

OPEN OUT TO REVEAL WORLD EXCLUSIVE
McLAREN LEGENDS GATEFOLD COVER



F1
RACING

50

**YEARS OF
McLAREN**

Ayrton by Ron
"We taught him
how to laugh"

The star cars...
...and none are
Adrian Newey's!

The first champ
Fittipaldi at lunch

Jenson Button
Quizzed by you!

**COLLECTOR'S
SPECIAL EDITION**

A celebration of
Britain's most
successful
F1 team

PLUS
Windsor's
mid-term
F1 report

No 211
£4.90
September
2013



haymarket

WIN

McLaren books signed by Button and Pérez
Plus! Silver McLaren cufflinks by Links of London



Marlboro

Marlboro
1
GOODYEAR



Ignition / Anthony Rowlinson / 09.13

We celebrate the golden anniversary of F1 legends

News just in: McLAREN ARE HAVING A BAD SEASON. Destined to finish a humdrum fifth in the constructors' championship and not – on the evidence of the first half of 2013 – likely to win a race, they're enduring one of those fair-to-middling years that afflict even great teams from time to time, often the legacy of losing key personnel such as a gifted technical director (Paddy Lowe) or a superstar driver (Lewis Hamilton).

Such mid-grid anonymity is not what McLaren are about, however, as any watcher of our sport will understand. Only last season they built a car that was often F1's fastest: the MP4-22. It won the opening and closing races of 2012 and at the Belgian GP, it was entirely dominant. McLaren *know* how to win and while they've blown constructors' titles they really should have nailed (2008 and 2012 anyone?), since they made their F1 debut in 1966, they have become F1's most race-winning team, with 182 GP victories on the scorecard.

The point of this history lesson? To remind readers who might not share our passion for this great F1 squad, and who might – perish the thought – be revelling in McLaren's current travails, that the guys and girls of Chertsey Road, Woking, are one of the cornerstones of Formula 1. F1's most enduring team rivalry? McLaren vs Ferrari. Its greatest intra-team squabble? Senna vs Prost 1988-89. The poshest HQ? Make that the MTC.

Imagine for a moment what F1 would have lost without the team that Bruce built and its latter-day

incarnation masterminded by Ron Dennis: no Hunt '76; no Hamilton 'boy to champ' fairy tale; no (dare we mention it) Ron vs Max. Without McLaren, none of these stories would have been told – at least not in the form we've grown to know and love – and what a poorer place F1 would have been over the decades for their loss.

So we hope you'll agree that celebrating McLaren on the occasion of their 50th anniversary is only right and proper for *F1 Racing*. We've recorded the landmark with our special gatefold cover, featuring all seven McLaren world champions, Bruce McLaren and Jenson Button (don't ask how we did it – it's a trade secret). And there's more: Ron Dennis speaking candidly about Ayrton Senna (p58), and our studio shoot of the three greatest cars ever to emerge from the team's race bays (p48). You can also read about a lunchtime meeting with Emerson Fittipaldi, McLaren's first world champ back in '74 (p80), a trip home to Mexico with Sergio Pérez (p66) and Jenson Button answering your questions (p42). A celebration fit, we hope, for a team of McLaren's stature – regardless of their 2013 woes.

Nowhere will their current lack of competitiveness be felt more keenly than within the gracefully curved walls of the McLaren Technology Centre itself, so let's hope these legendary racers can channel their angst into crafting race winners worthy of their heritage. They surely will, for as the McLaren story of five decades tells us: form is temporary, but class is permanent.

Contributors



Sam Barker

Permanent fixture in the National Portrait Gallery

He's photographed plenty of magazine covers as well as glossy ad campaigns, but Sam has never marshalled as many legends as grace our gatefold cover this month



Paul Fearnley

Historic expert, formerly of this parish

Former *F1 Racing* editor Paul faced the tricky task of picking three of McLaren's finest race cars (p48). Adrian Newey fans be warned: you may be disappointed...



James Mann

Catalogue man for the motor racing fraternity

He's snapped plenty of precious metal and carbon fibre for auction catalogues, so James was a safe pair of hands with McLaren's crown jewels – see p48



Marcus Simmons

Family tree meister – who does he think he is?

An abiding passion for the most obscure details made Marcus the perfect man to trace McLaren's remarkable connections – check out the team's family tree on p72



Thanks to Maria Alice, Rory Allwright, Fernando Avallone, Matt Bishop, Andrew Boakes, Jonathan Campkin, Tim Clarke, Steve Cooper, Alex Cornes, Russell Day, Pat Donovan and the mighty McLaren Men in Black, Sophie Eden, Ross Gregory, Graham Greig, Jack Hodges, Silvia Hoffer, Tom Hunt, Marieluise Mammitzsch, Adrian Myers, Shaun Newnham, Ramon Osorio, Marcus Simmons, Kevin Tee, Alister Thorpe, Max Tyler of Racewear Ltd, Robert Whitrow and Tim Wright



HAYMARKET CONSUMER MEDIA, TEDDINGTON STUDIOS, BROOM ROAD, TEDDINGTON, MIDDLESEX, TW11 9BE, UK

THE TEAM

Editor
Anthony Rowlinson
Managing Editor
Stewart Williams
Deputy Editor
Stuart Codling
Associate Editor
James Roberts
Chief Sub-Editor
Vanessa Longworth
Art Editor
Frank Foster
Senior Designer
Matt Dugate
Principal Photographer
Andrew Ferraro
Office Manager
Joanne Grove

PUBLISHING

Director
Ian Burrows
F1 Racing Custom
Emma Shortt

ADVERTISING

International Sales Manager
Chris Gowland
UK Sales Manager
Ben Fullick
Advertising Tel
+44 (0)20 8267 5179/5916

LICENSING

Licensing Director
Jim James
Licensing Manager
David Ryan

Editorial Tel
+44 (0)20 8267 5806

CONTRIBUTORS

Columnists
Peter Windsor
Dieter Rencken
Valtteri Bottas
Murray Walker
Technical Consultant
Pat Symonds
Special Contributor
Tom Clarkson
Agency Photographers
LAT Photographic
Getty Images

PRODUCTION

Production & Publishing Manager
Sunita Davies

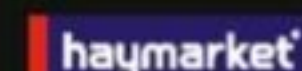
SUBSCRIPTIONS

Email F1racing@servicehelpline.co.uk
Fax 01795 414 555
Customer Hotline
0844 848 8826
Subscriptions Marketing Executive
Michelle le Grice

Missed an issue?

Back issues hotline:
08456 777 818

Editorial director Mark Payton
Creative director Paul Harpin
Strategy and planning director Bob McDowell
Managing director David Prasher
Chairman and managing director Kevin Costello
F1 Racing published monthly in Australia, China, France, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Japan, Korea, Malaysia, Mexico, Middle East, Philippines, Poland, South Africa, UK, USA, Formula One, Formula 1 and F1 (trademarks of Formula One Licensing BV, a Formula One Group company) are used under licence.
Circulation queries
Frontline, Park House, 117 Park Road, Peterborough, Cambs PE1 2TR. Tel: +44 (0)1733 555161. ISSN 1361-4487. EAN 0771361-4480012. Printed by Wyndeham Heron, The Bental Complex, Colchester Road, Heybridge, Maldon, Essex C99 4NW. Covers printed by Wyndeham Group. Colour by FMG, 90-92 Pentonville Road, London N1 9HS. Reproduction in whole or in part of any photograph, text or illustration without written permission from the publisher is prohibited. Due care is taken to ensure that the content of *F1 Racing* is fully accurate, but the publisher and printer cannot accept liability for errors and omissions. *F1 Racing* is a member of the Audit Bureau of Circulations.
F1 Racing Subscriptions
PO Box 326, Sittingbourne, Kent ME9 8FA. Tel: 0844 848 8826. Fax: 01795 414 555. Overseas: +44 (0)1795 592 990. Email: f1racing@servicehelpline.co.uk. *F1 Racing* (ISSN number 74597X) is published monthly by Haymarket Media Group, Teddington Studios, Broom Road, Teddington TW11 9BE, United Kingdom. The US annual subscription price is \$99.95. Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431. Subscription records are maintained at Haymarket Media Group, Teddington Studios, Broom Road, Teddington TW11 9BE. Air Business Ltd is acting as our mailing agent. *F1 Racing* is published 12 times a year by Haymarket Consumer Media, © 1996 Haymarket Media Group Ltd





COVER STORIES

58
48
80
42



94



58 **RON DENNIS** Takes a look back at the Ayrton Senna McLaren years



42 **JENSON BUTTON** After 14 seasons in the sport, he's lost none of his energy



48 **GREAT McLARENS** The best winning machines from the Woking stable



80 **FITIPALDI** It all started with this man – the first to take the title for McLaren

FIRST SECTOR: THE REGULARS

- 3 **IGNITION** CELEBRATING 50 YEARS OF McLAREN
- 12 **PARADES** THE VERY BEST SHOTS FROM HUNGARY
- 18 **PITPASS** NEWS, OPINION AND ANALYSIS
- 28 **PITPASS TECH** THE SCIENCE BEHIND RAPID PROTOTYPING
- 30 **PETER WINDSOR** THE RISE OF THE PAY DRIVER
- 33 **DIETER RENCKEN** JEAN TODT HAS A RIVAL
- 35 **VALTTERI BOTTAS** WISHING AWAY THE HOLIDAY
- 36 **INBOX** IS IT TIME TO DITCH THE SAFETY CAR?
- 108 **SUBSCRIBE AND GET A FREE McLAREN TEAM SHIRT**

SECOND SECTOR: THE FEATURES

McLAREN 50 YEARS

- 40 **BRUCE McLAREN**
The straight-talking, steely Kiwi racer and technical innovator who created a legend that still lives on today
- 42 **JENSON ANSWERS YOUR QUESTIONS**
McLaren's main man opens up about the lasting effects of winning a title – plus a few embarrassing moments
- 48 **THE VERY BEST McLARENS**
From the just-hanging-on-in-there M23 to the triple-title-winning MP4/2 and the ultra-dominant MP4/4
- 58 **RON DENNIS: THE AYRTON I KNEW**
McLaren team boss during Senna's six-year term, Ron Dennis recalls his personal memories of an F1 great
- 64 **GO FIGURE**
A numerical look at the team from Woking
- 66 **PÉREZ IN MEXICO**
Never underestimate the fever and hype surrounding Mexico's hottest export on a rare trip home...
- 72 **McLAREN'S FAMILY TREE**
Who started out where and who ended up where?
- 74 **STEP INSIDE THE MTC**
What lies beyond that sleek smoked-glass exterior?
- 80 **LUNCH WITH FITIPALDI**
Maurice Hamilton dines with McLaren's first ever world championship winner, Emerson Fittipaldi
- 88 **EVERY McLAREN DRIVER LISTED**
All 49 of them – from 59 seasons in Formula 1
- 90 **THE NEW ENGINE FORMULA**
What can we expect from the return of the turbo?
- 94 **WINDSOR'S MID-TERM REPORT**
As we enter the second half of the season, Peter Windsor rates the chances of every team and driver on the grid
- 102 **A CHAT WITH GRAEME LOWDON**
Marussia's president on back-of-the-grid scuffles
- 104 **THE FRENCH CORRECTION**
Jean-Eric Vergne: part of F1's continental resurgence

THIRD SECTOR: FINISHING STRAIGHT

- 112 **HUNGARIAN GP REPORT** LEWIS BITES BACK
- 116 **BELGIAN GP PREVIEW** F1'S LONGEST LAP...
- 118 **ITALIAN GP PREVIEW** ...AND F1'S FASTEST LAP
- 121 **TOM CLARKSON** NOT ON SUMMER SHUTDOWN
- 122 **MURRAY WALKER** MEMORIES OF McLAREN

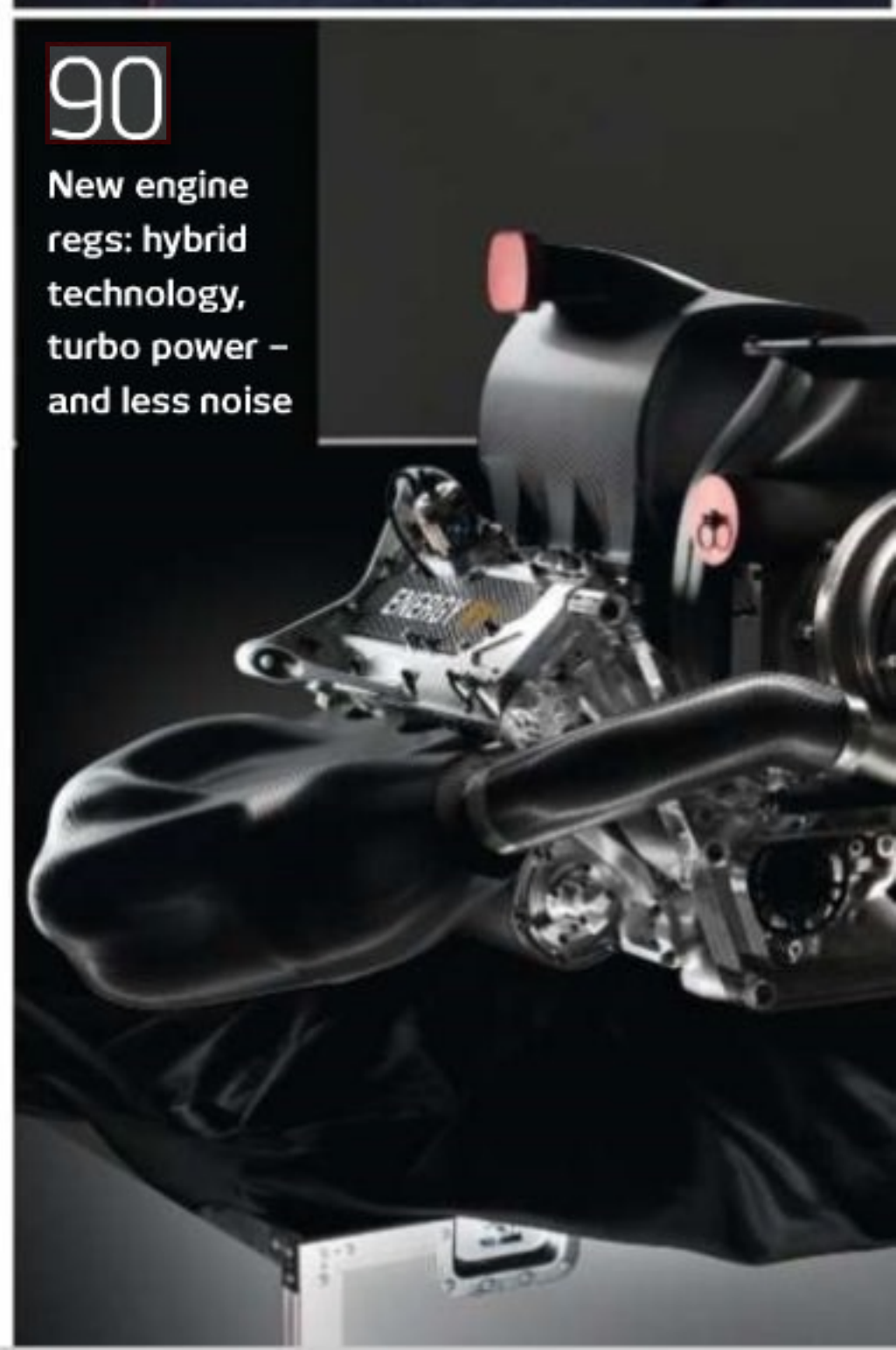
66

Sergio Pérez is the man who brought Formula 1 back to Mexico



90

New engine regs: hybrid technology, turbo power – and less noise





48

We lift the lid on the secrets of McLaren's greatest ever GP winners

42

You ask the questions, and Jenson Button very kindly answers them for you

94

Peter Windsor reports on the action-packed season so far



104

Toro Rosso's Jean-Eric Vergne on keeping the French in Formula 1

58

McLaren's Ron Dennis remembers their triple world champ, Ayrton Senna



80

Emerson Fittipaldi opens up about his ten years in Formula 1



© 2013 Exxon Mobil Corporation. Mobil, Mobil 1 and the 1 Icon are trademarks or registered trademarks of Exxon Mobil Corporation or one of its subsidiaries.™2013 Stewart-Haas Racing. NASCAR® is a registered trademark of The National Association for Stock Car Auto Racing, Inc. Other trademarks shown are property of their respective owners.

JENSON BUTTON

GRAND PRIX

MONACO

GQ™

SUSHI

MOBIL 1

Jenson Button and Tony Stewart don't agree on much. But as champions, **they both choose Mobil 1™**—the synthetic motor oil trusted by many motorsport drivers worldwide. See more at facebook.com/mobil1

TONY STEWART

NASCAR®

AMERICA

GAME & FISH™

STEAK

MOBIL 1



Mobil 1™
MANY CHAMPIONS. ONE OIL.

Sharp summer driving.

The new E-Class Cabriolet.



A Daimler Brand

Official government fuel consumption figures in mpg (litres per 100km) for the new E-Class range: urban 20.3(13.9)–68.9(4.1), extra on-the-road. Model featured is the new E 220 CDI AMG Sport at £46,070.00 on-the-road including optional metallic paint at £645.00, LED Intelligent Light System at £1,280.00, Driving. Some combinations of features/options may not be available. Price correct at time of going to print.



Mercedes-Benz
The best or nothing.

urban 36.2(7.8)–68.9(4.1), combined 28.3(10.0)–68.9(4.1). CO₂ emissions: 234–109 g/km. The new E-Class Cabriolet starts from £38,465.00 Assistance Package at £2,345.00 and 360° camera at £715.00 (on-the-road price includes VAT, delivery, 12 months' Road Fund Licence, number plates, first registration fee and fuel).

SIMPLY CLEVER

**Not your everyday pram.
Not your everyday family car.
The new more powerful Octavia vRS.**



Model shown is ŠKODA Octavia vRS Estate.

Official fuel consumption in mpg (litres/100km) for the ŠKODA Octavia vRS Range: Urban 34.9 (8.1) - 49.6 (5.7), Extra Urban 52.3 (5.4) - 72.4 (3.9), Combined 44.1 (6.4) - 61.4 (4.6). CO₂ emissions for the ŠKODA Octavia vRS Range: 149 - 119g/km. Standard EU test figures for comparative purposes and may not reflect real driving results.

ŠKODA



High beam headlamps, hydraulic suspension and 20 inch alloys: if we did that to a pram, imagine what we did to a family car. The new ŠKODA Octavia vRS comes with a turbocharged 2.0l engine that does 0-62mph in 6.8 seconds. ESC sport that engages a sport tuned set up. Sports seats, rear spoiler, vRS specific wheels, XDS electronic differential lock for precision handling and our all-new performance sound generator. And of course, a great big boot. Introducing the new ŠKODA Octavia vRS. It's not your everyday family car.

www.skoda.co.uk/octaviavrs

 facebook.com/skoda.uk



Parade

Lock and roll After dominating Friday's practice sessions, Sebastian Vettel was expected to take an easy win at the Hungarian GP. But race day turned into a struggle for the reigning champ. Stuck behind Jenson Button in the early stages, his damage-limitation exercise resulted in a third-place finish

Where Hungaroring, Hungary **When** 2.21pm, Sunday 28 July 2013

Photographer Alastair Staley/LAT

Details Canon EOS-1D MkIV, 600mm lens, 1/500th at F8







Parade

Triple triumph Only three times in the past nine years has the Hungarian GP been won from pole position – and on each occasion it's been Lewis Hamilton who has done it. He took his first win here in 2007, his debut year, which means he's now won a race in every season in which he's competed

Where Hungaroring, Hungary **When** 2.49pm, Sunday 28 July 2013

Photographer Glenn Dunbar/LAT

Details Canon EOS-1DX, 300mm lens, 1/320th at F8







Parade

Yellow fever Jenson Button runs on the yellow-liveried, soft-compound Pirellis during Saturday's practice session in Hungary. He ran a strong middle stint of the GP on this tyre and also did a great job of surviving contact with both Sebastian Vettel and Romain Grosjean to finish in seventh

Where Hungaroring, Hungary **When** 11.53am, Saturday 27 July 2013

Photographer Andrew Ferraro/LAT

Details Canon EOS-1D Mk1V, 300mm lens, 1/125th at F14



INSIGHT

Red Bull's driver dilemma

In a straight fight between Kimi Räikkönen and Daniel Ricciardo just how – and why – did Fernando Alonso emerge as a contender for that coveted Red Bull seat?

For a while, it all seemed so straightforward. Red Bull were deciding between Kimi Räikkönen and Daniel Ricciardo for the seat that will be vacated by Mark Webber at the end of the season. Then suddenly, Fernando Alonso was thrown into the equation and all hell broke loose.

It's claimed that, over the Hungarian Grand Prix weekend, Alonso's manager Luis Garcia Abad, in a meeting with Red Bull team principal Christian Horner, let it be known that the Spaniard was interested in driving for Red Bull next season. Inevitably, the 'news' ripped through the F1 paddock – for what could be more exciting than seeing two of F1's three biggest beasts in the same team next season?

But the big question is – was it actually true?

The leak came from within Red Bull themselves, but no one at the team would talk about it on the record. Team boss Christian Horner would say only that: "We're in the fortunate position where there is quite a lot of

interest in the seat for next year." So could they simply be trying to destabilise Ferrari?

Alonso, meanwhile, denied it. Well – sort of. Asked by the BBC whether his manager had spoken to Red Bull to offer his services,

he said: "I don't think so. Not that I know of." He was smiling as he said it, whatever that meant.

Abad himself said there had been "no discussions". Which is not *quite* the same as denying he had offered Alonso's services.

Abad did admit that he had met Horner at the Red Bull motorhome, but then he could hardly deny it, given that there was photographic evidence. However, he insisted he was there to discuss the future of Carlos Sainz Jr, a Red Bull junior driver who had impressed at the Red Bull young driver test.

Within the F1 community, the initial wow factor was soon replaced by a reality check. Even if the rumours were true, what were the *real* chances of Alonso joining Vettel at Red Bull in 2014? The answer: almost none.



Alonso's manager, Luis Garcia Abad, claimed there had been "no discussions" with Red Bull

Sebastian Vettel made it very clear, post-race, that he did not want him there, saying: "I'd prefer Kimi. I have to be careful now. Nothing against Fernando; I really respect him a lot as a driver. I respect Kimi on track, off track because he has always been really straight with me. From that point of view it might be a bit easier."

Horner, meanwhile, has made little secret of the fact that he did not sign Lewis Hamilton because he felt the partnership of two A-listers in one team would lead to too much pressure, and risk destabilising the team.

And if he thought that about Hamilton, who simply wants to get in and drive the car, Horner is hardly likely to believe it would be all wine and roses with the clever, subtle, powerful, demanding and aggressive character that is Alonso.

What the events of that day in Hungary did reveal, though, was the uneasiness in the relationship between Alonso and Ferrari. The car is again not competitive enough to sustain a realistic title challenge and, four years into their relationship, with three years left on his contract, Alonso is becoming frustrated.

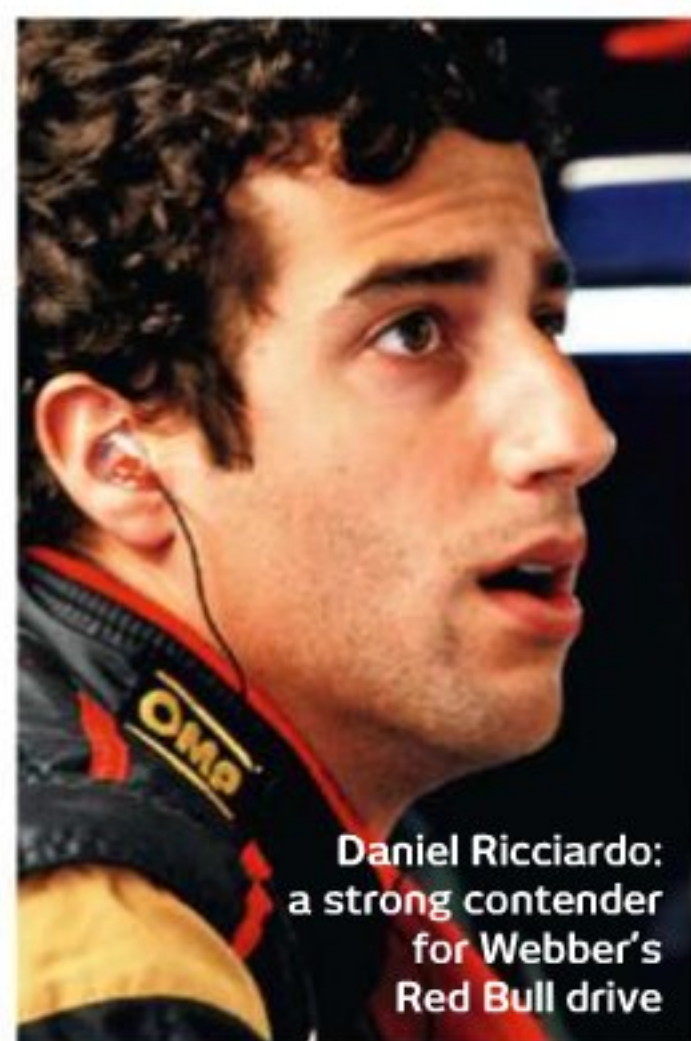
After the race, he was asked by Italian journalists what he would like for his 32nd birthday the next day. He said: "*La macchina degli altri*", which can be translated as "Someone else's car." Ferrari's president, Luca di Montezemolo, was not happy. The team went to the extraordinary length of putting out a statement revealing that Montezemolo had called Alonso to "tweak his ear" and make it clear that this was a time for pulling together.

Alonso was not at all happy about that, so all Montezemolo has achieved is to make his star driver feel even more unsettled.

Even so, Alonso's departure still seems highly unlikely.

For one thing, he wants to leave Ferrari as a winner, not a loser, regardless of the fact that it's hardly his fault he has not won that elusive third title yet. Another point is that there are many question marks hanging over 2014 as a result of the rule changes and a Red Bull may not even be the best car to have.

But most importantly of all, Red Bull almost certainly would not employ Alonso – at least, not while Vettel is there. "The pairing has to be right for the team," said Horner. "Last week there was speculation about Kimi, this week it's about Fernando, but for us we want to make sure nothing wavers in our mind about putting



Daniel Ricciardo:
a strong contender
for Webber's
Red Bull drive

the right team package together with the two fastest drivers we can who will work collectively well together and achieve the best results for the team."

That pairing could be Sebastian Vettel and Kimi Räikkönen, or Sebastian Vettel and Daniel Ricciardo. But it doesn't sound to anyone in Formula 1 as if it will be Sebastian Vettel and Fernando Alonso – even if, performance-wise, that would undoubtedly be the best choice of all.

WINNERS + SPINNERS

UPS AND DOWNS ON THE F1 ROLLER COASTER

GOOD
MONTH
FOR

Lovers of very loud noises

Mercedes have been the first manufacturer to release audio footage of their new 1.6-litre turbocharged V6 powerplant. Gone is the high-pitched wail of the current units, but fear not: they still sound mega.

Austrian F1 fans

Red Bull have announced that the Austrian Grand Prix will return to the calendar next year. The energy drinks firm own the Spielberg venue that last hosted the race in 2003 and have confirmed a new seven-year deal.

Retro fever and unusual locations

Former Formula 1 racer Philippe Alliot will be reunited with a Ligier later on this year when he drives at an invitational historic F1 event. Alliot will drive a Ligier JS11 at the new Baku street circuit in Azerbaijan this October. The 2.490-mile circuit winds around the shore of the Caspian Sea.



Trying to impress Ferrari

Former Sauber racer Kamui Kobayashi embarrassingly crashed a 2009 Ferrari F1 car after he lost control during a demonstration run on the streets of Moscow. A number of teams displayed their machinery in front of the Kremlin, but heavy rain caused the Japanese driver to lose control and crunch into the barriers.

Jean-Eric Vergne

It hasn't been such a great month for the French Toro Rosso driver. He was overlooked by Red Bull at the Silverstone Young Driver Test and is evidently not in the frame for a race seat there next year either...

The apolitical

F1 could be set for a stormy autumn as the fight for the presidency of the FIA nears election stage. David Ward, a former ally of Max Mosley, is set to run against the incumbent president Jean Todt.



BAD
MONTH
FOR

F1 Mastermind

Your chosen specialised subject: the world's greatest sport



- 1 What happened on the final corner of the 1991 Japanese GP?
- 2 For which team did Olivier Beretta drive in 1994?
- 3 Where did Lorenzo Bandini (left) score his only grand prix victory?
- 4 Which F1 circuit had a corner named Gerlachbocht?
- 5 Who replaced Derek Daly at Williams for 1983?
- 6 Who was the winner of the 1999 French Grand Prix?
- 7 Who scored his first grand prix victory at Rouen in 1962?
- 8 In which year was the old 8.7-mile Spa used in F1 for the last time?
- 9 How many races did Rubens Barrichello (right) win in 2009?
- 10 Which former Formula 1 team was based in Gredding, Germany?



THIS BOY CAN DRIVE

Keeping an eye out for the stars of tomorrow



Sergey Sirotkin Who is he?

The 17-year-old Russian competes in World Series by Renault for ISR. He's in the limelight after Sauber revealed a potential tie-up with him for 2014.

How good is he?

In 2011 he won the Italian-based Formula Abarth championship, then moved to Auto GP. With Euronova he qualified on the front row on his debut and won the third round at Valencia. He then switched to World Series by Renault and finished on the podium at the Motorland weekend.

Anything else we need to know about him?

His father Oleg is director general of Russia's National Institute of Aviation Technologies (NIAT). They are one of three companies who planned to go into partnership with Sauber in July and part of the deal was that Sergey would join the team as a development driver with a view to a 2014 race seat.

F1 chances

If the deal comes off, the signs are that Sauber are prepared to give him a drive. It proves once again that the pay driver economy is alive and kicking.

NEWS



Ecclestone and Todt are believed to have signed a new Agreement

Deal or no deal?

After months of wrangling, it looks as if a new Concorde Agreement is about to be signed

The long-running saga over the delayed signing of the new Concorde Agreement appears to be drawing to a conclusion.

A statement from the FIA and the F1 Group over the Hungarian Grand Prix weekend said they had "signed an agreement setting out the framework for implementation of the 2013 Concorde Agreement".

That did not make it clear whether the Agreement had itself been finalised, or whether the parties had simply laid out a 'road map' for resolving any outstanding disagreements. But *F1 Racing* understands the deal has been done and that all that is left is for it to be rubber-stamped by the FIA World Council.

The Concorde Agreement sets out the commercial terms of Formula 1, defining how its approximate \$1.5bn revenue is distributed. It will bind together the teams, the FIA and the commercial rights holder.

Bernie Ecclestone had already agreed new deals with ten of the

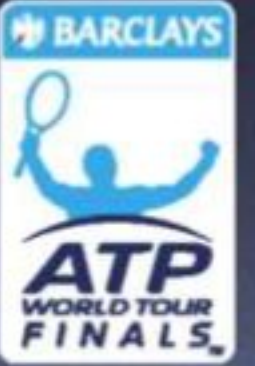
11 teams – leaving out Marussia for reasons about which no one is entirely clear. But agreeing a revenue split with the FIA has proved more difficult, with president Jean Todt pushing for more money from Ecclestone. There was some speculation that Ecclestone might try to take control of the written media – via the awarding of accreditation – away from the FIA. But sources close to him say that will not happen.

The new deal ties the sport together until 2020, but it is far from clear how long 82-year-old Ecclestone will remain in charge. His employers, CVC Capital Partners, have been keen to get the Concorde signed because of the German bribery case that has been hanging over Ecclestone's head for some years now.

Ecclestone was charged with bribery in July, and if he is found guilty at trial, or effectively admits it by striking a deal to avoid going to court, it raises questions over his current role.

Answers: 1 Senna slowed to allow McLaren team-mate Berger to win 2 Larrousse 3 1964 Austrian GP 4 Zandvoort 5 Jacques Laffite 6 Heinz-Harald Frentzen 7 Dan Gurney 8 1970 9 Two 10 HRT

PHOTOS: CHARLES COATES/LAT; SEBASTIAAN ROZENDAAAL/LAT; LAT ARCHIVE



Official Partner

2004 / Australian Open
winner

2007 / US Open
winner

2009 / Roland Garros
winner

2012 / Wimbledon
winner

THE BEST PERFORMANCE IS THE ONE THAT LASTS

It's no secret Roger's choice is Gillette Fusion ProGlide Power. Our best razor with our longest lasting blades, according to a leading European testing institute*

Fusion.
PROGLIDE.
POWER



[facebook.com/GilletteUK](https://www.facebook.com/GilletteUK)

Gillette®

THE BEST A MAN CAN GET™

*Test done in Dec 2010 by Stiftung Warentest.



Alonso finishes fourth at the German GP, as the gap to championship leader Vettel widens

PHOTO: ALASTAIR STALEY/LAT

NEWS

Ferrari to shuffle their tech team

Four years into his partnership with Ferrari, Fernando Alonso's title ambitions now rest on the appointment of James Allison and a reorganisation of technical staff

It was already known to *F1 Racing* that Lotus technical director James Allison would be moving to Ferrari. Maranello have now made that official by announcing after the Hungarian Grand Prix that Allison will become their new 'technical director (chassis)' as of 1 September this year.

Those paying close attention to job titles at the Scuderia will notice that this position was formerly occupied by Pat Fry, who has now been moved sideways to a newly created

role as director of engineering. That means Allison will be in charge of and responsible for all design aspects of the car, including aerodynamic development – his speciality.

Fry, meanwhile, is going to be in charge of vehicle dynamics, simulations, trackside engineering and strategy, which reflects his strengths as a former race engineer.

The key now is for the two men to work well together and for Fry to accept the new appointment with good grace and not to seek

to block Allison's work. Those who know the two men say that this will not be a problem. "They are both sensible guys; they will work together fine," one source told *F1 Racing*.

Ferrari have announced that Allison's appointment "completes" the restructuring of their technical department under team principal Stefano Domenicali. However, *F1 Racing* understands that there will be at least one further appointment, the identity of which has not yet been made clear.

The first aim for Allison – who is moving to Ferrari with the explicit approval of Fernando Alonso – is to get the Spaniard's title challenge back on track. This is a two-fold job: he'll need to kick-start Ferrari's stalled development programme, and ensure parts that do make it to the race track are actually an improvement.

Allison has strong links with both driver and team. He worked with Alonso during the Spaniard's championship-winning years at Renault in 2005 and 2006, and was previously employed by Ferrari at the peak of their dominance in the early 2000s.



GREAT
LOOKING
HAIR
no fuss



Joe Hart

Joe Hart,
Goalkeeper



The 2 in 1 range deep cleans and conditions, giving you unbeatable dandruff protection[†] and hair that's more manageable. All in one bottle.

*Visible flakes seen at 2ft with regular use. †Among cosmetic anti-dandruff shampoos.
**Winner Shampoo Category. Survey of 10,005 people by TNS.



PITPASS / Too many races not enough time... schedule shufflings afoot

India's Buddh International Circuit: unlikely to make an appearance on the confirmed 2014 calendar



NEWS

Austria replaces India for 2014

By postponing India, Bernie's got next season down to 21 races, but the teams only want 20...

The Indian Grand Prix is likely to be dropped from the F1 calendar next year, with the intention of it returning in 2015.

Commercial rights holder Bernie Ecclestone is facing a calendar log jam for next year. There are a potential 22 races to be crammed into the season, but teams have made it clear that they do not want to go beyond 20 race weekends.

Mooted new races in New Jersey, USA, and Sochi in Russia – in addition to the return of the Austrian Grand Prix at the behest of circuit owners Red Bull – takes this year's 19 races up to 22.

Postponing the Indian GP to 2015 is a temporary solution. Ecclestone's idea is to move it into the run of fly-away races at the start of the year, which includes the likes of

Australia, Malaysia, China and Bahrain. He could then extend what was originally a five-year deal into 2016.

That still leaves one race too many for the teams' liking. It's thought that New Jersey is likely to be dropped, since there are doubts as to whether it will be ready in time – despite the promoter's protests to the contrary. Korea is another possibility. It's not a popular race and its fee was negotiated downwards after the first two years. Russia is also an option, especially given financial disputes between the promoter and the Russian motorsport federation.

Meanwhile, there has been speculation that Bahrain could open the new season as it did in 2010, although Ecclestone now seems to be distancing himself from that idea.

Provisional 2014 running order

- | | |
|----------------|----------------|
| 1. Australia | 12. Hungary |
| 2. Malaysia | 13. Belgium |
| 3. China | 14. Italy |
| 4. Bahrain | 15. Singapore |
| 5. Spain | 16. Korea |
| 6. Monaco | 17. Japan |
| 7. Canada | 18. Russia |
| 8. New Jersey | 19. Abu Dhabi |
| 9. Britain | 20. Austin |
| 10. Austria | 21. Brazil |
| 11. Germany | |

OPINION

Could Michelin make a surprise F1 comeback?

Although Pirelli are officially F1's sole tyre supplier in 2014, speculation is growing about a potential return for Michelin

It has long been assumed that Formula 1 was obliged to accept Pirelli as the official tyre supplier for 2014, despite misgivings among many senior figures of the sport.

That assumption is based on the fact that Bernie Ecclestone had already signed a commercial deal with Pirelli; that time was running out for any new supplier to design and produce F1 tyres; and that the FIA has not even yet put the job out to tender, as it is required to do. Any tender process would delay progress even further.

Now there are claims that, behind the scenes, FIA president Jean Todt, a great supporter of Michelin, has invited the French supplier to tender for the position. However,

even if Michelin do formally express their interest, they will face a number of hurdles.

To start, they have made no secret of the fact that they want low-profile tyres in F1 to reflect trends in performance road cars. This would not only affect car design but also make the wheels heavier, which would require stronger wheel tethers, among other things. What's more, they have always said they want competition in the sport, while F1's rules currently dictate a single supplier.

That could easily be changed, and it's all Michelin want. If no other suppliers were prepared to challenge them, they would still be satisfied. They just want the option for competition to be allowed.



So would Pirelli remain in the sport if Michelin got involved? It seems unlikely. Even if they were brave enough to meet the challenge, they may be unable to secure customers, such as Michelin's high reputation.

If Pirelli stay, tyres could be wider in 2014. They have asked for tyres to be increased by 20mm in width and 5mm in diameter to help bear the greater forces expected from the turbo engines. Power projections have also risen from an initial prediction of 750bhp to 850bhp. Plus there will be more torque.

STATS

F1's global reach

How the sport has moved away from Europe in recent years

1950-59

Percentage of races held in Europe

79%

1960-69

Percentage of races held in Europe

72%

1970-79

Percentage of races held in Europe

65%

1980-89

Percentage of races held in Europe

65%

1990-99

Percentage of races held in Europe

67%

2000-09

Percentage of races held in Europe

55%

2010-13

Percentage of races held in Europe

40%



PITPASS / Things are looking up for Mercedes



NEWS

Hamilton a title challenger

As F1 returns after the break, Vettel's main rival for the championship is Mercedes' new signing

Lewis Hamilton's dominant victory in the Hungarian Grand Prix has revealed him to be a serious title challenger in the second half of the season.

Hamilton has scored more points over the past three grands prix than anyone else – despite the puncture that robbed him of a potential victory at Silverstone – and Mercedes have now taken three victories and four pole positions in the past five races.

Not only that, but if you take the best score by a Mercedes driver at every race

since Monaco and add them up to make a theoretically 'perfect' Mercedes driver score, that driver has scored five more points than championship leader Sebastian Vettel.

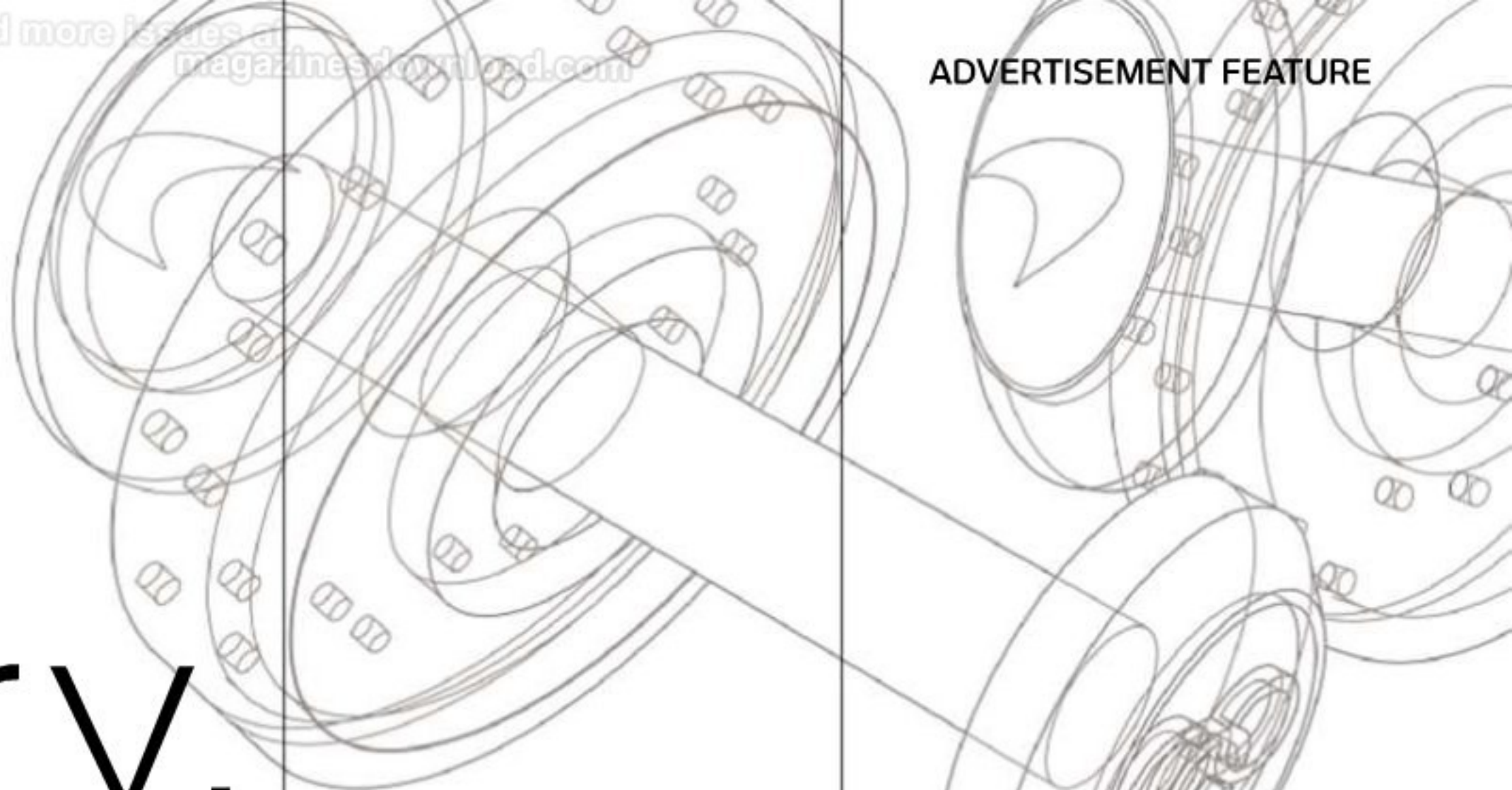
Based on outright performance, Mercedes could dominate. They have taken seven poles in ten races this year and at only two races – Australia and Malaysia – has neither of their drivers made it onto the front row.

The big question now surrounds tyres – which is what makes that 'perfect' Mercedes score so interesting. Mercedes have struggled

with excessive rear-tyre wear at nearly all the races this year. The only exceptions were Britain and Hungary. Yet even taking all that into consideration, that 'perfect' score suggests Hamilton is a threat to Vettel.

Hungary has raised the possibility of a Mercedes resurgence. A new tyre was used there for the first time, which had a Kevlar construction rather than a steel one. And despite the 50°C track temperatures, Hamilton suffered no tyre problems.

Spa and Suzuka will pose a tougher test for the tyres, despite the lower ambient temperatures. So if Mercedes and Hamilton can keep their tyres in good shape in Belgium, they're in with a shot at the championship.



Luxury, engineered



Links of London has created bespoke pieces for McLaren's 50th anniversary. The first is a cufflinks set inspired by the perfection of a coiled spring – an integral part of the suspension system – and engraved with the words "Since 1963". The second is a woven cord bracelet that evokes the historic McLaren orange colour and features an integrated 'chassis number plate' engraving.

Links of London use world-class engineering skills and sophisticated materials, but not for the race track ...for you.

F1 Racing
readers get a
discount of
20%
at linksoflondon.com
(use promo code:
'McLaren 13')



LINKS
LONDON

linksoflondon.com



Pat Symonds

PITPASS TECH

Explaining the hidden brilliance that drives Formula 1 forward

THE SCIENCE BEHIND...

Rapid prototyping

Can you explain what rapid prototyping is?

As with so many engineering terms, the words 'rapid prototyping' are generic and refer to a number of different techniques that can construct physical models from CAD data by a process known as additive layering.

This is a process whereby a component is literally grown, layer by layer, until a solid component is produced. Each layer is generally 0.1mm thick, so a reasonable amount of precision is achievable. While the layered manufacturing principle of building the item is the same for the different systems, the way it is done varies. The three techniques commonly found in a Formula 1 factory are FDM, SLS and SLA.

How do these techniques differ?

The simplest and cheapest is FDM, which stands for Fused Deposition Moulding. This technique uses a filament of thermoplastic material, which is heated to a semi-liquid state and then extruded through a nozzle that is moved in two directions under computer control. Like a baker icing a cake, as the nozzle moves it deposits a thin layer of plastic, which rapidly cools and solidifies. Once the outline of the component has been traced, the plate on which it is being built moves down slightly and the process is repeated, thereby

building a 3D model. Because the action is rather like that of an ink-jet printer, this technique is sometimes known as 3D printing.

The second acronym, SLS, stands for Selective Laser Sintering. It bears some similarity to FDM, but a powdered plastic material is used, which, rather than being deposited where needed, is held in a 'bath'. A CO₂ laser then scans over the bath of powder with a computer switching it on where the powder has to be solidified. The heat of the laser raises the temperature of the powder to a point just below that at which it would melt, but high enough that it effectively welds to the plastic below. Once a layer is solidified, the bath drops down slightly and a new layer of powder is brushed over the surface before the laser once again scans the outline of the component.

The final technique is SLA, which stands for Stereolithography Apparatus. The fundamental difference between this and the other techniques is that a photosensitive resin is used in the bath. The special polymers used are liquid until exposed to intense ultraviolet light. This light is provided by an ultraviolet laser, which again traces a cross section

of the part to be built. As the laser beam touches the resin, it solidifies it and joins it to the layer below. Again, once a pass has been made, the plate is lowered by a tenth of a millimetre and the surface is re-coated with resin.



Nylon materials are used to make concept parts, such as this roll hoop

RP plastic parts are broken out from their build chamber



It doesn't sound particularly 'rapid'...

Well, in a way it isn't. It does take time for each layer to be built up, and this will vary depending on how long the laser is switched on; in other words, how much material is being solidified on each pass. Remember, though, that it is usual to create many different parts in a single build to make most effective use of both the machine and the material. It is not unusual for a build to take over 12 hours, but this is still much quicker than most other techniques.



ARE TEAMS LIMITED TO PRODUCING PLASTIC PARTS ONLY?

While the majority of rapid prototyping uses plastic, there are many different types of polymers to choose from. A designer can select a material based on its ultimate purpose in the same way he would with any component he designs.

The development in materials is very rapid, with improvements coming out every year, and it is not just limited to plastics. Laser sintering of titanium is in use in some areas of the car, and aluminium and steel can also be laser sintered.



What are the uses of rapid prototyping in Formula 1?

The biggest single consumer of RP components is the windtunnel, and I don't think teams would be able to support the 24/7 windtunnel programmes that are common today if they had to rely on traditional manufacturing. The main materials used in windtunnel models are Nanotool and Bluestone, which are both SLA materials. The Nanotool material can even be nickel-plated to increase its rigidity if required.



Files describing components are made on 3D CAD systems and are read by RP machines

The nylon materials are more often used for mock-ups and proof-of-concept models, although they are finding more and more use in tooling for composite components. Metallic sintering is used for car parts such as the roll hoop, although it generally needs further strengthening when used like this.

Over the past few years, more and more aerodynamic parts on the cars have been produced by rapid prototyping. This is largely due to a material produced in Italy called Windform, which is tough enough to make many of the fins and ducts you may see on the cars.

Is it expensive?


SLA machines cost around £300,000 and can consume over £100,000 worth of resin a year. The large F1 teams will have many of these working 24 hours a day, so they certainly are not cheap – but FDM machines, particularly those with relatively low resolution, are extremely affordable.

Something that brings down the real cost is that the machines require very little programming.

Metallic sintering is used to make for-use car parts, like this roll hoop

Any 3D CAD system will make a file describing a component that can be read by an RP machine. All that is then needed is to load the model files into a single build. It is straightforward, so not such a costly process as programming CNC (computer numerical control) machine tools.

Is this the future? Will we all have 3D printers in our homes soon?

The popular press think so, and if you are the sort of person with a lathe and a mill in your shed, the answer is probably yes. If not, I suspect you'd soon get bored with producing novelty Christmas decorations just because you can... 





Peter Windsor RACER'S EDGE

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

THE HARSH REALITY OF ECONOMICS HAS PUT POWER BACK IN THE HANDS OF THE DRIVERS

After years of being subjugated, ignored, bullied and sidelined, it's interesting, I think, to see the GPDA – the Grand Prix Drivers' Association – at last regaining some strength. And I'm not talking about the publicity they generated around that vague boycott threat in Germany recently.

I'm talking about money – and the shifting of it. As the global financial crisis begins to bite in F1 terms (ie now that the medium-term contracts signed three or four years ago are finally coming to an end), F1 teams are awakening to the worst of all fears: the soft life is over, the sponsorship isn't there. The big tobacco money has long since disappeared; mobile phone money isn't what it used to be; banks are much more wary of how they shuffle around their money; the IT industry, with hubs in California and Korea, is much too sharp-edged to embrace fully the premium sports sponsorship markets; a bunch of other sports are offering better return on investment than F1; small logos on rear-wing endplates no longer carry any lustre; and the Middle East is no longer signing cheques in order to be Best in the West (they're quite happy with everyone travelling to the East, thank you very much).

That basically leaves the Russians... and the drivers. Up and down the pitlane you see it: teams who wouldn't be competing if it wasn't for this driver or that driver 'bringing a budget'.

Fernando isn't tiptoeing back into the 2013-14 driver market just because he's Fernando. He's re-entering it because F1's power brokers know he's a major financial factor. You can see them now, in your mind's eye, behind the darkened windows, hoping to

move Fernando and Santander to Lotus, where they need the sponsorship, and Kimi back to Ferrari, where they don't and where Kimi can still win with James Allison. Logical. Forget existing contracts. We're talking about money, not drivers.

Similarly, I was chatting only the

other day to one top F1 engineer, who is leaving his team because he feels so uncomfortable with the way financial markets are moving. "I just don't like the concept of drivers buying their drives," he said. "You have a problem with the car or whatever and you live in fear that the driver will suddenly tell his sponsors not to pay the next instalment. You can't run a team like that. You can't *work* for a team like that..."

Of course, not all drivers generate their money the same way. Some inherit their backing. Some duck and dive. Some earn it purely because they are the biggest thing ever to arise from their individual country. Some, like Fernando, just happen upon it in the course of being good. What can't be denied is that today's F1 sponsorship money (as distinct from TV rights or appearance money) is predominantly in the hands of the drivers – and that's a quantum shift from the way it ever was before. The GPDA lives, in other words, but not because it represents 'the drivers'. It lives because it represents a huge chunk of money – about one-third of the F1 cake. And money talks. It's easier, in this leaner world, for a potential sponsor to identify with a local driver than it is for them to sit down with a bunch of accountants and sign a generic deal with a team. The local driver talks, eats, drinks and sometimes wins; teams just shuffle papers and employ expensive lawyers.

Where is all this leading? To *here*, to the teams now being obliged to work in harmony with the drivers *like never before* to ensure that the money to which the drivers have potential access is not only expanded but is also given some sort of structure. F1 teams have long had the ability to operate as super-driver-management-sponsorship groups (in the way of IMG in other major sports) but have for years been too short-term ever to realize it. Now the truth is finally dawning: IMG could never succeed in F1 on its current business model: its necessary list of 30 or so drivers would be too intra-competitive, team to team. No, in F1, it has to be the *teams themselves* who develop and manage the drivers.

They must spend more of the money they generate on developing sponsorships around their future stars and must then operate a proper management system around that sponsorship. Each F1 team should have a squad of about 20 supported drivers, with a follow-through to sponsorship management if the driver in question doesn't actually cut it on track. Each team

Santander executive chairman Emilio Botin with Fernando Alonso. If Alonso leaves Ferrari, Santander will most likely follow






If Alonso takes his Santander cash to a needy Lotus, might Kimi return to an already well-funded Ferrari?

should support tax-relieved investment funds to enable young drivers to fund budgets with which to climb the ladder. In a nutshell, they need to take control of an Alonso-Santander situation before it arises – before Santander becomes Fernando's to wield at will. And before more good F1 engineers decide that rent-a-drivers aren't worth the risk.

"F1 teams are awakening to the worst of all fears: the soft life is over; the sponsorship isn't there"

Lotus, McLaren, Marussia and Caterham are starting to mix the procurement of new F1 sponsorship with the development of young drivers in fresh markets. Gone are the vague hopes that on the back of supercircuits built at vast government expense, hundreds of Korean and Chinese companies will fall out of the sky, each clamouring to sponsor a team generically because of the magic that is F1. No longer can the teams think in F1's favourite tense: the present (as in, 'Hey! We have a shortfall! Our sponsors have fallen through. Quick! Sign a rent-a driver!'). For one thing, there's a limit to the number of rent-a-drivers out there; for another, powertrain development requires some sort of forward planning. From here on in, therefore – for all but the arrogant or the ignorant – it should be different: "Here's a quick young guy. Where's he from? Good. Let's get behind him, build a market..." Or (better still): "Here's a huge market with no drivers. Let's use our F1 franchise to make it happen..."

Virtually all of motorsport's non-US money is in F1; the F1 industry has systematically seen to that over the past 20 years. Now, in a nice reversal, and with money tight in general, the F1 teams are being forced to re-invest in the sport's lower rungs. Next thing we know, the people in motorhomes will not only be familiar with the names of the guys winning F1 Renault, Pro Mazda, F3, GP3, Indy Lights, GP2, WSR and IndyCar races, but will also actually be listening to the voice of the GPDA. 



PHOTOS: ANDY HONE/LAT; ANDREW FERRARO/LAT; LORENZO BELLANCA/LAT

GTi IS BACK



PEUGEOT



NEW PEUGEOT 208 GTi

www.peugeot.co.uk/tablet208gti

PEUGEOT RECOMMENDS TOTAL

MOTION & EMOTION

Official Fuel Consumption in mpg (l/100km) and CO₂ emissions (g/km) for the 208 GTi are: Urban 34.4(8.2) Extra Urban 60.1 (4.7) Combined 47.9 (5.9) and CO₂ 139 (g/km). Visit Peugeot.co.uk for full terms and conditions.



Dieter Rencken

POWERPLAY

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

AS THE FIA PRESIDENTIAL ELECTION DRAWS NEARER, A NEW CANDIDATE HAS MADE HIMSELF KNOWN

A battle royal is on the cards. The days of presidential elections being cosy formalities are, indeed, over



Like leap years, FIA presidential elections come around every four laps of the calendar. But for 16 years the Paris-based governing body's election process stayed well beneath the radar, simply because 1993-2009 incumbent Max Mosley, who had secured the presidency of FISA (the motoring body's then-sporting division) in 1991, faced little or no opposition. Time after time, Mosley's re-election was a cosy formality.

That changed in 2009 after teams, acting cohesively under FOTA (the Formula One Teams Association), demanded Mosley step aside as part of their conditions for signing up to the FIA's world championship instead of pursuing their plans for a breakaway series.

So now the presidential elections featured two first-timers: former Ferrari F1 team principal, Jean Todt, and 1981 world rally champion and European Parliament politician Ari Vatanen, who scored numerous successes for Todt during their Peugeot tenure, including winning the Dakar and Pikes Peak.

It is a matter of record that Todt won by 135 votes to Vatanen's 49 after the Mosleyites lent their support to Todt. However, those who believed the incoming president would unwaveringly follow his predecessor's line would be gravely disappointed, for Todt soon proved to be his own man – so much so that he and Mosley are now said to be barely on nodding terms.

That Todt has suffered a rough ride is indisputable. Not only did Mosley's prior sale of F1's commercial rights for a relative pittance to chum Bernie Ecclestone leave the body cash-strapped, but Todt also inherited a three-year Concorde Agreement, the terms of which Ecclestone was hell-bent on overriding; a Concorde that stripped the FIA of its previously inviolate role.

Given that the previous agreement had a shelf life of up to ten years (and then some, as the parties continued to bicker long after it had supposedly expired), Todt was forced into negotiation mode the

moment his feet slid under the presidential table. And he has had some success, recently squeezing an additional \$100m (£65m) spread over seven years out of the tight-walleted Ecclestone – who had paid just three times that for the 113-year rights. The International Tribunal and the Women in Motorsport

movement, along with the FIA's various road safety campaigns, can also be viewed as victories for Todt.

Even so, Todt's four-year spell has been a white-knuckle ride. France's legal system overruled the FIA's court structure devised under Mosley's rule, and there have been debacles over green engines, Pirelli's strategy, plus challenges created by the Bahrain situation and new circuits in Korea and India. And that's just the F1 side; Todt's FIA has had to cope with issues in other sporting categories, including the collapse of the World Rally Championship's promoter.

Just as Todt believed he could consolidate the strands that constitute world motoring's top job, there came unwelcome news. He faces opposition in the form of David Ward, former chief policy adviser to the late British politician the Rt. Hon. John Smith – Labour leader in the early 1990s. Smith was in the process of modernising the party – and was even tipped for 10 Downing Street – before his fatal heart attack. Tony Blair succeeded him... and the rest is history.

Ward, director general of the FIA Foundation for the Automobile and Society charity founded courtesy of £225m derived from the F1 rights sale, previously acted as an FIA lobbyist in Brussels. He also headed up the FIA's bureau in Europe's capital with responsibility for ensuring the transaction complied with EU law. He obviously did a sterling job: the duration was extended tenfold at no extra cost. But he is arguably better known for being among those believed to have persuaded Blair to exempt F1 from tobacco restrictions, an episode that embarrassed the prime minister after it came to light that Bernie Ecclestone had made a big donation to the Labour party's coffers.

Ward has yet to confirm his candidacy, but there is no doubt he is a very capable politician. He knows FIA policies inside out and has steered the Foundation for the past decade. He can also rely on the support of the pro-Mosley faction, who not only masterminded Todt's election win, but are extremely well-funded and savvy.

Ward states that he hopes to stimulate debate by standing. However, he may find himself disadvantaged by stipulations that candidates list a full 16-person 'slate' at the time of registration (23 October to 13 November), ahead of the vote by secret ballot during the FIA's General Assembly meeting (9 December). Incumbent Todt has a ready cabinet. Either way, a battle royal is on the cards. The days of presidential elections being cosy formalities are, indeed, over.

PHOTO: CHARLES COATES/LAT



RACETIME TRAVEL

THE ULTIMATE FORMULA 1 GRAND PRIX EXPERIENCE

ABU DHABI GRAND PRIX 1-3 NOVEMBER 2013

Experience the glitz and glamour of Dubai with RTT at the Abu Dhabi 2013 Grand Prix, staying in the heart of all the action in Downtown Dubai. With daily transfers to the circuit where RTT have secured some of the best seats in the main grand stand so you're guaranteed not to miss any of the action on or off the track.

NOW BOOKING



PACKAGE INCLUDES

- AIRPORT TRANSFER
(ARRIVAL & DEPARTURE)
-
- 4 NIGHTS IN AL MANZIL
HOTEL DOWNTOWN DUBAI
-
- BUFFET BREAKFAST
-
- CIRCUIT TRANSFERS
(THURS, FRI, SAT & SUN)
-
- MAIN GRAND STAND WEEKEND
TICKET (NO UPGRADE NEEDED)
-
- RESERVED 1, 2 & 3RD ROW SEATS
OPPOSITE THE WINNERS PODIUM
-
- FREE ENTRY INTO CIRCUIT CONCERTS
-
- RTT REPRESENTATIVE
-
- PACKAGES BONDED
WITH ABTOT



FREE ENTRY TO WIN A BOTTLE OF F1 WINNERS CHAMPAGNE

RTT are at this years European and Singapore Grand Prix's, if you would like to discuss in person the Abu Dhabi Package call Stephen. On **07767 168 993**



MEM NO 5264

TEL **+44 (0) 114 232 1251** EMAIL **INFO@RACETIME TRAVEL.COM**

VISIT **WWW.RACETIME TRAVEL.COM**

RTT RACETIME TRAVEL



VALTTERI BOTTAS ROOKIE YEAR

The Williams racer reveals all about his first season in F1

IT'S BEEN GREAT TO HAVE A BREAK – BUT NOW I'M READY TO GO RACING AGAIN

We've just come back from the Formula 1 shutdown, the two-week period where all the team factories close and everyone gets a chance to have some time off. I went back home to Finland, where I spent some time with my girlfriend, family and friends.

During the solstice it's light for almost the full 24 hours of the day, and that's an important national celebration in Finland. We light bonfires at midnight and spend time in our cabin by the lake, it's a really fun time. But even in August, Finland is still hot and sunny and it's great to enjoy the long summer evenings.

Spending time at home is really important for recharging the batteries. We're about to enter the second half of the season and it's an enormous push for everyone involved. There are a lot of races and back-to-back events in the Far East, the Middle East and the Americas. The travelling is intense – as is trying to figure out which timezone we are on!

I enjoy going home, but I don't get the chance to do it very often as I'm now based in the UK, close to the Williams factory in Grove.

When I first moved here, I was in Oxford for two years, but now I've moved to a small cottage in a tiny village. It's quieter in the countryside, and I'm happier here.

Over the summer break I did quite a lot of training – after my morning porridge of course – including running and cycling. I enjoy the training because it's such a great stress reliever. When you train daily, you almost get hooked on it – you get such a great buzz.

When I'm at home I also enjoy cooking – nothing too fancy, though. I like simple things like meat and vegetables. Chicken salad is probably my favourite

because it's good for you and light, so you can eat more of it and really fill your stomach. I don't eat pasta though; I don't have any wheat in my diet.

If my girlfriend and I want to go out for dinner, then we visit my local pub. They are very friendly and the chef used to work at one of the top restaurants in the UK. When we ate there on the evening of the British Grand Prix, all the staff were wearing #BOTTAS badges, so they're all great fans.

My race engineer Jonathan Eddolls and I have also spent some time over the past few months clay-pigeon shooting and target shooting together, so I'm starting to get a few English hobbies under my belt. I recently saw Sir Jackie Stewart and he gave me a few tips, as he used to shoot professionally. Jonathan and I shoot at a place in Enstone – don't worry, we're not aiming at Lotus!


"I've enjoyed my break, but I was itching to get back into a racing car. I phoned my local kart track to see if I could hire a kart – but they said they were closed on Wednesdays!"

Living away from your native country, you need little things to remind you of home. I don't have Finnish TV channels in my house, but I check the news online every morning, plus I speak Finnish every day because I talk to my trainer and my girlfriend so often.

I also have a traditional Finnish reindeer skin in front of the fireplace in my cottage. And whenever I am at Helsinki airport I always buy a Finnish sweet to bring back to the UK. It's called Salmiakki which is salted liquorice. It's a traditional Finnish candy and one of my home comforts!

Another thing I really enjoyed over the holidays was watching *An Idiot Abroad*, with Karl Pilkington. Have you seen it? It's so funny! I like the British sense of humour a lot and I know Sebastian Vettel is a big fan of *Little Britain*, too. I think racing drivers have to learn to live with that dry, sarcastic sense of humour because of all the years working with race mechanics...

So I've enjoyed my break but, typically, by the second week I was itching to get back into a racing car. So much so that I phoned my local kart track to see if I could hire a kart but – you wouldn't believe it – they said they were closed on Wednesdays. No matter what I tried, they wouldn't open up.

Still at least the holiday is over and we can head to Spa for the Belgian GP. I can't wait to race again! 

Bottas relaxes with girlfriend Emilia Pikkarainen on his trip back home to Finland over the summer break



PHOTO: THOMAS BUTLER

Inbox

@F1Racing_mag
facebook.com/flracingmag
letters.flracing@haymarket.com
F1 Racing, Teddington
Studios, Broom
Road, Teddington
Middlesex TW11 9BE



NOTICES

GET F1 RACING WHEREVER YOU ARE



**FULL
DIGITAL
EDITION
ON SALE
NOW**

- Read it on your PC, Mac or iPad
- Identical to print edition
- On sale the same day as the print edition

GO TO:
[www.f1racing.co.uk/
digital-edition/](http://www.f1racing.co.uk/digital-edition/)

NEXT MONTH...



MARK WEBBER: WHY I QUIT F1

Exclusive! F1's most outspoken driver spills the beans

PLUS...

- > Lunch with McLaren/Ferrari design ace John Barnard
- > Austria returns to the 2014 F1 calendar... we investigate
- > "With half the race gone, there is half the race still to go!" Murray Walker turns 90*

**OCTOBER
ISSUE ON SALE
19 SEPTEMBER**

★ STAR LETTER

The Safety Car: allows free pitstop opportunities and unfairly closes up gaps



The Safety Car neutralises the race

Following the German GP I read the headline: 'Lotus: Safety Car ruined victory bid'. Surely the purpose of the Safety Car is safety – not the destruction of the race it is there to preserve?

F1 cars have for years carried ample technology to do away with this archaic solution to the problem of neutralising the race, which could be done by a limitation of speed, revs, or whatever a technical working group decides. Safety Cars continue to drastically alter the progress/outcome of races by offering free pitstop opportunities to some and stealing hard-won gaps from others. If the concept wasn't already entrenched in the minds of the F1 fraternity, is it really the solution they would come up with in this age of technology? If the answer is no, then the Safety Car should go.

It is time to look at the problem with fresh eyes and decide what the best possible solution is, not blindly continue doing what has been done since lap times were provided by a chap on the finish line with a stopwatch.

Ben Sharrock

By email



SILVERSTONE STAR PRIZE

Ben Sharrock wins a Silverstone Single-Seater Experience. For more details visit www.silverstone.co.uk/experiences. Hotline number: 0844 372 8270

Kimi to Red Bull?

So Mark Webber has quit F1, and several drivers have been tipped as potential team-mates to Sebastian Vettel. Toro Rosso's Daniel Ricciardo has performed pretty well, finishing in the top ten several times, but his history is inconsistent. It could be due to his car lacking what it takes to earn points, but that wouldn't be the case at Red Bull.

At the Hungarian GP, Fernando Alonso was linked to the Red Bull drive, but it's an unlikely move since he made it clear (as reported in the September 2012 issue of *F1 Racing*) that "Ferrari will be my last team." If he sticks with that, then Kimi Räikkönen is the best driver to take up the vacant role.

Many critics claim we are in the middle of a Schumacher-like era of dominance, with Vettel winning everything. But Kimi would prove them wrong by racing neck and neck against Seb, and perhaps putting an end to that winning streak. So it can only be Kimi to replace Mark Webber!

Ismail Zubair

By email

Massa's isn't lagging

Here is an interesting statistic for all Formula 1 fanatics – and even the most ardent fans of Felipe Massa will be surprised to hear this one. Of all the laps Massa has ever raced, what position do you think he has been in the most? The answer is... first! As a massive fan myself, I have to admit I did a double-take at this fascinating fact. What were you guessing? Fourth or fifth? As brilliant as he is – or has been – you never would have thought it, would you?

Alistair Macdonald,
London, UK



A WORLD OF PERFORMANCE
SINCE 1949



ABARTH PUNTO EVO

supersport



0% APR REPRESENTATIVE OVER TWO YEARS

(Deposit required*)

FOLLOW US ON:
UK.ABARTHWORLD.COM



DRIVE ABARTH RESPONSIBLY

ABARTH CARS.CO.UK

Abarth Punto EVO Range fuel cons mpg (l/100km): urban 35.3 (8.0) / extra-urban 56.5 (5.0) / combined 46.3 (6.1), CO₂ emissions: 142g/km. Promotion available on new Abarth models registered before 30th June 2013. With Advance Payment Plan you have the option to return the vehicle and not pay the final payment, subject to the vehicle not having exceeded an agreed annual mileage (a charge of 6p per mile for exceeding 10,000 miles per annum in this example) and being in good condition. *Deposit amount is typically between 43% to 59% depending on term, model, and mileage. Finance subject to status. Guarantees may be required. Abarth Financial Services, PO BOX 4465, Slough SL1 0RW. Fuel consumption and CO₂ figures based on standard EU tests for comparative purposes and may not reflect real driving results.

 **Monaco**
24/25/26 May

 **Singapore**
21/22 September

 **Abu Dhabi**
1/2/3 November

 **Austin**
15/16/17 November

amberlounge™



CELEBRATING 10 YEARS
AMBER LOUNGE
THE ULTIMATE VIP GRAND PRIX
EXPERIENCE 2013

VIP Parties

Fashion Shows

Hospitality

Live Acts

singapore@amber-lounge.com

www.amber-lounge.com

+377 97 77 16 34

50 YEARS OF McLAREN

Bruce McLaren once wrote, "I feel that life is measured in achievement, not in years alone." As the team he founded celebrate their 50th birthday, we look back at some of those achievements

42 Jenson Button
Answers your questions

48 The best McLarens
From the long-lived M23 to the dominant MP4/4

58 Ron Dennis on Senna
One F1 icon describes an eventful life with another...

64 Go figure
Five decades in numbers

66 Pérez in Mexico
Checo wows his home crowd

72 McLaren's family tree
Amazing F1 connections

74 Inside the MTC
McLaren's tech palace exposed

80 Their first world champion
Lunch with Emerson Fittipaldi



McLaren legends

1. Jenson Button
2. 2012 MP4-27
3. Ayrton Senna
4. 1988 MP4/4
5. Bruce McLaren
6. 1969 M7C
7. Emerson Fittipaldi
8. 1974 M23



9. James Hunt
10. 1976-77 M23
11. Lewis Hamilton
12. 2008 MP4-23
13. Mika Häkkinen
14. 1999 MP4/14
15. Alain Prost
16. 1984 MP4/2
17. Niki Lauda
18. 1986 MP4/2C





Bruce remained a hands-on force at McLaren until his tragic and untimely death in a testing accident in 1970

THE FLYING KIWI

Eoin Young, fellow New Zealander, friend and first employee of **Bruce McLaren**, remembers a humble yet steely racer and constructor, whose legacy still lives on

PORTRAIT LAT ARCHIVE

Bruce McLaren had it tougher than most, but his ever-present smile always hid the problems. And those problems started early where Bruce was concerned. He spent his tenth and 11th birthdays on a hospital stretcher, having been told his crippling Perthes Disease meant he'd probably never walk again. McLaren's determination meant that he did.

That childhood ailment left him with one leg a tad shorter than the other, which meant he would always walk with a limp in racing boots. But that limp never showed with a built-up heel in his shoes. At tech school he was told to either knuckle down to his studies or clear off and waste his time on his car racing instead. He chose the racing, where his mechanical talent gave him a glittering career far beyond the ambitions of any Auckland technical student.

It was Jack Brabham who shepherded Bruce through the ranks of the Cooper Grand Prix team to win the last GP of the season at Sebring in 1959. He was just 22. But my connection with Bruce started a little earlier, in 1958 in New Zealand. It was on a gravel hillclimb at Clelands, halfway between the tiny pub-and-a-store village of Cave, where I grew up on a farm, and Pleasant Point where I went to school.

Bruce had already raced his 1700cc works F2 Cooper at the international series in New Zealand, and at Teretonga I plucked up the courage to introduce myself. We talked about the Clelands hillclimb and he said he was staying with his sister in Timaru – the nearest city to Cave and Pleasant Point.

I asked Bruce if he wanted to join us lads at the dance hall on Caroline Bay in Timaru, and he came away at midnight infatuated with this gorgeous local girl, Pat Broad. The next day he

called me, asking for Pat's phone number, and it all started from there. Three years later they would be married. Four years after that, baby Amanda arrived.

I went to the UK in 1961 with half a dozen of the local racing lads. At the Cooper workshops I met up with Denny Hulme, who was about to start his second European season with a Cooper Formula Junior on a trailer behind a Mk 1 Ford Zodiac. I joined him for the summer. At the end of the year I flew from Luton to Tasmania with Gavin Youl, delivering Jack Brabham's single-engined Cessna 180 for sale in the colonies.

I had a contract to cover the pre-Tasman international racing series in New Zealand and Australia in 1962 for various magazines and newspapers. When we arrived at the final race at Sandown Raceway, Bruce said he would like to talk to me when I got back to Britain. I said I had no plans to return and suggested we talk now. He said he would like me to be his secretary. I asked what a secretary did and he said he had no idea, but the other drivers had one, so I could be his. He told me he wouldn't have enough work for a full week, so he suggested a 20-hour week for the first year and he would pay me £600. This would allow me time for freelance writing, and I would also ghostwrite his columns, which ran in several New Zealand newspapers and later in *Autosport*.

I also went to most of the races with Bruce and he paid 75 per cent of my hotel and travel. He wasn't exactly going overboard with the largesse. I was in Australia and the job was in England... Bruce advanced me a cheque for £300 pounds for an air ticket, which would later come out of my wages. I was embarking on the best job in the world for probably the

smallest salary: £6 per week plus percentages! It was the best deal I ever did.

So in 1962 I was Bruce McLaren's first employee and travelling to all his races. Monaco amazed me. It was everything I'd read about made even more magic when Bruce won there. The next weekend he won again at the non-championship grand prix at Rheims. I thought it couldn't get any better. In fact, it would take a while before it got this good again.

It wasn't until some years later that I realised the huge advantage I'd enjoyed in being mates with Bruce and Denny – and through being introduced not just as a nosy little journalist, but as a friend of the Kiwi drivers and therefore trusted and a good guy. In those days, journalists were either stuffy older chaps from the Fleet Street papers, or young shavers working their way up through the ranks on the car papers.

It was time for Bruce to get serious about his racing, and in September 1963 he formed Bruce McLaren Motor Racing Limited. I was a founder director. Soon we were a staff of four when Wally Willmott and Tyler Alexander joined as mechanics. I'd say that part of the secret of McLaren success in those days was that everyone thought they worked 'with' Bruce. They didn't work 'for' him. They were his mates.

Bruce bought a Cooper-based Zerex Special sportscar, which was the spark for the team's Can-Am domination later in the decade, and I was tasked with finding a team base. The first one had to be cheap because we were so short on funds – it was a dusty, dirty high-roofed shed in New Malden that we shared with a road grader. Next up was a factory shed on a trading estate in Feltham. And that's where the McLaren empire started out. 🏁

YOU ASK THE QUESTIONS

Jenson Button

F1's soon to be second-oldest driver is energised and optimistic, even in his 14th season. World-weary? Not a bit of it – as he reveals, in his perceptive answers to *your* questions...

WORDS ANTHONY ROWLINSON **PORTRAITS** STEVEN TEE/LAT

F1 Racing's editor is being ribbed – not for the first time, we should add – for having curly hair.

"You look like Ricciardo," grins Jenson as we sit down for this interview in the McLaren Brand Centre (because of course anyone with curly hair looks like *anyone else* with curly hair, right?)

"No," insists ace lensman Steven Tee, "it's Alain Prost."

"Yeah," chuckles JB, clearly in good spirits. "A mixture of Ricciardo and Prost."

Such observations are not a new experience for yours truly, so before things degenerate into mention of Leo Sayer, Mungo Jerry and Adrian Sutil's dad (the curliest of the lot, incidentally), a line must be drawn.

"Are you trying to destabilise me, Jenson?"

"Yeah, of course. Always!"

Perhaps he's feeling so cheekily chipper because almost the entire Button family massive

is in Hungary to celebrate dad John's 70th birthday. Or maybe it's the slight upturn in McLaren's performance evident at this noodle-tight dustbowl of a circuit where Jenson took his maiden F1 victory, with BAR, back in 2006.

Whatever the source of his happiness, there's no doubt Jenson's up for this and, as you shall see, we got him on a *very* good day...

How long did the feeling of being champion last, after you won the title in 2009?

Kieron Seggar, UK

It's lasted for four years. It never leaves you, actually, and that's why it's so special. A race win is an extraordinary feeling because it's a massive rush of adrenaline and emotion in one moment that you share with the whole team, but it's forgotten at the next race if you don't win again. Whereas the world championship is

with you forever: you can wake up one morning and look in the mirror and go "****! I'm a world champion!" and that will always be there. That will never leave me and that's why it means so much, I think.

Do you own the Brawn GP car in which you won the title?

Paulo Artur Felix, Portugal

I own chassis 01/01, yes. It's one of the three chassis that we used that year. I don't have it at the moment, but I can collect it, I believe, at the end of the year. It's complete – car and engine.

Should drivers always keep the same helmet colours, like you've done?

Alexandra Fuller, UK

I've changed it slightly since I started in F1 – the colours haven't changed, but the design has a →





"I love cycling. I love cycle races. A lot of it is a mind game. It's not just how you are physically – the strongest guy might not always win"

little bit – just to move with the times and keep it more current-looking.

I love the design. Uffe [Tagström, the Finnish helmet artist who also designs lids for Kimi Räikkönen, Heikki Kovalainen and Sergio Pérez, among others] has done a great job with it. I do change it now and again for certain events, and I'll change it for the Japanese GP this year. It'll have the same design as last year, because it's very Japanese and obviously I have some strong Japanese connections through Jessie [girlfriend Jessica Michibata] and Honda. But generally I like to keep my traditional helmet design. That's the helmet people should recognise as 'Jenson Button's helmet'.

[At this point, Jenson starts explaining how much he likes Uffe's work, before suddenly halting mid-flow to declare: "It's SO hot mate, sat here in the sun. Can we sit over there? I am sweating out." We decamp and move to a less greenhouse-like corner of the MBC, where Ms Michibata is quietly observing her fella being, if you will, grilled. Turns out it's a timely move...]

How is your Japanese coming along? Maybe Jessica could teach you some useful phrases for working with Honda?

Chris Thomson, UK

[Jessica gleefully interjects: "It's perfect!" before Jenson continues] Ha! No, it's really bad. I know a few words... But I've been lazy. I always told myself I would learn, considering my girlfriend is Japanese. But the problem is the travelling. When I have any free time, I train. I find it very difficult, but I would love to learn and I have to learn. I think it's only right for me to learn. I can speak a few words and I can order a coffee...

[Jessica: "You can order your food. He can go to a restaurant all on his own."]

Yeah, I speak restaurant Japanese and a few 'cutie' Japanese words that you'd only say to your partner. And I can order a cappuccino and sushi – as long as it's not for more than two pieces.

V10, V8 or V6 turbos?

Ashraf Rahim, Singapore

The three-litre V10s sounded the best by far. I watched some races from back in '04 and '05 the other day and those engines used to sing. So of course I loved that, but it's not the way of the world any more. I think the direction that we're taking with the engine is correct. It's very exciting for the engine manufacturers and it's exciting for us. Exciting in a different way. So either a V10 or a 1.6-litre V6. But not the V8.

Would you rather win the New York Marathon or the Tour de France?

Raoule Osen Ferrer, Philippines

The Tour de France. The New York Marathon would be... wow, what a challenge... but the Tour de France! I love cycling. I love competitions... obviously triathlons, but also cycle races. And I cycle with a lot of people. It's a very social sport. I know how tough it is. To do three weeks with back-to-back days is just unbelievable. A lot of it is a mind game. It's not just how you are physically – the strongest guy might not always win. It's how you play the game, how mentally strong you are and also working as a team. So yeah, the Tour de France, for me, is special.

Why are you so good in mixed conditions?

Matti Viitasari, Finland

I wouldn't have a clue! I'd have to ask: "Why are other people not so good in mixed conditions?" So you're asking the wrong person, really. Maybe I feel the car in a different way. This isn't quite the question, but I also think the new style of circuits probably don't suit me so much as the old style of circuits, like Spa and Suzuka, because of the way I drive. They suit me more than the supermarket car park tracks. Having run-off areas that let you brake late, lock up, go off and come back doesn't suit how I drive, because I build up to a point, I feel the circuit and I don't go past that point. It's unusual that I'll go off.

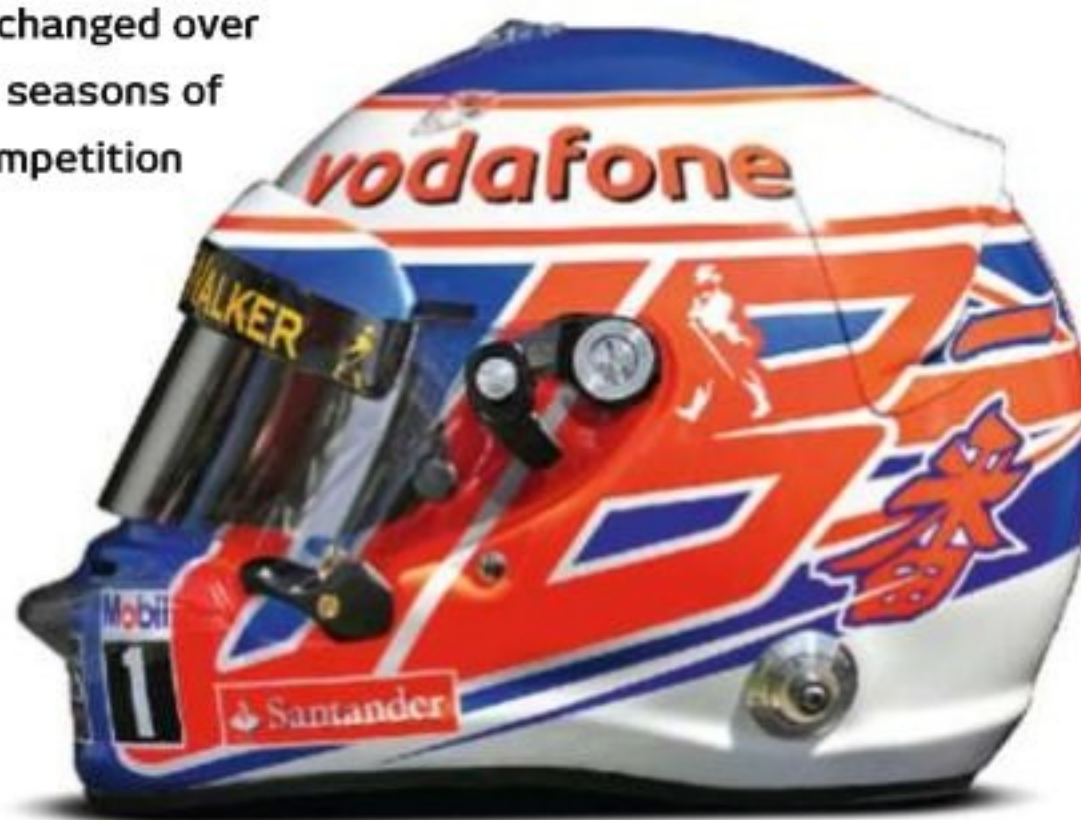
Could you be more aggressive?

Chris Dodds, Cyprus

I could be, but my intelligence says otherwise. I feel that I use aggression in the right way in terms of racecraft and wheel-to-wheel action; I feel I'm correct in pretty much everything that I do, so I'm happy with my aggression on track.

But when it comes to my aggression in terms of getting tyre temperature, no I can't. I would like to, but that's just not in my style of driving. My team-mates are always able to get more tyre temperature than me and that's always been a weakness. Even when I was with Brawn. Over the second part of the '09 season I really struggled in the colder races: Silverstone, the Nürburgring...

The JB lid: mostly unchanged over 14 seasons of competition



What's your most embarrassing moment?

Oliver Heycoop, New Zealand.

I suppose China 2011 when I went into the wrong pit box was pretty bad, but that was just a mistake. In a race? I remember one time with Williams in 2000. I was only 20, and Frank said to me: "You've got to push harder – harder into the box and out of the pitlane. You're doing a good job on the circuit, but you need to push harder on the way in." So I got on the power earlier, put a wheel in the gravel, lost it – and wiped the front end off the car.

I walked back, totally embarrassed. Patrick Head said: "What are you doing?" I said: "Well, Frank told me to push." And Frank backed me up. He said: "Patrick, I did tell him to push and it's good he did. It was a mistake, but he's finding the limit." It was still pretty embarrassing though...



China 2011: Jenson parks up in the Red Bull pit box to the confusion of all

they were really, really difficult for me. It was the same when I was racing here [at McLaren] against Lewis. Heating the tyres up is just a big weakness of mine.

If the Formula 1 grid had an Ironman triathlon, who would win?

Gary Reeves, UK

Well if they had it tomorrow I think it would be between me and Fernando. I've never done an Ironman; Fernando has never done an Ironman, but looking at his training, I think he would be good at it. I think it would be between us two.

You've said before that the 2009 Monaco Grand Prix, which you won, was your best ever race. Has your answer changed?

George Davies, UK

I think qualifying that year was one of my best, but the race in Monaco is very strange because if you don't put a foot wrong you'll win from pole, pretty much. Every win is special in its own way – for example, Bahrain in 2009. I had a bad start but got past two people on the first lap who I had

to overtake to win the race. That made it happen. But the three that are very special are Canada 2011, Suzuka 2011 and Spa last year.

In Canada I was pretty much ready to give up, then Seb dropped it on the last lap. Everything had gone wrong up until that point... it was a very unusual race and one that'll never happen again in my lifetime.



So the wins at Spa and Suzuka. They're two circuits that I love. At Spa, the whole weekend was good. I qualified on pole by four tenths of a second and it was an easy win basically. I just enjoyed every lap of the race.

Suzuka was different because of Jessie and my feelings about Japan – it's a country I love. After the race, it was very emotional – particularly as over the last few laps I was running out of fuel and I had Vettel and Fernando bearing down on me. I really had to conserve fuel and then put in a big kick at the end just to preserve the gap. That made it a very special win for me.

I think emotionally that was the biggest win for me. In a way I wish that Sebastian hadn't won the championship that day, but it didn't matter. The people that I care about were there and it was special to do it in front of the Japanese fans.

Would you ever consider trying IndyCar; specifically the Indy 500?

Timothy Eichman, USA

I like the idea of IndyCar, but it's very different from F1. I've got a lot of respect for the guys who race in it, but it's not my sport really – it's very different. I like my brake pedal and I think it's a very useful tool! In the Indy 500, it doesn't really get used. It's a very different way of driving and if I raced in IndyCar it would take me many years to get good enough to fight for wins, I think.

Can you explain the feeling you get when you're chasing down a driver and catch a glimpse of them ahead on track?

Sean Norton, USA

It's very special, but this year it's different because you have to be careful not to get overexcited. If you push too hard, you destroy the tyres, so it's a real balance. There's a feeling of excitement in your heart, but also one in your head, telling you to go about things in the right way. You have to close someone down at the right time, not just get it done as soon as possible. But it's a good feeling when you get up to the back of them and make the move, because we all love overtaking. With DRS it's less exciting, but it's still a nice feeling. The moves that mean a lot to us are moves that are done in another way... the way that we use KERS to our advantage so you overtake in a way that's very clever or devious. Or you've just done a great job of throwing it down the inside or around the outside. Those moves mean a lot to us and we always remember them.

How many pink shirts does your dad own?

Kevin Dalby, UK

I really don't know, but I'm guessing it's quite a few. I'm hoping he's got more than one! →



Jenson meets his fans at Silverstone: it's one of the colder races on the calendar, so he tends to do less well here

Has seeing *Rush* made you think about driving for McLaren in James Hunt's era?

Clive Eaton, UK

I love watching '70s F1. The drivers were very brave, but they didn't have what we have now. I tried Emerson Fittipaldi's 1974 car, which is the same car as Hunt's [a McLaren M23] and it was so uncomfortable. You see loads because your head is higher up, but they either thought nothing about the driver, or the driver had no input into cockpit design. Your knuckles hit the bodywork, you can't change from fourth to fifth without altering your grip... it's all a bit wrong.

It was a *very* different type of racing. I drove the M23 around Silverstone and Martin Brundle was there, too, in Lewis's 2008 MP4-23, and he came past me like I was driving a Formula Ford! That's the difference in speed these days. I love F1 cars now. The speed in high-speed corners, the straightline speed, the braking performance... it's staggering.

I must say, though, that when you watch F1 from 2004-05, you hear the V10s and you see the grip of the cars. I really enjoyed those days. There was still overtaking and some good racing. Those were very special times, in the fastest, most powerful cars, with a tyre war and the quickest lap times. I'm glad to have raced then.

Will you sing *We Are The Champions* when you next win the world title?

Christopher Barrow, UK

Oh definitely, yes! I'm going to practise it if we start next year with a good car. I'll have singing lessons so I can do it properly and do it justice.

Do you ever get distracted by a sneezing fit or an itch during a race?

Iain Scott, UK

I never sneeze in the car. Maybe when you're concentrating hard, you don't sneeze. I don't know. But I've never had a sneeze, never had an itch. I've had water spray in my face from the drinks tube but it's not a problem. You just get your hand inside and wipe. You squeeze it in from underneath. You definitely don't want to open your visor to go in through there. I've learned that from getting carbon flakes in my eyeballs too many times. They come in the vents so I've got everything closed in my helmets now. Normally, once a year I have to go to the doctor and they pull the flakes out with tweezers, which is always really nice... It's stopped happening though with my new helmet [an Arai].

What is the most memorable gift a fan has ever given you?

Melissa Lim, Singapore

They're all special because they are from fans. But I always seem to have had the best gifts in Japan. I used to get Game Boys and things like that, with 1,000 games on one little chip. They don't do it so much now, but that was pretty cool.

I like things fans actually make. A scrutineer here gives me a bottle of Hungarian wine every year. It must come from his family's vineyard because he puts a 'Jenson Button' label on it. He's also given me a Lada, because I drove a Lada around a course at a Vodafone safe driving event in Hungary. Like any gift, it's the thought rather than the size of the gift that counts.

Is there anything from the UK that you miss in Monaco?

Grace Wilkinson, UK

I only get over to the UK three or four times a year to see my family. I get to see a lot of my mates training and at competitions, away from the crazy world of F1. But I love living in Monaco. I have good friends there to train with; the sun's always shining... It's a nice place to live.

If you were on a road trip with another driver, who would it be and who'd drive?

David Hamer, UK

I'd drive and I guess Paul Di Resta would be with me. We spend time together training and I think he's a pretty good passenger. I don't really hang out with any other drivers. Maybe Webber... I spend a bit of time with him. But apart from that, there aren't any other drivers I spend time with.

How do you want to be remembered by the F1 world, when you eventually retire?

Sullan Clouet, USA

It sounds rude, but I don't care. It's for others to judge my career. Everyone makes judgements and people are outspoken about drivers and teams. What's important for me is that I can say what I feel. I do a job I'm lucky to do. I've found one I'm good at, and I've tried my best at it.

Whether I'm the best or not, who knows? The important thing is that you give everything, looking into every little area to improve yourself. Never think you're the best, because then you've already failed: you've stopped yourself improving. Winning the world championship was my aim in F1 and my dream as a kid. I'd love to do it again. What keeps me going is the racing spirit of a team. And winning races. When you win a race, the adrenaline buzz you get with the people you worked hard to achieve it with means so much. Another title would be great but the wins are definitely what keep me interested. 🏆

JOIN OUR FAN COMMUNITY

Want to put a question to a big name in Formula 1? Visit www.f1racing.co.uk and join our Global Fan Community, where you'll get to do just that. We'll let you know which interviews are coming up.



Scan this code with your smart phone and you'll be taken straight to our reader panel page



Santander are proud to be a lead partner of the Vodafone McLaren Mercedes Formula One Team

We're also leading the way with our award-winning 123 Current Account – an account that gives you interest as well as cashback on your household bills.

To find out more, visit your local branch, santander.co.uk or call us on 0800 077 8047.



 **Santander**
a bank for your ideas

santander.co.uk

To benefit from the 123 Current Account pay a monthly account fee of £2, fund the account with £500 a month (a minimum balance of £1,000 is required to receive interest) and set up a minimum of two Direct Debits. To benefit from cashback, household bills must be paid by Direct Debit.

Cashback on household bills includes water, council tax, Santander mortgage payments, gas and electricity bills and mobile, home phone, broadband and paid for TV packages. The maximum mortgage payment amounts that qualify for cashback are limited to £1,000 per month (for either single or multiple monthly Direct Debits). Mortgage cashback applies to Santander UK plc mortgages. The cashback on water and council tax bills also applies to rates in Northern Ireland. Household bills do not include TV licence, maintenance or insurance contracts, commercial use or commercial mortgages. Interest is paid on the first £20,000 of your entire balance once you have at least £1,000 in your account. Interest and transfers into the new 123 Current Account from any other Santander account does not count towards the monthly funding amount. Limit of two 123 Current Accounts per person in either joint or single names. Cashback and interest paid monthly. To be eligible for an account you must be 18 or over and a UK resident. For details of our fees and interest rates, visit www.santander.co.uk or ask for the latest Interest Rates and Fees Information leaflet at any branch. Information correct as at 12/08/13.

Santander 123 Current Account – winner of Best Overall Personal Finance Product, The Personal Finance Awards 2012/2013.

Santander UK plc. Registered Office: 2 Triton Square, Regent's Place, London, NW1 3AN, United Kingdom. Registered Number 2294747. Registered in England. www.santander.co.uk. Telephone 0870 607 6000. Calls may be recorded or monitored. Authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, except in respect of its consumer credit products for which Santander UK plc is licensed and regulated by the Office of Fair Trading. Our Financial Services Register number is 106054. Santander UK plc is also licensed by the Financial Supervision Commission of the Isle of Man for its branch in the Isle of Man. Deposits held with the Isle of Man branch are covered by the Isle of Man Depositors' Compensation Scheme as set out in the Isle of Man Depositors' Compensation Scheme Regulations 2010. In the Isle of Man, Santander UK plc's principal place of business is at 19/21 Prospect Hill, Douglas, Isle of Man, IM1 1ET. Santander and the flame logo are registered trademarks.

CD0305_1 AUG 13 H

GOLDEN



GREATS

In September 1963, Bruce McLaren set up his own F1 team to build a better car than his rivals. Here we court controversy by picking three of the best Formula 1 machines to carry his name...

WORDS PAUL FEARNLEY PICTURES TIM KENT & JAMES MANN



McLaren turn 50 this year. In 1963, their founder rented space from a plant contractor in New Malden, then part of Surrey. The building Bruce McLaren took on was a humdrum concrete affair that 'boasted' a trod-dirt floor. It was totally unsuitable. As were the large packing crates upon which his team's formative cars were prepared.

McLaren haven't moved too far away, but their sparkling headquarters near Woking are a million miles removed, architecturally at least, from that scruffy start. The fit-for-purpose MTC is a high-tech statement of intent. Its sweeping scope and fastidious fixtures and fittings are metaphors for the grand plan that Ron Dennis has had for the team since 1980 and the thoroughness with which he has expedited it.

The future matters most here.

Past success, however, cannot fail to be reflected in the MTC's curving glass wall and trophy cabinet the length of a football pitch. That's because the M2B that burst eardrums at Monaco in 1966 was built and raced for the same purpose as this year's MP4-28: to win.

The 60 iterations of the 39 models produced by McLaren have scored more than 180 victories, set more than 150 poles and recorded more than 150 fastest laps. They have created seven champions – Fittipaldi, Hunt, Lauda, Prost, Senna, Häkkinen and Hamilton, with 12 titles between them – and won eight constructors' titles.

There have been lemons – the four-wheel-drive M9A that failed to get a grip in 1969; the defective ground-effect M28 of 1979; and the ugly duckling MP4/10 that Nigel Mansell dabbled with before his F1 career took its final dive in 1995 – but these are in the minority. This means there are plenty to choose from when it comes to picking a golden anniversary top three. That, of course, makes the process more difficult, not easier.

And by what parameters are they to be judged? Objective statistics provide a framework of reference, but subjectivity is what colours the final decision. We won't expect Adrian Newey to agree with our selection, but it's hard to argue against a car that was competitive over five seasons, or another that claimed three world titles – or a machine that won all but one race. →

The survivor: M23

Bruce McLaren's fatal crash in June 1970 was cataclysmic. Many from without, plus a few from within, doubted that his team could survive without his inspiring leadership.

It did, thanks to its all-American hierarchy of Teddy Mayer and Tyler Alexander, and Kiwi driver Denny Hulme. But it was a struggle. Innovative designer Robin Herd's departure in 1968 had been a setback, but now the wins dried up. Hulme had ended a two-year drought in designer Ralph Bellamy's bulbous M19A early in 1972, but that was an isolated success. What's more, Porsche had seized control of the financially lucrative Can-Am sportscar series that had greased McLaren's F1 wheels for years. Hence a lot was riding on unassuming Gordon Coppuck's maiden F1 design.

Headhunted by Herd as a draughtsman and aviation-standard technical ally, Coppuck had arrived, like Herd, with no motor-racing experience. He couldn't fail to learn, given the

"McLaren had beaten Ferrari: Bruce would have loved that"

pressing circumstances, but took it steady nevertheless. He designed the rear end of a successful Can-Am car and worked with Jo Marquart detailing Bruce's M14A F1 concept, the so-so follow-up to the encouraging M7A.

Coppuck became chief designer in 1971, yet deferred to Ralph Bellamy in F1 while he penned an Indycar instead. His M16 wasn't conservative: a side-rad edgy wedge, it wowed the Brickyard and convinced him he was ready for F1. The M23 stemmed from his new-found assurance.

Hulme stuck the car on pole for its GP debut at Kyalami in 1973. Tellingly, this was the 1967 champion's maiden GP pole, too – and four years on, at the same track, an M23 in the hands of James Hunt repeated this feat.

Such longevity requires a rugged foundation and the M23 exuded solidity from the outset. Its sidepods were integral, its complex double-skin foam-injected construction was a gamble that paid handsome dividend, and its footprint was foursquare – soon to become five, then six.

Coppuck's experience of large, powerful Indy and Can-Am cars had led him down this route: "We weren't particularly aware of ground effect in 1973," he said. "We knew we were generating downforce from underneath, but had no accurate measurement of it. But we had always found that

bigger (within reason) was better. The larger the plan area, the more downforce."

Not long after Emerson Fittipaldi's arrival from Lotus in 1974, the M23's wheelbase was made three inches longer (owing to a spacer between engine and gearbox) and two inches wider at the rear. These alterations were done to place a wing mounted on a ground-breaking central post, penned and developed by drawing-office whizz John Barnard, in cleaner air.

Fittipaldi liked the car from the off: "It was good in fast corners: very stable, very well balanced and very fast." But he was a keen and capable tester, so updates were manifold: three lengths of wheelbase; parallel lower links rear suspension in place of wishbones; a narrower airbox; and a narrower 'winklepicker' nose.

The M23 continued to shine. Its problem over bumps was sorted by mid-season, and Fittipaldi won his second title in three years while helping the team to their first constructors' gong.

McLaren had beaten Ferrari: Bruce would have loved that.

By 1975, the search for the optimum suspension setup – dive, roll, squat – was superseded by the need to maintain the best angle of aerodynamic attack. The

wheelbase was extended by straightening front suspension arms previously swept back; springs were stiffened to maintain a closer gap between car and track; skirts were fitted to seal said gap; and a duct was let into the cockpit floor to lower air-pressure beneath.

It wasn't enough. There were many other changes, but they smacked of the fear of defeat rather than the buzz of victory. The lighter, stiffer M26 began to take shape on Coppuck's drawing board as a consequence.

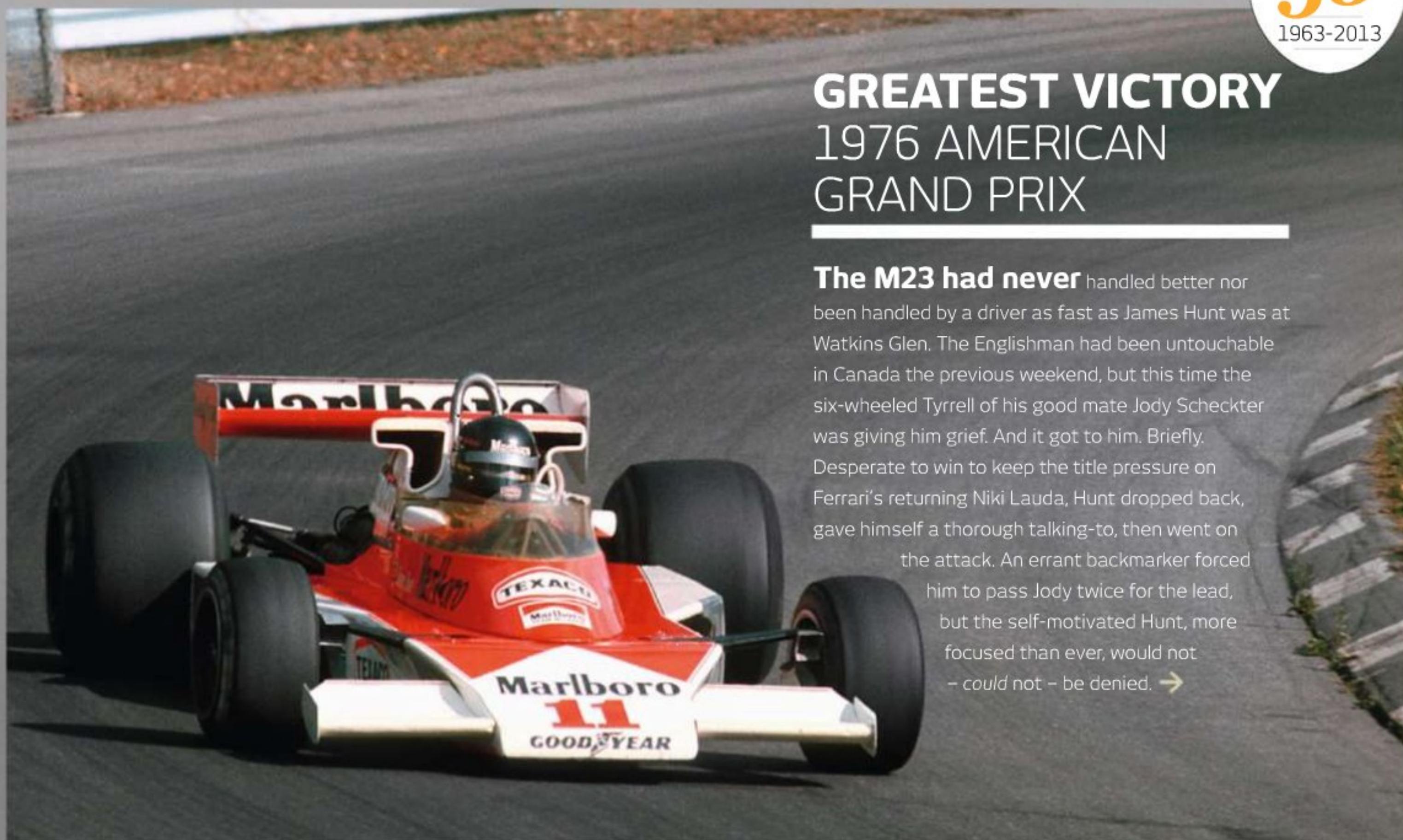
Suddenly the M23 was back. Emmo had lost his mojo and departed, and 'Master James' Hunt had waded right in. At the wheel of a car with an even longer wheelbase, lighter thanks to Kevlar panels and an onboard pneumatic starter that obviated the need for a heavy battery, fitted with a Nicholson McLaren DFV and a self-developed six-speed gearbox, Hunt bullied the team into action. Sensible, empirical McLaren became the most exciting, newsworthy outfit on the planet.

With wins in four consecutive seasons – it was still competitive when finally it was replaced in 1977 – this was the car that put McLaren firmly on the Formula 1 map.



GREATEST VICTORY 1976 AMERICAN GRAND PRIX

The M23 had never handled better nor been handled by a driver as fast as James Hunt was at Watkins Glen. The Englishman had been untouchable in Canada the previous weekend, but this time the six-wheeled Tyrrell of his good mate Jody Scheckter was giving him grief. And it got to him. Briefly. Desperate to win to keep the title pressure on Ferrari's returning Niki Lauda, Hunt dropped back, gave himself a thorough talking-to, then went on the attack. An errant backmarker forced him to pass Jody twice for the lead, but the self-motivated Hunt, more focused than ever, would not – could not – be denied. →



The triple champ: MP4/2

Tech chief John Barnard was thwarted by the FIA's flat-floors diktat of 1983. All the aggro his computer/windtunnel approach had caused; the wedge it had driven between old McLaren and new; the rows with Porsche over twin-turbo 80-degree V6s; plus all those all-nighters. It had all been for nothing. His big idea – a turbocharged F1 car with ground-effect underbody tunnels – had been sucked out to sea.

But all was not lost. The success of his MP4/2, B and C, are ample proof of that. As Barnard said: "I underestimated the value of a purpose-built engine. Ours was a stressed unit. And it was compact, with ancillaries in front and thus out of the way of its turbos. These factors allowed me the design scope to do aero in an area that you couldn't do with other engines."

He was referring to the 'Coke bottle' shape – first used on his 1983 MP4/1C and indicative of his approach: think hard, act late and decisively – unless railroaded by a driver with clout.

That was Niki Lauda. He explains: "I went to Marlboro and said, 'If this turbo car does not

start in 1983, you won't win in '84.' So Marlboro told McLaren, 'We don't pay you if you don't do what Lauda says.' Ron and John were upset like you wouldn't believe. But at the last race that year, I was really leading. I didn't finish – but this was the beginning of an unbelievable car."

"The TAG turbo had enough bhp in race trim to make it a winner"

Introduced four races before the end of the 1983 season, the interim MP4/1E – '83 chassis meets '84 engine – offended Barnard's perfectionism. But he admits that important lessons were learned for the MP4/2, designed as an integrated whole with the new engine.

Once Barnard had impressed upon Porsche – McLaren and project partner Techniques d'Avant Garde (TAG) were customers, therefore

always right – the parameters of packaging an F1 car as opposed to a voluminous sports-racer, Stuttgart produced, in conjunction with Bosch's ground-breaking electronic management system, the best-packaged, most efficient engine. The latter factor was vital as refuelling had been

banned and consumption reduced to 220 litres per race for 1984 – thence to 195 for '86. The TAG turbo had enough bhp in race trim to make it a winner.

It was helped in this respect by Prost's return from Renault.

He won seven times in 1984, to

Lauda's five, but it was Lauda who secured the title by a half-point. McLaren, meanwhile, took their second constructors' title.

As Lauda said: "It was a perfect job. My decision was to bring it early. But the rest, the team did; Barnard did. The engine was superb: good horsepower, good drivability. You needed a big rear wing, which Barnard did not agree with to start, to make it stable. There had to be lots of





John Barnard was the creator of the MP4/2, using the Porsche TAG V6 turbo to superb effect



aerodynamic changes to make the extra power go on the rear tyres. But it was the best car.”

The gamble had paid off. Dennis had freed Barnard’s mind and found the money – just in time – to pay for it. But it had cost Barnard a lot: “Come August, when we knew we had won the title, my brain turned to the next year: ‘Christ! I’ve got to do it all again.’ I found it draining.”

With a workforce of 75, he contented himself with evolution. He’d earned that because of the rightness of his original design. Plus his method of having separate body panels attached to a central tub gave greater aero flexibility. Rear winglets were banned, but repositioned mirrored turbos meant downforce could be regained by tweaking the Coke bottle and diffuser.

A new push-rod rear suspension with a slimmer anti-roll bar was fitted to improve traction, but the downforce lost, plus an enforced switch from Michelins to less grippy Goodyears, negated this. McLaren’s in-house braking system struggled to cope with rising speeds – this was the ‘Year of the Duct’ – and its

ageing F2-based gearbox remained a worry. But the MP4/2B proved good enough.

Barnard explained: “Our windtunnel, with its rolling road and the way we held and moved the model, gave us better understanding of a car’s on-track behaviour. Bumps did not completely upset our aero, so we could run softer springs, get good grip and give our tyres an easier time.

The MP4/2C of 1986 was good enough, too. For Prost at least – team-mate Keke Rosberg struggled with understeer. It had a six-speed adaptation of its transmission, but was outgunned by Williams’ efficient Honda V6s. As such, Prost’s path to a second title was a precarious one that only he could have clung to.

Barnard knew the MP4/2 had reached the end of its life and began work on a replacement – albeit for Ferrari. He had left McLaren mid-season after five years of success. The team were now too big for one man to rule the technical roost. The arrangement between Barnard and Dennis, a perfect fit for a burgeoning kingdom, was unsuited to the running of an empire.



GREATEST VICTORY

1986 AUSTRALIAN GRAND PRIX

Prost had no right to be battling for the title at the final round. The Williams of Nigel Mansell and Nelson Piquet were much faster, yet the Frenchman had extracted the maximum from a three-year-old design that continued to surprise. McLaren hatched a plan and Keke Rosberg ignored his fuel read-out in a bid to lure Williams into a fight. He led his final GP for 57 laps before a rumbling puncture convinced him his engine had blown. Now it really kicked off. Prost suffered a puncture and pitted for a set readied for Keke. Mansell suffered a blowout. Piquet pitted to prevent one. And Prost, praying his read-out was incorrect, crossed the line to take a second successive title. →

The dominator: MP4/4

This car was so long, low and mean, it would have been memorable even if it had won nothing. It was also beautiful – uncluttered in the final days before unfettered aerodynamic tweakery. That it fought the most dominant F1 campaign ever, made it unforgettable.

McLaren had doubled in size since the early days of the TAG turbo, yet Ron Dennis felt that a long-term technical partnership with a major manufacturer was needed. Total independence threatened isolation. So he wooed Honda from Williams – and Senna from Lotus-Honda.

Previously he had persuaded Brabham's ace innovator Gordon Murray to stay in F1 with McLaren for three more years at least. The days of one-designer bands were over, hence Steve Nichols, a protégé of John Barnard, was project leader on the MP4/4, Matthew Jeffreys did its front suspension, David North, also ex-Brabham, did its rear suspension and transmission, Bob Bell oversaw aero – and the end result resembled Murray's 1986 'lowline' Brabham BT55.

It was Murray who persuaded Honda to drop its crankshaft centre-line by 28mm – helped by new smaller-diameter clutches – and whose contact with US transmissions expert Pete Weismann, an old mate, led to the creation of the radical three-shaft six-speed gearbox.

Murray explained: "We tested it the week before the first race. Honda had lowered the crank, which was brilliant, but it meant the driveshafts were at a steep angle. They wouldn't have lasted a race. So we went ahead with the world's first absolutely dry-sump gearbox. It made a racket that never went away. At the first race, the other teams heard this rattle from our garage and thought, 'That won't last.' But it did."

Reliability was a major strength of an otherwise relatively straightforward car. Tech

Honda had created 900bhp at 13,250rpm from 37.5 per cent less boost – 2.5 bar was now the maximum – and 21.5 per cent less fuel for a race: down from 195 litres to 150. The aim was to bring the 3.5-litre atmo cars of Benetton, March and Williams – 40kg lighter and unrestricted on fuel – into the game. But even when Senna and Prost *did* face fuel deficits, the MP4/4 always had enough in the locker.

It wasn't just a case of McLaren defeating less powerful machinery. Ferrari had a turbo. So did

"The MP4/4 registered two fewer points than all its rivals combined"

chief Murray had brought greater rigour to the logging of problems and lifing of parts. As he explained: "When I arrived in 1987, I asked to see the sheets for all the failures. Not just the gearbox, everything: cracked wishbones, failed joints, engine problems. They didn't have any notes. So that first year I kept a record: of 74 failures. We had just 14 the following year because we had systems in place."

It helped that the engine was relatively unstressed at the new reduced boost limit.

Arrows. And Lotus had exactly the same Honda unit as McLaren. Yet still there was no contest.

Prost knew the MP4/4 was a winner from the word go. His only complaint was its supine driving position. That changed when he saw the windtunnel figures: a ten per cent reduction in frontal area and six per cent boost in lift-to-drag ratio. "Because I am quite small I had to go a little towards the front and my feet were exactly where the suspension points were," said Prost. "I had very little space. That was a big problem,



but it wasn't something I could explain inside the team. It would seem an excuse – but it was genuinely quite difficult for me.”

Prost gave the car a winning debut at Rio. Thereafter, a mid-season surge by Senna had him conceding title defeat with five races to go. But then a front-suspension geometry change that suited his style allowed Prost a rally. He took 11 more points gross than his team-mate, but three fewer net (thanks to the scoring regime at the time): so Senna was crowned champion.

The MP4/4 registered two fewer points than all its rivals combined. So the win that got away stuck out like a sore thumb. After an unchecked, fuel-thirsty scrap with Prost in the first part of the Italian GP, Senna was running reduced boost. Feeling vulnerable to the Ferraris closing in on him, he collided with the Williams of Jean-Louis Schlesser. Meanwhile, a plug failure had already put an end to Prost's race.

Murray said: “It would have been nice to win them all, but I was more pissed off with the spark plug than with Schlesser. That was not our doing either, but it was a mechanical failure.”

Big-business budgets and an industrial-sized workforce with an unblinking eye for detail and unquenchable thirst for success lay behind the MP4/4 – and pointed to what lay ahead for F1.



GREATEST VICTORY 1988 JAPANESE GRAND PRIX

They both needed to win – Ayrton

Senna and Alain Prost – if they wanted to become world champion. The latter had revived his title hopes with consummate victories in Portugal and Spain, and the pressure appeared to be getting to his team-mate. Senna stalled at the green light, rolled down the slight incline at Suzuka, bumped his Honda turbo, and arrived at the first corner in 14th place. He was eighth by the end of the first lap. Twenty-seven laps later, his astounding commitment saw him take the lead from Prost, who was hampered by gear-selection woes and had no answer to Senna when the track became slick with rain. Ayrton wanted it more. No question. →



McLaren M23

Designer Gordon Coppuck
Engine Ford Cosworth DFV V8
Cubic capacity 2,993cc
Carburetion Lucas fuel injection
Power output 465bhp
Transmission Hewland FG400 6-speed
Front suspension Upper rocker arm operating inboard coil spring/damper, lower wishbone, anti-roll bar
Rear suspension Adjustable top link, parallel lower links, twin radius rods, coil spring/damper, anti-roll bar
Brakes Outboard/inboard ventilated discs
Tyres Goodyear
Wheelbase 271.8cm
Length 419.1cm
Width 208.3cm
Height 91.4cm
Track front/rear 163.1/165.1cm
Weight 587kg



McLaren MP4/2

Designer John Barnard
Engine TAG-Porsche Turbo TTE PO1 V6
Cubic capacity 1,496cc
Induction Twin KKK turbos
Power output 750bhp
Transmission McLaren/Hewland 5-speed
Front suspension Double wishbone, push-rod operating inboard coil spring/damper
Rear suspension Upper wishbone/rocker arm operating inboard coil spring/damper, lower wishbone
Brakes Outboard SEP carbon discs/McLaren twin caliper
Tyres Michelin
Wheelbase 276.8cm
Length 434.3cm
Width 213.3cm
Height 99.1cm
Track front/rear 181.6/167.6cm
Weight 540kg



McLaren MP4/4

Designer Steve Nichols/Gordon Murray
Engine Honda RA168E Turbo V6
Cubic capacity 1494cc
Induction Twin IHI turbos
Power output 900bhp
Transmission McLaren 6-speed
Front suspension Double wishbone, push-rod/roller track system operating inboard coil spring/damper
Rear suspension Upper wishbone/rocker arm operating inboard coil spring/damper, lower wishbone
Brakes Outboard SEP carbon discs/McLaren twin caliper
Tyres Goodyear
Wheelbase 287.5cm
Length 439.4cm
Width 213.4cm
Height 94cm
Track front/rear 182.4/167cm
Weight 540kg



GREATEST McLAREN STATISTICS

M23 (1973-'77)

World championships 3
 1974 Constructors'
 1974 Drivers' (Emerson Fittipaldi)
 1976 Drivers' (James Hunt)
Starts 147 – excluding 17 privateers
First start 1973 South African GP (Denny Hulme)
Final start 1977 Italian GP (Bruno Giacomelli)
Wins 16
Other podium finishes 21
One-two finishes 0
Pole positions 14
Fastest laps 10
Laps led 589
First lap led 1973 South African GP (Denny Hulme)
Last lap led 1977 Belgian GP (Jochen Mass)
Points
 Constructors' 267 Drivers' (319)

MP4/2/B/C (1984-'86)

World championships 5
 1984 Constructors'
 1984 Drivers' (Niki Lauda)
 1985 Constructors'
 1985 Drivers' (Alain Prost)
 1986 Drivers' (Alain Prost)
Starts 95
First start 1984 Brazilian GP (Niki Lauda/Alain Prost)
Final start 1986 Australian GP (Alain Prost/Keke Rosberg)
Wins 22
Other podium finishes 20
One-two finishes 6
Pole positions 7
Fastest laps 16 Laps led 996
First lap led 1984 Brazilian GP (Niki Lauda)
Last lap led 1986 Australian GP (Alain Prost)
Points
 Constructors' 329.5 Drivers' 324.5

MP4/4 (1988)

World championships 2
 1988 Constructors'
 1988 Drivers' (Ayrton Senna)
Starts 32
First start 1988 Brazilian GP (Alain Prost/Ayrton Senna)
Final start 1988 Australian GP (Alain Prost/Ayrton Senna)
Wins 15
Other podium finishes 10
One-two finishes 10
Pole positions 15
Fastest laps 10
Laps led 1003
First lap led 1988 Brazilian GP (Alain Prost)
Last lap led 1988 Australian GP (Alain Prost)
Points
 Constructors' 199 Drivers' 177



SERIOUS HEAD PROTECTION



Then... *STAR CLASSIC*

RUSH IN THEATRE SEPT. 2013



And Now...

HP7

James Hunt

www.rushmovie.com

[rushmovie](https://www.facebook.com/rushmovie)



Available at your local BELL dealer!
WWW.BELLRACING.INFO

THE AYRTON SENNA I KNEW



Ayrton Senna claimed all three of his world championships in a McLaren, and was arguably the team's greatest driver. Here Ron Dennis, the architect of modern McLaren, speaks frankly about their time together

WORDS RON DENNIS PICTURES LAT

Ayrton had the towering confidence that accompanies great skill – an outsider might have interpreted that level of confidence as arrogance, but everyone who worked closely with him saw how hard he worked to be the best, to maximise the potential of his remarkable natural gifts. They also learned that he was a caring person, a team player and someone who was prepared to admit when he was wrong.

I must confess I did not recognise this during our initial encounter. I met him when he was a young guy making the transition from Formula Ford to Formula 3; I offered to pay him for his

season in the F3 championship in return for an option on his services in Formula 1. He was very clear in telling me that he would pay for his own F3 season and did not want anything but a guarantee of a drive in F1 – he certainly was not interested in an option.

That was our first encounter and definitely, when we parted, I thought, 'What an arrogant young man!' – because, at that stage, although he had the self-belief that he was going to be a tremendous F1 driver, he had yet to prove himself. Actually, it was a portent of what was to come when we worked together and had to →

Team boss Ron Dennis, with Ayrton Senna: they worked together at McLaren over six intense seasons







WITH AYRTON
IN BRAZIL '88



OPENING 1990 WITH
VICTORY AT US GP

arrive at mutually agreeable contracts – a procedure that became an enjoyable if occasionally brutal challenge. Ayrton was a fine negotiator and he invested the same focus and thought into that process as he did with his driving – and he was just as determined to win.

Our contract meetings stretched over a series of days, moving backwards and forwards. We would usually meet at midday. Then I would go back and attend to other aspects of the McLaren business and he would drive back to his house in Esher and spend the next 24 hours deciding how to position himself for the next round. How we structured the contract regarding non-financial matters was quickly established; it was the question of financial compensation that took longest to resolve.

As is perhaps now well known, we reached deadlock over the matter of half a million dollars. While this was not a trivial amount of money, it was not a deal-breaker in itself for me and I do not believe it was for him, either. It had become a point of principle, after our protracted negotiations, about who would actually win this final phase. In essence, he was sitting there thinking, 'I will drive for McLaren even if I have to drive for half a million less,' and I was thinking, 'We want him to drive for McLaren, so I am prepared to give him half a million more.'

The moment came when I suggested that since we both had a very firm position, we could

break the deadlock by tossing a coin. His English was not perfect at that stage, and tossing coins was something that did not happen in Brazil, so it took a while to explain the concept. Then it got quite serious: we realised that we should be very clear about the rules, so I literally had to draw a picture of a head and a tail and select a coin and say this is you, this is me, it cannot land on the

"Negotiations with Ayrton were an occasionally brutal challenge"

side, it has to be flat. Even when we had got the rules and been over them several times to make sure there was no misunderstanding, there were other details to resolve – who was going to toss the coin, and were we going to catch it or let it fall to the ground?

My office in those days was very small and it was fitted with a brown shagpile carpet, so it was not an optimal environment for the activity in

which we were about to engage. We threw the coin and, amazingly, it rolled under the curtain, out of sight. As we jumped up I said: "Just remember, if it lands on its side it doesn't count." Ayrton lifted the corner of the curtain and there was the coin, clear-cut flat. I had won and Ayrton honoured the agreement without complaint, even though it actually cost him \$1.5 million in all because it was a three-year contract.

Strangely, while my memories of all the other details of this encounter are very clear, I cannot recall which side up the coin landed. And I do not want to make it up.

Ayrton was a very intense personality and when he first arrived at McLaren he did not seem to have a sense of humour, which was not ideal in our organisation. While many people consider us grey, uninteresting and lacking passion, I can assure you we are not like that. So we tried to give him an understanding of the value of laughter and what a great way it is to break tension in a situation, and this became an amusing mission for Gerhard Berger and me. Practical jokes ran consistently through the team – and they were extreme. Once Ayrton realised that this had an element of competition about it – who could do the most outrageous thing to the other – then he very much entered into the spirit. It removed a lot of the tension that can come about between drivers and management



Senna in his McLaren at the start of the 1988 Brazilian GP, with trusted aide Jo Ramirez shown crouched to the right

and was a good adhesive in the relationship. It gave him the environment in which to open up.

At the Mexican Grand Prix one year, we all went out to dinner. As we were waiting for the meal to arrive at the table, we were given crackers and a range of hot sauces to dip them in. Naturally, a dialogue took place with the waiter about which sauce was the hottest, and everybody tried a bit. It was genuinely eye-watering and Ayrton said: "I could not take any of that. I'm from Brazil and I like spicy things, but I can't eat it." So I said I could eat the whole bowl for \$1,000.

Ayrton took the bet. Not that either of us was carrying that sort of money.

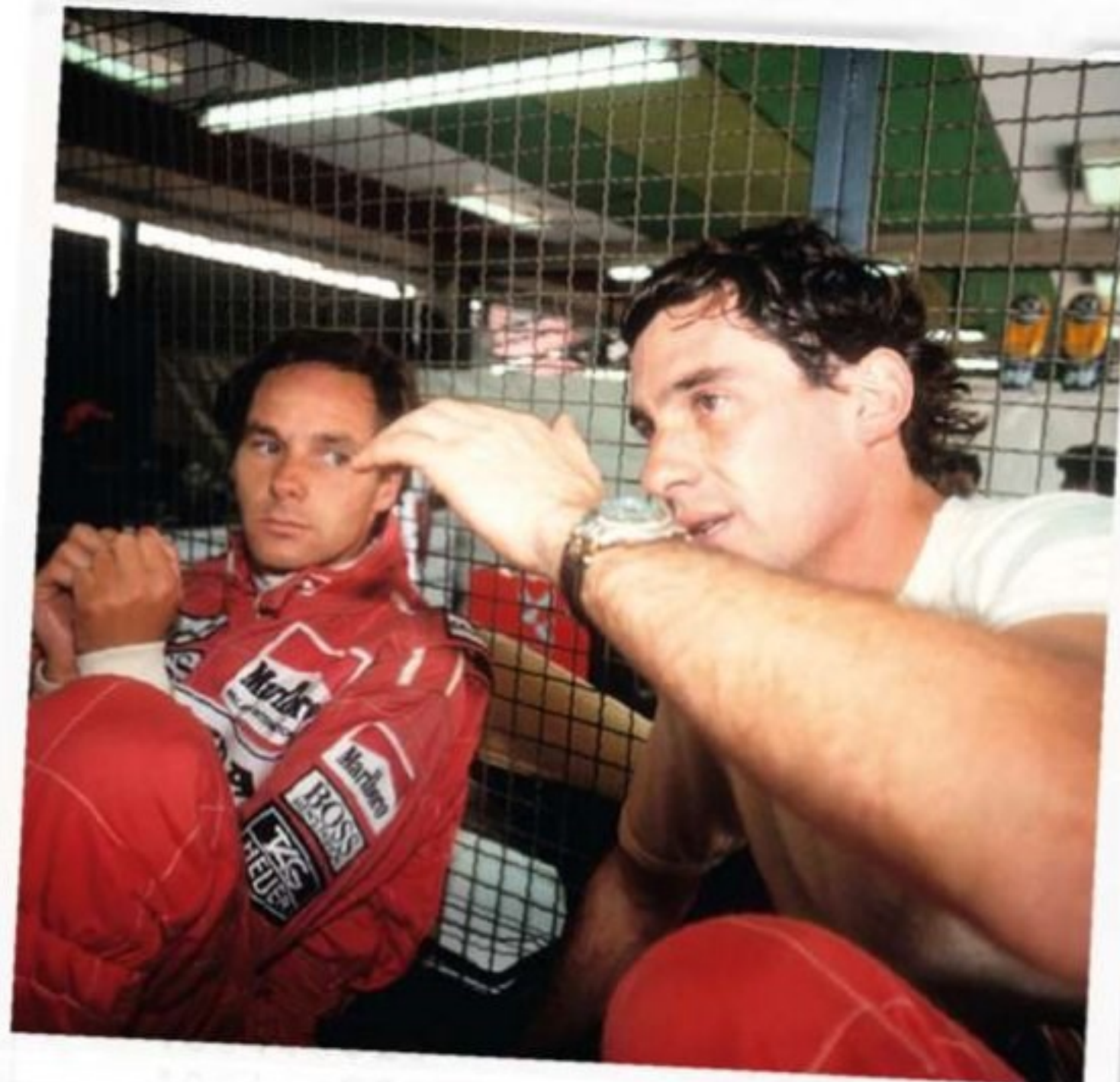
He hesitated, perhaps thinking he had been ensnared in this battle, but he did not back out. I realised I had to arrive at a strategy: clearly it was not going to kill me but it was going to burn, so if I ate it very, very quickly then before the chemicals started to work it would be inside me and I would ultimately be \$1,000 better off. To Ayrton's surprise I took a spoon and ate it as fast as I could. I suffered the initial aftershock but it was comfortably balanced with the thought of having won the bet. By drinking water for the

next half an hour I managed to neutralise the chemical effects, so after a subsequent couple of glasses of wine, I thought: 'This is the easiest \$1,000 I had ever earned.' I need not go into the details of how, a few hours later, this proved not to be the case, and I certainly never told Ayrton.

As with many of the practical jokes that took place, the most important thing was never to admit that you had been 'got'. You would go to great lengths to conceal the consequences and just focus on quietly planning the next onslaught. When Gerhard stole Ayrton's passport and replaced the photograph with →



SUZUKA 1990 AFTER
COLLISION WITH PROST



WITH FRIEND BERTER,
SILVERSTONE 1990

a pornographic image, causing him to be detained in Argentina for 24 hours, Ayrton didn't mention it for months...

So, yes, Ayrton was competitive in every aspect of his life. Although I have worked with only a limited range of drivers, it's my belief that he pioneered the modern approach to physical conditioning. He realised that if he could bring himself to the maximum level of physical fitness it would positively influence his driving. Again, it was part of his obsession about being the best. With his body working at its peak he was capable of remarkable mental acuity. Today we talk of visualisation; he invented it. He really was able to mentally drive a lap, to plot those areas where he needed to fight the car as opposed to controlling the car as opposed to going with the car – and he had that great ability to cope with adversity. The difference between good drivers and *great* drivers is being able to win with a car that isn't perfect. Very often we would know we were racing with a tyre that was going to give up after a few laps, or that there was a particular weakness on the car that had to be addressed by the driver.

Racing was always an emotional roller coaster for Ayrton. He was unique in the sense of how much of an adrenaline rush he used to get, not just from winning races, but also from fantastic qualifying laps – and, of course, world championships. And he was never comfortable

with wherever he was; he would certainly have moments that were very difficult, and I observed that first-hand following his collision with Alain Prost at Suzuka in 1989. He was deeply affected by the unfairness that took place after that particular race – in fact, he was going to retire, and it took a great deal of effort on my part to convince him to come back and race.

"Today we talk of visualisation; Ayrton invented it. He really was able to mentally drive a lap"

That is the sort of person he was. If he found himself feeling that circumstances were unjust – not always matters that directly affected him, but also things that affected motor racing in general or other drivers – he would be deeply influenced by it and would be more than prepared to put his own views forward in a constructive way. Although it was not my perception that he was as deeply religious as

his sister Viviane, with her encouragement he used the impartiality of the Bible as a sort of guidance to his own life.

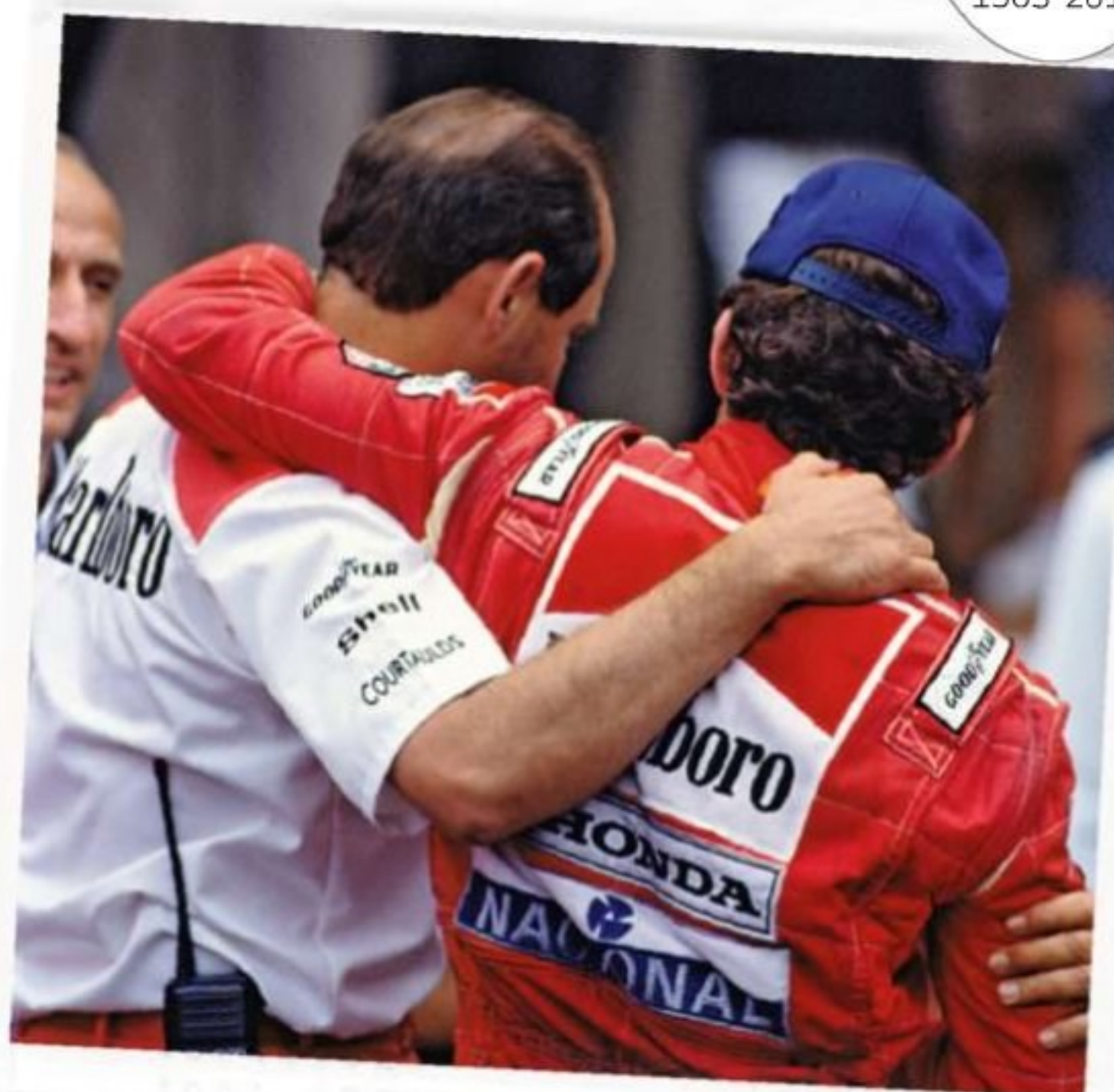
Was he extreme? Most definitely not. He had a mistrust of virtually all humans and it took a lot of time to understand him and to develop mutual trust and respect; he would not tolerate fools and he would occasionally make mistakes in relationships with people, people who were polished in their approach to developing friendships. Inevitably they would let him down and he would switch off to those individuals.

People often ask how to reconcile this with events such as the collision between Ayrton and Alain on the opening lap of the 1990 Japanese Grand Prix. I believe he may have been following the section in his own particular manual, which said 'an eye for an eye, a tooth for a tooth'. He was, I think, trying to find a way to justify a behaviour that he wasn't particularly comfortable with, but that he felt was a way of balancing the books after Suzuka '89. The conversation that took place between us was not inconsistent with our common view that we do not win at all costs, and I do not think that he was proud of that particular judgement. It was not one of his finest moments.

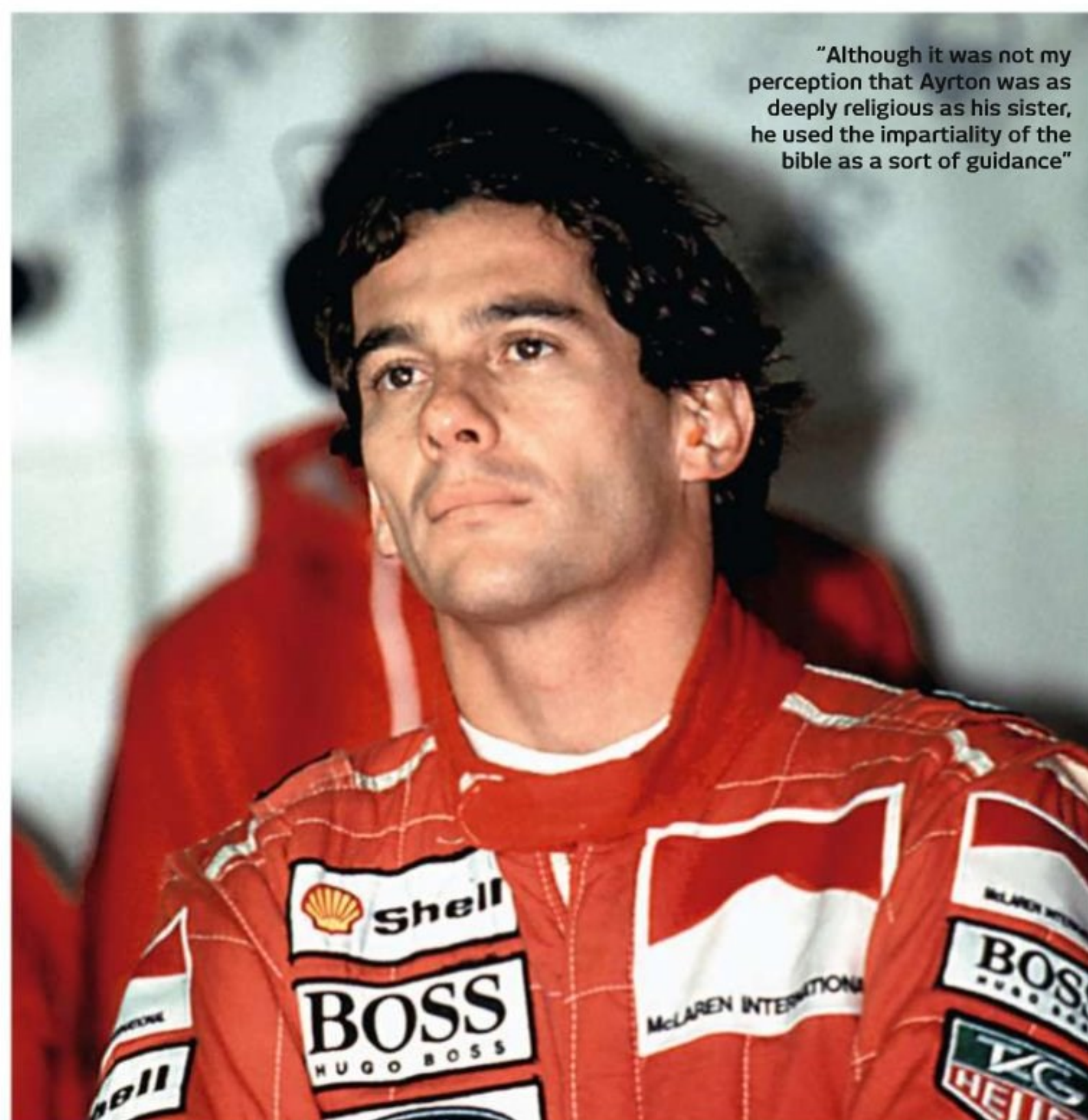
The night before and the night after his final race with us, the Australian Grand Prix in 1993, we talked about whether we should try to extract him from his contractual obligation to Williams.



ADELAIDE '93: AYRTON'S
LAST RACE FOR MCLAREN




AYRTON'S THIRD WIN
AT MONACO, 1990



"Although it was not my perception that Ayrton was as deeply religious as his sister, he used the impartiality of the bible as a sort of guidance"

He had regained a huge amount of confidence in McLaren's ability to provide him with a winning car. By the end of that post-race evening, neither of us was particularly lucid – it had lapsed into emotion – but he was an honourable guy. He had made a commitment to Williams, and while he definitely reviewed it, I don't think there was any set of circumstances in which he would renege on his word – because his word was more important than anything he had signed.

I don't think Ayrton ever had a plan to stop but clearly he was heavily drawn back to Brazil. He would go to tremendous lengths to get back – even for 24 hours. He was proud to be Brazilian and very mindful of the fact he could change things there; that was very attractive to him. He wasn't interested in moving into team management – he didn't like the environment of grand prix racing from a non-driving standpoint. He would have been a superb businessman.

Ayrton lost his life doing something he was passionate about – racing was his life to the exclusion of many things that other drivers enjoy on a regular basis. He was completely dedicated, completely focused, and derived tremendous satisfaction and uplifting emotional experiences out of racing and winning races. And he has left a tremendous legacy, not just in terms of his mark on the sport but in the work of the Senna Foundation, which Viviane has continued with great dedication. 

GO FIGURE

As McLaren celebrate 50 years in the business, we've got their number...



drivers have started a GP for McLaren, with another four racing privately entered McLaren cars

CANADA
1972

77

MONACO
1966

77 races between the team's **Monaco debut** in **1966** and their first **pole position** at **Mosport** in **1972**, thanks to **Peter Revson**

1958

The year team founder **Bruce McLaren** came to **Europe** as part of the New Zealand Grand Prix Association's '**Driver to Europe**' scholarship

73

The number of times a McLaren driver has **won** a race from **pole position**

60

The number of races **Ayrton Senna** led for McLaren: **12** more than **Mika Häkkinen** and **Lewis Hamilton**



The limited **top speed**, in miles per hour, of McLaren's new **supercar**, the **P1**, their third road car, following on from the **F1** and the **MP4-12C**



1968
Bruce
McLaren

SIXTEEN THOUSAND

The **number of days** from the team's first win, the 1968 Belgian

3

The number of series to which **McLaren** supply control **ECUs**: **F1, Indycar** and **NASCAR**



The **percentage of races McLaren** have either **won** or **finished on the podium** (583 out of 887)

46

The number of different **circuits** at which **McLaren** have won **F1 GPs**

The number of **points scored** by **Lewis Hamilton** while driving for McLaren: he's **the top points scorer** in their history

913

1988 → 1991

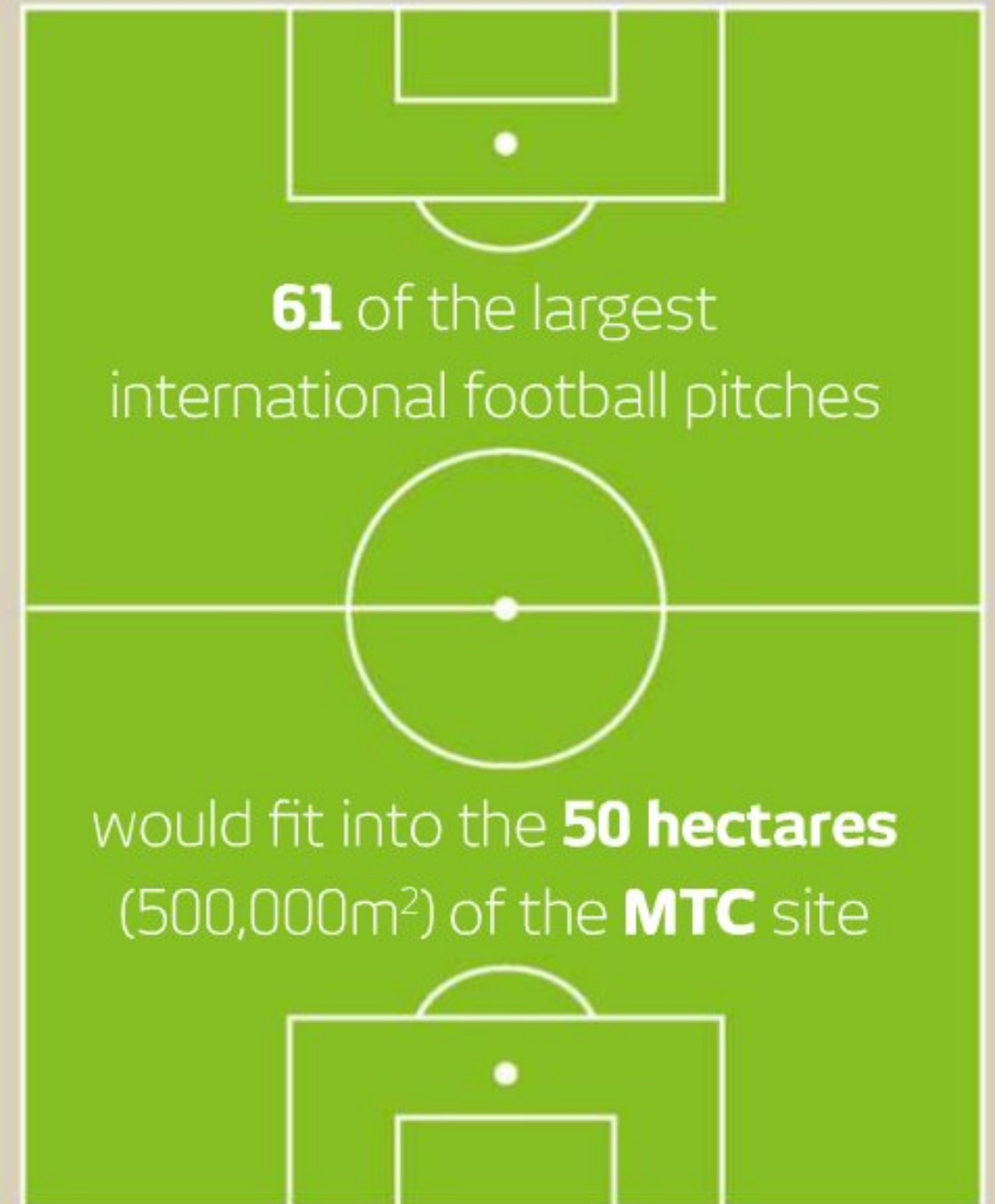
The spread of years in which McLaren won **consecutive constructors' championships**, with returning-for-2015 engine partner **Honda**

77.5 miles

The distance by road **from the MTC in Woking to Silverstone** – the longest commute to the British GP of all the British-based F1 teams

23

The number of seasons, **(1974 to 1996)** that the team were sponsored by **Marlboro cigarettes**



SIX HUNDRED AND FIVE



GP (Bruce McLaren) **to their last win**, the 2012 Brazilian GP (Jenson Button)

2012
Jenson
Button

MEXICAN WAVE

After joining McLaren's Sergio Pérez on a trip home and witnessing 'Checo-mania' first hand, we wonder how much longer Mexico will be without a grand prix...

WORDS TOM CLARKSON
PORTRAIT GLENN DUNBAR/LAT

Bernie, if you're reading this, may we be so bold as to proffer a piece of advice? Get a Mexican Grand Prix back on the calendar as soon as possible. After 20 years GP-free, the country is hungry for motor racing, and Formula 1 in particular. Mad for it, even.

During a recent two-day visit to Mexico City, *F1 Racing* was surrounded by people celebrating speed: the rental-car guys at Mexico City International Airport waxed lyrical about their braking techniques in an Opel Corsa; the concierge in our hotel flicked continuously through racing magazines; and we were told that more than one million people lined the route of last year's La Carrera Panamericana road race, the Mexican equivalent of the Mille Miglia. →





Pérez rekindled Mexico's dormant passion for F1 and is now much in demand as a national icon



From these green shoots, F1 can blossom again in Mexico, Bernie, but if you need more evidence look at the nationalities of those attending last year's US GP. Tens of thousands of Mexicans made the trek across the border to Austin, Texas, and even more are expected to attend the race this year, now that Sergio 'Checo' Pérez is driving for McLaren.

There's no doubt that Mexico's renewed enthusiasm for F1 centres around one man, but we should remember that the country has a deep-rooted love of the sport. Mexican F1 racers the Rodríguez brothers had a cult following in the '60s and the country's interest in F1 continued to grow after their deaths, despite a dearth of Mexican F1 drivers for the next 40 years (with the brief exception of Héctor Rebaque). The sport's popularity peaked in the early '90s in the fevered atmosphere of the Autódromo Hermanos Rodríguez (see [page 71](#)), but the race was then removed from the F1 calendar because the circuit's facilities weren't up to scratch.

Twenty years on and there's still no Mexican Grand Prix, but the race looks increasingly likely to return now that Mexican pesos are flowing into the sport on the coat tails of Checo Pérez. And from a dearth of Mexican racers, we now have a comparative glut. When Pérez moved from Sauber at the end of last year, he was replaced by countryman Esteban Gutiérrez, who, like Checo, is sponsored by Mexican telecom giant, Telmex. After 30 years without a single home-grown racer, Mexico now has two.

Pérez is recognised as the country's second most famous sportsman, after Manchester United footballer Javier Hernández, and with a continued push from his Mexican sponsors, Checo's fame will only increase. A race win in F1 would send his popularity into the stratosphere.

But even without a race-winning car, Pérez is laying the foundations for Mexico's long-term F1 future. On a recent

two-day visit to Mexico City, he carried out a total of 12 PR functions – all geared towards raising both his and F1's awareness in Spanish-speaking Central America. Few drivers would have put up with such an intense workload, but Checo understood the bigger picture.

"I haven't been home since before the start of the season," he says, "so this was always going to be a busy trip. There's a lot of interest in me in Mexico, which is good. It's important to give the sponsors what they need, because the economy in Mexico is doing well and there's a lot of enthusiasm for F1. I hope to see an F1 race here soon because the people would love it and it would be a great opportunity for the country."

It is a surprisingly statesmanlike speech for a 23-year-old, but then Pérez is well advised. The former president of Mexico, Felipe Calderón, was his guest at the Canadian Grand Prix, and Telmex CEO Carlos Slim, the world's richest man

Pérez announces a scholarship scheme in Mexico with Santander: one of a staggering 12 PR events in a two-day visit home





(worth a cool \$73billion), is a family friend, who funded Checo's career from karting through to F1. Both of these men have huge political clout and will have a say in whether or not F1 returns to Mexico in the near future.

Slim has funded a lot of building projects throughout Mexico and speculation has been mounting that he wants to redevelop the Autódromo Hermanos Rodríguez into a sports übercomplex. The focal point would be a state-of-the-art Formula 1 circuit, but there would also be football stadia and hotels on the same site. According to sources, we should expect an announcement – one way or the other – before the end of the year.

But Pérez doesn't have influence only by association – he's every bit a megastar in his own right. Since joining McLaren, he's become front-and back-page news: the tabloids want to know about his love life; the sports writers want to know about his driving; and he's proved the adage 'race on Sunday, sell on Monday' to be true, since McLaren Automotive have enjoyed a spike in sales of their MP4-12C in Mexico. Everyone wants their two penn'orth, which is why Checo's employed a PR guy – an old school friend – to deal with their demands.

"There has been a lot more interest since I joined McLaren," he says. "They're one of the biggest teams in F1 and people expect me to win. Of course it's frustrating that the car isn't fast enough to win at the moment, but I think the press understand. They are being patient; I think it's only in England that we get a hard time."

"I hope to see a grand prix here soon. It would be a great opportunity for the country"

Sergio Pérez

An F1 Racing vox pop near the Castillo Chapultepec in downtown Mexico City is emphatic in its conclusions about Checo's popularity. Girls blow kisses at a photograph of him and men shout "Go Checo!" When a waitress learns why we're in town, she asks us to get Pérez's autograph for her. Even the media uses its contacts to get up close and personal.

Take the filming of an advert for Claro Video, the Mexican equivalent of YouTube, on day one of Checo's whirlwind tour

of Mexico City. It's not a long ad and could easily be shot by a crew of ten, but more than 100 people turn up to 'work' on the set. Most are there only for Checo's autograph, yet he deals with the extra attention effortlessly. He signs autographs, poses for photos and talks to the right people in the right way. He shakes hands with some, giving others a more informal hug.

The McLaren marketing team comment on how good he is with their sponsors; the sponsors comment on how he delivers what they want time

after time – although that isn't always hard. In the Claro Video advert he has to eat three pieces of popcorn and deliver a single line of dialogue in the direction of a television. "This is a good one," he says, "because I like popcorn!"

Checo travels to each of the events in a bulletproof car and has a couple of bodyguards accompanying him. At no point is he threatened during the trip, but McLaren cannot take any chances. The team had a bad experience in 2010, when a car carrying Jenson Button was held up at gunpoint at Interlagos. The threat of being kidnapped is very real in Mexico, and Checo's would be a high-profile scalp. →





THE INSIDER'S VIEW ON F1

57:41

Formula One might have taken a break in August, but there was no such rest for *The Racer's Edge* team, as the online F1 show continued to bring viewers the latest news in a series of special episodes.

The month began with a Hungarian Grand Prix debrief, with host Peter Windsor being joined by *F1 Racing* magazine's editor Anthony Rowlinson. The pair discussed Lewis Hamilton's first win for the Mercedes team at the Hungaroring and his title prospects for the rest of the season.

For the following show, Peter's special guest was Alastair Caldwell, the former McLaren and Brabham team boss and star of the recent BBC2 James Hunt documentary. The two reminisced about the thrilling 1976 world championship, a season soon to be immortalised in the forthcoming film *Rush*.

With anticipation building ahead of the film's release, the Hunt-Lauda rivalry featured again in the Belgian Grand Prix preview episode of *The Racer's Edge*. Peter's guest Richard Wiseman spoke about his role as the

video archivist for the 1976 season, and about the historical footage which was used for the film.

The month ended with a special Q+A session with the key people behind the movie *Rush*, showing that *The Racer's Edge* is still the best place to get the latest F1 news and interviews, even when there's not much action happening out on the track!

The Racer's Edge is broadcast free on the internet; simply subscribe to our YouTube channel at youtube.com/peterwindsor. You can also download each episode from iTunes as audio or video files, or visit autosport.com to catch up with the latest episode.



For more information
[www.f1racing.co.uk/
global-fan-community](https://www.f1racing.co.uk/global-fan-community)





F1 Racing hitches a ride with Checo on a couple of occasions and he's great fun to be around. He cracks jokes at the expense of fellow drivers (Jenson in particular) and includes everyone in his entourage in the conversations, always asking for their opinion. He drinks a lot of water.

A crowd of well-wishers greets him at every venue and the flash of camera bulbs is constant. Fame through F1 is an unexpected bonus for Checo because he didn't dream of being a racing driver as a boy. Football was his bag back then; he dreamt of playing for his hometown of Guadalajara more than he did driving for McLaren, and getting him into a kart required his father Antonio to pay him 500 pesos per race.

"It's true I loved football," says Checo. "My father loves racing, so he suggested I try it. To begin with, I didn't care if I won; it was only when I'd been doing it for a few years and found I was quick that I started to take it seriously. Now I think about nothing other than winning in F1!"

His popularity at home is illustrated at the opening of a new Hugo Boss store in the city's exclusive Antara Fashion Hall. Local celeb Chacho Medina, Mexico's television chat-



show king, hosts the function and there are about 150 people milling about prior to Checo's arrival, snapping photographs of Chacho and of the McLaren show car on display. When Checo arrives via a side door, dressed in a dapper, made-to-measure suit, everyone surges towards him – and it's in that instant that the scale of his fame becomes apparent.

"Mexicans love Mexicans who perform on the international stage," says Chacho. "That's why Hernández is popular and it's the same with Checo. There's something impossibly glamorous about what he does and how he represents Mexico around the world."

In a country starved of its own grand prix, Mexicans make do with what they've got: Gutiérrez at Sauber and Pérez in the spotlight of a top team. That's why Pérez's fame outweighs his on-track achievements and that's why he could do for F1 in Mexico what Alonso has done for the sport in Spain. What he needs now is a Mexican GP to prove it. Over to you, Bernie. 🇲🇽

Mexico City: has an F1-mad population of 20 million and an F1 track long overdue an overhaul

AUTÓDROMO HERMANOS RODRÍGUEZ



The track: used more as a general recreation ground these days



The last time Formula 1 visited Mexico City, in 1992, the Autódromo Hermanos Rodríguez was located out of town, near the airport. The circuit now lies deep in the heart of the city, which has sprawled uncontrollably over the past 20 years to accommodate its 20 million inhabitants.

A sign welcomes you when you arrive, but as you turn off the highway it's not immediately obvious that you've arrived at a racetrack. Groups of teenagers practise dance routines in the car park and there are stalls selling drinks and hot dogs. The circuit is used for general recreation on weekdays.

On track there are scores of runners and cyclists, most of whom frown at our car as we venture onto the hallowed asphalt to complete a lap. On the infield, a football match is taking place; the players have dismantled a tyre barrier to use the tyres as goal posts.

It's sad to see such a lack of respect for a place with so much history, but the layout quickly puts a smile back on your face. The long pit straight, the fast changes of direction in the middle of the lap and the long final right-hander leave you dreaming about years past. Peraltada is much tighter than it looks on television, so how Nigel Mansell overtook Gerhard Berger around the outside in 1990 is even more of a mystery.



There's a lot of work to be done before Formula 1 can make a return to this circuit. The kerbs are too high, the run-offs inadequate – and what's left of the tyre walls definitely needs replacing. It'll be a big job, but not impossible. Although you wouldn't want to be the person telling the locals that they can no longer use the track in their lunch breaks.

F1 FAMILY TREES **McLAREN**

#2 in an occasional series

WORDS MARCUS SIMMONS

PHOTOS LAT ARCHIVE



COOPER 1966-67

Ron Dennis
Mechanic

Jochen Rindt
Young star

BRABHAM 1968-70

Ron Dennis
Mechanic

Jochen Rindt
Goes to Lotus in '69

Neil Trundle
Mechanic

Ray Jessop
Designer

Gordon Murray
Draughtsman

Peter Gethin
F5000 king

Howden Ganley
Mechanic and
F5000 racer

RONDEL 1971-73

Ron Dennis
Co-founder
'(Ron)'

John Hogan
Marlboro backing

Neil Trundle
Co-founder
'(Del)'

Ray Jessop
Designer

Tom Pryce
Driver (1973)

Tony Vlassopoulos
Director

Tim Schenken
Driver

Peter Gethin
Italian GP hero

Howden Ganley
Italian GP
nearly man

BRM 1971

PROJECT 2/3 1974-75

Ron Dennis
Team boss

John Hogan
Marlboro man

Neil Trundle
Mr fix-it

Ray Jessop
Designer

Tom Pryce
Driver

Tony Vlassopoulos
Moneyman

Tim Schenken
Director (TI)

Andrea
de Cesaris
F3 driver

Howden Ganley
Director (GA)

TOKEN 1974

TIGA 1978-9

PROJECT 4 1976-80

Dick
Bennetts
Engineer

Ron Dennis
In charge

John Hogan
Marlboro man

Neil Trundle
Leaves to set up
F3 team

Creighton
Brown
Joins '79

Niki Lauda
Procar
champ '79

Stefan
Johansson
F3 champ 1980

Andrea
de Cesaris
F2 ace 1980

McLAREN 1981-82

Ron Dennis
New MD

John Hogan
Marlboro man

Creighton
Brown
Director

Niki Lauda
Comeback
king of 1982

Steve Nichols
Designer

Andrea
de Cesaris
Crash tester
1981

WEST SURREY RACING 1983-1990

Dick
Bennetts
The guru

Ayrton Senna
Star pupil 1983

Mika Häkkinen
Star pupil 1990



McLAREN 1983-87

Ron Dennis
Team boss

John Hogan
Come to
Marlboro country

Neil Trundle
Gearboxes

Creighton
Brown
Director

Niki Lauda
Austrian hero
of 1984

Stefan
Johansson
Driver 1987

Steve Nichols
Designer

Mansour
Ojeh
TAG badge those
Porche engines

McLAREN 1988-92

Ayrton Senna
Brazilian hero
1988/90/91

Ron Dennis
The man

Neil Trundle
Gearboxes

Creighton
Brown
McLaren
Cars

Gordon
Murray
Designer

Martin
Whitmarsh
Operations

Steve Nichols
Designer

Mansour
Ojeh
TAG money

McLAREN 1993-2001

Mika Häkkinen
Finnish hero
1998/99

Ron Dennis
Grande
fromage

Tim Goss
Engineer

Neil Trundle
Gearboxes

Creighton
Brown
GT cars

Gordon
Murray
GT
designer

Martin
Whitmarsh
MD from
1997

Steve Nichols
Engineering
(leaves 2000)

Mansour
Ojeh
TAG man

McLAREN 2002-09

Ron Dennis
Battling
Max Mosley

Tim Goss
Chief
engineer

Neil Trundle
Gearboxes

Creighton
Brown
Dies 2006

Gordon
Murray
Leaves 2005

Martin
Whitmarsh
MD/CEO

Simon Roberts
General
manager

Mansour
Ojeh
TAG

Kimi Räikkönen
Heikki Kovalainen
Mika replacements

F1 RACING MAG

Matt Bishop
Editor-in-chief

McLAREN 2010-

Ron Dennis
Moved 'upstairs'

Tim Goss
Tech director

Neil Trundle
McLaren Heritage

Martin
Whitmarsh
Big chief

Simon Roberts
Operations
director

Mansour
Ojeh
TAG

Matt Bishop
Comms conductor



REVSON-MAYER FORMULA JUNIOR 1962

Peter Revson Driver
Teddy Mayer Putting team together
Tyler Alexander Putting team together
Timmy Mayer Driver

BRUCE McLAREN MOTOR RACING 1963-71

Bruce McLaren Visionary
Denny Hulme Superstar: joins in 1968
Peter Revson Can-Am hotshoe
Teddy Mayer Bruce's lieutenant
Tyler Alexander US programme
Timmy Mayer Bruce's protégé - killed in 1964
Alastair Caldwell Mechanic

McLAREN 1972-3

John Barnard Assistant manager
Denny Hulme Legend and inspiration
Peter Revson Ace driver
Teddy Mayer Chief
Tyler Alexander US programme
Alastair Caldwell Team manager



McLAREN 1974-5

John Barnard Assistant manager
Denny Hulme Retires end of '74
Dave Ryan Mechanic
Teddy Mayer Chief
Tyler Alexander US programme
Alastair Caldwell Team manager
Tim Wright Designer
Jochen Mass No.2 driver
Emerson Fittipaldi Brazilian hero 1974

McLAREN 1974-5

John Barnard Starts on new F1 car in '80
John Watson Driver 1979-80
Alain Prost Ace rookie 1980
Dave Ryan Mechanic
Teddy Mayer Chief
Tyler Alexander US programme
Alastair Caldwell Team manager
Tim Wright Designer
Jochen Mass No.2 driver
James Hunt British hero 1976

FITTIPALDI 1980

John Barnard Director/design
John Watson GP winner
Dave Ryan Mechanic
Teddy Mayer MD
Tyler Alexander Director
Tim Wright Designer
Adrian Newey Aero
Emerson Fittipaldi Fading star

MAYER MOTOR RACING 1984

Teddy Mayer Short-lived IndyCar team
Tyler Alexander Short-lived IndyCar team

HAAS LOLA 1984-86

Teddy Mayer Co-boss
Tyler Alexander Co-boss
Neil Oatley Designer
Adrian Newey Aero (1986)
Ross Brawn Aero

John Barnard Designer
John Watson Edged out after '83
Alain Prost French hero '85/86
Dave Ryan Chief mechanic
Neil Oatley Designer from '87
Tim Wright Engineer

BRAWN GP 2009

Alain Prost French hero 1989
Dave Ryan Chief mechanic
Tyler Alexander Special projects
Neil Oatley Designer
Tim Wright Engineer

Ross Brawn Team chief
Jenson Button British hero 2009

Pat Fry Suspension/engineer
Dave Ryan Team manager
Tyler Alexander Special projects
Neil Oatley Designer
Lewis Hamilton Karting boy wonder
Adrian Newey Tech director
David Coulthard GP winner
Mercedes Engines and part owner
Paddy Lowe R+D

Juan Pablo Montoya Square peg in round hole
Pat Fry Chief engineer
Mike Coughlan Chief designer
Dave Ryan Team manager
Tyler Alexander Special projects
Neil Oatley Design director
Lewis Hamilton British hero 2008
Adrian Newey To Red Bull in '06
David Coulthard To Red Bull in '06
Mercedes Engines and part owner
Paddy Lowe Engineering director

STEFAN GP

Mike Coughlan Joins phantom team
Dave Ryan Stefan claim he is joining them: he isn't

RED BULL

Adrian Newey Wizard
David Coulthard Off to the DTM

Steve Cooper Lead guitar

Steve Cooper Bloke you see behind Jenson on the telly

Sergio Pérez Lewis replacement
Neil Oatley Design & development director
Lewis Hamilton Tempted away 2013
Mercedes Backing out
Paddy Lowe Tech chief (leaves 2013)
Jenson Button Laid-back dude

The man machine



PHOTOS
DARREN HEATH

McLaren's MTC HQ can appear an austere, though stunning, corporate edifice from without. But behind its smoked-glass-and-steel skin lies a race team's beating heart...



'Cleanliness' is the watchword at the McLaren Technology Centre; race preparation bays (main) are kept spotless, and messy processes such as tooling (right) occur out of sight



Model-makers (left) prepare the 'carrier' – a 50 per cent scale titanium frame to which bodywork is attached for aero evaluation. McLaren's windtunnel was the first part of the site to go live

In race control (right), experts in applied mathematics use incoming telemetry data to adapt their pre-race strategy simulations in real time – and feed back to senior staff on the pitwall





JOIN IN OUR 50TH ANNIVERSARY CELEBRATIONS



McLAREN 50TH BY HUNZIKER
T-SHIRTS £34.95



JAMES HUNT RACING COLLECTION
T-SHIRTS £34.95 CAP £27.95

McLAREN 50TH APPAREL
FROM £29.95



McLAREN WORLD DRIVER CHAMPIONS' HELMETS
£89.95 EACH

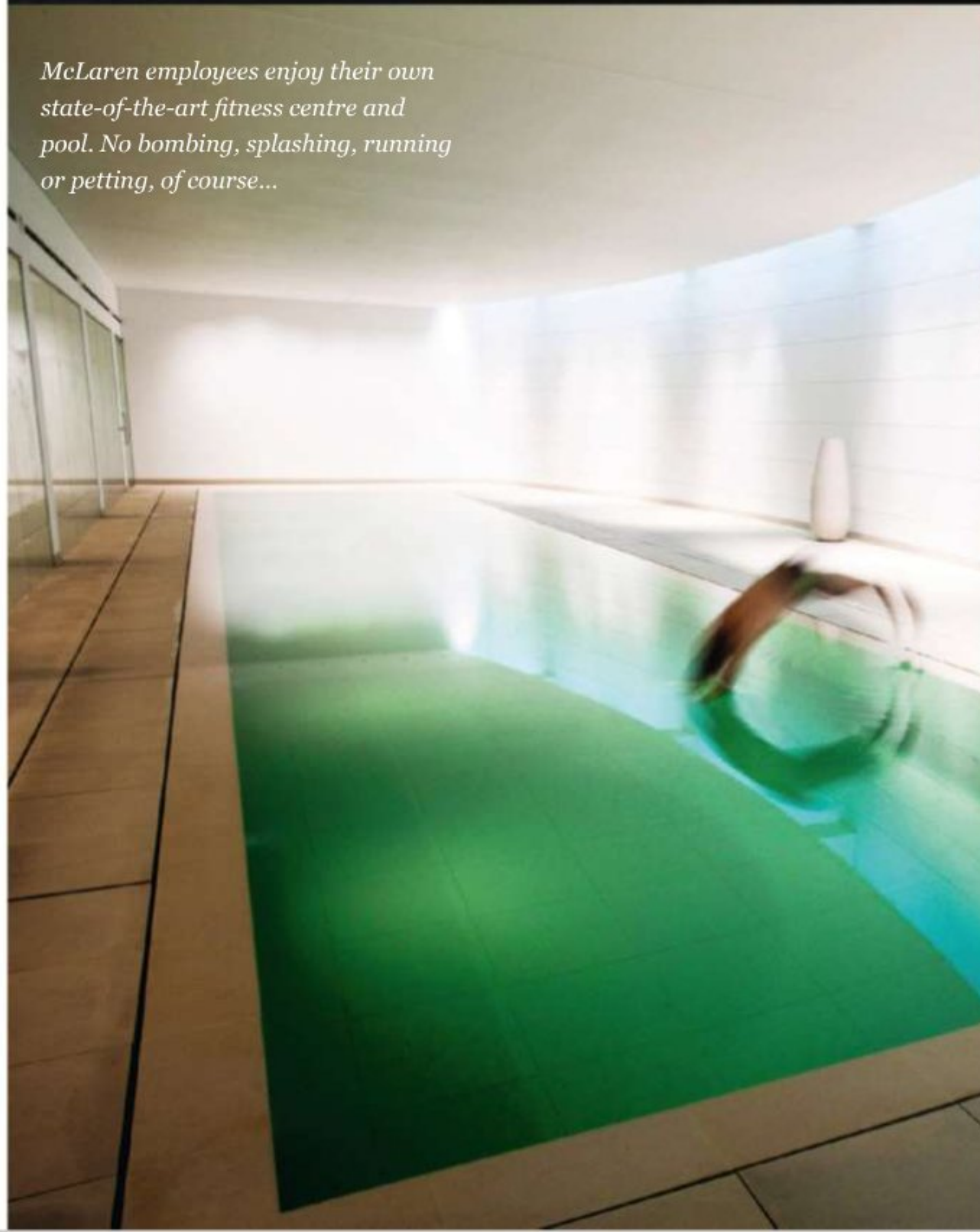
WWW.McLARENSTORE.COM/F1RACING

Find more issues at
magazinesdownload.com





Contrary to rumours, there are no piranhas in McLaren's lake; the water plays an important part in regulating the MTC's internal temperature



McLaren employees enjoy their own state-of-the-art fitness centre and pool. No bombing, splashing, running or petting, of course...



"When I saw the JPS for the first time, I was shocked. I told Colin it looked like a coffin – he just needed to put four handles on the sides"

McLaren's first world champion, **Emerson Fittipaldi**, joined the Formula 1 grid just 18 months after arriving in the UK from Brazil as a fresh-faced Formula Ford racer. His may have been a charmed career, but as a young driver in the early 1970s, he experienced the dangers of the era first hand...

PORTRAITS THOMAS BUTLER

'Sereene' is the word that springs to mind as Emerson Fittipaldi glides into view. He was like that as a racer and he's like that now as he appears in the lobby of the Goodwood Hotel.

Having just come from Brazil, he looks fresh and fit – as he would when a special diet has dropped his weight back to what it was when he arrived in Britain as an ambitious and talented 22-year-old Formula Ford racer in 1969.

Emerson has barely stopped smiling since. His charmed career catapulted him into F1 and a grand prix win within 20 months, then a first world championship two years later. Fittipaldi bridged the necessary change in driving style that came with the arrival of slicks in 1971, an ability to drift the car to perfection metamorphosing into the fingertip precision that not only took him to two F1 titles but also, more than ten years later, two stand-out victories in the Indy 500.

He's at Goodwood to represent Brazil at an FIA Conference on road safety; a subject that is important to the ambassador for a country reeling from 47,000 deaths on the roads in 2012.

Emerson speaks about this with the same quiet dignity he brings to discussion of his



outstanding racing career. It's almost a graceful sleight of hand from a man who was incredibly tough but scrupulously fair on the track. It's as you would expect from a driver who experienced the hard knocks of an era when fatalities were a constant and terrible part of a sport he loved so much. He's pretty much unchanged, as our leisurely lunch on a summer's day reveals.

Maurice Hamilton: Good to see you.

Emerson Fittipaldi: It's nice to be here.

England is so beautiful at this time of year.

MH: Yes, particularly now with everything so green and lush. I'm not sure it would have looked so nice when you first came to England in the winter of 1968/69. Did you arrive from Brazil on your own?

EF: Yes. But I had a friend here, Jerry Cunningham, who was born in Brazil to an English family. He raced Formula Ford but also had a fibreglass factory and supplied the karts I was building and made moulds for my Super Vee.

He said I had to go to England and race Formula Ford. So, when I arrived from Brazil, he met me and took me to Snetterton. It was the first time I saw club racing in England. I went crazy. There were so many different categories of racing – far more than we had in Brazil.

On the Monday we went to see Frank Williams because, at the time, he was the dealer for Titan Formula Fords. My English was not good; I could not communicate very well. Frank looked at Jerry and said: "Racing in Brazil? I didn't know they had racing there!"

Jerry explained I was the Brazilian kart champion, I had won the Formula Super Vee and wanted to start in Europe. But Frank didn't have a Titan. We went to the Merlyn factory and were told a customer had made the down payment, but not the rest. So a yellow Merlyn was just sat there, ready to race. I bought it the next day.

When Jerry returned to Brazil, it was hard. But he'd introduced me to Dennis Rowland, →



who made Rowland engines. I made a deal: I'd work in his shop during the week, making cylinder heads and exhaust pipes and, in return, he'd prepare my engine. That's how I started.

MH: I remember Ayrton Senna saying how homesick he was in England in the early days. Did you feel the same?

EF: I did. It was very difficult: the weather, the culture – all those things. I rented a room in a house in Wimbledon from a Mr and Mrs Bates. I stayed for five months – Mrs Bates was so good to me. I worked in the garage behind the house, polishing cylinder heads, and I'd end up covered in metal. Dennis's mother used to keep an eye on me. I was lucky to have good people taking care of me. Being in the right place and going in the right direction is important because, as you know, sometimes you can go the wrong way.

MH: That's certainly true in your case, because within a couple of months you were racing in F3. How on earth did you manage that so quickly?

EF: I was doing well in Formula Ford and, after a few months, Jim Russell contacted me and said he was starting an F3 team with Lotus through

the Jim Russell Racing School. He wanted me to drive a semi-works car. Then I met Ralph Firman [who would later found Van Diemen]; his first job as a racing mechanic was with me!

We developed the car and I really liked it. I started F3 in July and won the championship. I was racing against Dave Walker and Morris [Mo]Nunn in the Gold Leaf Team Lotus works cars. Twenty years later, I would win Indianapolis with Mo engineering my car.

I remember being at the Lotus factory. Herbie Blash was a mechanic. He called me over and said: "Do you want to sit in a grand prix car?" It was a 49 – Graham or Jochen's car. I sat in the cockpit and my eyes were huge. Now, I see Herbie when I'm a steward at F1 races because he works for the FIA. The F1 world is very small.

MH: That's true. And things move so fast. Within 18 months of arriving in England, you were on the grid for the 1970 British GP. You were on the back row in the Lotus 49. You were just opposite where I was sitting in the grandstand!

EF: Do you remember who was alongside me?

MH: Graham Hill in Rob Walker's Lotus 49.

can imagine the dream for me, driving for Colin Chapman. And all the time he was asking when I would be ready for F1. Then he said he would enter a third car for me in the British Grand Prix.

MH: The Lotus 72 had arrived not long before. The 49 was coming up to three years old, so it must have been a well-developed car by then.

EF: It was. The 49 was not the quickest car but, for a rookie like me, it was perfect. Very nice to drive and very forgiving.

MH: You scored your first points by finishing fourth at the next race at Hockenheim. You had problems in Austria and then came Monza. That must have been a dreadful weekend for everyone, but particularly for a young guy aged 23, new to F1. And you were about to race the 72 for the first time. [Jochen Rindt crashed during practice when his 72, running without wings, turned sharply left under braking for Parabolica and struck the barriers, which parted. The Lotus's front was torn off. Rindt, who didn't use crotch straps, sank into the cockpit and received fatal throat injuries from the seat harness buckle. It is thought a front inboard brake shaft had failed.]

"My legs were shaking. Colin Chapman wanted to talk to me. But I knew I was not ready for F1"

EF: That's right. I was on the grid thinking: 'I'm starting a grand prix next to Graham Hill!' My dream had always been to take part in a grand prix. If I'd died the next day, I'd have died happy.

MH: How did this dream come true so quickly?

EF: It was almost even sooner. Frank Williams called me in '69. I was renting a house near Norwich and he flew over with his instructor, landed, and asked me to drive for him in 1970.

At the same time, Colin Chapman called me. When I went to his office, my legs were shaking. Colin Chapman wanted to talk to me. He wanted me to drive for Lotus in 1970, but I said it was too early. I had to say 'no' to both of them, which was very difficult. I knew I was not ready for F1. I wanted to do some F2 races.

MH: That makes sense, because F2 was really good then, wasn't it?

EF: It was. Lots of grand prix drivers took part: Jochen Rindt, Jackie Stewart, Piers Courage. You

EF: For the first time I understood just how close we were to a crash and that you could die. I'd had breakfast with Jochen that morning and he'd asked me to take his place on the Roy Winkelmann F2 team for 1971. He said Bernie Ecclestone would take care of the contract and we shook hands. Bernie was Jochen's manager and a partner in the team. It was the last time I spoke to Jochen.

We left Monza and I was waiting to see what Colin would do. Lotus withdrew from the Canadian Grand Prix and I was expecting Colin to take an experienced driver. He called me and said: "We're going to Watkins Glen for the US Grand Prix and I want you to be number one driver." I had not been to Watkins Glen before and, coming from Monza, everyone in the team was trying to recover from the tragedy.

MH: I can't begin to imagine how much pressure that must have been for you.





With the Lotus now clad in iconic JPS livery, Fittipaldi chats with Colin Chapman in Austria, en route to the fourth of the five wins that would secure the 1972 title

EF: Huge pressure. I don't know if that caused it, but I caught a bad cold. On the night before the race I had a high temperature and Colin came to my room with a doctor to give me an injection. Next morning I was much better. I started from third but decided to let the race settle down. Three cars in front had problems. With eight laps [of 108] to go, I was in the lead. Then I saw Colin on the track, throwing his cap in the air, like I used to see him doing on television for Jimmy Clark. But this time, it was for me. I couldn't believe it. It was an incredible feeling.

MH: And a problem for Jacky Ickx meant Jochen became the posthumous world champion.

EF: Yes, a fantastic way to end the season after all that had happened at Monza. And for me, in only my fourth grand prix.

MH: What happened in 1971, because you were a favourite to win the championship?

EF: Slick tyres arrived in 1971 and they didn't suit the car. It wasn't until Colin added the new suspension that we started to become competitive again. It was a non-championship race at Brands Hatch in October before we could adjust the car and make it behave like it had in 1970. The car was flying for the first time.

MH: So, you were in good shape for 1972 and the car would no longer be in the red and white of Gold Leaf Team Lotus. You will always be

associated – in my mind anyway – with the black and gold John Player Special Lotus 72.

EF: That started when I raced the turbine car, the 56B, at Monza in 1971. This was another of Colin's ideas; he originally designed the car for Indianapolis. When we raced it at Monza, it was mainly gold with black marking. This was the first test of the colours and it didn't work well on TV. So, the marketing people said it had to be black with a gold stripe. When I saw the JPS for the first time, I was shocked. I told Colin it looked like a coffin – he just needed to put four handles on the sides. I'd never seen a black racing car before. But I soon got over the shock. It was beautiful – and it's still beautiful today.

MH: It went well, too: you won five of 11 races and became the youngest world champion, aged 25. It could have been a double because you were in the running in 1973, but there was a key moment at Monza when your team-mate Ronnie Peterson won and you finished second. Was that the end of your relationship with Chapman? Had there been a pre-race agreement?

EF: Yes. We'd agreed that if we were leading and nobody was catching us and Ronnie was in front, we would change position as I still had a mathematical chance [against Jackie Stewart] of winning the title. With 15 laps to go, Colin said he would give the sign to change position.

We got away from everyone; Ronnie was leading. Fifteen laps, no sign; 14 laps, no sign; 13 laps, no sign. When it was ten laps, I attacked and we started to race each other. It was crazy. I finished right on Ronnie's gearbox. I didn't blame Ronnie but I was upset with Colin because this was not what we agreed. That was when I started to talk to other teams. And I knew I had Philip Morris [Marlboro], who were leaving BRM and said they'd come with me wherever I went.

MH: That's amazing when you think how things are today. You were in such a strong position. And you also had support from Texaco as well.

EF: It was a big responsibility. Philip Morris said it was my decision. I was talking to Brabham, Tyrrell and McLaren. It was a difficult choice.

MH: That's another thing that's very different today. Look at the teams now and the majority have been around for a long time. But, in 1973, Brabham had been re-invented by Bernie Ecclestone just a few years before, and Tyrrell and McLaren had made their debuts in 1968 and 1966. You had an interesting choice from what you might call fresh, young talent. I imagine Bernie was keen to take you for all that money?

EF: I was so close to a deal with Bernie. But I went to McLaren because I liked the team, the organisation, the whole setup. Around 80 per cent of the guys were from New Zealand →

THE MAURICE HAMILTON INTERVIEW

Emerson Fittipaldi

and I felt they had the same commitment as me, coming from Brazil. When you live on a different continent and you go for a job, you are committed in a different way. I just felt an incredible energy at the team. It's not that the other teams were uncompetitive; it was just you felt these guys would do anything to win.

MH: And an entirely different management structure to Lotus?

EF: McLaren were much better organised. At Lotus, Peter Warr was a great team manager; I enjoyed working with him. But McLaren were a new type of organisation. They were always thinking ahead – how to get the maximum from different tracks. Teddy Mayer had tremendous commitment. Anybody could say anything to him and he would listen and, where appropriate, accept advice. It was never like that with Colin!

MH: Did you enjoy your time racing at McLaren?

EF: Yes. Great people, so enthusiastic – it was very enjoyable. Most people were young guys, about the same age as me. We had fun working together. At the time, McLaren were close to being one of the biggest teams in F1. I really liked the ambience and they treated me very well. The first time I drove the M23, at Paul Ricard at the end of 1973, it was immediately fast on the short circuit. I felt it was a good match: driver, car and team. I didn't expect to win the title in our first year together, so to do that was fantastic.

MH: But you must have missed some of the Chapman magic?



EF: Colin was a genius, no question. He had the intuition. You would have dinner with him and talk about what the car was doing at every corner. He would put two fingers to his temple and start thinking. He would go back and change the whole car; the next day it would be faster. McLaren didn't have this.

MH: And, together, you made the M23 work really well, to the point where you won three races and were in a title shoot-out with Ferrari and Clay Regazzoni at Watkins Glen.

EF: I wasn't expecting to win the title in my first year with McLaren. It was a fight to the last race – then I found the car did not work. I was eighth on the grid. In my entire racing career, including IndyCars, that weekend at Watkins Glen was the most pressure I had before a race. Ever! Equal points with Regazzoni going in, the car didn't perform Friday, it didn't perform Saturday, and he's just behind me, ninth on the grid! The McLaren mechanics couldn't look at the Ferrari mechanics and the Ferrari mechanics couldn't

"It was a fight to the last race in '74. In my entire career, Watkins Glen was the most pressure. Ever!"



Fittipaldi (first, with Lotus) and Regazzoni (third with Ferrari) on the podium at Jarama in 1972

look at us. I only slept four hours that night; huge pressure. I fought Clay – he had me off the road on the first lap – but I won in the end.

MH: How close did you come to winning the championship in 1975?

EF: I only won the Argentine and British GPs that year. Niki Lauda's Ferrari was too quick.

MH: You didn't score any points in Spain because of the safety problems with insecure crash barriers at Montjuïc Park...

EF: It was irresponsible of the FIA to start the race like that. Bernie offered to have all the mechanics get nuts and bolts and go and fix the barriers. The organisers said they would do it – but nothing happened. There was a Philip Morris dinner on the Saturday night. I said I knew I was under contract but that this went beyond the usual risks. I said I didn't want to start the race. Teddy and Philip Morris said okay. But when the FIA heard, they said they would impound the McLaren transporter and ban us from the race at



Fittipaldi in third battles the Ferraris of Regazzoni (second) and Lauda (first) at Jarama in 1974. He lost this race to Lauda, but came through to take a closely fought title with McLaren in his first year with them

Monaco. So I did one lap then stopped – and was suspended for three races. Then came the crash. [The rear-wing support on Rolf Stommelen's Embassy-Hill broke as he approached a 150mph crest on the circuit. The car ricocheted off the barrier, launched off another car and passed over the barrier, killing four bystanders. Ironically, the barriers remained intact. The race was stopped and half points awarded].

MH: Everyone was so very tense that weekend...

EF: You were there?

MH: Yes, I had managed to scrounge a press pass. I was standing at the bottom of the hill and I remember seeing a flash of white at the top of the hill as Stommelen's car disappeared. Then it was chaos. The police were lashing out with their batons. People were smoking while there was fuel running down the gutter. It was awful.

But there was an amusing moment. We saw you go by with your arm in the air, doing that single lap. Arturo Merzario was doing the same – except he didn't complete the lap. He reached the bottom of the hill, stopped the Williams, got out and lit a cigarette from a packet in his overalls.

EF: Typical Arturo! Such a funny guy. And so small. Do you remember the Ferrari 512 sportscar; five litres, a beautiful car? Arturo was testing this car at Imola. It jumped one gear – and broke his arm!

MH: That wouldn't surprise me. He looked like a puff of wind would blow him away. But, getting

back to Barcelona, that episode was typical of the attitude to safety in those days.

EF: When I first joined F1, I rented a house in Switzerland. Jackie and Jochen took me around. We'd go to the office of Jo Bonnier [head of the GPDA] and I learned about the fight to improve safety. It was a tough time. A lot of lives could have been saved had safety been improved.

MH: At the end of 1975, you started Copersucar [also known as Fittipaldi Automotive] with your brother, Wilson. It must have been hard to leave McLaren at the end of 1975?

EF: Not hard, no. It was a dream to build a Brazilian F1 car. Remember, Wilson and I used to build cars in Brazil; I loved doing that. But this was more difficult than expected. The decision to leave McLaren? Not difficult.

MH: What was the most difficult part of the Copersucar operation? Was it having to do all the things Teddy and Colin would have done – and drive the car at the same time?

EF: It was the disappointment of 1976. The car was good at first. I started fifth in Brazil, our first race. But it was downhill from there, although I took second place in the 1978 Brazilian GP. That was great; a Brazilian car and team on the podium: one of my career highlights. It was a tough race; it was second place on merit.

MH: So, why did you decide to stop?

EF: In 1980 we had full ground-effect cars – and I hated them. I was not enjoying driving. We had

a very good car but we didn't have the money to develop it. We had Harvey Postlethwaite and also Adrian Newey – this was Adrian's first job in F1. He was the top student from Southampton University. We had Peter Warr as team manager and Keke Rosberg driving the other car. So, we had a great team and a fast car later in the season. It was the best car we ever built but, by that time, the media in Brazil were making jokes about the team and gradually destroying us.

Skol, the beer company, were sponsors, but in July they called me and said the press in Brazil had been so bad for the team that they were not going to continue. I had to tell the guys:

"You're released from your contracts." I was so disappointed. Harvey went to Ferrari; Keke to Williams – and Adrian went on to make history!

MH: So, you quit F1 and returned to Brazil. How long before you were back behind the wheel?

EF: They had a series for twin-engine karts called Superkarts. I started racing again and I enjoyed it because I was racing against the new generation. Powerful karts and races organised on the streets: I really enjoyed it.

Then Ralph Sanchez, a great friend who passed away this year, called and asked me to race in the Miami Grand Prix in a March-Chevrolet GTP. I said: "I've retired. I don't want to race any more." He said: "Just do one race."

The first time I tested the car was at West Palm Beach. After three laps I was coming →



to a long corner when the throttle stuck open. I locked the front wheels and went into a lake of crocodiles. I was in the car, trying to get out and watching for the crocodiles! But, apart from that, I was very happy to be back and I put the car on pole. I was leading when the gearbox broke.

Then I had a call from Pepe Romero. He said: "I want you to drive at Indianapolis. I'm putting a team together." Ever since Lotus, Indy had always been at the back of my mind. My parents had raced as amateurs and on Saturday evenings – this was in 1955/56 – we would go to someone's house with a group of racing enthusiasts and watch films about Indianapolis. When I joined Lotus, I kept asking Colin about racing at Indianapolis with Jim Clark. I really had a thing about it. So, I went to test at Indy: there was no pressure; no expectation.

MH: You had gone to Indianapolis straight after winning the F1 world championship in 1974 to drive Johnny Rutherford's McLaren. It was a promotional thing – but this was the car that had won the previous May. Did you enjoy that?

EF: Oh, yeah. I loved driving at Indy, but I refused to race there because the cars were so fragile at the time. They would disintegrate in an accident and the speeds were so high; I was lapping at 210mph with the 1,000bhp Offenhauser engine and incredible downforce from huge wings. The McLaren was perfect.

AJ Foyt was there and he was very good to me. Bobby Unser was testing and AJ took me to the corners and explained about each one of them: "You always need a bit of understeer; never get the car loose." When I asked him what I shouldn't do, he said: "Never correct the car. If it starts to spin, let it go. If you try to correct, you will overcorrect and go up into the wall."

MH: So, when you raced there, were you enjoying a completely different way of driving the car?

EF: It is different and very hard to explain. The car is never perfect for all four corners. The wind direction has a big effect. To do a 100 per cent lap at Indianapolis is a fantastic feeling, very different from F1. Much more adrenaline, much more finesse. The wall seems to come out

towards you, so you have to be so precise. You watch the windsocks all the time; you have to change what you're doing every lap. If the wind changes even a bit, you have more understeer or less. Setting up a car drives you crazy.

MH: Clearly a good engineer is vital. Who was the best you worked with?

EF: Mo Nunn. The three years I worked with him at Patrick Racing were enjoyable and I won Indy in 1989. When I did it with Penske again, in 1993, I was one of the oldest guys to win there.


MH: After your 1993 win, we were both at a Marlboro dinner in Estoril and, by chance, you were sitting opposite me. I don't think I've ever seen you so relaxed and comfortable with yourself. Was that a good period in your life?

EF: It was. And I remember being at that dinner with Ayrton. We spent a lot of time together with a friend of ours at Estoril. Ayrton was tense because he was trying to negotiate with Frank Williams but Alain Prost wouldn't have him at the team. Ayrton came back after qualifying and he wasn't happy. "That little shit! He's a coward. He won't accept to drive with me at Williams." I said: "Ayrton, Ayrton. Relax!" In the end, Alain retired and Ayrton drove for Frank in 1994.

MH: It's one of those turns that life takes, isn't it? Having experienced so much in your career, do you believe that fate plays a part?

EF: There are things in motor racing that are pre-ordained; you cannot change them. I see these things and think I have had a fantastic career. I'm very grateful for it.

MH: I'm grateful for your time, Emerson.

EF: My pleasure, Maurice. My pleasure. 



Maurice Hamilton's new book *McLaren | 50 Years of Racing*, will be released by Prestel on 19 August, priced £99. It can be pre-ordered from www.amazon.co.uk

Racing his own car to fifth at the 1977 US GP (West) with the Copersucar-sponsored Fittipaldi Automotive team he set up with his brother, Wilson





Swiss movement, English heart



C7 BLUEBIRD – LIMITED EDITION

In 1912 Malcolm Campbell christened his car “Blue Bird” and a legend was born. More than 100 years later this iconic name continues to challenge for world speed records using futuristic electric vehicles.

Christopher Ward is proud to be Bluebird Speed Records Official Timing Partner and, in celebration, we have released this stunning timepiece in a limited edition of 1,912 pieces.

EXCLUSIVELY AVAILABLE AT christopherward.co.uk

CHR. WARD
L O N D O N

**OFFICIAL TIMING PARTNER
BLUEBIRD SPEED RECORDS**

Showroom at NO.1 PARK STREET, Maidenhead. To arrange a personal appointment, call +44 (0)1628 763040



McLaren's roll of honour



David Coulthard	150 starts
Mika Häkkinen	131 starts
Lewis Hamilton	110 starts
Alain Prost	107 starts
Ayrton Senna	96 starts
Kimi Räikkönen	87 starts
Denny Hulme	86 starts
John Watson	73 starts
Jenson Button	68 starts
Niki Lauda	58 starts
Jochen Mass	49 starts
James Hunt	49 starts
Gerhard Berger	48 starts
Heikki Kovalainen	35 starts
Bruce McLaren	33 starts
Emerson Fittipaldi	28 starts
Patrick Tambay	28 starts
Juan Pablo Montoya	26 starts
Peter Revson	23 starts
Fernando Alonso	17 starts
Keke Rosberg	16 starts
Stefan Johansson	16 starts
Martin Brundle	16 starts
Mark Blundell	15 starts
Peter Gethin	14 starts
Andrea de Cesaris	14 starts
Michael Andretti	13 starts
Mike Hailwood	11 starts
Jo Bonnier	10 starts
Sergio Pérez	10 starts
Pedro de la Rosa	9 starts
Dan Gurney	6 starts
Bruno Giacomelli	6 starts
Jody Scheckter	5 starts
Vic Elford	4 starts
John Surtees	4 starts

Andrea de Adamich	4 starts
Jackie Oliver	3 starts
Brian Redman	3 starts
David Hobbs	3 starts
Nigel Mansell	2 starts
Basil van Rooyen	1 start
Derek Bell	1 start
Mark Donohue	1 start
Jacky Ickx	1 start
Gilles Villeneuve	1 start
Philippe Alliot	1 start
Jan Magnussen	1 start
Alexander Wurz	1 start

McLAREN'S CHAMPIONS					
Emerson Fittipaldi (1974-1975)	1	5	2	1	22
James Hunt (1976-1977)	1	9	14	5	49
Alain Prost (1980 & 1984-1989)	3	30	10	24	107
Niki Lauda (1982-1985)	1	8	0	8	58
Ayrton Senna (1988-1993)	3	35	46	12	96
Mika Häkkinen (1993-2001)	2	20	26	25	131
Lewis Hamilton (2007-2012)	1	21	26	12	110

Titles	Wins	Poles	Fastest laps	Starts
1	5	2	1	22
1	9	14	5	49
3	30	10	24	107
1	8	0	8	58
3	35	46	12	96
2	20	26	25	131
1	21	26	12	110

International Motorsport Events • Race Tickets • Hospitality & Travel

SelectMotorRacing.com



Run by Fans for Fans

● Formula One ● Le Mans 24hr ● MotoGP ● Superbikes ● Historic



Free Brochure



**COACH TOURS
FROM £139**

LE MANS 24 HOUR

- Race Tickets & Hospitality
- Circuit Camping
- Self Drive Packages
- 2014 - Pre-book now!

HISTORIC TOURS

- Goodwood Revival
- Le Mans Classic
- Monaco Historic

FORMULA ONE GRAND PRIX TRAVEL PACKAGES

OUR UK TRAVEL TEAM WILL LOOK AFTER YOU THROUGHOUT THE TOUR

Coach Tours

- Executive Coach Travel
- Free Excursions
- Circuit Transfers each day

RACE TICKETS

- Grandstands
- Circuit Hospitality
- Paddock Club

Go By Air

- Choice of Hotels
- Airport meet and greet
- Return Hotel Transfers
- Circuit Transfers each day
- Free Excursions
- Free find a flight service

BOOK NOW

**Belgium - Italy - Singapore - Korea - Japan
India - Abu Dhabi - USA - Brazil**

contact us on +44 (0) 1451 833 721 or email enquiry@selectmotorracing.com



www.selectmotorracing.com



THE NEW **POWER** GENERATION



'Forced induction' will be the phrase on everybody's lips in 2014 as turbos return to Formula 1 – along with sophisticated hybrid technology. We present the low-down on the biggest engine reg change ever

WORDS ANTHONY ROWLINSON **PHOTOS** RENAULT

When the last turbo engines whistled, wastegate-chirruped and flame-spat their way out of F1 back in 1988, the sport bade them a fond, if somewhat relieved, farewell.

In the 11 years since Renault had introduced a 'blown' 1.5-litre V6 as a means of finding more grunt, however, peak power outputs had roughly doubled from around 700bhp to the 1,400bhp-plus that a qualifying 'grenade' from Honda or BMW might muster. They had become monster motors: immensely powerful, brutal in their delivery and thrilling to watch as they either belched carbon-dense exhaust fumes or left flame-flashes in their wake on the down-shift overrun.

Insanely OTT, they were perfect for the *Bonfire of the Vanities* decade in which they thrived. If any engine could have worn bright red braces and a chalk-striped wide-lapelled power suit, it was an '80s F1 turbo. The excess couldn't last. Normally aspirated (non-turbo) engines were mandated from 1989, and in different specs they have remained the only way to thrust a Formula 1 car. Until now.

Because turbos are back – big time – thanks to 2014 engine regulations that radically shake up the established order and re-introduce turbocharging, along with a number of other power- and efficiency-enhancing devices.

In keeping with a frugal age, 2014-spec F1 engines have efficiency as their mantra rather than headline power figures. So sophisticated have they become, it's no longer appropriate, their makers reckon, to refer to them simply as 'engines'. Instead, 'power units' will be the correct nomenclature for devices that use two electric motors and an energy recovery system as well as the 'base' single-turbocharged V6 engine. →



The shake-up is as profound as F1 has ever seen and goes beyond mere technical change. The move to a greater role for non-internal combustion power sources is a logical step on from KERS, but of greater significance is the philosophical shift of F1 to becoming a greener, cleaner formula. For 2014, 'efficiency' has been thrust front and centre stage. It's always been that way, of course, though never so explicitly: in the last turbo era, Honda engines came to dominate not because they were the most powerful (a BMW four could edge Honda's V6), but because they had the best balance of power, fuel-efficiency, weight, reliability and drivability.

Much the same will hold true in 2014, with the added straitjackets of a 100kg race-fuel limit and a fuel-mass flow-rate cap of 100kg/hr. Both these parameters are currently

unlimited. "There are a lot of new things and a lot of innovation," confirms Rob White, Renault Sport F1 deputy managing director (technical). "Any big rule change brings a period when people are not at the same level of reliability. Then there's a period of convergence and then life follows its course. We are inevitably in one of those periods. Testing and development have been very intense." A measure of the scale of change can be gained by examining some of the raw engine stats. 2014 engines are 800cc smaller than the outgoing 2.4-litre V8s; they have two fewer cylinders and will rev to only 15,000 rpm, rather than 18,000. There's a fuel cap as well as a fuel-flow cap, yet thanks to the new units' turbo and the electrical systems, the overall level of motive force controlled by a driver's right raceboot will be similar.

They're unlikely, though, to feel as sweetly controllable as the highly evolved, revvy V8s the drivers currently enjoy. A current F1 race winner told *F1 Racing* that the new engines were "a real handful" in simulator tests because the old turbo bugbear of lag had returned. So the perfect correlation between throttle input and engine response of the current era is likely to evaporate. For race fans, that's potentially great news, since drivers will have to contend with power units delivering their shove all in a rush. Too much power, too suddenly, equals lots of opposite-lock oversteer. Great for the show, but a headache for the star performers.

White stresses that minimising turbo lag has been a priority for all 2014 engine makers (Renault, Mercedes, Ferrari and – secretly – Cosworth): "There definitely will be lag if we haven't sorted it out," he says. "This is a big, big turbo with a big old electrical motor hooked up to it, and they have the potential for completely unacceptable turbo lag... of

THE DRIVER'S VIEW



Engineers aside, those who will feel the effect of the 2014 engine changes most directly will be the guys at the pointy end: the drivers. With new challenges of turbo lag and fuel restriction to overcome,

their game will alter significantly.

Alain Prost, a master of the '80s turbo era, who won titles for McLaren in 1985 and 1986, believes the role of the driver will be vital in achieving success in 2014: "Without

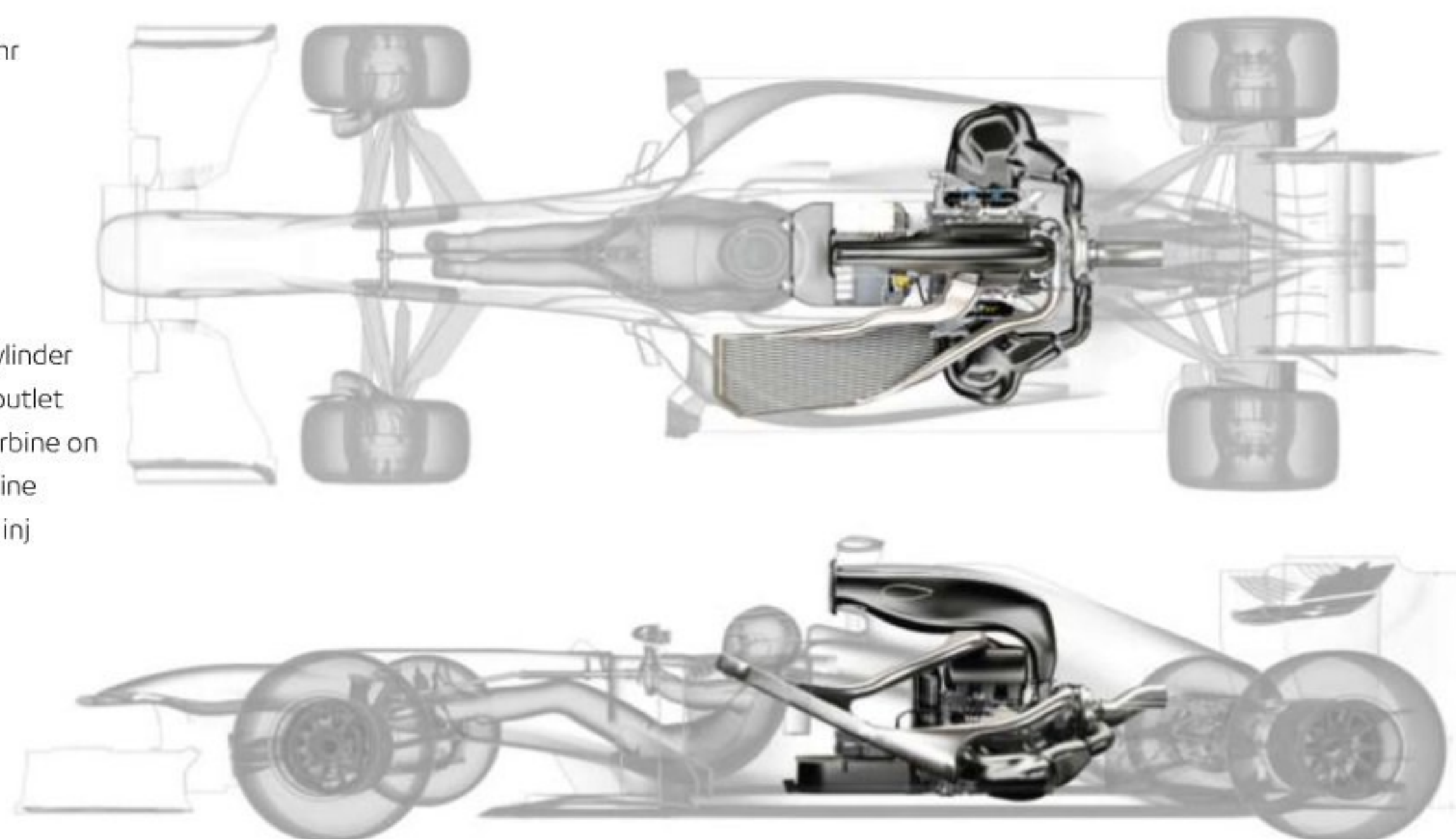
wishing to name names as to who I think will do well, driver skill will be important, as some things will be even harder. It won't be an easy formula next year."

For those fearing 'economy run' F1, Prost is reassuring. "It's not going to be just about saving fuel," he says. "There will be more possibility for the driver to contribute. The driver who is fastest through corners uses less energy, so he will be the one saving fuel. Drivers must be smart, too, in adapting to strategy demands. So I think the changes will be positive for drivers. But they are going to have to be very close to their team as there will be a bigger mental challenge."

2013 V8 vs 2014 V6

	2013	2014
Displacement	2.4 litres	1.6 litres
Max revs	18,000	15,000
Pressure	N/A	Single turbo 3.5 bar
Fuel flow	Unlimited	100kg/hr
Fuel permitted	Unlimited	100kg
Configuration	90° V8	90° V6
Cylinders	8	6
Bore	Max 98mm	80mm
Stroke	Unregulated	53mm
Crank height	Min 58mm	90mm
Valves	4 per cylinder	4 per cylinder
Exhausts	Twin outlets, one per bank	Single outlet from turbine on centre line
Fuel	Indir fuel inj	Dir fuel inj
Units per driver	8	5

The in-car placement of the 2014 power unit, viewed from above and sideways-on



many, many seconds.” He reckons that the instant gearshifts of contemporary F1 gearboxes will help minimise lag, as will the existence of the MGU-H (Motor Generator Unit – Heat) attached to the centre shaft of the turbocharger’s impeller. When acting as a generator, the MGU-H will tend to slow down the turbo, but, when acting as a motor, it will accelerate the shaft and lessen – or even remove – the ‘spool up’ time that causes turbo lag. A driver *should*, therefore, get the instant torque he demands. That’s one issue covered. Of greater concern are the packaging and cooling requirements of the 2014 units. A current V8 weighs 120kg with all ancillary components (such as radiators) included. Next year’s powerplants will weigh 200kg all-in, thanks to the 145kg engine, a 35kg battery, then a further 20kg for the intercooler and other radiators. The extra cooling capacity demanded by the electric motors and turbo not only adds weight, it means a bigger overall package to fit within the car’s skin and calls for more voluminous air intakes.

Chassis and aero teams are having to deal with dramatically different sets of numbers to those they’ve been used to seeing for the past decade or more. Some, inevitably, will get their sums wrong. Engine failures, so rare in modern F1, will return – caused either by overheating or ‘under cooling’ (the result of a desire to minimise disruption to airflow from bulky heat-conduction interfaces). The management of the new units and the aero-dictated chassis crafted around them will present a further challenge, and Red Bull team principal Christian Horner, for one, believes the first races of 2014 will be a step into the unknown: “Only when you get to the first race will you see what the pecking order is,” he says. “Strategy will become a key element and

TECH TALK: 2014’S MUST-KNOW LINGO

MGU (Motor Generator Unit): Used as a motor, it converts electrical energy to mechanical. Used as a generator, it converts mechanical energy to electrical. In 2014, power units will have two MGUs: MGU-H and MGU-K




MGU-H (Motor Generator Unit – Heat): Connects to the turbo. Used as a generator it absorbs power from the turbine shaft to recover heat energy from exhaust gases. This can be directed to the MGU-K or stored in the battery. It also fights turbo lag when used as a motor.

MGU-K (Motor Generator Unit – Kinetic): Connected to the crankshaft of the V6, the MGU-K is capable of recovering or providing power (120 kW is equivalent to 160bhp). Under braking it recovers kinetic energy and converts this into electricity. Under acceleration it is powered (from the battery or the MGU-H) and acts as a motor to propel the car.

ERS (Energy recovery system): Electronically controlled ERS uses the MGU-H and MGU-K plus an energy store (battery). Heat and kinetic energy recovered can be consumed by an MGU or stored in a battery. Stored energy can propel the car or accelerate the turbo. The ERS of 2014 is twice as powerful as 2013 KERS, with ten times the performance.

we’ll be learning how to plot our way through a race with a different set of parameters. They might take a different strategic shape and grands prix that are already marginal on fuel consumption, like Singapore, will be extremely tough.”

The reassuring certainties of recent F1 are history. Cosy familiarities of iterated year-on-year design are past. The rule book has been torn up, the race card scrapped. Formula 1 is about to take a big, bold leap into higher-tech future. 



Peter Windsor's

MID-TERM REPORT

As F1 returns from its summer break, our columnist assesses the performance of all the teams and drivers so far, to rate their chances of success



Jean Todt once admonished me for beginning a mid-season interview with the following question: "Jean, Hockenheim marks the half-way stage of the championship, so, for the benefit of the viewers on Speed TV in the US, I wonder if you could sum up the first half of this year?"

"Impossible," was Todt's immediate retort. "Hockenheim is race number eight of a 17-race championship. It is not the half-way point. To do that we would need to talk half-way through the next race. Go away and don't return until you have got your facts straight."

Interview duly scrubbed, I did concede inwardly that Todt actually had a point: a lot can happen in the first few laps of any grand prix, anywhere in the world. Equally, a race isn't over until it's over.

Still, a line must be drawn. Certain trends are obvious; amazing scenes have been enacted. For the purposes of neatness, then, and recalling where they finished in 2012, let's look at the teams in current championship order. And let's apply one of three ratings to their performance so far: excellent, mediocre or underperforming...





RED BULL-RENAULT

Top, but not untoppable

The new Pirellis have inevitably shaken things up, so now other teams have almost matched – and occasionally beaten – Adrian Newey's downforce package. Heads down, though, and continuing to focus on the basics, Red Bull have so far won four races (all Seb) and made a car that on Sundays gives Sebastian Vettel, at worst, a decent chance of winning. No other team is so consistently fast.

Rivals believe that Adrian Newey had to be restrained over the winter from making the same mistakes as, say, the McLaren committee – ie from making radical 'improvements' to what was already a very fast car. I don't buy that. I think Adrian knows what he is doing at any point in the year and knows exactly how to balance creativity versus function. No one needs to tell him when to back off.

No other F1 person has the car so completely in his head and, among the very top F1 engineers, none has Adrian's accurate feel for racing. The team's biggest failing, as before, is

their driver management. When you have someone as fast and competitive as Sebastian Vettel, and you give him a car consistently capable of winning the title, you don't want to jeopardise his chances of scoring even an extra one point by putting a quick driver in the other car... and then allowing the two "to race but not to hit one

"Red Bull have made a car that, at worst, gives Seb a decent chance of winning"

another," as Christian Horner puts it. You either control the other driver via a contract – as Michael specified in the Ferrari years – or, if you want them to race, you pick a driver who won't give Vettel a hard time: Ricciardo or a Kobayashi, perhaps.

Neither system, in the context of the constructors' title, is as damaging as the two drivers taking one another

out. Red Bull's handling of the Malaysian situation was appalling. It made a mockery of Mark Webber's speed and said little for the management's approach to their drivers. Of course the subject is now moot due to Mark's impending retirement, but Malaysia stands out as one of the black spots of 2013. Despite all this, and the fact that Mercedes retain a slight engine performance advantage, Adrian Newey's design genius means Red Bull remain the class act of F1. →



Mark and Seb: allowed to race but not hit each other. It hasn't worked

Team stats

Red Bull

277 points – 1st



Most laps raced in one position

Vettel

240 in 1st

Webber

118 in 4th

Points

Vettel 172 (1st)

Webber 105 (5th)

Retirements

Vettel 1

Webber 1

Rating Excellent (given the difficulties of staying on top, sustaining momentum and running with relatively tight resources)

Team stats

Mercedes

208 points – 2nd



Most laps raced in one position

Rosberg

104 in 1st

Hamilton

124 in 2nd

Points

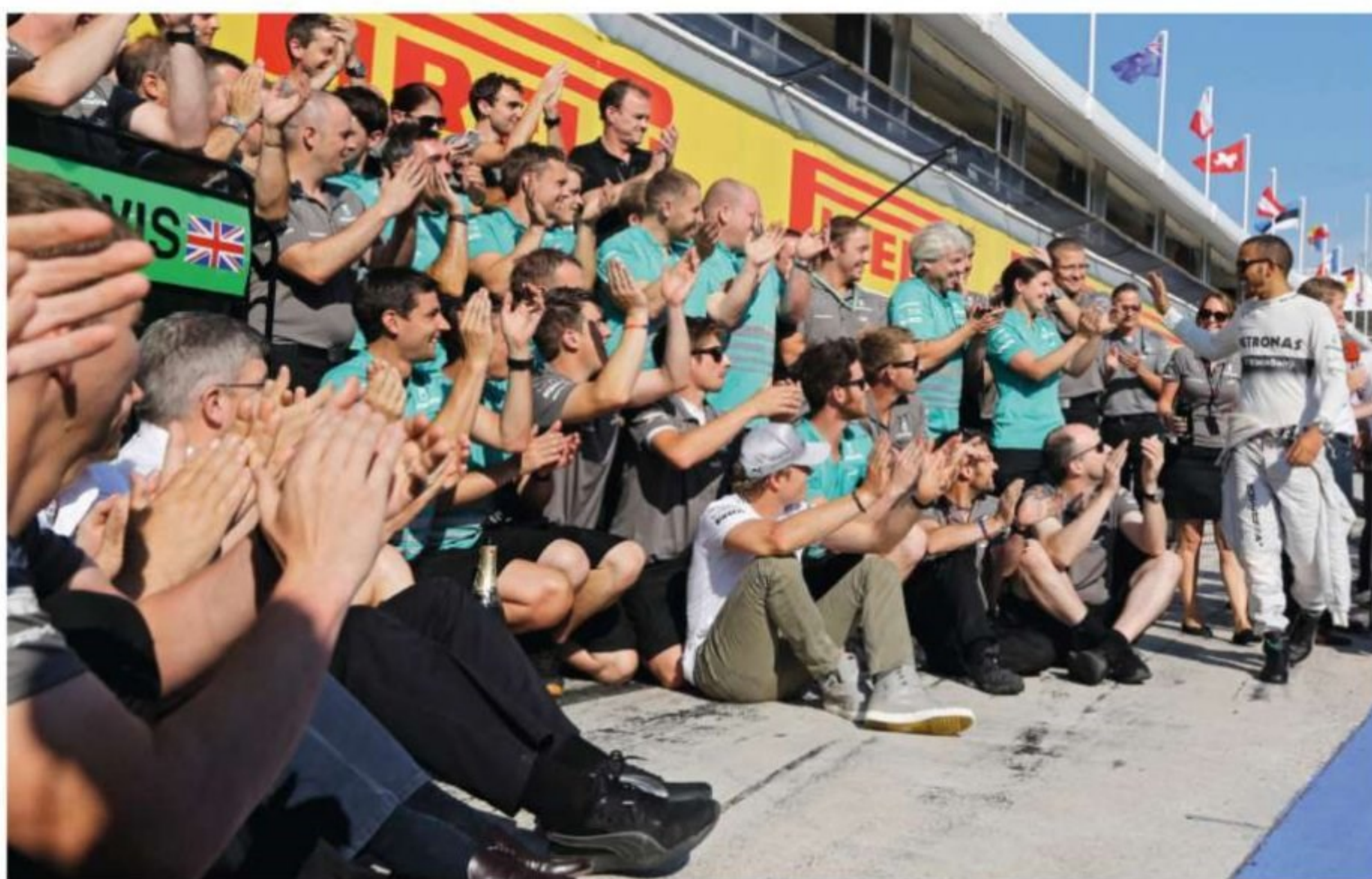
Rosberg 84 (6th)

Hamilton 124 (4th)

Retirements

Rosberg 2

Hamilton 0



MERCEDES

Silver medallists go for gold

For those of us (well, me) who predicted that Lewis could win the 2013 title, it started out disappointing. For the rest of you, I'm sure Mercedes' year has been a positive surprise. The overriding characteristic of the season is that they are now consistently fastest in qualifying – ever more consistently, given enough Safety Cars, tyre changes and a circuit that forbids overtaking – and can now parlay qualifying speed into race wins.

The confusing thing has been why Mercedes ran into so many major

tyre-management issues in races in the early part of 2013 – particularly the hot ones (Lewis's Hungary win aside). There are two schools of thought: either they still lack a comfortable operating window in their car's pitch-sensitive aero map, or they overuse their tyres due to a high front roll-centre and complications from

“Lewis was shown up for the first time in his career in the early races”

their advanced FRIC system. It would be in character for Niki Lauda to say, “Let's go back to basics. Get rid of the FRIC system and let's see where we stand.” Since he hasn't, however, and since Lewis has now won in Hungary, we can only assume that the usual compromises are winning the day.

Nico Rosberg has been the revelation of 2013, with two wins so

far. He will argue, I'm sure, that he is the same driver we saw in 2011-12 but, to my eye, he improved further still over the winter of 2012-13. Lewis, by contrast, was shown up for the first time in his career in the early races. Not by much, mind – but enough. So he dug deep and became self-critical, but, even now, there's no way he'll find it easy to outrace his team-mate – not the way he used to outpace Jenson, Heikki or even Fernando. I see no driver-control plans in place at Mercedes, but I suspect both Lewis and Nico operate on a high plane when it comes to using their heads and staying out of each other's game plans. Nico's acquiescence in Malaysia is a good example of that.

Ross Brawn, Paddy Lowe, Aldo Costa, Geoff Willis, Jock Clear, Andrew Shovlin and Ron Meadows are all good people. The team are better than Ferrari at segregating engine and chassis departments. And Mercedes AMG Powertrains is another powerhouse in itself.



A blown tyre for Lewis handed victory to team-mate Nico at Silverstone

Rating

Excellent (given the jump they've made over the winter, their consistently fast qualifying pace and their increasing propensity to win)



FERRARI

A malaise in Maranello

Last winter was a big one for Pat Fry, the McLaren engineer who joined Ferrari to work in the pitlane but found himself in the excruciatingly difficult role of technical director. The 2012 car bore his signature, but wasn't great, even if it only lost the title by a Lotus shunt or two (Grosjean at Spa, Räikkönen in Japan). *Just* losing, for a Ferrari man, is often worse than losing by a mile – yet Pat survived the off-season and came out fighting.

It says much for his self-belief and political skills. He stuck with his pull-rod front end and would have smiled with relief when he saw McLaren take the same path this year. Now, after a strong start, 2013 is looking tough. Ferrari are not short of great updates; they just don't know how to *manage*

"Ferrari aren't short on updates; they just don't know how to manage them"



Tough times for tech director Pat Fry, who is being usurped by James Allison

or *implement* them – not in the way Red Bull and Lotus do.

Consider a typical 2013 windtunnel programme requires around 420 new parts to be produced *per day*, and that follow-on production links need to be prioritised by *inter-linked* performance, and you have a time/motion study that makes a NASA programme look

easy. And while the current era's engine programmes have pretty much run themselves, the complex 2014 engine formula requires new programmes in every dimension, which is eating into the management of the 2013 car as a whole.

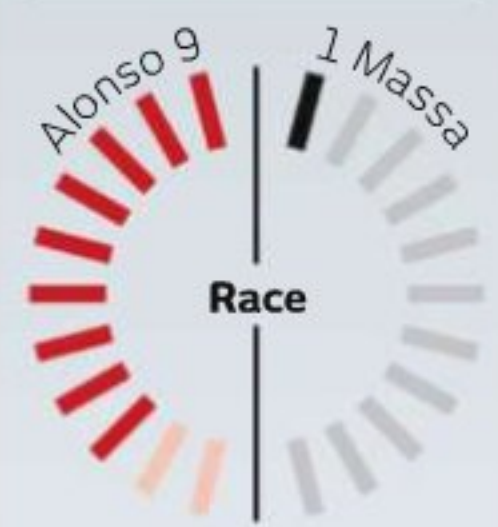
On top of that, Pat has had to work, from Spain onwards, knowing that James Allison was probably going to usurp him (which has now happened), which will have eroded his confidence.

So Fernando Alonso has found it tough in a year when he perhaps imagined he might *just* be able to match Seb Vettel at every race. He's won two races this year, but all he can do now is to remain the driver who gets more from a less-than-perfect car than anyone. Beyond that, he can look forward to better days in 2014 – new engine and James Allison permitting – and will hope that in the second half of 2013, the team will magically find update combinations that actually work. The emphasis will be on magic rather than methodology. →

Team stats

Ferrari

194 points – 3rd



Most laps raced in one position

Alonso

93 in 4th

Massa

56 in 5th/8th

Points

Alonso 133 (3rd)

Massa 61 (7th)

Retirements

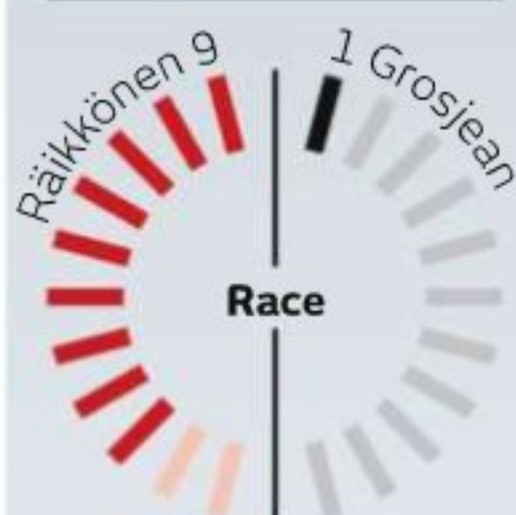
Alonso 1

Massa 1

Team stats

Lotus

183 points – 4th



Most laps raced in one position

Räikkönen

114 in 5th

Grosjean

75 in 6th

Points

Räikkönen 134 (2nd)

Grosjean 49 (8th)

Retirements

Räikkönen 0

Grosjean 2



LOTUS-RENAULT

Still know what they're doing

Shuddering was the jolt when James Allison announced he was leaving Lotus before the Spanish GP. I'm amazed. It's one thing to leave a team at the end of the year, or with formal gardening leave. It's another to walk away from your baby – your very beautiful baby *and* all your mates – just as it started to look good. Still, at Ferrari, he could turn Fernando into the winner he used to be when they worked together at Renault.

Having said that, I think Lotus have done amazingly well to regroup and

volumes about how the team is run and for the good people at Enstone. Nick Chester is fitting nicely into James's chair; and guys like Alan Permane and Mark Slade are as good as any when it comes to getting on with the things that matter.

The next hurdle for the team will be what to do if Kimi leaves: Personally, I think they would be fine with

Romain (raggedly quick) and Davide Valsecchi (consistently determined); but because of the dreaded economic climate, they may be obliged to sign at least one major rent-a-driver. I hope not. I like the team's current approach to drivers: they had the brains to sign Kimi; they regenerated Total money for Romain; and they take their third-driver choice very seriously.

"The next hurdle for the team will be what to do if Kimi leaves"

continue unabashed. The Pirelli tyre situation fazed them a little, but in the warmer track conditions of the Nürburgring both Kimi and Romain again looked fantastic. This speaks



Grosjean plays catch-up after a grid penalty in Canada for that Monaco shunt

Rating Excellent (given the traumas of the Allison departure, their relatively frugal resources and the question mark over Kimi's future)



FORCE INDIA-MERCEDES

Pushing on force-fully

I was a Vijay Mallya fan from the day he decided he would choose his drivers on merit rather than by the size of their bank balances. I became an even *bigger* fan when parts of his empire very publicly ran into trouble in 2012. He was easy media fodder – but, even so, he hired Paul Di Resta and Nico Hülkenberg because he rated them... and then he re-hired Adrian Sutil for the same reason.

Yes, Adrian brings with him a little money. And Paul joined the team in 2011 with some Mercedes DTM history behind him. Neither, though, is by any stretch a 'pay driver' by today's ultra-rich standards. By avoiding the rent-a-driver trap, Vijay, in my view, not only gave his team a serious performance boost but also did plenty for the group's overall morale.

As a result, a relatively small collection of people up at the old Jordan factory has maximised a relatively small budget and consistently been a big worry for McLaren-Mercedes (their nearest Merc



Team boss Vijay Mallya cares more for driver talent than the funding they bring

customer rival and erstwhile technical mentor). Full marks to Vijay Mallya, Bob Fearnley, Andy Smith, Otmar Szafnauer (who believes 100 per cent in the talent of James Rossiter and stands by it), Andy Stevenson, Paul Di Resta and Adrian Sutil.

Over the second half of the year it will most probably prove rather

difficult for Force India to sustain that sort of advantage over McLaren; money and resources, withal, will probably tell – particularly since the team seemed to be having difficulties adapting to the new Pirellis in Germany and Hungary.

For me, though, Force India are a classic and happy example of a mid-range team proving that drivers are indeed still important. How would McLaren be faring if Lewis Hamilton had not left for Mercedes? The question is rhetorical – but the performance of Force India makes you wonder. Conversely, you don't want to think where they would now be had they taken the soft option of hiring the two biggest-paying rent-a-drivers on the market. →

"Force India are a classic and happy example of a mid-range team"

Team stats

Force India

59 points – 5th



Most laps raced in one position

Di Resta

83 in 7th

Sutil

76 in 9th

Points

Di Resta 36 (10th)

Sutil 23 (11th)

Retirements

Di Resta 1

Sutil 3

Rating Excellent (given their limited resources, their commitment to talented drivers and the nature of the ultra-competitive F1 mid-field)

Team stats

McLAREN

57 points – 6th



Most laps raced in one position

Button

89 in 7th

Pérez

95 in 8th

Points

Button 39 (9th)

Pérez 18 (12th)

Retirements

Button 0

Pérez 0



McLAREN-MERCEDES

Woking crew in a jam

McLaren should not have let Lewis go and they should not have made big changes to their 2012 car. Lewis is hard to manage, but he's also a great racer, so it behoved the team to keep him happy. Frank Williams and Patrick Head didn't exactly enjoy the company of Nigel Mansell: they worked around him, because they knew he was fast.

Now to the car. It's true the McLaren design committee always have new ideas, from matching the Coandă effect to the 2013 Pirellis, to managing tyres. And it's true they won a victory of sorts in autumn 2012 when management said "Yes. Go ahead."

The mistake was not then with Martin Whitmarsh, who gave final approval for a concept that has failed. The mistake was in ever having such

"Lewis is a great racer, so it behoved the team to keep him happy"



Martin Whitmarsh has given approval for McLaren-car-design-by-committee

a committee. That's why Adrian Newey runs Red Bull the way he does: he knows the car, he makes the decisions and he suffers if things go wrong. So Adrian is very open to the concept of *not* making changes just because they look good in the windtunnel. A design committee, by contrast, has upgrades and improvements as its measuring-stick, for that is the way of the

overstructured business world. Problems arise when different elements of such a committee remain departmentalised – when there's no Adrian Newey with the *complete* car in his head, saying "no" when the others are pushing for a "yes".

Running where they are, there are no real problems between Jenson Button and Sergio Pérez. It doesn't really matter, for example, if Checo punts Jenson out of a P7 finish with four laps to go. But imagine, if this year's McLaren were as quick as a Red Bull. With no driver-management plan in place, it would be a headline drama: race in, race out.

McLaren have a twilight year with Mercedes ahead, concurrent with a switch to Honda for 2015; as yet, they have no title sponsorship to replace Vodafone; they have lost Paddy Lowe to Mercedes and decided not to hire James Allison because of their loyalty to Tim Goss. That commitment is to be applauded. The design committee, though, remains very much a problem.

Rating Underperforming (given their resources and facilities, engines and drivers)

TORO ROSSO-FERRARI

Nearly on a bull run

This year's car isn't the most consistent – it's no Force India, for example – but it's been quick enough for both Daniel and JEV to show their pace. James Key is doing well there and so, of course, is Franz Tost. So long as Red Bull drip-feeds STR, Franz is your guy



"The car has been quick enough for Daniel and JEV to show their pace"

to maximise resources – ably helped, of course, by Steve Nielsen. This being the time for wealthy punters *not* to be buying F1 teams, that Red Bull money stream looks set to flow for a few more seasons.

Rating Mediocre (in the sense that while they haven't been excellent, neither have they been underperforming)

SAUBER-FERRARI

Grey clouds, no silver lining

The car's development has been hampered by a limited budget, and for Peter Sauber, back in the sport after 'cashing-in' a few years ago, there's no excuse for underfinancing. Someone there should have had the gumption to sign both Pérez and Gutiérrez and sell the commercial rights to Slims Snr and Jnr, thus re-inventing Sauber as a Mexican superteam. Instead they're taking a worryingly Russian approach in terms of rent-a-drivers and short-term interests.

Esteban has many critics, but I view him from the standpoint of never really rating him in GP2. Compared with his driving in 2011-12, he's a quantum leap better now, particularly in low-grip conditions.



They have good tech people at Sauber. Willem Toet and Tom McCullough are stand-outs, – but they can only do so much.

Rating Underperforming (given their experience, their drivers and their technical personnel)

WILLIAMS-RENAULT

Spanked #BOTTAS

So far it's been the flipside of Force India. The team did well in 2012. They won a race; the Renault deal carried increased momentum. The talented Valtteri Bottas could only add to that package for 2013.



Sadly, the FW35 has been a nightmare and the bloodletting has been severe. Mark Gillan left last year and was followed this year by Dominic Harlow and Robin Gearing. And now Pat Symonds has replaced Mike Coughlan. The talented Jason Somerville and Jonathan Eddolls remain – so hopefully improvements will happen swiftly.

Until now, though, 2013 has been nothing more than an exhibition of the talents of Pastor Maldonado and Valtteri. Both look superb, but both are massively better than the cars they drive.

Rating Underperforming (given their 2012 baseline, their experience, their engine and their talented drivers)

CATERHAM-RENAULT / MARUSSIA-COSWORTH

Waving, not drowning (yet)

I feel very sorry for both these teams, for they came into F1 on the premise that it was all going to cost no more than £30m per year with a guaranteed prize money return of the same amount. As such, in a much deeper ocean, their organic growth has inevitably been sketchy.

Caterham have gone from two hired drivers to two rent-a-drivers in the space of three years; and only this year have Marussia been able to run KERS. Next year, happily, they will be switching to a Ferrari powertrain. F1 costs a fortune, though, and for teams like



these, struggling in the quicksand, it's difficult to find genuine benefits for big-money sponsors. That they are both still here is a testament to the commitment of both Tony Fernandes (Caterham) and John Booth (Marussia).

Rating Mediocre (given their 'budget-cap' birth and the chronic lack of publicity for back-of-the-field teams)

Team stats

	Toro Rosso 24 points – 7th		Sauber 7 points – 8th		Williams 1 point – 9th		Marussia 0 points – 10th		Caterham 0 points – 11th	
	Vergne	Ricciardo	Hülkenberg	Gutiérrez	Maldonado	Bottas	Bianchi	Chilton	Pic	van der Garde
Qualifying	3	7	10	0	4	6	9	1	6	4
Race	5	5	7	3	5	5	8	2	8	2
Points	13 (13th)	11 (14th)	7 (15th)	0 (18th)	1 (16th)	0 (17th)	0 (19th)	0 (22nd)	0 (20th)	0 (21st)
Retirements	4	2	2	2	3	1	2	0	1	2
Most laps in	85 in 10th	108 in 13th	102 in 12th	72 in 15th	86 in 14th	101 in 14th	154 in 19th	164 in 20th	139 in 17th	113 in 17th

In
conversation
with

Graeme Lowdon

The president and sporting
director of Marussia on the battle
for position – on track and off

INTERVIEW ANTHONY ROWLINSON

PORTRAITS ANDREW FERRARO/LAT





What can you reveal about the new Concorde Agreement and your stake in it?

There is no Concorde Agreement, so there's no agreement holding together the main players in the sport: the teams, the commercial rights holder (CRH) and the governing body. If you look back over recent F1 history, there have been very few periods when there has not been a Concorde Agreement, so it does serve a purpose. Now you have to ask why various parties to the old agreement seem to be involved in various bits of its replacement. But for whatever reason, there is no Concorde Agreement in place. Under normal circumstances that would put a lot of teams at risk, but there are various bilateral agreements between teams and the commercial rights holder. These don't exist for all the teams, however, and we do not have one.

Why is that?

You'd have to ask the commercial rights holder. There's no obvious reason. It's been reported that it might be something to do with our 2012 championship position [11th] or even our current position, and whether or not a team is in the top ten. We're currently in the top ten and the teams ahead and behind have bilateral commercial agreements, we understand.

So what does that mean for Marussia?

My position is to look after the best interests of our stakeholders: the shareholders, investors, employees, partners and everyone else. From that viewpoint it strikes me that the CRH is very dominant in our industry. Yet for whatever reason it seems there is not equal treatment of the participants. A Concorde Agreement would change things altogether.

Is this situation bad for the sport?

In any industry where you have people with dominant positions and a playing field that's not level... well, you have to think that's not healthy for the industry. I can't see why one participant not having an agreement with the CRH should be good for the industry. I can't see how it can possibly benefit the sport.

So are you at loggerheads with Bernie?

That's absolutely not the case. It's not a confrontational situation in any way. Bernie Ecclestone works for the CRH (Formula One Management) as their chief exec. CVC, as I understand it, are the majority shareholders of FOM, so Bernie has a responsibility to do his best for his employers. Clearly, in terms of the financial returns, he is doing a fabulous job for his employers.

But he does not work for our team, and as far as I am aware he does not work for any team. At Marussia, our management team have an obligation to our shareholders to provide a level playing field in commercial terms. That's at the root of what we're saying, so there's no crusade against any one person.

How do you assess your season so far and the obvious improvement in your performance?

We were coming from a long way back, but now it's usually a close-run thing in qualifying with Caterham. Last year we had a much slower car than them, but we did a good racing job of keeping them behind until the last few laps of the last race. This year we've done a terrific job of developing the car – look at the timesheets. At the start of the year that put us ahead of Caterham and now we're pretty much level. That's a huge step from where we came from; one of the biggest in the paddock. It's a return on the hard work everyone's put in at the factory – and for the race team, too. This is a proper racing team, we enjoy going racing and the good thing is that we're actually racing now. We have good reliability and our pitstops are the equal of some of the much bigger teams'. So in areas where we can make a difference I feel we're doing a pretty good job with the resources we have.

How does it feel to race with the big teams?

We have no illusions about how difficult F1 is. It should be difficult. It's the pinnacle of motorsport and we respect it – if you don't respect F1, you shouldn't be in it. We just pass through it, after all – it was here a long time before us and hopefully it has a fantastic future. We should enjoy it while we are in it and also protect it for the future because it's incredibly valuable. Having said that, making a car go fast is tremendously expensive and that's one area where the sport has missed a chance. It's still possible to buy performance gains, and we hoped that through the Resource Restriction Agreement it would be more about how clever you could be and less about how rich you are.


What can you tell us about Andrey Cheglakov?

He is our majority shareholder and a very impressive guy – a Russian technology entrepreneur with a string of successful investments and technology businesses. He understands tech really well and is also a fan of the arts. He's an interesting guy who's committed to F1.

And Jules Bianchi?

His deal to join us was done very quickly at the pre-season Barcelona tests. There was never any sense of him saying, "I'm a Ferrari Academy Driver" – it was quite the opposite, in fact, and the mechanics could see that immediately. They could tell he was a guy ready to take his F1 opportunity and make the most of the car he was given. Racing teams love that attitude and they were instantly ready to work all-nighters for him. He's been very impressive and hardly makes any mistakes.

How's your other rookie doing?

Max [Chilton]? He has less experience than Jules, but whenever Jules is quicker there are no excuses. He's smart enough to know Jules is a guy he can learn from. 

Factfile

Date of birth

**23 April
1965**

Birthplace

**Corbridge,
England**

Team

Marussia F1

Role

**Team
president
& sporting
director**

1988

Graduates from Sheffield University with a Masters in Mechanical Engineering

founds

Eiger Racing, a Formula Renault team that takes a number of class wins

1992

Follows this up with an MBA from Newcastle University

2000

Floats J2C on the AIM stock exchange and, after years of competing against them in Formula Renault, joins Manor Motorsport as commercial director

1993

Moves to Switzerland with power company ABB Group

1993-1996

Attends Indycar races in America and Australia, working with clients involved in sponsorship

2002

While at Manor, co-founds Nomad Digital, who become leading providers of data comms in the transport sector

1996

Returns to UK to set up Industry On-line, an IT business that becomes J2C. He also co-

2010 Moves to F1 with Manor (later renamed Virgin Racing) as CEO

THE FRENCH CORRECTION

Some suggest Jean-Eric Vergne is all show and no go... he doesn't agree

WORDS STUART CODLING PORTRAITS ANDREW FERRARO/LAT

"If this dude put as much effort into his driving as he does his *look*, superstardom would surely follow." Not this author's words but those of Darren Heath, one of Formula 1's top five photographers, in one of his typically acerbic call-a-spade-a-spade blog entries. Jean-Eric Vergne is certainly a cool customer, but can his F1 career thus far really be summed up in such a pithy sound bite – and does it really reflect such an unbalanced perspiration-to-inspiration ratio?

"That's wrong," laughs Vergne. "I wake up in the morning, I take a shower, brush my hair and go to the track [he shakes his head and gives an emphatic Gallic shrug]. I don't put in any effort!"

Well, perhaps you've either got it or you haven't. And while outsiders see only the effortlessly cool Jean-Eric gliding with swanlike grace across F1's waters, the man himself will tell you that beneath the surface his legs are pumping furiously. Towards the end of last season he began to match and beat Toro Rosso team-mate Daniel Ricciardo more regularly in qualifying, and, of late, his race performances have yielded higher finishing positions – having finished a career-best sixth in Canada, he was on for fifth at Silverstone before a rear tyre blew out.

"It wasn't easy coming into F1," he says. "Qualifying is definitely not easy as well, but... I know I have the pace. Everybody said last year that qualifying was the worry for me, but I was never really worried. It takes time, I'm working a lot on it, and now I'm getting better and better. And the race results have followed as well."

"Last year, for me, was not good enough, and I've been working a lot this past winter,

massively," he taps the table to emphasis the point, "on *all* the areas I was lacking in. The technical side, many areas like this. And I think I'm a much better driver now, not just in driving the car but in talking with the team and understanding everything."

For independent verification of this, look no further than the garage next door. Ricciardo recently acknowledged to reporters that his own mid-season upswing in form came from a post-Canada reassessment of his own approach. Vergne's tidy showing there, said Ricciardo, "showed the car had potential, gave me a lot of fire. I like to think I always work hard away from the cockpit, but maybe I worked even harder."

Compare and contrast with Monaco 2012, for instance, where the two drivers lined up alongside one another on the grid, but Vergne qualified over a second slower.

There's no doubt Vergne has been putting pressure on Ricciardo in every area. He has to – and not just because of Mark Webber's abruptly announced retirement from the 'senior team', Red Bull. The path to the soon-to-be-vacant seat alongside Sebastian Vettel is littered with the detritus of failed careers. Red Bull's Young Driver Programme is a mercilessly up-or-out environment, run to the clock by RB magnate Dietrich Mateschitz's eyes and ears on the factory floor, Dr Helmut Marko. At the appointed hour – usually after 18 months, sometimes after two complete seasons – Marko will without compunction expel one or both Toro Rosso drivers in favour of new blood. The programme has already created its once-in-a-

generation genius – Vettel – and all who came before and since have been found wanting.

"Yeah, it is working like this," says Vergne with another Gallic shrug, "for many years, and it will be so for as long as the Red Bull programme continues. You get your chance and you need to grab it with your two hands, you need to go for it – which I'm doing. I'm not looking behind, I'm not looking at where I could be. At the moment I'm with Toro Rosso and I'm 100 per cent focused on the job I'm doing with them. I want the best results possible."

Vergne progressed to F1 via the long-proven path of Formula Renault and Formula 3 – winning the British F3 championship in 2010 – with a brief sidestep to the Formula Renault 3.5 series (he'd have won that, too, but for a crash with his own team-mate, eventual champion Robert Wickens). That makes him unusual among contemporary F1 drivers in that he didn't attend the Ecclestone-approved finishing school of GP2, regarded by many as being the closest feeder series to F1 in terms of its technical nuances. Add to that the close alignment of many GP2 squads with F1 teams and you can see why the FRenault path may put drivers at something of a disadvantage, in spite of Red Bull's more explicit presence there than in GP2.

"In Formula 3 and World Series you go in to a team and it's a maximum of 30 or 40 people," says Vergne, "so when you arrive at an F1 team with 400 people it's a big change. There are possibilities a hundred times bigger than there used to be, so it takes a lot of energy to learn everything. And I'm still learning many things. →





Each prize is worth up to
£450

WIN signed copies of the McLaren trilogy books and exclusive Links of London cufflinks

This year marks the 50th anniversary of the McLaren racing team, and to celebrate this historic milestone, readers of *F1 Racing* magazine are being offered the chance to win some fantastic prizes.

Four lucky readers will win signed copies of the McLaren trilogy of books: *The Drivers*; *The Cars* and *The Wins*, each covering one aspect of the unique heritage of the team founded in 1963. These exclusive books will be signed by Martin Whitmarsh, Jenson Button and Sergio Pérez.

And that's not all! The winners will also receive a pair of exclusive Links of London McLaren 50th anniversary cufflinks.

For your chance to win these fantastic prizes, simply go to www.f1racing.co.uk/competition and answer the question below:

Q: Since arriving in F1, McLaren have won more grands prix than any other team*, but how many?

a) 176 b) 182 c) 194

See website for full terms and conditions

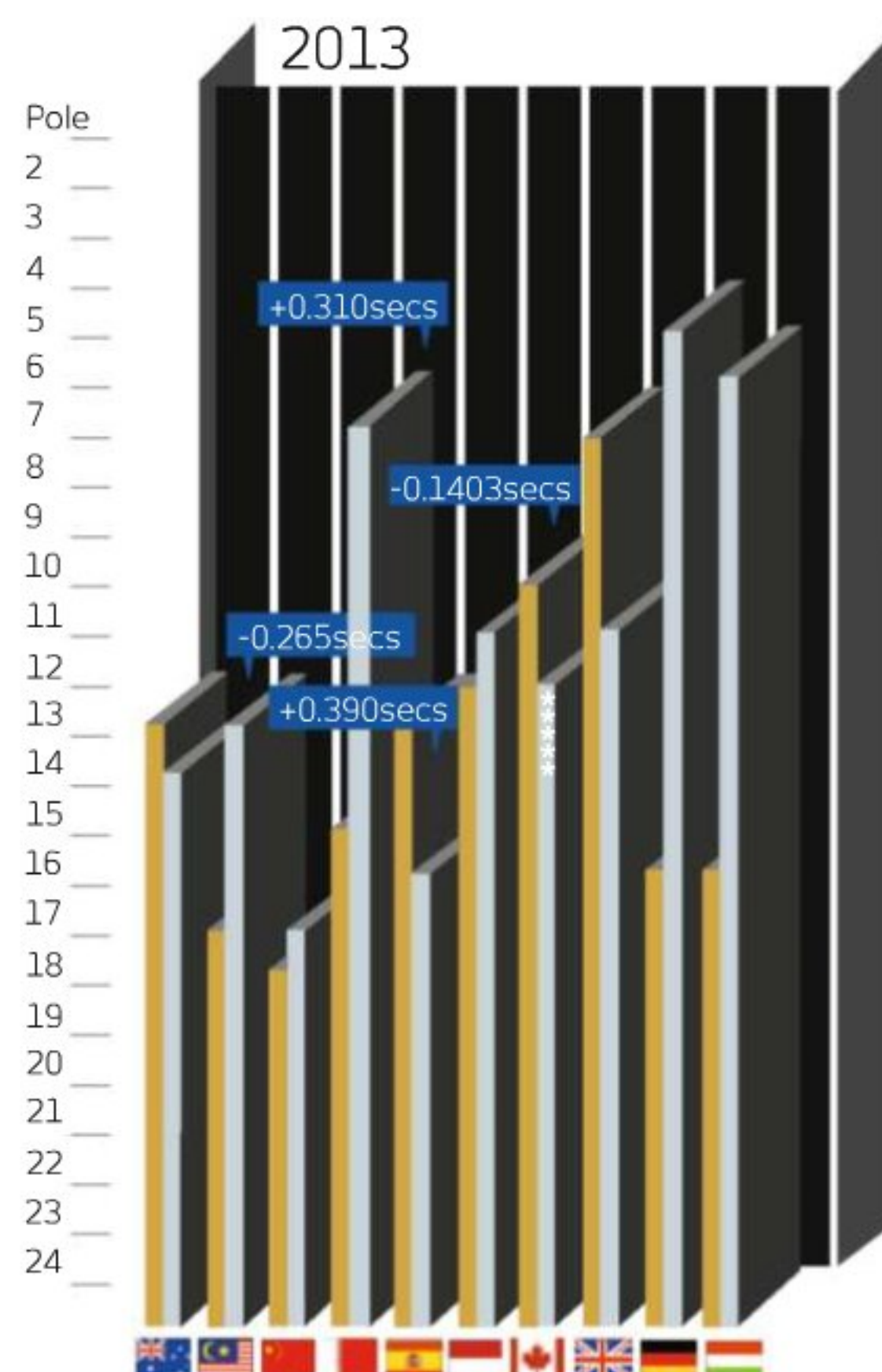
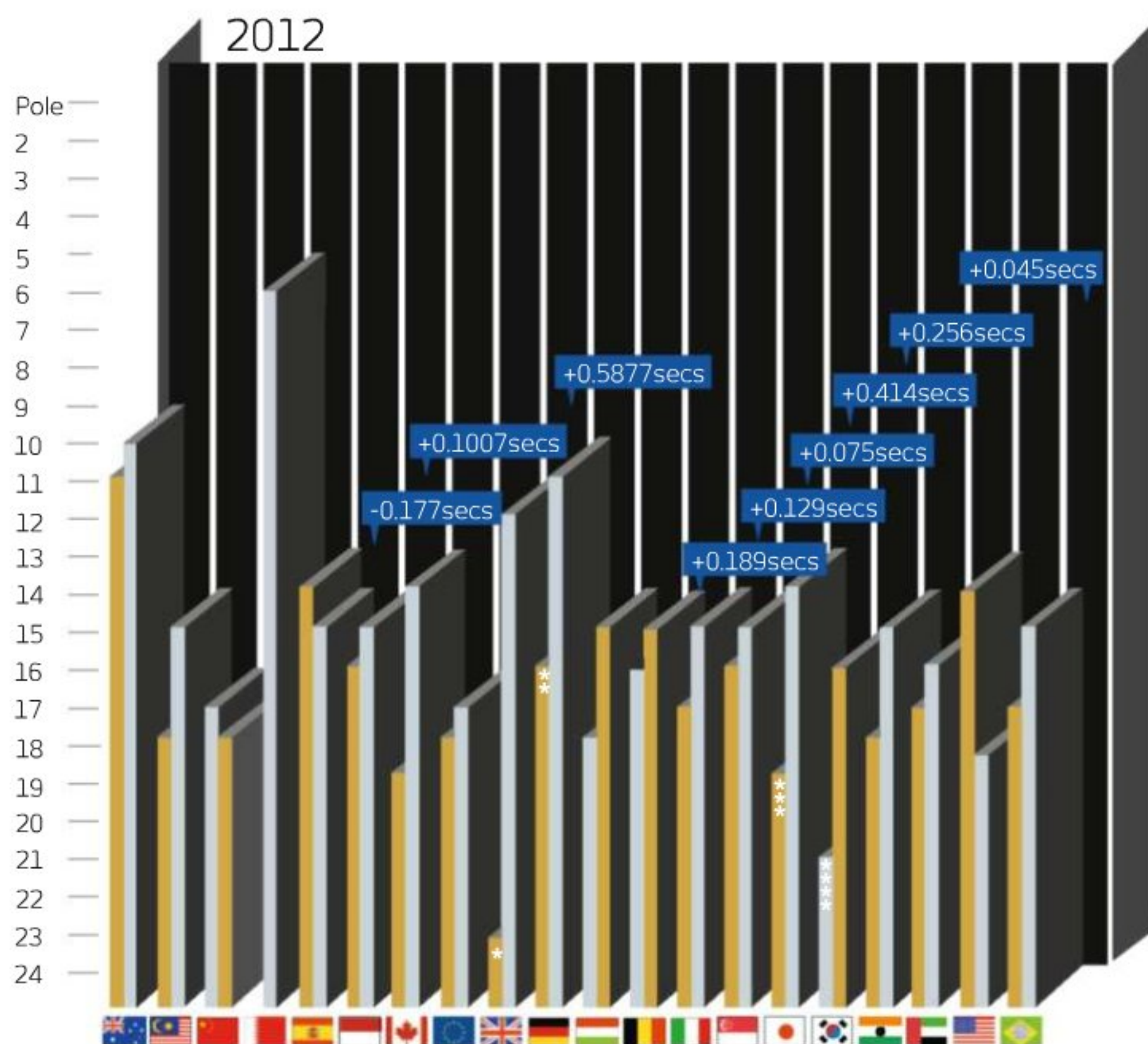


LINKS
LONDON
linksoflondon.com

THE TALE OF THE TAPE

VERGNE vs RICCIARDO IN QUALIFYING

Although Jean-Eric Vergne races well – he's scored more points than his team-mate Daniel Ricciardo and claimed the team's highest finishing spot so far this season – generally Ricciardo has the edge in qualifying. For accuracy we have compared times only for those races when both drivers progressed to the same qualifying session, so here's how they stack up...



Key ■ Jean-Eric Vergne ■ Daniel Ricciardo
 *Vergne penalty for contact in European GP
 **Vergne eliminated in Q1, but gained places thanks to other driver grid penalties
 ***Vergne penalty for blocking Bruno Senna
 ****Ricciardo penalty for gearbox change
 *****Ricciardo penalty for not lining up correctly at pitlane exit

"It makes it really interesting and exciting, this work between the driver and the team. Now I can say things like, 'I want the steering rack to have this specification' or something like that. It makes the driver's job more interesting and more challenging, which I love."

France was once the heartland of F1 and, particularly in the 1970s and 1980s, the country boasted a proliferation of frontrunning drivers – thanks in part to substantial investment by Elf. And now there are four Frenchmen on the grid – Vergne, Charles Pic, Jules Bianchi and the Franco-Swiss Romain Grosjean. Does this signify a renewed interest in motor racing?

"No, not really," says Vergne with a finality of tone. "In France there is a phobia about automobile sport – there are no more sponsors. Before there were many more, now we have only

Renault... and Total, of course. I hope that can change – that being French, and having good results, could bring back the mentality of the past, like the support in Germany for German drivers and in Britain for the British drivers. It was like this in France in the past and it could be like this again. We just need winning drivers!"

In an interesting mid-sentence slip, he nearly forgot to mention a company that may yet play a significant role in his career. Vergne is, we're led to believe, third on the list for the Red Bull seat behind Ricciardo and Kimi Räikkönen; the Kimster is the first choice, since neither Marko nor Christian Horner are convinced Ricciardo is a complete enough driver yet. Of the two Toro Rosso drivers, Ricciardo is higher up the pecking order on account of being the better qualifier (see analysis, above), though Vergne is thought

to be the better racer. For now, the powers that be are happy to pursue negotiations with Räikkönen's management, while Ricciardo and Vergne scrabble over the final races of 2013 to prove that they can qualify *and* race well.

Should Vergne fail to get the nod, there is still hope outside the Red Bull empire. A healthy purse of petrochemical dollars stands by to give the next French superstar a push, courtesy of Total. For now, Grosjean enjoys their support of his Renault-powered Lotus, but his inconsistency has frustrated his backers – to the extent that he is still on a probationary contract. His loss could be Vergne's gain. Vergne chose to wear a crash helmet with colours styled on that of 1970s superstar François Cevert at Monaco ("Well it's 40 years since his death" – on 6 October 1973 – "and his sister has brought out a book. I thought it would be a good, 'ow do you say – homage? Tribute? Yeah, a good tribute to him.")

Was Vergne laying down a marker there – a promise of what's to come in a career that seems to be building momentum?

"It doesn't matter if it's the start, the middle or the end of the season," he says, enigmatically. "We always have to perform..."

"In France there is a phobia about automobile sport – there are no more sponsors. I hope that can change"



CELEBRATE 50 YEARS OF McLAREN

WITH THIS FREE TEAM McLAREN
POLO SHIRT WHEN YOU SUBSCRIBE
TO *F1 RACING*!

McLaren



This McLaren 50 polo shirt comes in classic white, with a twin-striped detail on the front in McLaren Orange (Bruce McLaren's original racing livery) and deep blue. The design references the shirt he wore in 1966 when he took victory at the 24 Hours of Le Mans. The shirt has a twin-tipped detail at the cuffs, and the 'McLaren 50' logo embroidered on the chest



ORDER ONLINE AT

www.themagazineshop.com/FONE/M0913P

OR CALL 08448 488 826

When ordering, please have your bank account details to hand and quote the promotional code **M0913P**. Offer ends 30 September 2013



**SUBSCRIBE
TODAY AND
GET ALL THIS:**

FREE GIFT
Team McLaren
polo shirt
WORTH £39.95

GREAT SAVINGS
SAVE 15% on
the cover price

SPREAD THE COST
PAY JUST £24.99
every six issues

FREE P&P
EVERY ISSUE delivered
direct to your door

SUBSCRIPTION OFFER



✓ YES

I would like to subscribe to *F1 Racing*, paying £24.99 every six issues and saving 15% on the cover price. Please send me my **FREE** Team McLaren polo shirt in the following size (one choice only)

Medium ☐ Large ☐ XLarge ☐

This is a **new subscription** ☐ **renewal** ☐

YOUR DETAILS BLOCK CAPITALS PLEASE (must be completed)

Mr/Mrs/Ms	First name
Surname	
Address	
	Postcode
Telephone	
Email	
Mobile	

DIRECT DEBIT DETAILS

(Instructions to your bank or building society to pay by Direct Debit)

To the manager	Bank/building society
Address	
	Postcode
Name(s) of account holder(s)	
Sort code	
Branch/building society account number	
Reference number (for office use only)	



Originators ID No. 850699

INSTRUCTIONS TO YOUR BANK OR BUILDING SOCIETY

Please pay Haymarket Media Group Direct Debits from the account detailed in this instruction, subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may stay with **Haymarket Media Group** and, if so, details will be passed electronically to my bank/building society.

Signature	Date
-----------	------

PLEASE RETURN THIS FORM TO:
F1 Racing, FREEPOST RSBZ-AUZK-SUHS,
PO Box 326 Sittingbourne, Kent ME9 8FA

For special international rates:
Please call +44 (0) 1795 592 990 or visit www.themagazineshop.com

Terms and conditions: This offer is open to UK residents only. Overseas rates are available on +44 (0) 1795592 990. Please allow 35 days for delivery of your gift and first issue. The gift will be sent under separate cover from the magazine. Should we run out of gifts, you may be offered an alternative gift – there is no cash alternative. Direct Debit rates are valid for one year, after which they are subject to change. Should prices change, we will inform you in writing. We ask that you enter into a Direct Debit agreement with the intention that your subscription will continue for a minimum period of 12 months, even if the frequency of payment is for a shorter period. However, you will still have the right to cancel your Direct Debit in accordance with Direct Debit Guarantee. Should you wish to cancel your subscription it will be cancelled on expiry of the current term, which will not be refundable other than in exceptional circumstances. If a gift is included as part of the subscription offer, we reserve the right to request the return of the gift. Details of the Direct Debit Guarantee are available on request. Savings are based on the standard UK cover price of £4.90. Offer ends 30 September 2013. **Haymarket Media Group Ltd** use a best-practice layered Privacy Policy to provide you with details about how we would like to use your personal information. To read the full privacy policy, please visit our website at www.haymarket.com/privacy or call us on 08448 482 800. Please ask if you have any questions because submitting your personal information indicates your consent, for the time being, that we and our partners may contact you about products and services that will be of interest to you via post, phone, email and SMS. You can opt out at ANY time by emailing datacontroller@haymarket.com or by calling 08448 482 800.

M0913P

MotoExpress

Selected Grand Prix Packages Exclusive events especially for you



Monza - Italy



Silverstone



Abu Dhabi



Austin - Texas



This could be
you on the
Monaco
Pit lane

Our Monaco
2014 event is
already selling

Don't delay
BOOK NOW

2014 packages on sale now
motoexpress-events.com

01296 640875
or book online

MAIN PHOTO: STEVEN TEE/LAT. INSETS: CHARLES COATES/LAT, ANDY HONE/LAT, STEVE ETHERINGTON/LAT



That's a familiar feeling

Lewis's 22nd Formula 1 win gives him his first taste of victory with Mercedes. And his sterling performance at the Hungaroring is his third win from pole at this circuit

REPORTS



112 HUNGARIAN GP REPORT

This time it's Lewis – not Nico – who's doing the winning for the Silver Arrows

PREVIEWS



116 BELGIAN GP PREVIEW

F1 visits a classic venue and gets stuck into the longest lap on the calendar



118 ITALIAN GP PREVIEW

From the longest lap to the highest speed: F1's next stop is Monza

OPINION

121 TOM CLARKSON

Everyone heads off on holiday for the F1 summer shutdown, but TC's keeping tabs on their whereabouts...



122 MURRAY WALKER...

When we asked Murray to share his favourite McLaren memories, the list just got longer and longer...



RACE DEBRIEF

by Anthony Rowlinson

Hungarian Grand Prix

28.07.2013 / Hungaroring



All the speed he needs

A breakthrough Mercedes win for Lewis, his fourth in Hungary, could be the season's tipping point

Lap 35 of the 2013 Hungarian GP and this taut 19-race season has reached its mid-point. Polesitter Lewis Hamilton has just re-taken the lead from a pitting Seb Vettel, and in that freeze-frame may reside a glimpse of an edgy, desperately tight second half of the year to come – one over the course of which Lewis *might* just pip Seb for the drivers' crown.

That may seem a bold claim to make of a still-improving team-driver combination that is yet to prove conclusively it has nailed the excess rear-tyre wear that has bedevilled F1 Mercs for the past three seasons. It might also seem imprudent to venture that battle-hardened, race-acing Red Bull could actually be *beaten* to a title.

Consider that Hamilton won at a sprint against all expectations, including his own, at what's likely to be the hottest race of the year. He asserted beyond argument that Lewis-Merc were the flat-out fastest show in Budapest this year.

Consider, also, that a Kimi-driven Lotus keeps showing it is eminently capable of nicking points

from a Vettel Red Bull, as it did here with a stout defence of second place in the closing laps.

Then factor in to your thinking the latest spec of Pirellis, with stiffer sidewalls, which seem to have harmonised the W04's front-rear tyre degradation imbalance. All of a sudden, Vettel's 48-point lead over a momentum-gathering Hamilton doesn't look insurmountable.

There's no question; Red Bull are a formidable operation, battle-proven and demonstrably tough enough to quell pretenders from without (McLaren, Ferrari, Lotus in recent seasons) as well as from within (Mark Webber refusing to lay down and die). Yet Red Bull's ace – the sheer, underlying pace of RB5 through to RB9 – may no longer be enough to trump what's emerging as a stronger Mercedes hand.

The two teams' vital stats are telling. Wins: Red Bull four/Merc three; poles: Red Bull three/Merc seven; fastest laps: Red Bull six/Merc zero. They bear out the mantra that the W04 is a qualifying rocket, thanks to its ability to draw

rear-end grip from its rubber. They also hint at race-day patchiness that has been the flip-side of qualifying excellence. Merc-doubters could then cite Rosberg's Monaco win as being one of containment (holding the pack to his tempo) rather than field-shredding speed. They'd also contend that his Silverstone win, though merited, was fortunate, given Vettel's retirement while leading, plus a timely Safety Car.

Except Hungary was different. Lewis's win was dominant, built on finely weighted aggression and two uncompromising passes – first on Button, later on Webber. It doused the expectation that Hamilton's Merc would wilt in the heat, unable once again to capitalise on a brilliant pole. For despite track temperatures that hovered around 50°C on Sunday, Lewis's W04 had all the speed it needed. From laps 37 to 41, leading, he kept the hammer right down, dropping his times from 1min 26.898secs to 1min 25.798secs. Through to the close, his pace remained consistently in the 25s, before a

pummelling 1min 24.647secs penultimate tour bettered only by Vettel's 1min 24.553secs (lap 57) and Webber's 1min 24.069secs (lap 61).

Team boss Toto Wolff was keen to deflect speculation that Mercedes are emerging as a genuine threat, preferring to talk of "consolidation", "sustainable performance" and "performance analysis". Neither would he be drawn on how, exactly, Mercedes have surmounted their rear-tyre-wear issues.

Typically the team's rear-tyre temperatures have been as much as 25°C higher than the norm elsewhere of around 120°C, resulting in rapid degradation. That was not so in Budapest (Lewis described the race as "a walk in the park") and it seems certain the introduction of Kevlar-belted Pirellis helped Mercedes' cause. The construction has limited front-tyre performance to a degree, with the result that rears are no longer having to work so hard to keep up. This seems to have been particularly helpful for Mercedes, but less so for Lotus, whose E20 has always been light-footed.

That trait was evidenced yet again in Hungary with Kimi Räikkönen's switch from a planned three-stop strategy, to a two – the kind of in-race flexibility of which other teams can only dream. The change of plan let Kimi sail to another podium from a so-so sixth in qualifying. Lobstered as he glugged champagne, he was the very picture of 'chill' an hour later in the Lotus motorhome, kicking back with a Beck's and a circle of friends, unburdened and underwhelmed to be second in the championship again. His demeanour on and off track is the opposite of that of team-mate Romain Grosjean.

The Frenchman started from P3, led briefly and was feisty throughout. Yet once again, his verve proved his undoing as a drive-through penalty for an off-the-track pass on Felipe Massa ruined any chance of a podium. Forlorn, he later mumbled "that's motor racing" but his deflated body language gave the lie to his words.

Another leader was Mark Webber, who started on mediums after a troubled qualifying that left him in tenth. Impressive throughout, a smart strategy couldn't quite overcome Saturday's handicap and he wound up fourth. Team-mate Vettel came home 12.4secs behind Hamilton for third, and he might have challenged harder for the win had it not been for early wing-damaging contact with Button. But that nudge, plus a 12-lap spell bottled up behind Jenson's improved McLaren, scuppered any chance of top spot.

Ferrari were disappointing: a five-eighth finish for Alonso and Massa being no more than the performance of the F138 merited. And with Rosberg out of the picture after a lap 65 engine failure, Pastor Maldonado was able to take Williams' first point of the season. A drop of balm, at last, for Grove's racing soul. 🍷

The story of the race

V Polesitter Hamilton leads away with Grosjean just failing to sneak ahead of Vettel for second

HUNGARORING



> When Hamilton pits first on lap 10, Vettel takes over the lead from Grosjean and Alonso



> After his first stop, Vettel rejoins behind Button and is held up by the McLaren on a medium tyre



< Grosjean's chances of victory are shot after a drive-through penalty for an off-track pass on Massa



^ Hamilton dives ahead of Webber for second after his final stop. But when Vettel pits...

> ...the lead is Lewis's again and he holds on comfortably for his first win with Merc



MAIN PHOTO: ANDY HONE/LAT; ILLUSTRATION: ALAN ELDREDGE; INSETS: STEVE ETHERINGTON/LAT; GLENN DUNBAR/LAT; ANDY HONE/LAT; ALASTAIR STALEY/LAT; CHARLES COATES/LAT

Hungarian Grand Prix stats

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

THE GRID



1. HAMILTON
MERCEDES
1min 19.388secs Q3



3. GROSJEAN
LOTUS
1min 19.595secs Q3



5. ALONSO
FERRARI
1min 19.791secs Q3



7. MASSA
FERRARI
1min 19.929secs Q3



9. PÉREZ
McLAREN
1min 22.398secs Q3



11. SUTIL
FORCE INDIA
1min 20.569secs Q2



13. BUTTON
McLAREN
1min 20.777secs Q2



15. MALDONADO
WILLIAMS
1min 21.133secs Q2



17. GUTIÉRREZ
SAUBER
1min 21.724secs Q1



19. PIC
CATERHAM
1min 23.007secs Q1



21. BIANCHI
MARUSSIA
1min 23.787secs Q1



2. VETTEL
RED BULL
1min 19.426secs Q3



4. ROSBERG
MERCEDES
1min 19.720secs Q3



6. RÄIKKÖNEN
LOTUS
1min 19.851secs Q3



8. RICCIARDO
TORO ROSSO
1min 20.641secs Q3



10. WEBBER
RED BULL
NO TIME IN Q3



12. HÜLKENBERG
SAUBER
1min 20.580secs Q2



14. VERGNE
TORO ROSSO
1min 21.029secs Q2



16. BOTTAS
WILLIAMS
1min 21.219secs Q2



18. DI RESTA
FORCE INDIA
1min 22.043secs Q1



20. VAN DER GARDE
CATERHAM
1min 23.333secs Q1



22. CHILTON
MARUSSIA
1min 23.997secs Q1

THE RACE



THE RESULTS (70 LAPS)

1st	Lewis Hamilton Mercedes	1h42m29.445s
2nd	Kimi Räikkönen Lotus	+10.938s
3rd	Sebastian Vettel Red Bull	+12.459s
4th	Mark Webber Red Bull	+18.044s
5th	Fernando Alonso Ferrari	+31.411s
6th	Romain Grosjean Lotus	+52.295s*
7th	Jenson Button McLaren	+53.819s
8th	Felipe Massa Ferrari	+56.447s
9th	Sergio Pérez McLaren	+1 lap
10th	Pastor Maldonado Williams	+1 lap
11th	Nico Hülkenberg Sauber	+1 lap
12th	Jean-Eric Vergne Toro Rosso	+1 lap
13th	Daniel Ricciardo Toro Rosso	+1 lap
14th	Giedo van der Garde Caterham	+2 laps
15th	Charles Pic Caterham	+2 laps
16th	Jules Bianchi Marussia	+3 laps
17th	Max Chilton Marussia	+3 laps
18th	Paul Di Resta Force India	+4 laps – hydraulics
19th	Nico Rosberg Mercedes	+6 laps – engine

*Includes 20 sec time penalty for causing a collision

Retirements

Valtteri Bottas Williams	42 laps – hydraulics
Esteban Gutiérrez Sauber	28 laps – gearbox
Adrian Sutil Force India	19 laps – hydraulics

THROUGH SPEED TRAP



Fastest: Nico Rosberg, 189.56mph



Slowest: Adrian Sutil, 180.98mph

TYRE COMPOUNDS USED



Soft



Medium



Intermediate



Wet

CLIMATE

Sunny 34°C

TRACK TEMP

50°C



FASTEST LAP

Mark Webber, lap 61, 1min 24.069secs



FASTEST PITSTOP

Sebastian Vettel, 21.343secs (entry to exit)

DRIVERS' STANDINGS

1st	Sebastian Vettel Red Bull	172pts
2nd	Kimi Räikkönen Lotus	134pts
3rd	Fernando Alonso Ferrari	133pts
4th	Lewis Hamilton Mercedes	124pts
5th	Mark Webber Red Bull	105pts
6th	Nico Rosberg Mercedes	84pts
7th	Felipe Massa Ferrari	61pts
8th	Romain Grosjean Lotus	49pts
9th	Jenson Button McLaren	39pts
10th	Paul Di Resta Force India	36pts
11th	Adrian Sutil Force India	23pts
12th	Sergio Pérez McLaren	18pts
13th	Jean-Eric Vergne Toro Rosso	13pts
14th	Daniel Ricciardo Toro Rosso	11pts
15th	Nico Hülkenberg Sauber	7pts
16th	Pastor Maldonado Williams	1pt
17th	Valtteri Bottas Williams	0pts
18th	Esteban Gutiérrez Sauber	0pts
19th	Jules Bianchi Marussia	0pts
20th	Charles Pic Caterham	0pts
21st	Giedo van der Garde Caterham	0pts
22nd	Max Chilton Marussia	0pts

CONSTRUCTORS' STANDINGS

1st	Red Bull	277pts	9th	Williams	1pt
2nd	Mercedes	208pts	10th	Marussia	0pts
3rd	Ferrari	194pts	11th	Caterham	0pts
4th	Lotus	183pts			
5th	Force India	59pts			
6th	McLaren	57pts			
7th	Toro Rosso	24pts			
8th	Sauber	7pts			



For comprehensive F1 statistics visit www.forix.com

GRAND PRIX SCRAPBOOK

BlackBerry

Photography Focus

Where top F1 photographers capture the action on their BlackBerry Z10



Hungarian GP

Photographer: Mario Chiarappa
Caption: You can't get much closer to the action than this, as Lewis celebrates his win.
Effect: None

Hungarian GP

Photographer: Vladimir Rys
Caption: Lewis Hamilton exits the MERCEDES AMG PETRONAS garage in the Hungarian sunshine.
Effect: Lomo



Hungarian GP

Photographer: James Moy
Caption: The MERCEDES AMG PETRONAS team brace for pitstop practice.
Effect: Cartoon



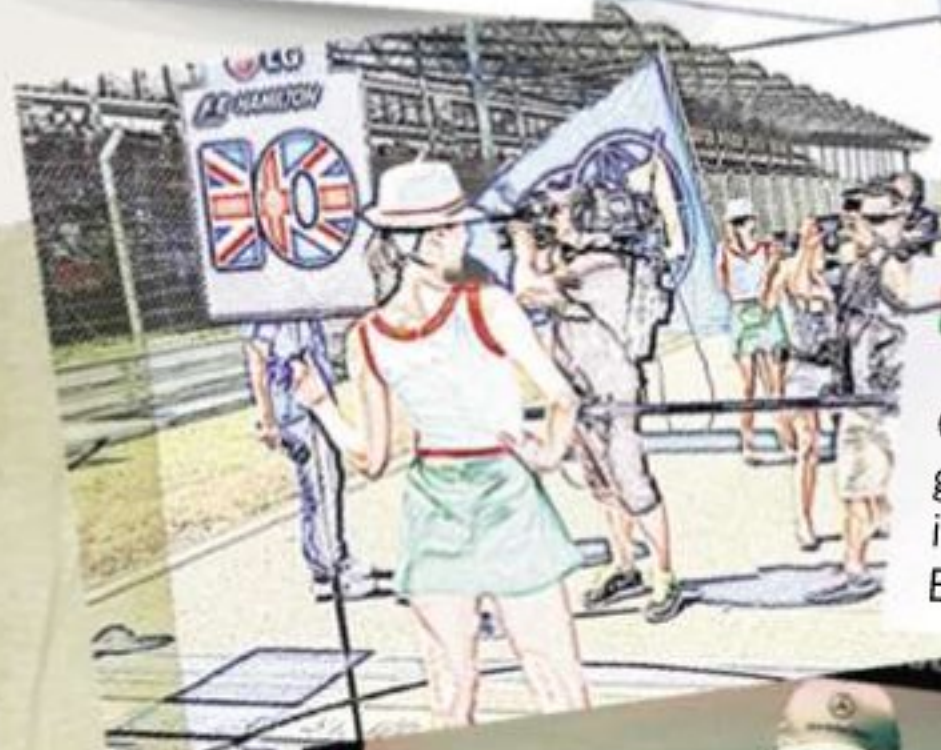
Hungarian GP

Photographer: Lukas Gorys
Caption: Lewis Hamilton's podium celebrations are seen on the pitwall.
Effect: None



Hungarian GP

Photographer: Peter Nygaard
Caption: Lewis Hamilton's grid girl attracted some attention in Hungary too.
Effect: Watercolour



SPECIAL GUEST PHOTO Hungarian GP

Photographer: Andrew Shovlin, MERCEDES AMG PETRONAS Chief Engineer
Caption: The team victory photo.
Effect: Whiteboard



BLACKBERRY Z10

Rear camera:
8 megapixel auto-focus camera
Back Side Illumination for better low-light performance
Five-element F2.2 lens
Dedicated ISP (image signal processor) with 64MB frame buffer
Flash, continuous and touch to focus, image stabilisation
Enhanced Super Resolution Digital Zoom (5x)

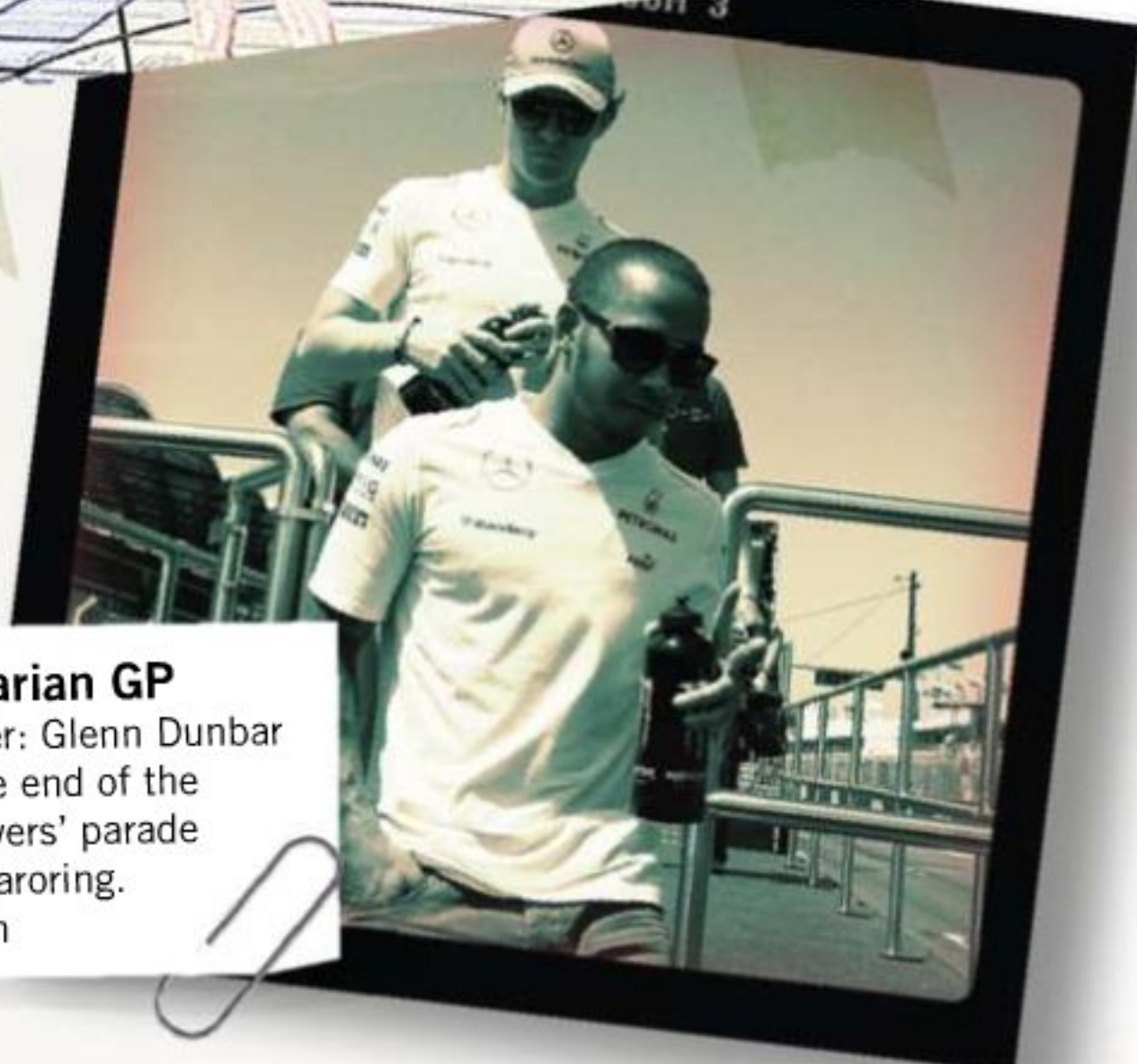


Front camera:
2 megapixel fixed-focus camera
Image and video stabilisation
3x digital zoom
720p HD video recording

More Photography Focus pics at:
[facebook.com/blackberryuk](https://www.facebook.com/blackberryuk)

Hungarian GP

Photographer: Glenn Dunbar
Caption: The end of the pre-race drivers' parade at the Hungaroring.
Effect: Grain



BlackBerry

MOBILE COMPUTING PARTNER OF
MERCEDES AMG PETRONAS FORMULA ONE TEAM

The Belgian GP preview



23-25 August 2013 / Circuit de Spa-Francorchamps

Formula 1's longest lap is a mixture of long, fast straights and high-grip corners, so finding the best compromise between top speed and downforce is the key



THE ENGINEER'S VIEW

Xevi Pujolar,
Williams' chief race engineer

"After a short summer break, F1 heads to the flat-out sweeps of Spa, a circuit that couldn't be more different to the last circuit we were at in Hungary. At 4.352 miles this is the longest lap on the calendar, and it features two distinctly different sections. Sectors 1 and 3 are very fast with long straights that require a car to have high aero efficiency. But sector 2 – from Les Combes

to Stavelot – has a lot of corners that require high grip and downforce. You can always tell if a rival team are running a high or low downforce setup by comparing their times and speeds on sector 2 with the other sectors of the lap.

"When you go from a circuit with max downforce to one with low downforce, it often takes a driver a while to be aware of exactly what he has at his disposal. Sometimes he gets the impression that something is wrong with the car as there is suddenly much less grip than at the previous grand prix. You have to remind him he was running maximum downforce at that race.

"So the key is to find the right balance between top speed and downforce – and then you have to factor in exactly what the weather is going to

do, because the climate in Belgium is notoriously fickle. For example, if it's raining in qualifying, but you know that it is going to be dry during the race, you have to try to decide what you should do with your downforce levels.

"Sometimes you see a team with each car trying a different rear-wing configuration and it might be that one wing level helps you perform better with a particular type of tyre. But say you've achieved a good qualifying position with a high downforce setup, then you're going to be compromised on the straights on Sunday. Especially now with KERS and DRS; if you don't have the top speed then you're going to be overtaken – so that's the difficult compromise in wing settings/ratios that we have to manage."

SPA STATS AND FACTS

23.5
seconds

The most time spent on full throttle

535

The length in metres of Eau Rouge and Raidillon (7.6 per cent of the lap)

3.75G

The maximum lateral force on the driver at Pouhon



8.774

The length in miles of the original Spa circuit layout





BELGIAN GP RACE DATA

Circuit Circuit de Spa-Francorchamps

F1 debut 1950

Length 4.352 miles

Distance 191.415 miles

Laps 44

Direction Clockwise

Lap record 1min 45.108secs,
K Räikkönen, 2004

Full throttle 80%

Gear changes per lap 49

Winners from pole 15

Tyre compounds

Medium/hard

LAST YEAR

Winner Jenson Button

Retirements 6

Overtaking moves 45

DRS overtakes 20

Weather Overcast, 20°C

TV TIMETABLE (UK TIME)

Friday 23 August

Practice 1 09:00-10:30

Practice 2 13:00-14:30

Saturday 24 August

Practice 3 10:00-11:00

Qualifying 13:00

Sunday 25 August

Race 13:00

Live coverage

Sky Sports F1 (available in HD)

BBC One (available in HD)

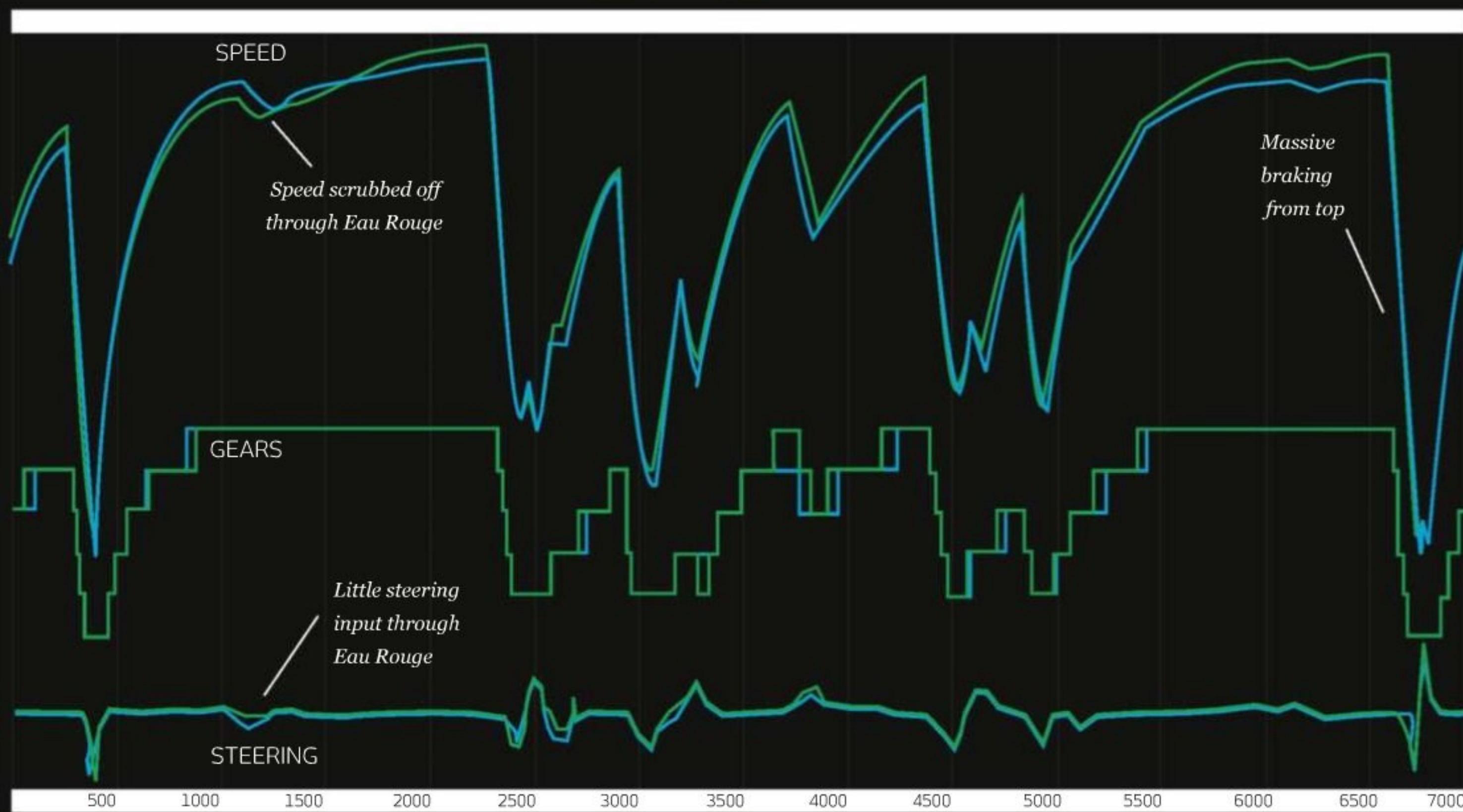
DO YOU REMEMBER...

...when Force India started from pole here in 2009 – their only pole to date? It was an all-Italian front row with Giancarlo Fisichella fastest in his Force India and Jarno Trulli in P2 for Toyota. Fisi eventually finished second, pipped to the win by Kimi Räikkönen.



SPA TELEMETRY

QUALIFYING ■ RACE ■



Turns 1 to 5

To get a good run out of La Source, a car needs good traction. Then it's flat-out and uphill to the Les Combes right-hander

Turns 10 to 14

This section demands high grip. If a team runs a lot of down-force, their pace between Turns 10 (Pouhon) and T14 (Stavelot) will be quicker than those with lower downforce

Turn 18

Huge braking into the last chicane from seventh gear (190mph) to second (40mph)

The Italian GP preview



6-8 September 2013 / Autodromo di Monza

The circuit with the fastest average lap speed on the calendar poses a number of unusual driver challenges, from short run-offs and corners to multiple kerbs



THE ENGINEER'S VIEW

Xevi Pujolar,
Williams' chief race engineer

"**This is a circuit** with a very high average speed, so engine performance is important because any lap time is directly related to horsepower. The corners are very short because they are primarily just chicanes, and the average cornering speed is at a medium to low level, so we run the cars with very low downforce – the lowest of the year.

"Because of the chicanes, the mechanical setup we run here has to be able to accommodate the kerbs. We need to ensure the ride quality is correct, because ideally you want to take as much speed as you can over the kerbs and chicanes. The easier it is to straightline them, the more you gain in lap-time performance.

"The long straights and slow chicanes mean we must ensure we have the brake material for single braking events – from very high speed to low speed, so high braking power is needed. The one benefit is that the distance between the chicanes with the long straights means the brakes do get a chance to cool.

"We run gear ratios at Monza similar to those in Spa and, again, we need to take the wind into

account. Prepare the car for a headwind into Parabolica and you'll be fine for the length of the pit straight. But if the wind changes direction, you'll enter Turn 1 with a headwind. And if the gear ratios are wrong, you'll be overtaken by cars using KERS and DRS. The DRS zones at Monza are a 650-metre stretch on the start/finish straight and a second on the run down to Ascari.

"Sometimes you encounter problems at Monza that you won't find anywhere else in the season. Due to the high number of kerbs, the suspension takes a loading it isn't used to, so suspension failures do occur. And given the high speeds at Monza and the short run-offs at a couple of places on the lap, I know some drivers are not as keen as others on this track."

MONZA STATS AND FACTS

One hundred and sixty-five miles per hour

The deceleration at the Turn 1 braking zone: 211mph to 46mph

18 out of 63



The number of times Ferrari have won here

159 mph

The average lap speed at Monza – the highest of any F1 track

5 out of 6



of the last six races at Monza have been won from pole position



ITALIAN GP RACE DATA

Circuit Autodromo di Monza
F1 debut 1950
Length 3.6 miles
Distance 190.587 miles
Laps 53
Direction Clockwise
Lap record 1min 21.046secs,
 R Barrichello, 2004
Full throttle 83%
Gear changes per lap 46
Winners from pole 21
Tyre compounds TBA

LAST YEAR

Winner Lewis Hamilton
Retirements 2
Overtaking moves 51
DRS overtakes 20
Weather Sunny, 28°C

TV TIMETABLE (UK TIME)

Friday 6 September
Practice 1 09:00-10:30
Practice 2 13:00-14:30
Saturday 7 September
Practice 3 10:00-11:00
Qualifying 13:00
Sunday 8 September
Race 13:00

Live coverage

Sky Sports F1 (available in HD)
 BBC One (available in HD)



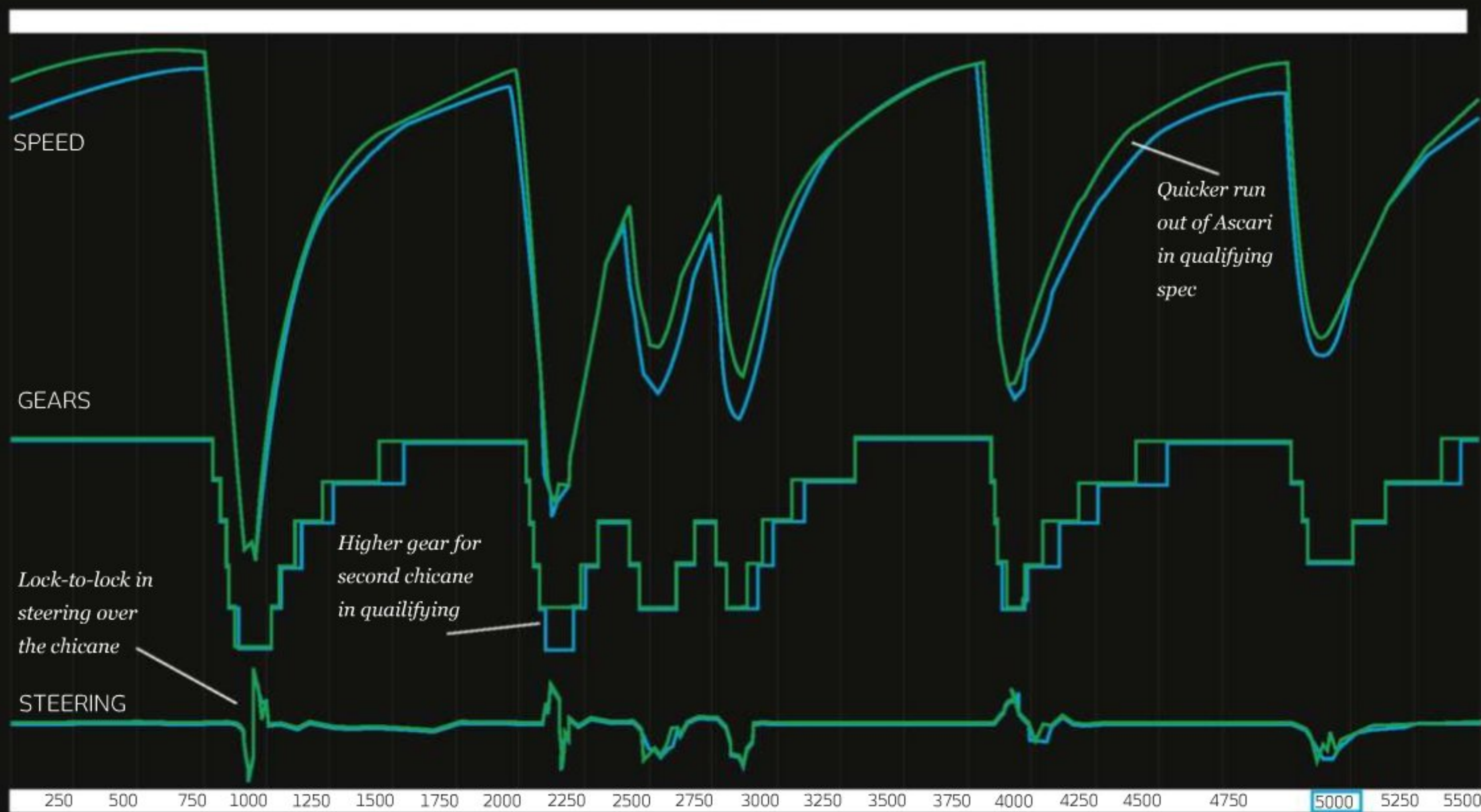
DO YOU REMEMBER...

...when Heinz-Harald Frentzen was a title contender? With just three rounds of 1999 to go, the Jordan racer won the grand prix at Monza, putting him just ten points behind Eddie Irvine and Mika Häkkinen in the drivers' championship



MONZA TELEMETRY

QUALIFYING ■ RACE ■



Turn 1

Setup requires a car with a ride height high enough to be able to straightline the chicanes to gain performance in terms of lap times

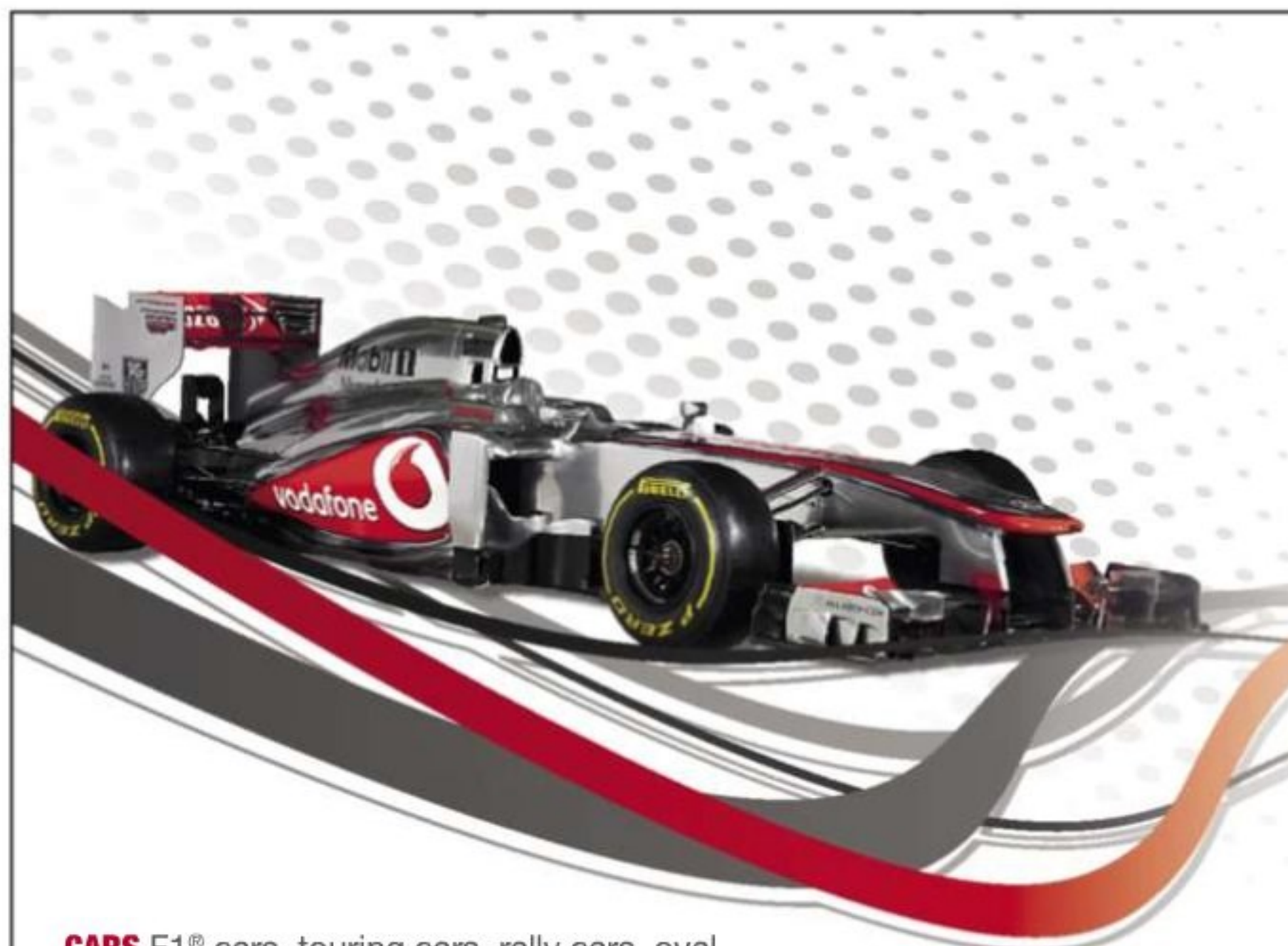
Turns 4

Teams run brake materials that cope with numerous braking events for the chicanes – from very high to very low speed

Turn 11

Note the difference in top speed heading into the Parabolica when the car is lighter on fuel in qualifying spec

ILLUSTRATION: ALAN ELDRIDGE. PHOTOS: STEVE ETHERINGTON/LAT; ANDREW FERRARO/LAT; DREW GIBSON/LAT; LAT ARCHIVE



FASTEST SHOW ON EARTH

CARS F1® cars, touring cars, rally cars, oval, performance, historic and karting. **STARS** F1® drivers and motorsport celebrities. **ACTION** Live Action Arena, Caterham Experience and indoor karting track.

EXHIBITORS Over 600 motorsport companies, cars, technology, accessories and merchandise.

TICKETS INCLUDE ACCESS TO THE PERFORMANCE CAR SHOW

F1, FORMULA 1, FIA FORMULA ONE WORLD CHAMPIONSHIP, GRAND PRIX and related marks are trade marks of Formula One Licensing BV, a Formula One group company. All rights reserved.

BOOK NOW
AUTOSPORTINTERNATIONAL.COM
CALL 0844 581 1371



@Autosport_Show



/Autosport.International.Show

AUTOSPORT
INTERNATIONAL
The Racing Car Show

9 - 12 January 2014 NEC

9-10 January Trade Only Days

The home of MultiCar discounts

Insure up to 5 cars with Admiral MultiCar, and each car gets its own great discount.

Go direct to Admiral.com and get an awesome deal on car insurance.



GO DIRECT

Admiral.com 0800 600 880



TOM CLARKSON

Inside the paddock from our man on the road

The great F1 getaway

The single-track roads of north Cornwall don't have grass verges. Many are flanked by steep banks that make it almost impossible for two cars to pass side by side. The safest way to negotiate oncoming traffic is to wait in designated passing places – and it's in one of these overtaking spots that I find Ross Brawn on the Saturday after the German GP.

The Mercedes boss isn't risking the wing mirrors on his E-Class; he's waiting patiently for a stream of holidaymakers to pass, of which I'm one. We clock each other, wave and continue on our way – Ross to the local supermarket, me to the beach. As meetings go, it's very random.

"What a small world," he says at the next race in Hungary. "I have a house down there and was nipping to the shops, and suddenly there you were! The plan was to go fishing. Unfortunately, conditions weren't good – but I still had a go."

Ross is also frustrated by the conditions in Hungary. The 50°C temperatures are the last thing his W04 needs, given its tyre-wear issues, but through some miracle (Lewis's word, not mine) the team win. Makes you wonder how many fish Ross caught when the sea conditions weren't right in Cornwall.

Or do fishermen always complain about conditions?

Ross returns to his Cornish hideaway post-Hungary "to recharge the batteries" ahead of the second half of the season. There can be

few better places to do that: the house has no mobile-phone reception and we've already established that there's no quick route back to civilisation. August's two-week factory shutdown provides much needed time-out for everyone in Formula 1, because it's the only proper holiday that many of the people involved will get during the season.

Team personnel aren't allowed to go into work (except those in marketing, poor souls), so there's no danger of anyone missing out or getting left behind. People aren't allowed to check their work emails or make work phone calls; the regulations force them to do nothing and that makes it a better break than Christmas when, all too often, they are called in to finish off work on the following season's cars.

How the drivers spend the summer break provides a fascinating insight into their characters. Felipe Massa? Desperate to remain in F1 next year, he heads back to Brazil to go karting at the Granja Viana kart track in São Paulo. Anything to stay sharp and impress his Ferrari bosses. It's difficult to see how extra prep on a kart track will make Felipe faster around Spa-Francorchamps, but it's surely better preparation than going AWOL.

Yep, Kimi has disappeared during the break. He's believed to have gone to Finland, but no one at Lotus is completely sure. Typical Kimi, and in keeping with the team's 'Where's Kimi?' Twitter campaign of recent races.

Once more into the breach.
The mighty Alpe d'Huez awaits
Mark Webber. It's supposed
to be a break, mate



"Kimi has disappeared during the break. He's believed to have gone to Finland, but no one is sure"

Perhaps we should expect a croaky-voiced Finn when he turns up for interviews in the bullring at Spa-Francorchamps.

Mark Webber spends the break settling old scores. The week after Hungary he drives *Top Gear*'s reasonably priced car at Dunsfold


and he dishes out some satisfying 'multi 12' medicine to team-mate Sebastian Vettel when he beats the triple world champion's time by 0.9secs.

Mark then heads to France with his bike and cycles up Alpe d'Huez. It isn't his first attempt on the infamous 21 lacets, as regular readers of this magazine will know. Two years ago he cycled the climb with Alain Prost and yours truly, and was immensely irritated not to complete it in less than one hour. I'm confident he'll achieve his goal this time – but only if he starts fresh. Doing a 750m climb up another mountain as part of a Prost-style warm-up, as we did in 2011, was never going to deliver fast times.

Between his appearance on *Top Gear* and him leaving for France, we catch up at his home in the Chilterns. Mark's in cracking form, although he leaves me feeling unnerved when I first arrive. It's a sunny morning and the house is unusually quiet: the doors are shut and no one is around. Mark's an early bird, so it's a surprise not to find him out and about.

As I start to have one of those 'did I get the right day?' moments, an upstairs curtain moves and I see Mark simulating a rifle shot.

"Got you," he says. "I'll be out in a minute; I'm just taking the stitches out of the dog."

How many F1 drivers do their own vet work? Not many, I reckon. But Webber's not any old F1 driver; he'll be sorely missed. 

MURRAY WALKER



UNLESS I'M VERY MUCH MISTAKEN...

“‘Murray’s McLaren memories’. There’s a nice bit of alliteration for you. And I’ve got so many...”

Admittedly, I have fewer memories of the early 1966-onwards Bruce McLaren and Denny Hulme Formula 1 and Can-Am days, because I was the BBC’s motorcycle rather than car man then. But I recall the 1967 champion, straight-talking New Zealander Denny Hulme, otherwise known as ‘The Bear’, brusquely inviting me to “Get out of the bloody way” when I stood in front of his McLaren in the Silverstone pitlane.

But I *was* commentating on that eventful 1973 British Grand Prix, when Jody Scheckter in his McLaren created havoc at the start and American Pete Revson won in the strikingly liveried Yardley-sponsored M23. I was also behind the microphone at the ‘real’ original Nürburgring a year later when my great friend Mike Hailwood crashed his Yardley-McLaren, damaging his leg and terminating his F1 career.

Great days – but as important in McLaren’s brilliant history as Bruce McLaren himself is the towering presence of Ron Dennis. It was Ron’s Project 4 organisation which, at Marlboro’s behest, took over the ailing McLaren setup in 1980 – and the results speak for themselves. But it didn’t all just happen. No words of mine can express my admiration and respect for what Ron has done to develop and enhance the McLaren story and make the Woking team second only to Ferrari in terms of F1 success – and that from a grand prix history 16 years shorter.

If ever there was a driven man in this world it is Ron Dennis, with the complex and demanding personality of an extreme perfectionist who insists that anything and everything that has anything to do with McLaren must be the best. This means he is far from the easiest person in


the world to work for, but consider the outstanding people who have done so...

On the design front, Steve Nichols, John Barnard, Gordon Murray, Adrian Newey, the long-serving Neil Oatley and, latterly, an in-house team, have produced a stream of winners, from the MP4/1 of 1981 to last year’s MP4-27 – and remarkably few lemons. The main men who drove those cars, all of whom I have had the immense pleasure of knowing and interviewing, read like a rollcall of legends: Fittipaldi, Hunt, Lauda, Prost, Senna, Häkkinen, Räikkönen, Alonso, Hamilton and Button.

Ron’s favourite colour is grey and to those who know no better, his team has an image to match of charisma-free dourness, but from long personal experience I can tell you that nothing could be further from the truth. McLaren people are more efficient than most, but they’re every bit as warm-hearted and friendly as their rivals. They’re also responsible for the two most exciting experiences of my career – driving the race-winning 1983 MP4/1C at Silverstone and riding behind Martin Brundle in 1998 at Silverstone in the one-off F1 two-seater.

Now this is an F1 magazine, but in considering their post-Bruce achievements it would be wrong to ignore McLaren’s success with the glorious Gordon Murray-designed F1 road car, its Le Mans-winning derivative, and the company’s expansion into road supercars, with the superb 12C and the stunning P1 – in all of which Ron Dennis, needless to say, has had a major hand. Of course he didn’t do it all alone, but one of his characteristics is his ability to build a team of outstanding people and get the best out of them.

So how is it that, with his powerful leadership, plus that of Martin Whitmarsh, McLaren’s huge fund of experience, its multi-talented staff, the awesome facilities at the MTC and the size of their budget, such a successful team can end up in the state they are in now? Good question. But all the top teams have had their time in the wilderness. Ferrari have. Williams have and Lotus most certainly have – to the point of disappearing altogether – and neither is it the first time that McLaren have been there.

But with all that they have going for them, it is inconceivable that this great team won’t bounce back to the top. Let’s hope it happens soon. 



“One of Ron’s characteristics is his ability to build a team of outstanding people and get the best out of them”





Volkswagen Motorsport recommends Castrol EDGE



VOLKSWAGEN MOTORSPORT CHOOSES CASTROL EDGE, OUR STRONGEST OIL

Castrol EDGE is our strongest oil yet. That's why Volkswagen Motorsport trust Castrol EDGE to give the team the strength to perform.

IT'S MORE THAN JUST OIL.
IT'S LIQUID ENGINEERING.

www.castroledge.com

Castrol
EDGE

50 YEARS OF
CARRERA
TAG Heuer



JENSON BUTTON
AND HIS CARRERA CALIBRE 1887 CHRONOGRAPH

Available to purchase online at www.tagheuer.co.uk or
visit TAG Heuer Westfield London, Westfield Stratford
City and selected fine jewellers nationwide.
For further information please call 0800 458 0882



TAGHeuer
SWISS AVANT-GARDE SINCE 1860