



# GONE IN 1.89 SECS

The Williams  
pitstop  
miracle



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## MID-TERM REPORT

Who's hot &  
who's not  
in 2016

## F1'S FUTURE

WOLFF: "We  
can make it  
even bigger"

## BRAIN OR BALLS?

How an F1  
driver's body  
really works

Past his sell-by date, say critics

A waste of a red seat?



# THE CASE FOR KIMI

(Why Ferrari need 'The Iceman' more than ever)

**PLUS:** Why James Allison quit

Windsor explains new team structure

Arrivabene: 'Ferrari is heaven or hell'

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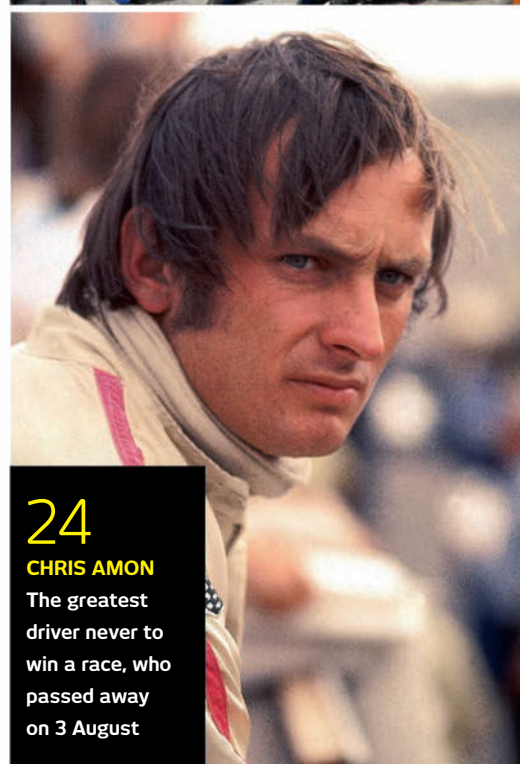
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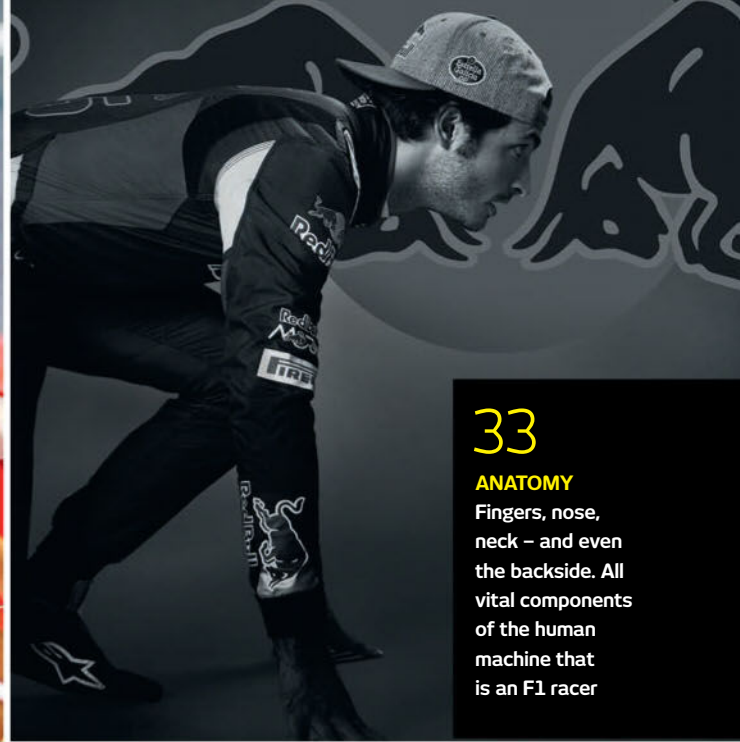
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Some say he's a waste of a red seat. We say Ferrari couldn't have chosen better

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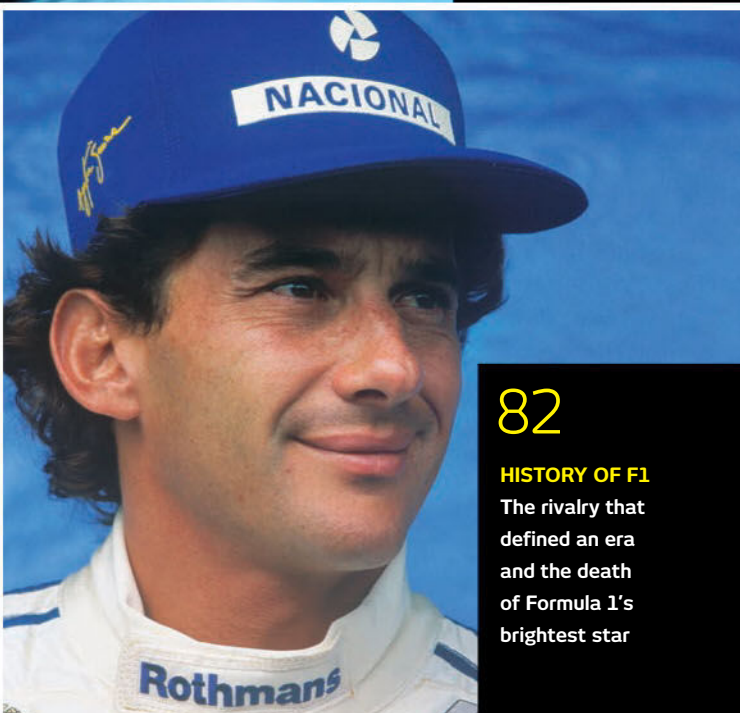
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**HISTORY OF F1**

The rivalry that defined an era and the death of Formula 1's brightest star



# Prime time and high times



Follow Anthony on Twitter: @Rowlinson\_F1

**A recent made-for-TV film** from the BBC: *The Rack Pack*. A whimsical production, it charts the phenomenal rise of the Snooker World Championship from the smoke-fogged snooker dens of the 1970s to its 1985 peak when one Dennis Taylor beat Steve Davis with the last ball of the match. With that winning pot of the final black (missed, inexplicably, by Davis), Taylor,

a genial Ulsterman with comedy glasses and a winning line in stand-up banter, became world champion before a UK TV audience of 18.5 million people – me included.

This magical piece of sporting theatre was played out over the Sunday evening of 28 April 1985. On it ground, frame after close-fought frame, into the wee small hours – way past ‘lights out’ on a school night, but too compelling a drama to be dismissed.

Thanks to colour television and the backing of a free-to-air broadcaster (not to mention the vision of an entrepreneurial promoter, Barry Hearn), snooker, a most unlikely ‘old man’s sport’, had become massive box office; its stars – Alex ‘Hurricane’ Higgins, Jimmy ‘Whirlwind’ White, Cliff Thorburn aka ‘The Grinder’ – household names, one and all. And Sheffield’s Crucible Theatre had become a field of dreams mentioned, improbably, in the same breath as Wembley.

It seemed impossible that snooker could fade from public affection, so secure was its place on TV schedules

and so strong its hold on popular consciousness. Yet it did – despite growing new heroes to replace the originals and expanding internationally to reach a wider audience. Elite snooker remains a big draw: recent UK TV audiences for the world championship final have hovered around 6 million, with global eyeballs topping 200m by some estimates. Like any other sport, however, it must fight to command attention when once it had the telly equivalent of the Midas touch.

It was with this in mind that we posed a question to a gathering of the sport’s movers and shakers: “Has Formula 1 peaked?” (see page 42). We were keen to garner opinion as to whether anecdotal evidence of dwindling ticket sales at certain venues and the demise of some free-to-air broadcasts were sufficiently offset by lucrative expansion into countries such as Azerbaijan and the rise of a wunderkind such as Max Verstappen.

Mercedes team boss Toto Wolff spoke confidently of F1’s ability to grow, adapt and reach new audiences. But Zak Brown, a man with his finger pressed firmly to the sport’s throbbing commercial pulse, counselled against complacency: “The world has changed,” he says, “but Formula 1 hasn’t changed as much as the world has... we have to adapt Formula 1 to fit the world.”

Now there’s a laudable ambition: tailoring product to fan. But how to do it? Halos to appease the safety lobby? Fatter Pirellis and more downforce to reduce lap times? Or a cost-capped formula emphasising driver skill over technical virtuosity? Each argument has merit; some will prevail as others are forgotten. But there is one certainty: F1’s success can never be taken for granted.



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**Adrian Myers**  
 F1 Racing’s photographic portrait specialist

At a studio within walking distance of Carlos Sainz’s London home, we spent the morning with the Toro Rosso racer for a very special studio shoot and interview (p33)



**Anthony Peacock**  
 Multilingual journalist and press attaché

In the F1 paddock ‘Piccolo’ works in Pirelli’s PR team, but he’s worked with Kimi Räikkönen in rallying, too. So who better to argue the case for ‘The Iceman’? (p54)



**Glenn Dunbar**  
 Globe-trotting LAT lensman with an eye for accuracy

This month, Glenn’s timing is spot on as he fires his lens at the team with the quickest pitstops in F1. Watch the Williams FW38 disappear in just 1.89secs on page 76



**Dieter Rencken**  
 Formula 1’s leading political analyst

On GP Friday afternoons, team principals appear in the FIA press conference. Four words make them quake: ‘Dieter Rencken, Power Play.’ Find out why on p31



Thanks to Alberto Antonini, Deborah Armstrong, Kelly Ashbridge, Matt Bishop, Roberto Boccafoli, Steve Cooper, Didier Coton, Ben Cowley, Will Hings, Piers Hunnisett, Darren Jones, Jai Joshi, Bradley Lord, Rupert Manwaring, Stuart Morrison, Tracy Novak, Sophie Ogg, Duncan Olley, Anthony Peacock, Carl Price, Aaron Rook, Charlotte Sefton, Nav Sidhu, Andy Stobart, Lynden Swainston, Fabiana Valenti, Roberta Valloresi, Tabatha Valls Halling, Bob Wayman. And a special mention to the legendary Byron Young – a stalwart of Fleet Street for many years



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# Parade

**Red alert** The high-intensity red light from a marshal's post pierces through the mist and rain during qualifying for the Hungarian Grand Prix, leaving Red Bull's Daniel Ricciardo no option but to abort his lap and return to the pits. There were a total of four red-flag stoppages due to the bad weather, causing a number of drivers to clout the barriers

**Where** Hungaroring, Hungary

**When** 2.23pm, Saturday 23 July 2016

**Photographer** Vladimir Rys

**Details** Canon EOS-1DX MkII, 400mm lens, 1/4000th at F4



# Parade

**We have liftoff** Lewis Hamilton samples the conditions during a rain-afflicted qualifying session in what has otherwise been a hot and sunny weekend on the outskirts of Budapest. And he's about to get a lesson in how little you have to lift off for the yellow flags...

**Where** Hungaroring, Hungary

**When** 2.44pm, Saturday 23 July 2016

**Photographer** Peter J Fox

**Details** Canon EOS-1DX, 600mm lens, 1/250th at F8



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# Parade

**Kerb your enthusiasm** Felipe Massa throws his Williams over the kerbs at Hockenheim's Turn 1 during Friday morning practice, placing his left-rear Pirelli under significant strain. It was to be a miserable grand prix for Massa, who struggled after contact early in the race and was forced to retire

**Where** Hockenheim, Germany **When** 11.01am, Friday 29 July 2016

**Photographer** Darren Heath

**Details** Canon EOS-1DX, 600mm lens, 1/2000th at F75.6





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# F1 INSIDER

NEWS ■ OPINION ■ ANALYSIS

## NEWS

# What next for Ferrari after Allison's departure?

After another underperforming season, the Scuderia have parted ways with their star technical leader, casting doubt over their future progress

**Ferrari will start** the second half of the season after the summer break determined to dispel the sense of a team in crisis following a worrying slump in form and the departure of their technical director, James Allison.

Allison, one of the most highly regarded aerodynamic design leaders in the paddock, left Ferrari on the eve of the German Grand Prix. That race confirmed the team's lack of competitiveness part way through a season in which they had hoped to challenge Mercedes.

No specific reason was given for Allison's departure. Team principal Maurizio Arrivabene said in a statement only that Ferrari thanked the 48-year-old "for his commitment and sacrifice during the time spent together, and wish him success and serenity for his future endeavours". Allison has been replaced by Mattia Binotto, the former head of the engine department, who takes on the role of chief technical officer.

It was interpreted by some that the split was related to the sudden death of Allison's wife, Rebecca, just after the Australian Grand Prix, but insiders say that this was not the central issue. Allison had made it clear in at least two emails to





Mattia Binotto (above) replaces Allison, after Ferrari failed to take the challenge to Mercedes (above)

staff that he remained completely committed to Ferrari, and sources close to him say it would be out of character for him to give up on a project once he had started it.

Allison was devastated by the family tragedy, but three weeks later he flew to Maranello ahead of the Chinese GP to be part of the race support team at the factory. In fact, the issue seems to have been a fracture of trust in the relationship between Allison and Arrivabene and Ferrari president Sergio Marchionne, who has been busy restructuring the team over the past few months.

Marchionne had been asking junior members of staff what they felt was wrong with Ferrari,

and how to bring back a greater element of design creativity. That is the single biggest reason, cited by those who have worked with Ferrari and moved on, as to why the team has been unable to produce a chassis as good as the best from Mercedes and Red Bull this decade.

There had been two flashpoints. Marchionne had wanted to bring in a head of chassis design between chief designer Simone Resto and Allison, who said it was not necessary. And the team were unhappy that Allison remained at home in Oxfordshire during the British Grand Prix, when Ferrari were struggling badly, even though it had been agreed ahead of this year that his role would change to become more factory-based, to play to his strengths – which are in design creativity, not trackside operations.

Equally, the lack of performance of this year's car did not help Allison's cause. This was the second chassis that had been designed wholly under his control. Yet despite flashes of promise in Bahrain and Canada, as the season progressed it emerged that the Ferrari chassis was no more competitive than it had been at its best in 2014. Ferrari are actually further away from Mercedes this year than they were in 2015, on average so far 0.791secs off pole compared with 0.689secs last year. And that's despite having an engine reputed to be less than 10bhp shy of Mercedes'.

None of this strengthened Allison's position in the face of Marchionne's determination to make changes. In the end, it was agreed by all parties that, under the circumstances, the best solution was for them to go their separate ways.

Ferrari engineering director Jock Clear, who joined from Mercedes in January, admitted that Allison's departure weakened the team. "Losing someone of James Allison's calibre is not going to go unnoticed," Clear said. "The team is going to have to work pretty hard to support everybody and cover those gaps. In that respect, Mattia is going to need help from everybody. Ferrari has to move forward and we have to make the most of the situation as it is. I know everybody is committed to pulling together and covering any of those areas where James was very strong. He will be missed, but that's the challenge for us."

Sebastian Vettel, whose Ferrari contract comes up for renewal at the end of 2017, is said to be unimpressed by Allison's departure



NEWS DIGEST

The month's big stories at a glance

12.07.16 Ferrari protégé Charles Leclerc tests for Haas at post-British GP test day 12.07.16 Sauber miss the same test 19.07.16 Losses of £57million are announced for Lotus in 2015 before their sale to Renault 20.07.16 Silverstone announces a 25,000 capacity increase

20.07.16 Sauber announce a change in ownership that secures their future



21.07.17 FIA tightens radio communication rules 22.07.16 Nico Rosberg signs new Mercedes deal to end of 2018 27.07.16 James Allison leaves Ferrari 28.07.16 Strategy Group agree to wet standing starts and hold off on introducing the halo until 2018 28.07.16 FIA radio restrictions lifted from German GP onwards 03.08.16 Red Bull test 2017 tyres at Mugello 03.08.16 Chris Amon dies, aged 73

The split comes at the worst possible time for Ferrari ahead of the major regulation change being introduced next season. Summer is when the fundamentals of next year's car design are completed. Ditching their creative design chief at such a critical time is bound to cause problems, and is hardly likely to increase Ferrari's chances of closing the gap to the front.

Ferrari rate Binotto highly as an engineering manager, not least because he oversaw the huge improvement in the engine's performance in 2014-15, and the team are confident that a policy of promoting from within will ultimately put them in a stronger position.

Insiders say Sebastian Vettel is not impressed by Allison's departure. It remains to be seen what effect it will have on his belief in the team's ability to mount a title challenge, and his desire to extend his contract beyond the end of 2017.

PHOTOS: CHARLES COATES/LAT; ALASTAIR STALEY/LAT; SAM BLOXHAM/LAT; GLENN DUNBAR/LAT

**NEWS**

# Ericsson backers linked to Sauber buyout

Ownership of Longbow Finance is shrouded in mystery – as is the company’s motivation for taking on the ailing team



Links have been revealed between Marcus Ericsson’s backers and Sauber’s new owners

**Sauber’s recent money struggles** appear to finally be at an end, after the team announced at the Hungarian GP that they have new owners.

That welcome news was tempered, however, by speculation as to the identity of the new owners. The company, Longbow Finance SA, are based in Switzerland, with all the opacity that entails. So the stakeholders in Longbow are largely unknown, and there is uncertainty over what they stand to gain from an association with a team who were slipping into oblivion.

So far, only Longbow president Pascal Picci has been named by Sauber, and he has become the team’s chairman. But scrutiny of publicly available corporate declarations in Switzerland and the UK reveal clear links between the Swiss-based investment company, prominent Swedish businesses, and Sauber driver Marcus Ericsson.

Picci is a director of Sportpro Ltd, a company incorporated in 2006 by a Birmingham-based lawyer, John Soden, who at the time was legal adviser to Ericsson and his then manager, Kenny Brack, ahead of Ericsson’s first year in single-seaters. Brack is no longer on the scene, and no longer a director of Sportpro, but subsequent

and current directors also include Finn Rausing, co-owner of Tetra Laval – the makers of the Tetra Pak – and Karl-Johan Persson, grandson of the founder of the clothing chain H&M.

Longbow Finance is a majority shareholder in Sportpro, along with Swedish real estate company Ramsbury Invest, which is owned by Persson’s father. In turn, Sportpro owned 40 per cent of ME Promotions Ltd, a company also originally set up by Soden and Brack, and funded it in the form of loans. Ericsson owned the other 60 per cent until the company was dissolved in 2010, and Persson was listed as the secretary. Before dissolution, its debt of £1.1million to Sportpro was transferred to a Netherlands-based company called ME Promotions BV, which has filed trademarks related to Ericsson’s personal logo, and also has ownership ties with Sportpro.

Sauber team principal Monisha Kaltenborn remarked only that: “All disclosures that are required in Switzerland are done.” But the paper trail offers a glimpse behind the curtain. Most importantly for the team and the sport, it shows that whatever the motivation for the secrecy, the money is now there.

**QUIZ**



**THE BELGIAN GP**

- Q1** The Belgian Grand Prix has been held at which three circuits?
- Q2** Which team have won more Belgian GPs: McLaren or Ferrari?
- Q3** Daniel Ricciardo’s last win was in Spa 2014. Who came second?
- Q4** When Mika Häkkinen made one of the best overtakes in F1 history on Michael Schumacher on the Kemmel Straight, which driver did they go either side of?
- Q5** Who is the only Belgian to finish on the podium in his home race?

- Q6** Spa is renowned for its wet weather, but how many of the past ten Belgian Grands Prix have actually had rain during the race?
- Q7** Which multiple Le Mans 24 Hour race winner made his only F1 start at the 2014 race?
- Q8** Why was the 1985 race postponed after first practice in June until September?

- Q9** Who claimed their, and Jordan’s, first pole position at Spa in 1994?
- Q10** Which future world champion won the first ever Belgian Grand Prix, held in 1950?
- Q11** Which of the five world champions on the 2016 grid has never won the Belgian GP?
- Q12** Jim Clark and Ayrton Senna share which Belgian GP record?

- Q13** In 2013, which environmental group protested about principal race sponsor Shell by displaying banners at various locations?
- Q14** McLaren were penalised a record number of grid places in 2015. How many?
- Q15** True or false: Lewis Hamilton has set more poles at Spa than Sebastian Vettel.

1 Nivellies, Zolder, Spa 2 Ferrari (16) 3 Nico Rosberg 4 Ricardo Zonta 5 Paul Frère (1950) 6 3 7 Andre Lotterer 8 The track surface broke up 9 Rubens Barrichello 10 Juan Manuel Fangio 11 Fernando Alonso 12 Most consecutive wins (4) 13 Greenpeace 14 14 105 15 True



NEWS

## Cockpit protection deferred until 2018

F1's much-maligned Strategy Group have agreed to delay extra cockpit safety measures for a year – and not everyone is happy

**Formula 1 has delayed** the introduction of the 'halo' cockpit head-protection system until 2018. The decision, which has angered many current drivers, was made because the Strategy Group felt that the system needed to be trialled more extensively by everyone before the sport committed to running it permanently.

So far, only Ferrari racers Sebastian Vettel and Kimi Räikkönen and Red Bull reserve driver Pierre Gasly have tried the halo – and only for a total of four laps. FIA race director Charlie Whiting, who is resolute that the halo will be in place by 2018, said: "Everyone felt this was quite a relevant thing and it wouldn't be feasible to expect, in the short term, to get the relevant number of laps with the halo."

Whiting explained that the plan was for every driver to try it for a significant amount of mileage in the remaining nine races of the season.

"What we are looking to do is to make it clear that every driver has to try it for a whole free

practice session during the course of the year," he said. "That would be the proper way forward, to make sure that we don't get caught out by something that is very hard to change back."

Lewis Hamilton led complaints from drivers about the decision. The reigning world champion had been opposed to the halo system when he first saw the device in place on a car in pre-season testing, describing it as "the worst-looking mod in F1 history".

But his mind was changed by a presentation on its effectiveness given to the drivers at the Hungarian Grand Prix weekend. This showed how the halo would have reduced or removed the risk of driver injury or death in all incidents in recent years in which a large object – a wheel or a wall, for example – intruded or threatened to intrude on the cockpit space.

The presentation also touched on how the device would reduce by 17 per cent the risk of injury from small objects, such as the suspension

part that fractured Felipe Massa's skull at the Hungarian Grand Prix in 2009.

Hamilton said: "I don't really know why it's not going to be there next year. I just hope no one gets injured, including me, between now and the end of next season."

Red Bull team principal Christian Horner said that the halo needs more research, by "proper experts", but Grand Prix Drivers' Association chairman Alexander Wurz rejected that stance.

"The safety experts have developed the halo since 2009, so it's one of the most developed safety devices in the history of Formula 1," Wurz said. "We are proud that F1 has always tried to improve its safety record. The halo would have been one of these steps, but the Strategy Group decided to make a U-turn and that is surprising to us drivers."

"The halo is not the most aesthetically pleasing device, but the FIA, Bernie's people and Jean Todt's people have asked us to have an open mind about it. After numerous presentations, drivers had come around to it in the same way that in the old days they came round to using helmets, seat belts and introducing higher neck protection.

"It was them [the Strategy Group] who told us it was the best thing, but yet they've made this quick turnaround from their position a week ago, because it was a ready-to-race solution. Maybe they have better data than they did a week ago."

PHOTOS: STEVEN TEE/LAT; SAM BLOXHAM/LAT; STEVE ETHERINGTON/LAT; ANDY HONE/LAT; LAT ARCHIVE

# Driver market is poised for Pérez's next move

Sergio Pérez is still contracted to Force India, but if his sponsors decide to move him, there will be a reshuffle across the grid



**Sergio Pérez is the key** to the driver market over the remainder of the 2016 season. This is both a reflection of who is left on the market, and of how his stock has risen since he joined the sport as a Sauber driver in 2011.

Line-ups at the top three teams, Mercedes, Red Bull and Mercedes, are already agreed, while McLaren are deciding between Jenson Button and Stoffel Vandoorne as a partner for Fernando Alonso. If they choose Vandoorne as expected, Button will be back on the market, although this may be the case anyway if he decides to leave McLaren. His manager, Richard Goddard, says Button has not yet made up his mind about what he wants to do in 2017.

Williams are interested in Button, and are also pitching for Pérez, who is reputed to bring sponsorship worth £19.5m per year. Renault are also very keen on Pérez, and are, at this stage, looking to replace both their current drivers – a Pérez-Ocon line-up is a strong option.

However, Force India claim to have Pérez under contract. The driver himself says this is

**Pérez is understood to be a strong contender to replace Felipe Massa at Williams in 2017**

“correct”, but adds that he “depends a lot on my sponsors as well to decide together what to do”, implying he feels he could yet leave if his sponsors decide he should move elsewhere.

Williams are performing very similarly to Force India on track this year, but their greater reputation and cachet might make them more appealing. The team are expected to drop Felipe Massa, who is likely to retire from F1.

Valtteri Bottas's position is also far from certain. Williams have an option on him, but he may decide not to take it up, in which case a Pérez-Button line-up is far from impossible.

Esteban Ocon, now gaining race experience with Manor, is a strong contender for a Renault seat. Of the current Renault drivers, Kevin Magnussen impressed at the start of the season, but a perceived lackadaisical attitude has weakened his position, while Jolyon Palmer is currently exceeding expectations.

## PASSNOTES

Your essential F1 briefing #30 U-turn



**Name** U-turn  
**Age** As old as the beaten paths of human thoroughfares  
**Appearance** A 180° move to return in the original direction

**U-turn, eh? Is he a chum of P. Diddy?**

Very droll, and well done on shifting your musical frame of reference a decade or so on from its usual default setting.

**I'm trying...**

You're very trying. A bad boy for life, indubitably.

**If that's a reference to P. Diddy's musical canon, we'll have to pause for a few seconds while I look it up in my Guinness Book of Hits.**

Truly you are a man out of time.

**Utterly. So, the U-turn...**

Well, the Strategy Group –

**AIEEEEEEEEEEE!**

We're not going to get very far if you do that every time I mention them.

**It's a Pavlovian response, and I refer not to a delicious dessert involving meringue, whipped cream and fruit.**

Fair enough. So, F1's least favourite talking shop has decided that teams should no longer be banned from discussing matters technical and strategic with their drivers over the radio.

**And rightly so. Conversation has largely failed to sparkle this year. Hang on! Didn't they vote for the ban in the first place?**

Indeed they did, pressing the FIA to enforce the bit in the rules that says a driver must drive “alone and unaided”. Hence Nico Rosberg getting his wrists slapped at Silverstone, and Force India being unable to warn their drivers about brake woes in Austria.

**What chumps. Can they even decide what biscuits to serve at meetings without changing their minds? This is the regulatory equivalent of an episode of Mike Reid's Runaround...**

And there we go, back to the 1970s. You've made a U-turn of your own.

**U don't say. Anyhow, biscuits. Jammie dodgers or custard creams?**

Ooh, I don't know. Shall we put it to the vote?

**Do say** U-turn if you want to

**Don't say** U can't touch this. Oh, you already have!

PHOTO: GLENN DUNBAR/LAT



**SHOULDERS CAN  
CARRY ANYTHING**

**BUT DANDRUFF**



Visible flakes seen at 2ft with regular use

# U-turn over radio comms heads 2016 rules revamp

The controversial restrictions on pit-to-car radio transmissions have been lifted by the FIA following objections from the teams

Formula 1's governing body has introduced a series of changes to the sporting rules following a number of controversies over the first half of the 2016 season. Team radio restrictions, introduced this year because of complaints from fans that it appeared drivers were being told how to drive by engineers, have now been lifted completely.

This has come after a push back from the teams, who felt that the restrictions were inappropriate in a 21st-century sport with highly complicated cars. There had been a series of incidents in recent races that led to this decision – including a crash caused by brake failure for Sergio Pérez, Lewis Hamilton's struggles with his engine settings in Baku, and Nico Rosberg being penalised for being told how to avoid a gearbox problem at Silverstone. In each case, the rules forbade the teams from helping the drivers with car settings while they were out on track.



Pérez's brake failure in Austria could have been avoided with radio assistance from his team

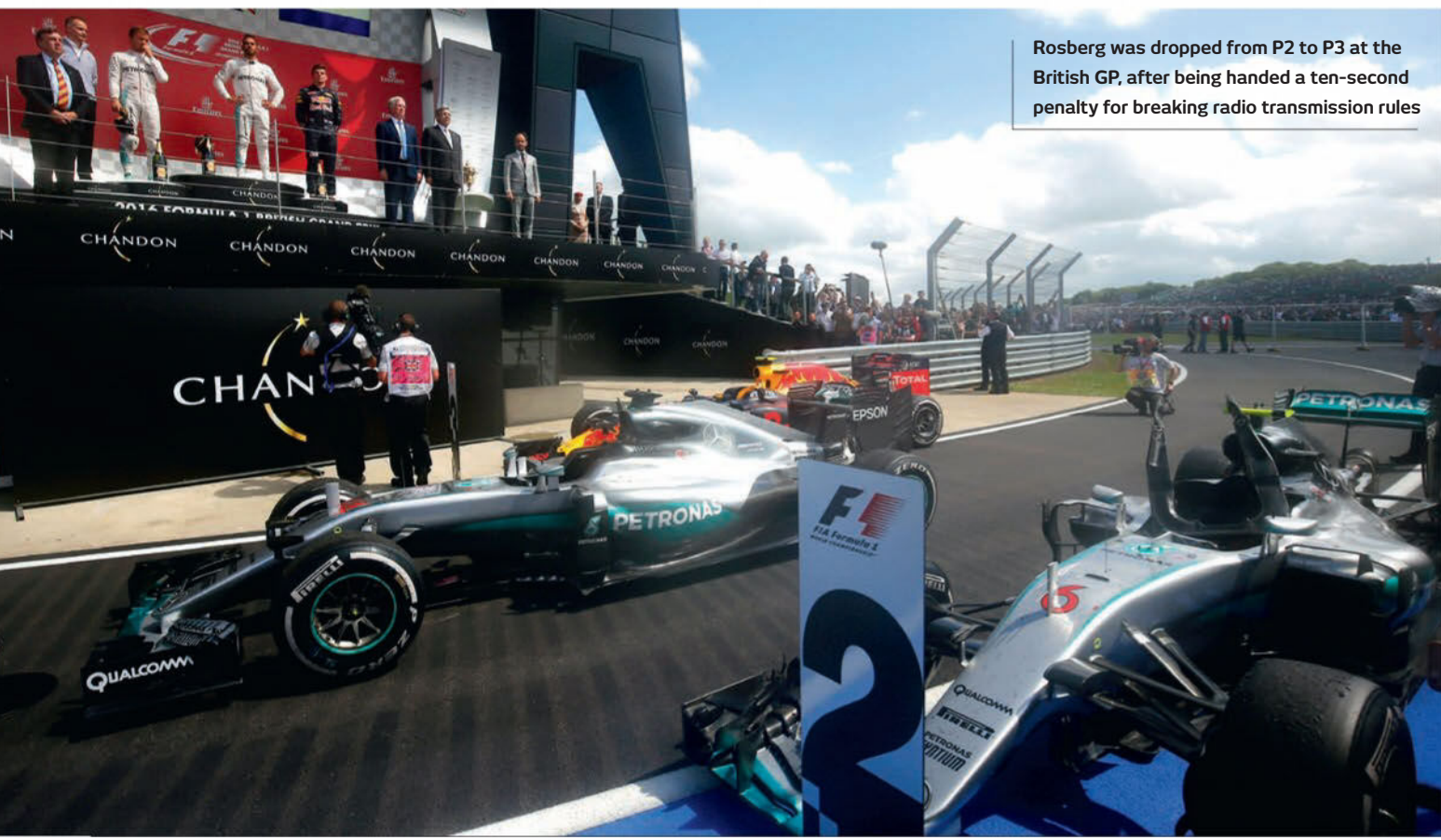
Another controversy in recent races has led to a re-think of the approach to incidents that would usually have brought out double waved yellow flags in qualifying – an indication that a driver must “slow down significantly and be prepared to stop”. Several drivers and teams were unhappy that Nico Rosberg was able to

set pole at the Hungarian Grand Prix, despite passing an extreme caution zone following a spin by McLaren's Fernando Alonso.

Rosberg was allowed to keep the lap because he had slowed by the required amount – just under 0.2secs in a three-second sector – and had entered the corner 12.4mph slower than on his previous lap. But the uproar led race director Charlie Whiting to decide in future to show a red flag in qualifying for any incident that would be considered dangerous enough to warrant double waved yellows. This may in itself have controversial consequences.

There has also been a rethink over wet races starting behind the Safety Car. From 2017, drivers will line up on the grid for a standing restart once the track is deemed dry enough for racing. The reason the Safety Car is used to start races in very wet conditions more so than in the past is that drivers do not trust the Pirelli 'extreme' wet tyres, which Sebastian Vettel has described as: “Basically just good enough to follow the Safety Car”.

Some team bosses and Bernie Ecclestone had pushed for an abandonment of track limits, on the basis that the kerbs should prevent drivers from going beyond them. Whiting has rejected this on safety grounds because it would, in effect, change the layout of tracks.



PHOTOS: ANDREW HONE/LAT; ANTHONY ROWLINSOVLAT



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UN



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**NEWS**

# Merc cue up their next generation of talent

The constructors' champions look toward the end of 2018, when both Hamilton and Rosberg's contracts will be up for renewal



Esteban Ocon (above) has joined fellow Mercedes junior Pascal Wehrlein at Manor. Either could replace Nico Rosberg in 2018

**Nico Rosberg has signed a new** two-year contract with Mercedes, taking his deal with the team to the end of 2018. This means it will run out at the same time as team-mate Lewis Hamilton's, potentially leaving Mercedes with two drivers to find in two years' time.

Assuming Hamilton wants to remain in F1, it may only be one. Hamilton has spoken of doing another "four or five years". And he has shown no inclination to move to Ferrari, the only obvious place for him to go beyond Mercedes, so one final Mercedes deal looks to be most likely scenario for him. The chances of Rosberg

being retained after that time, though, are slim, especially since Mercedes are already considering his replacement.

Daniel Ricciardo's Red Bull contract also runs out in 2018, and Mercedes F1 boss Toto Wolff is known to be an admirer. The same is true of his team-mate, Max Verstappen, but he is contracted to Red Bull for another year.

Mercedes could well go for youth, though. They have two young drivers under contract and already in F1: Manor's Pascal Wehrlein and Esteban Ocon, who had been loaned to Renault as a reserve driver and has replaced Rio Haryanto at Manor. If they prove good enough, either could end up at Mercedes.

Sources claim Wolff would like McLaren's Stoffel Vandoorne to slot in at Williams or Renault next year with a view to Wolff forming some type of contractual relationship with him. For now, though, Vandoorne is under contract to McLaren, who are set to choose between him and Jenson Button for 2017.

**NEWS IN BRIEF**



**TRACK TESTS BEGIN FOR 2017 RUBBER**

Pirelli have started evaluating the new generation of wider wheels and tyres that will be introduced in 2017. Using 2015 cars, as per the testing restrictions, Sebastian Vettel and Esteban Gutiérrez tried wet-weather treads in a Ferrari at Fiorano, while Red Bull reserve Sébastien Buemi ran slicks in a Red Bull at Mugello. Eight further tests are planned at Barcelona, Paul Ricard and Abu Dhabi.

**OCON TAKES HARYANTO'S SEAT**

Highly rated Mercedes junior Esteban Ocon has taken over at Manor from Rio Haryanto, who has run out of money. Although Haryanto was contracted for the year, his drive was funded only up until the Hungarian GP, and Mercedes were understood to be keen to assess Ocon – whom they had placed at Renault as a reserve driver – in a race environment. Haryanto will stay on at Manor as their reserve driver.

**KIDNAPPERS ARRESTED**

Three men have been arrested in São Paulo in connection with the abduction of Bernie Ecclestone's mother-in-law, Aparecida Schunck, who was recovered on 31 July after spending nine days in captivity. The kidnapers had demanded a ransom of £28million. One of the men arrested had worked for the family as a helicopter pilot.

**MIRTH**

## SEPARATED AT BIRTH...

**Bruce Forsyth**



Legendary king of light entertainment

**Lewis Hamilton**



Three-time Formula 1 world champion

**MORE INVESTMENT FOR RENAULT**



Renault's works team will receive additional investment from their parent company in a bid to enable them to join Formula 1's frontrunners before 2020. "What we want is to make a difference as quickly as possible, and for that there is no better way than to accelerate what we need to do," said managing director Cyril Abiteboul.

PHOTOS: STEVEN TEE/LAT; STEVE ETHERINGTON/LAT; SUTTON IMAGES; NILS JORGENSEN/REX/SHUTTERSTOCK

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# CHRIS AMON

1943  
-2016

Forever the man 'who never won a grand prix', Chris Amon had talent as great as any

WORDS PETER WINDSOR

**Chris Amon: even the name said racing driver.** I watched the glamorous young star, then aged 19, on the crest of an early wave in an old David McKay-entered leaf-spring Cooper-Climax 2.5, drifting and placing, drifting and placing. He was a god of a driver, a prodigy – just as everyone said. In foggy black-and-white photos, we followed Chris's early F1 life: the Parnell Lotus 25, the London flat, the Cooper S. The Beatles and Christine Keeler were the headlines; Chris was an extra, a star waiting to shine.

He was ferociously quick in early McLaren sportscars, the Bruce-developed Ford X1 Spyder, and the Cooper-Maserati F1 car. Just as Bruce was turning to F1, though, Ferrari rang Chris Amon with an offer too good to refuse: as well as joining Lorenzo Bandini in the F1 team, Chris would race sports prototypes, CanAm, F2 and Tasman.

He and Lorenzo won the 1967 Daytona 24 Hours and Monza 1,000km with the Forghieri-designed Ferrari 330 P4. They were the golden boys of Italian motorsport. Then, at Monaco, Lorenzo died in a fiery accident. Aged 23, and with only three Ferrari drives behind him, Chris was suddenly the new Main Man at Maranello.

He should have won plenty of F1 races with Ferrari through to the end of 1969. Chris nearly won the 1968 British GP on his 25th birthday: he was beaten by the superior power of Jo Siffert's Rob Walker Lotus 49B-Cosworth. At Sainte Jovite, near Montréal, on a fast, undulating, flowing circuit that Chris put right up there with Oulton Park and Clermont-Ferrand, he dominated the 1968 Canadian GP, minus clutch. He was leading by over a minute, his down- and up-shifting as smooth as silk, when the steel ring behind the clutch diaphragm finally failed with 18 laps to run. Only two



weeks before, Chris had walked away from a titanic testing accident at Monza, when something broke on his Ferrari as he entered the Lesmos, which were much quicker then than they are today.


There were golden moments, too: endless testing at Modena, long lunches with Enzo Ferrari. In the 1968 Australian GP at Sandown Park, Jim Clark (Lotus 49T) and Chris ran wheel-to-wheel for the entire distance, with Jim finally winning it by a nose. I spoke to Chris this year about how we should celebrate 50 years since that race in 2018. "I'd love to," he said. "That was one of the most enjoyable races of my career. Nothing wrong with being beaten by Jim Clark..." I added (because I knew Chris wouldn't say it) "But it was a power circuit. Jim had a good 30-40 more horses than you..."

At Longford, in support of the 1968 Tasman race, Chris drove McKay's 4.2-litre, quad-cam V12 Ferrari P4 Spyder on the record-breaking edge. After admitting pre-race that "conditions will have to be perfect if I'm going to stretch it," he set 182.9mph between the trees on the Flying Mile at an average of 119.3mph – 0.2s quicker than Jim Clark's pole time in the Lotus 49T. Indeed, later that year, in August, at the F1 Gold Cup, Chris wowed the crowds at Oulton Park's Old Hall corner (below left) with four-wheel-drifts comparable only with Jim Clark's control of a Lotus-Cortina.

Inexplicably, though, Chris would never achieve solid results commensurate with his talent. Downcast by the performance of the Ferrari V12 alongside the new Ford Cosworth DFV, Chris left Ferrari for March-Cosworth in 1970. The new Ferrari flat-12 proved straight away to be at least a Cosworth match and Jacky Ickx a winner. Even so, Chris raced right up there with fellow-March driver Jackie Stewart, won the Daily Express Trophy race at Silverstone, and was flat-out behind Pedro Rodríguez's oil-leaking BRM at Spa, waiting for the BRM engine to blow, as it always did, when, for once, the V12 went the distance: Chris had to live with second place. He switched to Matra for 1971-72 and should have won at Monza, where he was leading, at last free of the bunch behind him, when he reached up to remove a visor tear-off. As he did so, the entire visor fell away – and, with it, Chris's race.

I saw Chris at Clermont in 1972, blowing away the field in the blue, functional, high-revving Matra MS120D. The V12 wail pierced the mountain circuit like a dagger. Chris's throttle application and gear-changing were Technicolor pure. The inevitable puncture robbed him of a win but for me this was always Chris's race; indeed, Clermont '72 in my mind will always be Chris Amon.

The latter part of Chris's career was blighted in the main by uncompetitive cars – the Tecno, his own Amon, the Ensign. He stretched them all to breaking-point but always looked smooth, even when holding them on 30° of opposite lock. He was a fusion, on any corner, of Alain Prost, Jackie Stewart and Jochen Rindt.

In 1977 Chris retired with his wife, Tish, to New Zealand. I knew him as a friend who would always oblige and as a genius of a racing driver devoid of ego. "The cars just need more power and no aero," he would say, whenever we talked about F1. "And what's with all the run-off area? It's as if the drivers intend to use it or something..." 



Former Ferrari  
F1 racer Chris  
Amon, who died  
on 3 August  
2016, aged 73



Pat Symonds explains  
**THE SCIENCE BEHIND...**  
**Computer Aided Design**

**F1 TECH**

**What exactly is Computer Aided Design (CAD) and how does it differ from design processes used in years gone by?**

CAD is often thought of as an electronic version of the old drawing board, but is actually much more than that. The primary difference these days is that design is done in three dimensions and therefore the item that is designed can have properties associated with it. For example, in traditional drafting at a drawing board, a designer may have drawn several views of a complex hydraulic valve block with a myriad of dimensions on each view so that the machinist who was making the item could follow each one to manufacture it. The designer would have no knowledge of the mass of the item and nor would he be able to add that component to a full assembly drawing without re-drawing it.

CAD takes this one stage further because now the model that the designer has created can be shared with many other departments and the valve block mentioned above could be analysed for structural integrity or even for the quality of flow through the various ports by use of Computational Fluid Dynamics (CFD) without having to be recreated at each stage.

**How did you work before CAD was introduced?**

Obviously all design was done on paper, but more significantly we simply didn't do all the analysis and checking that we do today. I remember when I was a young designer drawing diffusers, I'd measure the cross-sectional area of several stations on the underwing using something called a planimeter – a mechanical device that measures two dimensional areas. It is something that few people would have heard of these days. If the area wasn't what I wanted, I would have to redraw the whole item. These days the computer will perform the calculation and, if incorrect, the designer simply drags a line until he gets the answer he wants.

Perhaps more significantly we had very little chance to draw assemblies of parts and even

when we did they were in two dimensions. These days we have full 3D digital mockups which allow us to check for errors long before any parts are made. This has reduced the number of scrap parts made by an enormous amount.

**When was CAD first introduced into F1?**

I was working at Benetton in the late '80s when we introduced our first 3D terminal. It was an enormously expensive undertaking and a sea change in the way we worked, although at that time we were using it only for bodywork.

The system we used then, Unigraphics, had been developed by McDonnell Douglas and was the forerunner of the system known today as Siemens NX, which is still used in F1. It was run on a Sun workstation, which was, by today's standards, a pretty primitive although hugely expensive device at the time. To put it in context, an iPhone 6 has roughly 1,500 times the computing power of those early workstations.

**Aside from the way it replaced drawing boards with computers, is Computer Aided Design the same as traditional design?**

Not at all. The biggest difference is that designing in CAD these days is done in three dimensions and hence full virtual models rather than two dimensional images are constructed. As well as being three dimensional, the models can have properties; in other words the designer can specify that the component he is designing is made from say, titanium, and the computer can then calculate its mass and inertial properties. The same model, with its associated properties can then be passed to a Finite Element Analysis programme that, given the loads it will experience and the constraints imposed, can calculate the principal stresses that the component may experience.

A further advantage of CAD is that every component can be placed in a three dimensional space and, as such, assemblies can be built up to form a complete digital mockup. This ensures

not only that the parts fit together, but also that you can physically assemble them, saving many hours of frustration when the car is built.

**Can you link CAD designs to other systems?**

Yes, and this is one of the big advantages of digital design. The original design will often be passed to the structural analysis department to check its suitability from strength, stiffness and fatigue life aspects. If it is a machined part, it will go to the tool path programming specialists who will write the programmes for the complex machine tools that will cut the metal.

Of course not all designs will be physically manufactured. Some may consist just of surfaces constructed for analysis, such as the elements of



a wing. In this case the CAD design will be fed straight through to the powerful supercomputer clusters that analyse the airflow around the wing using CFD. If the analysis is positive, the surface can be enhanced to produce a component for windtunnel testing and then be passed to the car design group as the basis for a car component.

**Is there anything CAD allows you to do now that wasn't possible previously?**

There are many things, and I would argue that the complex aerodynamic surfaces of a front wing simply would not be possible without the ability to model them in 3D with coherent, mathematically smooth surfaces. The same is



CAD enables superior component design, working in 3D. And it can be linked through to other departments such as Computational Fluid Design (left) to optimise airflow around components in advance

true of manufacturing, particularly in the field of additive manufacturing or 3D printing as it is often called. Three dimensional printers are able to read a particular type of file straight from the CAD system and turn it into a physical object with minimal intervention.

**Is it much quicker to design a component in CAD than it was with the old methods?**

Herein lies one of the biggest myths surrounding CAD. It is actually not really any quicker to

design a component in CAD, but it is possible to design a vastly superior component than could ever have been planned out using a drawing board. What's more, the design space and opportunities that are opened up by CAD are beyond the wildest dreams of a designer of 40 years ago. Time savings can be made further downstream, when the manufacturing becomes more integrated, and the scrap rate from both design and manufacturing errors is therefore reduced enormously.

**Will CAD change much in the future?**

Naturally the hardware it runs on will continue to improve (it still takes a long while to load an assembly, even on a modern workstation), but I think the real advances will occur in the application of parametric design and the automatic application of design rules and best practice so that the creative flair of the designer can be enhanced by machine intelligence.

**NEXT MONTH** Pat answers your tech queries



PETER WINDSOR

## RACER'S EDGE

Authority, wit and intelligence  
from the voice of *F1 Racing*

**T**he press were always going to be sceptical about the new structure at Ferrari. You know the line: bring back Ross Brawn etc. I'm not so sure. For one thing, Ferrari's dominance from 2000-2004 was very much due to the Michael Schumacher-Jean Todt alliance, not some mechanical or aero magic. To put it bluntly, it was Michael saying to Todt: "Let's get Bridgestone working exclusively with us. Make it happen. Give me Bridgestone and I'll give you a bunch of world championships."

Okay, Ferrari had to share the tyres with some minor teams. The point was that McLaren, Renault and Williams were left to squabble over the Michelins. Ferrari could run the Bridgestone technology as they pleased. Simple. And Michael delivered. Ross ran the team; Todt and Michael pulled the strings.

A tyre coup like that would not be possible today, which is why Michael and Ross struggled to recreate it at Mercedes. And that leaves, in terms of the pure racing fundamentals, the engine, the aero and the drivers. Ferrari have made huge progress with the powertrain over the past 20 months, and much of the credit for that should go to newly appointed chief technical officer Mattia Binotto. The steps forward with the chassis have been less so. Partly I think this was

# Ferrari are having a wobble, not a crisis

because James Allison was not immediately given broad-brush control of the car; that only happened late in 2014.

Even so, progress has been disappointing. Long noses were ditched by McLaren and Force India in 2015, but Ferrari's front end took a full 12 months to sharpen. The current car is sanitary and drivable, but when I asked Seb Vettel in Canada how he rated it in terms of top speed, traction, medium-speed and high-speed corners, change-of-direction and braking, he had to admit that there were weak points, starting with the fast- to medium-speed corners.

That, to me, was surprising, given the talent of James Allison. He's a CFD engineer *par excellence* and so you would have thought that medium-speed aero efficiency was exactly what he would have been having for breakfast all those cold Maranello mornings last winter.

We know, though, that this has been a desperately sad year for James. He lost his wife, Rebecca, after a sudden illness, just after the Australian GP. I didn't expect him to return to the pitlane at all, let alone continue to run his car's development. Yet return he did: he immersed himself in his work; he carried on, as fighters do.

Now he's had enough. Understandably, James wants to spend more time in the UK, with his family. Ferrari for a few days were suddenly without a chief technical officer.

The major Ferrari decisions today are taken by Sergio Marchionne, the company's president, in conjunction with Maurizio Arrivabene, appointed by Marchionne as team principal at the end of 2014. The plan was to let James Allison 'do an Adrian Newey' and run the team and the car his way. It didn't work out – partly because of the aforementioned circumstances, and partly because there's only one Adrian Newey. As good as he is with a pencil and drawing



"Think of a Ferrari regime that produces a power unit to match that of Mercedes..."



James Allison (far left) was allowed to run Ferrari his way. Following his departure, Mattia Binotto (near left) has been made chief technical officer. The focus is now on engine development and star driver Seb Vettel (below)



board, Adrian is also a racer of the first degree, an engineer with as much feel for what tyres should be run at any moment of a difficult race as he has for the eccentricities of vortex generators as a function of laminar air flow.

Beyond that, today's F1 is as much about power units as it is aero efficiency, and that was not the case when Seb Vettel was winning races at Red Bull and establishing case studies for his generation on how it should be done. Back then, aero was less restricted and power units were less complicated. Then the rules changed. If Adrian couldn't keep Red Bull up there with Mercedes in this current formula, what chance did James Allison have at Ferrari?

Thus we find the Scuderia today: should they try to find another James? Should they try to re-hire Ross Brawn, give him control of the entire operation and hope for another Bridgestone-type missile? Or should they focus on what they do well and try to expand it?

They've taken the third option. Think of a Ferrari regime that produces a power unit to match that of Mercedes. It's a huge ask, but the pieces are there. Binotto knows what he's doing in terms of a V6's internal combustion and its hybrid deployment, and he can engineer a car from the pitwall, too. The doomsayers will maintain F1 is still all about aero, and of course the 2017 F1 regs are now much more aero-driven than either Mercedes or Ferrari would have liked, but the Ferrari aero engineers aren't exactly dunces.

It makes sense: focus more on the powertrain. Try to elevate Ferrari's V6 hybrid to Mercedes territory while remembering that Honda aren't going away and that Renault are improving, too. The chassis? Ferrari have another plus: Sebastian Vettel. Good chassis development is about drivers who put the car on the limit while having the feel and the intelligence to disassociate themselves from what's happening. In other words, is that mid-corner oversteer something they can massage with their driving or something to complain about to the engineers? Vettel, like Lewis and Michael has the ability not to waste the engineers' time with vagaries that he knows can be solved with the steering and the pedals.

So I don't think this is a crisis point for Ferrari. They may need a low-ego tech manager in there to help it gel, someone like Bob Bell, but that would be a bonus. As it is, they have a good powertrain guy overseeing the 2017 car. That's what the Prancing Horse used to be all about – and wants to be about today, as Arrivabene has said on several occasions.

Let Ferrari be Ferrari, in other words, not some Red Bull clone. More power to them.

ILLUSTRATION: BENJAMIN WACHENIE; PHOTOS: CHARLES COATES/LAT; ANDY HONE/LAT; ALASTAIR STALEY/LAT



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DIETER RENCKEN

# POWER PLAY

The stories F1's bigwigs would rather you didn't know...

**F**or proof of just how complicated F1 has become in five decades, compare 1966's sporting/technical regulations – two lists of outline paragraphs, with very few definitions – and the 2016 equivalents, which run to 146 PDF pages. Now more than ever, the contents of these documents have to be recalled in detail within seconds, usually under pressure, by team managers, engineers and drivers.

You could argue that professionals should fully comprehend the intricacies of their crafts, but doctors and lawyers are generally able to consult colleagues as well as reference works when tackling sticky issues. Pitwall operatives have to be much quicker when formulating legal solutions to unexpected situations that could well have dire consequences.

Consider the 'radio silence' rule. Yes, drivers must "drive the car alone and unaided" and, yes, they may be informed if developing issues pose danger. But did the fact that transmission failure could cause a car to stop while racing head-to-head provide sufficient reason for an engineer to intervene? Nico Rosberg discovered the negative answer to that question two hours after the British GP.

Let's turn our attention to that other hot topic: track limits. In Austria, 'sausage kerbs'

# When rules bring chaos out of order

so vicious that they contributed to suspension breakages on three cars were imposed to deter drivers from venturing beyond track limits. Then, in Hungary, drivers were informed that electronic sensors would detect any track-boundary breaches, but only in Turns 4 and 11, where time could theoretically be gained by going over the line; by implication, then, the others were fair game. In Hockenheim, Turn 1 was awarded 'zero tolerance' status, and no other.

After Jules Bianchi's fatal accident it was surely incumbent upon the FIA, as regulator of the sport, to impose stringent penalties for ignoring double waved yellow flags, which demand that drivers slow significantly and are able to come to an immediate stop, such is the potential danger ahead. Yet Rosberg escaped sanction during Q3 in Budapest after backing off for just a tenth of a second.

Only after team-mate Lewis Hamilton, who lost a potential pole by slowing as per the book, demanded explanations was it decided to impose a red-flag rule to force drivers to abort their laps where double yellows had previously sufficed. So why did F1 bother with double yellows at all if complaints from a driver was all it took to bin the rule for qualifying?

All these inconsistencies were introduced, then rescinded under the banner of an official 'clarification'. To my mind, this implies that they were framed too vaguely or introduced too

hastily in the first place. 'Avoidable accident' penalties also spring to mind. No wonder wheel-to-wheel racing is such a rare spectacle if a driver is penalised for failing to cede when their adversary chops across them.

If the drivers are confused, then please also consider the fans, who sacrifice weekends to pursue their passion yet are left bewildered by protests, appeals, delays in issuing final grid orders, and race results that are finalised long after the crowds have headed home.

This situation's roots lie in the late '90s, to wit the Michael Schumacher era, when Michael (and Ferrari) redefined the bounds of acceptability while current FIA race director Charlie Whiting cut his officiating teeth. What Schumacher did was suddenly deemed acceptable, and F1 gradually adapted.

Each subsequent 'clarification' added another layer of rules to the book, and where these resulted in unforeseen side effects, further rules were framed to negate these. Thus the rulebook grew progressively fatter.

Another issue is that the governance structure has become more convoluted. The Strategy Group represents just half the teams, while the next stage is disproportionately influenced by FOM, just as the final step, the World Motor Sport Council, comprises predominantly FIA officials who are in many instances far removed from F1's realities.

The situation reached a head in Hungary. Team bosses were united in their determination that the issues be discussed at Strategy Group level between the Hungarian and German GPs. Preliminary discussions were held between various sporting directors, who then formulated proposals that were escalated to the Strategy Group.

That meeting led to a number of changes. The 'halo' cockpit-protection device, previously to be introduced in 2017, was pushed back a year pending further tests, the 'radio silence' and track-limit regulations were relaxed, and proposals for simplified regulations to cater for wet standing starts (rather than Safety Car processions) and bans on repairs to cars under red-flag conditions have been adopted.

At last F1's regulatory ratchet is turning backwards, even if only click by click. 

## Establishing when pit-to-car radio communication is and is not permitted has baffled F1's teams



"Consider the fans, who are left bewildered by protests, appeals and delays"

PORTRAIT: BENJAMIN WACHENIE; PHOTO: GLENN DUNBAR/LAT



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# THE ANATOMY OF A RACING DRIVER



The most important tools a Formula 1 driver has in his possession are his hands and his feet, which control every aspect of the car's movement. But as Toro Rosso's **Carlos Sainz** explains to us in detail, all of his senses, including smell, sight and hearing, are in a state of high alert when he's racing

**INTERVIEW** JAMES ROBERTS  
**PORTRAITS** ADRIAN MYERS

## THE HANDS

"Apart from the throttle and the brake, all of the inputs of the car go through your hands. Firstly you need a good grip on the wheel.

It's important your gloves fit your hands perfectly and the material of the glove grips the wheel. I hold the steering wheel with a unique style, with my index finger on top of the right-hand side. I don't know why, it's just automatic.

"Imagine I'm driving through the long right-hander at Turn 3 of Barcelona. When you have the right amount of front grip the steering starts to harden and it's stiffer to turn the wheel – that's where you can feel the bite of the front tyres through your hands. As the speed increases, so 10kg of weight in the wheel becomes 15kg and you need to apply more strength from your arms.

When you have oversteer, it begins to feel very heavy at the front and suddenly the load goes rearwards in an instant snap. And that's when you need to react.

Quickly! Talent takes over and you correct the steering.

If you have understeer you can feel the steering gives up. You no longer have that bite from the tyres and you have to apply more load."



## THE FINGERS

"You are constantly using your fingers to change gear with the paddles behind the wheel, or pressing buttons or turning dials to change the car's setup. This year, we have a new start procedure that requires a very precise, fast sequence of movements with your fingers, which you need to get right in just 0.2s off the start line.

"The clutch paddle on the back of the steering wheel has about 3cm of movement. You position it to feel the bite point and avoid the clutch slipping. A mistake of even 5-10 per cent in positioning is the difference between getting a good and a bad start – so it's more important than ever to be able to use your fingers to balance the bite point with the spin of the tyres."



## THE EYES

"At 190mph, I'd say you're looking 200 metres ahead all the time, because as soon as you look at that point your front wheels are already there. The top of the wheel is where we base all of our references, but we don't look at it – we look *beyond* it.

"I don't use the hundred-metre marker boards when I'm braking for a corner, I always look for something on a kerb or a mark on the Tarmac as my reference point to start braking because I want to be looking ahead, not sideways, to the markers. And when I hit an apex with my front tyre, I feel it through my body, but I'm already looking towards the next apex.

"One of the most noticeable things about Formula 1 compared to the junior formulae is the spatial awareness of the drivers. For me, this is one of the most interesting aspects. You get fewer crashes at the first corner in F1 because of that combination of experience and spatial awareness. Even though we can't see our front wing, we all give each other space in braking from 190mph into a tight first turn with full tanks of fuel." →



## THE NOSE

"When you are chasing another driver, you know if they have locked up under braking because you can smell the scorched rubber. Sometimes it makes you laugh because you know you're pushing them and it gives you extra motivation to continue the attack. It's like a predator hunting its prey.

"You can't pick up smells from your own car as the wind takes it behind you, but you can detect whether the driver in front has an oil leak. Or even a gearbox problem, because you can identify gearbox oil by its pungent smell. "You can smell brake dust, too. In Austria this year I was P9 and chasing Sergio Pérez. Remember he crashed with brake failure? I knew he had that problem because I could smell the brake dust. That gave me the motivation to push like hell and then he went off at Turn 3. I could smell that coming."

## THE MOUTH

"This is just to communicate with our engineer and to drink. We have an energy powder that is mixed with water, which contains sugar, electrolytes and protein – but it doesn't taste nice. When you're thirsty you press the button and you thank god you can drink something. But as it goes into your mouth at 50°C, it's like an isotonic soup and you say to yourself: 'I shouldn't have pressed that button.' It's not a pleasant feeling."

## THE RIGHT FOOT

"In karting, the throttle is on or off because of the lack of power you have. But in Formula 1, from the first moment you depress the pedal the V6 engine means you have to control so much more torque. In the first 100-150 metres you apply very little throttle to stop the rear tyres from spinning. In the rain, even on the straight you are not flat.

"I like a long travel in the throttle pedal. It's especially useful when it comes to tyre management because this is a crucial area where you need a good feeling in the right foot."

## THE LEFT FOOT

"Braking is one of the toughest tests for a driver. A brake pedal feels as stiff as a kitchen table. The length of travel is about 2-3mm, but the pressure we need to apply is between 100-120kg in every braking zone on every lap for nearly two hours. You see why we get so tired?

"My left leg is stronger than my right leg as we hit the brakes hard and then ease up with this tiny tolerance to avoid locking the brake. We hit it with 100kg at maximum pressure for a fraction of a second then release. Your feet feel the front tyres through the pedal and can feel when it's about to lock up, and then you balance the pressure on the brake with your foot accordingly." →



## THE NECK

"In F1, the neck's muscles are the most important. They are also the toughest ones to target in a workout. Even if you do a thousand different exercises on them over the winter, you get to the first test of the year and they hurt. Ask any driver and they'll tell you the same thing.

"When I came to F1 it was from a fast World Series car, so my neck was strong enough to take the G-forces. We can't underestimate next year's faster new cars, so I'm training for that already."



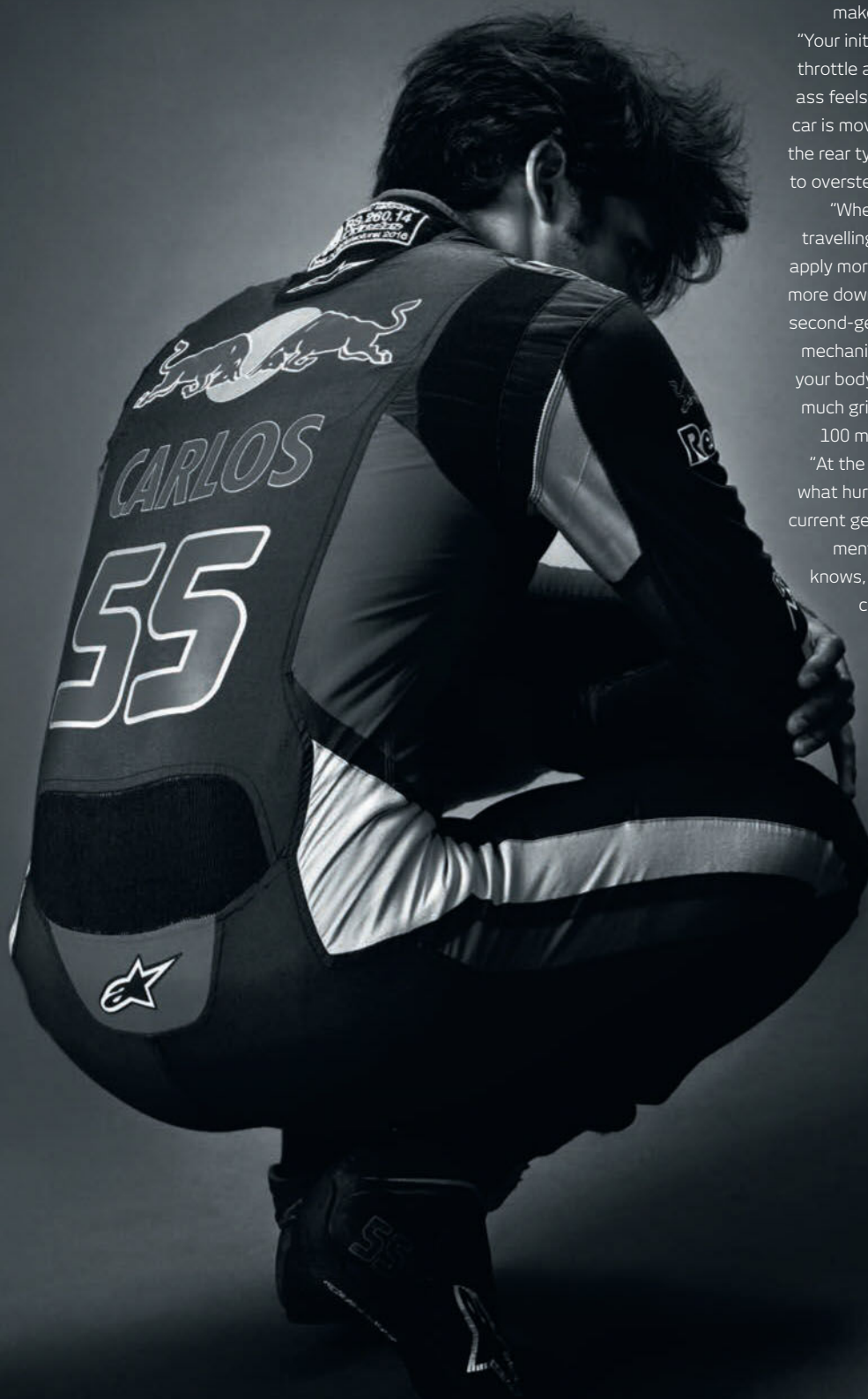
## THE EARS

"The ears are a very good indicator of how much you're suffering with your rear tyres because you can hear the wheelspin – the chattering at the rear as they slide across the road.

"Obviously you can hear the revs of your own engine but we also have earplugs so we can hear our engineer and also a beep tone. This noise sounds at the precise moment we need to shift up a gear for maximum power and to avoid hitting the limiter.

"Imagine hearing this tone every few seconds in a 90-minute race across 70 laps. If we weren't racing at the same time it would drive us mad, because we must hear this beeping noise nearly 5,000 times every race.

"When you drive the simulator and hear this noise it does drive you crazy. When you go to bed after a day on the sim, you close your eyes and you can still hear the beeping..." →




## THE BACKSIDE

"Driving a racing car is a transition. Your right foot applies the power, your backside feels the wheelspin, and your hand corrects the oversteer. It goes through the whole body and your brain makes it all interact together.

"Your initial reaction is to use as much throttle as hard as possible, then your ass feels this is too much because the car is moving, you feel the chattering of the rear tyres and then your hands react to oversteer and your feet react to that.

"When you're in a corner and are travelling 30mph faster, then you can apply more throttle because the car has more downforce. What's harder is a slow second-gear corner where you just have mechanical grip. You can feel through your body that the car doesn't have as much grip and it can take as much as 100 metres to go from 0-60mph.

"At the end of a race we are tired, but what hurts most is the brain. With this current generation of cars I'm more tired mentally than physically. Who knows, next year – with new rules – it could be different..." 

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# How far has F1 come

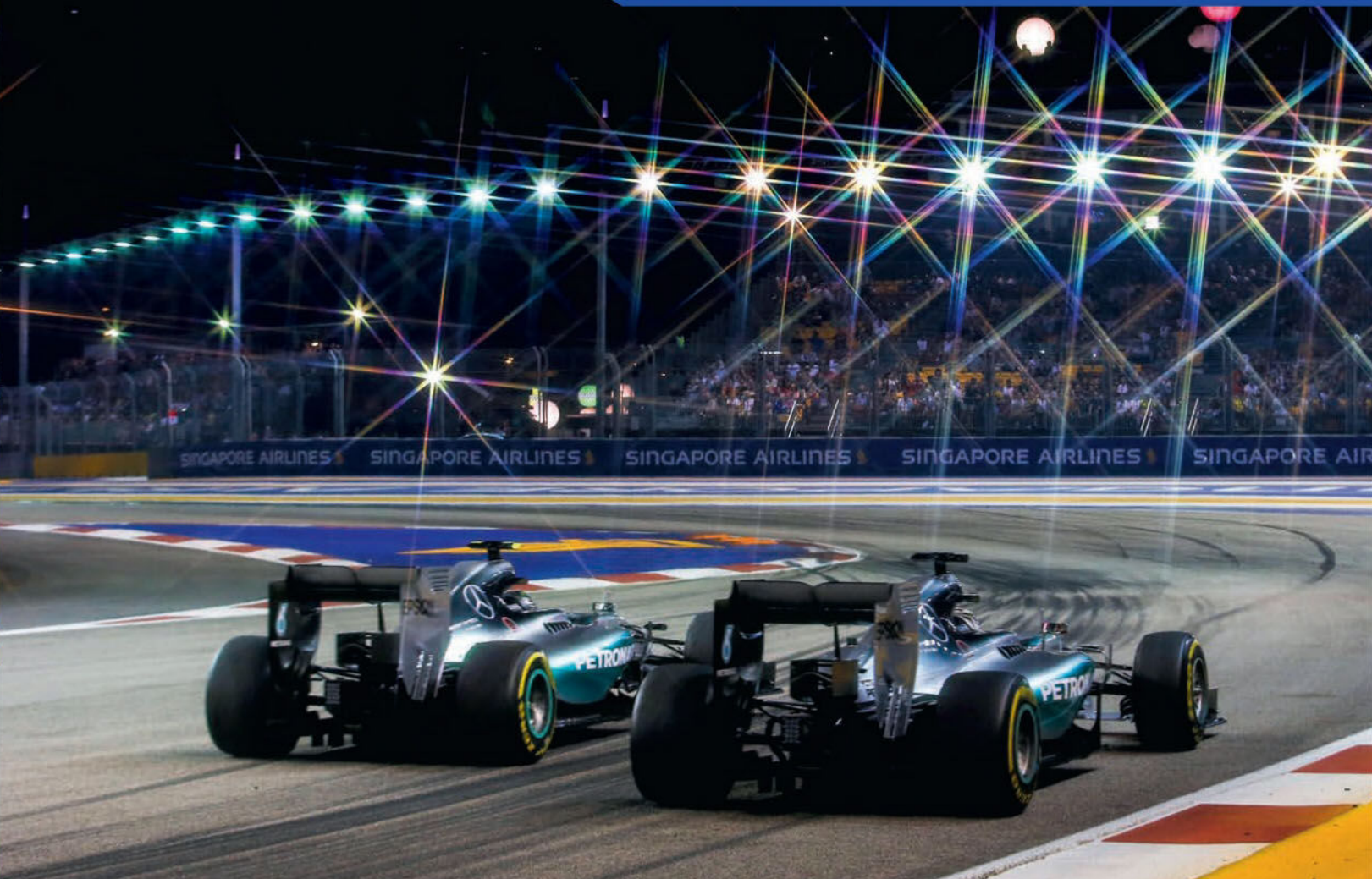


Last month, in our special issue celebrating 20 years since the launch of *F1 Racing*, we gathered together some of the sport's great and good to talk about Formula 1's evolution over this magazine's lifetime. In the second part of that discussion, those same people are future-gazing and debating the oh-so-delicate issue of succession in F1's leadership.

Here, then, here are the insights of **Toto Wolff**, Mercedes F1 team principal; **Zak Brown**, F1's pre-eminent marketer; **Otmar Szafnauer**, COO of Force India; drivers **Alex Lynn** and **Karun Chandhok** (also now a Channel 4 F1 pundit); **Jonathan Palmer**, ex-F1 racer-turned-motorsport entrepreneur, and *F1 Racing's* resident sage, **Peter Windsor**. *F1R's* **Anthony Rowlinson** and **Stuart Codling** were on hand to steer the conversation between the barriers... **PICTURES** STEVEN TEE/LAT & LAT ARCHIVE

# in the past 20 years?

The second and concluding part



**F1 RACING:** Toto, you mentioned previously that there was a need for a sport to build its fan base over a number of decades. Where do you think Formula 1 is going to be in 50 years' time, if, indeed, it is still around?

**TOTO WOLFF:** Highly successful.

**PETER WINDSOR:** I'm going to scare everybody now. Here's a picture I took on lap 4 of this year's Spanish Grand Prix. That's the grandstand outside Turn 10, I was standing right there [*Peter shows an iPhone photo of empty grandstands*].

**TW:** That's because the local hero is missing: there's no Fernando at the front. If we were to go to Zandvoort, we'd see a full circuit coming out for Max Verstappen.

**PW:** The next thing is to get a Chinese driver into Formula 1, then an Indian driver into Formula 1, then we should get a Korean driver into Formula 1. Formula 1 should be investing in those countries to get the stars.

**TW:** To have a very competitive Indian superstar racing at the front, you need to go to the base. Think of Austrian skiing versus British skiing: every Austrian farmer's kid skis, so you have 500,000 kids between the ages of five and ten skiing in Austria. You haven't got that in the UK. How many boys and girls are karting in India?

**KARUN CHANDHOK:** It's a big problem. Neither Narain [Karthikeyan, India's first F1 driver] nor I ever entered a kart race in our lives. We went straight to driving Formula Junior or whatever.

It is a big problem and you do have to build the culture. But what I find interesting in India is that the biggest fans today come from the Michael vs Mika years. People still have West McLaren hats on. It wasn't from the three years that we had the grand prix in India [2011-13], when Formula 1 came to Delhi; the fan base was built just from watching it on TV. There was this aspiration thing with watching Michael vs Mika. I think it does take time to build, though, and that's 20 years ago now.

**JONATHAN PALMER:** The other interesting thing is, Toto was saying about every farmer's child skiing in Austria. Well, in 50 years how many autonomous cars will we be driving? How many people are actually going to be driving cars at all and where's that going to leave the sport? →

**TW:** We need superstars. If Karun were in a competitive car, fighting for the championship, we would have a full Indian race track and Indian audiences. That would create a buzz in the younger generations, who'd say: "I want to be like Karun." In terms of autonomous driving, if we are all going to be in robot cars, driven autonomously, it will be even more of a challenge to drive like those guys out on track. We'll be realising 'I couldn't do that' because we will be losing the skill of driving.

**ZAK BROWN:** Absolutely right, and you said it: it's the 'I can't do that' factor. And when you watch a Formula 1 race and say 'those guys are gladiators in chariots – I can't do that', that's what attracts people.

**JP:** One opportunity that hasn't been properly exploited is that when a country has a new grand prix contract, there hasn't been enough effort put in to building up a whole culture of motorsport behind the introduction of a new grand prix at that circuit. Whether that's race schools, club racing, all these sorts of things, because you need that level of following.

It takes a long time, but you've got to start it beforehand if you're going to find the next Indian driver. And it's no good being at the back of the field: if you're going to find a competitive Indian or Chinese driver, they're going to need to be good – and to be good, you're going to have to have a big pool of drivers at a young age.

So any circuit that gets a grand prix, should be asked: What's your business plan? What's your ten-year plan for building up a culture of national racing of motorsport?

**F1R:** Alex, there's a strong culture of racing in Britain and you're one of the latest to emerge from that. What's it like trying to break into F1?

**ALEX LYNN:** If I look at a results sheet from when I was 11 years old, karting in Wigan, there's at least five guys I'm still competing against. It's a culture where we're all doing it and you try to keep winning, you keep trying to succeed and it becomes a self-fulfilling prophecy. That's the benefit of a culture where the sport is bigger.

**TW:** There are generations when groups of strong drivers emerge. There was one generation of karters just before 2000. If you look at the results back then, you see Lewis and Nico and Robert Kubica. We have good years where people pop up in professional motor racing and earn a living, and then we have years where the competition is not strong enough and we don't.

**ZB:** I think we need more depth in professional management, on consumer insights. All of us around this table are biased and we love the sport. But we're trying to convert people and create a new fan base.

If it's Mercedes, say, building a new road car, I presume they go out in the marketplace and measure how many people might want it, and what age they are and what its competition is etc. Or if Unilever's coming out with a new deodorant, they don't just spray each other and say, "What do you think, boss?" They go out there and get some consumer insights. In Formula 1, we don't do that. These things are the responsibility of F1's owners – to do consumer research and get some consumer insights and hear from the people who aren't watching.

I can't think like my 14-year-old kid, but we need to go talk to them. I get a kick out of watching some of these sessions we do as an industry: it's a bunch of people who aren't digitally savvy, brainstorming around how we should be digitally savvy. I'd go to some schools, pull a bunch of 16-year-olds out and do some market research. We'd spend some money doing that because at the end of the day we're a consumer products company. Mercedes or Unilever or Smirnoff, whoever, go out and do research. Their products aren't just based on gut instinct. They operate factually, then they make decisions. There's a blend of statistical research and instinct that you have to bring to it.

**KC:** This is exactly what happened in cricket. They invented 20/20 cricket which is a shorter three-hour version of the game. In India, it's gone crazy. I went to Lord's, the home of cricket, for a game and the stadium was jam-packed. That's because they went out there, did their research and realised they were missing 50 per cent of the audience – and that's women. As soon as they went to 20/20, there were so many people in my family – aunts, my mum, all the women suddenly thought: 'I can't be bothered to watch five days of cricket, but I can watch three hours.' And it's suddenly captured this whole new audience.

**PW:** But as Zak said, the money needs to be spent – and that's always the problem isn't it, in terms of promoting the brand, in terms of research? Proper market research costs money and who's going to spend that money?

**F1R:** Do you think that Formula 1 might have peaked? Or maybe that we're in a bit of a contraction phase and those who love the sport maybe won't love it forever?

**TW:** Definitely not. We have a great opportunity now to make it into something even bigger with the new tools we have. Today, in the digital world, with the right start-up idea, you can become a multinational giant within ten years. If we get things right, we can use those channels to make us even bigger than ever before.

**JP:** I think that's right. Communication now has never been easier and overall we have a great product in Formula 1 – the glamour of it and the competition, the sheer intensity of it and the focus – with so much more communications opportunity. It's a question of understanding exactly how best to harness that; how best to exploit it in a fast-changing world.

**ZB:** You hit the nail on the head. The world has changed in 20 years, but Formula 1 hasn't changed as much as the world has. You've got to understand where we are today, where the world is going with all this digital stuff. My kids are more savvy than I am and we have to adapt Formula 1 to fit the world – that's what we're talking about. How do you change it so it fits the world where we are today and where it's going?



"Part of the DNA of F1 is controversy. The on- and off-track controversy attracts audiences. There should be sporting controversy among personalities. People mainly follow it because of the drivers"



Toto Wolff

**TW:** What functioned yesterday doesn't necessarily function today or tomorrow. But we have a solid product. Don't forget we will be spending an average of let's say \$150million per team, with a total spend across all the teams of around \$3billion. Plus all the advertising of Daimler, Fiat and Ferrari and all the other players – Honda, Renault and so on. We're generating advertising revenue equivalent to billions and billions and billions of euros because of the investment we make. That hasn't happened overnight.

**ZB:** Who ultimately benefits from all that expense? The fans, because they get to see something that you don't see anywhere else.

**TW:** Ultimately – and this is a very sad, very unspectacular thing to say – it's business. You're either selling cars or you're selling deodorant.

**ZB:** But of the \$150million we spend, a lot goes on the technology of the car. The fans enjoy that.

**KC:** To answer your question, there has to be a way to centrally focus promotion of the sport,



Formula 1's popularity in Spain grew in line with the success of local hero Fernando Alonso (left) It works both ways. Now he's struggling at the back of the grid, the grandstands in Spain are half empty (below)

and get everyone singing from the same hymn sheet about the positives. I was away from F1 for a couple of years and I came back through TV stuff and the first test I went to in Barcelona, I could not believe how much negativity there was around the paddock. It had changed a lot just in two years. A lot of people forget that you have a race like Barcelona this year, which was a great race with great drama and great entertainment – the fans still love it. So I don't think it's dead, nor do I think it's peaked. But we need to harness

the message and do it in a positive way.

**TW:** Part of the DNA of F1 is controversy. The on- and off-track controversy attracts audiences. The main protagonist shouldn't be going around saying that it's a shit spectacle. There should be sporting controversy among personalities. People mainly follow it because of the drivers.

**PW:** Why haven't you opened the door for that Toto? Why, the first time Lewis and Nico spoke to each other after their clash in Barcelona, didn't we have cameras in that room, filming them, with the video put on Youtube the next day? That's how you engage the fans.

**TW:** It's a good question, but it's a difficult balance to achieve. We understand we need a spectacle, so we let our drivers race each other. But if we were to open our doors to internal discussions, it would mean the team is going to fail soon, because the controversy would spill over and the media would make more of it. There's enough controversy internally as it is and it wouldn't reflect well on the brand. So I try to keep the balance, but that's very difficult. →



**PW:** My frustration is that we have potentially the world's biggest global TV sport show, but it doesn't run 365 days a year between the races. That's how we could make this the huge multi-billion dollar conglomerate we're talking about.

**JP:** There's no unification about the F1 brand to make that happen in a way that Karun describes.

**KC:** I find it interesting from the TV side of it, how certain people are much more forthcoming – people like Toto and Christian Horner and Bob Fernley. There are a lot of people who are forthcoming and willing to talk about the controversial stuff. But on the flip side, you still have a lot of people who don't say anything.

**TW:** They're under pressure. Don't forget there are different structures and responsibilities. So do you have a 'muzzle' or not?

**KC:** Is it different now from, say, 20-25 years ago when the face of the team was the team owner, like, Frank Williams, Ron Dennis and so on?

**TW:** I used to love watching Frank and Ron and Flavio fight with each other and they were very vocal. But it has changed a bit because it's more managers now and maybe they have become too professional in their presentation and more articulate. Maybe they're not as interesting now!

**F1R:** We have to talk about succession. What do you all think the next phase is in F1, in terms of succession and leadership?

**TW:** Bernie has done an awesome job to create the product and that deserves a lot of credit. And as much as we might think we have clever ideas, we still need, first of all, to monetise them in the way that Bernie did. Whenever we see Bernie throw something out that looks like an irrational headline, it's something that he has thought through. He, ultimately, is the one who has been translating all that we do into revenue. There will come a time when he will think about succession planning, simply because of the age factor. I think there is a lot happening behind closed doors.

**KC:** I worked with Bernie on the Indian Grand Prix side of things, and also with my driving, and I've seen sides of him at work and on holiday from different angles. It's amazing how many balls he juggles at the same time. I think Toto's right: you need someone who can still understand the sporting and the commercial sides. It's a multi-faceted sport and Bernie has

got a lot of things in play at the same time. It will be difficult for one person to succeed him.

**PW:** It could be these two – Zak and Toto – not a bad combination.

**F1R:** Should it be someone very much embedded in the sporting side? Would it be worth considering someone from an adjacent business? I'm thinking of Waterstones 20 years ago, which hired someone from the grocery sector and they thought you could sell books the same way you sold groceries.

**TW:** You need a specialist. You need to have a management that understands the ins and outs of the sport. Even if you put in somebody from a FTSE100 company, who has managed a multibillion-dollar international business, you still need to understand the spider web in here.



"It's a multi-faceted sport, and Bernie has got a lot of things in play at the same time. It will be difficult for one person to succeed him"



Karun Chandhok

**KC:** Bernie is not a technical person, he's a commercial and racing guy. So do we not need an independent technical head for F1 – Ross Brawn for instance – someone who's not affiliated to any teams at present who could independently come up with the rules?

**TW:** Absolutely, because the rules are fundamentally what influence the sport.

**ZB:** That is the FIA's job though.

**KC:** I agree. We're talking about in terms of running Formula 1, but then we're taking that away from teams.

**TW:** On the commercial side, there definitely needs to be a person who can say: "That's going to go against the show."

**ZB:** Or, "Let's not change qualifying to 'this' or 'that'."

**F1R:** Alex, what it is about F1 that still makes it the thing you aim for as a racing driver?

**AL:** It's because I grew up with the dream that could be summed up in two words: world champion. I watched my heroes achieve that status and when I think about why I do what I do, it's because to put your name next to those guys is what it's all about. It's everything I wake up in the morning dreaming about, and it's what I'm then working towards. Every time I get in the car, I think only about one thing and it's to achieve that or to do something that will lead to achieving that.

**PW:** That's a very good point because F1 remains the only big sport in the world that has a championship that runs annually from the beginning of the year to the end of the year, with a world champion at the end of it.

**JP:** In the topography of sport, Formula 1 stands so proudly above the rest like an Everest among other little things. It's so clearly the pinnacle of world motorsport. Okay, they haven't grasped that in the south of the USA, but, overall, throughout the world, that's true. And it has the perfect name: Formula 1. There's the history of it, it's been carefully nurtured, to grow into what we have today. Like Toto said, Bernie's done a phenomenal job and the reason you want to be there is that it's by far and away the pinnacle of the sport you love – driving racing cars – and you want to get to the highest pinnacle. 🏁

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**“Sometimes  
you are on a cloud.**

ARRIVABENE  
VBBIAVBEINE

**Sometimes  
you are in hell.”**

Is there any job in F1 more  
pressurised than that of  
Ferrari team principal?  
In this exclusive interview,  
Maurizio Arrivabene  
opens up about the joys  
– and unique anguish – of  
running the proudest race  
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**WORDS** ANTHONY ROWLINSON  
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**His words come quietly, and with an echo of the burden that must be borne in this most storied role. “All Italians are the Ferrari team principal,” says Maurizio Arrivabene, “just as they are all the national football coach. And they give you the feeling of the exact responsibility that you have – always.”**

A grudging smile, a knowing nod to the ever-fevered expectations of the *tifosi* – Ferrari’s very own barmy army, of which he was once a passionate member.

“On the one side there is a national emotion; on the other side is passionate respect,” he says. “And the two are good, but they are extreme. Sometimes it’s fantastic: you walk on the cloud when you are winning races. But you find yourself in hell when things are not going well.”

Arrivabene is stationed in his travelling office on the upper floor of the team-hospitality-unit-cum-media-hangout in Budapest, as he reflects on his role as Ferrari team boss. And he knows whereof he speaks: a season ago, the giddy success of three stirring victories for Sebastian Vettel; now, dwindling competitiveness and the bombshell departure of his big-name tech director James Allison.

There’s no let-up or mercy in this role, and Arrivabene, 59, will be well aware that he’s the third man to occupy the Scuderia’s hot seat in rapid succession. The popular Stefano Domenicali quit in April 2014 after a six-year stint succeeding the glitter trail of the Todt-Brawn-Schumacher years. Then someone called Marco Mattiacci fulfilled a curious ‘caretaker coach’ position for barely eight months in 2014, before Arrivabene was ushered in as part of a sweeping management change across Fiat Chrysler Automobiles, led by chairman Sergio Marchionne.

It’s within this group, focused on building workaday vehicles for the masses, that Ferrari exist as a fabulous bauble, carried on the aspirations and romantic ideals of a global passion for those scarlet racers. And it’s precisely because of this unique heritage – and the stories of those mighty characters wrapped up therein – that Ferrari in Formula 1 are so much more than a race team; and the boss’s job so much more than management by business-school textbook.

“Ferrari is a dream, so winning alone is not enough,” Arrivabene confirms. “This is what people are expecting from Ferrari:

not only a winning car, but a dream car.”

Not easy, then, to deliver on both fantasy and fact; on romance and results. But this is the challenge. This is what being Ferrari team principal is about.

**F1 Racing:** When you started this job, what went through your mind? And how were you offered the job? Was it a phone call? A meeting? When you came to be team principal, who actually said: “Okay Maurizio, we have something special to talk about.”

**Maurizio Arrivabene:** It was Mr Marchionne. I got a phone call from him. I was in Switzerland actually, to see a football match. And he just said to me: “Can we see each other?”

I managed to watch the football, then we met and we were talking about everything, not only about Formula 1. At the end, he looked me straight in the eye and said: “Do you want to join me in Ferrari?” And I said “Yes.” We shook hands and that was already a contract. [*A pause, and then Arrivabene bursts into laughter*] The only problem was that I hadn’t told my wife about my decision... But this is another story! [*Arrivabene’s wife was already working for Ferrari in a senior team communications role. Her husband had just become her boss, without her knowledge...*]

**F1R:** How did that feel? Exciting? Scary?

**MA:** Both of them. And there was something else: a sense of determination. Because after ‘exciting’ and ‘scary’ I turned a page and saw ‘determination’.

If I look back to last year [Arrivabene’s first season in charge] I would have to say ‘crazy’, too. Because even though I have been in Formula 1 for 25 years, if I look back at last year, I am thinking that what maybe people thought was ‘brave’, was sometimes, I think... insanity! Because I didn’t really realise the weight of this job,

the responsibility. Now, though, I consider situations better.

**F1R:** You came to Ferrari from the marketing side of [tobacco giant] Philip Morris, who have supported the team financially for many years. That’s an unusual path to the top.

**MA:** Okay. If we look back 25 years or so to the late 1980s, McLaren were the F1 team for Philip Morris through Marlboro. At that time the president of Philip Morris was close to Enzo Ferrari and wanted to get closer to Ferrari, so he assigned someone to them – me! I was alone, but I worked closely with the team and the relationship between the two brands became closer and stronger – something like a passion. And it was at this time that I really felt the passion of working with Ferrari.

*As Arrivabene talks it becomes evident, however, that his passion for Ferrari ignited when he was just a child, as is the way for so many Italians...*

**MA:** I well remember my father’s passion for Ferrari and I got that same passion from him. He would watch Formula 1 with great excitement and I remember also the Ferrari P4 sportscar fighting with the Ford GT40. For my father, everything was related to Ferrari. And I started to bleed the passion for Ferrari with him.

This led me to do a few crazy things, like when I was a kid I tried to turn my Lambretta into a motocross bike. I had no money to do it, but I carried on anyway and when I did my first jump [he snaps his fingers] – BOOM! It was in pieces. My father saw this, but he never complained about the craziness or stupidity of what I was doing because we were united in our passion for Ferrari. So I grew up with that.

And then there was Gilles Villeneuve. That’s where I definitively made a jump. He never won a championship but I always admired his bravery and the fact that he was a Ferrari driver. There was a magic combination between the myth of Ferrari and the bravery of the driver and I was fully into supporting Ferrari from that time, in the late ’70s. So I was a *tifoso*, yes, of course.

**F1R:** That means you must fully understand the weight of expectation that accompanies Ferrari in F1 and the →

"I well remember my father's passion for Ferrari. And then there was Gilles Villeneuve. That's where I definitively made a jump. There was a magic combination between the myth of Ferrari and the bravery of the driver and I was fully into supporting Ferrari from that time, in the late '70s. So I was a *tifoso*, yes"



hunger for success from their fans all over the world. But Ferrari haven't dominated since the Schumacher years. Are you trying to build a structure to replicate what made the team so successful, then?

**MA:** The game is very, very different now. The cars are far more complicated and complex than before. They [Jean Todt, Ross Brawn, Rory Byrne, Michael Schumacher and co] took a while to achieve success and see the light. So we need to be passionate and believe in the people that we have and to continue our jobs. But every frame of history from year one is somehow its own story. If you start to recreate something, it's more likely that you are going to fail than you are to achieve something.

*With unfortunate timing, just days after this interview was conducted at the Hungarian GP, the departure of technical director James Allison was announced (see Insider, p14). So while Arrivabene may speak with enviable conviction of the need to believe in his staff, the loss of one of F1's most highly rated technical leaders leaves Ferrari with an engineering void and a restructure to implement – the effectiveness of which will only become apparent months hence. He continues...*

**MA:** If you look technically, then *technically* we can still win the title this year. *[He is of course correct: ahead of the Belgian GP, Ferrari trailed Mercedes 242 points to 415 – a 173-point deficit, with a maximum of 387 still on offer. The competitive reality of the situation, however, is that Mercedes won 11 of the first 12 races and Ferrari have been leapfrogged by a resurgent Red Bull, now Merc's closest challenger. Arrivabene is under no illusions on this score...]*

Red Bull are coming back very, very fast – and I am happy for that because having more competitors is good for Formula 1. And Mercedes are the strongest team I have seen for the past ten years.

Some people talk about us as if we can no longer compete. But our lap times, year-on-year, are faster. It's just that Mercedes are faster still. If you are working at Ferrari and there are nine races to go, you can't say 'Okay, I give up.' That's not in the Ferrari DNA and it's not in my DNA. Our target is only to win the championship.

**F1R:** So how do you lead the team towards that goal? What's your leadership style?

**MA:** This year it's a bit of a different question to last year, because last year I was not perfectly conscious of the responsibility of being a team principal of Ferrari and I was running sometimes without thinking. Also the team made a tremendous improvement with the engine and we had three victories, so the enthusiasm went up to the sky.

This year, before running, I am studying a bit more the way to go. I take my responsibility of being in front of the media and protecting the team, because this is what I am paid for.

When things are not perfect, people might start to say "It's the drivers, it's the team

principal, it's the technical director, it's the engineers..." But really, if you want to do your job with bravery, I think honestly you have to say: "Hang on, stop everything – it's me."

If you have a failure on the software, it's me; if you have a failure with the gearbox, it's me. And if you want to look at yourself in the mirror, you say: 'Okay, I'm the team principal.' And the guys in the team feel this. When they feel that they are not intimidated and you defend the team, they can follow you everywhere.

**F1R:** You talk about 'thinking before running', but how is that possible when Formula 1 is so demanding, with 21 grands prix this season, relentless pressure for success, insatiable media interest... how can you find time for 'bigger thoughts'?

**MA:** Something I suggest all the time to our engineers is to find this time. If you are going to use a bit more of your imagination and be more creative, then most probably you will find a solution that no one else is able to find. If you are too focused you can create a very good car, or a decent car at least, but never a dream car. This requires a lot of imagination, so sometimes you have to find the time to look around you and start flying.

**F1R:** Is it possible when you sit down with your guys to have that kind of conversation with them?

**MA:** I force them to be creative. It's not easy sometimes because it's not only a question of them, it's a question of evolving their environment. Sometimes we are so steeped in thinking about the racing, the hybrid engine, the next circuit, the comparison of the tyres etc, that it's not easy to find the time to look, for example, at how a bird flies... and maybe get an idea related to aero.

**F1R:** It goes without saying that you have a tough job, but what's the hardest aspect of it?

**MA:** It is to listen first... and to apply enough humility to be able to run Ferrari. Ferrari is a big brand and sometimes you have to be proud of what you are doing but you also need to keep your feet on the ground. What I have tried to do since working here is to keep my feet on the ground. Because today you are the team principal of Ferrari and tomorrow can be great if you win with them. But whatever the outcome, in the end you have to turn to yourself and say "I'm Maurizio." And never forget that you are a person, that you are a human being.

**F1R:** And on the good days?

**MA:** When Ferrari win, a part of the joy is that you feel something special is happening all over the track. You see the flags and people in red. During the race you have been so concentrated on the headphones, that you're looking only at what's happening on track. But then you remove the headphones and you see people jumping and screaming with happiness in a way that's almost unbelievable. I think, somehow, this is something that only Ferrari can do. 🏁



## CV

**Born** 11 March 1957,  
Brescia, Italy

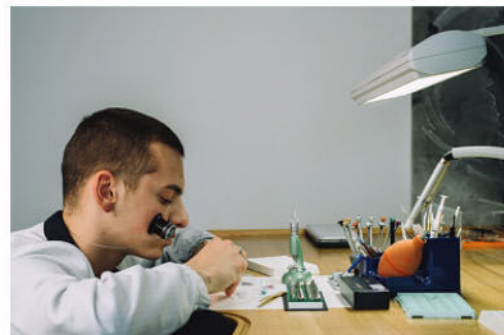
**2014** Appointed team principal at Ferrari in November, replacing Marco Mattiacci

**2012** Becomes an independent board member of Juventus FC

**2011** Appointed vice president of Philip Morris consumer strategy and event marketing

**2010** Joins the Formula 1 Commission as a representative of all F1 sponsors

**2007** Becomes vice president of Marlboro global communications and promotions for Philip Morris



The C70 Brooklands is a celebration of the birthplace of British motorsport. Its chronometer status ensures world-class accuracy, while the chronograph's one-tenth second function is vital in a sport where timing is everything. The racing-green dial and ceramic Union Jack beneath its sapphire crystal backplate ensure it looks stunning too. £599

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## THEY SAY HE'S TOO OLD.

NOT THE DRIVER HE USED TO BE.  
LACKING A COUPLE OF TENTHS IN  
PACE AND SIMPLY UNABLE, THESE  
DAYS, TO RUN WITH THE PACK HE  
USED TO LEAVE IN HIS WAKE.

## A WASTE OF A RED SEAT.

A COMPLACENT WINGMAN TO SUPERSTAR  
SEB, CONTENT TO CRUISE AND COLLECT  
THE OCCASIONAL PODIUM, RATHER THAN  
FIGHT FOR A WIN.

THIS IS NOT THE  
FERRARI SEE – THEY BELIEVE HE IS STILL VITAL TO THE TEAM'S FORTUNES AND HAS A  
CENTRAL ROLE TO PLAY IN THEIR 2017 CAMPAIGN.

# RÄIKKÖNEN

### ARE THEY MAD?

NOT AT ALL.

THEY MIGHT, INDEED, HAVE MADE  
ONE OF THE SMARTEST DRIVER  
RE-HIRES OF THE YEAR.

### HOW SO?

READ ON AS  
WE PRESENT...

THE  
CASE  
FOR

# KIMI

WORDS ANTHONY PEACOCK & CHRIS MEDLAND



**A well-worn**, but consequently truthful observation about Formula 1, often delivered by those at the painful landing site of a precipitous fall from grace, is that people in the paddock have very short memories. It's a perception borne out by every commentator's favourite cliché: you're only as good as your last race.

Surprisingly though, most experts – including those whose deft pushes in the back frequently instigate the above-mentioned falls – will equally agree that there's no place for reactionary short-termism in this hugely complex sport, which is why manufacturers and drivers endeavour to sign up for the long haul. So how come there is such frequent disconnect between mouth and brain from people who should know better?

Kimi Räikkönen would say it's because most people talk "horseshit". Principally designed to suit their particular purposes at the time. And, deep down, just from our own personal experiences, we all know that Kimi is actually right on this one. Not that there's anything wrong with this state of affairs. The media exist to sell stories, car companies exist to make money, sponsors exist to make themselves known and therefore also to make money.

Influence is required to make this work. Organisations try to persuade as many people as possible to their particular point of view, which is the staple currency of the sport. At its most basic level, someone is always trying to sell you something in Formula 1, whether it's an idea, a

product or a perception. But Kimi isn't, ever. He might just be the most honest, least salesman-like person in Formula 1. And in a sport that is increasingly vulnerable to emperor's new clothes syndrome, this is probably the most valuable commodity you can buy at the moment. He's a constant. And that's why Ferrari were right to re-sign him.

Kimi doesn't seek to persuade or convince. He simply states the facts as he sees them, and then leaves those responsible to act upon them. Earlier this year, Ferrari made a series of steering modifications to the SF16-H, based on suggestions from Kimi, which benefited the car's performance. 'This is great,' went the gist of the engineering conversation afterwards, 'but why didn't you tell us before?'

The truth is, Kimi *had* told them before – much earlier in the season – and this was subsequently verified by the team's engineering notes. But, for whatever reason, it hadn't been acted upon. Because Kimi is never the sort of person who will tell people how to do their jobs; he merely provides them with the information they need to do it themselves. And that's actually a good thing, very much in keeping with the current Ferrari philosophy laid down by team principal Maurizio Arrivabene.

The alpha-male environment that prevails in most F1 teams – particularly Ferrari, thanks to its patriarchal Italian culture – means that the problem many teams at the top of the sport face these days is having too many leaders, often struggling for power.

Naturally this means that there are very few opinions devoid of vested interests, and more hidden agendas than in a stationery shop cellar at midnight. Sebastian Vettel says there is "no ego" in the team between him and Kimi: a uniquely precious asset on the current grid and probably the first time this has ever happened in Ferrari's (or any other team's) history. That's down to the fact that there has never been another driver quite like Kimi; a fact his former team-mate David Coulthard acknowledges.

"It's a bizarre one because he's here, he's got enough of a reputation to be respected as a Ferrari driver, but you just don't think he's going to be in front of Vettel," says DC. "It's almost like he's an F1 treasure. You can't touch him, you can't talk about him... he's just here. There could



Kimi isn't 'all or nothing' as some contend. Even when he isn't winning, he regularly collects podiums, including, this year (from top), P3 in Russia, P3 in Austria, and P2 in Bahrain



be many reasons Ferrari keep him. Maybe from a marketing point of view he suits tobacco giants Philip Morris, who still contribute in the region of €100m to Ferrari each season. Maybe Seb's happy to have him, because he's there without causing any trouble."

Or how about simply because Kimi is still fast enough to be beating Vettel, certainly when it comes to the championship standings? Post-German Grand Prix, just before the summer shutdown, the drivers' table read: Räikkönen (fourth) 122; Vettel (fifth) 120.

People do indeed have remarkably short memories. Kimi is still Ferrari's most recent world champion: an accolade that greats such as Fernando Alonso and (so far) Sebastian Vettel have yet to match. Ironically it was the underrated Felipe Massa who got closest to breaking that record, so maybe this veteran of eight seasons at the Scuderia can shed some light on the wisdom behind reconfirming Kimi.

"You need to see what Ferrari are looking for," Massa points out. "You need to see what they think and what they believe. If they keep Kimi, it's because they are not sure that if they put someone else there that he will be better than Kimi. You think they don't think about it? So if they want to keep Kimi it's because maybe they are not sure that the options they have apart from Kimi will be better."



Quite. Kimi didn't win that 2007 title, nearly ten years ago now, by great heroic performances and grand gestures every other weekend. Although there were a few. He became the first Ferrari driver to win his first grand prix with the team since Nigel Mansell: a passport to instant heroism in Italy at least.

Instead, he took the title by maximising the weekends where he didn't win, thanks to a remarkable show of consistency from start to finish. He took five wins and seven podiums, seemingly at odds with his all-or-nothing image. And this is exactly what Ferrari need right now, because with the superiority Mercedes currently enjoy, this year and maybe 2017, too, clearly won't be a bed of roses. Calmness and continuity, not change and impetuosity, will see the Scuderia through. While some people, even within the team, view Ferrari's current situation as bad, can you imagine how much worse it would be with a Hamilton versus Rosberg scenario brewing?

Ferrari team principal Maurizio Arrivabene would rather not. "We needed a kind of good atmosphere in the team and the drivers help to keep this atmosphere," he asserts. "The team is still quite new and we need to keep the same commitment for everybody without inserting into the team elements that can disturb, or something new that could break this balance."

People see what they choose to see – or rather, they become distracted by what makes the better story (Kimi's point, not ours). The image of a reckless headcase is so dazzlingly appealing that it blinds people to the reality of what is often behind it, as one of the few men who truly knows all of Kimi's mechanical secrets, former race engineer Mark Slade, explains:

"He scores points, doesn't he?" says Slade. "He just keeps on scoring them. He was second in the championship a few races ago. All he cares about is getting in the car and driving fast. That's the only thing that matters. All the rest of it – the paddock, all that stuff – he's just not interested in it. For the guys working directly with him that's great because you just get on with it. You knew that you'd work on the setup of the car, you'd try to get the best car you could, but by the time you got to qualifying if the car still wasn't perfect he just got on with it. He simply drove the car that you'd given him as quickly as he could."

This is why yet another popular perception about Kimi – that he's somehow a difficult driver to manage – is entirely untrue. In actual

**"He scores points, doesn't he?  
He just keeps on scoring them.**

**All he cares about is getting in the car and driving fast" Mark Slade**

fact, he's pretty much the lowest maintenance and least highly strung driver in the paddock. Romain Grosjean, when asked if he got on with Kimi while they were team-mates at Lotus, replied: "Is there any reason why you wouldn't get on with him?"

Only two drivers on the current grid, Fernando Alonso and Jenson Button, have taken part in more grands prix than Kimi. And Grosjean's question probably provides the answer to Kimi's enduring success. Räikkönen is the easiest driver of them all to deal with because he's one of the most grounded. His friends are still the friends he had from his karting days as a youngster in Finland, and his pleasures are the simple ones that we all know about. What he loves most of all in life is a laugh: if something amuses him, he'll belly laugh almost until he chokes. In a complicated situation, he's thankfully not a complicated personality.

Because of this, Kimi is a reluctant celebrity, and while that's a part of his life he despises, it's of definite value to Ferrari. When you have the most popular driver and the most popular car united, it's a marketing man's dream. Arrivabene is of course a marketing man, and very much aware of this fact, having run Philip Morris's sponsorship operation, which traditionally pays Ferrari's Formula 1 driver salaries, for many years. And it's a fact that's not gone unnoticed elsewhere.

"There is a value as well to have Kimi because he is so famous," notes Eric Boullier, these days McLaren's sporting director, but Kimi's boss at Lotus for two seasons from 2012-2013 "Especially in Asia, strangely, and I guess for Ferrari it's important to sell cars there."

True. During the first quarter of 2016, Ferrari's shipments increased by 14 per cent in the Asia-Pacific market: a region that seems very much the future of Formula 1 now that even the European Grand Prix is held in Asia. In Japan, Kimi was once presented with a life-size papier mâché sculpture of himself. How many other drivers inspire quite that sort of devotion?

Talented though they are, Sergio Pérez, Valtteri Bottas and Romain Grosjean – three of the drivers who were touted as potential Räikkönen replacements – just don't have the same unwitting charisma. No wonder Kimi told *F1 Racing* that he enjoyed disappointing a few people once his new deal was announced.

One of the many Kimi-themed T-shirts that is available (and how many other F1 drivers have spawned such an array of scripted T-shirts?) →

## So who will drive for Ferrari in 2018 (and beyond)?

**Whose contract expires when? BBC Sport's chief F1 writer Andrew Benson takes a look at the future driver market...**

**Having retained Kimi Räikkönen** for 2017, Ferrari will be faced with the same decision next year. But, by then, it will be complicated by the fact that Sebastian Vettel's contract is also up for renewal.

If the Scuderia's lack of pace is not resolved and Vettel leaves, finding a new team leader will be a more pressing concern for Ferrari than finding a new support driver. But Vettel may find that his options elsewhere are limited. Mercedes won't have space, since Nico Rosberg has recently signed a new two-year deal and – like Lewis Hamilton – is under contract until the end of 2018. So back to Red Bull? Unlikely. McLaren? Fernando Alonso's contract also expires at the end of 2017, but how appealing McLaren are to Vettel depends on their progress.

If Vettel does leave, the desire to have continuity by retaining Räikkönen could be strong. Assuming Kimi stays, who would Ferrari choose for his team-mate? Red Bull drivers Daniel Ricciardo and Max Verstappen were top of the wish list this year, but both are under contract until the end of next year. However, some insiders believe this already combustible pairing is not sustainable, and that an implosion at Red Bull is inevitable sooner or later. If that happens within the next 12 months, either Verstappen or Ricciardo could be Maranello-bound.

Otherwise, the options are the usual ones: Valtteri Bottas, Sergio Pérez, Nico Hülkenberg, Carlos Sainz and Haas racers Romain Grosjean and Esteban Gutiérrez. Some of those may be less encumbered by contractual complications than they were this summer, but there is no guarantee they will be any more appealing next year than they were this.

Meanwhile, Ferrari have two promising young drivers in their academy in Antonio Fuoco and Charles Leclerc but neither is likely to be considered anywhere near ready for a top-line drive in a year's time.

It all adds up to one conclusion – uninspiring a thought though it may be to some, Räikkönen could well be in a Ferrari in 2018 as well as 2017.



states: "Always be yourself unless you can be Kimi. Then always be Kimi."

So what if Kimi is not the sort of driver who is going to trouble the record books in the manner of a Michael Schumacher, an Ayrton Senna, a Sebastian Vettel or, perhaps, in some years to

come, a Max Verstappen? There's actually only one record with which Kimi has beaten them all, and yet it's one that opens an interesting little window on his character. That's the record for winning a race from the lowest grid position, where Kimi sits fourth on the all-time list thanks

to his win from 17th on the grid at the Japanese Grand Prix in 2005 – probably his greatest-ever drive. But that typically Finnish determination to not give up (they call it *sisu* in his homeland) and to take whatever you can from every situation, no matter what, has never gone away. The doubters



need only glance at this year's championship table for confirmation of this.

Ferrari don't need a record-breaker right now. What they need is a grafter with the experience to know where the team is really at. And the honesty to say so. Or, as Arrivabene puts it: "The

interest of the team was not looking for another driver but concentrating on car development."

In other words: it's not the drivers that are the problem at the moment...

IN KIMI YOU HAVE A DRIVER WHO IS

**FAST**

ENOUGH TO SCORE MORE POINTS THAN HIS MULTIPLE WORLD CHAMPION TEAM-MATE.

**SERENE**

ENOUGH TO COUNT THAT SAME MULTIPLE WORLD CHAMPION AS ONE OF HIS CLOSEST FRIENDS.

**CONSISTENT**

ENOUGH TO SPLIT THE TWO MERCEDES IN THE CHAMPIONSHIP AT THE START OF THE YEAR.

**TALISMANIC**

ENOUGH STILL TO BE THE LAST WORLD CHAMPION OF THE MOST FAMOUS CAR COMPANY IN THE WORLD.

**ICONIC**

ENOUGH TO BE VOTED THE FANS' – AND THEREFORE SPONSORS' – FAVOURITE, YEAR AFTER YEAR.

**THE QUESTION PEOPLE REALLY SHOULD HAVE BEEN ASKING THEMSELVES SINCE THE START OF THIS YEAR WAS THIS:** WHY ON EARTH WOULDNT FERRARI WANT TO KEEP

# KIMI?

# Now that was a car



## No. 53: The Arrows A1

The first true Arrows, designed in secret and born of necessity



WORDS STEWART WILLIAMS PICTURES JAMES MANN

**The Arrows F1 team** exited Formula 1 in 2002 having failed to secure a single victory out of 328 starts, but the story of the Arrows A1 begins with another underperforming former British F1 team – Shadow Racing Cars.

Shadow had joined the sport in 1973, with Jackie Oliver and George Follmer as their driver pairing, but by the end of the 1977 season there was discord in the ranks despite a maiden win at that year's Austrian Grand Prix. Oliver, although he had driven one final race for the team in 1977, now worked on sponsor acquisition and he wanted a future out of the cockpit.

Shadow's owner, Don Nichols, wouldn't let Oliver become a shareholder. When Oliver's attempt to buy the team failed, he instead formed Arrows, with Shadow's team principal Alan Rees and designer Tony Southgate as his fellow directors, and designer, Dave Wass, coming with them. Southgate himself had only just rejoined Shadow after their Austrian GP triumph, but had been there long enough to be responsible for the majority of the 1978 car, the Shadow DN9.

The pressure was on right from the start. As a new team, Arrows had to make the Argentine GP in 1978 to qualify for FOCA's travel subsidy. Southgate and Wass started work on what would be Arrows' first F1 car, the FA1, for Riccardo Patrese and Rolf Stommelen.

In his autobiography, *From Drawing Board to Chequered Flag*, Southgate admits that he kept the design of the FA1 similar to that of the Shadow: "I was quite happy with most of the DN9 and I would not normally change my design philosophy overnight. Most of the critical design data I carried in my head." Even so, he was at pains to point out that he didn't just copy his DN9 work: "Some parts were indeed the same but the FA1 was different in bodywork and detailing, which is what made it a quicker car."

The FA1 was an immediate hit. Patrese led the car's second race, the 1978 South African GP, and finished second behind the infamous Brabham BT46 'fan car' in Sweden. It was this success that ensured the FA1's downfall. Nichols, convinced that the FA1 and the DN9 were the same car, sued Arrows for copyright infringement.

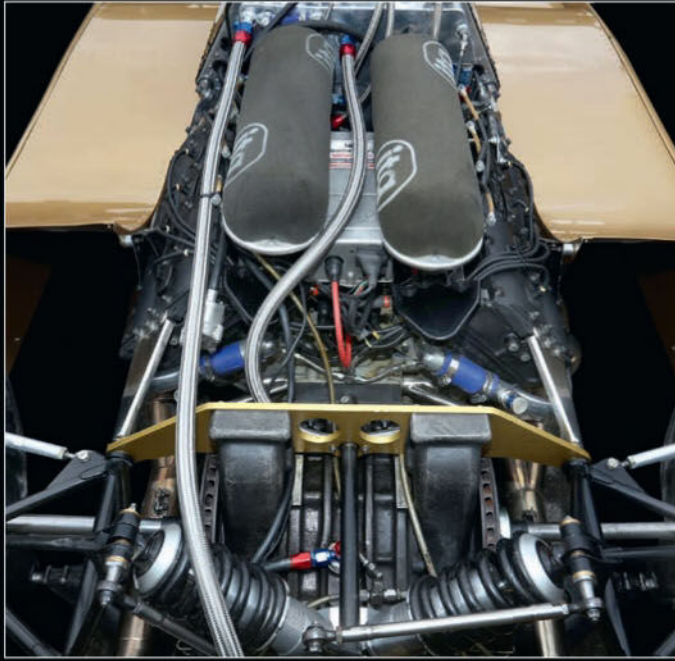
The court case rumbled on, with a decision expected around the time of the German GP. This would be an important race for Arrows since their main sponsors, Warsteiner, were German. To ward off any potential problems, the team opted to design an all-new car, the A1, in just over two months.

Southgate enlisted the help of a second designer, Mike Pilbeam, and reduced detailed drawing time by manufacturing from layout drawings of the monocoque structure and bodywork. Although the →



## ARROWS A1 TECH SPEC

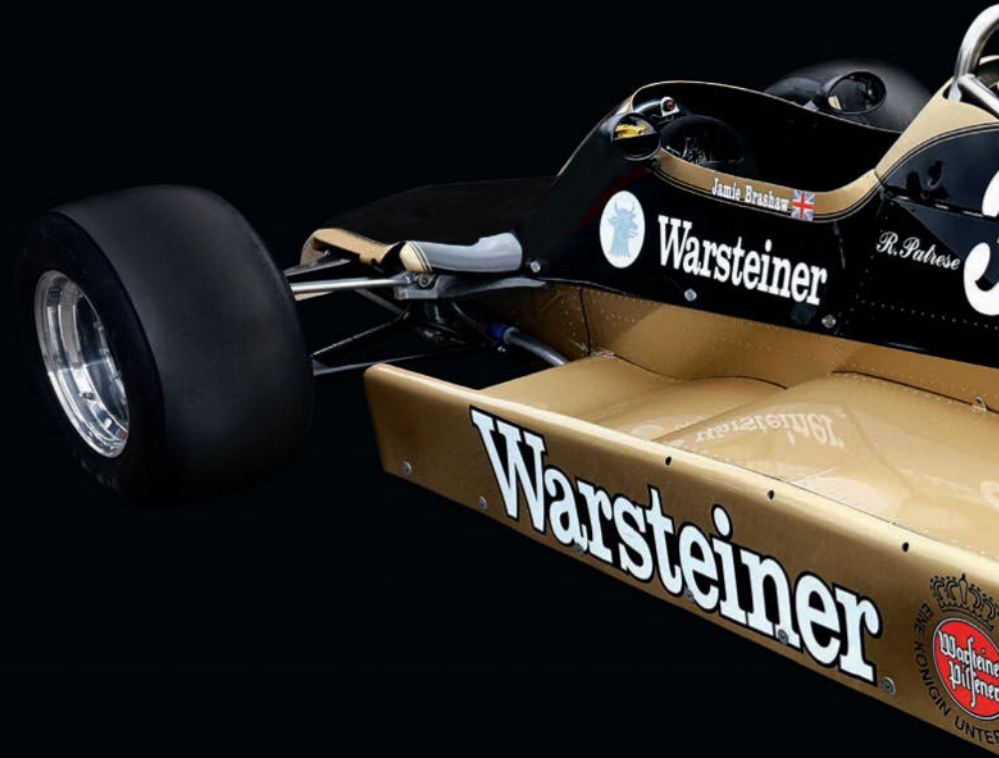
<b>Chassis</b>	Aluminium monocoque
<b>Suspension</b>	Lower wishbones, top rockers (front) and top link and rockers (rear), in-board coil springs over dampers, anti-roll bar
<b>Engine</b>	Ford Cosworth DFV V8
<b>Engine capacity</b>	2,993cc
<b>Power output</b>	480bhp
<b>Gearbox</b>	Hewland 5-speed manual
<b>Weight</b>	589kg
<b>Wheelbase</b>	2,565mm
<b>Tyres</b>	Goodyear
<b>Notable drivers</b>	Rolf Stommelen, Riccardo Patrese, Jochen Mass



### ARROWS A1 RACE RECORD



Starts	9
Did not qualify	4
Wins/poles/fastest laps	0
Other podiums	0
Retirements	3
Points	3
Also raced in	Aurora British F1 Series



aerodynamic theories and suspension geometry followed the principles of the FA1, the A1 was a different car in every other respect. It was bigger, with a wider track and a longer wheelbase, and while Southgate didn't feel it was his most aesthetically pleasing work, the first A1 was finished just 57 days after work began. A second car followed ten days later.

Yet nobody outside Arrows knew about it. All of this was done in secret, and the A1s were to be revealed only if the court decided against the FA1s. As it happened, Arrows' lawyers kept the case live so no decision could be made until the Monday after the Hockenheim race, although the two A1s were taken to Germany and hidden in a garage not far from the track in case they were needed.

A High Court injunction that prevented the team from using the FA1s was finally served to Arrows the day after the German GP. The team duly revealed the A1 the very next day at a test at Zandvoort.

Unfortunately, the 'new' car wasn't nearly as competitive as the old one and the A1 got off to a tricky start. While it outperformed its predecessor in the slower corners, its wider track meant that it wasn't as quick as the lighter and smaller FA1.

Stommelen failed to pre-qualify in his first three races with the A1 – Austria, Holland and Italy. Patrese retired in Austria and Holland,

and at the Italian GP was blamed, wrongly, by his fellow drivers for the accident that took the life of Ronnie Peterson. He was excluded from the penultimate race of 1978, the US GP, but he and the team bounced back to end the season on a high note with P4 in Canada. This would prove to be the car's best result in a championship race.

In the off-season, Arrows ran 1976 and 1977 500cc motorcycle world champion Barry Sheene in a secret A1 test at Donington Park as he contemplated a switch to cars. Southgate, meanwhile, jaded after designing three cars in under a year, chose to update the A1 for 1979. With detail changes and a new rear wing, it was named the A1B, and ran for seven races, taking a best result of fifth at the French GP. This allowed Southgate a little more time to work on the radical A2.

That wasn't the end of competitive action for the A1, though. In 1979, Jochen Mass, took it to fourth in the non-championship Race of Champions at Brands Hatch. Also in an A1 at Brands was Rupert Keegan, part of the Aurora British F1 Championship, and it was in this series that the car enjoyed its best days. Up against similar year-old machinery from Tyrrell, Williams, Wolf and Fittipaldi, Keegan won five races in an A1 to claim the title at year end. In 1980, Guy Edwards took over the car and managed a further two wins on his way to third. Maybe the rush to build the A1 had been worth it after all. **F1**



NEXT MONTH THE MASERATI 4CLT 



\* ALL STATS ACCURATE UP TO AND INCLUDING THE GERMAN GP

IT'S THE...

# MID-TERM REPORT

As F1 takes some much-needed time off for its summer break, **Peter Windsor** offers his team-by-team analysis (in the order in which they started the season) of what's happened and what's yet to come...





**MERCEDES** Points: 415 Position: 1st

**It's harder to keep on winning** than it is to chase: ask any world champion who has lost the title. And, in F1, it's often easier to know why you're slow than it is to know why you're quick – when you're behind, you at least have a yardstick. So hats off to Mercedes. They started to win properly in 2013 and now, three-and-a-half years later, they're still at it. Toto Wolff hired Paddy Lowe, and Paddy manages a brilliant team of engineers – all nice guys, all low-ego racers: John Owen (chief designer); Aldo Costa (engineering director); Geoff Willis (technology director); plus Andy Cowell, of course, over at Brixworth, where they design and build the engines. Pictures of Red Bull, Sebastian Vettel and Ferrari pictures currently adorn the corridors of Mercedes' Brackley factory. "Don't relax", they say. "You can be sure that they'll be back..."

So this is more than a huge car company doing its thing. It's a huge car company letting very good racing people do *their* thing. And it's wondrous. They've even continued to let us have Lewis Hamilton and Nico

"Nico wins whenever Lewis runs into trouble or makes a slow start; Lewis has rapid-response variables on his speed-dial"

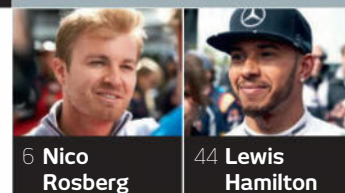
Rosberg in the same serving, tempting though it must be to put a comfortable 'second driver' in the other car. Nico wins whenever Lewis runs into trouble or makes a slow start; Lewis has rapid-response variables on his speed-dial. As fractious as they are on track, Lewis and Nico are actually a perfect pair. They're even buddies when no one's looking, back home in Monaco.

For me, Lewis's win at Monaco was the best of the year so far. He was all over Nico in the wet, particularly into Casino Square, and then he ran absurdly far into the race on wets, wrong-footing Red Bull into a fumbled, race-defining extra pitstop. Nothing was easy that day in the Principality, yet Lewis raised the bar.

The complex, intricate front-wing designs; the pioneering cassette gearbox system (that meant John Owen and his team were able to beef up the rear track rods in record time, post-Austria); the elegant simplicity of the rear wing in Spa/Montréal/Monza: all are Merc trademarks. Now comes the hard part. All of Mercedes' suggestions for the new 2017 regs (basic aero/more mechanical grip, supported in the main by Ferrari) have been rejected in favour of a Red Bull/McLaren pro-aero impetus. The thinking? Let's vote against Mercedes. They've been winning for long enough.

Ha! At Brackley, the motivation is now even greater. →

#### STATS



6 Nico Rosberg

44 Lewis Hamilton

#### Championship position

2nd

5 poles, 5 wins

1st

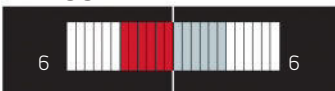
6 poles, 6 wins

#### Points

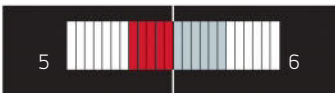
198 /300

217 /300

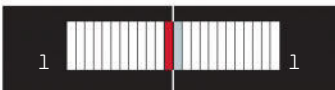
#### Starting grid: head to head



#### Race finishing position: head to head



#### Retirements



#### Most laps raced in a single position

280 in 1st

308 in 1st



**FERRARI** Points: 242 Position: 3rd

**It's difficult to pinpoint** exactly why Ferrari haven't been better so far in 2016. Most likely, it's a little bit of everything: Mattia Binotto's much-improved power unit still isn't the equal of the Mercedes; the basically efficient chassis is good in most areas but weaker than it should be in medium/high-speed corners; and the management of Maurizio Arrivabene in year two, has been good but not great.

This engenders other issues: the sudden and tragic loss of Rebecca Allison, James's wife, is still felt in all parts of the team and in the F1 pitlane, so it was no surprise when James decided, in late July, to leave Ferrari to spend more time in the UK. Thus ended the Scuderia's attempt to break from tradition – that is, to have a very capable CFD guy in overall control of the car, including powertrain. They now look as though they will revert to their familiar square one: Mattia Binotto has been appointed chief technical officer and will oversee both powertrain and chassis, including aero. This is along the lines of Paddy Lowe's role at

“The Mercedes board allows Toto Wolff and Paddy some freedom; Marchionne, an industry man, prefers to dominate the team”

Mercedes, although at board level the differences are vast: there is no voice in Stuttgart like that of Sergio Marchionne's. The Mercedes board allows Toto Wolff and Paddy some freedom; Marchionne, an industry man, prefers to dominate the team – and, what's more, believes it is his duty to do so. On top of that, the 2017 regs are more aero-orientated than Ferrari wanted. That makes James's departure a double-whammy.

There are two major plus points: first, Sebastian Vettel is an outstanding racer in every respect. He is multilingual, articulate, diplomatic, emotionally intelligent, openly self-critical, caring of his sport's heritage and very skilful. Whether he can harmonise Marchionne's ego with the new structure is an unknown. I suspect he can, but then he is also a racing driver – at some point he needs to close the visor and go to work. Second, Ferrari can still match Mercedes in terms of budget and facilities. This is a huge plus at a time when F1's economy is growing ever-more fragile.

Highlights so far? That near-miss in Melbourne and Seb's strong drive to second place in China. Kimi has made several mistakes in practice and qualifying, but has made up for it with sufficient decent race consistency to ensure a contract renewal. His second place in Bahrain in part made up for Seb's horrendous formation-lap engine failure.

**STATS**



5 Sebastian Vettel

7 Kimi Räikkönen

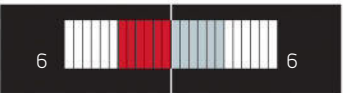
**Championship position**



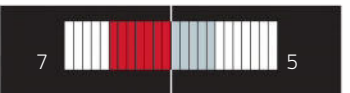
**Points**



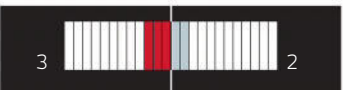
**Starting grid: head to head**



**Race finishing position: head to head**



**Retirements**



**Most laps raced in a single position**





**W WILLIAMS** Points: 96 Position: 4th

**Let's park the negatives.** The FW38 isn't as good as the FW37 in some areas – tyre degradation, for example – and isn't even better in the one zone on which the engineers concentrated last autumn/winter: slow corners. This means the FW38 labours on tight circuits with shortish straights (like Monaco) and in the first half of this year has lost valuable ground, not only to another Mercedes runner (Force India) but also to the rapidly rising Red Bull-Renault. As I write, the team are still in the mode of “identifying weak points”, to quote a recent press release, which is worrying. It's obvious where they're slow: fixing it is the hard part – and this is something they have so far been unable to do.

Let's not write them off, however. One of the more interesting aspects of the next few months will be to see how Williams address these problems. The team is stacked full of big-name engineers, and the facilities at Grove, although slightly top-heavy in the double-windtunnel department, are the envy of most. As ever in motor racing, it will come down to the way they all work together. Sudden breakthroughs are impossible to create this deep into the current regs: it's all about one small, logical step leading to another, each a part of a cohesive, overall imprint. There's no magic to it: it's just a function of good man-management. You see this

“It's obvious where Williams are slow: fixing it is the hard part – and this is something they have so far been unable to do”

at Mercedes; you saw it with James Allison at Ferrari; and you see it at Red Bull, even as Adrian limits his time and even as the team slumped downwards over 2015. Now is the time for Williams to regroup and to find a similar harmony. Not motivation: harmony. They need to channel their energy into extracting the best individually from one another. It's a time, as I say, for front-level man-management.

The current mood isn't bringing out the best in the drivers: they're far less self-critical, for example, than Lewis Hamilton, Nico Rosberg, Seb Vettel or Max Verstappen, which suggests that the waves within the team have far more bearing on the way drivers perform than endless days on a simulator or in the gym. Yes, Valtteri Bottas drove beautifully out there on his own in Canada, but, worryingly, he has had far more on-track incidents over the past 12 months than, say, Romain Grosjean. And Felipe Massa looks increasingly ragged, in terms of both track-craft and style, as the frustration level rises. Let's look for changes from here on in. →

#### STATS



19 Felipe Massa

77 Valtteri Bottas

#### Championship position

9th

7th

#### Points

38 /300

58 /300

#### Starting grid: head to head

2

10

#### Race finishing position: head to head

5

7

#### Retirements

3

0

#### Most laps raced in a single position

90 in 10th

107 in 9th

PHOTOS: STEVEN TEE/LAT; GLENN DUNBAR/LAT; ANDY HONE/LAT



**RED BULL** Points: 256 Position: 2nd

**This year has been a stand-out** for Red Bull – and proof of what we said from the top: give them a goal and a yardstick and a team this good will always bounce back. The 2016 Renault power unit is a major step forward; the 2016 RB12 chassis – the epitome of the ‘rake’ genre – is quick in all modes and on all types of circuit; and Daniel Ricciardo and Max Verstappen make as powerful a driver combination as you’ll find this side of Hamilton-Rosberg.

The big story, of course, is Max – and the question is: why didn’t they sign him up over the winter of 2015-16 instead of waiting until after Russia? No matter. The deed was done and in Spain Max won his first race with his new team, tying in perfectly with *F1R*’s first MV front cover. Could there be a better story? Only perhaps that Max is now F1’s youngest winner and that he did it without faltering – without even a lock-up. And that he, too, is multilingual, in addition to being self-effacing, well-mannered and quietly spoken.

Max has since outraced Daniel in Austria and has outraced and outqualified Daniel at Silverstone, in difficult, windy and then wet-dry conditions. Max drives like Lewis. With supple, precise movements, he extends the straights and rotates the car at precisely the right moments. Car control? It’s great, but we rarely see it because Max is so good at creating the straight lines.

“The 2016 Renault power unit is a major step forward; the 2016 RB12 chassis is quick in all modes and on all types of circuit”

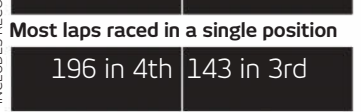
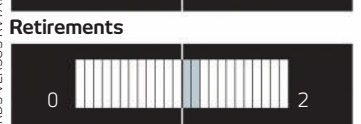
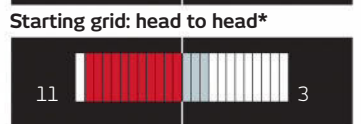
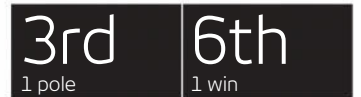
Which makes Max the next Lewis, the next Michael. And he’s with Red Bull for the foreseeable future. That alone is ultra-promising for the team for the remainder of 2016, let alone for 2017 – particularly with those RBR-formulated new regs on the horizon. Daniel, for his part, is no less than the ultra-quick race winner we saw in 2014. He was stunning at Monaco a couple of months ago, where he took pole and should have won, and he’ll be back for more. The impressive thing is Daniel’s stoicism in the face of MV’s arrival: Dan’s a racing driver in every sense of those two F1 words.

So Red Bull are returning with every passing day. Adrian Newey’s involvement in other projects hasn’t hurt them, nor has the departure of Peter Prodromou to McLaren. Rob Marshall, Red Bull’s chief engineering officer, is meanwhile producing beautiful racing cars for the likes of Paul Monaghan to engineer in his classic, ex-McLaren, ex-Renault kind of way. No need for Merc pictures on the walls at Milton Keynes: the team know exactly what lies ahead.

**STATS**



**Championship position**



\*INCLUDES RECORDS VERSUS Kvyat and Saiz



**FORCE INDIA** Points: 81 Position: 5th

**STATS**

**It's difficult to fault** Force India's season so far. Take their budget into account (smaller than those of Williams or Toro Rosso) and their facilities (less extensive than Toro Rosso's or Williams') and you have a team punching well above their weight.

This hasn't happened overnight. Deputy team principal Bob Fernley, chief operating officer Otmar Szafnauer, technical director Andy Green, sporting director Andy Stevenson and chief race engineer Tom McCullough have been putting together a very sharp-looking team for the past couple of seasons. Team principal Vijay Mallya has kept a million balls in the air in order to keep them financed, and Andy Green has spent every penny that's come his way with due diligence and creative flair.

The first half of their current car appeared in Austria last season, when there wasn't sufficient budget to build the whole package. The remainder was delayed until 2016, when the VJM09's successful high-rake character was finally given free rein.

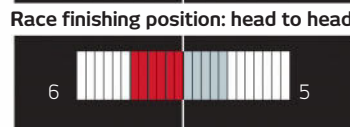
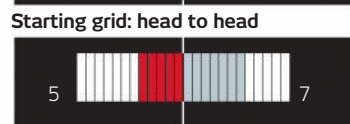
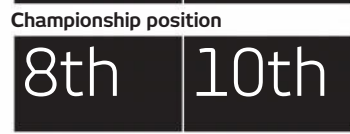
"A larger budget will help them raise their game – but then a good part of Force India's success is due to their compact efficiency"

There are three major components to the team's rise and rise: Vijay was first to secure a Mercedes customer engine deal and the loyalty continues. Second, Force India were also the first F1 team to sign a deal with Toyota for the use of their windtunnel in Cologne – McLaren later followed suit. And third, the team have always run seriously fast racing drivers, as distinct from F1 drivers who bring serious loot. This year, in terms of reasons for getting out of bed on Sunday mornings, Sergio Pérez's management of the VJM09 has been up there with the Lewis-Nico fight. Sergio has always had a Button/Räikkönen-like feel for loading up the outside rear in linear progression but, until now, we've seen it only sparingly. In the VJM09, with great traction beneath him, first at Monaco, then at Baku, his special talent has been in lights. And this, in turn, makes him almost impossible to overtake given equal conditions.

Ahead lie question marks. A larger budget, if it comes, will, in theory, help them raise their game – but then a good part of Force India's success is due to their compact efficiency. Either way, it's a nice dilemma to have to face. I guess it's all summed up by Pérez's answer to a question he was asked before the Canadian Grand Prix: "Checo, are you looking to move to a bigger and better team for 2017?" Answer: "No. Why would I?" →



11 Sergio Pérez 27 Nico Hülkenberg



PHOTOS: STEVEN TEE/LAT; ANDY HONE/LAT; SAM BLOXHAM/LAT; ANDREW FERRARO/LAT



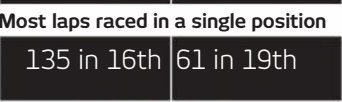
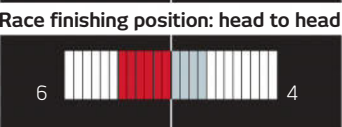
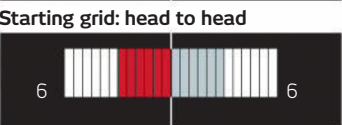
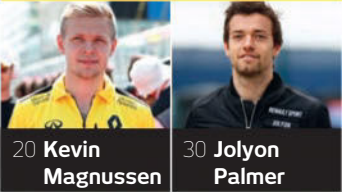
**It's an exhilarating time** to be around the off-yellow Renault team – particularly when you remember the bright yellow Renault turbos of the late-1970s/early-1980s. Okay, they were starting from scratch back then, so the comparison is spurious, but the energies were the same, as was Renault's desire to make it work. You sense that passion today when you talk to Frédéric Vasseur or Nick Chester or Bob Bell. Another race has not gone well; let's get back to the factory and continue to push. It's nice, in short, to have Renault back racing in Formula 1 again, full-time.

This car is last year's with a power-unit swap, so no one is expecting much. Russia was a strong race for Kevin Magnussen, but his weaving antics in Austria (for

"This car is last year's with a power-unit swap, so no one is expecting much"

which he was penalised) seemed a bit bizarre for a driver of his calibre. Jolyon Palmer's F1 career started well, with a gutsy qualifying performance in Melbourne, when F1 was running that ridiculous 'knock-out' system. And he's since had his moments, including that embarrassing one on the pit straight at Monte Carlo. But he's quiet, conscientious and works hard – all of which may enable him to retain this drive in 2017.

**STATS**



**It's been a big year** for Toro Rosso: they've moved to their new Faenza factory, and James Key's all-new, slim-fit STR11 has turned heads in the pitlane. Granted, the 2015 Ferrari engines have zero development potential, and it's not every day that a team undergoes a driver-swap five races into the season. Even so, STR have delivered as one of F1's stronger mid-field teams.

Carlos Sainz's consistency has become a feature of 2016. When Max Verstappen was promoted, Carlos had to win the new battle against Daniil Kvyat. Now, in the wake of Max's departure, Carlos has found his style less cramped, his side of the garage larger, and, so far, he's doing what he needs to do – beating Kvyat.

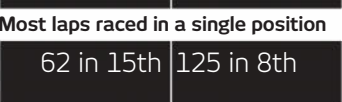
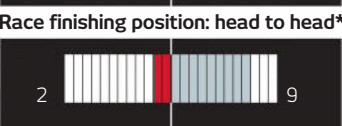
For his part, Daniil must still be wondering what went wrong. One minute he was passing Vettel down the inside into T1 in China on the way to finishing third; the next he was being demoted. The bigger

"James Key's all-new, slim-fit STR11 has turned heads in the pitlane"

picture is logical: Max is the Man of the Future. At ground level, though – which is Kvyat's level – the visibility is much less. And, unsurprisingly, he's taking a while to adapt to his old, new team.



**STATS**



\*INCLUDES RECORDS VERSUS RICCIARDO AND VERSTAPPEN



I can't imagine how hard it is to run Sauber on a shoestring from that expensive base in Switzerland, so I'll get the criticisms out of the way. Peter Sauber should never have sold out to BMW – or returned to F1 the way he did. That's why the team is in this mess. He still owns the windtunnel, which is a nice investment, but all the difficult stuff is in the mire.

Both Felipe Nasr and Marcus Ericsson have driven well. Felipe didn't like his new chassis initially, but, since Russia, where he was given a replacement, he's been very impressive, particularly in Austria and at Silverstone. Marcus Ericsson, whose backers have links to Sauber's new investors, Longbow Finance, is also

"Sauber are living proof of how tough it is to find sponsors in F1 today"

Sauber are living proof of how tough it is to find sponsors in F1 today. The costs are absurdly high; the returns for sponsors small. Hence prize money and driver-derived sponsorship are the only games in town.

much quicker than the car he's racing, even if it all went to his head at Monaco, where he T-boned his team-mate, who'd driven hard from the back of the grid and was on a different strategy.

**STATS**



9 **Marcus Ericsson**

12 **Felipe Nasr**

**Championship position**

21st 22nd

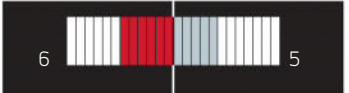
**Points**



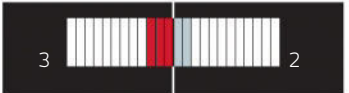
**Starting grid: head to head**



**Race finishing position: head to head**



**Retirements**



**Most laps raced in a single position**

106 in 18th 115 in 16th



A new regime at Honda has produced solid power-unit progress, but an endless stream of aero updates for the car makes it difficult even for the team to establish where the MP4-31's strong and weak points actually lie.

"The money is there; facilities are good. All the components are in place. Kind of"

way the 2017 rule book is being worded and will see this as the opportunity to take the Big Leap forwards.

Jenson Button is again driving well, and looks like an Alonso match, while Fernando remains Fernando, a conquistador in search of a car that will do him justice.

The money is there; facilities are good; communication between departments is edgy; and Stoffel Vandoorne, potentially another Max, is racing through the Japanese Super Formula while he awaits his F1 promotion. All the components are there. Kind of.

The team do seem too managerially top-heavy, with Jost Capito set to join as CEO at some point soon, but Ron always was keen on committees. And no doubt there's a masterplan; there always is at the MTC. →

Definitely their talented head of aero, Peter Prodromou, is now able to work more closely with Honda than in 2015 and that's important in terms of mechanical integration. And, like Red Bull, they'll be happy with the

**STATS**



14 **Fernando Alonso**

22 **Jenson Button**

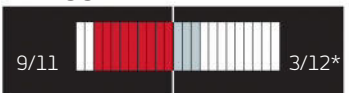
**Championship position**

13th 15th

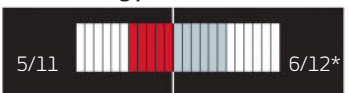
**Points**



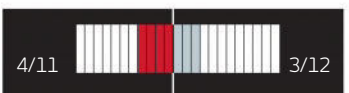
**Starting grid: head to head**



**Race finishing position: head to head**



**Retirements**



**Most laps raced in a single position**

91 in 10th 119 in 9th

\*BUTTON'S STATS INCLUDE RECORD VERSUS VANDOORNE IN BAHRAIN

PHOTOS: ANDY HONE/LAT; GLENN DUNBAR/LAT; CHARLES COATES/LAT; SAM BLOX-HAM/LAT; STEVEN TEE/LAT



**I love hanging around** the garage at Manor. It's like the McLaren team in the early 1970s: lots of good racing people going about their business with minimal fuss. Dave Ryan, Pete Vale, Pat Fry... the list of ex-McLaren personnel is impressive. Nothing can beat McLaren orange, of course, but Manor's metallic-flake blue comes close. Very Lance Reventlow.

They have two quick young rookies, too. Pascal Wehrlein is fast and linear, even if he did make a bit of a mess of it in qualifying at Shanghai, where he accelerated hard on a wet patch with the DRS still open; it's the sort of mistake he won't make again. Pascal also brings a Mercedes engine deal with him, which is why

"Pascal brings a Mercedes engine deal with him, which is why Manor will score more points"

Unfortunately for Rio, as this magazine went to press, it was announced that he had failed to secure financial backing and has lost his seat to Renault reserve driver and current GP3 champion, Esteban Ocon.

Manor will set score more points.

I've also been impressed by Rio Haryanto, who showed that he was capable of winning GP2 sprint races and running near the front of the features.

**STATS**



88 **Rio Haryanto** 94 **Pascal Wehrlein**

**Championship position**  
23rd 17th

**Points**  
0 /300 1 /300

**Starting grid: head to head**  
4 8

**Race finishing position: head to head**  
1 10

**Retirements**  
3 2

**Most laps raced in a single position**  
109 in 19th and 20th 183 in 17th



**This new team** have had an excellent first half-season. It's fashionable among other mid-gridders to say they expected Haas to be better, given the Dallara/Ferrari connection and what is perceived to be a large budget. But there's no denying that Melbourne was a great start for them. Not since the same race in 2002 (Mika Salo, sixth for Toyota) had an all-new team performed so well on their debut. Sceptics pointed out that Romain Grosjean didn't stop when the Safety Car was deployed so gained when the red flag was waved, but no matter: he's since shown that it was no fluke, with points finishes for Haas now more or less the norm. Gutiérrez, too, has looked good, and we'll see more points scored.

"Not since the 2002 Australian GP had a new team performed so well on their debut"

Grosjean didn't stop when the Safety Car was deployed so gained when the red flag was waved, but no matter: he's since shown that it was no fluke, with points finishes for Haas now more or less the norm. Gutiérrez, too, has looked good, and we'll see more points scored.

The big question for Haas is 2017 and beyond. People say Gene Haas will underwrite the budget for as long as is necessary, but there has to be a limit. I think the initial hope was that Fiat-Chrysler would step in. That probably went away along with Luca di Montezemolo, which leaves Haas seeking a big F1 sponsor in a country (the USA) that's used to much smaller IndyCar and NASCAR budgets supported by lots of TV time. Here's hoping it all works out for them. 🍀

**STATS**



8 **Romain Grosjean** 21 **Esteban Gutiérrez**

**Championship position**  
12th 19th

**Points**  
28 /300 0 /300

**Starting grid: head to head**  
8 4

**Race finishing position: head to head**  
5 7

**Retirements**  
2 2

**Most laps raced in a single position**  
137 in 14th 85 in 11th

PHOTOS: ANDY HONE/LAT

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# MR HAPPY

Is Renault's team boss as grumpy as he looks? *F1 Racing* searches for his smile

WORDS STUART CODLING   PICTURES ANDREW FERRARO/LAT



## CV Frédéric Vasseur

**Born** 1968 in Draveil, France

**2016** Appointed race director of Renault Sport F1 and then in July is promoted to team principal

**2013** His company, Spark Racing Technology, is made sole supplier for Formula E cars for 2014/2015, working with Dallara, McLaren Electronic Systems and Hewland

**2012** Forms Spark Racing Technology

**2011** Submits proposal to FIA to become supplier to Formula E

**2007** Teams ASM and ART merge fully

**2004** Forms ART Grand Prix with Nicolas Todt to contest GP2 and wins six titles, including success with Lewis Hamilton, Nico Rosberg and Nico Hülkenberg

**2003 -07** ASM win Euro F3 titles with Jamie Green, Lewis Hamilton, Paul Di Resta and Romain Grosjean

**1996** Graduates from The French School of Aeronautical Technology and Automotive Engineering and forms ASM to race in F3

**Formula 1 folk really do live in a bubble,** a truism re-emphasised most recently by the sheer number of people who asked “Who he?” when Frédéric Vasseur’s name popped up as the person most likely to take over the running of Renault’s F1 team. Who he? Only the person responsible for fettleing some of the greatest talent to enter the sport in recent years.

But there’s also a misplaced perception that he’s a bit grumpy – perhaps because, rather like the great Williams engineer Sir Patrick Head, his face seems to settle into a frown when he’s at work, which is when the cameras tend to be focused on him. He hoots with laughter when *F1 Racing* diplomatically introduces this point.

“I don’t know... I tell you, when I’m focused on the race I’m a bit close on myself. You’re not the first one to comment on this – my wife also! You’ve got so many things to think about at once that it’s difficult to make a happy face as well.”

Vasseur is among motorsport’s most prolific talent spotters. His ASM Formula 3 team, which merged with Nicolas Todt’s ART to form a GP2 and GP3 powerhouse, has nurtured Lewis Hamilton, Adrian Sutil, Romain Grosjean, Nico Rosberg, Sebastian Vettel, Jules Bianchi, Valtteri Bottas, Nico Hülkenberg and Esteban Gutiérrez. You can add to that number Stoffel Vandoorne and Esteban Ocon, now knocking on the door of F1. Vasseur’s company, Spark Racing Technology co-developed the cars used by the entire Formula E grid in its first season.

The question, therefore, is why has he taken so long to make his move into F1? For Vasseur it was a case of choosing the right moment.

“I had thought about it in the past,” he says. “There was 2010, when they opened three more grid slots. I was quite close to doing it, but I was afraid about the budget that would be required. I didn’t have the personal fortune to manage it so I thought it would be a mistake to enter the sport that way. That was the right decision because, as we saw, for HRT and Caterham it was a disaster.

“In 2012 I had another opportunity, one with Renault, another with a different manufacturer, but my other projects weren’t in the right shape for me to go. We were growing up and I didn’t want to let down everybody who had built the companies with me. There are guys at ART Grand Prix who have been working with me since 1990. I didn’t want to say to people I’d been working with for over 20 years: ‘Okay guys, I have another proposal, so I’m leaving today.’”

“But since 2012 we’ve been building up the company in a different way, with a general manager in each department, and last year it went pretty well. I don’t want to say I wasn’t involved – I wasn’t far away – but it made for good momentum for me to be able to try something else. And at the same stage, Renault were moving forward with the Lotus project.”

Becoming Renault team principal doesn’t leave him much time for anything else; the team used to incorporate two technical hubs – chassis in Enstone, engine in Viry-Châtillon – and the two have had to be reunified after several years

in which the chassis side was owned separately. Both have their own challenges: Renault’s power units have been the whipping boys of the hybrid turbo era, and years of underinvestment have left Enstone a veritable shadow of its former self.

Vasseur spends up to three days a week at Enstone and divides the rest of his time between racetrack and engine facility. The presence of Cyril Abiteboul as managing director lets Vasseur focus on the racing (he was hired as sporting director before promotion to the team principal role) and not have to allocate mental bandwidth to marketing – which for Renault is the main reason for being in F1, and therefore a potential resource hog. Still, at some point he will have to wrestle with the expectations of the board.

“It’s hard to make a plan to say what you want to achieve in future seasons because you never know what could happen,” he says. “We’ll have a new car for next year and it could be huge – or not. Nobody can predict the future. The only roadmap we have is what [Renault CEO] Carlos Ghosn said at the launch: he told us he wants podiums in year three and to be fighting for the title in year five. From my position the job is to work towards that by finding more performance next week than we had last week. We’re in F1 for the long term so we don’t need to make instant success; we can build a strong team bit by bit.”

Who will be driving for Renault by then? Vasseur professes himself satisfied with the performance of Kevin Magnussen and Jolyon Palmer thus far, but it is known that he is keen to secure the services of Stoffel Vandoorne, whom ART ran in the GP2 championship last year, and who is now warming the bench at McLaren. But when *F1 Racing* puts out the feelers about what might happen with Vandoorne, given that Fernando Alonso has another year on his McLaren contract and Jenson Button is valued by their sponsors, a twinkle appears in Vasseur’s eye and he dodges out of reach of the question.

“They will have to build a third car!” 🚗

**“I tell you, when I’m focused on the race I’m a bit close on myself. You’ve got so many things to think about at once that it’s difficult to make a happy face as well”**

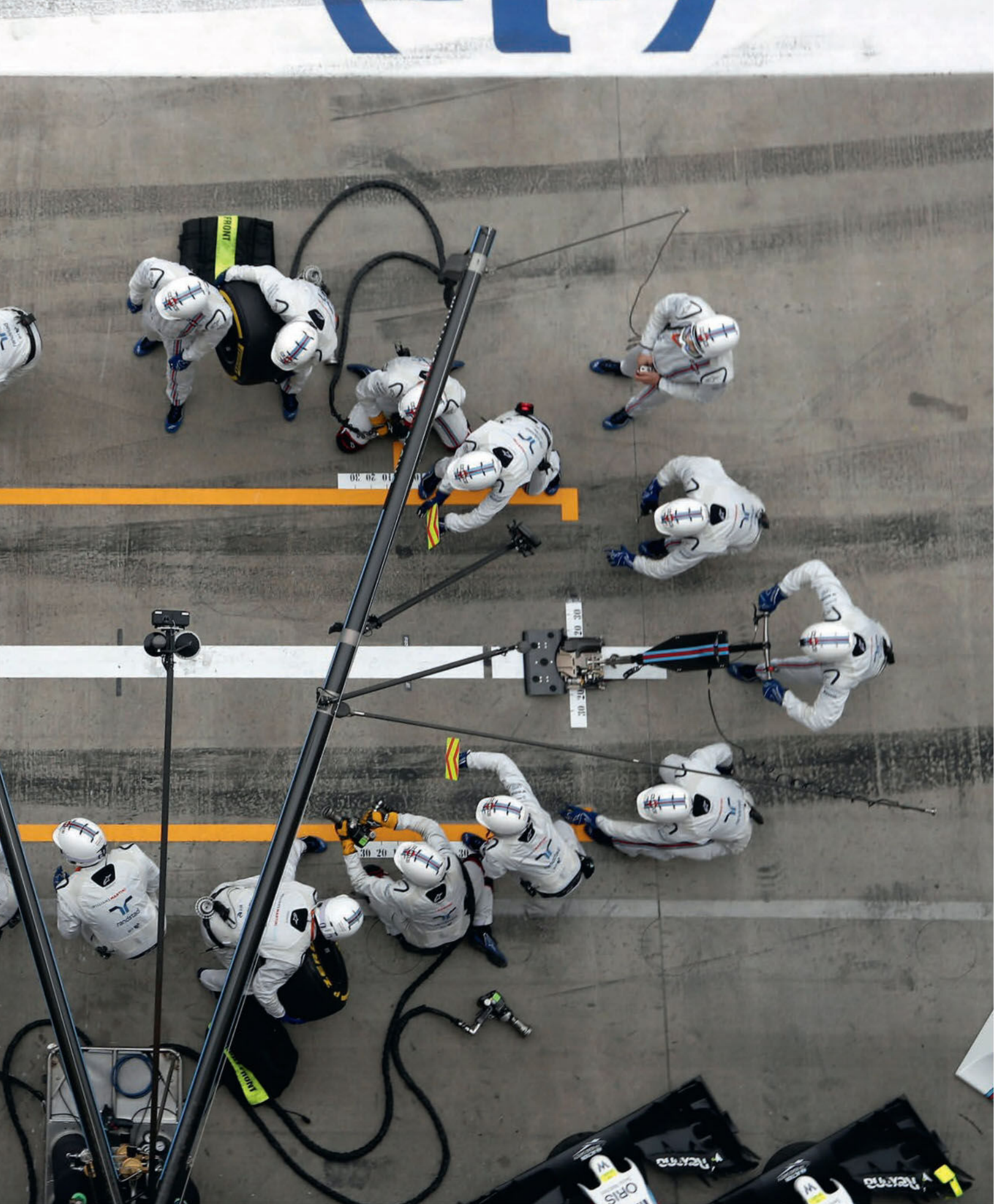


# GONE

PHOTOS: LATPHOTOGRAPHIC

• Williams have recorded nine consecutive fastest pitstops this year

• The quickest was in Baku, timed by the team at 1.89s • Axles, wheel nuts,

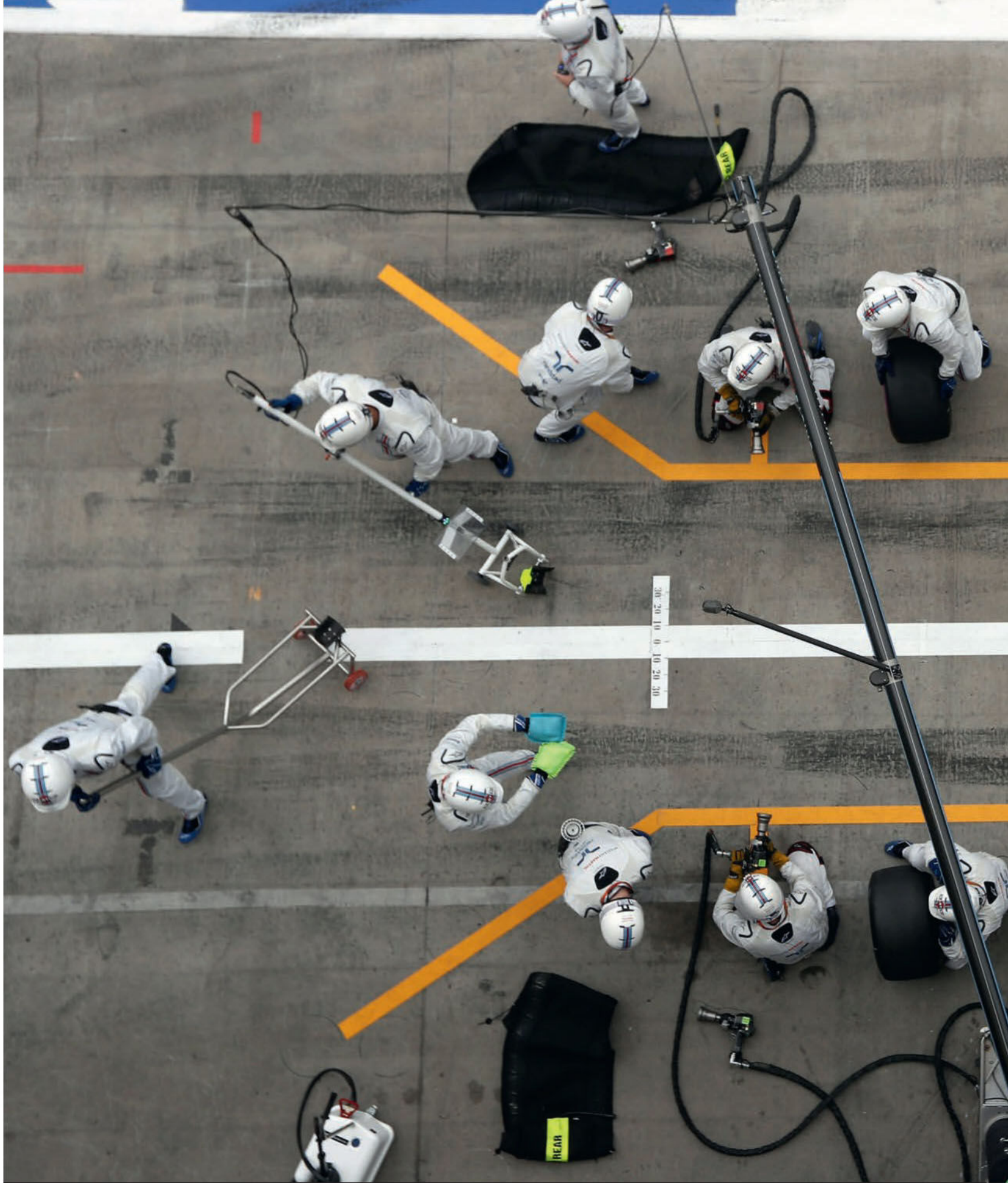


jacks and release mechanisms have all been redesigned • A full-time physio has



been assigned to study the ergonomics of the pitcrew ●●● Three mechanics are allocated to each wheel with a spare wheel nut attached to the back of their





four are pressed, the rear jack drops ●●●The 'controller' at the front of the car can override the system ●●●Data acquisition systems and cameras above the pit



box record everything for analysis ●●● Chief technical officer Pat

Symonds believes "a few tenths can still be shaved off" the fastest time



# DEATH<sup>AT</sup> IMOLA

F1 had miraculously gone without a driver fatality in nearly eight years – until, one sunny weekend in Italy, the sport claimed two lives, including that of its biggest star, with the whole world watching...

WORDS STUART CODLING   PICTURES LAT ARCHIVE & SUTTON IMAGES



Until the early 1980s, few outside Bernie Ecclestone's inner circle had foreseen how important television would become to Formula 1. But as global exposure begat greater sponsorship and a huge, ever-growing audience for the sport, even the dimmest bulbs were finally enlightened. The on-track bombast, fuelled by ever faster and more technically advanced cars and dramatic soap-opera storylines between the major players, put grand prix racing on the world stage and made many protagonists eye-wateringly wealthy.

And then, on 1 May 1994, tens of millions of people were watching as the sport's brightest star, arguably the greatest driver in the world, was killed in a tawdry spectacle that played out on live TV. F1 had lost drivers before – Roland Ratzenberger had been killed the previous day – but never so publicly, immediately and viscerally. Ayrton Senna's shocking death was a gruesome reality check for a sport that over the course of the previous decade had grown cavalier and complacent, too sure of its place in the world.

Until the 1980s, Formula 1 was a relatively niche interest; one that might feature low down in the sports section of television news broadcasts, or merit a column or two in the papers, especially if a home driver had done well. Slowly and by degrees, the entrepreneurial Ecclestone extended his remit beyond wonga-wangling on behalf of the teams and became F1's 'ringmaster', embracing the bigger picture.

At first he had begun to persuade promoters to throw in TV broadcast rights as part of the prize pot for individual grands prix, an unusual request since at the time most people believed that screening a race domestically only poached ticket sales, while overseas broadcasters wouldn't be interested in foreign events. Bit by bit he made progress. Rather like that on-track crossover point when slicks become more advantageous than wet-weather tyres, there was a 'sweet spot' when national broadcasters became keen enough on their home grand prix that Ecclestone could make showing the race in





Senna at Monaco in 1988. His desire to outdo team-mate Prost was so great that he beat him to pole by 1.427 seconds, driving in an almost transcendent state

“As the rancour between Prost and Senna grew, it became box office gold. Not only was this a rivalry for the ages, its principals were complex characters, both exotic and freighted with moral ambiguity, defying black-and-white definitions of hero and villain”

full a condition of the contract. In subsequent years, he would persuade them to carry coverage of the whole season in some form. And then, as audiences grew, he could rack up the price.

Now the casual TV viewer had a chance to become absorbed in both the on-track action and the ongoing narrative of the championship. F1 was starting to transcend mere national interest, and in a way that suited the times. Greater prosperity and social mobility in the 1980s, along with the reshaping of traditional gender roles, meant an audience with a larger discretionary spend, more leisure time, holidays abroad, and a widening world view. You did not have to be Brazilian or French, or even British, to be captivated by the rivalry that opened up between Senna and Alain Prost at McLaren.

You could reasonably expect a season in which one team wins 15 out of 16 races to be a bore, and yet 1988 did nothing to impair F1's commercial momentum and growing global awareness. As the rancour between Prost and Senna grew and began to spill over in public, it became box office gold. Not only was this a rivalry for the ages, its principals were complex characters, both exotic and freighted with moral ambiguity, defying black-and-white definitions of hero and villain.

Senna's burning determination to prove – to himself as much as anyone else – that he was the best, set him on a collision course with both colleagues and rivals. He arrived in F1 with Toleman in 1984, but signed a contract with Lotus mid-season, despite having two years left on his deal with the team who had given him his break. Moving to McLaren for 1988 enabled Senna to graduate from talented underdog status and to test himself against the best, because Alain Prost was in the garage next door.

A four-season incumbency at McLaren, the last two of which had been alongside beatable drivers, might have rendered Prost somewhat unprepared for the ferocity with which Senna attacked him. Having the best car on the grid and a major threat alongside drove both of them to new heights of excellence and, increasingly, the

global TV audience could ride alongside them. In the early 1980s Ecclestone had allocated a tranche of FOCA funds to R&D work on in-car cameras, and the growing maturity of the technology coincided with Senna's inexorable rise to prominence. During qualifying for the 1988 Monaco Grand Prix, Senna underlined his status as a tortured genius by going 1.427s faster than Prost; simply put, he not only blew the doors off his team-mate, he extended the favour via eye-popping in-car footage to the awestruck millions huddled around their televisions.

Afterwards he described to veteran journalist Gerald Donaldson, eloquently and powerfully, the almost transcendent state he had achieved during that lap, and how it had left him emotionally spent:

“I was already on pole and I was going faster and faster. One lap after the other, quicker and quicker and quicker. I was at one stage just on pole, then by half a second, and then one second and I just kept going. Suddenly, I was nearly two seconds faster than anybody else, including my team-mate with the same car. And suddenly I realised that I was no longer driving the car consciously. I was driving it by a kind of instinct, only I was in a different dimension. It was like I was in a tunnel, not only the tunnel under the hotel, but the whole circuit for me was a tunnel. I was just going and going – more and more and more and more. I was way over the limit but still able to find even more.

“Suddenly, something just kicked me. I kind of woke up and I realised that I was in a different atmosphere than you normally are. Immediately my reaction was to back off, slow down. I drove back slowly to the pits and I didn't want to go out any more that day. It frightened me because I was well beyond my conscious understanding. It happens rarely, but I keep these experiences very much alive inside me because it is something that is important for self-preservation.”

For all his talk of self-preservation, though, Senna's outlook on risk was very different to his team-mate's. “Ayrton has a small problem,” →

commented Prost. “He thinks he can’t kill himself, because he believes in God, and I think that’s very dangerous.”

By this point, Ecclestone had completed his ‘conscious uncoupling’ from his role as team owner of Brabham and turned his attention full-time to matters commercial. When the Concorde Agreement was renewed in 1987, the commercial elements controlled by FOCA passed to a new company founded by Ecclestone, Formula One Promotions and Administration. Not that the team owners worried too much: the wealthier teams were high on the hog from the sponsorship monies global exposure brought. When McLaren boss Ron Dennis reached an impasse with Senna over the terms of their three-year contract and agreed to settle the difference – \$1.5million – on

the toss of a coin, Dennis knew his main sponsor, tobacco giant Philip Morris, would be good for it whichever way the coin fell.

Coin tossing became a regular activity at McLaren as Prost and Senna wrangled over who got which of the three engines available at each race, with Dennis the buffer between them. In the end it was not the suspicion of unequal equipment that tipped them over the edge, but Prost’s belief that Senna had reneged on a pre-race agreement at Imola in 1989 not to overtake each other at the Tosa hairpin on the first lap.

At the end of the year, Dennis found himself in the invidious position of having to protest a result that favoured one of his warring drivers over the other. Suzuka was a veritable cauldron of Prost-Senna intrigue; in 1988

Senna had mounted a sensational comeback drive after stalling on the grid to beat Prost to the world championship. A year later, with the championship again in the balance, they locked horns once more – quite literally – colliding at the chicane and becoming entangled. Prost departed his stricken car, but Senna bump-started his engine as the marshals pushed him clear and rejoined down the escape road. After pitting for a new nose he caught up with the leader, Alessandro Nannini, and won the race.

At this point FISA president Jean-Marie Balestre intervened, to his cost. Ever since the FISA-FOCA war, Ecclestone had ceased fighting Balestre openly. Instead he managed Balestre’s ego, letting him don his blazer, puff out his chest and play at being the boss during podium ceremonies. It made the president a useful lightning conductor for unpopular decisions.

Now Balestre marched into the stewards’ office and demanded that they disqualify Senna, which they did, handing the world championship to Prost. Many, including Dennis and Senna, believed he did this at Prost’s instigation – the

“For all his talk of self-preservation, Senna’s outlook on risk was very different to his team-mate’s. ‘Ayrton has a small problem,’ commented Prost. ‘He thinks he can’t kill himself, because he believes in God, and I think that’s very dangerous’”



Senna is pushed clear by marshals at Suzuka 1989 after colliding with his team-mate. His subsequent disqualification handed the championship to Prost



FISA president Balestre's perceived support of Prost, led to his ousting by Max Mosley in 1991

French connection, as it were. Dennis filed a protest, Senna went on record claiming that the result was a fix, and the outcome of the championship remained in doubt for some time. Balestre even threatened to block Senna's 1990 superlicence unless he apologised. He never did; the Suzuka disqualification stood; Prost became champion... and Senna *did* get his superlicence.

A year later, and with Prost now driving for Ferrari, the three clashed at Suzuka once again as Senna blamed Balestre for blocking his request for the pole slot to be swapped over to the racing line. In front of the millions watching live worldwide he got a slower start from pole on the dirty side of the grid, fell behind Prost, had a look at the inside into the first corner, and then slammed into the back of the Ferrari as Prost took up the racing line. The title was Senna's, but it was tainted; he had crossed a moral line.

"I looked at the [telemetry] traces, and you didn't need to be Einstein to work out what had happened," said Dennis. "He came back to the pits and I said: 'I'm disappointed in you.' He got it. I didn't have to say any more. It was one of his

rare moments of weakness. I don't think it was anything that he was particularly proud of."

Balestre's perceived bias was his undoing: in 1991 Max Mosley successfully stood against him for the FISA presidency. In 1993 Mosley became president of the FIA itself and restructured the organisation, getting rid of FISA entirely.

Senna collected a third world title in 1991, again decided at Suzuka, but this time in the absence of Prost, who had been sacked by Ferrari for being publicly critical of his car. Senna's prime on-track rival had become Nigel Mansell, driving for a resurgent Williams, but these two were never going to get under one another's skin in the same way. The rivalry was still intense, yet somehow vanilla-flavoured. Senna's brilliance was often defined in isolation, as at Interlagos in '91 when he clung on to the lead while stuck in sixth gear and had to be lifted from the car afterwards, exhausted.

As Williams became the dominant technical force, armed with sophisticated active suspension, Senna was reduced to poaching victories in adverse conditions, especially so in

1993 after Honda quit the sport. Senna coveted a Williams seat, but Prost, returning from a sabbatical, beat him to it – and, so Senna believed, locked him out.

"The way he is behaving is like a coward," Senna raged after Prost won the season-opening South African GP by over a minute. "He has everything laid out for him in 1993. It's like running a 100 metre race with him in running shoes and everybody in lead boots."

Senna grudgingly saw out 1993 on a race-by-race deal with McLaren, his commitment to remaining in the sport wavering, but he finally secured a contract with Williams for 1994 – only for Prost to announce his retirement. The expression on Senna's face in photographs of the podium for the final grand prix of 1993 is revealing. He has won the race, and beaten Prost, but there is no joy. He knows there will be no rematch in equal equipment with the man who has been the yardstick for his own excellence.

Still, 1994 carried the tantalising prospect of a new rivalry between Senna and the new *wunderkind* Michael Schumacher, under a →



Suzuka 1990, the rematch: Senna deliberately drives into Prost at the first corner, to take a tainted title

## HISTORY TIMELINE

1988

The FIA introduces a permanent race director for grands prix and mandates that all cars must now locate the drivers' feet behind the front axle line. Ayrton Senna wins his first world title.

1989

Normally aspirated engines are now compulsory. Ferrari pioneer the semi-automatic gearbox. Renault return as an engine supplier, with Williams. Jean Alesi makes his debut for Tyrrell. Brabham return under new ownership following a hiatus in 1988.

1990

All drivers are now tested to ensure they can extract themselves from the car in a given time. Nigel Mansell announces his retirement mid-season, frustrated by poor reliability at Ferrari, but then signs for Williams.

1991

Alain Prost is sacked by Ferrari before the end of the season after criticising the car. Poor reliability costs Nigel Mansell his chance in the championship, which is won by Senna. Michael Schumacher makes his debut for Jordan.

1992

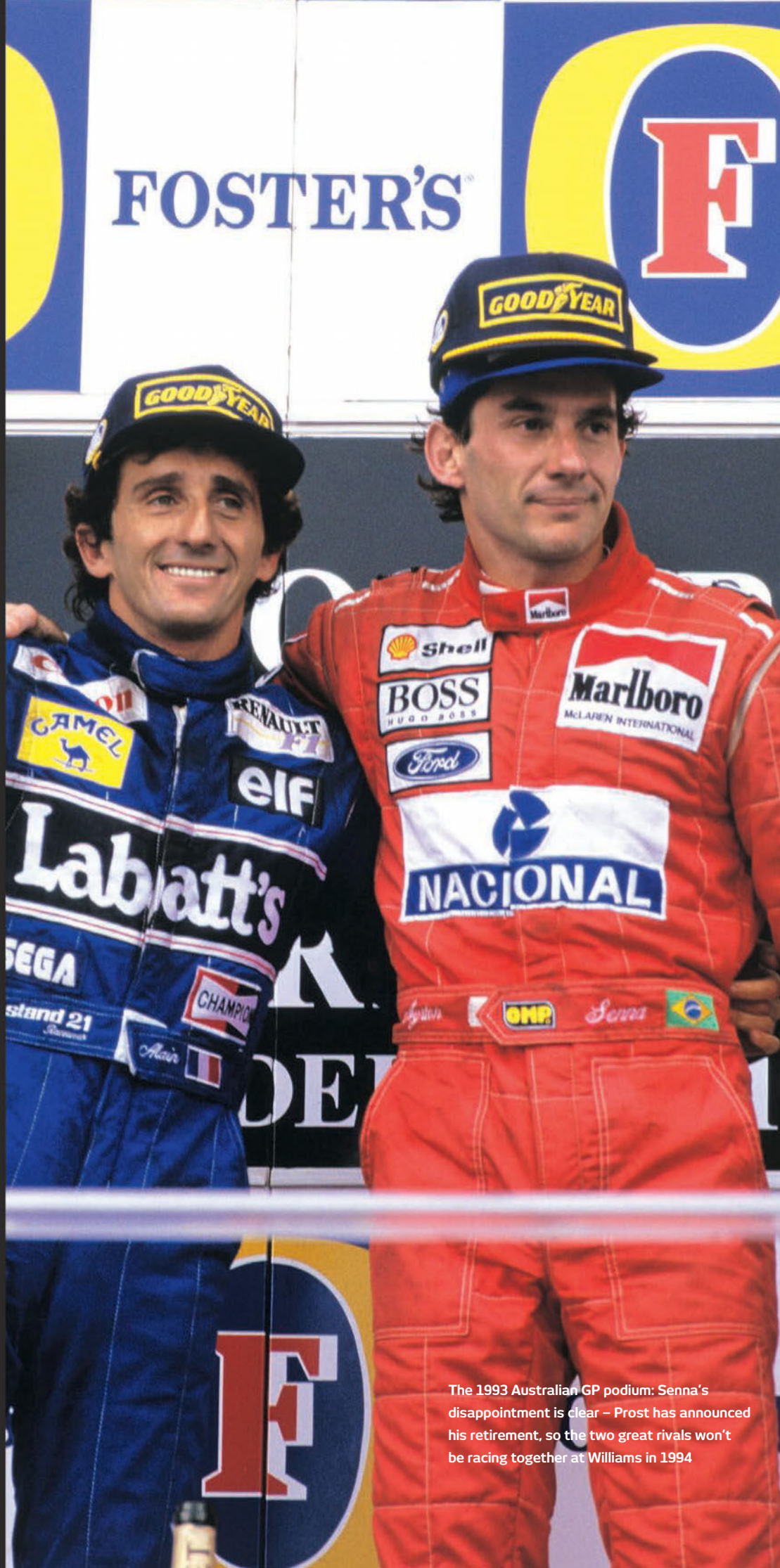
The Safety Car is re-introduced full-time. Williams add active suspension to their technical package and Nigel Mansell laps everyone up to fifth-placed Gerhard Berger in the season-opening South African Grand Prix.

1993

McLaren use Ford engines after Honda leave F1; in spite of encouraging tests of the Lamborghini V12 engine they sign a contract with Peugeot for 1994. Senna insists on a race-by-race contract at McLaren and Mika Häkkinen replaces Michael Andretti from the Italian GP onwards.

1994

Computer analysis is used to identify potentially dangerous corners in the aftermath of Senna's fatal accident, along with aerodynamic restrictions, holes in the airbox to reduce power, and the introduction of the 'plank' below the car floors. A pitlane speed limit is introduced following an incident involving a loose wheel at Imola. Pump fuel is now compulsory.



The 1993 Australian GP podium: Senna's disappointment is clear – Prost has announced his retirement, so the two great rivals won't be racing together at Williams in 1994



Double tragedy struck at the 1994 San Marino GP. Simtek racer Roland Ratzenberger (left) was killed in a qualifying crash, foreshadowing the death of Ayrton Senna (below) the following day in the race

new technical regime in which the controversial electronic driver aids, such as active suspension and traction control, were banned, and mid-race refuelling had been re-introduced. But all was not well. Williams had adjusted poorly to the new regulations and the FW16 was a truculent beast, hampered by an inherent aerodynamic instability that was not cured until later.

Worse, the ban on driver aids – to which most of the sport's stakeholders had agreed – had done very little to curb the prodigious speeds F1 cars were achieving. Senna's pole lap at the Interlagos season-opener was only a tenth of a second off Prost's from the season before, in a car that was now much more difficult – and therefore dangerous – to drive. Indeed, Senna spun off while pursuing Schumacher, who took the lead after making a faster pitstop.

At the next race, in Japan, Senna was taken out at the first corner after being beaten away from the lights by Schumacher. He remained at Turn 1 for the majority of the race, listening to the cars, and returned convinced that the Benetton was running illegal traction control (while a subsequent FIA investigation found hidden traction and launch control code in Benetton's software, there remains no proof that it was used). Senna therefore approached round three, San Marino, in a state of some disquiet.

It was a cursed weekend. Jordan's Rubens Barrichello had a high-speed off during practice, striking a tyre barrier broadside while airborne, the impact causing him to swallow his tongue. Reaching the scene, marshals flipped the inverted car upright without a thought for the spinal injury Barrichello could have suffered. A day later Roland Ratzenberger was making a last-ditch attempt to qualify his Simtek, slingshotting out of Tamburello at full throttle and approaching 200mph as he approached the left-right sweep before Tosa, when part of his front wing broke off and lodged under the car. With the front wheels off the ground, he launched off a kerb and into a retaining wall. As the TV director cut away from the sickening spectacle of his head lolling in the cockpit, the show went on. Ratzenberger was helicoptered to Maggiore Hospital in Bologna, where he was pronounced dead on arrival.

The circumstances of Senna's fatal accident some 24 hours later have never been definitively explained. A start-line crash (in which nine spectators were also injured) brought out the Safety Car, which at Imola was a humdrum



“Senna's car speared off the road at Tamburello and into the wall that marks the boundary of the river on the other side. The following moments were an emotional keelhauling as doctors fought to save Senna's life, while the race continued”

Opel Vectra, albeit one driven with as much vim as possible by 1992 Italian F3 champion Max Angelelli. One theory has it that the events that followed may have been caused by tyre pressures dropping because the F1 cars were being driven too far below their performance envelope during these four laps behind the Safety Car.

Senna's last words were to his race engineer, David Brown, acknowledging a radio call informing him that the Safety Car was coming in. At the start of the sixth lap, with Schumacher right on his tail, and watched by over 100 million people worldwide, Senna's car speared off the road at Tamburello and into the wall that marks the boundary of the river on the other side. The following moments were an emotional keelhauling as doctors fought to save Senna's life, while the race continued. Professor Sid Watkins, the FIA medical delegate and chief architect of many safety advances since the late 1970s, arrived on the scene within two minutes of the crash and later wrote in his autobiography:

“He looked serene. I raised his eyelids and it was clear from his pupils that he had a massive brain injury. We lifted him from the cockpit and laid him on the ground. As we did, he sighed

and, although I am not religious, I felt his spirit depart at that moment.”

Again, the show went on. Commercially there was too much riding on it for everyone to pack up and go home, though indubitably they would have preferred it to be that way. Senna's body was removed to Maggiore Hospital by helicopter, as Ratzenberger's had been the previous day. As the San Marino Grand Prix began again, with Schumacher the eventual victor, word began to filter out that F1's greatest driver was dead.

Viewed objectively, the events of that weekend could be seen as a statistical cluster, but they proved F1 was not as safe as it believed itself to be. Over the following years the FIA transformed the sport's approach to safety, but over two decades later, the battle is not yet won. Jules Bianchi's accident at Suzuka in 2014, another tragic confluence of circumstances, also occurred during a live broadcast watched by millions.

F1 is dangerous. The battle will never end. 



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## Normal service is resumed

After trailing Mercedes team-mate Rosberg for most of the early part of the season, Lewis Hamilton moved into the summer break leading by 19 points

### DEBRIEF



#### 94 HUNGARIAN GP

A 48th win for Lewis and a grand prix to please the purists out there



#### 98 GERMAN GP

It was a race lacking in excitement – but Lewis wasn't complaining

### PREVIEWS



#### 102 BELGIAN GP

Fast, furious, and steeped in history (and mist): it can only be Spa



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F1 heads to the home of the tifosi, Monza's 'Cathedral of Speed'



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Hot, humid and intense – this race is the ultimate test of driver fitness

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Your views on finding the balance between safety and spectacle



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Why F1 appeals both to our sense of logic and our inner 'chimp'

# RACE DEBRIEF

by Stuart Codling

## Hungarian Grand Prix

24.07.2016 / Hungaroring



# Back where he belongs

Winners like being first and with his 48th victory, Lewis Hamilton took the lead of the 2016 title chase

**Grands prix at this sinuous track** outside Budapest can deliver slam-dunk thrills or pressure-cooker suspense, and until the lights go out you never know which you're going to get. The 2016 Hungarian GP turned out to be one for the purist, in which TV viewers might be forgiven for dismissing it as processional.

Nico Rosberg claimed pole, controversially, after a stewards' investigation into whether he had backed off sufficiently for yellow flags on his pole lap, but Lewis Hamilton won the battle to the first corner and drove the remaining 70 laps under unstinting pressure from his team-mate. Hamilton and Rosberg traded fastest laps early on, but Hamilton was still able to create a margin, little by little, finally creeping over the two-second mark, although he could never quite give his team-mate the slip. He always had an

answer to Rosberg when it mattered, though, as demonstrated when he was hindered by Esteban Gutiérrez on lap 51 and slid wide at Turn 12 on lap 62. Both times Rosberg closed in, but Hamilton immediately danced out of DRS range, and his reward was the lead of the championship.

"It wasn't the easiest grand prix I've had here," he said afterwards. "But definitely one I enjoyed. And a great battle between the three of us."

The third man this time was Red Bull's Daniel Ricciardo. Like Hamilton, he had been frustrated in qualifying after dutifully backing off for waved yellows (warning of the rotated McLaren of Fernando Alonso) on his hot lap, only to see Rosberg go purple in that sector and snatch pole. After a curiously late investigation, the stewards deemed that Rosberg had slowed sufficiently when it mattered.

Ricciardo was a man on a mission at the start. Both Mercedes got away together, but it was Hamilton who edged it into Turn 1, super-late on the brakes and quelling a big twitch from the rear of his W07 Hybrid as he claimed the inside line. Ricciardo tried to go the long way, braking deep into the corner and almost getting his nose ahead of Hamilton as they swung round to face the downhill run to Turn 2, but Hamilton had regained enough momentum to close the door. He seemed tentative on the brakes into Turn 3, though, slowing the Red Bull a little and letting Rosberg nip round the outside into second place.

On the opening stint on used supersoft tyres the Mercedes edged away, and Ricciardo had his own team-mate champing at the bit behind him, but after the first pitstops Ricciardo felt that momentum had swung his way. Not only

were the Mercedes drivers appearing to flounder, but Verstappen was out of the picture, having emerged from his stop in sixth place behind Ferrari's Kimi Räikkönen, who was running longer into the race on his first set of tyres after qualifying outside the top ten.

Hamilton complained he was "struggling for pace" at the start of his second stint, while Ricciardo got up to speed quickly on the softs and began to eat up the margin to the two Mercedes. It was enough to prompt Red Bull to entertain the notion of bringing Ricciardo in earlier than the Mercedes, to attempt an undercut.

"We thought perhaps they were struggling," said Ricciardo. "So we thought we'd be aggressive and try to get closer to them, if they were going to pit very soon... but then once we pitted, it looked like they turned up the volume, unfortunately."

Ricciardo stopped for a final set of new softs on lap 33, but Hamilton and Rosberg hung on until laps 41 and 42. Despite what Red Bull might have thought, Mercedes were still in control of the script. Sebastian Vettel, who had been there or thereabouts in fourth place, added to their worries by holding out until lap 41 to make his final stop, enabling him to draw closer to Ricciardo over the final laps.

Behind Hamilton, Rosberg, Ricciardo and Vettel, Verstappen and Räikkönen spent the second half of the race locked in combat. On previous occasions this year Räikkönen has been noticeably non-combative when behind Verstappen, but here he gave it a proper go. Matters came to a head on lap 57 when they tripped over each other on the entry to Turn 2 and Räikkönen lost a front-wing endplate, later complaining that Verstappen had made a double move to block the inside line. He had another crack later into Turn 1 but couldn't make it stick, and remained in the Red Bull's wake to the flag.

Still, it was a remarkable drive by Räikkönen from 14th on the grid after falling out of the wet qualifying session in Q2, having completed his hot lap on slicks before conditions became ideal for them. Starting outside the top ten gave him a free choice of tyres, and he made the most of starting on the more durable soft compound. Some view this as a cruise-and-collect strategy in which one gains track position as others ahead pit first, but Räikkönen was in go-forwards mode from the off, quickly dispatching Daniil Kvyat and Sergio Pérez, then gaining another spot when Jenson Button lost hydraulic pressure.

Romain Grosjean proved harder to crack, but he had started on supersofts and obligingly pitted on lap 14, giving Räikkönen a clear road to work with, since next-place man Nico Hülkenberg had also broken for the pitlane. Ferrari have made some curious strategic calls of late, but this one was bang on the money. 🏆

## The story of the race

Hamilton moves into the lead from P2 at the start of the race, with Ricciardo moving from third to second

Polesitter Rosberg regains his second place from Ricciardo at Turn 2



### HUNGARORING



Verstappen admits to "driving like a grandma" and Button reports hydraulic issues on lap 4

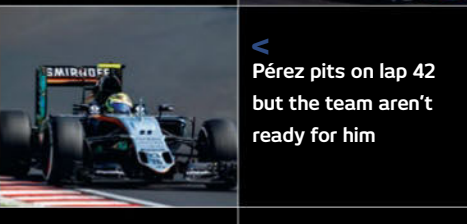


Button is investigated for unauthorised radio communications and takes a drive-through penalty on lap 11



After the first stops, Hamilton is told to speed up because Ricciardo is catching Rosberg for second

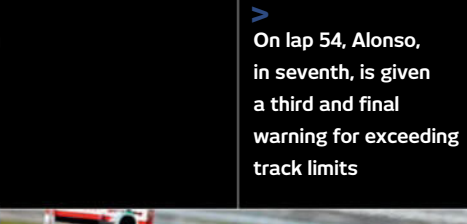
Hamilton leads Rosberg by 2.4s at half distance. Vettel and Verstappen are ahead of Ricciardo



Pérez pits on lap 42 but the team aren't ready for him



Palmer spins at Turn 4 on lap 47 while in tenth, dropping him to 12th by race end



On lap 54, Alonso, in seventh, is given a third and final warning for exceeding track limits



Räikkönen tries to pass Verstappen for fifth but clips the Red Bull and damages his front wing

Hamilton wins the grand prix, taking the lead of the championship for the first time in 2016

























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# Hungarian Grand Prix stats

The lowdown on everything you need to know from the weekend at the Hungaroring...

## THE GRID

 <b>1. ROSBERG</b> MERCEDES 1min 19.965secs Q3	 <b>2. HAMILTON</b> MERCEDES 1min 20.108secs Q3
 <b>3. RICCIARDO</b> RED BULL 1min 20.280secs Q3	 <b>4. VERSTAPPEN</b> RED BULL 1min 20.557secs Q3
 <b>5. VETTEL</b> FERRARI 1min 20.874secs Q3	 <b>6. SAINZ</b> TORO ROSSO 1min 21.131secs Q3
 <b>7. ALONSO</b> McLAREN 1min 21.211secs Q3	 <b>8. BUTTON</b> McLAREN 1min 21.597secs Q3
 <b>9. HÜLKENBERG</b> FORCE INDIA 1min 21.823secs Q3	 <b>10. BOTTAS</b> WILLIAMS 1min 22.182secs Q3
 <b>11. GROSJEAN</b> HAAS 1min 24.941secs Q2	 <b>12. KVIAT</b> TORO ROSSO 1min 25.301secs Q2
 <b>13. PÉREZ</b> FORCE INDIA 1min 25.416secs Q2	 <b>14. RÄIKKÖNEN</b> FERRARI 1min 25.435secs Q2
 <b>15. GUTIÉRREZ</b> HAAS 1min 26.189secs Q2	 <b>16. NASR</b> SAUBER 1min 27.063secs Q2
 <b>17. PALMER</b> RENAULT 1min 43.965secs Q1	 <b>18. MASSA</b> WILLIAMS 1min 43.999secs Q1
 <b>19. MAGNUSSEN</b> RENAULT 1min 44.543secs Q1	 <b>20. WEHRLEIN</b> MANOR 1min 47.343secs Q1
 <b>21. HARYANTO*</b> MANOR 1min 50.189secs Q1	 <b>ERICSSON**</b> SAUBER 1min 46.984secs Q1

\*Five-place grid penalty for a replacement gearbox \*\*Required to start from the pitlane - change of survival cell. Note: Ricciardo, Verstappen, Hülkenberg, Bottas, Pérez, Palmer, Massa, Magnussen, Ericsson, Wehrlein and Haryanto all permitted to start by stewards after being outside 107% rule in Q1

## THE RACE



### THE RESULTS (70 LAPS)

1st	Lewis Hamilton Mercedes	1h 40m 30.115s
2nd	Nico Rosberg Mercedes	+1.977s
3rd	Daniel Ricciardo Red Bull	+27.539s
4th	Sebastian Vettel Ferrari	+28.213s
5th	Max Verstappen Red Bull	+48.659s
6th	Kimi Räikkönen Ferrari	+49.044s
7th	Fernando Alonso McLaren	+1 lap
8th	Carlos Sainz Toro Rosso	+1 lap
9th	Valtteri Bottas Williams	+1 lap
10th	Nico Hülkenberg Force India	+1 lap
11th	Sergio Pérez Force India	+1 lap
12th	Jolyon Palmer Renault	+1 lap
13th	Esteban Gutiérrez Haas	+1 lap*
14th	Romain Grosjean Haas	+1 lap
15th	Kevin Magnussen Renault	+1 lap
16th	Daniil Kvyat Toro Rosso	+1 lap
17th	Felipe Nasr Sauber	+1 lap
18th	Felipe Massa Williams	+2 laps
19th	Pascal Wehrlein Manor	+2 laps
20th	Marcus Ericsson Sauber	+2 laps
21st	Rio Haryanto Manor	+2 laps

\*Includes five-second time penalty for ignoring blue flags

### Retirements

Jenson Button McLaren	60 laps - oil leak
-----------------------	--------------------

### THROUGH SPEED TRAP (QUALIFYING)



<b>Fastest:</b> Nico Rosberg, 199.71mph	<b>Slowest:</b> Marcus Ericsson, 181.32mph
---	--

### TYRE COMPOUNDS USED



### CLIMATE

Sunny 29°C

### TRACK TEMP

54°C

### FASTEST LAP



Kimi Räikkönen, lap 52, 1min 23.086s

### FASTEST PITSTOP



Nico Rosberg, 21.233s (entry to exit)

### DRIVERS' STANDINGS

1st	Lewis Hamilton Mercedes	192pts
2nd	Nico Rosberg Mercedes	186pts
3rd	Daniel Ricciardo Red Bull	115pts
4th	Kimi Räikkönen Ferrari	114pts
5th	Sebastian Vettel Ferrari	110pts
6th	Max Verstappen Toro Rosso/Red Bull	100pts
7th	Valtteri Bottas Williams	56pts
8th	Sergio Pérez Force India	47pts
9th	Felipe Massa Williams	38pts
10th	Carlos Sainz Toro Rosso	30pts
11th	Romain Grosjean Haas	28pts
12th	Nico Hülkenberg Force India	27pts
13th	Fernando Alonso McLaren	24pts
14th	Daniil Kvyat Red Bull/Toro Rosso	23pts
15th	Jenson Button McLaren	13pts
16th	Kevin Magnussen Renault	6pts
17th	Pascal Wehrlein Manor	1pt
18th	Stoffel Vandoorne McLaren	1pt
19th	Esteban Gutiérrez Haas	0pts
20th	Jolyon Palmer Renault	0pts
21st	Marcus Ericsson Sauber	0pts
22nd	Felipe Nasr Sauber	0pts
23rd	Rio Haryanto Manor	0pts

### CONSTRUCTORS' STANDINGS

1st	Mercedes	378pts	9th	Renault	6pts
2nd	Ferrari	224pts	10th	Manor	1pt
3rd	Red Bull	223pts	11th	Sauber	0pts
4th	Williams	94pts			
5th	Force India	74pts			
6th	Toro Rosso	45pts			
7th	McLaren	38pts			
8th	Haas	28pts			



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# RACE DEBRIEF

by Stuart Codling

## German Grand Prix

31.07.2016 / Hockenheim



# Move along. Nothing to see here

A somewhat tepid race, but Lewis Hamilton's hot streak continues, with a sixth win from seven GPs

**Much talk ahead of** the German GP centred on the crowd, or lack thereof, but that changed on race day as the grandstands filled up. Even so, if Hockenheim is to cement its place on future calendars, it may owe that lifeline not to should-be home heroes Nico Rosberg and Sebastian Vettel, but to Max Verstappen if the number of Dutch flags on display was anything to go by.

Hockenheim's abrasive surface meant this would be a tactical tyre-management race rather than a wheel-to-wheel thriller, and so it came to pass. Lewis Hamilton was disappointed to miss out on pole, so frustrated, in fact, that he barely spoke in the aftermath of losing out to team-mate Rosberg. But he made good on race day.

Hamilton began the process of putting this race in the bag by making a better getaway than Rosberg. Both drivers reacted quickly, but

Rosberg suffered too much wheelspin and was overwhelmed. From the second row, Daniel Ricciardo swept past before Turn 1 and took up the racing line, only to see Max Verstappen slingshot the second Red Bull past on the outside, rattling over the kerb into second place.

As Hamilton streaked away with Verstappen in pursuit, Rosberg desperately probed for a way past third-placed Ricciardo, but also had to be mindful of the Ferraris of Vettel and Kimi Räikkönen at Hockenheim's pinch-points over the first lap. Vettel had a look on the outside line into Turn 6, but Rosberg ran him wide and he had to back off. The Ferraris were simply not quick enough to offer any challenge, even as the leading four switched to tyre-conservation mode.

From then on it was a question of managing the gaps until the first round of pitstops, when

both Mercedes and Red Bull split their strategies. Verstappen and Rosberg were first in, on lap 11, and took on supersoft Pirellis. Any hope that Rosberg could make an undercut stick evaporated due to a slow stop that dropped him behind the McLarens of Button and Alonso, while Verstappen emerged from the pitlane on Button's tail and made short work of him.

Ricciardo pitted on the following lap and took on soft-compound tyres, emerging with three seconds in hand over Rosberg, who was then informed by his engineer that they were moving to "Plan B", while Hamilton made his stop for softs on lap 14, emerging with his lead intact. Even in tyre-management mode, the top four edged away from the two Ferraris, although Verstappen insisted the supersoft was "definitely not the race tyre", feeling that the softest rubber

was vulnerable to degradation with the fuel load still quite high.

Hamilton held his lead to around 6s until the next set of pitstops were due, then picked up his pace slightly as Verstappen began to struggle. Rosberg passed 16 laps on his supersofts before switching to softs on lap 27, and Verstappen did the same the next time around – but this time the Mercedes pitstop was flawless, and Verstappen exited the pits only just ahead.

On the run down to Turn 6, Rosberg attacked on the inside line. Verstappen once again began to weave in the braking zone, as is his wont, but Rosberg was so committed that Max had to think the better of it. Both cars sailed well past the apex before they could begin to steer, after which Rosberg sealed Verstappen off at the exit.

Verstappen complained he'd been forced off and the stewards agreed, handing Rosberg a five-second penalty and a reprimand. He protested that he had been on full lock and couldn't make the turn, but replays of the incident confirmed that, by then, he had already ploughed straight on and caused Verstappen to abort the corner.

Ricciardo and Hamilton made second stops, this time for supersofts, on laps 33 and 34. By now, with declining fuel loads, the supersoft was the right tyre to have, while Verstappen complained his car was understeering too much on the softs. Ricciardo caught his team-mate on lap 40 and Verstappen offered no resistance as they swapped places cleanly at Turn 6.

Ferrari now entertained some fanciful notions that Vettel, lapping around 8s behind Verstappen, could undercut the Red Bull if they pitted soon. Vettel point-blank refused to stop, saying his tyres were working perfectly.

On lap 44 Rosberg made a third and final stop, taking more than his five-second penalty (owing to a team stopwatch error) and emerged in a net fourth place. Red Bull covered this stop – and Ferrari's clumsily telegraphed tactical musings – by bringing Verstappen in for his final pit visit a lap later, sending him out safely in third.

Vettel pitted at the same time as Ricciardo, on lap 46, and, as was obvious to everyone except the Ferrari pitwall, emerged in fifth – four seconds behind Rosberg. In spite of a few drops of rain, the order of the top six then remained static to the end as Hamilton crossed the line 6.996s ahead of Ricciardo, with Verstappen a further 6.417s behind, shadowed to the chequered flag by a frustrated Rosberg. Vettel and Räikkönen were a lonely fifth and sixth.

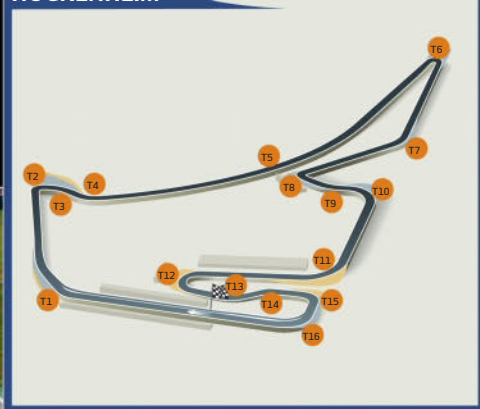
"Today I saved my engine a lot," said Hamilton, "which is why they closed up as much as they did. Hopefully I've saved enough of my engine today to use it at the next race. It will either be the next race or Monza, because I'm going to run out of engines soon..." 🏎️

## The story of the race

▼ Hamilton jumps into the lead at the start as Rosberg drops from pole to fourth



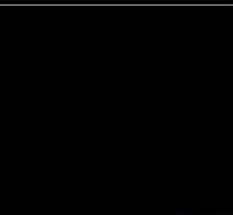
### HOCKENHEIM



► Massa and Palmer make contact at Turn 1 but continue



► Rosberg attempts to pass Ricciardo to take third, but fails



◀ After the first round of stops, Hamilton leads by 6.9s on lap 20 from Verstappen, Ricciardo and Rosberg



◀ Rosberg stops for more soft tyres on lap 27, followed by Verstappen on lap 28



◀ Verstappen rejoins ahead of Rosberg, who passes him into the hairpin, but pushes him wide and off track

► On lap 33, the race stewards announce a five-second penalty for Rosberg



► Ricciardo pits on lap 33, rejoining in fourth. Hamilton follows, but retains his lead



► Massa retires on lap 37 after a slow stop on lap 26 so his team could inspect his car



◀ Ricciardo closes in on Verstappen and passes him on lap 40. He then closes in on Rosberg

► Rosberg serves his penalty on lap 44, but is held for three seconds too long



► Hamilton keeps his lead after a final round of stops to win by seven seconds

























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# German Grand Prix stats

The lowdown on everything you need to know from the weekend at Hockenheim...

## THE GRID

 <b>1. ROSBERG</b> MERCEDES 1min 14.363secs Q3	 <b>2. HAMILTON</b> MERCEDES 1min 14.470secs Q3
 <b>3. RICCIARDO</b> RED BULL 1min 14.726secs Q3	 <b>4. VERSTAPPEN</b> RED BULL 1min 14.834secs Q3
 <b>5. RÄIKKÖNEN</b> FERRARI 1min 15.142secs Q2	 <b>6. VETTEL</b> FERRARI 1min 15.315secs Q3
 <b>7. BOTTAS</b> WILLIAMS 1min 15.530secs Q3	 <b>8. HÜLKENBERG*</b> FORCE INDIA 1min 15.510secs Q3
 <b>9. PÉREZ</b> FORCE INDIA 1min 15.537secs Q3	 <b>10. MASSA</b> WILLIAMS 1min 15.615secs Q3
 <b>11. GUTIÉRREZ</b> HAAS 1min 15.883secs Q2	 <b>12. BUTTON</b> McLAREN 1min 15.909secs Q2
 <b>13. ALONSO</b> McLAREN 1min 16.041secs Q2	 <b>14. PALMER</b> RENAULT 1min 16.665secs Q2
 <b>15. SAINZ**</b> TORO ROSSO 1min 15.989secs Q2	 <b>16. MAGNUSSEN</b> RENAULT 1min 16.716secs Q1
 <b>17. WEHRLEIN</b> MANOR 1min 16.717secs Q1	 <b>18. KVYAT</b> TORO ROSSO 1min 16.876secs Q1
 <b>19. HARYANTO</b> MANOR 1min 16.977secs Q1	 <b>20. GROSJEAN***</b> HAAS 1min 16.086secs Q2
 <b>21. NASR</b> SAUBER 1min 17.123secs Q1	 <b>22. ERICSSON</b> SAUBER 1min 17.238secs Q1

\*One-place grid penalty for using tyres without appropriate identification \*\*Three-place grid penalty for impeding another driver \*\*\*Five-place grid penalty for a replacement gearbox

## THE RACE



### THE RESULTS (67 LAPS)

1st	Lewis Hamilton Mercedes	1h 30m 44.200s
2nd	Daniel Ricciardo Red Bull	+6.996s
3rd	Max Verstappen Red Bull	+13.413s
4th	Nico Rosberg Mercedes	+15.845s
5th	Sebastian Vettel Ferrari	+32.570s
6th	Kimi Räikkönen Ferrari	+37.023s
7th	Nico Hülkenberg Force India	+70.049s
8th	Jenson Button McLaren	+1 lap
9th	Valtteri Bottas Williams	+1 lap
10th	Sergio Pérez Force India	+1 lap
11th	Esteban Gutiérrez Haas	+1 lap
12th	Fernando Alonso McLaren	+1 lap
13th	Romain Grosjean Haas	+1 lap
14th	Carlos Sainz Toro Rosso	+1 lap
15th	Daniil Kvyat Toro Rosso	+1 lap
16th	Kevin Magnussen Renault	+1 lap
17th	Pascal Wehrlein Manor	+2 laps
18th	Marcus Ericsson Sauber	+2 laps
19th	Jolyon Palmer Renault	+2 laps
20th	Rio Haryanto Manor	+2 laps

### Retirements

Felipe Nasr Sauber	57 laps – power unit
Felipe Massa Williams	36 laps – handling

### THROUGH SPEED TRAP (QUALIFYING)



**Fastest:** Pascal Wehrlein, 211.89mph  
**Slowest:** Jenson Button, 204.43mph

### TYRE COMPOUNDS USED



### CLIMATE

Sunny 25°C

### TRACK TEMP

42°C

### FASTEST LAP



Daniel Ricciardo, lap 48, 1min 18.442s

### FASTEST PITSTOP



Lewis Hamilton, 18.475s (entry to exit)

### DRIVERS' STANDINGS

1st	Lewis Hamilton Mercedes	217pts
2nd	Nico Rosberg Mercedes	198pts
3rd	Daniel Ricciardo Red Bull	133pts
4th	Kimi Räikkönen Ferrari	122pts
5th	Sebastian Vettel Ferrari	120pts
6th	Max Verstappen Toro Rosso/Red Bull	115pts
7th	Valtteri Bottas Williams	58pts
8th	Sergio Pérez Force India	48pts
9th	Felipe Massa Williams	38pts
10th	Nico Hülkenberg Force India	33pts
11th	Carlos Sainz Toro Rosso	30pts
12th	Romain Grosjean Haas	28pts
13th	Fernando Alonso McLaren	24pts
14th	Daniil Kvyat Red Bull/Toro Rosso	23pts
15th	Jenson Button McLaren	17pts
16th	Kevin Magnussen Renault	6pts
17th	Pascal Wehrlein Manor	1pt
18th	Stoffel Vandoorne McLaren	1pt
19th	Esteban Gutiérrez Haas	0pts
20th	Jolyon Palmer Renault	0pts
21st	Marcus Ericsson Sauber	0pts
22nd	Felipe Nasr Sauber	0pts
23rd	Rio Haryanto Manor	0pts

### CONSTRUCTORS' STANDINGS

1st	Mercedes	415pts	9th	Renault	6pts
2nd	Ferrari	256pts	10th	Manor	1pt
3rd	Red Bull	242pts	11th	Sauber	0pts
4th	Williams	96pts			
5th	Force India	81pts			
6th	Toro Rosso	45pts			
7th	McLaren	42pts			
8th	Haas	28pts			



For comprehensive F1 statistics visit [www.forix.com](http://www.forix.com)

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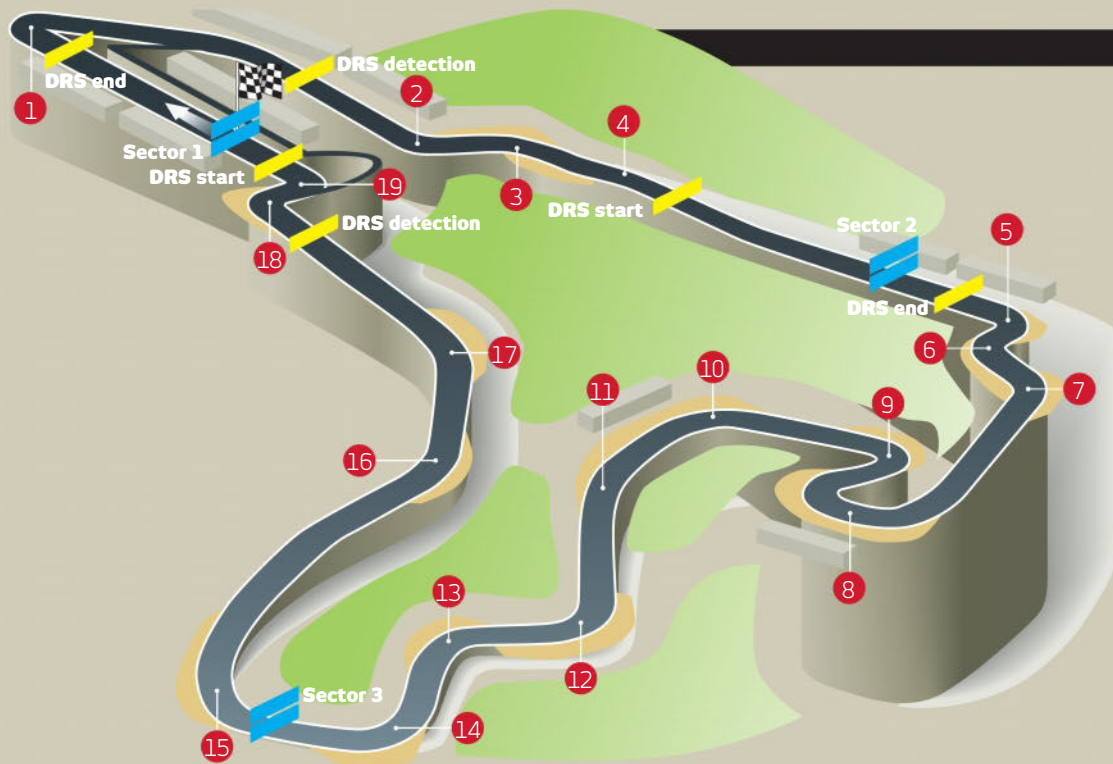
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# The Belgian GP preview

Round 13 / 26-28 August 2016 / Circuit de Spa-Francorchamps



## BELGIAN GP RACE DATA

**Circuit name** Circuit de Spa-Francorchamps  
**First GP** 1950  
**F1 races held** 48  
**Circuit length** 4.352 miles  
**Race distance** 44 laps (191.415 miles)  
**Direction** Clockwise  
**Winners from pole** 16

## TIMETABLE (UK TIME)

### Friday 26 August

**Practice 1** 09:00-10:30

**Practice 2** 13:00-14:30

### Saturday 27 August

**Practice 3** 10:00-11:00

**Qualifying** 13:00-14:00

### Sunday 28 August

**Race** 13:00

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

## A CLASSIC CHASE THROUGH THE ARDENNES FOREST

**Some tracks** send a shiver down your spine. Spa, on a Sunday morning when the mist hangs low in the air and the rain teems down is one such place. Drivers still revel in the thrill of attacking this quick, undulating former public road circuit in the Hautes Fagnes (literally translated as 'high fens') region of the Ardennes forest.

Twenty years ago, the greatest challenge on the lap was Eau Rouge, but now the double left at Pouhon provides a sterner test. And with the long run from La Source to Les Combes and from Stavelot to the final chicane, there is a premium on engine power on this long, 4.3-mile lap.

But the biggest test at Spa, as ever, is the fickle nature of the weather. Team strategists are often advised to substitute their sophisticated weather prediction tools for putting their hand the other side of the pitwall 'prat perch' to see if it's raining or not.



**Eau Rouge: still exhilarating, but not quite the challenge it was 20 years ago**

## WHAT GOES ON TOUR...

**Every year, the team at F1 Racing** relive the way journalists of the 1960s and '70s (think Denis Jenkinson, of *Motor Sport* fame) used to travel to European races. We are given the keys to a continental grand tourer and book a channel crossing. This year we have kindly been loaned an Infiniti QX70 for our blast through northern France, around the Brussels ring road and onwards to Liège and the Ardennes beyond.

Last year I drove, while one of our clan chose to cycle. And I anticipate a similar *Top Gear*-style race again this year. The meeting point at the end of a long day's commute is the famous bar in the centre of Spa, Le Chandelier D'or.

Oh, to sit outside with a litre glass of Stella Artois and to breathe the fresh, pure air of the Belgian fens while gossiping about the forthcoming weekend of racing. Bliss.

**James Roberts**

## WHAT HAPPENED IN LAST YEAR'S RACE...?

**Winner** Lewis Hamilton

**Margin of victory** 2.085s

**Pole position** 1m 47.197s, L Hamilton

**Fastest lap** 1m 52.416s, N Rosberg

**Race leaders** 2

**Safety Cars** 1 (2 laps)

**Pitstops** 38

**Overtakes** 19



**Yet another Lewis Hamilton victory**, assisted by Sergio Pérez and Daniel Ricciardo, who demoted Nico Rosberg to fourth at the start. Second by lap 9, Rosberg was already 8s adrift and Hamilton controlled the race easily from there. Star of the day was Romain Grosjean, who dragged his Renault up to fourth and claimed the final podium slot when Sebastian Vettel's tyre exploded at 200mph.

# The Italian GP preview

Round 14 / 2-4 September 2016 / Autodromo Nazionale Monza



## ITALIAN GP RACE DATA

**Circuit Name** Autodromo Nazionale Monza  
**First GP** 1950  
**F1 races held** 65  
**Circuit length** 3.599 miles  
**Race distance** 53 laps (190.587 miles)  
**Direction** Clockwise  
**Winners from pole** 23

## TIMETABLE (UK TIME)

**Friday 2 September**  
**Practice 1** 09:00-10:30  
**Practice 2** 13:00-14:30  
**Saturday 3 September**  
**Practice 3** 10:00-11:00  
**Qualifying** 13:00-14:00  
**Sunday 4 September**  
**Race** 13:00  
**Live coverage** Sky Sports F1 and Channel 4

## HOLD ON TIGHT FOR THE FASTEST RACE OF THE SEASON

**Monza is known as** the cathedral of speed. Its long flat-out straights and slow chicanes demand that front and rear wings are flattened out, so drag is kept to a minimum. And it's quite possible that this year we could witness some of the highest top speeds ever seen in F1, since advances have been made to the torque and power output of the 1.6-litre hybrid engines. As a guide, Felipe Massa's Williams travelled at 226.3mph on the long straight at the Mexican GP last year, so look out for speeds in excess of that at Monza.

One driver really looking to exploit his engine power will be Sebastian Vettel, driving on Ferrari's home turf. He won his first ever race here with Toro Rosso in 2008, and collected two more Monza victories with Red Bull in 2011 and 2013. He finished in P2 here with Ferrari in 2015, and would dearly love to go one better this year.



**Can Vettel take a win for Ferrari on home turf? Team and tifosi hope so...**

## WHAT GOES ON TOUR...

**The Italian Grand Prix at Monza** usually falls on or around *F1R*'s editor Anthony Rowlinson's birthday. As a result, one night in the weekend is usually dedicated to raising a toast, or two, of that most delicious – and lethal – of all Italian after-dinner drinks: limoncello.

In previous years, we've stayed at the BorgoLecco Hotel in Arcore, with the obligatory pizza restaurant next door, where, if we were lucky, we'd listen to veteran members of the F1 press corps – the likes of Nigel Roebuck, Maurice Hamilton and the sadly, recently lost legend Alan Henry – regaling us with stories of days gone by.

Warm summer evenings, laughter and racing chatter: the weekend of the Italian GP at Monza is always one of the best of the year. My only regret was that one time I placed *Daily Mirror* reporter Byron Young's flip-flops in a freezer.

**James Roberts**

## WHAT HAPPENED IN LAST YEAR'S RACE...?

**Winner** Lewis Hamilton  
**Margin of victory** 25.042s  
**Pole position** 1m 23.397s, L Hamilton  
**Fastest lap** 1m 26.672s, L Hamilton  
**Race leaders** 1  
**Safety Cars** 0  
**Pitstops** 23  
**Overtakes** 31



**Lewis Hamilton moved a step closer** to a third title with a dominant performance at Monza, but his win was confirmed only after stewards cleared Mercedes of running tyres below the minimum permitted pressure. Team-mate Nico Rosberg battled to wrestle second from Ferrari's Sebastian Vettel until his engine failed with three laps to go, promoting Felipe Massa's Williams to third.

ILLUSTRATION: ALAN ELDRIDGE. PHOTOS: STEVE ETHERINGTON/LAT; GLENN DUNBAR/LAT; ALASTAIR STALEY/LAT; ZAK MAUGER/LAT



# The Singapore GP preview

Round 15 / 16-18 September 2016/ Marina Bay Street Circuit



## SINGAPORE GP RACE DATA

**Circuit Name** Marina Bay Street Circuit  
**First GP** 2008  
**F1 races held** 8  
**Circuit length** 3.147 miles  
**Race distance** 61 laps (191.897 miles)  
**Direction** Anticlockwise  
**Winners from pole** 6

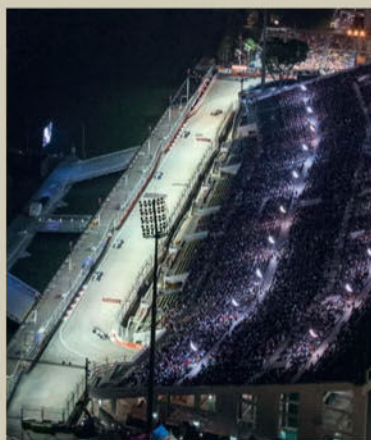
## TIMETABLE (UK TIME)

**Friday 16 September**  
**Practice 1** 11:00-12:30  
**Practice 2** 14:30-16:00  
**Saturday 17 September**  
**Practice 3** 11:00-12:00  
**Qualifying** 14:00-15:00  
**Sunday 18 September**  
**Race** 13:00  
**Live coverage** Sky Sports F1  
**Highlights** Channel 4  
**Qualifying** 17 September, 17:30  
**Race** 18 September, 17:30

## THIS HOT HUMID NIGHT RACE IS THE ULTIMATE TEST OF FITNESS

**Singapore is arguably the toughest race** of the grand prix season. The temperatures are so high and the humidity so intense that even the fact that this race takes place after sunset is of little relief to the drivers and teams. This is the pinnacle of all the training the drivers do throughout the year, and the race along the streets of Singapore is always close to the two-hour maximum.

Arguably, this is one of the most important events on the calendar. This is the race where every sponsor, chairman and CEO wants to come to do business. Plus, it looks great on TV under the floodlights with the cars flinging out sparks on full tanks and dinking each other and the unrelenting barriers. What is most surprising is that since F1 first came here in 2008, there has yet to be a wet race. For a city to lie in the tropics and experience daily downpours, F1 has been extremely lucky so far... 🇸🇬



Lit up by floodlights, the Singapore circuit always looks spectacular on TV

## WHAT GOES ON TOUR...

This is quite a **bizarre grand prix** to attend. With the local start time of the race set at 8pm, everything in the weekend is moved around to keep the body clocks of teams and drivers on a European timetable, rather than shifting by seven or eight hours.

As a result of all this, lunch is served at around seven o'clock in the evening, just before qualifying. Dinner is 3am, after you've left the late media sessions at the track. You sleep all day and then have breakfast at four in the afternoon – two hours before sunset.

After a week of barely seeing the sun, this grand prix can be oddly depressing. And somewhat reminiscent of student days gone by. The secret is to make sure that you get to bed before dawn and not to think a champagne breakfast (local time) is a good idea.

*James Roberts*





## WHAT HAPPENED IN LAST YEAR'S RACE...?

**Winner** Sebastian Vettel  
**Margin of victory** 1.478s  
**Pole position** 1m 43.885s, S Vettel  
**Fastest lap** 1m 50.041s, D Ricciardo  
**Race leaders** 21  
**Safety Cars** 2 (10 laps)  
**Pitstops** 42  
**Overtakes** 11



**Lewis Hamilton's first retirement** of the season may have offered team-mate Nico Rosberg a glimmer of hope as the two battled it out for the title, but Mercedes were definitely second best to Ferrari in Singapore. Sebastian Vettel dominated from start to finish, even with two Safety Cars. Red Bull's Daniel Ricciardo came second and Vettel's Ferrari team-mate Kimi Räikkönen finished third.

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Schumacher's classic wet-weather win in Spain 1996 could never have happened in F1 today

## Safety above spectacle?

It is sad to think that two of F1's greatest ever wins could not happen today. Neither Ayrton Senna's 1993 victory at Donington Park, nor Michael Schumacher's masterclass in Spain 1996, could have started today, due to the focus on whether the track is acceptably 'safe.'

I watched the British GP from Club this year. Everyone was itching for the race to start sooner, and ready to enjoy the spectacle of the cars scrambling for grip. Instead, a prolonged Safety Car period removed the worst of the damp from the track, and the virtual Safety Car meant those who made the early switch to intermediates couldn't take advantage.

We must never embrace unacceptable risk, but removing *all* risk means removing the possibility for less quick cars to outpace dominant ones. I think most fans would be willing to accept some risk to spice up the racing. I left Silverstone feeling deprived of what would have been a mighty battle between Lewis and Max.

**Daniel Stafford**

By email

## Less haste, more speed

I am shocked at how such an experienced team as Ferrari can consistently shoot themselves in the foot. Their fundamental problem has nothing to do with the performance of this year's car – it's their lack of quality leadership. Ferrari's 'win now at all costs' mentality remains their Achilles heel. Even as late as July, they were speaking of still being able to salvage this season.

Team principal Maurizio Arrivabene scoffed at a reporter's suggestion that the team might shift their resources to next year's car. Have they learned nothing from the model Mercedes established? When big regulation changes are on the horizon, you must get an early start or risk losing years trying to catch up. This, in my opinion, is Arrivabene's primary fault. A solid leader would assess the big picture, and then build methodically toward the goal, like Mercedes. And shame on CEO Sergio Marchionne for not seeing this and heaping too much pressure on the team to win now.

**Jim Factor**

By email

## A change of format

F1 is in great shape – it just needs a few tweaks. Let's make it more like WEC. It already has the hybrid engines; it starts behind the Safety Car in rain; rules dictate its tyre options; and it has pitstops and strategy-oriented races. Now they just need to swap drivers during races. Imagine: four drivers per team. Shared points. Team orders?

**Paulo Félix**

Lisbon, Portugal

## A life-long fan speaks

I bought the first issue of *F1 Racing* in 1996 and still have it somewhere. I've been a subscriber for 15 years, and haven't missed an issue.

It was a forward-thinking move by Haymarket. Prior to that, my F1 fix came from European publications, such as *Grand Prix International*. But there was nothing specifically for us F1 fans.

There have been pretenders to the throne, but *F1 Racing* has seen them all off and is still absolute quality. Congrats to all involved and long may *F1 Racing* continue.

**Graham Dalley**

On Facebook

## NOTICES

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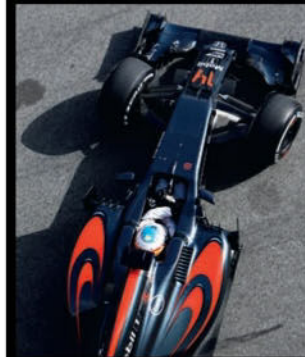
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## NEXT MONTH...



## McLAREN WILL BE BACK

**Eric Boullier tells *F1 Racing* the team are ready to win again PLUS**

- > We catch up with Yusuke Hasegawa, the man with the plan at engine partner Honda
- > JYS on Spa 1966: the near-fatal crash that sparked his life-long safety crusade
- > Pat Symonds answers your questions on technical matters
- > Ace in the pack: in praise of the many talents of Sergio Pérez

**OCTOBER ISSUE ON SALE: 22 SEPT**



DAMON HILL

# KING OF THE HILL

Cockpit savvy from the 1996 world champ, exclusively in *F1R*

**A**s part of my job as an 'expert analyst' (no sniggering at the back) I try to keep up with facts and statistics so I appear to know what is going on should Ted or Crofty ever have to take a breath, which is very rarely. So I have a lot of spare time to think about what we are all doing here; F1 I mean. Taken in its entirety, in the context of all the other craziness going on around us, F1 can seem very trivial. But perhaps F1 fulfils a basic human need?

Most human 'needs' are what Spock would call, 'illogical'. But logic is not what makes us human. Our irrationality is our defining characteristic. Kirk's emotions and errors are what confound Spock and get the Enterprise into all kinds of peril. Spock's logic leaves us cold. We're not interested in his 'logical solutions'. If this were Spock's ship, nothing interesting would ever happen. Kirk's battles with his emotions are what made *Star Trek* work. F1 is the same, boldly going on a voyage of discovery into the unknown regions of the mind, trying to find the answer to everything, and getting its knickers in a twist on the way.

The trick, we are told, to knowing everything, is to clear the mind. Like my desk. If I could

## Formula 1 is just a basic human need

only get rid of everything on it I might know where everything is. Or, I will have lost everything. I'm not sure. But the idea is that a clear mind has ultimate potential. This is Zen philosophy. The theory goes that the only way to be able to think clearly is to not have any thoughts. This way the mind is 'pure'. Perfect for driving a racing car.

In a car, the job of driving is done almost totally instinctively. In his excellent book on how our brains work, *The Chimp Paradox*, Dr Steve Peters explains that the key parts of our brains are divided roughly into what he calls The Chimp, The Human and The Computer. The Computer is pre-programmed and does what it already knows, like driving. Leave it alone and it is 20 times faster than The Human 'thinker'. Interfere with it at your peril if you are half way through Copse or 130R. It has learned all it knows though the seat of the pants.

The Human could be thought of as the FIA. It comprises all our ideas and learning about the world, stops the whole thing getting out of control, remains calm and rational and is always looking for solutions and harmony. Okay. I know that doesn't sound much like the FIA, but that is because of The Chimp.

The Chimp is the hothead, the emotional energiser, the centre of anxiety and fear. But it is also the crazy scenes of jubilation, the sprayer of champagne, the puncher of the air and the wild 'Yahoo!' of delight when we cross the line first. Without all that, what would be the point? And that's my point.

What F1 does is entertain the restless masses. It exists because people want something to become lost in. F1 provides emotional and intellectual stimulation. It is hardly likely that everyone is going to become

Zen monks or Spock-like any time soon, so we have to find ways to exercise The Chimp because it will get bored and destructive if we just leave it locked in its bedroom for too long.

It is this synthesis of rationality and irrationality that makes F1 so fascinating. We know what we should be like, but when we put our Human to the test in an extreme environment, the Chimp starts hopping up and down, punching the Human and playing with the Computer, which is when the sport descends into barbarism.

Last year, me and Johnny Herbert watched a race with the wife of a team owner whose drivers were racing one another too cordially. "Go on! Have him off!" we both seethed. "No!



Dr Steve Peters divides the human brain into three very easily recognisable areas: The Human, The Chimp and The Computer

No!" she pleaded. "That's not good." Me and Johnny looked at each other as if she had just invented a new word. 'Good'? What was *that*? In F1, 'Good' is bad and 'Bad' is good. F1 is a topsy-turvy world. We love a bit of friction. A punch-up, even! I didn't say that. See? That's the Human taking back control, all noble and dignified, like. And if they had taken each other off? We'd have crucified them both. It's a fun game, this TV punditry. Judge and jury.

So rather than ask 'What is the point of F1?' perhaps I should ask, 'If F1 didn't exist, what would we be doing instead?' Look around and you'll find plenty of alternatives. As expressions of human potential go, perhaps F1 is a basic human need after all. 🍷

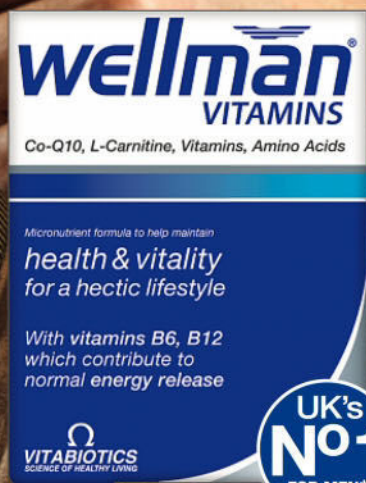
"It is this synthesis of rationality and irrationality that makes F1 so fascinating"

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