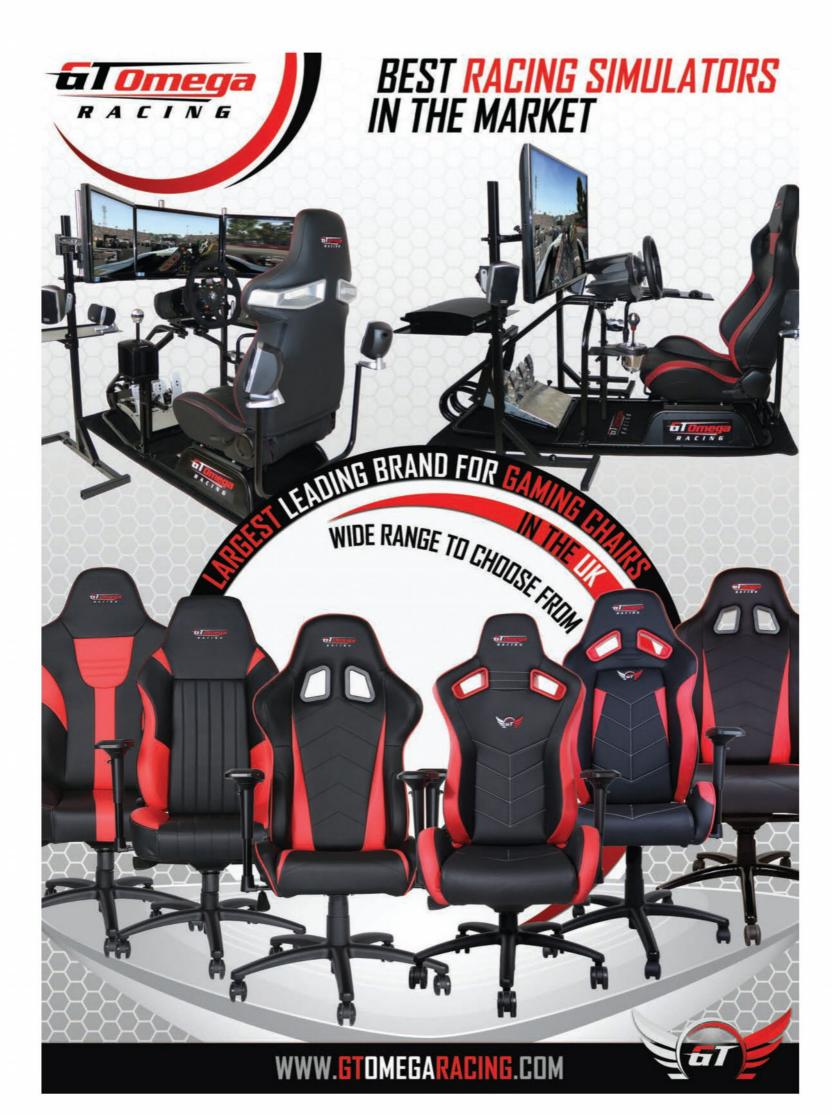
Team boss Gene Haas flew to Barcelona straight from Daytona, sporting a special victory jacket in honour of his team's NASCAR win in The Great American Race

15 SAUBER'S STAND-IN

Ferrari's reserve driver Antonio Giovinazzi was called upon to standin for the injured Pascal Wehrlein at Sauber. The Italian is pictured here testing the full-wet weather tyre

16 LITTLE RED ROOSTER TAILS

On the final day of the first test, the track was artificially soaked to allow Pirelli to run their intermediate and wet-weather rubber. Kimi Räikkönen finished the day quickest ②



INTERVIE

That fourth world title slipped through his fingers during a mixed-up 2016 season, but Britain's most successful F1 superstar is serene as he heads towards his 11th season in the sport. A three-point philosophy taught by a much-missed mentor guides Lewis along a path between intense work and a life most of us can barely imagine. Forget the title blow: he's in a great place right now - and on track, he's still as hungry as he's ever been

HS IS LÉWIS







F1 Racing is granted a slice of Lewis's carefully measured-out time



ewis is in a good mood: happy and relaxed. Neither the intensity of a punishing grand prix schedule, nor the fact that the world title has slipped away from him, shows on his brow. He's able to mentally compartmentalise the many aspects of his life, and so socialising does not affect his training. The late-night recording studio sessions don't impose upon that moment he pulls down his visor and nails the throttle out of the pitlane. All the facets of his complex character fuse together in harmony.

The teacher who helped him focus his mind was the late Dr Aki Hintsa, the former McLaren doctor whose philosophy has been adopted by a number of F1 champions across the grid. Central to his teachings were three key questions: do you know who you *really* are? Do you know where you are going? And are you in control of your life? As you'll discover in this forthright interview, the answer for Lewis Hamilton in all three cases is a definitive "yes".

When he's at a grand prix, Lewis's paddock life is ruthlessly focused. Here he must perform at the maximum, on the limit. Each day is filled with meetings with engineers, TV crews, corporate guests, trainers, nutritionists, PR officers and team principals. The hours are divided into minutes and everything runs to the second. Bang on our allocated timeslot, Lewis marches over and offers his trademark firm handshake. He's on duty, but relaxed, wearing frayed grey jeans and a crisp white top – golden medallion cross on show.

Last year was challenging. There was misfortune with his power unit and finger trouble with his starts, but he still had the pace to notch up 12 poles and ten wins and force his teammate to fight for the title right to the final corner of the final race. And only then did Nico Rosberg win – by just five points.

F1 Racing: As far as the on-track performances are concerned, 2016 wasn't too shabby, was it?

LH: It wasn't a spectacular year to be honest, which is kinda crazy when you see that I had so many wins. It was still a successful year for the team in that we won the constructors'

championship again, but 2016 was not the greatest year for me with the drivers' championship and my starts. But it has been a year of growth. I'm still fighting; still pushing.

F1R: It could have been so different if you hadn't had the engine blow-up in Malaysia, which clearly affected you. And there was heartbreak and frustration when you got to Suzuka a week later. [An irate Lewis had stormed out of a media

briefing with journalists on Saturday evening, and this was

followed by a poor start on race day.]

LH: Yeah, absolutely. It was a very trying year and one of the most challenging years for me on a personal level with things weighing heavy on my heart. I think people take for granted that we're wealthy and successful and make lots of money and that it's easy, but they don't realise how hard we work.

It doesn't matter how much money you make; it doesn't mean that you don't work hard. Our engineers work incredibly hard and the weekends are the most intense - 20 incredible weekends. Formula 1 is just so technical now that you need to be...

He pauses, searching for the right turn of phrase...

F1R: On it?

LH: On it. On it. On it. Mentally *and* physically, so yeah, 2016 was up and down, but I'm glad I'm strong enough to bounce back from lots of different scenarios and I take those strengths and those positives from race to race. I genuinely leave the negatives behind and just take the positives.

It's a familiar phrase that Lewis uses. Back in Sochi last May, F1 Racing was working on a story about why it's wrong to hate this man. We reflected on the taunting and abuse he gets from so-called 'haters' on social media and asked him about his reaction to the hostility he receives. His answer? "I just see the positives from it, not the negative side." It's all about not worrying about those things you can't control, but focusing on what makes you stronger. What gives



THE Long Interview

you energy. His faith. And, of course, his talent. It's that combination of ability and fortitude that could enable Lewis to become, statistically, the greatest F1 driver of all time.

F1R: You have this relentless charge, and now you've eclipsed Alain Prost's tally of 51 race wins. Is there anything stopping you from reaching, and beating, Michael Schumacher's haul of 91 grand prix victories?

LH: It's kinda crazy to think. I arrive at a track and forget those things. I forget the podiums or the wins that I have. It's only when people remind me. Last year I was saying: "I can't believe I have 51 wins" [placing him level with Prost] and I



Lewis is in a reflective mood as he considers his faith, the past, the importance of living in the moment, and the future: "I don't know, you don't know, we don't know when it's our last day here. You hope it will be a long time off, but you could be gone like that"

also can't believe Michael had 91! Fifty-one, 91 – it's still a long, long way away. I don't know if I'll ever get to that. Jeez.

Last summer, F1 Racing had a rare chance to see Lewis outside the confines of his working zone. We joined him on a two-day visit to the Caribbean, where he spent time racing a variety of machinery at the Barbados Festival of Speed. That included driving a kart in the wet, something he hadn't done for years. His good friend, and former British F3 champ, Marc Hynes, remarked at the time: "I've never seen him so happy." In the Caribbean, Lewis is able to be himself. He isn't criticised for what he wears or how he behaves. It's very different to the conservative environment of an F1 paddock.

F1R: You were super-relaxed and very happy when we saw you over in Barbados last year...

LH: [Blank look] Oh, I thought you meant carnival! Yes, at the Festival of Speed. The atmosphere is totally different to a grand prix. People forget how big and influential the islands

are. It's humbling when I go back there, and it's cool to represent such a large group of people. And even if they don't like me, they just say: "He's from the islands so I've got to support him."

F1R: Do you find that F1 and the paddock environment is too conservative, too establishment, sometimes?

LH: Yes, and unfortunately it hasn't changed over time. Hopefully, with the new owners, in the next few years they'll bring new blood and new ideas into it. When you have a company... I've watched movies, I've read about companies, I know friends in businesses and when the head of a company isn't doing a job – another one comes in. Or if an engineer isn't doing a good job, another one comes in. It's the same with drivers. But in Formula 1 all those people at the top have been the same for the past 50 fucking years! [laughs]

Who's he referring to? Who from the 1960s is still around today? Ron Dennis, Jackie Stewart, Bernie Ecclestone, the former FIA president Max Mosley? The establishment?



"LAST YEAR I WAS SAYING: 'I CAN'T BELIEVE I HAVE 51 WINS' AND I ALSO CAN'T BELIEVE MICHAEL HAD 91! FIFTY-ONE, 91 - IT'S STILL A LONG, LONG WAY AWAY. I DON'T KNOW IF I'LL EVER GET TO THAT. JEEZ."



LH: The ideas and approach have been the same and all of us, in our lives, we don't welcome change. I know my elders don't. My parents and aunties are less open to change. They say: "This is how we do it and this is how we've always done it." I hope the new owners bring fresh ideas and make it more accessible for fans. That will make F1 even greater.

This question of the establishment also came up in a story we heard him tell in Barbados. It was the time he and his dad rocked up at a kart track and immediately got people's attention. He said it was like the scene in the 1993 movie Cool Runnings, when the Jamaican bobsleigh team appear with a rusty old sleigh to the shock of the elite European runners, and everyone turns around to ask what they are doing here...

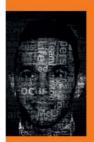
LH: I tell you, it really, really was like that. I laugh because it was *just* like that. We had a Vauxhall Cavalier that my dad took so much pride in and all that pride went out the window when we started racing. It's crazy. It's like taking care of a car,

and then you have kids and there's suddenly shite and food all over the car – you care less because your priorities have shifted. We'd turn up with a kart in the back. It was scruffy, we didn't have any money – we pulled it out of the back and everyone was looking at us. I swear on my life, everyone was thinking: "What the hell are these people doing here?" And who would have known that out of all of them, week in, week out, I would be the one who turned up here in Formula 1.

God-given talent aside, that's what hard work, discipline and training bring you. And when you've come from nothing, had no money, and you've worked your life to achieve your goals, you can enjoy the riches of your success. And that's what we see Lewis doing through the prism of social media: Ski-Doo racing in the Colorado snow; holidaying on the beach in Mexico with his dogs Roscoe and Coco; hitting golf balls off the top of a mountain in New Zealand; flying to races in his red Challenger jet. Every day Lewis maximises his life, enjoying the time his faith has given him.



Lewis in his office. He says he is always "on it, on it, on it, on it." But he knows there is a life beyond F1, and one he can't wait to embrace. But he's not ready to step away just yet



"I CAN'T WAIT TO HAVE A FAMILY, BUT I CAN. I CAN'T WAIT FOR THAT NEXT CHAPTER IN MY LIFE, BUT I CAN. I DON'T WANT IT TO RUSH BY"

F1R: We see you travelling the world, recording music, going from one event to the next. What haven't you done yet? LH: [His eyes light up] Loads of things! I'm sure most people would be dreading the end of their careers, but I'm actually excited. It's like when you have kids, you can't wait, but you can wait. Do you know what I mean? I'm like that every day. I can't wait to have a family, but I can. I can't wait for that next chapter in my life, but I can. I don't want it to rush by.

I've had friends who passed away, and I've met kids who never made their sixth, tenth or 15th birthday, and they never got to kiss a girl or go on a plane. I've met people from so many different walks of life and I count my blessings every





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Adored by his supporters, with more than 4 million Twitter followers, Lewis hopes F1's new owners will make the sport even more accessible to its fans



single day that I'm so, so, fortunate. I wasn't born with any disabilities, I was given the opportunity to do what I love, to travel. I make the money to do whatever I want - and I can't believe it. I want to make sure I don't squander that.

My family worked so hard; when I get in the car, I do it for them. I can never pay them back enough. Every time I get in the car I'm representing my cousins and aunties.

He knows who he is.

I'm trying to experience as much as I can. There is so much I want to do and not enough time. That's why I'm always on my phone. I'm planning all the time. Right now, my whole schedule for the next ten weeks is already set.

He's in control of his life.

I'm travelling like crazy all the way, in different countries all the time. There are things I still want to do. Countries I've not been to. I'm trying to learn the piano, I want to learn a language - it's on the list of things I want to do. I want to be able to speak fluently to a... [inaudible]

F1R: A what?

LH: A woman [laughs]! I want to read more; there are so many things. There are things I can do in my time now, which I'm doing, and things I can't do. I have two lists - things I can do that won't distract me in my job; and things that go on the second list for the next chapter.

He knows where he's going.

I love discovering what those things are and I love living the life that I have. I don't know, you don't know, we don't know when it's our last day here. You hope it will be a long time off, but you could be gone like that. The most important thing is that you've made as many great memories as you can with all the people that you love.

His faith.

Alas, time prevents us from continuing. Waiting for their slot with Lewis at the next table is another journalist, another TV crew, another photographer. Ahead of him are more questions about the lost championship; his teammate; the new tyres. But, for this brief window, we have got to find out how Lewis thinks - how he operates.

His formative years were all about making that first big step and getting into F1. And now he's spent ten years in the sport. He knows what it is he wants to do in his life after F1, but, unlike his former team-mate, Nico Rosberg, you wouldn't expect him to stop anytime soon. Despite the establishment, the politics, the media and the 'haters' - a force within keeps driving him forward. He lives for that moment when the five red lights go out and he blasts away from the line - to lead the pack into the first corner. It's win number 41, 51... 91? And, perhaps, another title. These are the things that make Lewis Hamilton truly happy. 0

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Traffic duty at rush hour next to the Colosseum in Rome would be preferable to this – or maybe even herding sheep in the depths of rural Tuscany. But for one day every year, a few police officers in Maranello draw the short straw and are sent to the flyover at Via Abetone Inferiore, just down the road from the iconic Ferrari factory gates. The only consolation is that it's close enough for a lunch break at the equally legendary Montana restaurant, which is so full of memorabilia that it's more redolent of Räikkönen than ravioli these days.

There's a great view of the Fiorano test track from the flyover – and that's the problem for these bold officers of the law. Every time a new Ferrari F1 car runs, the tifosi gather at the bridge like supplicants at communion, ready to show their support and divine the prospects for the season ahead.

Unfortunately, it's not only the tifosi who want a piece of that bridge. Via Abetone Inferiore is one of the main access roads into Maranello, so joining them is the usual caravan of trucks thundering to and from the local industrial estates, overloaded Fiat Pandas on the school run, boy racers with their go-faster Puntos, and – this being Maranello – the occasional man-racer in a Ferrari as well. Not to mention, shortly after we arrived, a carload of nuns in an ancient Renault 4. In short, it's a true Italian job of eclectic traffic chaos.

All the ingredients are in place for the Montana to add squashed tifoso to their Ferrari-inspired menu if there's even the slightest mishap. And that's why the beleaguered police force scurry up and down the bridge all morning in a futile attempt to keep the faithful behind the white line that demarcates road from gutter (there's no pavement) and save them from themselves.

It's not just the several hundred spectators that's the problem *per se*. It's the fact that they bring ladders, zoom lenses, collapsible kitchen chairs, tree-climbing equipment: anything that might help them get a better perspective on *la rossa* breaking cover for the first time.

Even though the SF70H is not scheduled to emerge until mid-morning at the earliest (so, realistically, close to lunchtime...), by breakfast the crowds are already gathering to secure the best spot. En route, many will have passed through the Maranello Café

close to Ferrari's main entrance: a temple to the Prancing Horse, with dark velvety espresso and, for those determined to keep the winter chill resolutely at bay, industrial-strength grappa. Plastered over the walls are photos of Ferraris past and present, as well as people who have been associated with them. Including, somewhat incongruously, Pope John Paul II in a Ferrari Mondial.

The conversation at the bar is all about when the new F1 car will run.

"I've heard it won't run at all," says one regular, gloomily. "It's already on its way to Barcelona for testing; that's when they'll run it for the first time."

"No, no: it will run, it will run," says the bar owner sagely — and correctly, as it turns out. "What it's going to be like? I have no idea. But it will run. The drivers wouldn't miss this opportunity." From outside, two old men keep watch on Via Abetone, surveying the comings and goings over the tops of their newspapers, lost in their thoughts of what is (maybe) to come and a haze of cigarette smoke.

Just before 11:30, Kimi Räikkönen finally breaks the silence that has settled over the bridge. But, as it turns out, the SF70H is relatively quiet. So quiet that there's an audible collective intake of breath as the new car comes out for the first time, followed by noisy recriminations as people jostle for the best view. The sound of the turbo hybrid is almost drowned out as a policewoman furiously blows a whistle, outraged by the crowd's mass refusal to accept the authority of the white line. All that matters to them though, at this moment, is seeing the car in which their hopes and dreams will be carried for the next nine months.

It's fair to say that the initial reception from the tifosi is slightly muted. They set great store by aesthetics and, as one fan points out: "It's not a beautiful car – to me anyway. But if it wins, then that won't matter. It will become beautiful later."

Those who haven't been able to secure a prime spot on the bridge have gathered in other places at the perimeter of the two-mile Fiorano circuit. In a laughably optimistic attempt at keeping out prying eyes, the wire fences forming the boundary to the track have been lined with a type of nylon webbing. This now has more holes in it than a Swiss cheese. And those who haven't





From the jostling crowds on the flyover, to the patrons of the local cafés and restaurants, all eyes are on the red cars























FFVFR





Being a tifoso is a serious business: you need the passion and the commitment. You also need the red wigs and the flags...

come equipped with a penknife have instead brought ladders, or even their own cars to stand on. You quickly learn that there are no secrets in Maranello, certainly as far as Ferrari are concerned.

One place where no new car can hide is the small hairpin about halfway along the Fiorano lap. If you walk down from the bridge where the crowds gather, through the underpass, and turn left into a ceramics factory car park, dodging the broken tiles, you'll reach a field owned by Ferrari that takes you up to the wall next to the slowest part of the track. Here you can get within a few metres of the cars: it's far better access than any tifoso would enjoy at a grand prix.

And that's why those who make a day of it come here whenever a new car runs. There's enough room to build a grandstand and a barbecue (actually, it's more of a pop-up restaurant) without the risk of being mown down by a passing lorry or feeling the weight of law enforcement. There's an impossibly elegant Ferrari security guard in attendance, but he seems to have turned up mostly for a smoke and a chat.

The tifosi start early: in every sense, as the ample reserves of empty bottles and cans prove. This is an all-day party to which everybody is welcome. Here, fans come from all over, but there's been one particularly loyal group of tifosi from Verona, led by the ebullient Lucio - the proud owner of a Villeneuve-era flag and an elaborate dreadlocked wig - who have made this field their second home. They've been coming here since the Schumacher glory years, and it's interesting that their loyalty still lies with the seven-time world champion. One of the many home-made banners they affix to their viewing platform simply reads: 'The one and only Schumi forever.' Even now.

"No, it's just not the same since those days," Lucio confirms. "In the past – the Schumi years I mean – you used to see a lot more tifosi here. You see this little platform we've made? In the past, for testing, it used to be four levels high. They won't let us do it now. Anyway: maybe our numbers are fewer, but our passion is the same. That's the main thing. Forza Ferrari!"

Lucio's affection for Schumacher partly stems from the fact that he witnessed his very first Ferrari outing, at the end of 1995 with the 412T2 – Maranello's last V12 F1 car.

"Not that many people knew about it, but my friend who worked in the factory over there, told me that something was going on at the track," he says. "So I came down and I saw Schumi in that fantastic car. He had allwhite overalls and a plain helmet, but it was definitely him. And that was the start of a fantastic story for Ferrari, and for us as well. Ever since, we always came down to see the new cars testing, although we haven't come here so much in recent years. That's because they've really cut down on testing in Fiorano and in general. It's a shame: testing is a great opportunity for the fans to get close to the drivers. And vice versa. Probably the people who make the rules don't realise that."

Lucio recalls the time when Felipe Massa ran out of fuel while testing at Fiorano. Rather than waiting for the breakdown truck, Felipe got out of the car, hurdled the fence, and came over to talk to them. It was a moment that was hugely appreciated, but it probably wouldn't happen anywhere other than Maranello. The tifosi, on the whole, are not a travelling tribe, with the exception of an annual trip to Monza.

"We've got jobs and families and it's more and more expensive now," explains another fan, Davide, staring wistfully through the fence. "Why would you go when you can see everything so well on TV, with your friends and family? But it's nice to see the cars and drivers for real from time to time, which is why I come down to have a look most years."

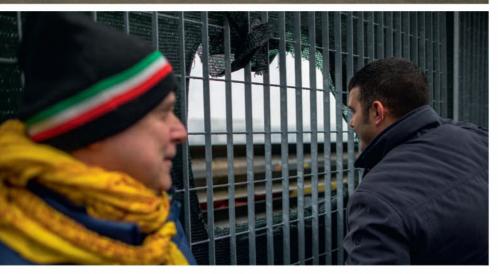
Not everyone is an established visitor. For Marco, resplendent in a red wig, this is his first trip for the pre-season shakedown. He was persuaded to come down by friends, but it's not taken him too long to enter fully into the spirit of things, just like a regular. As one of the younger members, he sees things with less of a rose-tinted (or should that be *rosso corsa*-tinted?) perspective.

"We support the team passionately but we also often give them a really hard time," he points out, reasonably. True enough; after the SF70H's first, obviously tentative, laps, one comedian shouted out: "Is that Sergio Marchionne driving?"

"Not even Schumacher won the title straight away with Ferrari," continues Marco. "So we need to be patient and give the drivers more time. This year will be interesting: everything changes and the car looks pretty good. What we want is some







Lunch is cooked over an ancient gas ring in the field backing onto Fiorano, while fans peer at the action through holes they've made in the nylon screening good results. It will be tough to win the championship, but if we see that we're on the right road that gives us hope for the future."

The initial roll-out of the SF70H gives little away, due to the cold and blustery conditions that prevail in central Italy at this time of year. So very soon it's time for lunch, which the tifosi enjoy in consummate style.

One of their number is a chef in Verona, and on his day off he's come down to Maranello to prepare lunch for the group. And not just for them: for the security guard, for the professional photographers documenting the occasion, and for anybody else who happens to wander past.

"We bring plenty of food and wine because we know we'll meet lots of people, and we need to look after them," explains Lucio, handing out plates and glasses. It's this generosity of spirit and spontaneous hospitality that mark out the tifosi as an extraordinary bunch, like no other F1 fans.

The chef has made gnocchi and tomato sauce, and pork roasted with rosemary; there's wine from Verona and home-made limoncello, as well as freshly-sliced salami as an *aperitivo*. It's even more delicious than anything the Montana could have come up with — and yet it's prepared in the middle of a misty field on an ageing gas ring. The chef says the main ingredient he puts into his food is love, and looking at this army of ragtag pilgrims who resolutely keep the faith after a decade of disappointment and always look out for their fellow enthusiasts, it's impossible not to savour every bite.

Elsewhere in Maranello, life goes on. There are the usual visitors to the museum, despite the drizzle, plus a few customers who have come to collect their purchases directly from the factory. Away from the immediate vicinity of Via Abetone, Maranello is a surprisingly unprepossessing place, with the low-rise industry and interminable afternoon closing typical of small-town Italy.

You wouldn't be able to tell that this was the birth of a new F1 era — or guess that it was a place of particular pilgrimage. Yet the tifosi still flock to that field and that bridge as they have always done, in the hope of witnessing the start of a miracle; their belief touchingly undiminished from year to year. Faith may not always move mountains, but it certainly moves the spirit in a way that no other team's fans ever will.



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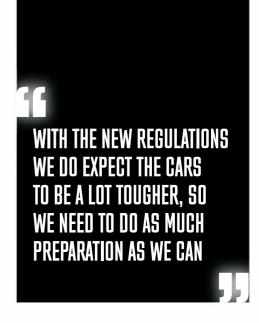
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Times are a-changing at McLaren. And a fresh-faced young Belgian is in the vanguard of a quiet revolution WORDS JAMES ROBERTS PORTRAITS BEN WRIGHT







new

new dawn breaks in

Woking. The bright winter sun floods through the lakeside windows at the McLaren Technology Centre, forming a pool of white light on the factory floor. Emerging into the warm rays is the team's fresh new hope, 24-year-old Stoffel Vandoorne, who has all the swagger of a man stepping up to a full-time race seat this year.

He takes up position next to McLaren's prestigious line of former GP machinery — silver Häkkinen title-winners and the iconic Marlboroliveried, fat-tyred behemoths of the 1980s. These cars are a reminder of the glory days.

The last occasion McLaren scooped a winner's trophy is receding ever further into the distance.

When Vandoorne and Fernando Alonso line up on the Australian Grand Prix starting grid, it will be four years and four months since Jenson Button triumphed at the 2012 Brazilian GP.

But in contrast to recent pre-seasons past, this winter there's a sense of optimism coursing through the grey corridors of the MTC. The glass-and-steel building, once the vision of Ron Dennis, is now minus its masterplanner, following a protracted boardroom scuffle. The welcome at the main gate and the relaxed mood among the workforce feels more human. There is less fear now the lurking spectre of Ron has disappeared from the factory floor.

Already this morning there have been two rare sightings of a bird, once considered extinct in these parts: the Kiwi. This native of New Zealand is the symbol used to represent the team by its founder Bruce McLaren – a 'Kiwi' himself, of course. There's more: the livery of the 2017 MCL32 is a throwback to the 1960s with a black and 'Tarocco orange' colourway. It's as if the team are no longer afraid to remember their illustrious past *pre-Ron*.

There has been a break from the cold facade of recent years. The day after our visit, a group of McLaren fans have a special invite to meet Vandoorne and one lucky winner has a golden ticket – their pass to the launch of the MCL32.

On this winter weekday morning, Vandoorne is at the MTC to spend a little more time on the simulator, to debrief with his engineers and to speak to select members of the press. He's sporting a bit of stubble, knowing there's no chance of a disapproving Ron insisting he shave.

Vandoorne's looking trim, although he has noticeably expanded in the neckline. That's thickened to cope with the additional cornering G-forces that will result from the significant downforce increase on the 2017 cars.

"It's something I've been working on," he says, adjusting his collar. "It's a very difficult muscle to train and, with the new regulations, we do expect the cars to be a lot tougher, so we need to do as much preparation as we can.

"Some of the high-speed corners will be flat this year, while the lower- and medium-speed turns will be much faster," he continues, enthused at the prospect of driving the quicker, new-generation F1 cars. "We won't know exactly until we start the season, and I don't know if they will be easier to race. The braking zones will be later, which won't be good for overtaking, but the cars will have more drag, so slipstreaming might be easier. We just don't know."

What we *do* know is that drivers need to be physically stronger to cope with the increased demands, and, at the time of our meeting, Stoffel

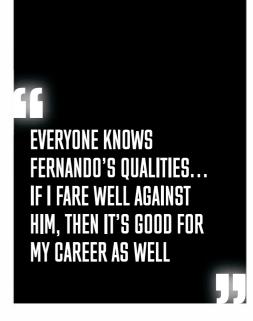
Vandoorne walks with F1R, past a line of former McLaren machinery at the MTC has already had two stints at training camps in the south of Spain. Two more were planned before testing. In Marbella, he has been working with his trainer, Mikey 'Muscles' Collier, Jenson Button's body guru of the past few

seasons. Either side of Christmas, the team have been running, working in the gym and cycling on 60-mile round trips in the Andalusian hills.

Training was sandwiched between a holiday in Bali and a spot of New Year surfing. During *F1 Racing's* photoshoot at the MTC, photographer Ben Wright looks up from her camera as Stoffel







talks about his trips away and asks if he misses his Belgian home? "Not really," he says, laughing.

Beneath us, deep within the bowels of the McLaren factory, unseen by prying eyes, work is continuing in secret on the new car. With Honda planning changes to the architecture of the power unit for 2017, there is genuine hope that with the resources McLaren now have, they can rise up through the grid and at least be 'best of the rest' behind Mercedes, Red Bull and Ferrari.

"The past two years have been pretty tough for us," says Stoffel. "But for Honda it's been a new project and during those two years we've made big progress. For 2017 I think we will take another step forward as Honda have a new design for the engine. Our aero department is pulling together strongly [led by ex-Red Bull man Peter Prodromou] and we're pretty happy with the gains we've found over the winter. However, it's very difficult to put that into context as we don't know what the other teams have done."

Lest we forget, Vandoorne is taking over Jenson Button's seat this year, and already has one grand prix start to his name. At the eleventh hour he was called in to replace Fernando Alonso in Bahrain last April, after the Spaniard sustained fractured ribs during his terrifying shunt at the Melbourne season-opener.

Having flown straight from Japan (where he'd been testing a Super Formula car), Vandoorne went to Sakhir and immediately impressed. In Q2 he was 0.064 seconds quicker than Button and started two places further up the grid than him. A day later, despite a cautious opening lap, he scooped a points finish with tenth place.

While Vandoorne is highly rated, he has one major hurdle to overcome in his first full year of F1: the indefatigable Fernando Alonso. So how *does* an incoming rookie deal with a team-mate who is a two-time champion and one of the fastest, most consistent drivers in Formula 1?

"Well, I know Fernando very well," says Stoffel. "I've been able to work with him for two years and see from the outside how he operates within the team. I think it's been very interesting to see how he pushes the team forward, how competitive he is, and how well he takes the maximum out of every situation. I'm looking forward to racing alongside him. Everyone knows Fernando's qualities and they also know that if I fare well against him, then it's good for my career as well. He has a lot of experience and he'll be a tough team-mate, but our main focus is to bring McLaren Honda back to the top."

Does facing Fernando give Stoffel sleepless nights, or does he have a plan to beat him? "All F1 drivers are quick and can do a quick lap time," he insists. "The difference is how you package your weekend, how you build up to qualifying and the race and being able to do that consistently, 20 weekends a year, not just once a year. That's where there's a difference — and that's the area on which I need to focus."

The last time Alonso had a raw rookie as a team-mate, it was Lewis Hamilton in 2007. And we all know how *that* story ended. But Stoffel is talented and McLaren are long overdue a competitive car. So as we enter a new era of F1, this could be their first step back to glory. \bigcirc



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G G RE

We take a numerical look at what 2017 has in store for us

The number of poles Lewis Hamilton needs to collect to become the all-time record holder

The number of laps that will be raced over the course of 2017

The age Kimi Räikkönen will reach, on 17 October 2017, making him the oldest driver on the grid this season

The number of days for which Felipe Massa was retired from F1

GRANDS PRIX

have been raced at the circuits on the 2017 calendar

SIXTY-EIGHT

The number of seasons for which the F1 world championship has run, having started in 1950

60 FRONT 80 REAR

The increase in millimetres in the size of F1 tyres

The number of years Sebastian Vettel will have spent in F1, as of 17 June 2017

245

The number of days between the first and last grands prix of the season

The number of world champions on the 2017 grid: Alonso, Hamilton, Räikkönen and Vettel

1,800MM

the span of the 2017 front wing

THREE

This will be the third season without a Number 1 on the grid

MIGHALES.

The distance in miles world champion team Mercedes in Brackley will travel to Australia and then on to every grand prix on the calendar, before returning to Brackley

2003

The last time a test took place at the Hungaroring, which is once again a venue for F1 testing in 2017

180%

of weekends in October feature an F1 Grand Prix

20KG

has been added to the maximum weight of a car



SHARPENING

How will Williams' rookie Lance Stroll cope with new-look Formula 1's faster and more physically demanding cars? By putting himself through hell...

> WORDS STUART CODLING PICTURES MALCOLM GRIFFITHS; WILLIAMS/UNILEVER

MANY PEOPLE FIND GYMNASIUMS DISAGREEABLE,

and, indeed, there are few more dispiriting sounds than the whine of treadmill rollers set to the rhythmic backbeat of feet clonk-clonking on the rolling road to nowhere. And yet Lance Stroll is grinning impishly as he warms up on one of these machines in the state-of-theart Williams fitness centre, taking in the vista of bucolic Oxfordshire countryside framed by the room's wide double-glazed windows.

We'll soon see whether he manages to keep smiling... F1 Racing has dropped by to see how Williams have been preparing their new charge, the 2016 Formula 3 European champion, for the rigours of competition in Formula 1. Faced with a panoply of unknowns, the all-new, wide-tyred, high-downforce tech formula is expected, at the time of writing, to slash lap times by more than four seconds, so Williams have left nothing to chance. While F1 fans have been counting down the days to lights-out on the Melbourne startline, Lance has spent the winter rehearsing the minutiae of a grand prix weekend and toughening up his body for the pummelling it's going to get in the cockpit.

In short, they've made him sweat, both mentally and physically. But while there's hard work involved, his coaching team seem affable enough — although clearly cut from 'drop-and-give-me-20' cloth. And it's all underpinned by science.

"The two disciplines are very different – the physical training and the mental training – but if you drew a Venn diagram of how they interact, there would be a small subset," says Rob Smedley, Williams' head of performance engineering. "What we put in place with Lance was a programme that addressed both. The easiest part for him was to work on his physical fitness, and we've worked very closely with his personal training crew to ensure that he's doing all of the right things."

That's involved bringing in the F1-experienced Hintsa Performance coach Ville Vihola, formerly Lewis Hamilton's personal trainer, to work with Stroll family fitness guru David Whiteman, who has been helping Lance since the beginning of his karting days. Watching Vihola and Whiteman work together to put Lance through his paces, it's clear – at the risk of adding

Stroll warms up on the treadmill (far right) before moving onto weights (right) that will condition his body without adding too much extra weight







complication to the aforementioned Venn diagram – that their methodologies intersect substantially.

We're a long way from the era of Stirling Moss, who once told this author: "I never did any keep-fit. I didn't have to. I was driving a car all the time."

"Just getting in the car and driving it is absolutely the best thing that you can do," agrees Smedley. "Lance has had a programme in the 2014 car that's helped with that. What we have to take into account is that the loads are going to be much higher this season.

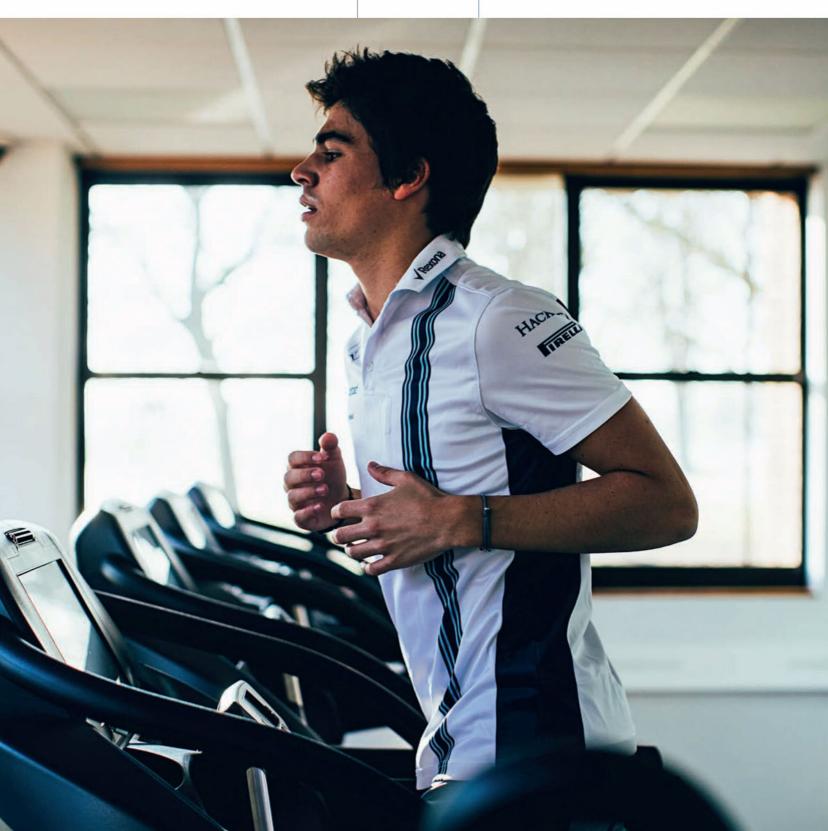
"There are bigger tyres, more aerodynamic downforce by quite a big percentage, and the cars are going to be more physical to drive. To be absolutely clear about where that physicality comes in, it's going to be in the high-speed corners. They'll be even faster, to the extent where some of them will pretty much become straights because the driver will be taking them flat-out. In the not-too-distant future, even somewhere like Turn 9 at Barcelona, for instance, will be flat-out if we continue to develop the cars at the current rate.

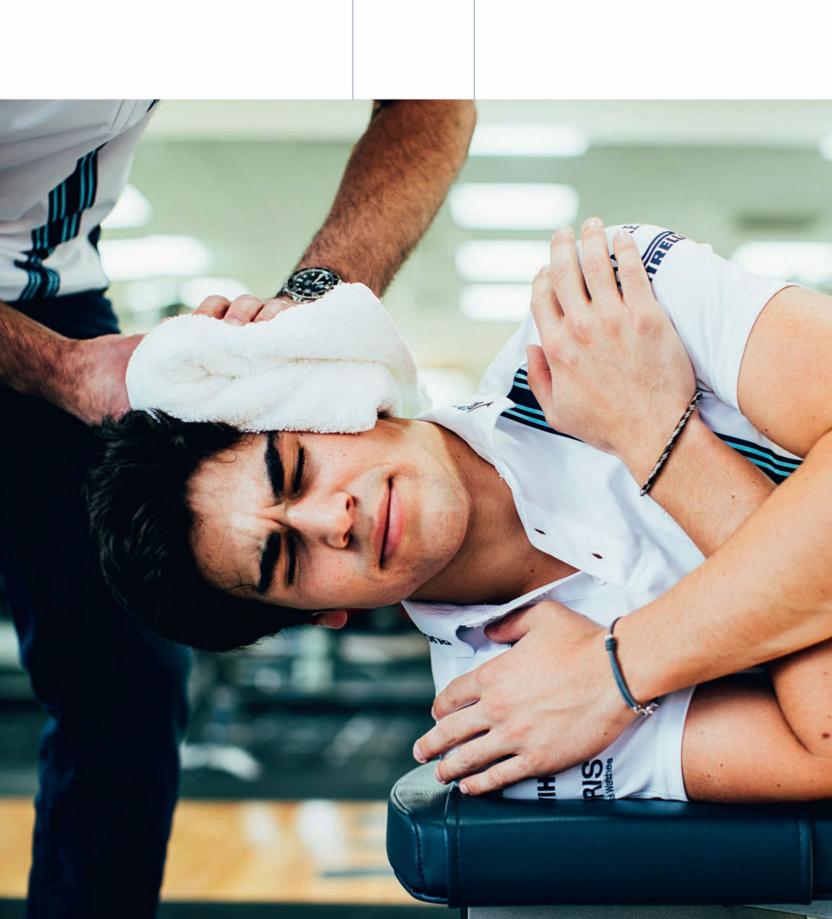
"Pinpointing where the loads are going to be so he can work on that has been one side of it. The other side is the mental approach, which is often overlooked – the driver needs to operate with a clear head, without a lot of baggage. What we've been trying to do with Lance is to make all the routine stuff that a driver has to do during a grand prix weekend – from when he gets in the car on Friday morning to when the chequered flag falls on Sunday afternoon – so routine that he doesn't have to think about it. He then has more mental capacity to apply to the process of making the car go quickly."

What strikes you about Lance when you speak to him is that, like McLaren protégé Stoffel Vandoorne, he wears his self-confidence lightly. Those who have worked with him in his F3 campaign, in which he surged ahead of highly rated rivals including McLaren Autosport BRDC Award winner George Russell (now signed to the Mercedes' driver development programme), speak of a quiet but steely resolve behind the cheeky smile.

Fresh from his warm-up, Lance has a patina of sweat on his brow, but this is merely the start of a workout that's designed to build up his strength and endurance – particularly around his neck, which will be the first receiver for all those additional G-forces. It's when the body is working at full capacity – muscles straining, heart beating close to maximum – that the brain starts to lose focus on what's happening outside as it diverts resources to keeping the human machine running.

"WE'VE BEEN TRYING TO MAKE THE ROUTINE STUFF SO ROUTINE THAT HE DOESN'T HAVE TO THINK ABOUT IT. HE THEN HAS MORE MENTAL CAPACITY TO APPLY TO THE PROCESS OF MAKING THE CAR GO QUICKLY" ROB SMEDLEY





"We do a lot of cardiovascular work," says Whiteman, who, like Lance, hails from Montréal. "The aim is to bring his heart rate up to a point where he's still able to achieve maximum concentration when it's in that working range. Depending on the time of year, we do different types of cardiovascular training. Sometimes we're doing very intensive intervals, other times we're doing moderate, steady-state work, the kind of effort level you'd see driving the car. We do a bit of everything.

"We just use the treadmill for a warm-up before we start his weight training, which is what we're moving to right now. Usually, we'll run outside in the summer and do a lot of biking. For a few hours of moderate steady-state work we'd rather get on a bike and go outdoors, because it's low-impact and more interesting. For the short, intense stuff we use indoor bikes that measure power output, so we can see how hard he's working.

"That gives us an objective measure to see if he's improving. At various times throughout the season we'll put him through a threshold test, and then use the numbers from that to set his workouts. We want the threshold to increase during the season."

Among the definitions of the word 'threshold' in the *Shorter Oxford English Dictionary* is "the beginning of a state or action". In physical training it generally pertains to the point at which the unfortunate subject of the test has to reach for a bucket.

"They're intensive, yeah," laughs Whiteman. "But Lance is competitive. He's not afraid to push himself. A bucket nearby is a good thing to have, though..."

The arrival of another Williams staffer in the gym provides some context as he somewhat ostentatiously huffs and puffs and grunts through a series of benchpresses and squats. By contrast, barely a whimper passes Lance's gritted teeth as he progresses from planks to battling ropes to performing sit-ups while catching and returning a medicine ball thrown at him by Vihola. The sweat, however, tells its own story.

Social media has been alive with photos of other drivers outdoing one another in the gym in preparation for the new season, one in particular showing Max Verstappen supporting most of his body weight with just

Resistance training (left) is essential, especially for the neck, which will bear the brunt of the increased G-forces







"I LOVE WHAT I DO, YOU KNOW? AND IT'S IMPORTANT TO ENJOY EVERY STEP OF THE JOURNEY, AND NOT ONLY WORK FOR THE GLORY MOMENTS, BECAUSE THEY GO BY TOO QUICKLY" LANCE STROLL

his head and neck. Lance's coaches are cautious about doing too much weight training, though, since Lance is at the upper end of the height spectrum – at 180cm he's by no means a beanpole, but is tall enough for additional muscle bulk to register undesirably on the scales. When *F1 Racing* raises the subject of the current trend towards carb-dodging fad diets endorsed by Instagram micro-celebrities, Whiteman chuckles and shakes his head. It's fair to conclude that we will not see Lance industriously 'spiralising' courgettes.

A sure sign of Lance's fitness level is the speed at which he's ready to sit down for a chat after a vigorous cardio session that's left him red-faced and breathing heavily, if not quite bleeding from the eyes.

"I'm happy to work hard and push myself," he says, dabbing his face with a towel. "When I started karting in Europe it was so tough. I was 12, 13 years old and up against kids who'd been competing pretty intensively for six years already, so I had a lot of catching up to do. Those were tough days. I had some good results but also some horrible results.

"I love what I do, you know? And it's important to enjoy every step of the journey, and not only work for the glory moments, because they go by too quickly. That's the big lesson I took from last season in Formula 3. I stressed for it for two years – not in a negative way, but I was working hard towards it – and then when I won the championship, a couple of days later I was back in the gym. So, yes, you've got to enjoy every part of it.

"I've done a lot of stuff in the simulator as well as all the tests, and really, right now, I just want to get out there and race. I can't wait for the season to start."

It was Benjamin Franklin who allegedly said, "If you fail to prepare, you are preparing to fail." Lance Stroll is probably the best-prepared rookie to enter F1 since Lewis Hamilton stormed onto the grand prix scene after hundreds of hours on the simulator in 2007. Lewis is a lofty target to emulate, but, ten years on, why not?



TRAINING LANCE'S BRAIN

"Mind management," to quote no less an eminence than Sir Jackie Stewart, remains a prime virtue of the best F1 drivers - now arguably more than ever, given the intricate complications of operating a modern hybrid powertrain. Even the very best fall short on occasion: think of Lewis Hamilton's engine-setting woes in Baku last year, or the switch change that Nico Rosberg blamed for the two Mercedes taking each other out of the race in Barcelona.

For that reason, over the winter Lance Stroll has been testing a 2014 Williams F1 car at various locations around the world, not so much to find speed or learn the circuits, but to drain the mental swamp. It was often said of Takuma Sato, for instance, that he could be guick in an F1 car, but it required 100 per cent of his facilities to get there, whereas the likes of Fernando Alonso have enough spare mental

> Stroll has spent the winter testing a 2014 Williams, helping him get to grips with the complexity of F1 machinery



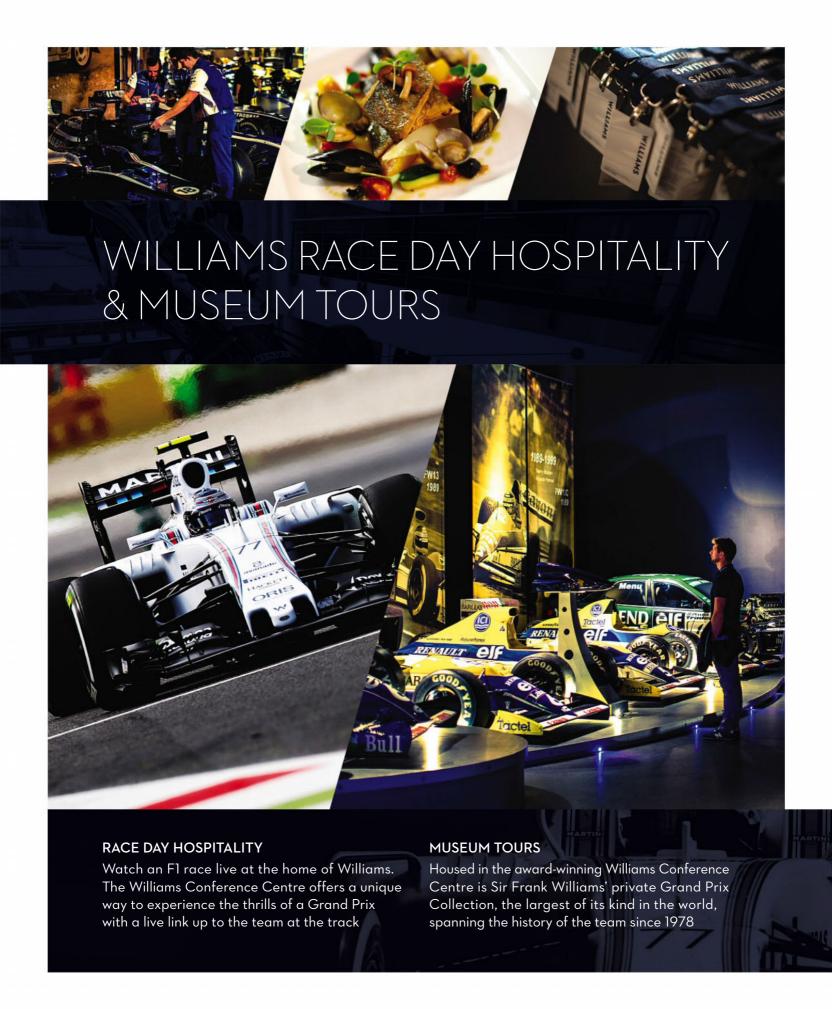


bandwidth to formulate and interrogate race strategy as they dance on the edge of their car's limits.

"You've cited one driver there, of those I've worked with. and the other one was Michael Schumacher, who could drive flat-out or at a tenth below the limit for the whole race," says Rob Smedley. "And that tenth allowed him 30 per cent more mental capacity to read the race and understand situations as they unfolded. The most talented guys can do that - part of it can be taught, which we're doing with Lance, but you can't teach people to be quick.

"To be fast in an F3 or GP2 car and to be fast in an F1 car requires more or less the same skill set, there's just more of everything in F1. The leap you have to take is the engineering skill set - you have to be able to change electronic settings quickly and without thinking about it. Because if you have to divert mental capacity towards things like that, you can't focus on other important decisions in a timely way. Those can be the trigger points for three or four bad laps before a driver gets back on track.

"Managing the tyres is the holy grail, as it were. It's much more achievable now, given the data and experience we have, so you notice the difference between drivers in the outer extremities - in the wet, for instance. 'Wet' is one word for thousands of different permutations that are changing constantly, from the depth of water on the track to the air temperature, which affects the convected cooling that you get. It's like an ongoing experiment with too many variables and not enough repeatability, and the driver has to be part of the learning process. He can help identify the effect of changes, and one of the best I've worked with for that is Felipe [Massa], who's very good at picking out the 'noise' in an experiment."





PALM OF HIS HANDS

Renault's Jolyon Palmer offers F1 Racing a masterclass in the art of race driving. His tool today is a humble Clio, but the theory is closer to F1 than you'd expect

The exhaust on the Clio barks and crackles into life as Jolyon Palmer attacks a right-handed hairpin once more. He hits the apex, pulls on the handbrake, kicks the back of the car sideways and mashes the throttle to bring this hot hatch pointing forwards once again. Palmer is working hard to present oversteer for *F1R's* photographer in a single shot. Unfortunately, an automatic, front-wheel-drive Clio doesn't *quite* produce the same level of realism as his Renault F1 car.

To learn about the subtle craft of driving an F1 car to the limit, we're at Bedford Autodrome. This is the airfield-turned-circuit owned by Jolyon's racer-turned-entrepreneur father Jonathan Palmer. "Another time sideways through that corner please, Jolyon," says our photographer. Palmer floors the throttle once more, and then begins his debrief. Over to you, Jolyon...

WORDS
JAMES
ROBERTS
PHOTOS
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GETTING OFF THE START LINE



A perfect start is about balancing how much power goes through the rear wheels while managing wheelspin. In an F1 car, on the warmup lap, we have to get the surface of the tyres to the right temperature by spinning the wheels.

The clutch is a paddle on the back of the steering wheel, and when we stop on our grid

slot, we pull it fully in. Then, with the right foot on the throttle, we have to find the pre-start revs and hold it still. You look up and wait for the red lights to go out, and it's when you take your eye off the rev counter to look at the lights that it can go a bit wrong – your foot can push a little further or ease off the correct rev range.

When the red lights do go out, we release the clutch paddle and try to slip it – you can't just dump it. The clutch travel is only 15mm and you don't feel a 'bite point' as it's all electronic, so you drop to a mid-range while balancing the throttle – which has only 6-8cm of travel – and try to get as much power down as you can.

Very quickly we are going up through the gears by looking at the shift lights on the steering wheel. At this point you lose performance if you hit the limiter or short-shift. At the same time there are 19 other cars around you and you must find a gap and start thinking about braking — with a full tank of fuel — for the first corner.

BRAKING FOR A CORNER



Approaching a corner, your right foot is on the throttle and the left hovers over the brake pedal. You're looking for a braking reference point, which is often a board at the side of the track denoting 50 or 100 metres to the corner. When you see it, you brake *very* hard and keep the steering wheel completely straight. Any sort



THE RACING LINE: A 'II' OR A 'V'

of angle on the steering when you brake is going to overload the front tyres with too much energy.

We put 140 bar of pressure into the brake pedal, which, again, has only a tiny bit of travel. And because you stamp so hard, your foot cannot naturally maintain that pressure. You then have to release the brakes and do it in a linear fashion: the car is losing downforce as it slows, and any extra force on the brakes is going to cause the front wheels to lock up.

At the end of the braking phase, you start thinking about turning in to the apex of the corner, but how you tackle a corner is determined by how you brake. Imagine the first Lesmo right-hander at Monza: you can take it in two different ways. You can brake slightly later and more sharply and that aggression will give you more pitch change in the car. Alternatively, you can brake early and gently, which changes the platform of the car in a different way – it sets up how you tackle the rest of the corner.



Think of the long right-hander at Spa, after Les Combes, down the hill, Turn 8/Bruxelles. If you took a racing line in a U-shape, that would be the classic. Brake, release, and then from the outside of the corner carry speed through the mid-corner to the apex in a constant radius and use all the road on the exit under acceleration.

With a V, you maximise what you do on the brakes. You go deep into the corner and brake all the way to the apex. You stop the car and turn it sharply, get it straight as soon as possible and hit the gas hard. With a V there are two phases to a corner: braking and acceleration. In between, you turn the car at a slower speed than on a U.

There isn't much difference in lap time between a U and a V, but you would alter your technique for tyre management. With a V, you put more energy through the rears and stress them under acceleration, but you save the fronts because they do less work as they turn at low speed. To protect the rears, carry more speed through the corner and do a U. That puts more load on the fronts at the mid-corner because you're turning at a higher speed and, of course, there is more lateral G on the outside front tyre.

Personally, I'm more of a V driver. I've grown up racing high-powered single-seaters, so you need to focus on a straight line on exit.







A LATE APEX



Earlier, I said it was important to do all your braking in a straight line. But there are a number of corners on the modern Tilke-designed tracks that have a turn-in under braking and a late apex. Think of Turn 1 in Shanghai, Turn 14 at Sepang or Turn 10 in Bahrain.

For these corners you need to modulate braking and steering at the same time. In a straight line you can apply brake pressure at 140 bar. When you add 10° of steering, you can only apply 90-100 bar of brake pressure before the fronts start to lock up. So when entering those corners, the locking threshold comes down. That's why you see so much front-locking in practice at those corners because drivers overwork the front tyre as they push to the limit.

It gets easier over a race weekend as the track rubbers in, but the more grip there is, the more brake pressure you can apply. If your tyres are worn and you have more front degradation then it's easier to lock up the fronts.

"IF YOU'VE GOT A LOT
OF UNDERSTEER,
YOU CAN GET THE CAR
ONTO A KERB AND THAT
CAN HELP TURN THE
CAR - THINK ASCARI
AT MONZA"

DEALING WITH UNDERSTEER



When you enter a corner and rotate the steering wheel to turn, but the front of the car isn't turning in the way you want it to and it goes straight on – that's understeer. To counteract it, you've got to unsettle the car in a subtle way. The tools you have to do that include the brakes, which you can use to try to provoke something. You can try trail-braking a little bit while turning – although if that increases front-locking then you're going to have even worse understeer.

Alternatively, you can try to rotate the car slightly on the throttle – or you can use the track surface. If you've got a lot of understeer, you can get the car onto a kerb and that can help turn the car – think Ascari at Monza where you can take a lot of that first kerb and rotate the car over it.

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OVERSTEER ON ENTRY



Sometimes, you can start to get oversteer on the brakes when you are entering a corner. The back of the car turns too much and you end up with no grip at the rear – and that's when the rear brakes lock up. Typically this tends to be caused by brake bias, but these days Formula 1 cars have brake-by-wire, whereby we have a lot of engine energy braking at the rear that is all controlled from the electrics.

Brake-by-wire allows us to fine-tune our brake maps so that we can control exactly how much energy we put through the rear tyres - so for a high pedal pressure, we can have brakes with a forward bias and that can shift more to the rear as we release the brakes.

Oversteer exiting a corner is due to too much power, which you counter by modulating the throttle and opposite lock on the steering. But you can also have oversteer through a corner if you carry too much speed or have too much front wing. You can be off the throttle or off the brake and the car still snaps because of an imbalance either mechanically or aerodynamically.

If you have a car with oversteer, the easiest solution is to reduce the front-wing angle to create less downforce at the front. That's the most common tweak. If you add more downforce to the rear wing, that's going to increase drag and be detrimental to lap time, so the front wing is much more of a balancing tool. You can also do things with the roll bars and springs; there's a lot of suspension geometry you can change.

Brake too hard and transfer too much weight to the front, and the rear becomes light and you again get oversteer. It's always a trade-off in terms of weight transfer.



WFT-WEATHER DRIVING



You are much more grip-limited in the rain, so you need to brake earlier for a corner with less pressure and go slower through the corners. Because there is more of an imbalance in the car you get more understeer and oversteer, so drivers have to work much harder.

We tend to drive around the outside of corners in the wet, not because it's suddenly super grippy on the outside, but because the normal racing line is very slick. Over the course of a weekend, a lot of rubber goes down - and it becomes very slippery when it rains. So we try to brake off-line and run around the outside of the corner – you might even want to try to get on the throttle off-line, too, but that depends from corner to corner; every single one is different. @

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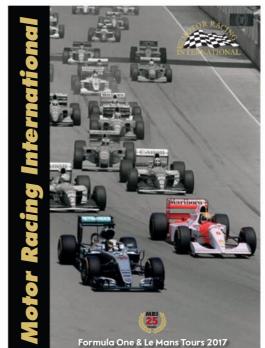
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CIRCUIT GUIDE

It's all change for 2017, with Formula 1 set to get significantly faster. Thanks to the new regulations, engineers estimate average lap times at most tracks will drop by around five seconds per lap, and an increase in downforce means that the majority of the gains will be found in the corners. As an example, it's expected that Turn 9 at Barcelona will now be taken at 155mph, where last year it was 133mph. That change will represent an increase

Everything you need to know about the 20 tracks that will host this year's gripping F1 world championship battle

in G-force on a driver from around 3.25-4.25G. Consequently the FIA has asked every circuit to upgrade barrier protection and run-off at a number of critical corners.

The new changes will also affect how teams set up their cars from track to track. Since 2009, the restrictive regulations have meant the efficiency for most circuits has favoured maximum downforce for optimum lap time. The 2017 machines, however, will inherently have a lot more drag, much of this coming from the increased tyre dimensions. As a result there should be more varied wing configurations across the venues. For example, at Barcelona teams will still favour high downforce at the expense of lower straightline speed, but at Silverstone there will be little difference in the end-of-straight speeds, compared with last year, since teams will reduce ultimate wing level to decrease drag.

In reality, the notional five-second decrease in lap time is not much more than the switch typically found on Friday afternoons when teams evaluate new-tyre, low-fuel performance against used-tyre, high-fuel performance. But the drivers should enjoy the new challenge across 20 different tracks - the viewers and spectators certainly will. The 2017 season can't start soon enough... >





Circuit length 3.295 miles Race distance 191.117 miles

Lap record 1m 24.125s, Michael Schumacher (2004)

First GP 1996 F1 races held 21 Winners from pole 9 Race start (UK) 6am

Set your alarm for the season-opener and get your first taste of how the new regulations will affect this year's machinery



Laps 56

Circuit length 3.387 miles

Race distance 189.56 miles

Lap record 1m 32.238s, Michael Schumacher (2004)

First GP 2004

F1 races held 13

Winners from pole 8

Race start (UK) 7am

A tricky, front-limited track that puts extra strain on the Pirelli rubber, but offers plentiful opportunities for overtaking



Laps 57

Circuit length 3.363 miles Race distance 191.53 miles

Lap record 1m 31.447s, Pedro de la Rosa (2005)

First GP 2004 F1 races held 12 Winners from pole 5 Race start (UK) 4pm

This is a dusty, desert circuit with multiple traction zones that can really take their toll on those rear tyres



Laps 53

Circuit length 3.634 miles

Race distance 192.467 miles

Lap record 1m 39.094s, Nico Rosberg (2016)

First GP 2014

F1 races held 3

Winners from pole 2

Race start (UK) 1pm

This circuit in the Black Sea resort of Sochi winds around the stadiums that played host to the 2014 Winter Olympics



Circuit length 2.892 miles **Race distance** 190.826 miles

Lap record 1m 21.670s. Kimi Räikkönen (2008)

First GP 1991 F1 races held 26 Winners from pole 19 Race start (UK) 1pm

FIR says: The Spanish GP marks the start of the European F1 season, and it's also when teams run their first major upgrades



Laps 78

Circuit length 2.074 miles

Race distance 161.734 miles

Lap record 1m 17.939s, Lewis Hamilton (2016)

First GP 1950

F1 races held 63

Winners from pole 28

Race start (UK) 1pm

FIR says: Pole position is everything at this tight, winding street circuit in the millionaire's playground of Monte Carlo



Laps 70

Circuit length 2.71 miles **Race distance** 189.686 miles

Lap record 1m 13.622s, Rubens Barrichello (2004)

First GP 1978 F1 races held 37 Winners from pole 17 Race start (UK) 7pm

FIR says: Expect a frenzy of enthusiasm for Williams new boy and home hero Lance Stroll, who hails from Montréal



Laps 51

Circuit length 3.732 miles

 $\textbf{Race distance} \ 190.17 \ \text{miles}$

Lap record 1m 46.485s, Nico Rosberg (2016)

First GP 2016

F1 races held $\boldsymbol{1}$

Winners from pole ${\mathbb 1}$

Race start (UK) 2pm

FIR says: This year Azerbaijan runs a grand prix in its own name, on a circuit that follows the streets of the medieval capital of Baku





Circuit length 2.688 miles Race distance 190.773 miles

Lap record 1m 08.337s, Michael Schumacher (2003)

First GP 1970 F1 races held 29 Winners from pole 8 Race start (UK) 1pm

IR says: Lap times are always ultra-close at Spielberg as a result of the track having only nine corners for drivers to navigate



Laps 52

Circuit length 3.66 miles

Race distance 190.262 miles

Lap record 1m 33.401s, Mark Webber (2013)

First GP 1950

F1 races held 50

Winners from pole 18

Race start (UK) 1pm

This windswept, former wartime airfield is one of the classics – and a driver favourite due to its high-speed turns

ROUND 11 HUNGARIAN GRAND PRIX BUDAPEST, 28-30 JULY

Laps 70

Circuit length 2.722 miles Race distance 190.531 miles

Lap record 1m 19.071s, Michael Schumacher (2004)

First GP 1986 F1 races held 31 Winners from pole 13 Race start (UK) 1pm

1R says: The twisting layout of the Hungaroring circuit really limits drivers' opportunities for overtaking



Laps 44

Circuit length 4.352 miles

Race distance 191.415 miles

Lap record 1m 47.263s, Sebastian Vettel (2009)

First GP 1950

F1 races held 49

Winners from pole 17

Race start (UK) 1pm

After the summer break, Formula 1 descends on the forests of the Ardennes to race at the majestic, high-speed Spa

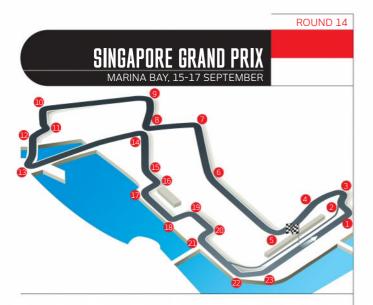


Circuit length 3.6 miles Race distance 190.587 miles

Lap record 1m 21.046s, Rubens Barrichello (2004)

First GP 1950 F1 races held 66 Winners from pole 23 Race start (UK) 1pm

says: It's one of the oldest venues on the calendar and the fastest: Monza's long straights are a real test of engine power



Circuit length 3.147 miles

Race distance 191.897 miles

Lap record 1m 47.187s, Daniel Ricciardo (2016)

First GP 2008

F1 races held 9

Winners from pole 7

Race start (UK) 1pm

Drivers race at night along the floodlit streets of Marina Bay in high heat and humidity, making this race a physical challenge



Laps 56

Circuit length 3.444 miles Race distance 192.879 miles

Lap record 1m 34.223s, Juan Pablo Montoya (2004)

First GP 1999 F1 races held 18Winners from pole 9 Race start (UK) 8am

IR says: The threat of monsoon rains drenching the track is a source of constant concern for team strategists and drivers



Laps 53

Circuit length 3.608 miles

Race distance 191.054 miles

Lap record 1m 31.540s, Kimi Räikkönen (2005)

First GP 1987

F1 races held 28

Winners from pole 13

Race start (UK) 6am

The high-speed sweeps, changes of direction and lack of run-off makes Suzuka one of the toughest tests of the season





Circuit length 3.426 miles Race distance 191.634 miles

Lap record 1m 39.347s, Sebastian Vettel (2012)

First GP 2012 F1 races held 5 Winners from pole 2 Race start (UK) 8pm

says: With its relaxed, friendly ambience, Austin has quickly become one of the all-round favourite modern F1 destinations



Laps 71

Circuit length 2.674 miles

Race distance 189.738 miles

Lap record 1m 20.521s, Nico Rosberg (2015)

First GP 1963

F1 races held 17

Winners from pole 9

Race start (UK) 7pm

The thin air at high altitude significantly reduces drag, making the top speeds here some of the fastest of the year





Laps 71

Circuit length 2.677 miles Race distance 190.083 miles

Lap record 1m 11.473s, Juan Pablo Montoya (2004)

First GP 1973 F1 races held 34 Winners from pole 14 Race start (UK) 4pm

On race-day morning, the passionate, motorsport-mad Brazilian fans give Interlagos a special atmosphere



Laps 55

Circuit length 3.451 miles

Race distance 189.739 miles

Lap record 1m 40.279s, Sebastian Vettel (2009)

First GP 2009

F1 races held 8

Winners from pole 3

Race start (UK) 1pm

Once again, this Middle East venue hosts the season finale - and it could be another nail-biting championship-decider



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FINISHING STRAIGHT



Fashion or function?

So, shark fins are the new 'must-have' adornment for the Formula 1 car about town in 2017. What a shame that a sport as technologically advanced as F1 has, over the past few years, churned out some fairly - how shall we put it less-than-attractive cars with weird bits stuck all over them.

Having said that, if the shark fins bring about the much-rumoured improvement in the quality and depth of racing, then I suspect that nobody will care.

Keith Brown

By email

Small shoes to fill

With the hasty exit of Bernie Ecclestone following the purchase of F1 by Liberty Media, I appear to be in a minority of one in fearing for the future of our sport.

It will now be up to a man of whom I've never heard, Sean Bratches, to fill the little man's giant shoes in persuading governments in distant lands to subsidise grands prix because it would be good for their country's image. Bernie sat comfortably next to President Putin, and was on first name terms with Arab heads of state, royalty in Europe, plus the leaders of nations across the world.

Of course he would have had to step down some time, but I'd rather hoped it would have been after a year of coaching his successor - and my money was on the intelligent and F1-savvy Christian Horner.

While I like and admire America and Americans, it is the only

country in the world to host a 'World Series' without inviting any other countries to take part. Yet it will now be up to Mr Bratches to mix with extremely important people, the likes of whom I doubt he has ever met, while organising the mind-numbing logistics of flyaway races, and the smooth running of the actual races themselves.

I will be very relieved when the 'circus' arrives in Melbourne. Let's hope the new season gets under way without a hiccup.

Trevor Hunt Berkshire, UK

What's gone is gone

As an F1 fan since the 1950s, I get increasingly frustrated hearing what happened last year or in nineteenhundred-and-I-don't-know-when.

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F1 Racing, 1 Eton Street, Richmond TW9 1EF

I have no idea when the last French GP was held; I'm more interested in when the next one will be. And I don't care what the cars looked like last year or any time in the past. But I am interested in what the new cars look like and those I've seen so far look great.

Do I care what the Honda power unit did last year? No. But I can't wait to see what the new engine will do. Will Sebastian Vettel stop swearing his way around circuits? Will Lewis Hamilton stop sulking on the podium when he is second or third? And can Valtteri Bottas beat the triple world champion?

Has Sergio Pérez made the right decision in staying on at Force India and can young Esteban Ocon challenge him? Will Stoffel Vandoorne get close to Fernando Alonso at McLaren? I doubt it.

And finally, will I be able to stop paying Sky to watch the only sport I enjoy? Not in my lifetime.

I may be an old git, but at the end of each season I can't wait for the start of the next. What's gone is gone. Bring on the changes - I can't wait to see what the future holds.

Anthony Shrubsall Wiltshire, UK

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NEXT Month

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McLAREN

Will the MCL32

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SAINZ

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- > Q&A with Max Verstappen
- > You ask the questions: Nico Hülkenberg
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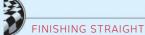






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THE AUSTRALIAN GP







RACE DATA

Circuit name

Melbourne Grand Prix Circuit

First GP 1996

Circuit length 3.295 miles

Race distance 191.117 miles

(58 laps)

Direction Clockwise

Lap record 1m 24.125s

Michael Schumacher (2004)

F1 races held 21

Winners from pole 9

Tyres Soft, supersoft, ultrasoft

THE MAIN EVENT



Set your alarm clocks: F1 2017 is here. After months of hard work, the opening grand prix of the new season is where the teams will finally find out just how competitive their new cars really are, for the stopwatch never lies. And this year, there's the tantalising prospect of the technical regulations bringing about a wholesale shake-up in the competitive order.

Pirelli will bring three tyre compounds to each race, and, as last year, the soft and supersoft will be used here. But while last year's third compound was the medium tyre, this year the ultrasoft will be used, adding a strategic twist.

Albert Park is a temporary circuit, which means drivers often struggle in practice before the track rubbers in, due to a lack of grip. And with the barriers so close to the edge of the track, there is a high propensity for Safety Cars. 0

CLASSIC RACE: 2009

Do you remember the last time wholesale F1 changes led to a surprise grand prix winner? Well, eight years ago in 2009 the Brawn GP team stunned the motor-racing world when they qualified first and second on the grid and drove off into the distance in the race.

Months before, Jenson Button and Rubens Barrichello

were facing a year on the sidelines following Honda's shock departure from F1. But Ross Brawn saved the team, secured a Mercedes engine deal, and exploited a rule loophole to bring in the innovative double diffuser. The team duly won their debut race at Melbourne.



TV TIMETABLE (UK TIME)

Friday 24 March

Practice 1 00:00-01:30

Practice 2 05:00-06:30

Saturday 25 March

Practice 3 03:00-04:00

Qualifying 06:00-07:00

Sunday 26 March

Race 06:00

Live coverage

Sky Sports F1

Highlights Channel 4

ST FIVE WINNERS











2016	2015	2014	2013	2012
Nico	Lewis	Nico	Kimi	Jenson
Rosberg	Hamilton	Rosberg	Räikkönen	Button
Mercedes	Mercedes	Mercedes	Lotus	McLaren



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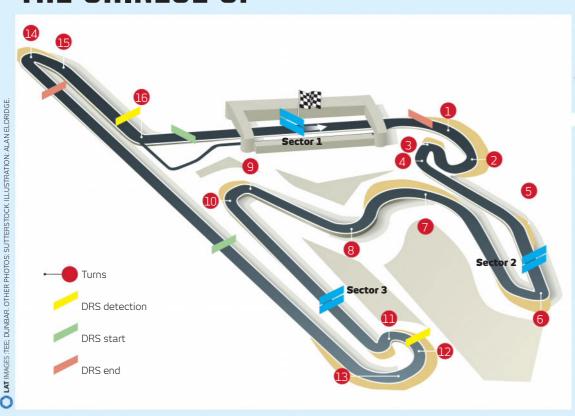


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FINISHING STRAIGHT

THE CHINESE GP





THE MAIN EVENT

F1 heads from Melbourne 5,000 miles north to China for the second round of the 2017 world championship. The Shanghai International Circuit is a typical, modern, Herman Tilke-designed facility, first used in 2004.

The front-limited track is characterised by long-radius, late-apex corners that engender understeer, and the frontleft tyre suffers on the two right-handed, snail-shaped sections, Turns 1-3 and Turns 12 and 13. Getting a good exit out of the latter is crucial for drivers looking to use a combination of a slipstream and DRS to line up a pass into the tight Turn 14 hairpin at the end of the straight.

Shanghai in early spring can be quite chilly, and since this will be the first time the medium compound tyre is used this year, teams will be trying to balance the need to generate heat against the need to avoid front-tyre wear. 0

CLASSIC RACE: 2010

Jenson Button beat his McLaren team-mate Lewis Hamilton by just 1.53s to win a thrilling race and take the lead in the drivers' championship. There was drama right from the outset when Fernando Alonso shot from P3 into the lead as the lights went out, which resulted in him being handed a drive-through penalty for jump-starting.

The Safety Car came out after a multi-car shunt

involving Force India's Tonio Liuzzi and Sauber's Kamui Kobayashi. In a race of ever-changing conditions punctuated with plenty of overtaking and spins, Button held his nerve to take the lead after a second Safety Car, keeping ahead of Hamilton to win the race.







Circuit name Shanghai International Circuit

First GP 2004

Circuit length 3.387 miles. Race distance 189.56 miles

(56 laps)

Direction Clockwise

Lap record 1m 32.238s Michael Schumacher (2004)

F1 races held 13

Winners from pole 8

Tyres Supersoft, soft, medium

TV TIMETABLE (UK TIME)

Friday 7 April

Practice 1 03:00-04:30

Practice 2 07:00-08:30

Saturday 8 April

Practice 3 05:00-06:00

Qualifying 08:00-09:00

Sunday 9 April

Race 07:00

Live coverage

Sky Sports F1

Highlights Channel 4

THE LAST FIVE WINNERS HERE...









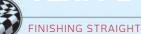


Was certify	Sale Contraction	Was Eccus	BENE	W. Carlo
2016	2015	2014	2013	2012
Nico	Lewis	Lewis	Fernando	Nico
Rosberg	Hamilton	Hamilton	Alonso	Rosberg
Mercedes	Mercedes	Mercedes	Ferrari	Mercedes

GARAGE NUMBER



Of the 59 races that have been held since the 1.6-litre hybrid turbo era began in 2014, Mercedes have, incredibly, won 51 of them. That's a win strike-rate of 86.4 per cent.



-MERCEDES

The reigning champions' winning recipe has changed, with Valtteri Bottas replacing Nico Rosberg alongside Lewis Hamilton for 2017

TEAM DETAILS

Name

Mercedes AMG Petronas Motorsport

Address 5a Reynard Park, Brackley,

Northamptonshire, NN13 7BD, UK

Chassis F1 W08 EO Power+

Engine Mercedes-Benz M08 EQ Power+

Website mercedesamgfl.com

Twitter @MercedesAMGF1

RESULTS IN 2016

 $\textbf{Championship position } 1st + \textbf{Points} \ 765 + \textbf{Wins} \ 19 + \textbf{Podiums} \ 14 + \textbf{Points-scoring races} \ 20 + \textbf{Poles} \ 20 + \textbf{Fastest laps} \ 9$



WHAT'S NEW?

James Allison arrives as technical director, while Valtteri Bottas joins Lewis Hamilton on the grid. Both appointments are significant enough to cause disruption, though so layered is Mercedes' technical and operational excellence, they're still nothing less than overwhelming favourites. Still, Bottas is a new foil for Hamilton, while Allison has a different area of specialism (aero) to that of his predecessor Paddy Lowe (systems), and both will take time to get up to speed.

F1 RACING'S VERDICT

Bet your house on these guys winning both titles again. But there are chinks in the armour that offer some hope to the chasing pack.

KEY PERSONNEL

Head of Mercedes-Benz Motorsport Toto Wolff

Non-executive chairman

Niki Lauda

MD Powertrains Andy Cowell

Technical director

James Allison

Engineering director

Aldo Costa

Technology director

Geoffrey Willis

TEAM HISTORY

Founded 1886

First GP

France 1954

Races started 148

Wins 64

Poles 73

Fastest laps 47 **Points** 3,050

Drivers' titles 5

Constructors' titles 3

THE DRIVERS

LEWIS HAMILTON



Born 7 January 1985

Age 32

Place of birth

Tewin, UK

Height 1.74m

Weight 66kg

Race engineer

Peter Bonnington

Twitter @LewisHamilton

F1 HISTORY

Debut Australia 2007

Races started 188

Wins 53

Poles 61

Fastest laps 31

Points 2 247

Drivers' titles 3

2016 position 2nd

VALTTERI BOTTAS



Born 28 August 1989

Age 27

Place of birth

Nastola, Finland

Height 1.73m

Weight 70kg

Race engineer

Tony Ross

Twitter @ValtteriBottas

F1 HISTORY

Debut Australia 2013

Races started 77

Wins ()

Poles 0

Fastest laps 1

Points 411

Drivers' titles 0

2016 position 8th



RESULTS IN 2016

 $\textbf{Championship position } 2 \text{nd} \ | \ \ \textbf{Points} \ 468 \ | \ \ \textbf{Wins} \ 2 \ | \ \ \textbf{Podiums} \ 14 \ | \ \ \textbf{Points-scoring races} \ 20 \ | \ \ \textbf{Poles} \ 1 \ | \ \ \textbf{Fastest laps} \ 5$

_RED BULL

Can raw young talent Max Verstappen and popular Dan Ricciardo bring about a return to glory for these focused former champs?

WHAT'S NEW?

Not much, and their continuity should help them take the fight to Mercedes. The success of this aggressive team is founded on smart hires, tight-knit operations and ample resources. An Adrian Newey-led design team should come up with the punchiest interpretation of the new tech regs, so expect a grippy, high-downforce RB13.

F1 RACING'S VERDICT

It's all about the PU. If Renault deliver enough shove, Red Bull have the drivers, resources, hunger and attitude to deliver wins *and* titles.

TEAM DETAILS

Name Red Bull Racing

Address Bradbourne Drive, Tilbrook,

Milton Keynes, MK7 8AT, UK

Chassis RB13

Engine Tag Heuer RB13

Website redbullracing.com

Twitter @redbullracing

KEY PERSONNEL

Chairman

Dietrich Mateschitz

Team principal

Christian Horner

Chief technical officer

Adrian Newey

Chief engineering officer

Rob Marshall

Chief engineer, car

engineering Paul Monaghan

TEAM HISTORY

Founded 2004

First GP

Australia 2005

Races started 224

Wins 52

Poles 58

Fastest laps 52

Points 3,520.5

Drivers' titles 4
Constructors' titles 4

THE DRIVERS

DANIEL RICCIARDO



3 ***

Born 1 July 1989 **Age** 27

Place of birth Perth, Australia

Height 1.78m

Weight 70kg Race engineer

Simon Rennie

Twitter

@danielricciardo

F1 HISTORY

Debut Britain 2011

Races started 109

Wins 4

Poles 1

Fastest laps 8

Points 616

Drivers' titles 0

2016 position 3rd

MAX VERSTAPPEN



Born 30 September 1997

Age 19

Place of birth

Hasselt, Belgium

Height 1.81m

Weight 71kg

Race engineer

GianPiero Lambiase

Twitter @Max33Verstappen

F1 HISTORY

Debut Australia 2015

Races started 40

Wins 1

Poles 0

Fastest laps 1

Points 253

Drivers' titles 0

2016 position 5th



Since the start of 2010, Ferrari have collected only five poles. Fernando Alonso took two in 2010 and two in 2012, while Sebastian Vettel picked up one in Singapore in 2015.

THE DRIVERS

Born 3 July 1987 **Age** 29 Place of birth

Race engineer Riccardo Adami Twitter N/A

F1 HISTORY Debut USA 2007 Races started 178

Wins 42 Poles 46 Fastest laps 28

Heppenheim, Germany Height 1.76m Weight 62kg

SEBASTIAN VETTEL

FINISHING STRAIGHT

RESULTS IN 2016

Championship position 3rd | Points 398 | Wins 0 | Podiums 11 | Points-scoring races 21 | Poles 0 | Fastest laps 4



•FERRARI

Having failed to win a race in 2016, they'll be hoping the SF70H can put Seb Vettel and Kimi Räikkönen back on top of the podium

WHAT'S NEW?

After many seasons of internal chaos, Ferrari are striving for stability. Mattia Binotto remains as chief technical officer, while former chief designer Rory Byrne returns to offer hands-on guidance for 2017. In the engine room, an innovative piston construction is being tested, with new turbulent jet-injection technology from Magneti Marelli.

F1 RACING'S VERDICT

Based on previous form, Ferrari could be overpromising in the pre-season, since they've played the Byrne card before.

TEAM DETAILS

Name Scuderia Ferrari

Address

Via Abetone Inferiore n. 4. I-41053.

Maranello (MO), Italy

Chassis SF70H

Website formula 1 ferrari com

Twitter @ScuderiaFerrari

KEY PERSONNEL

Chairman Sergio Marchionne

Team principal

Maurizio Arrivabene

Chief technical officer

Mattia Binotto

Simone Resta

Points 2,108

Drivers' titles 4

2016 position 4th

KIMI RÄIKKÖNEN



Born 17 October 1979

Age 37

Place of birth

Espoo, Finland

Height 1.75m

Weight 70kg

Race engineer

Dave Greenwood

Twitter N/A

F1 HISTORY

Debut Australia 2001

Races started 251

Wins 20

Poles 16

Fastest laps 43

Points 1.360

Drivers' titles 1

2016 position 6th

Engine Ferrari 062

Chief designer

Head of power unit

operations Luigi Fraboni

Constructors' titles 16

TEAM HISTORY

First GP Monaco 1950

Races started 929

Fastest laps 237

Drivers' titles 15

Points 6.660.5

Founded 1929

Wins 22/

Poles 208



FORCE INDIA

This budget-conscious little team were fourth fastest in 2016, and an all-new Mercedes power unit has given them bullish ambitions

TEAM DETAILS

Name

Sahara Force India F1 Team

Address

Dadford Road, Silverstone, NN12 8TJ

Chassis VJM10

Engine Mercedes-Benz M08 EQ Power+

Website forceindiaf1.com

Twitter @ForceIndiaF1



THE DRIVERS

SERGIO PÉREZ



Age 27
Place of birth
Guadalajara, Mexico
Height 1.73m
Weight 63kg
Race engineer
Tim Wright

F1 HISTORY

Debut Australia 2011

Twitter @SChecoPerez

Races started 114

Wins 0

Poles 0

Fastest laps 3

Points 367

Drivers' titles 0

2016 position 7th

ESTEBAN OCON



Born 17 September 1996 **Age** 20

Place of birth

Évreux. France

Height 1.86m

Weight 66kg

Race engineer

Bradley Joyce

Twitter @OconEsteban

F1 HISTORY

Debut Belgium 2016

Races started 9

Wins 0

Poles 0

Fastest laps 0

Points 0

Drivers' titles 0 **2016 position** 23rd

JOHUNIE WAO - R Infinitum Infinitum

RESULTS IN 2016

 $\textbf{Championship position } 4th \parallel \textbf{Points} \ 173 \parallel \textbf{Wins} \ 0 \parallel \textbf{Podiums} \ 2 \parallel \textbf{Points-scoring races} \ 18 \parallel \textbf{Poles} \ 0 \parallel \textbf{Fastest laps} \ 1 \\$

WHAT'S NEW?

OTHER PHOTOS: FERRARI; FORCE INDIA

BLOXHAM

MAUGER;

LAT

0

The obvious new acquisition for 2017 is raw, but highly rated, Mercedes junior Esteban Ocon. Otherwise it's just new sponsorship decals from sunglasses brand Foresight & Vision. Force India are poised to attack this season with the same core squad that scalped Williams to take fourth in the constructors' championship last year.

F1 RACING'S VERDICT

Replicating their 2016 form is the best they can hope for, unless they win their other battle for a fairer share of F1's commercial revenues.

KEY PERSONNEL

Team principal Vijay Mallya **Deputy team principal**

Robert Fernley

Chief operating officer

Otmar Szafnauer

Technical directorAndrew Green

Sporting director

Andy Stevenson

TEAM HISTORY

Founded 2007 First GP Australia 2008 Races started 171

Wins ∩

Poles 1

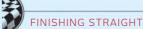
Fastest laps 4

Points 800

Drivers' titles 0

Constructors' titles 0

Williams are celebrating their ruby anniversary - it's their 40th year in Formula 1, so they've skipped the FW39 designation and named this year's chassis the FW40.





Fresh in is amply funded 18-year-old rookie and recently 'unretired' Felipe Massa

TEAM DETAILS

Name Williams Martini Racing Address Station Road, Grove, Oxfordshire, OX12 0DQ, UK

Chassis FW40

Engine Mercedes-Benz M08 EQ Power+

Website williamsfl.com Twitter @WilliamsRacing

Born 25 April 1981

THE DRIVERS

FELIPE MASSA

Age 35

Place of birth

São Paulo, Brazil

Height 1.66m

Weight 59kg

Race engineer

Dave Robson

Twitter

@MassaFelipe19

F1 HISTORY

Debut Australia 2002

Races started 250

Wins 11

Poles 16

Fastest laps 15

Points 1,124

Drivers' titles 0

2016 position 11th

LANCE STROLL



Born 29 October 1998 **Age** 18

Place of birth

Montréal, Canada

Height 1.80m

Weight 70kg

Race engineer

James Urwin

Twitter @lance stroll

F1 HISTORY

Debut Australia 2017

Races started 0

Wins 0

Poles 0

Fastest laps 0

Points 0

Drivers' titles 0

2016 position N/A



Lance Stroll, who'll partner the experienced

RESULTS IN 2016

Championship position 5th | Points 138 | Wins 0 | Podiums 1 | Points-scoring races 18 | Poles 0 | Fastest laps 0



WHAT'S NEW?

Williams have a rookie, Lance Stroll, to indoctrinate and the arrival of Paddy Lowe to assimilate. Lowe's return to the team where he cut his teeth, as tech chief and as a board member with a shareholding, should not be underestimated. He brings intimate knowledge of how Mercedes operate and is expected to lead an upturn in team fortunes.

F1 RACING'S VERDICT

Don't expect miracles from Lowe in year one. This is a transition year and Williams need time and more cash to become front-runners.

KEY PERSONNEL

Team principal Sir Frank Williams

Deputy team principal

Claire Williams

Group CEO Mike O'Driscoll

Technical director

Paddy Lowe

Head of performance

engineering Rob Smedley

TEAM HISTORY

Founded 1977

First GP Argentina 1978 Races started 653

Wins 11/

Poles 128

Fastest laps 133 **Points** 3 464

Drivers' titles 7

Constructors' titles 9



RESULTS IN 2016

Championship position 6th + Points 76 + Wins 0 + Points 30 + Points-scoring races 13 + Poles 0 + Fastest laps 1

MCLAREN

A dynamic new orange-and-black livery is a throwback to the glory days, but can a revamped Honda convince Fernando Alonso?

WHAT'S NEW?

As executive director, Zak Brown knows he must stamp his mark on this underperforming grandee team. Much depends on engine partner Honda, though, who have an all-new PU for this third year. Hopes are high for Belgian hotshot Stoffel Vandoorne, who should keep Fernando Alonso honest, particularly in qualifying.

F1 RACING'S VERDICT

Forget beating Force India – a win must be the target. If such a leap cannot be taken, Alonso's reserves of patience will surely run out.

TEAM DETAILS

Name McLaren Honda Formula 1 Team Address McLaren Technology Centre, Chertsey Road, Woking, Surrey, GU21 4YH, UK

Chassis MCL32 Engine Honda RA617H Website mclaren.com Twitter @McLarenFl

KEY PERSONNEL

Chief technical officer

Tim Goss

Executive director Founded 1963 Zak Brown Chief operating officer Wins 182 Jonathan Neale Racing director Eric Boullier Poles 155 Operations director Fastest laps 153 Simon Roberts **Points** 5.116.5

TEAM HISTORY First GP Monaco 1966 Races started 801 **Drivers' titles** 12 Constructors' titles 8

THE DRIVERS

FERNANDO ALONSO



Born 29 July 1981 Age 35 Place of birth Oviedo, Spain Height 1.71m Weight 68kg Race engineer Mark Temple Twitter @alo oficial

F1 HISTORY Debut Australia 2001 Races started 272 Wins 32 Poles 22 Fastest laps 22 **Points** 1.832 Drivers' titles 2

2016 position 10th

STOFFEL VANDOORNE



Born 26 March 1992 **Age** 24 Place of birth Kortrijk, Belgium Height 1.76m Weight 65kg Race engineer Tom Stallard Twitter @svandoorne

F1 HISTORY **Debut** Bahrain 2016 Races started 1 Wins ∩ Poles 0 Fastest laps 0 Points 1 Drivers' titles 0 **2016 position** 20th

TEAM BY TEAM



In 11 years and 206 races, Toro Rosso have managed just one pole and one victory – both brilliantly scored by a young Sebastian Vettel at Monza in 2008.

FINISHING STRAIGHT

RESULTS IN 2016

Championship position 7th | Points 63 | Wins 0 | Podiums 0 | Points-scoring races 12 | Poles 0 | Fastest laps 1



TORO ROSSO

The Red Bull junior team switch to Renault power units this year, but retain their driver line-up of Carlos Sainz and Daniil Kvyat

WHAT'S NEW?

Toro Rosso swap their Ferrari PU for a Renault, "improving synergies with Red Bull", according to team principal Franz Tost. Technical director James Key has heaped praise on Renault's progress over the past year, while Tost has called for Mercedes to be pegged back so other engine manufacturers can catch up — but that will never happen.

F1 RACING'S VERDICT

It's make or break for Sainz (in his third year with STR) and Kvyat (on borrowed time after his Red Bull demotion). Fireworks could ensue.

TEAM DETAILS

Name Scuderia Toro Rosso

Address Scuderia Toro Rosso, Via Boaria,

229 48018 Faenza (RA), Italy

Chassis STR12

Engine Renault R.E.17

Website scuderiatororosso.com

Twitter @ToroRossoSpy

KEY PERSONNEL

Chairman

Dietrich Mateschitz

Team principal Franz Tost

Technical director

James Key

Team manger

Graham Watson

Head of vehicle
performance Jody Egginton

TEAM HISTORY

Founded 2005

First GP Bahrain 2006

Races started 206

Wins 1

Poles 1

Fastest laps 1

Points 329

Drivers' titles 0

Constructors' titles 0

THE DRIVERS

CARLOS SAINZ



Born 1 September 1994

Age 22

Place of birth

Madrid, Spain

Height 1.77m

Weight 66kg

Race engineer Marco Matassa

Twitter @carlosainz

F1 HISTORY

Debut Australia 2015

Races started 40

Wins 0

Poles 0

Fastest laps 0

Points 64

Drivers' titles 0

2016 position 12th

DANIIL KVYAT



Born 26 April 1994

Age 22

Place of birth

Ufa, Russia

Height 1.75m

Weight 58kg

Race engineer

Pierre Hamelin

Twitter @Dany_Kvyat

F1 HISTORY

Debut Australia 2014

Races started 57

Wins ∩

Poles 0

Fastest laps 1

Points 128

Drivers' titles 0

2016 position 14th



After an impressive debut in 2016, the US team with the innovative customer model, must seek to address their reliability issues

Name Haas F1 Team

TEAM DETAILS

Address 4001 Haas Way, Kannapolis,

NC 28081. USA Chassis VF-17

Engine Ferrari 062

Website haasflteam.com



Championship position 8th | Points 29 | Wins 0 | Podiums 0 | Points-scoring races 5 | Poles 0 | Fastest laps 0

WHAT'S NEW?

TORO ROSSO; I

IMAGES: BLOXHAM, OTHER PHOTOS:

O

Kevin Magnussen is newly arrived from Renault and, having been criticised publicly for his lack of effort, needs to show more application at his new team. As last year, the team's chassis has been designed and manufactured by single-seater specialists Dallara, with the new-spec engine and non-listed parts coming from Ferrari.

F1 RACING'S VERDICT

Even if they iron out their unreliability issues, their limited resource means it's hard to imagine Haas improving on last year's eighth place.

KEY PERSONNEL

Chairman Gene Haas Team principal Guenther Steiner Head of aero

Ben Agathangelou Chief designer

Rob Taylor

Team manager Dave O'Neill

TEAM HISTORY Founded 2014 First GP Australia 2016 Races started 21 Wins n Poles 0 Fastest laps 0 Points 29 Drivers' titles 0

Constructors' titles 0

THE DRIVERS **ROMAIN GROSJEAN**



Born 17 April 1986 **Age** 30 Place of birth Geneva, Switzerland Height 1.80m Weight 71kg Race engineer Ayao Komatsu Twitter @RGrosjean

F1 HISTORY Debut Europe 2009 Races started 102 Wins 0 Poles 0 Fastest laps 1 Points 316 Drivers' titles 0 **2016 position** 13th

KEVIN MAGNUSSEN



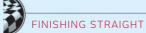
Born 5 October 1992 Age 24 Place of birth Roskilde, Denmark Height 1.74m Weight 68kg Race engineer Gary Gannon Twitter

@KevinMagnussen

F1 HISTORY **Debut** Australia 2014 Races started 40 Wins 1 Poles 0 Fastest laps 0 Points 62 Drivers' titles 0 **2016 position 16th**



This season marks the 40th anniversary of Renault's F1 debut. They entered their first race at the 1977 French GP, running a revolutionary 1.5-litre turbocharged engine.



RENAULT

Renault are targeting fifth place for Nico Hülkenberg and Jolyon Palmer in the R.S.17

TEAM DETAILS

Name Renault Sport Racing Ltd Address Whiteways Technical Centre, Enstone, Oxfordshire, OX7 4EE, UK

Chassis R.S.17

Engine Renault R.E.17 Website renaultsport.com Twitter @RenaultSportF1

Born 19 August 1987

Age 29

Place of birth

THE DRIVERS

NICO HÜLKENBERG

Emmerich, Germany

Height 1.84m

Weight 74kg

Race engineer

Mark Slade

Twitter

@HulkHulkenberg

F1 HISTORY

Debut Bahrain 2010

Races started 115

Wins 0

Poles 1

Fastest laps 2

Points 362

Drivers' titles 0

2016 position 9th

JOLYON PALMER



Born 20 January 1991

Age 26

Place of birth

Horsham UK

Height 1.79m

Weight 78kg

Race engineer

Chris Richards

Twitter @JolyonPalmer

F1 HISTORY

Debut Australia 2016

Races started 20

Wins ()

Poles 0

Fastest laps 0

Points 1

Drivers' titles 0

2016 position 18th



In their second full season back in the sport,

RESULTS IN 2016

Championship position 9th | Points 8 | Wins 0 | Points-scoring races 3 | Poles 0 | Fastest laps 0



WHAT'S NEW?

Nico Hülkenberg arrives, having hoped to reconnect with Frédéric Vasseur, who guided him to F3 and GP2 titles. But Vasseur has quit as team principal. Ex-Red Bull man Pete Machin is now head of aero and Ciaron Pilbeam is chief race engineer, while engine boss Rob White relocates from Viry-Châtillon to Enstone as operations director.

F1 RACING'S VERDICT

Last year was all about restructuring, and that continues for 2017. It's a long-term project, but Renault have the budget to score regular points.

KEY PERSONNEL

President Jérome Stoll Managing director

Cvril Abiteboul

Chief technical officer **Rob Rell**

Chassis technical director

Nick Chester

Engine technical director

Rémi Taffin

TEAM HISTORY

Founded 1977 First GP Britain 1977

Races started 321

Wins 35

Poles 51

Fastest laps 31

Points 1.326

Drivers' titles 2 Constructors' titles 2



RESULTS IN 2016

Championship position 10th + Points 2 + Wins 0 + Podiums 0 + Points-scoring races 1 + Poles 0 + Fastest laps 0

SAUBER

Sauber celebrate 25 years in F1 this year, with Mercedes junior Pascal Wehrlein joining Swede Marcus Ericsson at the team

WHAT'S NEW?

Wehrlein's pre-season prep was scuppered when he hurt his neck in a crash at the Race of Champions event. He missed the first test, and Ferrari's reserve driver Antonio Giovinazzi took his place. Technical director Jörg Zander rejoins the team, and is restructuring as part of an efficiency drive. His aim is to establish Sauber in the mid-field.

F1 RACING'S VERDICT

Despite Zander's arrival, the C36 isn't going to set the world on fire, so expect another difficult season for these perennial backmarkers.

TEAM DETAILS

Name Sauber F1 Team

Address

Wildbachstrasse 9, 8340,

Hinwil, Switzerland

Chassis C36

Engine Ferrari 059/5

Website sauberflteam.com

Twitter @SauberF1Team

KEY PERSONNEL

President Peter Sauber

Team principal and CEO

Monisha Kaltenborn

Technical director

Jörg Zander

Head of trackside

engineering Xevi Pujolar

Strategy engineer

Ruth Buscombe

TEAM HISTORY

Founded 1970

First GP S Africa 1993

Races started 332

Wins ∩

Poles 0

Fastest laps 3

Points 460

Drivers' titles 0 **Constructors' titles** 0

THE DRIVERS

MARCUS ERICSSON



Born 2 September 1990

Age 26

Place of birth

Kumla, Sweden

Height 1.74m

Weight 64kg Race engineer

Julien Simon-Chautemps

Twitter

@Ericsson_Marcus

F1 HISTORY

Debut Australia 2014

Races started 56

Wins 0

Poles 0

Fastest laps 0

Points 9

Drivers' titles 0

2016 position 22nd

PASCAL WEHRLEIN



Born 18 October 1994

Age 22

Place of birth

Sigmaringen, Germany

Height 1.75m

Weight 59kg

Race engineer

nace engineer

Jörn Becker

Twitter @PWehrlein

F1 HISTORY

Debut Australia 2016

Races started 21

Wins 0

Poles 0

Fastest laps 0

Points 1

Drivers' titles 0

2016 position 19th **@**

NOW THAT WAS A RACE



Faced with race-ending engine woes, the sport's smartest driver came up with his own ingenious solution. Peter Windsor recalls Jim Clark's incredible win at the 1965 British GP

He strolled onto the grid for the 1965 British Grand Prix at Silverstone wearing a fawn cardigan over his blue Dunlop overalls. His name, 'Clark', was emblazoned in big letters on the side of the pole-setting Lotus 33B-Climax. On the red-upholstered seat lay his dark-blue Bell Magnum helmet, with its white peak. And for this race he chose tan kangaroo skin 'Jim Clark' driving gloves, from a range that also included red and black.

Clark led the race from the start but Graham Hill, in the works BRM P261, pushed him hard, his trademark, graceful, opposite-lock slides thrilling the crowds. It wasn't until three-quarter distance that the race seemed to be resolved in Clark's favour. Hill, with fading brakes, began to drop quickly away. But as it happened, the real race was only just beginning.

Jim's normally rock-solid Climax V8 engine began to lose oil pressure - first at Stowe, then at Club and Woodcote. On the straights, the needle would flicker back to the centre. With each passing lap, the plunges grew ever-worse; a blow-up - a rare blow-up in this final year for Coventry Climax in Formula 1 - seemed inevitable.

WHAT TO DO? WHAT TO DO?

Jim had no help from the pitwall. With no radio communication, Colin Chapman was oblivious to the problem. They could hear reports over the PA of what seemed to be a misfire, but on the pit straight the Climax engine sounded strong.

And so Jim conceived a cure: he decided to kill the engine through all the fast corners, thus minimising the piston or main bearing damage when the surge was at its greatest and the lubricant at its thinnest. He would approach Stowe in top gear, brake and change down to fourth - and then find neutral at around

120mph before switching off the engine. He would have no throttle to help him balance a slide; he couldn't apply any power until the 33B was straight. Instead, Jim was going to have to attempt an earlier-than-normal approach; a rotation at exactly the right moment and then a declutch to bring it all to life. All this without losing too much time to Graham Hill.

With his head tipped back, his body language giving no outward sign of the pressing problem, Jim set about the task in hand. Prior to the diminishing oil pressure, Jim had been lapping around 1min 33s/34s. Now, in switch-off mode,

> his lap times, incredibly, were only two seconds slower.

Three laps to go. Two. Once or twice the engine had sputtered before screaming back into life. Jim could now see Graham looming in his mirrors. The crowd, in his peripheral vision, was a waving sea of arms. "I never thought I'd live to see this!" boomed Peter Scott-Russell over the PA. "One car won't stop and the other won't go..."

Jim re-lit the Climax one more time. Third. Fourth. Abbey Curve. Fifth. Down to Woodcote. Fourth. Extend the straight. Delay the lateral load. Power on.

Chequered Flag. Last lap: 1min 36.8s. Enough for Jim Clark to win by a margin of 3.2 seconds – and to take a decisive, brilliant step towards his second world championship. 0

THAT WAS THEN...

EXPLORATION Alexey Leonov leaves his spacecraft Voskhod 2 for 12 minutes on 18 March, and becomes the first man to walk in space.

DEATH

The state funeral of Winston Churchill takes place at St Paul's Cathedral in London on 30 January.

MUSIC

The Righteous Brothers 'You've Lost That Lovin' Feelin" reaches number one in the UK charts - and the Rolling Stones are fined £5 each for public urination.

FILM

'The Sound of Music', starring Julie Andrews and Christopher Plummer, is released on 2 March.





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