# **MANSELL SPEAKS**>

Exclusive and very frank interview.

Just ask Lewis



Silence please! Nigel would like a word...

"Lewis is immature. He needs to settle down"

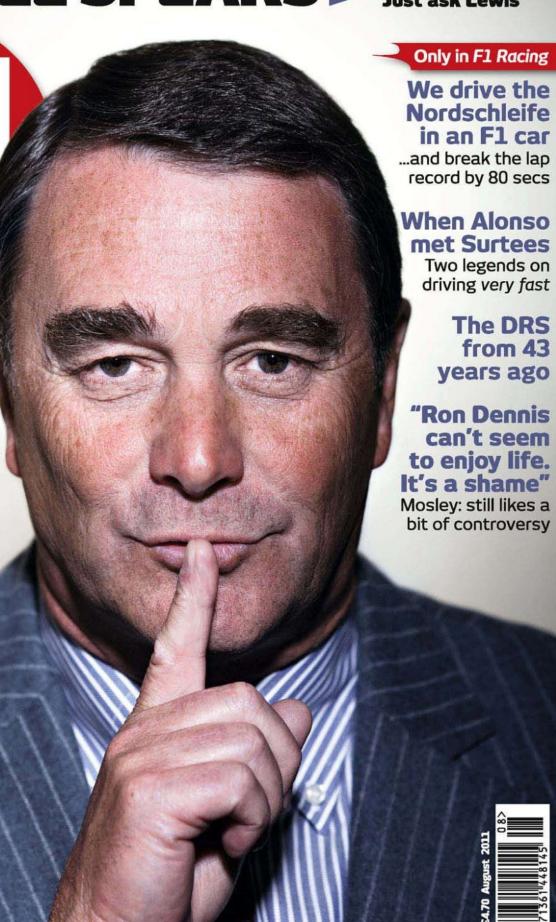
# **Plus**

How teams blow £10,000 a race – on the internet

What drivers really do at race weekends

Why are Force India sharing a runway with a 747?

Murray on Red Bull (not literally)







8



### **COVER STORIES**



VOLAGE ROCKSTOKE

Nigel
Mansell

The DIST world disassionless assentioned
an exception of the Proceedings of

40 MANSELL Be warned – the 1992 world champ is on very good form



72 SIMULATOR How fast can a modern F1 car drive the Nordschleife?



60 ALONSO AND SURTEES Two Ferrari legends meet for the first time

94



THE ORIGINAL DRS First seen in F1 in the 1960s. And here's proof...

### FIRST SECTOR: THE REGULARS

- PARADES: THE BEST SHOTS FROM BRITAIN
- 14 FROM THE EDITOR: THE PERILS OF A MANSELL INTERVIEW
- 17 INBOX: YOU DIDN'T LIKE VALENCIA MUCH, DID YOU?
- 18 PITPASS: NEWS, OPINION AND ANALYSIS
- 31 PAT SYMONDS' TECH MASTERCLASS: REAR WINGS
- 33 JACQUES VILLENEUVE: WHY LEWIS CAN'T MOVE TO RED BULL
- 34 MURRAY WALKER: RED BULL WON'T DOMINATE FOREVER
- 37 WHATEVER HAPPENED TO... HANS BINDER
- 38 THE BEST RACE I'VE BEEN TO: YOUR GRAND PRIX MEMORIES
- 100 WAY BACK WHEN: F1 AS IT WAS 13, 47 AND 54 YEARS AGO
- 102 SUBSCRIBE TO F1 RACING & GET SENNHEISER HEADPHONES
- 122 INSIDE THE MIND OF PAUL DI RESTA

**SECOND SECTOR: THE FEATURES** 

# "LEWIS WAS VERY POOR AT MONACO. HE HAD NO RESPECT FOR ANYONE"

Nigel Mansell gives his opinion on Lewis and gets rather excited at the prospect of setting up his own Formula 1 team

### NICO ROSBERG'S RACE WEEKEND

What does an F1 driver really get up to at a grand prix? Signing autographs, doing fashion shows and eating corn on the cob...

# EXCUSE ME FORCE INDIA, MIND OUT FOR THAT BOEING 747...

The strange world of the Formula 1 straightline test

### WHEN SURTEES MET ALONSO

We join Ferrari's 1964 world champion as he meets the man who won the title in 2005 and 2006. They got on rather well...

# SURTEES ON ENZO

Back at Maranello, John recalls his relationship with Mr Ferrari

# HOW FAST WOULD AN F1 CAR LAP THE NÜRBURGRING NORDSCHLEIFE?

As a visit to Toyota's simulator proves, the answer is 'very quickly'

# "WHERE'S REVERSE AGAIN?"

Lewis Hamilton has a go at NASCAR... and has a jolly good time

## "BERNIE SHOULD HAVE STUCK BY ME"

Max Mosley reveals his regret over Bernie's post-News of the World comments, before revealing a love of Ali G and Borat

### THE DRS FROM 43 YEARS AGO

Thought it was something they thought of for 2011? Think again...

## 6 HOW COMPUTERS CHANGED F1...

...and why even formation lap burn-outs are pre-planned on PCs

THIRD SECTOR: FINISHING STRAIGHT

- 106 EUROPEAN GP DEBRIEF: THE FIRST AVERAGE RACE OF 2011
- 110 BRITISH GP DEBRIEF: ONE OF THREE RACES VETTEL HASN'T WON
- 115 FRANK WILLIAMS: THE UNWANTED FATHER'S DAY CURRY
- 116 ALAN HENRY ON THE NEW DEAL FOR WILLIAMS-RENAULT
  118 RACE PREVIEW: GERMANY GP
- 120 RACE PREVIEW: HUNGARY GP











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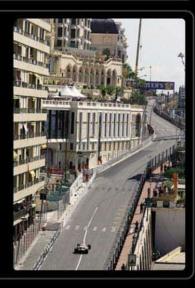


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Busy day at the office Following a disappointing qualifying session that saw him start in tenth, it was an eventful British GP for Lewis Hamilton. He battled up to third, was told to save fuel, couldn't keep Mark Webber behind him, then somehow held off Felipe Massa on the last corner to claim fourth Where Silverstone When 1.26pm, Friday 8 July Photographer Lorenzo Bellanca/LAT Details Canon EOS-1D Mk IV, 600mm lens 1/800th at F4.9









**Horse Power** Following his first win of the season, Fernando Alonso's message is clear as he points to the Prancing Horse on his steering wheel: Ferrari are back. He and the team will now be hoping their victory will prompt the sort of impressive second half to a season that they enjoyed in 2010

Where Silverstone When 2.35pm, Sunday 10 July

Photographer Lorenzo Bellanca/LAT

Details Canon EOS-1D Mk IV, 600mm lens 1/500th at F7.1





# Make way, coming through Before he was forced to retire due to a pitstop error, Jenson Button made this great move on Felipe Massa into Club. It wasn't Massa's last tussle at that corner with a McLaren: he'd go on to have a great battle here – and some final-turn contact – with Lewis Hamilton Where Silverstone When 1.28pm, Sunday 10 July Photographer Lorenzo Bellanca/LAT Details Canon EOS-1D Mk IV, 400mm lens 1/500th at F4.5 JOHNNIE & Mobil I Mercedes-Benz vodafone



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# STOP AND GO / Hans Seeberg / 08.2011

# The rollercoaster of a Nigel Mansell interview...



One thing you can be certain of in life is that when your phone rings late at night, it's because someone is about to give you bad news. So it proved when my mobile went late one Monday night recently, as the name of our features editor Jimmy Roberts flashed up on the screen. "Mansell's just cancelled," he said. "Apparently he's got laryngitis and he can't even talk – the interview's off!"

It wasn't the news I was after. Trying to pin down the elusive 1992 F1 world champion for a proper face-to-face interview is no easy task at the best of times, with stories of his mood swings being the stuff of F1 legend. The moment, it seemed, had been lost. But another call - luckily during the day this time - confirmed it was back on. "Nigel would love to answer the F1 Racing readers' questions," said his representative, telling us to be at London's swanky Dorchester Hotel in a few days time.

There was a sense of trepidation as Nigel Mansell entered the room. Would he be surly and uncommunicative? Would he refuse to answer certain questions? Would he have a huge strop and leave? It turned out to be a lesson in never believing what you hear about people. Mansell was a complete legend: friendly, humorous, chatty, courteous and eager to share a whole host of great stories - including the one about Riccardo Patrese grabbing him by the testicles in the garage after Nigel had outqualified him yet again. It's a brilliant interview. Read it on page 40, and enjoy the issue.



One of these men is not a Formula 1 world champion... Jimmy earwigs as Fernando meets John Surtees for the first time (p60)



Turn to p40 for ten pages of Nigel Mansell, and find out if he really did once utter the immortal words: "I can't talk, I'm unconscious"



Maurice Hamilton collars Max Mosley for lunch and a rather long chat (p86)



Jimmy Roberts has a go in the Toyota simulator around the Nürburgring Nordschleife. See how he got on on page 72





ecial thanks to Nicki Dance, Alexandra Schieren, Matt Bishop, Steve Cooper, Silvia Hoffer Franzipane, Clare Robertson, Wolfgang Schattling, Ricola Amstrong, Sabine Kehm, Katie Tweedie, Britta Roseke, Luca Colajani, Roberts Vallorosi, Stefania Bocchi, Liam Clogger, Claire Williams, Bradley Lord, Clarisse Hoffmann, Will Hings, Lucy Genon, Eric Silberman, Fabiana Valenti, Tom Webb, Anna Goodrum, Hanspeter Brack, Heile Hientzsch, Alba Saiz, Tracy Novak, Rachel Ingham, Andy Stobart, Chris Hughes, the Wyndham Grand in Chelsea Harbour for letting us shoot there (until Nigel Mansell cancelled), reggae pioneer Ali Campbell No thanks to Macy Gray, Heather Small, Joss Stone, James Blunt, Leona Lewis, Mariah Carey, Duffy, Adele, Natasha Bedingfield, Kate Nash, Dolores O'Riordan and Sting, No offence, but could you all please stop singing? Much appreciated





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Even DRS can't make Valencia exciting..

# Europe shouldn't just mean 'Valencia'

I have never been to Valencia, but I only ever hear good things about it: beautiful sights, warm weather, friendly people, delicious food... the list goes on. On the other hand, I do know the difference between a good grand prix and a bad grand prix.

Despite Valencia having a great circuit (my only basis for saying this is 'driving' around it on F1 2010), it has been producing boring races since 2008. Basically, if the new, fantastic (or the not-so-fantastic) Pirelli tyres and DRS cannot create an entertaining race there, then I can't see what will. I've heard fans and critics saying it should be dropped from the calendar, but can you really see Bernie doing that after inputting god knows how much into the venue?

So why can't we go back to the days when the venue for the European Grand Prix was alternated, just as the German GP currently alternates between Hockenheim and the Nürgburgring? If the likes of Russia and possibly Bulgaria are wanting to join the calendar, can we not put these new circuits into a 'European pot' and F1 can visit them all over three or four years? This would keep Valencia reasonably happy, as they will still get chance to host the European Grand Prix, but it will also be fair to us, the fans, who watch F1 for one factor above all else - to be entertained.

Ian Page Bournemouth, UK



### STAR PRIZE

Ian Page wins a pair of threeday general admission tickets to the 2012 British GP. For more details visit www.silverstone. co.uk/experiences



### Senna left me wanting more...

With the recent release of Senna. the film reminds me what we in the F1 fan community are missing: historical videos promoting F1.

Here in the US, where American football is king, we have NFL Films a company that creates shows about all things 'football', with each episode promoting the sport. At the same time, fans are given a history lesson about the game and the people involved.

So why is it that F1 doesn't have something similar? For Senna, it was said that Bernie opened up the archives, allowing access to rare tapes. Why is this a rarity? Imagine the money FOM could make by creating its own videos and simultaneously promoting the sport we have a passion for.

Rather than just relying on the words of Murray Walker and Alan Henry as our only sources of F1 history (thank you to both), let fans see for themselves the sagas of our great sport.

**Bruce Curtis** Wisconsin, USA

### Remember the marshals

It is sometimes stated that no deaths have occurred in F1 since Ayrton Senna in 1994, thanks to safety improvements following that tragic weekend at Imola. The same assertion is repeated at the end of Senna, an otherwise excellent film.

While no drivers have been killed in F1 since Senna, a marshal was killed by a tyre at Monza in 2000. leading to the adoption of wheel tethers. Despite this, another marshal was killed by a wheel at the 2001 Australian GP. Marshals may not be the stars, but I find it sad that these relatively recent casualties are so easily forgotten.

David Hardman

London, UK

Other rants

### Good old Del Boy!

Lids off to Derek Warwick (F1 Racing, July) - what a cracking interview! It was so refreshing to read an honest, self-deprecating and lucid account of a life in F1, without it turning into a list of excuses. He didn't win the world title, but he has won many adoring fans and seems to be an all-round good old boy. Giving so much back to the sport is to be commended.

Tim Donati-Ford By email



60.8%

56.7%

61.7%

66.7%

53.6%

71.4%

65.4%

77.4%

53.8%

News. Opinion. Analysis. Now

**SCARY STATS** 

# CALE OF

We all know the world champion has had a great start to the season, but just how great is it? F1 Racing takes a statistical look at the German's frightening run of form

# AT THE FRONT: **NUMBER OF** LAPS LED

Post-Silverstone, Vettel had led 78.9% of all racing laps. If he keeps at that rate for the rest of the year, he'll overhaul Alberto Ascari's record from 1953. That year, the Italian led 77.4% of all racing laps

# 2011 Vettel

2004 Schumacher

1998 Häkkinen

1994 Schumacher

1992 Mansell

1988 Senna

1963 Clark

1955 **Fangio\*** 

1953 Ascari\*

1952 Ascari

\*Did not participate in the 200-lap Indianapolis 500

# **POLES SET IN THE** FIRST NINE RACES

A big feature of the season has been Vettel's ability to regularly set pole position. But it's not as good as Nigel Mansell's brilliant run in 1992 or Prost's great start in '93

1953 Ascari

1954 Fangio

1961 P Hill

1962 Clark

1963 Clark

1965 Clark

1967 Clark

1973 Peterson

1974 Lauda

1975 Lauda

1986 Senna

1987 Mansell

1988 Senna

1989 Senna

1990 Senna

1992 Mansell

1993 Prost

1995 D Hill

1996 D Hill

1997 Villeneuve

1998 Häkkinen

1999 Häkkinen

2001 Schumacher

2004 Schumacher

2011 Vettel

66.7% 55.6%

55.6%

66.7%

66.7%

55.6%

55.6%

55.6%

55.6%

55.6%

55.6%

75.0%

75.0%

75.0%

55.6%

87.5%

87.5%

55.6%

55.6%

66.7%

66.7%

75.0%

75.0%

55.6%







# VIRGIN SIGN HISTORIC **DEAL WITH MCLAREN**

It's not been such a great year for Virgin, but with the help of F1 Racing's Pat Symonds, a new partnership could turn their fortunes around



2004 Schumacher

2006 Alonso

2009 Button

2011 Vette

# THE FUTURE OF SAFETY BARRIERS

TecPro's barriers have been developed as an alternative to traditional tyre barriers. Find out what makes them different and how they work

# **CHAMPIONSHIP LEAD AFTER NINE RACES\***

After nine rounds, Vettel has enough points in hand to sit out three races and still retain a healthy championship lead. It's an impressive sign of domination but not quite as impressive as Michael Schumacher's lead at the same stage in the season in 2002...

2002 Schumacher

1994 Schumacher

1992 Mansell

1976 Lauda

1972 Fittipaldi

1971 Stewart

1969 Stewart

1963 Clark

1954 Fangio



4.6 wins **2.7** wins 3.6 wins 3.4 wins 2.7 wins 3.1 wins 3.2 wins

> \* Ignoring dropped scores. From 1950 until 1990 only a certain number of race results counted towards the championship with drivers 'dropping' their worst results

3.3 wins

3.8 wins



NUMBER OF WINS					55.6%
IN THE FIRST				KERRY C	
NINE RACES			ET FI		66.7%
Six wins in the opening			FIRE	0	55.6%
nine races is a fantastic		DETE		6	55.6%
achievement, but Michael Schumacher had two	1,	INS	<b>"</b>	0	66.7%
more race victories at the				070	) 33.773
same point in 2004		70	70	20/	66.7%
1953 Ascari	<b>%</b>	<b>%</b>			66.7%
1954 Fangio	<b>%</b>	<b>%</b>		6%	55.6%
1960 Brabham	<b>%</b>	<b>%</b>	Ž9	000	55.6%
1963 Clark	%	<b>%</b>	70	70/	55.6%
1965 Clark	%	%	20		55.6%
1969 Stewart	<b>%</b>	%	20		77.8%
1970 Rindt		%	20	20%	66.7%
1971 Stewart	<b>/</b>	<b>%</b>	<b>%</b>	10/	66.7%
1976 Lauda		<b>%</b>	2	20/	55.6%
1988 Senna	<b>%</b>	%	<b>%</b>	707	66.7%
1992 Mansell		%	20	20%	55.6%
1993 Prost	<b>%</b>	%	2		55.6%
1994 Schumacher		9/	20	20%	66.7%
1995 Schumacher		%	20		88.9%
1996 <b>D Hill</b>	<b>%</b>	%	<b>%</b>		66.7%
2000 Schumacher			%	20/	66.7%
	0/		9/		66.7%
2001 Schumacher		69	67	6/0	00.7%)
2002 Schumacher	%	/	/	60/	

# PITPH55 / 2014 engine compromise / Constructors' countdown /

NEWS

# Everyone's a winner with 2014 engine regs

There have been arguments and bickering aplenty, but F1 has finally decided about the power plants of the future

to four-cylinder 1.6-litre turbo engines in 2013, teams, engine manufacturers and the FIA have agreed to stick with the current 2.4-litre V8s, before making a change to 1.6-litre turbo-charged V6 engines in 2014.

Instead of the proposed switch

"The four engine manufacturers have signed up to this on the basis that it represents a sensible compromise," Cosworth's Mark Gallagher told F1 Racing. "Renault and Mercedes wanted smaller engines and they've got them, Ferrari were looking for a

multi-cylinder V-engine and they now have it and, in our case, we've got a framework that is more realistic in terms of

V6 turbo engines are set to make a return to Formula 1 in 2014

timelines, bearing in mind that the original inline-four proposal didn't have a resource restriction agreement (RRA) applied to it. With the V6, we're now heavily involved in putting an RRA in place. So compared to where we were, we're now in a better place - the new engine will sound good and it's got the same technologies as the inline-four so all the hard work done over the past 18 months has been carried across."

Despite the changing regulations, Gallagher believes that there is still "a lot about this engine for the car industry to get excited about." Fuel-flow is going to be restricted, forcing the manufacturers to produce ever more efficient engines and there will also be substantial development into turbo-charger and KERS technologies, which should eventually trickle down into road-going machines. So it seems as if the only person still not happy about the new regulations is Bernie Ecclestone...

**NEWS** 

# McLaren gunning for constructors' crown

It's eluded them for the past 12 seasons, but that's only strengthened their resolve to win it again

Lewis Hamilton and Jenson Button may still have a mathematical chance of winning the drivers' title, but McLaren technical director Paddy Lowe admits his team's best hope for success is now the constructors' championship. "It depends on us reaching a point where we can consistently outqualify the Red Bulls then consistently win with one or other of our drivers," said Lowe. "This season, one Red Bull has not shown as strongly as the other and therein lies our hope.

McLaren have won the drivers' title three times in the past 15 years, but their last constructors' championship was in 1998. "It's a constant source of frustration to us," admitted Lowe. "We keep coming

second and that hasn't escaped our notice. We've totted it up and over the past five years we've had the best average constructors' position but other teams have come

and gone from the top step and we've always been below

them. We'd like to win both titles but, internally, we have much more interest in the constructors' title than outsiders. It's a matter of pride for the team.'

One thing's for sure: it'll take some effort to stop Red Bull taking both titles for the second year running.

McLaren's constructors' championship near-misses since their last title:

	Winning constructor	McLaren's position
2010	Red Bull	2nd
2009	Brawn	3rd
2008	Ferrari	2nd
2007	Ferrari	Excluded*
2006	Renault	3rd
2005	Renault	2nd
2004	Ferrari	5th
2003	Ferrari	3rd
2002	Ferrari	3rd
2001	Ferrari	2nd
2000	Ferrari	2nd
1999	Ferrari	2nd

Excluded following 'Spygate' scandal but would have finished second

# Virgin join forces with McLaren / A quick chat with Graeme Lowdon



F1 Racing's technical writer helps the fledgling squad strike a historic deal with McLaren

Virgin Racing may have endured a difficult first couple of years in F1 but, thanks to their new technical partnership with McLaren, they believe that they can become major players in the sport in the future.

F1 Racing's Pat Symonds, who has also been working as a consultant to Virgin, was asked last February to assess the team's capability and plan their technical future. This resulted in Virgin announcing, shortly before the British GP, that they will now have access to many of McLaren's facilities, including - significantly for the once CFD-only team -McLaren's windtunnel. Virgin will also gain access to the Woking-based squad's test rigs and driver-in-the-loop simulator, as well as expertise in CFD and race-strategy tools.

McLaren's Simon Roberts, the man who oversaw their technical agreement with Force

Our own Pat Symonds is helping to shape the future of Virgin Racing

India, will co-ordinate the partnership and several McLaren designers and aerodynamicists will also be embedded within the team.

Virgin have also acquired the Banbury-based F1 business of former technical director Nick Wirth and will use these premises as their base for the next two years. During this time, the team are expected to develop a new, tailor-made facility.

Speaking exclusively to F1 Racing, Symonds said: "These changes exemplify the commitment of Marussia Virgin Racing to their future in F1. We have an exciting journey in front of us, but without doubt we've now laid solid foundations for future success."

Symonds will still write for F1 Racing and in the next few

months will exclusively reveal what these changes mean and give you an insight into the complexities faced by a new team trying to battle their way to the front.

# FIVE MINUTES ON THE PHONE WITH... **GRAEME LOWDON**

VIRGIN RACING'S SPORTING DIRECTOR



Hi Graeme, how are you? You must be very excited to have concluded the McLaren deal?

Yes Lam. We've been quite open about the fact that we haven't got the car where we wanted it to be this year. So we evaluated quite a few different options for how to proceed and this felt like the best one. We worked with McLaren quite a lot in our previous guise as [junior category stalwarts] Manor, especially when we were running Lewis Hamilton in Formula Renault, and it was always a very positive relationship.

### When does the relationship with McLaren commence?

It's already started, but it'll be some time until everything filters through in terms of performances on track. The bulk of the benefits will be seen on the 2012 car.

### Does the deal still work in terms of Virgin's budget to go racing?

There's a slight increase, but it's within the parameters of our business model. We still believe

that we can build a competitive team on a realistic budget.

## How has it been working with F1 Racing writer Pat Symonds?

It's been great. He's very knowledgeable and experienced and a lot of what we're now doing follows observations and recommendations he's made. He'll be continuing in his role and that gives everyone in the team greater confidence.

# The deal must have done wonders for your drivers' motivation, too. Timo Glock hasn't looked particularly happy for much of this season...

Timo has been with the team from the very start of the project. He's more than just a driver his comments are heard at the highest level within the team. But hopefully the drivers will now see a team with the desire to move forward. We weren't ever going to just sit back.

## Great speaking to you, and good luck for the rest of the season.

Thanks, it's been a pleasure!



# F1 Mastermind

Your chosen specialised subject: the world's greatest sport



1 Which driver scored six consecutive fastest laps between the 2008 Spanish Grand Prix and the 2008 British Grand Prix?

- 2 How many wins did the Wolf team score in F1?
- 3 Which former Formula 1 circuit had corners called Morette and Molykote?
- 4 Which Italian started 38 GPs between 1987 and 1995 for teams including Tyrrell and AGS?



- 5 Sir Stirling Moss, who recently retired from racing, won 16 GPs. But where and when did he win his last F1 race?
- 6 How many times did five-time world champion Juan Manuel Fangio win the Monaco Grand Prix
- two, three or four?
- 7 Which satellite TV channel sponsored Simtek in 1994?
- 8 How many wins did Matra score as an engine manufacturer - three, six or nine?
- 9 Emerson Fittipaldi won his second world title in 1974, but who finished runner-up in the world championship?
- 10 I started 33 Grands Prix for Minardi and Prost, scoring two points. Who am I?



# **Robert Wickens** Who is he?

THIS BOY

CAN DRIVE Keeping an eye out for the Hamiltons of tomorrow

A 22-year-old Canadian racer who, in June, became Virgin Racing's reserve driver. As such you can expect him to become a familiar face in the Formula 1 paddock as he joins the team for several grand prix weekends.

# Is he any good?

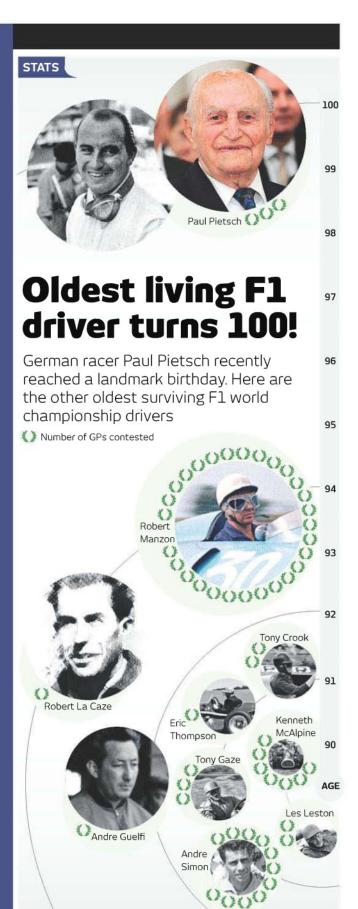
At the time of writing, Wickens, who drives a Marussia-branded car, is just four points behind Red Bull junior driver Jean Eric Vergne in Formula Renault 3.5. As a former Red Bull junior himself, Wickens would love to be able to beat Vergne

# Anything else we need to know about him?

Wickens has finished as championship runner-up in his last two years of racing, In 2009 he finished second in the FIA Formula 2 championship, and last year he repeated the feat in the debut season of GP3.

### F1 chances

Wickens won't find it easy to get into F1, but he has impressed Virgin team principal John Booth: "Robert is a very impressive young driver His fantastic performances so far this season are testimony to the fact that he has a bright future ahead of him."



# YOU'VE EITHER GOT IT OR YOU HAVEN'T



SIZE SHAPE SPEED AND SPIRIT

ABARTH PUNTO EVO
1.4 TURBO MULTIAIR
POWER OUTPUT 165BHP (121KW) AT 5,500RPM PEAK TORQUE 250NM AT 2,250RPM ACCELERATION 0 - 62 MPH 7.9 SEC

FUEL CONS MPG (L/100KM): URBAN 35.3 (8.0) / EXTRA-URBAN 36.5 (5.0) / COMBINED 46.3 (6.1), CO<sub>2</sub> EMISSIONS: 142G/KM.

ABARTH 500

1.4 16V TURBO T - JET
POWER OUTPUT 135HP (99KW) AT 5,500RPM
PEAK TORQUE 206NM AT 3,000RPM
ACCELERATION 0 - 62 MPH 7.9 SEC

FUEL CONS MPG (L/100KM): URBAN 33.2 (8.5) / EXTRA-URBAN 52.3 (5.4) / COMBINED 43.5 (6.5), CO, EMISSIONS: 155G/KM.

# **ABARTH 500C**

1.4 16V TURBO T – JET POWER OUTPUT 140HP (103KW) AT 5,000 RPM PEAK TORQUE 206NM AT 2,000RPM ACCELERATION 0 - 62 MPH 8.1 SEC TOP SPEED 127MPH

FUEL CONS MPG (L/100KM): URBAN 33.6 (8.4) / EXTRA-URBAN 52.3 (5.4) / COMBINED 43.5 (6.5), CO. EMISSIONS: 151G/KM.



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- · FIM Grade B (Superbikes races)

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(2,6km y 1,3km)

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Main straight: 800 m. Turns: 15 (6 left v 9 right) Paddock: 41,000 m<sup>2</sup>

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Paddock bar and restaurants

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Logroño: 28 km. on Highway A12	4
Vitoria: 65 km	4
Zaragoza:150 km.	4

Bilbao: 164 km. Biarritz: 187 km. Santander: 262 km.

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# PITPHSS / Improving safety in F1



# Introducing: TecPro barriers

We saw Sergio Pérez crash into them at Monaco - but how exactly do they work?

The fact that Sergio Pérez escaped his huge 80G qualifying shunt in Monaco with only concussion is testament to the huge advances that have been made in F1 safety. The energy-absorbing foam cockpit headrests, introduced in 1996, played a key role in protecting Pérez, but just as important was the revolutionary TecPro safety barrier that he hit.

TecPro barriers were initially developed for karting, and were first used in F1 at the 2006 Italian GP following extensive research and development conducted in conjunction with the FIA Institute. The research programme was triggered by Michael Schumacher's 1999 Silverstone accident when he broke a leg after crashing into the tyre wall at Stowe.

Tests showed that the energy-absorbing properties of the TecPro barriers reduced G-forces by 40 per cent compared to normal tyre walls. Since then, they have been used at various F1 circuits, either on their own or in conjunction with existing tyre barriers.

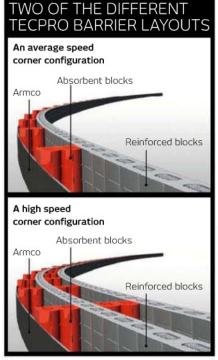
The barriers are constructed using two different types of high-resistance, anti-

penetration polyethylene blocks that, when connected, make up a formidable defence. The first type is a 120kg reinforced block filled with energy-absorbing polyurethane foam, with a 4mm thick steel sheet at its centre, bound with three nylon straps.

The second is an 80kg absorbent block, which is hollow and acts as the barrier's crumple zone in an impact. With the FIA's help, six different configurations of the barrier have been developed, each designed for a certain speed of corner.

Another potential advantage to this type of barrier is that after an accident damaged blocks can be changed within minutes, enabling racing to resume more quickly. The energy-absorbing blocks can also reduce damage to any car that hits the barrier.

Nine F1 circuits currently feature the barriers in some way, with Singapore and Abu Dhabi featuring TecPro exclusively. India will use only TecPro barriers and talks with Austin track officials are underway about installing the barriers at the new home of the US GP.



# PITPHSS / Will the BBC ditch Formula 1? / Start early if you want to be a



More people in the UK are watching F1 this year than they did in 2010, according to new statistics. But fears are growing that the BBC may be set to axe their coverage.

Average audience numbers in 2011 have been higher than last year for every

Up 0.2million for

Australian GP

race – the European Grand Prix being the exception – with peak viewership topping 8million for the Canadian Grand Prix.

But with the television license fee fixed until 2017, the BBC is under pressure to slash costs and we understand that F1, which costs the corporation around £60million a year to broadcast, is being evaluated as one of several potential areas where money can be saved. Poorly viewed but critically acclaimed channel BBC Four, whose yearly budget is reportedly less than

£60million, is also thought to be under threat of closure.

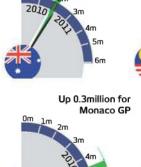
A BBC spokesperson said: "We are not going to get drawn into a running commentary; no decisions have been taken and therefore these claims remain speculation."

FOTA will be watching the situation closely, with the teams' association recently reiterating its stance that F1 coverage should stay on free-to-air TV if at all possible.

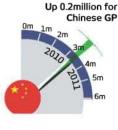
# HOW AVERAGE VIEWING FIGURES HAVE RISEN DURING 2011

Up 0.2million for

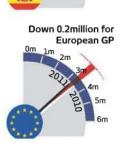
Malaysian GP







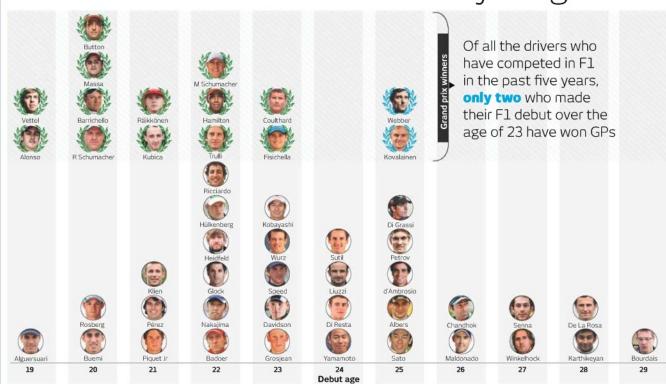




Up 0.7million for

Spanish GP

# Want to win in F1? Better start young then...



NEWS

# Lauda and Hunt set to emulate Senna success

Their gripping 1976 championship battle could be the topic of Formula 1's next film



Hunt vs Lauda: compelling characters and a captivating story

Fans may not have to wait long for their next taste of F1 on the big screen. The word from Tinseltown is that a film provisionally titled Rush, telling the story of James Hunt and Niki Lauda's battle for the 1976 world title, is currently in development.

Unlike Senna, which, having taken over £2.6million at the box office has now gone on to become the most successful UK documentary in the history of British cinema, Rush will be a scripted dramatisation of events. The screenplay has been written by Peter Morgan, the man who wrote the scripts for highly-acclaimed 1970s period

dramas Frost/Nixon and The Damned United, while directing duties will be handled by Academy Award-winning director Ron Howard, who was a guest of Lotus at the British Grand Prix.

It is likely to be both incredibly expensive and very difficult to recreate authentic 1970s race tracks and atmosphere, but if the filmmakers can achieve this then there is no doubt that the 1976 season will offer a captivating storyline, with drama every step of the way and two compelling characters in Hunt and Lauda. It's going to be fascinating to see who the producers pick to play them...

GAMES

# Race 15 of your friends at once in *F1 2011*

The popular grand prix racing game gets a makeover, with improved multi-player options and more realistic handling

**Codemasters have just** unveiled the key improvements that they hope will help make their latest video racing game, *F1 2011*, as big a success as its predecessor, the award-winning *F1 2010*.

Fans of the game will be thrilled to hear that *F1 2011* will feature vastly improved multiplayer options when compared to *F1 2010*. Now, not only can two players race head-to-head on a split screen, but up to 16 racers

head on a split screen, but up to 16 racers

KERS, DRS and Pirelli tyres all feature in *F1 2011*, making the gameplay more realistic

can participate in a full 24-car race
– something that wasn't possible in *F1*2010. There is also a new co-operative
online championship mode that enables
you to race as team-mates with a friend
over a season – you can even choose how
much data you want to share with them.

Not only have the graphics improved, but the handling is also much better than in the previous version of the game. The developers, aided by input from Anthony Davidson, have rewritten the suspension settings and Codemasters believe this has made the physics of the car more realistic.

DRS and KERS have been included in this year's game, giving players an insight into how tough it is to activate these features while racing — and they will also have the rapidly degrading Pirelli tyres to contend with. F1 2011 features all six Pirelli compounds and degradation has been mimicked so that each tyre has six degrees of tyre wear. So you can expect the supersoft tyres to be ultra-quick for a couple of laps before fading rapidly.

F1 2011 can be played on PS3, Xbox 360 and PC and goes on sale on 23 September. It will also be released on PlayStation Vita and Nintendo 3DS later in the year.

**NEWS** 

# Why Renault will be good for Williams

The iconic Williams-Renault brand returns – and a lighter, stiffer engine could pay dividends

Williams-Renault, the most successful chassis-engine combination of the 1990s, will return to Formula 1 next season following confirmation of a two-year collaboration – and it should help the team improve their car's performance.

Renault's RS27, which powers the Red Bulls, will be a marked improvement on the Cosworth that Williams have used since 2010, although it's not expected to be the magic bullet that transforms the team's fortunes. "We've received the engine data from Renault," said Rubens Barrichello, "and it looks good. The engine is lighter and stiffer than what we're used to, and the driveability looks good too. But there's still a lot of work to be



Rubens: "The new engine looks good but there's still a lot of work to be done" done before we can challenge the teams at the front."

Williams' new technical team has just 20 days in which to design the gearbox for the 2012 Renault-powered FW34 because it has to be signed off before the



start of the August break. The aero team is also working flat-out to solve a correlation problem between the team's windtunnel and the racetrack.

"Williams-Renault is an iconic brand," said Frank Williams, "but we're not dwelling on the past. We hope this partnership will move us forward a row or two, but we know there's a lot to do. We're going to be directly compared to Red Bull and Renault's own factory team, so there will be nowhere to hide."



"RED BULL RACING AND CASIO SHARE A BELIEF IN THE CONCEPT OF SPEED AND INTELLIGENCE. THAT IS WHY I AM EXTREMELY PROUD THAT WE HAVE BEEN CLOSELY INVOLVED IN THE DESIGN OF THE NEW CASIO EDIFICE EF-565RB LIMITED EDITION CHRONOGRAPH, WHICH FEATURES A UNIQUE RED BULL RACING LIVERY" CHRISTIAN HORNER

# THE SCIENCE BEHIND THE PERFORMANCE

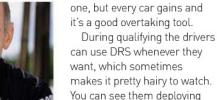
Deploying the DRS at precisely the right time is the key to gaining an advantage on the track, says Red Bull Racing's Adrian Newey

THE DRAG REDUCTION system (DRS), or moveable rear wing, is new for this year. At the press of a button on the steering wheel, the top element of the wing lifts at the front to create a slot gap of 50mm and the resultant reduction in drag increases top speeds by 15-20kph.

In a race, the DRS can only be used when a car is less than one second behind another car, and only at a certain point on the track.



The effectiveness of the DRS depends on the efficiency of your rear wing. An inefficient rear wing will benefit more from DRS than an efficient



You can see them deploying DRS at the exit of corners and the car sometimes gets quite oversteery as a result.

You can deploy the DRS in

a number of different ways, depending on a driver's preference. Sebastian Vettel and Mark Webber keep the button pressed for as long as they need the DRS and it closes as soon as they let go. Other drivers prefer to press the button for a second time to close it and, for safety reasons, the DRS disconnects automatically when the driver hits the brakes.

It is vital that the DRS opens and closes immediately. A delay in opening will cost you time, while a delay in closing might cause an accident because the driver will have a lot less rear grip under braking.



# CASIO EDIFICE EF-565RB RED BULL RACING LIMITED EDITION

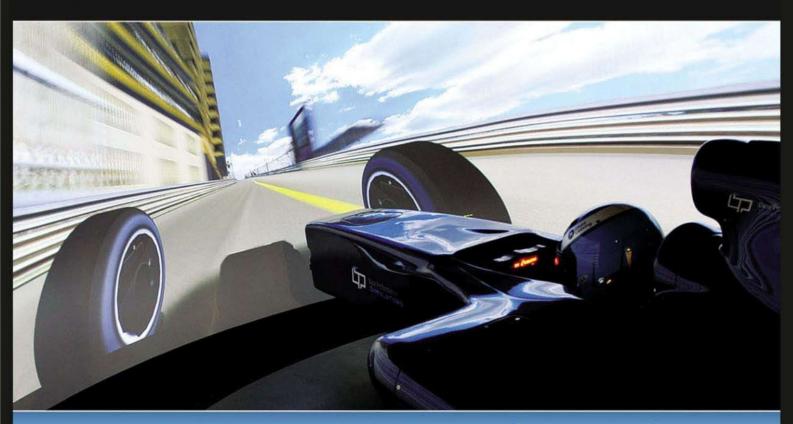
Based on the brand concept of 'speed and intelligence', the stainless steel EF-565RB Red Bull Racing Limited Edition is a high-performance chronograph. Its multi-layered face design features a carbon fibre bezel, as well as a unique, specially-designed Red Bull Racing livery.











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# THIS MONTH: REAR WINGS





The wing must have no more than two sections – a main plane and a flap – and must be able to fit into a predetermined space. But complex shapes can be sculpted into the wing's surface to make the most of the oncoming air

# What's the main factor influencing rear-wing design?

Perversely, at a time when increased regulation has led to simplified aerodynamics in most areas, the rear wing has become more complex thanks to the introduction of the drag reduction system (DRS). This is a system designed to reduce drag on the straights and assist overtaking but, in doing so, it reduces downforce, which means it needs to be reset before braking occurs for a corner. One of the most important aspects of wing design has always been to run a configuration that is close to stalling. When a wing stalls, the airflow separates from the surface and a huge amount of downforce is lost but just before this occurs, the wing is working its hardest and producing the most downforce. The aerodynamicists are always trying to get close to this point but obviously never beyond it.

# So the DRS hasn't limited rear-wing design then?

Far from it - it has actually introduced a new design compromise that requires optimisation. Generally speaking, a short flap will be less efficient at producing downforce when the wing is in the closed position, but when it's in the open position it will shed more drag than a longer, more efficient flap. The designer needs to decide which better suits his needs, and the design can differ from one circuit to another.

# So how much freedom do designers have in this area?

The wing must fit into a hypothetical box of 350mm (length) x 170mm (height) x 750mm (width), positioned with the top rear corner 900mm above the bottom of the car and 350mm behind the rear wheel centre. The wing must have no more than two sections, a main plane and a flap, but design is otherwise free. Some teams have sculpted complex shapes into the wings to make the best use of oncoming air.

# How important is the rear wing in terms of overall downforce?

All the elements of the aerodynamics work together so it is difficult to be precise, but a rule

of thumb would be that the rear wing contributes around 20 per cent of the total downforce when used in harmony with the other elements of the car's bodywork.

# Some teams have a central pillar and others don't - why is that?

The central pillar does tend to rob the wing of a little bit of the surface that produces the downforce, but it also offers a good structural solution. Like most of these things, there is no absolute right or wrong: it just depends on how everything is packaged together.

# Is the rear-wing endplate shape as important as the design of the front-wing endplate?

All surfaces are important but the rear-wing endplate is less important than the front. The front wing endplate design is all about controlling the vortex (the streamlines) that come off the front-wing as this affects the rest of the car. The rear-wing endplate is much more about simply increasing the efficiency of the rear-wing system.

Turn to pages 106 and 110 for Pat's analysis of the European and British Grands Prix >





# HAMILTON DROPS OUT OF TOP FIVE

# Brit drops down Rankings despite Silverstone performance

Despite a battling performance to clinch fourth place in the British Grand Prix, Lewis Hamilton dropped out of the top five in the Castrol EDGE Driver Rankings for the first time after being leapfrogged by fellow Brit Dario Franchitti, who took a controversial IndyCar victory at Toronto (see right).

Despite the blow, Hamilton's return to form gave him ground for optimism for the next two Grands Prix in Hungary and Belgium which could see him reclaim fifth place. Under the 12-month rolling system, Franchitti is defending high totals including a victory at Mid-Ohio from 2010. Hamilton's main rivals behind him in the Rankings, IndyCar's Will Power and NASCAR Sprint Cup driver Carl Edwards, are also defending high totals, although Hamilton's main problem could well be the F1 summer break, with only one grand prix during August.



# FRANCHITTI SENDS POWER INTO A SPIN

Dario Franchitti moved into the Castrol EDGE Driver Rankings top five for the first time with a controversial IndyCar win in Toronto. The Scotsman leaped above Lewis Hamilton and Will Power, with whom he clashed in Toronto. Power led the race, but a coming together enabled Franchitti to take the victory. Power later retired, dropping to seventh in the Rankings as a result.

### **⊜Castrol EDSE** Rankings **CURRENT STANDINGS** 1 🕪 💻 Sebastian Vettel 29,184 2 Mark Webber 22,019 3 IP Fernando Alonso F1 20,705 4 Sebastian Loeb 19,869 WRC 5 🛕 🚟 Dario Franchitti 18,094 IndyCar 6 🔻 🗮 Lewis Hamilton 18,032 F1 7 Will Power 17,343 IndyCar 8 A Carl Edwards Sprint Cup 16,840 9 V M Jenson Button 16,823 10 🛦 💹 Jimmie Johnson Sprint Cup 14.878

DATA CORRECT AS OF 11 JULY 2011

# HERBERT ADDS TO HIS SUCCESS AT SILVERSTONE



British fans may not have witnessed a home victory at Silverstone, but there was plenty to cheer about for one former British Grand Prix winner, as Johnny Herbert returned the expert panel's highest score at Silverstone.

Herbert's winning score of 37 points was helped by him being the only expert to back Fernando Alonso for a top three finish. He also correctly predicted Nico Rosberg in sixth, and gained five points each for being one place out on Nick Heidfeld and Michael Schumacher. Meanwhile, the Predictor scored 32 points, with five points each for having Sebastian Vettel and Mark Webber in first and second, 10 points for backing Nico Rosberg for sixth and five points for Nick Heidfeld in ninth. To view the full leaderboard, the Predictor's picks and the expert panel's choices, go to:

http://predictor.castroledgerankings.com

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# RAW NEUVE

Jacques Villeneuve: older, wiser... but no less opinionated



# Lewis at Red **Bull? It would** never work

I saw there was a lot of talk about Lewis Hamilton moving to Red Bull, but I never thought it would work and I couldn't understand it. Sebastian is the protected child there, the same way Lewis is at McLaren. There would be nothing to gain by Vettel having a team-mate like that at Red Bull, and Lewis

> would never be protected like he is at McLaren anywhere else. McLaren gave him his career.

Vettel said he would have welcomed Lewis at the team - he knows that beating Lewis in the same car would be great for his image and future salary. But who



would win if they were in the same team? Vettel's stronger this year, but we've only ever seen him up front - he's never had to fight his way up the grid; all we know is that he's super-quick. But Lewis has been making mistakes; he's aggressive, which is fun to watch, so it's a better spectacle to have them in separate teams. If they were in the same one, would Red Bull let them race?

One thing I noticed was that Christian Horner ruled out Red Bull making a move for Lewis by saying two world-class drivers in the same team

has not always been the best pairing. If I were Mark Webber I wouldn't be happy, because Horner's inferring he's not a world-class driver. Mark's had a bad season, but this shows the attitude the team have had to him this year. You can't perform if the team isn't behind you - it affects you psychologically. What I would say about the 'Lewis to Red Bull' story is that Lewis's McLaren contract is up soon. If those rumours had kept circulating, they would have pushed his salary up!





# Ricciardo gets a drive with HRT

I see Daniel Ricciardo made his debut for HRT at Silverstone. But HRT aren't F1, are they? If you drive for HRT you're just part of the circuit although I suppose it's better than staying at home. There's no way anyone can show how good they are in that car.

At least he got to be on the grid and soak up some of the excitement – it'll take away some of the pressure in the

future. And he'll get some experience of doing pitstops and competing over a race distance, so physically I suppose it could be quite useful.

He hasn't done many testing miles, but with HRT you're just stuck at the back, so it makes no difference. Most of your time back there is spent looking in your mirrors: if he wanted experience of doing that he should've done Le Mans.























# Williams have gone back to their roots

It's great to have the Williams-Renault name back. Williams are legends because for them it's all about racing - not business or politics. The Williams-Renault period was fantastic because both companies were likeminded; after that, Williams lacked success. It's brilliant that they're going back to their

> roots: I think it will attract better sponsors. which will help get their energy flowing again.



HOTOS: STEVE ETHERINGTON/LAT; ANDREW FERRARO/LAT

# MURRAY WALKER

# "Will Red Bull win the championship? As I always say – anything can happen in F1, and it usually does!"

I'm saddened by the number of people telling me they're bored with Red Bull and Sebastian Vettel dominating 2011. Some of them, enthralled by the superb BBC TV coverage, are new to F1 and know little of it, but others are die-hard enthusiasts who should know better.

The latter say: "Red Bull are just an 'energy drink' team with no F1 pedigree. Why can't McLaren, with their glorious history, dispose of them? And, heavens above, how have Ferrari, F1's greatest team, dropped the ball? When Mercedes-Benz were Brawn and had far fewer resources, they convincingly won both championships so now, with the might of the world's most prestigious manufacturer with a

great racing history behind them, why aren't they further up the order?"

Well I have news for them. There's nothing new about one team dominating, but so competitive is F1 that it seldom stays that way for long. The truth is that, since 2009, Red Bull have done a better job than their rivals but that doesn't mean they'll stay up front indefinitely. When F1 began in 1950, the 1.5-litre supercharged Alfa Romeo 158 was unbeatable. But when Ferrari wheeled out their 4.5-litre atmospheric induction car for Ascari and José Froilán González the next year, Alfa gave up and withdrew. Lotus won seven constructors' crowns, but after Ayrton Senna joined McLaren in 1988

the once-great team faded away. Williams have been the top constructor a magnificent nine times, but now they're struggling. Title winners Brabham and Cooper had their day but are no longer with us. Nor are Tyrrell, Renault and Brawn in their original forms.

But the most dominant teams of all have been Ferrari and McLaren and they're still on the ball with superb records. Sixteen constructors' championships for Ferrari, with years when the other teams must have thought it was hardly worth bothering to turn up. Think of 2002 when they took 15 wins from 17 races and 2004 where they had 15 victories and only three defeats. McLaren may have started later, but their record is similarly outstanding: they have eight constructors' titles, took 12 races out of 15 in 1984 and were beaten only once in that superlative Prost/Senna 1988 season — 15 wins out of 16 and only deprived of a clean sweep by Senna and Schlesser's collision at Monza.

So how have Johnny-come-latelies Red Bull rung the bell so convincingly and so quickly? Well, money rules in F1 and if you've got enough of it, do the right things and are prepared to be patient – you'll succeed. And that's Red Bull boss Austrian Dietrich Mateschitz all over. An extreme F1 enthusiast, he cut his teeth in the sport by sponsoring Sauber before buying the failed Jaguar team and renaming it Red Bull.

No amount of money will buy success against Ferrari and McLaren if you don't spend it wisely, but Mateschitz has done just that. Making the likeable and calmly impressive Christian Horner team principal was an inspired move and, after Bobby Rahal had failed to persuade his friend Adrian Newey to join the ailing Jaguar team, Horner and David Coulthard succeeded in getting the design superstar to jump ship to Red Bull from McLaren. But Adrian would be the first to agree that, while he masterminded the design and evolution of the dominant Red Bull cars, he hasn't done it alone. As I always tell newcomers to the sport, F1 is a team event and Red Bull have used their well-endowed coffers to recruit people at the very top of their game like chief designer Rob Marshall, team manager Jonathan Wheatley and chief mechanic Kenny Handkammer, to name but three.

Given time to settle down, evolve as a tightly knit team, work together and exploit each other's



"F1 is a team event and Red Bull have used their well-endowed coffers to recruit people at the very top of their game"

# Forthright chatter from the legend of F1

"Nico Rosberg doesn't get the recognition that he deserves but given a continually improving car, he just might, with a lot of luck, win his first grand prix this year"



talents, they were bound to succeed eventually - and that's what Mateschitz's money and patience have enabled them to do, in spite of the fact that, until the team's recent tie-up with Infiniti, they had no manufacturer affiliation and raced with purchased Renault engines. Add the driving genius of Sebastian Vettel, who worked his way up through Helmut Marko's ruthless Red Bull academy, plus the ability and experience of Mark Webber, and a hard-to-beat organisation is formed. It has taken time, but the team have

many top people in their varied fields of expertise at every level, backed by sufficient money to get the job done and honed by the experience of working together. No wonder their rivals are hard pressed to beat them.

But nothing lasts forever: Red Bull's success has motivated teams from the top downwards

to sharpen their acts. Having reassigned technical director Aldo Costa and sporting director Chris Dyer for

perceived failures, the Maranello team have restructured their management to close the gap to Red Bull. They've promoted ex-McLaren man Pat Fry, and with Fernando Alonso and a fitfully rejuvenated Felipe Massa in the drivers' seats, their plan seems slowly to be working. McLaren have gigantic strength in depth and their fabled powers of recovery have produced a car that

is now as quick as the Red Bull in race

trim, as Jenson Button and Lewis Hamilton have brilliantly shown.

Under the leadership of the ultra-successful Ross Brawn, Mercedes are slowly getting there, with Michael Schumacher at last starting to remind us that he is the most successful F1 driver of all time. Nico Rosberg doesn't get the recognition he deserves but given a

continually improving car he just might, with a lot of luck, win his first GP this year. And if you can win races you can win the championship. There's still a long way to go in 2011 but with McLaren, Ferrari and Mercedes all upping their game we can hope to see things getting more competitive at the front before the season is over.

I've seen every year of F1 and I can honestly say that there's never been one like this. Red Bull may have massive leads in both championships but I've always said that anything can happen in F1 and it usually does. Stay tuned! @



"McLaren's fabled powers of recovery have produced a car that is now usually as quick as the Red Bull in race trim"

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official timing data



# NS BINDER

He struggled in metal, but made it big in wood...



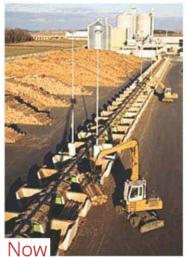
#### Austrian racer Hans Binder,

a protégé of Red Bull motorsport consultant Helmut Marko, started 13 races over three years at the end of the 1970s, but was unable to make any lasting impression in the sport.

He got his first start at the 1976 Austrian GP, replacing a disaffected Chris Amon at the struggling Ensign team, but retired from the race. His second start was another one-off, this time for Walter Wolf Racing at the rain-soaked 1976 Japanese GP at Fuji, and again ended in retirement. Although unsuccessful, these outings whetted Binder's appetite for F1 and, in 1977, he raised funding for a drive with Team Surtees.

After scoring a best finish of ninth in the opening six races he moved to the new ATS squad, achieving a careerbest of eighth place at the Dutch GP, albeit two laps down. ATS were forced to miss the final three races of 1977 so Binder rejoined Surtees but decent results were, again, not forthcoming. He officially retired at the end of 1977

Finishing ninth at the Spanish GP in 1977, in the interestingly branded Surtees...



If solid glued wood products are what you're after, Hans Binder is your man

to focus on his business interests but he did enter one more F1 race - his home GP - in 1978. Sadly for him. a lack of pace saw him fail to qualify.

"I'm very proud to have been an F1 driver," says the Austrian, "but at the beginning it was not the plan - success meant my career just developed that way. It was a hard decision to end my racing career in 1977 but, for me, it was absolutely the right decision because it meant I could invest 100 per cent of my time and energy in our family timber company: Binderholz.

"We are one of the leading producers of glued solid wood products in Europe. We export to over 60 countries and employ around 1150 people across six sites in Austria and Germany. I have been working for the company since 1967 - I was even working during my Formula 1 career when I managed to find the time! Today I own the company, so I'm responsible for everything, from finances to technology and strategy.

"Naturally, I still follow F1, watching all the races on TV and reading lots of motorsport magazines - but I haven't seen an F1 race live since I last raced. Overall, my time in the sport was a very interesting and exciting time for me and was very useful for business."



products for the

building industry

# "THE BEST RACE I'VE BEEN TO'



Passion, drama and excitement from your greatest grand prix moments

HUNGARORING 1992/Tomas Sperka/35/SLOVAKIA

#### "Modena was shocked by my home-made T-shirt!"



"I've been to over 20 grands prix, so to pick the best one wasn't an easy task. But after a long evaluation, I chose the 1992 Hungarian Grand Prix. I went for the whole weekend

and, on Saturday evening, I snuck into the paddock - just like that - without a pass!

"I wandered around and saw many drivers - Gugelmin, Grouillard, Boutsen, Mansell, Prost - but my main targets



were Ayrton Senna and Stefano Modena. I decided to wait in front of McLaren's motorhome and, after 15 minutes, Senna came out and I was in seventh heaven.



"But it wasn't over yet. Just a few minutes later I met Modena. The icebreaker was that I was wearing a homemade T-shirt with his photo on it – he was shocked when he saw it! We talked a bit about the 'dog' of a car he was driving and then his wife gave me a small helmet pin badge, said 'Ciao!' and off they went in their hired Toyota Carina.

"The next day Senna won and Nigel Mansell clinched the world championship. I even managed to stand below the podium during the ceremony. An unforgettable weekend!"

#### 1992 HUNGARIAN GP

- Senna led home Mansell with Gerhard Berger claiming third Mansell's second place
- gave him the title after just 11 of 16 races
- Stefano Modena retired after a collision on lap 13

SPA 2010/Joanne Jones/31/UK

#### "When Glock made it to Q2, I danced for joy"

"The best race I've ever been to was the Belgian GP at Spa in 2010. On the Friday, I was lucky enough to be given a garage tour by the fabulous Virgin Racing. It came about because I follow them on Twitter, and have been such a massive fan that they offered myself and my friend Lindsey the chance

to see what happens behind the scenes at a race.

"Watching the team work tirelessly to get the cars up and running, mopping the floor, running around and all the while having a laugh and a joke gave me so much more respect for the sport. I also

got to see the legendary Eau Rouge and Timo Glock even made it into Q2, which saw me and my friend dancing for joy.

"I got spoiled at this race though - now, although attending a race is still an amazing experience, I'll always compare it to Spa 2010 and it just won't be the same."



SPA 2000/Wouter Nagel/27/NETHERLANDS

#### "When Häkkinen overtook, he got a standing ovation"



"At the 2000 Belgian GP, I witnessed one of the greatest overtaking manoeuvres ever - and it happened right by where I was standing. Michael Schumacher took

the lead early on, but Mika Häkkinen hunted him down. On lap 40, the sound of the TV helicopter hinted at their arrival and then three cars sped past. Schumacher tried to



protect his position by moving to the outside as late as possible, but Häkkinen chose the inside line and passed not only backmarker Ricardo Zonta, but Schuey too! There was a standing ovation from the fans."



"I was lucky enough to be given a garage tour by Virgin Racing"

TELL US YOUR GREAT GP MOMENTS! If you've got a story from a race you've been to, email us at thebestraceivebeento@haymarket.com

# HOT CAR COOL SHINE





Dan Donati (right) and Tim Hammond. the builder of Dan's car.

Dan Donati's custom-built Ford 1934 roadster was voted 'Best in Britain' at the 2009 National Custom and Sports Car Show.

Everything about Dan's car is hot, from the highly modified V8 lump to the hand-built aluminium body with deep, pearl blue paintwork.

"I always use Autoglym," said Dan. "I know that it provides the best finish and also protects my car. Having taken seven years to build it, I wouldn't trust anything else."

Dan knows how to make a car look its coolest - that's why he chooses Autoglym. For more information on our complete range of car care products visit www.autoglym.com









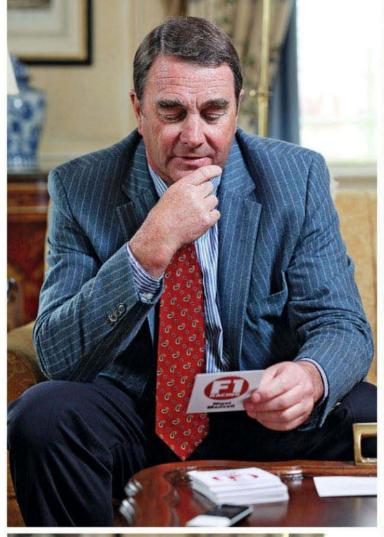
#### **YOU** ASK THE QUESTIONS

# Nigel Mansell

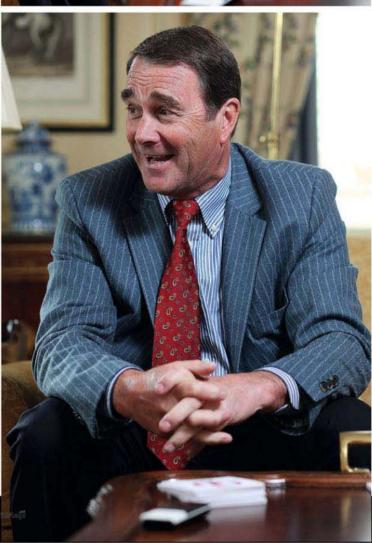
The 1992 world champion has experienced it all in F1: third-degree burns to his bottom, an inappropriate fondle from Riccardo Patrese and even the sight of Jacques Laffite turning up to qualifying in his pyjamas. Via huge praise for Sebastian Vettel and some strong criticism of Lewis Hamilton, the man who would love to launch the Mansell F1 team also clears up one perplexing mystery: did he really once utter the words, "I can't speak, I'm unconscious"?

WORDS JAMES ROBERTS PORTRAITS ANDREW FERRARO/LAT; LAT ARCHIVE











#### YOU ASK THE OUESTIONS

It was the late-night call on Bank Holiday Monday that was the concern. We were due to meet the 1992 world champion at nine the next morning in Chelsea Harbour but, at the very last minute, the interview was cancelled. "Nigel's wife just called me," exclaimed his PA. "He's got laryngitis and he can't talk. The interview's off."

Oh dear. With a stack of questions sent in by our readers and deadlines looming, we were afraid our chance to collar the great man was lost. But the drama was over once Nigel rearranged his work schedule, which involves charity commitments to UK Youth and work for the FIA and the MSA. So we arranged to meet a week later and, as you're about to find out, he was on top form, discussing everything from 'de-roofing' the blisters on his bum after his F1 debut, to cutting his hands following his first win for Ferrari – plus how 'disappointed' he was by Lewis Hamilton's recent antics in Monaco.

With a new interview time and venue arranged, we wait in the plush lobby of The Dorchester Hotel in Park Lane as distinguished guests file in and out. There among them is the unmistakable figure of Nigel Mansell; a motorracing legend and, nearly 20 years after his epic world championship win, still the UK public's favourite racer. We head up to the eighth floor to one of the London hotel's grand suites overlooking Hyde Park and Nigel sits down, smiles, and picks up the first card...

#### In 1982, Colin Chapman stopped you from taking part in Le Mans. In the light of Robert Kubica's accident, do you think Colin made the right decision?

Victoria Palmer, UK

Colin was absolutely right because, as he explained to me, at that time there were a lot of amateur drivers who just turned out for that one race. It was on the old circuit with no chicanes on the Mulsanne straight and the closing speeds were immense. Safety was paramount and he said he hadn't invested all that money to train me up to be a Formula 1 driver and then watch me go and get hurt in that one race. I explained I wasn't earning much and needed to do it to supplement my salary, so he matched the money I would have got and told me to stay at home.

#### When your driveshaft broke in Dallas in 1984 and you jumped out to push your Lotus the last few yards, did you know such a move was illegal?

Steve Reinhart, USA

At that time it wasn't illegal. We did finish, we did score points, but I almost lost my life. It was ridiculously hot in Dallas; it was about 48°C, so qualifying happened at six thirty in the morning because the track was breaking up. I'll never forget Jacques Laffite turning up for the warm-up in his pyjamas. That was very funny.

### Ayrton Senna beside you on the straight at 190mph in Spain 1991 – what was your thought at this moment?

Cedric Paya, France

Have him off! [Laughs] Basically Ayrton and I had demonstrated a healthy respect in that we didn't have one another off, as in the early years we used to go at it tooth and nail. It was an incredible bit of driving both by Ayrton and myself in that we were very close together for a good period of time and it was one of F1's classic manoeuvres. I think people appreciated it.

#### How did you manage to pass Gerhard Berger at Peraltada in Mexico 1990?

Sergio Rivero, Mexico

It was a fantastic move. It was premeditated about three laps earlier when we were going down the main straight and Gerhard did a banzai move into the first corner. I looked into my mirror and saw all the tyres smoking and I thought, 'If I turn in now, we're going to have a big shunt,' so I turned away from the corner and he shot past me. I was quite incensed by the way he overtook me, so I hustled the car and the opportunity came to drive around the outside of him at the Peraltada and, fortunately, we pulled it off. It was a bit of a hairy moment: flat-out at 192mph. The most amazing thing is that although I came second, I got a standing ovation all the way down the pitlane from the other teams. It felt like I'd won the race.

#### What went through your mind at the 1986 Australian Grand Prix when your tyre exploded while you were in the hunt for the title? Did you think you were never going to win a world championship?

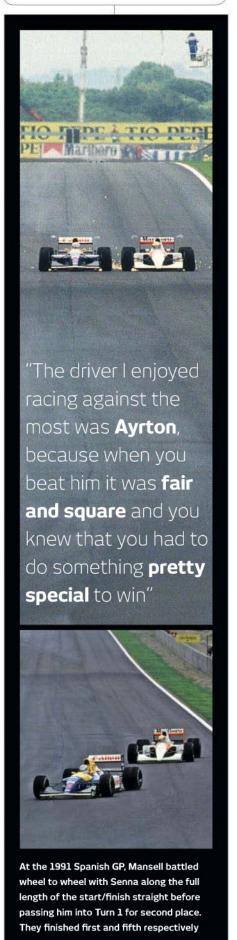
Simon Gray, UK

My polite thought was: 'Goodness gracious me!' It was a devastating moment at 215mph — I'd radioed the pits saying, "I'm coming in for tyres!" and they'd said, "No, they're fine, stay out!" And that's what lost me the championship. Did I think I'd ever have a chance at winning the title again? I wasn't sure — some people were saying I might as well retire because I was never going to get a better chance.

#### Peter Warr once famously said: "Nigel Mansell won't win a grand prix as long as I've got a hole in my arse." What did you think of that?

Stewart Alsop, USA

Very funny and very true as he was very constipated, god bless him. Unfortunately he's not with us any more, but the sad thing when people say ridiculous things like that is that it shows them up for what they really are: inadequate. It was a shame as he had some very good points, but he let himself down as he had some very indifferent points, too. He sadly lost



the plot, I think, in trying to follow a legend like Colin Chapman and stepping into his shoes. He was obviously wrong: I'm the most winning driver in the history of the country and the fourth most winning driver in the history of the world. Yes... I would say he was probably wrong.

#### Were you ever interested in starting your own F1 team, like Alain Prost? 'Mansell Grand Prix' sounds good...

Aditya Satriady, Indonesia

The answer is, I'd love to if you've got the money, Aditya. I'd love the opportunity and the challenge. Alain almost went bankrupt doing his own team, but I've always had my feet on the ground. If there's a sponsor out there who'd like to give us the money I'd adore the opportunity to put a team together. I think it's probably more of a challenge now than it ever was, although it's easier, too. If you have the knowledge, the talent and the motivation, it doesn't go away.

#### Would you ever have considered a ride in NASCAR?

Giovanni Diamente, Canada

Yeah, years ago Dale Earnhardt befriended me and tried to get me in. And then one thing led to another and sadly Ayrton died and I came back to this side of the pond again and into Formula 1. If that had not happened, then all sorts of things might have occurred.

#### Hamilton or Button: who is better?

Zuzanna Oskiera, Poland

It depends on the day, but I think that Jenson is more mature. He's more of a driver than a racer and Lewis is more of a racer. But then Lewis is not mature and he's not got a head on him. I think he needs to settle himself down because that recent episode at Monaco was unnecessary and unflattering both for himself and Formula 1. I thought his driving was very poor because he had no respect for anyone else, because where is anyone going to go? To say that overtaking is impossible at Monaco, well... I've done it coming out of the tunnel several times... but then to say what he said about the stewards was appalling. I was very disappointed and he's got to remember that he has been a world champion so he should act accordingly and appropriately at all times.

I'm going to be the driver steward at the British and Belgian Grands Prix so he should behave himself! Both Lewis and Jenson were great world champions at the time and it's absolutely fantastic to have them both in the same team but Jenson, for me, carries with him just that little bit more maturity.

#### Would you like to have more responsibilities at the FIA?

Clément Bouchet, France

It's great to have the responsibility of being an FIA driver steward at the track, and the thing

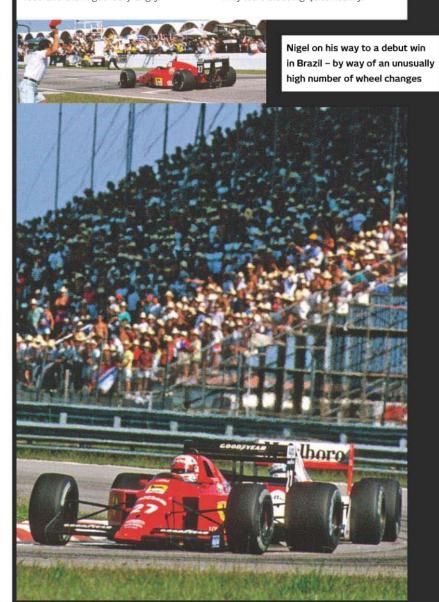
## What is your favourite memory of Ferrari?

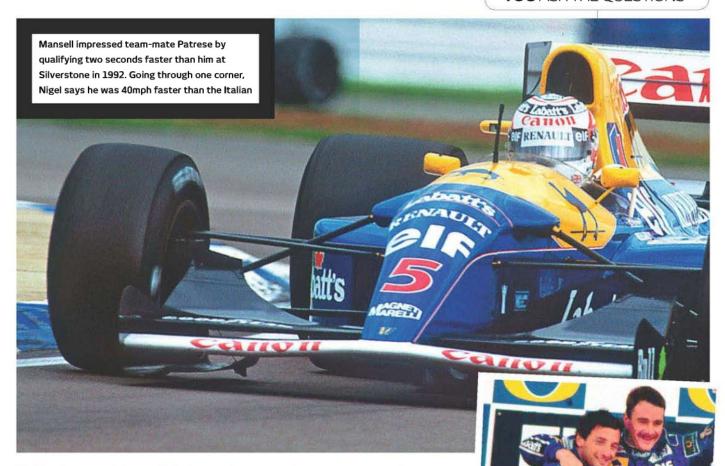
Nicolas Loux, France

It was my first race for them, in Brazil in 1989, knowing the car wouldn't last. We'd had terrible winter testing and I'd booked an early plane home from Rio on the day of the race. After a few laps, my teammate Gerhard Berger's car had blown up and he left it on the side of the track. I thought, 'Well mine's not going to last long...' After a few more laps I got into second place and thought, 'I'm going to be very disappointed now.' And I kept pushing thinking, 'If you're going to blow up, blow up now as I'll be really pissed off otherwise.' Lo and behold, I got into the lead and then I got really angry.

The main thing that happened that day was that the steering wheel nearly fell off into my lap. It was the only time ever in my 15-year career that I stopped in the pits and had all five wheels changed. The chief mechanic got a hole in his hand when he pushed the steering wheel on hard – he still has the scar to this day. But we went on to win.

There was more drama on the podium, as the trophy was heavy and had a number of pillars with a lot of edges. I held the pillars, the trophy slid down and it was like razors cutting into my palms. They were bleeding quite heavily.





"All of a sudden this hand came between my legs and **grabbed me** quite... positively. Riccardo said, 'Nigel, I just wanted to feel how big they were!' So he felt how big my balls were and **broke his hand**..."

I've found is that the other stewards do listen to what the ex-drivers say. Jean Todt is a great president of the FIA and a marvellous leader of men. I'm very proud to be part of it and I think it's really helped Formula 1 with some of the decisions that have been made. It's not only the FIA; I've also been working with the MSA council and I've been to steering committees in the Houses of Parliament recently. We're working on repealing certain laws in this country that date back to the 1930s to help the MSA start holding various road races in the country again – events like the Birmingham Superprix.

#### What was the scariest moment of your Formula 1 career?

Jack Jeffreys, UK

When I was going backwards through the air at 160mph in Suzuka. When I landed, I knew my back was broken as I couldn't breathe and I was paralysed. I later came round to semiconsciousness in intensive care and early in the morning I had a guy to one side of me who started screaming. I was watching him through

my stupor and then he died. About an hour later, someone else died. I thought: 'This is nice — things usually come in threes.' It was the scariest night I've ever had. I didn't like it very much.

#### Is it true that your rear got burnt with fuel on your grand prix debut?

Chris Wilder, UK

Sadly the fuel leaked into the cockpit on the dummy grid before the race and everything was getting pretty hot down below. I was wondering what was going on, so I called my engineer and we realised fuel was leaking from the bottom of the tank. So, as you did 31 years ago, he poured a watering can over me and put two gallons of water into my lap. It felt much better... then, as the race went on, the water evaporated. I drove for 40-something laps with hot fuel all around my derrière, before the engine expired. I flew home that night and at half two in the morning I was in so much pain. When I looked in the mirror... oh my god, you wouldn't believe the blisters that had formed. I had second- and third-degree chemical burns on my bum, crotch

and various other places and I was sitting upside down on an operating table at three thirty in the morning having my blisters 'de-roofed' — to use the technical term. I couldn't sit down properly for weeks. The bad thing wasn't the burns but the shrinking of my hamstrings and they've never gone back to their full length. I've had a bit of a problem walking properly ever since.

#### You were well known for your 'balls', Nigel. Do you think any other driver has them nowadays?

Benjamin Vinel, France

Let's differentiate between being brave, being ballsy and being stupid. I think I fit into most of those categories, but what I was willing to do years ago was put everything on the line because it meant so much to me. Not many people do that and it's the difference between racers and drivers. You have great drivers who win world championships and you have some very exciting racers who win championships: but they are different animals. I'm a racer; Ayrton Senna was a racer; and everyone out there can decide who

#### YOU ASK THE QUESTIONS



"What I was willing to do years ago was put everything on the line because it meant so much to me. Not many people do that and it's the difference between racers and drivers"

are the racers and who are the drivers. Racers make things happen – they don't wait for them to happen. Look at Sebastian Vettel: he's developing and I'm so impressed with how he's matured in such a short period of time. It's everyone's dream to win a world title and then it's their dream to defend the title in the same manner in which they won it. To start defending it in an even *better* manner than when you won it is sensational. And some of us never had that chance, so I'm delighted for him. He's doing a great job and is making Mark Webber's job even harder. Mark is having to dig even deeper because he has to race against his team-mate.

# You've raced against the greats of your generation, so how did Michael Schumacher measure up in your opinion? Hylton Waldek, UK

Well, when we were racing together I beat Michael quite a lot and he was in some good cars. He's the most successful driver in the history of the sport and, to be fair, the greatest credit goes to Michael for being clever enough to keep a very special team together. He had Jean Todt, Ross Brawn, Rory Byrne and Nigel Stepney: they had 100 per cent reliability, which shows what a fantastic job they did at Ferrari.

When you think about Michael as he is now, I know some people are incredibly disappointed, but I remain a big supporter. I still think he can score podiums; I still think he can win a race. Jenson had the best-balanced car in 2009, but when Michael came back in 2010 it wasn't a good car: that proves you can have the best driver, but if you haven't got the best car then you can't deliver. Michael's problem is that he knows what great cars feel like, whereas his team-mate, Nico, doesn't. So Nico's wringing the car's neck more than Michael is — and he's younger and hungrier, too. Michael can still do the job, it's just whether he'll have the opportunity to get everything right again.

## From a driver's perspective, what do you make of these 'artificial' means of overtaking, such as KERS and DRS?

Anthony Kennedy, Ireland

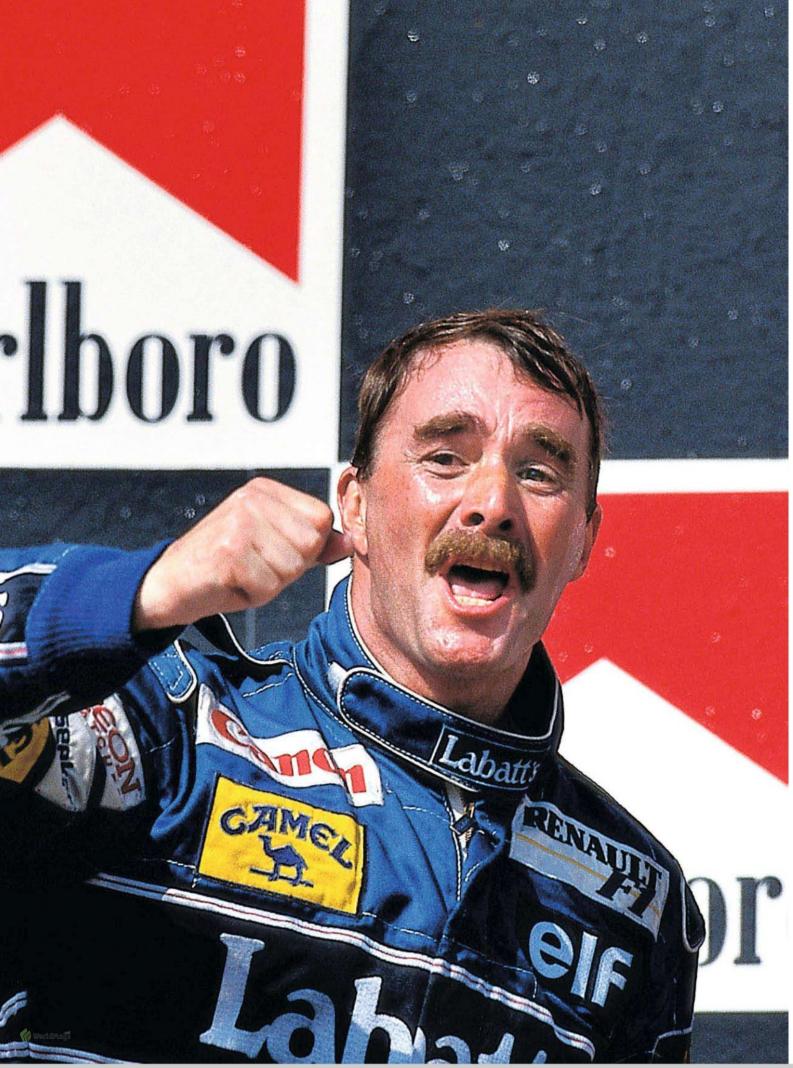
That's a great, great question from Anthony Kennedy of Ireland. Well, KERS is not a level playing field as far as I'm concerned. The amount of money that Mercedes and other teams have invested in it, lesser teams can't afford. The big teams have spent tens and tens of millions... silly figures like £50million. So I don't think that's progress. The DRS has demonstrated that it's exciting but, arguably, it's too easy to overtake now. It seems artificial to me - all these devices take away from the talent of the driver and their ability to demonstrate what they can do for themselves. So my official answer is that the jury is still out. I'm waiting for a full year of it before I make my decision, but I will say that I am uncomfortable with them.

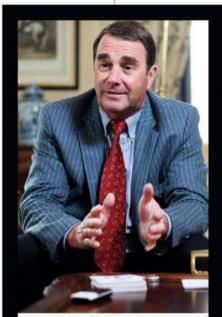
#### Is it true that after your pole lap in 1992 at Silverstone, your team-mate Riccardo Patrese grabbed you by the balls?

Neil Redman, UK

[Laughs] That was a funny moment, as I'll never forget Patrick Head saying, "No one will get into the 1min 18secs" — and that was like a red rag to a bull for me. So I qualified two seconds quicker than Riccardo. Afterwards I was talking to Patrick and Frank and suddenly this hand came between my legs and grabbed me quite... positively. And I turned round to lamp whoever it was because it wasn't a nice moment and he said, "Nigel, Nigel, I just wanted to feel how big they were!" So he felt how big my balls were and broke his hand and realised! Riccardo and I are great friends and that was probably the biggest







"I'd adore the opportunity to put a team together. I think it's probably more of a challenge now than it ever was, although it's easier, too. If you have the knowledge, the talent and the motivation, it doesn't go away"

compliment you can get from another driver. We looked at the telemetry afterwards and I think I went through one corner 40mph faster than him. So he realised that I either had big balls or I was very stupid that day.

Nigel, how did you approach the discussion with your wife when you suggested that you remortgage your house to fund your racing career? My wife's response would be unprintable.

Steve Arnott, UK

It was simple: I didn't tell her! [Laughs] It was worse than that because I sold it – I didn't

remortgage it. That falls into the 'stupid' category - it paid for four races with March engineering in F3 and then I got fired because all they wanted was the money. They'd promised I'd get sponsors, but they didn't do a thing and it was a really tricky time. Because I had such belief in myself we managed to recover, but when I look back at how it was when it all went pear-shaped and I lost the drive, both our responses would have been unprintable! But it's a good question, Steve. The great thing with that, I would add, is that I would go to extremes to show Colin Chapman I wanted to be successful and, if I hadn't, he might not have given me a job as an engineer; if he hadn't done that, I might not have graduated to being a test driver - and so on. Sometimes you have to impress the right people, no matter how hard it is.

#### Who was your toughest opponent: Senna, Piquet or Prost?

Garry Robinson, UK

Senna was the toughest on the track. Piquet was half-tough on the track and pretty tough off it.

And Prost was very tough off the track with the political stuff, but less tough on it.

#### What happened to your moustache?

Carlos Jonathan Blanco, Spain

I don't have a moustache any more because I'm told that I look ten years younger without it. I still feel 28 some days but 88 on others. My wife told me when I took it off that she preferred it and that I looked a bit younger, so we moved with the times. If I grew it back now, some of it would be a bit white. I had it for years and years, from when I was about 17. It was a trademark and, who knows, one day it might come back.

#### What happened when you hit your head on that bridge in Austria in 1987?

Lee Bishop, UK

It just goes to show that if you don't duck in time for a steel bridge coming up when you're young, all you get is a bit of a lump on your head. I was on the car that takes you on the lap of honour after winning the race and he drove through the wrong bridge, not thinking that there were several people standing up on the back. The two people in front of me were obstructing my view, so I only just turned around in time to move my head, otherwise I would have had a very serious injury. Later on, Murray prodded the lump in a TV interview!

#### If you could race against any driver from any era, who would it be, where and why?

Karen Milton, UK

Fangio, Jochen Rindt, Jimmy Clark, Ronnie Peterson – they're just some of the greats I didn't get chance to race against. It would also be nice to race Jackie. The driver I enjoyed racing against the most was Ayrton, because when you beat him it was fair and square and you knew that you had to do something pretty special to win – like my overtaking manoeuvre in Hungary or down the straight in Spain. There was no moveable rear wing to help you pass Piquet down Hangar straight or Prost out of the Monaco tunnel. Just a moveable jockstrap...

#### How big a pain in the arse was Nelson Piquet as a team-mate?

Andy Pugh, UK

Absolutely huge. The thing that's so sad is that Nelson can be such a nice guy. What saddens me most is that in the last few years he's admitted he deliberately attacked my wife and my kids verbally because he knew he couldn't get to me on the circuit: he was trying the mental game off it, instead. I think that's lowering standards, but he never got to me. I threatened to rearrange certain parts of his anatomy at times, so we have a full understanding of how far he could go. But he was a pain in the arse.

#### Be honest: what really happened in the cockpit at the 1991 Canadian GP?

Thomas De Bock, Belgium

If you listen when I was shifting down for the hairpin with the semi-automatic gearbox, I got a bunch of neutrals. The engine was still running, but the car freewheeled in neutral. And then it cut itself off. Sadly, the press made up stories that said when I was waving to the crowd I accidentally took the ignition switch off and stupid things like that. What I did do at speed was to turn the ignition switch off to reset the computer and then turn it back on to try to get it started. But when you haven't got a gear and you're freewheeling, no matter what you do it's just one of those things. It was really painful to lose a race with one corner to go and even more painful to read from the critics what I was allegedly supposed to have done.

#### Is it true that you liked to have a long lie-in the day after a grand prix?

Jon Brown, UK

It depends who you're with! Now there's a joke that will get me into trouble. It depends where you are in the world, and whether you are going trans-Atlantic. I like a nice lie-in and also one or two slow days because your eyesight has to recover. Plus, in those days, we were losing 10-12lbs in weight in two hours: we would get very dehydrated and back then, the driver and car were weighed separately. The fact that I gave Ayrton, Alain, and Nelson 30kg in weight — well, that's half a second a lap or more, so I had to be super-fit. I had to make sure I recovered properly and then went back to training.

#### Nigel, what was your feeling back in 1992 when you became champion, knowing that the FW14B Williams car was the best car on the grid?

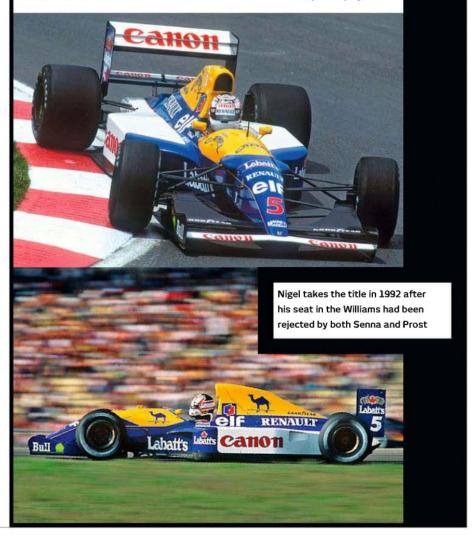
Jason Sultana, Malta

It was very satisfying because when I retired in 1990, Senna and Prost were due to join Williams. I was happy to retire because I was uncomfortable with always being the number two and never being given the opportunity to be a number one to win a world championship.

I'd won races and I knew how to win a title but if you're not given the opportunity, what's the point of making the numbers up at a time when the sport was still so dangerous? So I retired, but both Ayrton and Alain turned the drive down and Williams were left without a number one. They came to me and asked whether I would drive for them and I told them what I wanted in return.

They said, "What you are asking for is impossible." So I said, "Fine, I'll stay at home." But then I found out the 'impossible' only takes three weeks to become possible. Then I was given a two-year contract. I wish I could have had three, and obviously the car wasn't quick enough and that's why Ayrton and Alain turned it down.

I worked hard with my team-mate Riccardo Patrese to make the car supersonic, and we're both proud of what we achieved. As soon as you get it all going well and you become world champion you get thrown out because of politics and sponsors and different drivers. But it was very satisfying.



#### Was the McLaren MP4-10 really too tight for you in 1995?

Tomasz Swiatek, Poland

Holes had to be drilled into the monocoque to get me in there – but it was the same for Mika, too. An unfortunate mistake was made, otherwise the whole outcome of driving for McLaren and Mercedes could have been a dream come true. But after the years I did, with silly people saying that I could sit slightly sideways with one hip on the deck, that was the time to say enough is enough. It just wasn't to be sadly. They are a great team and I know I could have won with them, but it was at the wrong time.

#### What can you say about Elio de Angelis? You didn't like him, as I remember...

Kamil Golab, Poland

Well, you've got that totally wrong Kamil. I loved Elio. The person who didn't like him was Peter Warr, who tried to put Elio and I against each other. He thought it was healthy to have two drivers in the team who were fighting tooth and nail. Elio and I befriended each other: we spent a weekend together in Cannes and we realised he was saying the same things to both of us, so Elio realised he was being revved up, not by me, but by the team — and vice versa. We had good times together. I loved him and, along with the others, I tried to save his life. It was a really terrible time at Paul Ricard when he died as we were the first on the scene. He was super person and a very talented young man. I miss him a lot.

#### Is it true you once said over the pit-to-car radio: "I can't speak, I'm unconscious"?

Matt Jameson, UK

I've said a lot of things over the radio in my career but that wasn't one of them. The worst thing? I wasn't happy a few times, but I tried to keep it professional and clean. But a few times people would try to put a wheel in to kill you at 200mph and in the early days that wasn't appreciated. The really nasty, dirty driving tactics of old have gone now and the FIA have done a fantastic job with that. But to answer the question, I didn't say that, no. It's a load of nonsense. And if it isn't, I'd like to know when I said it... because I must've been unconscious.

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# Showbiz parties, bespoke

We lent **Nico Rosberg** a camera during the Monaco Grand Prix, so he could show you what the life of an F1 driver during race weekends is *really* like. As you can see, it's not all press conferences and analysing data...



 $1\,\mathrm{of}\,14\,$  Dinner is served

"On Thursday evening, the team had a barbecue out on the terrace of the Mercedes GP motorhome. On the left, cooking the steaks, sausages and prawns, is one of our chefs, Steve, while Mathias is bringing out more corn on the cob – or mais as we call it in Germany."



2 of 14 Swapping the track for the catwalk

"On the Friday evening I went to the Amber Lounge fashion show and found myself sitting behind Boris Becker and his wife, Lily. Sitting to Boris's right is the celebrity model Victoria Silvstedt, It's a tough life sometimes!"



#### 3 & 4 of 14 Having my ears measured up!



"This is Michael Gregor – he works for a company called 'In Ear and lives in Kerpen, which is the home town of my team-mate, Michael Schumacher. He makes personalised ear plugs for the team so we can communicate on the pit-to-car radio."



# earplugs and corn on the cob







#### 5 & 6 of 14

#### Hanging out on the waterfront



"This is the impressive view from the top of the team motorhome out across the Monaco harbour, which is filled with yachts. Here I'm having a chat with the vice president of Mercedes-Benz Motorsport, Norbert Haug."





7 of 14 Back to the catwalk again...

"Here we are backstage at a fashion show, about to go out onto the catwalk. You can see Paul Di Resta standing next to Heikki Kovalainen on the left and Adrian Sutil is over on the right."



8 of 14 The icing on the cake

"On the ground floor of the motorhome, the catering team have made a surprise birthday cake for the Mercedes SLS Safety Car driver Bernd Mäylander (right), who turned 40 on race day."



9 of 14 Plumbing the depths

"This is at a function in nearby Cap-d'Ail; my mum took this shot for me as she noticed the pictures of world champions at the bottom of a swimming pool – including one of my dad, Keke."



10 of 14 Saying hello to the fans

"At every race there's a 15-minute autograph session, which is always a great opportunity to meet as many fans as possible and sign the pictures and programmes they bring with them."



11 of 14 Loading up on carbs

"This one was taken at lunchtime on the day of the race. It's round about noon and I'm just about to tuck into a big plate of cheesy risotto before we go out on the drivers' parade."



12 of 14 Getting ready to head off home

"Monaco is truly a home race for me. After the day's work is done, I say goodbye to team sporting director Ron Meadows and then get on my scooter and ride home, which is just ten minutes away."



13 & 14 of 14

#### A rummage through the wardrobe



"Above the pits in Monaco we have a drivers' room, where we get changed. This is where I keep a fresh set of overalls for each day in the car and also a spare shirt in case I want to go running around the track with my physio, Daniel. If you look at the view from outside the drivers' room, you can see how close we are to the start/finish straight." 🕡



# Why is this Fl car sharing a runway with some Cessnas and a Boeing 747?

F1 Racing joins Force India for the one bit of mid-season testing a team is permitted to do. But they're only allowed to drive in straight lines...





WORDS
JONATHAN
REYNOLDS
PICTURES
ANDREW
FERRARO/LAT

A Cessna drifts lazily out of the sky and touches down on the dark ribbon of runway. Less than a minute later, as the Cessna peals off towards a hanger, an ex-RAF Hawker Hunter jet blasts off into the sky with a deafening roar. But there's no time to admire its acrobatic performance because there's another machine with a similarly ear-splitting volume already lining up

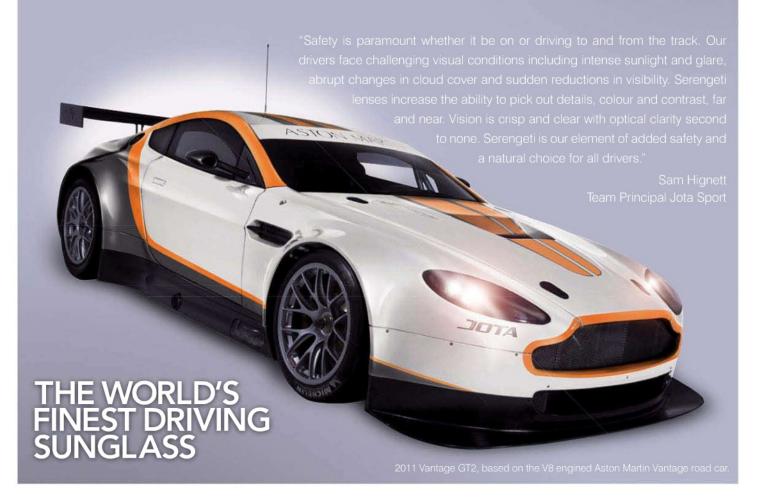
at the far end of the Tarmac. As it accelerates to half distance, its performance is every bit as impressive as the Hunter's but its pilot has no intention of taking off; in fact the car looks nailed to the ground as it fizzes through the heat haze. Welcome to the strange world of straightline testing, where F1 cars and jet planes vie for track time on an active airport runway.



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"This is the glamour of F1," jokes Force India test driver Nico Hülkenberg as he perches on the back of the team's truck, "From the glitz of Monaco to this!" He's in a jovial mood but the rest of the team have their serious race faces on. Straightline testing is incredibly important for them and, having decamped from their Silverstone base to Cotswold Airport near Cirencester, they want to make full use of a day that will cost around £20,000. After all, they're only allowed to do four of these tests a year. So what exactly do they hope to achieve?

"Essentially, what we are conducting is an aerodynamic test of the full size car that we then use to compare to our windtunnel data and our CFD simulations; it's a correlation exercise," explains Dominic Harlow, Force India's chief race and test engineer and a keen pilot who has conveniently flown to the test in his private plane. "What we do is run the car in as close to controlled conditions as possible... away from the racetrack, in a straight line and over as long a period of constant speed as we can."

As such, the runway at Cotswold Airport, which Force India use 0.8 miles of, is perfect for straightline testing, and at 45 metres wide there's more than enough space for Hülkenberg to perform a U-turn after each length. But that's not to say Nico is entirely pleased with the track: "It's bumpier than a normal F1 circuit," he explains. "Your head is bouncing around a lot, so at the end of the day you can have a little headache."

A lollipop man at the side of the runway is in constant communication with airport control, telling the team when the runway is clear and when planes are taking off or landing. It may sound ludicrous to have planes and cars operating in tandem, but it has little effect on Force India at all. The test - which starts at 9am and ends at 5pm - is broken into a sequence of runs, some two lengths of the runway long (one 'lap'), others up to ten lengths at a time.



"With a straightline test, we try to validate what we've found in the windtunnel" Dominic Harlow

After each run, Hülkenberg returns to the small, very un-F1 awning that forms Force India's temporary garage so that the car's setup can be tweaked - it's all about trying to collect as much data as possible. "What we're trying to do is to validate what we've found in the windtunnel with the real car because you can find that at the extremes, for example low ride heights, high speeds or certain settings of the front wing, the two can deviate a bit," says Harlow. Hence, over the course of the day, the rear wing will be swapped, the front wing will also be changed and then run through a 'sweep' of flap-angle settings and the team will also repeatedly adjust the

car's ride height. Helpfully, in this test they are using the banned-in-races active-ride system so they can raise or lower the car's ride height via computer rather than by hand. "It's useful, but in many ways that makes the car more complex," adds Harlow.

At Force India's temporary

'garage', setup is tweaked

and data is collated

#### Contrary to what you might

think, it's rare for an F1 car to run flat-out in a straightline test - it's irrelevant how quickly Nico can get from one end of the runway to the other and the team are keen to preserve the engine's lifespan by keeping it within safe performance margins. So instead, the driver accelerates to a predetermined speed then holds steady for the length of the runway. "If you run at a constant speed, the amount of downforce you generate is a constant number," Harlow explains. "If you do that for a long period and take an average you should get the best, most representative set of data. It will take out any inaccuracies in the data caused by bumps or a gust of wind."

To ensure they hit the right velocity, a speed controller is put on the car using engine software: all Hülkenberg has to do is accelerate to the required speed and hold the throttle open.

"Driving in a straight line is easy, but you can't just sit back and go up and down; you've got to be switched on because you've got to think about what you're doing next and what changes you have to make on the steering wheel," Hülkenberg confirms a little defensively. "But obviously, for a driver, driving in a straight line is a bit boring."





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The team do what are known as 'speed sweeps' – a number of laps at three speeds: 105mph, 149mph and 192mph. "Handily enough, the downforce at 105mph is half of what it is at 149mph which is half of what it is at 192mph," Harlow divulges. "Doing the speed sweep gives us a nice staircase of measurements."

As they would in the windtunnel, the team measure loads and pressures to quantify the amount of downforce generated. Alongside load cells, which are always in the car, three times the number of pressure tapping sensors are used in a straightline test than would be used at a race weekend. Sometimes the team will even run small cameras on the car to learn how much an aerodynamic component is deflecting at speed.

"We primarily look at loads – the direct measurement of the forces on the wheels – as a measurement of the downforce," says Harlow. "But we also look in the pressure domain because that's what's generating the aerodynamic load – the difference in air pressure. Some of the pressure sensors will measure flow structures to tell us what the air is actually doing over the surface of the car. There's a fairly complicated flow field, or vortex, behind the wing and you're looking for what the vortex is doing when the car slows down, speeds up or changes ride height."



"Driving in a straight line is boring... but you've got to stay switched on"

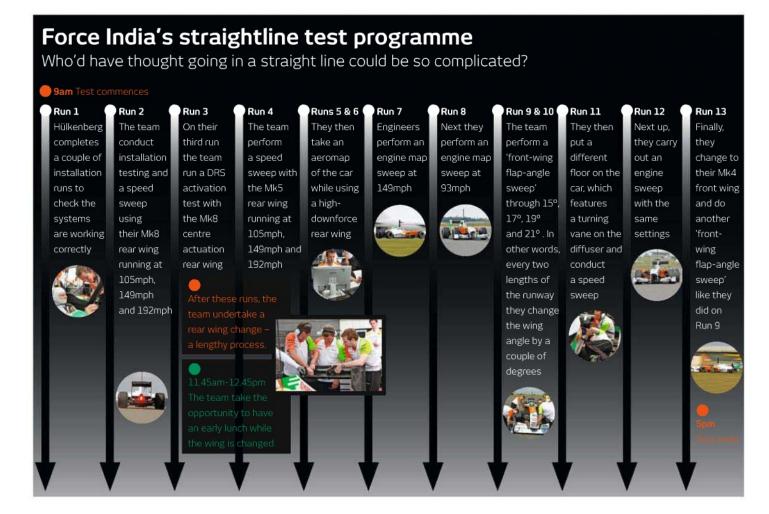
#### Nico Hülkenberg

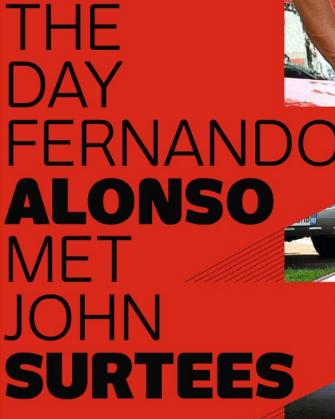
So when the team try out a Canada-spec rear wing later on, what will they be looking for?

"We want the same numbers we got in the windtunnel," says Harlow. "For the Canada wing we expect less downforce but want to know: 'Is it less downforce by the same amount as it is in the

windtunnel?' The pressure sensors tell us if the wing is working as we'd like. For the rear wing, you should get low pressure beneath and high pressure on top; that way the high-pressure area pushes the wing and the car down onto the track. If we see high pressure on the low surface or low pressure on top, the wing isn't working properly."

By 5pm an intense day is at an end. There are no mileage restrictions in straightline testing so Hülkenberg has racked up over 85 miles today. The team pack up quickly before dashing off to prepare for Canada. There's just one more thing to do: stop off on the way back to pick up some headache tablets for Mr Hülkenberg.





It's 47 years since John Surtees won a world championship for Ferrari and today he meets the man aiming to follow in his footsteps. *F1 Racing* invites you to listen in on his conversation with Fernando Alonso at their first meeting in Maranello

WORDS JAMES ROBERTS
PICTURES LORENZO BELLANCA/LAT









#### It's a scorching hot day as we drive the short distance from the

Il Cavallino restaurant to the Fiorano circuit. In the passenger seat of the Fiat hire car is 77-year-old John Surtees, the last British driver to win a world title with Ferrari. As we pass the town square he reflects on how much Maranello has changed since his time here. Fiorano's track was originally the site of Enzo Ferrari's farm, the few buildings latterly converted into his office and garages. Much has altered and yet, fundamentally, it's still a place where the red racing cars are designed and built.

Shining in the sun is Surtees' 156 from 1963 and next to it is a 2009 F60 decked out in 2011 colours. With seven motorbike titles under his belt, Surtees is the only man in history to have won world titles in both bikes and cars. He entered F1 in 1960, joined Ferrari in 1963 and, today, the old Ferrari legend will come face-to-face with the new one as he meets Fernando Alonso for the first time. We are witnesses to this historic occasion, as are a number of Ferrari's top brass. In their sharp Italian suits they stand under the shade of a nearby tree, jackets over their right shoulders in a pose that could have been from 40 years ago. They're watching Alonso complete a number of demonstration laps around Fiorano before he comes in to greet the 1964 world champion.

What follows is his conversation with Surtees about Ferrari then and now; how the best tracks are the classics and what the differences are between their two cars. But to begin with, they indulge in an Englishman's favourite bit of small talk: a quick chat about the weather...

John Surtees: I spoke with my secretary yesterday and she said, "I'm putting the air conditioning on - it's 32 degrees today." I've just spoken to her now and she says it's pouring with rain! Terrible.

Fernando Alonso: Here in Maranello, from May to October it is always this hot and humid. Then in the winter it is always foggy and damp - a very different type of weather.

JS: I remember I was based near Malpensa near Milan and I would come out here for meetings with the team and the fog would come in, the planes wouldn't fly and the trains didn't work because of the snow. It was impossible - and the airport at Linate was nearly as bad.

FA: All of this area gets a blanket of fog in the winter, and last year there were two metres of snow. It's better in Switzerland.

JS: Where do you live?

FA: Close to Geneva. But the food is better here... JS: We had a little house in Le Sépey, which is one of the highest ski resorts in Switzerland. A really nice village, unspoiled... no cars. But tell me, what do you make of the 156 I drove in 1963?

FA: I would like to drive that car. As a racing driver you like to try anything that has a steering wheel and four tyres. To try a different type of car with a different driving style is a challenge for us drivers and it's always a welcome opportunity. But I know I would not be prepared to drive that car fast because you need some time to adapt. For sure, there are things you have to do with the car to take care of the engine and gearbox. And if you are not prepared, then it's difficult to step in and be quick right away.

JS: I remember when Mercedes-Benz called me up and asked me if I would drive one of their museum cars - it was a W125 from 1937. The

tyres were huge and very narrow and every single time I changed gear, it spun the wheels it was a very frightening experience. I think that what you say is exactly right: we are all of our period and our time. When I first joined Ferrari in 1963, the car I had then was level with the opposition that existed at the time; it was the technology of that era.

You cannot make comparisons, but what we have seen is a tremendous rate of development that has taken place over the years, particularly in terms of the safety aspect, but also the technological side, which I think has flourished because of the structure of Formula 1. It wouldn't have been possible without Formula 1 expanding into the world and projecting itself on the

"Ferrari are special... When we were kids, we all played with the red toy cars" Fernando Alonso

> global stage. I remember when I was in Bahrain last year for the world champions celebration...

FA: That was a good event.

JS: Yes, well one of the crown princes said to me, "We spend a lot of money on our race, but when you take into account the number of people that tune in around the world and watch the race coming from Bahrain, it is worth the investment." And I think this projection of the sport has allowed the advancement of technology that we are now seeing.

FA: What I like are the circuits that have been continued from your era to mine. Take somewhere like Spa, which is now probably the most challenging circuit on the calendar. I know that in the past there were some longer tracks like the Nürburgring, but these days Spa is the most complete circuit; there are high- and lowspeed corners, up and down, so we enjoy racing there. But with the level of grip we have now, there are some corners that have lost a little bit of emotion, like Eau Rouge and Blanchimont they are flat-out for us, no problems, but we miss the challenging corners a little bit. Not only in qualifying but in the races, too. It is always easy to go through those corners, so I think that is one major difference between how things are now and how they used to be.

JS: That's fantastic. But I think they actually made the corners easier by making them smoother. In our time, what we had to watch out for was getting enough speed into a corner but not too much. You needed to make certain you were on the power through Eau Rouge and you had to drive up the

"Mr Ferrari said to me, 'We can't offer you much money, but there are other advantages" John Surtees

the big thing was that if you didn't get off that corner, someone would immediately pick you up into the Les Combes corner where you now turn right and we would turn left and then drop down to the Burnenville corner – we called it 'Cocoa corner' for obvious reasons.

hill afterwards, but

FA: How was the slipstream in your time?

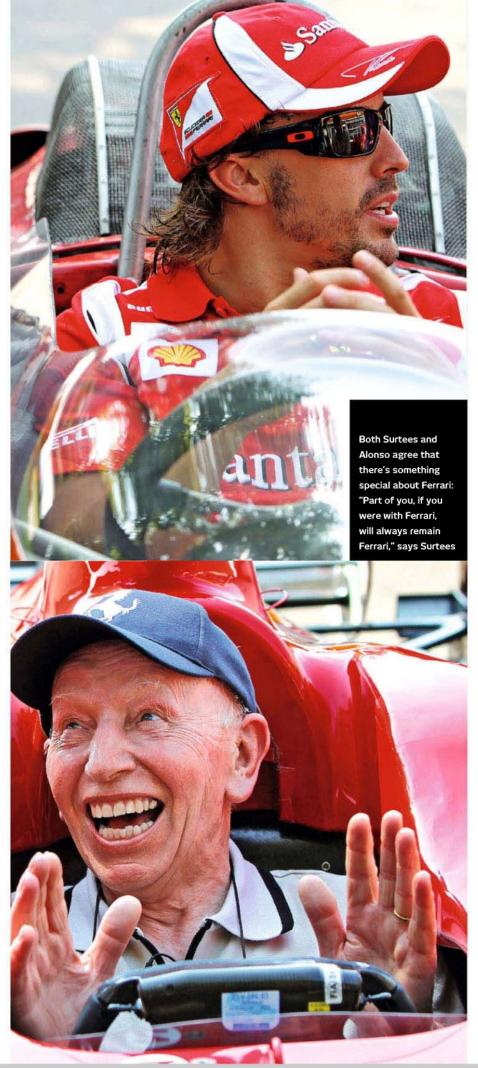
**JS:** Well, on certain tracks with the very long, wide corners, you could get a great run on another car...

FA: Was it very sensitive?

**JS:** Oh, very. But one of the problems used to be the bumps, so you had to be a little careful, particularly – and here I think of Spa again – when it used to rain. To my mind, and I don't know how you feel, if you lose circuits like Spa you have lost so much from grand prix racing. It's the character of those old venues – okay, it's not quite the same circuit it used to be, but going to Monza is still important.

FA: Yes, I agree.

JS: It's important, it's part of our heritage and it is at the heart of our sport.



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**FA:** I think there are special places and special circuits on the calendar that we know will make a unique weekend, and winning at them means something extra. It's part of Formula 1 and part of history and these are great places. We all want to win every race, but at venues like Spa and Monaco you feel something more.

JS: It's a bonus isn't it?

FA: Right.

JS: You come along and you get that extra satisfaction. If you've got it ten-tenths, then

"These days, Spa is the most challenging circuit on the calendar. We love racing there" Fernando Alonso

it's very special. To come across the line in first was a bonus – I felt very special – and we should ensure we

never remove that from our sport. Another thing is that I hate to think we are restricted in development too much in Formula 1. I think that somewhere along the line there is a balance to be found between entertainment and not making the circuits redundant – because if all the difficult circuits can be driven with no problem, then it's not right. My worry is the skill. It's important that the people with the real skill are still able to snatch back those few tenths. It's vitally important that you keep this difference between a pretty good driver and a very good driver. So if you make F1 too easy, you make it very difficult for the better drivers.

**FA:** The downforce thing is very difficult to stop as the rules are going in the direction of less downforce and massive grip. With the clever engineers and the technology we have now, we manage to get back to the same downforce levels within just two months of a rule change. So you will never stop the development of the car and the increase in downforce levels. For sure, you can still see the difference between a good driver and a special driver, but the best way to show your skills is to compare yourself with your team-mate, as he has exactly the same car. It's harder to close the gap if your car is one second slower than the fastest one in the field.

JS: I watched the race in Valencia and the fact is that every starter managed to finish – you're also talking about revs of around 18,000rpm.

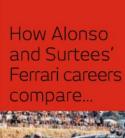
Look at how much we've come on – that Ferrari 156 had maximum revs of about 10,000. And you couldn't always be sure that you could race it and the temperature wouldn't get too high, or the oil pressure would drop. So a lot of development and research has gone on to allow you to have a



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#### JOHN SURTEES

#### YEARS

963-1966

**CARS** Ferrari 156, 158,

1512, 312/6

RACES 30

**AVERAGE START 3rd** 

**AVERAGE FINISH 2nd** 

**RETIREMENTS** 15

**FASTEST LAPS** 6

**PODIUMS** 9

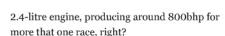
**TITLES 1 (1964)** 

WINS 4

sermany 1963

Germany 150

naly 1304



**FA:** Yes, for three races and for free practice, too. **JS:** It's a tremendous advancement and companies like Shell improve the technology all the time, which must be an advantage to anyone who has ever used any sort of combustion engine, particularly on their road cars.

FA: What links us both is Ferrari. And when I arrived here, the first impression I got was that this is a unique team. Ferrari are special here around the factory, around Maranello. People are so passionate about Formula 1 and motor racing, and also about the road cars, too. There is also a tremendous history that is part of Ferrari and so everyone who works here feels some kind of responsibility to continue this success. Formula 1 and Ferrari and motor racing all mean the same thing. When we were kids we played with the red toy cars and that added to our passion for the racing. There is no other team that can offer this feeling for a driver. For me it's special and very different to any other team I have raced for. JS: I came here at a very different time. The

team had just had a very bad year and one or

**FA:** Only with Ferrari. **JS:** That's right, all the

come and meet me!

**J5:** That's right, all these years later. They don't forget. That is very special. As I always said, we had our differences of opinion and sometimes we lost things together, but part of you, if you are with Ferrari, will always remain Ferrari.

two key people had left the team. So there was a

small core of old boys who were still there. But

the passion you've just spoken about was also

Mr Ferrari he said to me, "We can't offer you

much money, as we don't have a lot, but there

are other advantages. That is the Ferrari way."

and they would charge me full-board at 1,800

lire - which was equivalent to one pound. I

per cent off everything!" There were all these

sorts of benefits as this passion would spread.

Not so long ago I drove a Mercedes car on the

retro Mille Miglia. I arrived in Modena and my

old head mechanic had managed to get together

all the team members who were still alive to

So I used to stay in a famous old hotel in Modena

would go into a shop in Modena and they would say, "Ah, Signore Surtees, Formula 1 piloti – 50

still there and it was infectious. When I first met



#### **FERNANDO ALONSO**

#### YEARS

2010-present

#### CARS

Ferrari F10

150th Italia

RACES 27 (prior to

British GP)

**AVERAGE START 5th** 

**AVERAGE FINISH 4th** 

**RETIREMENTS** 3

**FASTEST LAPS** 5

PODIUMS 8

TITLES 0

WINS 5

Bahrain 2010

taly 2010

Singapore 2010

Koron 2010









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# NZO remembered John Surtees looks

back at his time spent driving for the Scuderia and recalls his last ever encounter with Il Commendatore...

WORDS JAMES ROBERTS PICTURE LAT ARCHIVE

A couple of hours before John Surtees met Fernando Alonso (see page 60), he visited II Cavallino restaurant, situated directly opposite the Ferrari factory. When he came to Maranello in the 1960s, this is where he wined and dined and it's still the favoured choice for Ferrari management today. During Surtees' visit, both Ferrari team principal Stefano Domenicali and Enzo's son, Piero Ferrari, arrived and retreated to Enzo's old private room to talk over a plate of tortellini. Prior to this visit to Maranello, Surtees' last visit was in the spring of 1988 for the launch of the Ferrari F40 road car and it came just a few months before Enzo's death.

"I came and met up with The Old Man and had a bit of a chat. He was frail, but there was still a glint in his eye although he was still wearing the dark glasses. He said some words that, in fact, took away a lot of the anger that had always rested in me. He said: 'John, we must remember the good times and not the mistakes?

"In my time, Ferrari were contained in a relatively small section in the main factory and Maranello then bore no resemblance to what you see today: it's now immense. There was a street that led down to a square and that was it - there was nothing else. I recall there was a restaurant up in the hills and that was where you would go to test a car. On occasion we'd be asked to frighten a customer on that piece of road, just to prove to him the car did work!

"You had Maserati, Ferrari, Lancia and it was all rather feudal; I think that's where the British teams started to get an advantage. I tried to change things but I became a victim because it was too early for their liking. In those days you looked upon Enzo as the king around here, but you must remember that the name 'Ferrari' is rather like 'Smith' in England. The thing is, Enzo stamped something special on that name. He was proud of what he had done, but he didn't want to be known as a nice person - he liked a bit of controversy. If there wasn't

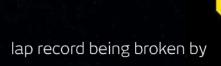
any, he'd create some. I read a thing in the paper where Bernie Ecclestone was asked what he really did, and he responded: 'Well I put the fires out, but if there aren't any I'll make the fire.' The Old Man would do the same.

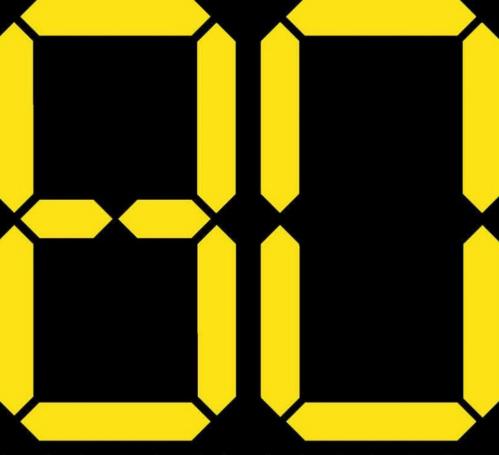
"So few people would tell it straight and, unfortunately, we couldn't get Mr Ferrari to come to races. After his son died, he just didn't. He would only come to practice at Monza. He employed a journalist called Franco Lini, who went on to be team manager at Ferrari. His job was to write adverse reports; he'd write something I'd said about my teammate Lorenzo Bandini or vice versa, or what we'd said about chief engineer Mauro Forghieri. We were puppets on a string: it was all a bit of a game and the saddest thing is that he'd often never learn the truth.

Despite that, part of me will forever be here. Just after my son Henry died, we'd been due to go to Dallara and on to Ferrari afterwards. It was something we were both really looking forward to." @









Simulators can help drivers practise new tracks, but they can also help answer random questions such as: 'How would a modern F1 car get on around the Nürburgring Nordschleife?' The answer is: 'Very briskly...'

WORDS JAMES ROBERTS PICTURES ANDY TIPPING

et it rig Schwalbenschwanz is virtua

et it right and the run from Pflanzgarten to Schwalbenschwanz is virtually flat-out. As you pull a higher gear, control the slide over the kerb and turn into another blind apex, right foot mashed to the floor, the exhilaration of mastering arguably the greatest circuit in the world has you wanting more. More laps, more speed, more danger. With over 170 corners, there's no time to rest; the trees and Armco barriers seem to move closer to the asphalt as you go faster and your respect for 'the green hell' grows.

Lapping at speed, past the eerie Castle Nürburg, there's an overwhelming sense of fear on the Nürburgring's Nordschleife and the shiny replacement Armco reminds you of the ultimate sacrifices that have been made at a number of legendary corners – some more recently than others. Think of Adenau Bridge where the Argentine Onofre Marimon was killed practising for the 1954 German GP, or Pflanzgarten, where Peter Collins lost control of his Ferrari Dino 246 four years later. And Bergwerk, forever associated with Niki Lauda's terrible fiery accident in 1976, which signalled the end of Formula 1 cars racing on this 13-mile loop, carved deep into the Eifel mountains.

The track has also had its fair share of joy, where great drivers have shone as they've excelled in inferior equipment. From Tazio Nuvolari's emphatic win in 1934 in his P3 Alfa Romeo against the onslaught from Mercedes and Auto Union, to Fangio's swan-song win against Hawthorn and Collins in '57, Moss four years later, and Jackie Stewart's unforgettable drive through the fog and pouring rain in '68 to finish four *minutes* ahead of the opposition.

But Formula 1 cars became too powerful to be contained on the full-speed, perilous blast around the forest, so a newer, slower autodrome was built to little acclaim in the early 1980s. It was a sad loss that F1 cars would never again return to the true Nürburgring.

Starting another flying lap, the temptation is to attack earlier, harder than before. Over the kerbs at Hatzenbach and Hocheichen the car's getting loose, sliding more than ever; rears locking. The fast-approaching Flugplatz should be flat. Turn in, hold the steering wheel tightly, then feel the fear in the pit of your stomach as you realise you're not going to make the corner, followed by the horror of knowing you're a passenger as you wait for the sickening crunch from the rapidly approaching Armco. Thump. Game over.



Thankfully, today, a quick combination of 'control-alt-delete' followed by the 'escape' button means that all the wheels are magically back on the car, the damage is repaired in microseconds and we're reset and back on the track.

We are in Germany – but some 60 miles north of the real Nordschleife, in a small room at Toyota's Cologne factory. The fact of the matter is, a lap in a modern F1 car is much safer – and cheaper – on a simulator than it is in reality.

And, for today only, we're putting a 2011-spec Formula 1 car through a number of virtual laps of the old 'Ring at full-pelt to see how its speed compares to that of the previous F1 best and the current lap record – something that has never been done before. The last time an F1 car raced on the



Nordschleife was at the restarted 1976 GP following Lauda's dreadful accident, when Jody Scheckter set a fastest lap of 7min 10.8secs at an average speed of 118.571mph.

Yet it is perhaps ironic that the quickest recorded F1 lap was set by Niki Lauda, who slipped under the elusive seven-minute barrier with a pole-setting 6min 58.6secs (122.027mph) at the 1975 German Grand Prix, one year before his accident. This was a full eight seconds quicker than the fastest race lap. Given the advances in aerodynamics and technology, it will be fascinating to see how much a new car could shave off that lap – 30 seconds, maybe?

The last time an F1 car took to the hallowed Tarmac was back in April 2007 when Nick Heidfeld drove his BMW Sauber around three laps of the track, but it was merely a demonstration run and no time was set. In preparation for the laps, the front of the car was raised by four centimetres and the rear by eight, because of the amount of bumps on the track's surface. Not at all suitable for modern F1 but, thanks to sophisticated simulation techniques, every single groove and kerb has been lovingly recreated in Toyota's simulator by scanning the entire surface of the track with lasers – as they have done with over 20 circuits around the world.

This £2million piece of kit is tucked away at the back of their old F1 factory and can be accessed only by walking through a small museum housed under part of the windtunnel. Lined up inside is every Toyota F1 car ever made, plus a handful of exotic models, such as a road-going











## BMW DO THE NORDSCHLEIFE

This was the last time F1 took to the legendary turns of 'the green hell'. In 2007, Nick Heidfeld put in a demo run for Sauber, with no time recorded

GT-One car, the legendary Carlos Sainz Celica rally car and a souped-up Mk1 MR2.

The room housing the simulator used to be a tightly guarded secret, but despite Toyota's withdrawal from the sport, the time and technology spent developing it haven't gone to waste, as it is now used by drivers from a variety of different categories, who come to this once-secret room to learn any of the 20 tracks available. And for £3,500 a day, it's yours, too. That's why the team in Cologne are happy to allow us to use it; since their withdrawal from F1 there is no chance of any trade secrets slipping out to the opposition...

On the morning of our trip, Martin Brundle was on board the simulator, familiarising himself with Jerez, prior to an F1 outing he's planning for a BBC feature later in the year. He wore a cap to block out the view of the ceiling, which

plays havoc with your physical sensation of movement. That's because the simulator sits on six hydraulic posts (which move 60cm in longitudinal and vertical directions) and the visual effect of five projectors putting out the image of the track onto a huge 220° wraparound screen with a 100Hz refresh rate, and a 1400 x 1500 resolution with a 40m/s latency is all-consuming. Indeed, simulator sickness is quite a common problem, but one you need to teach your brain to deal with. It's the same as when you look out of the window while sitting on a stationary train and another train alongside you slowly starts to pull out of the station: you get the sensation that you are moving. But get over the motion cues and there is no better tool to perfect lines and braking points at every major grand prix circuit or, for that matter, the Nordschleife.

"Jarno Trulli was excellent in the simulator," says Mathieu LeNail, senior simulation and performance engineer and our guide for the day. "We found he was always within a second of what could be achieved in real life."

Simulators are now a vital part of modern Formula 1, as more time and resources go into developing systems -McLaren own the best one in the business with their 3D simulator. They're not just for drivers to learn tracks, but also for teams to trial new parts before they are run in the windtunnel or put into production.

The environment and hardware for Toyota's machine is provided by XPI Simulation and the models for the cars -F1, GP2, LMP1, GT - are done in-house. And while we've come a long way from early games such as Pole Position for the ZX Spectrum, or Geoff Crammond's Grand Prix for the Commodore Amiga, home consoles do offer good models for learning tracks, particularly in games such as Gran Turismo 5 (PS3) and Forza Motorsport 3 (Xbox). But where the Toyota simulator really outstrips them is in the huge amounts of data it can store and the variables you can alter.

"For today's run, we've added 2011-spec downforce levels and high-degredation Pirellis and it would be easy to introduce KERS and DRS too," says LeNail before the run.

Everything you find in an F1 car has effectively been recreated in the simulator chassis: the throttle is linked to the standard ECU and the brakes are connected via hydraulic lines to two callipers to ensure the driver gets the correct feel underneath his left foot.

To run this machine, 14 PCs are connected, each with 1.98GB of RAM and 3GHz of processing power. Each PC deals with a different variable: modelling, telemetry, sound, TV capture (via a video camera on the roll hoop), image generation, external graphics, two motion system PCs to control the actuators, five to process the engine and chassis data logging and the final one is a central operating system to control the other 13. "It's a very advanced tool," adds LeNail, "particularly in terms of vehicle modelling and physics."

The man tasked with developing the simulator and working on setups is former French Carrera Cup racer and aerodynamicist Thomas Bouché, and it's his job to put the





TOP: Mathieu LeNail operates the simulator ABOVE: the 14 linked PCs that make it all happen like real life

F1 machine through its early paces around the Nordschleife. At any other track, the quickest way to pilot a car is through smoothness and precision, but given the ultra-tight corners on some parts of the lap, he says he needs to incorporate into his driving a rally-style kick of the throttle to pivot the back of the car around a number of the apexes.

Bouché is quickly on the pace and, after a sighter lap, nails an incredible 5min 40secs lap, demolishing Lauda's previous F1 lap record by 1min 13secs. He's also 31 seconds up on Stefan Bellof's awe-inspiring 6min 11secs lap set in qualifying at the wheel of a Porsche 956 in the 1983 1,000kms. His second lap is 5min 36secs, which is whittled down by another three seconds next time round - at an average speed of nearly 140mph - 20mph or so quicker than Lauda's fastest. It's a real achievement and the thought of attempting to qualify a modern machine at the 13-mile 'green hell' in five and a half minutes doesn't bear thinking about...

The car's reset, the wheels are back on and we're miraculously back at the start/finish line at the press of a button. Now's the chance to set a decent lap time. Strapped down into the cockpit, it's a nervy experience knowing all that power sits under your right foot and 170 corners stretch out in front of you. Into first, releasing the hand clutch with my left hand and I'm off onto another lap. This time there are no major mistakes, a lift for Flugplatz, hold the car around Karussell and flat-out after Pflanzgarten.



Now my second attempt is over and I stop the clocks at 6mins 6secs - also smashing Lauda's record and coming in under Bellof's pole time from '83, too. A solid lap, but you always know you could have been quicker. Thankfully, I'd survived the earlier off. The simulator, for me, is still the best and the safest way to enjoy the Nordschleife in an F1 car at speed. 🕡









The jacket features period Shell detailing, including the iconic 'Five Cans Shell' design on its quilted lining



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## "Where did you say reverse was again?"

When Lewis Hamilton tried NASCAR, there was no steering wheel packed with gadgets, no paddleshift nor, indeed, any trick aerodynamics just a gearstick, some gauges and 850bhp of pure American brute force...

**WORDS JAMES ROBERTS** 



atkins Glen. There's nowhere else quite like it. The old start/finish line and chequered flag are just across the road from the County Courthouse. Pictures of François Cevert adorn the walls of the local Burger King; a huge mural of a 1950s ERA is painted on the side of the hardware store; the municipal library is full of motor racing annuals and magazines; and a motor garage, now converted into an Italian restaurant, is decked out with signed photos of JYS. The village of Watkins Glen, in upstate New York, is an island in the vast landscape of North America. The people here are in *love* with Formula 1.

Two days after a thrilling race in Montreal, the murky weather remains in this part of the world and our hearts sink when the curtains are drawn back early this Tuesday morning. Seneca Lake is no longer visible, as fog and persistent misty rain has struck Schuyler County. Imagine a place as picturesque as the Hautes-Fagnes region of Spa, but which has also been blighted by that notoriously fickle weather.

Despite all this, on the hill overlooking the town, thousands of passionate enthusiasts have filed into the Watkins Glen International Raceway to enjoy not only the sight and sound of an F1 car making a return to the high-speed 3.37-mile circuit, but also the Mobil 1 organised event that will see two-time NASCAR champion Tony Stewart swap machinery with Lewis Hamilton.

The weather is as foul as Lewis's mood when he arrives — he's clearly still reeling from a weekend that ended in the pitwall after contact first with Mark Webber and then with his teammate. But as soon as he hears the V8 roar inside the Stewart-Haas Racing car, he breaks into a smile that he can't shift for the rest of the day.

The McLaren mechanics, used to starting their cars with a laptop, step outside their awning in the pits and take a curious look at this rumbling stock car. A machine that has a couple of oil and water temperature dials, a massive big red ignition switch, a stick shift and, during race weekends, no telemetry.

The Chevy Impala and the title-winning MP4-23 from 2008 couldn't be more incongruous when positioned alongside each other and yet the spectators cheer with delight as each one is fired up. The volume rises even higher when both champions arrive on the back of a golf cart. This knowledgeable crowd – bereft of F1 since

1980 – is even waving to David Coulthard, who decides it's too cold to hang around and shuts himself inside a Corvette pace car nearby.

"There's no run-off here," says DC who did a couple of sighter laps earlier. "There are parts of the track that remind me of the Nürburgring – loads of camber with concrete on the apex and barriers on the exit of corners."

Today, both cars are fitted with wet tyres and are running the full circuit, complete with the 'boot' section, where the spectator area on the outside of the ankle was the site of the infamous Watkins Glen 'bog'. "Oh, the fans here are great," recalls one old boy. "They once burnt a bus in that bog."

A stock car on rain tyres is a rare sight and Stewart reveals the only race he's ever driven in the wet was at the Daytona 24 Hours five years ago. This will also be the first time he's ever driven on the full circuit. NASCAR, you see, puts the fans first and run the shorter track to give the spectators more laps to watch the pack pass them, and at shorter intervals. Formula 1 could learn a few tips from NASCAR but, then again, sponsorship does sometimes reach extraordinary levels. Want to know what the official name of this August's race is? Why, it's the 'Heluva Good! Sour Cream Dips At The Glen', of course. Insane.

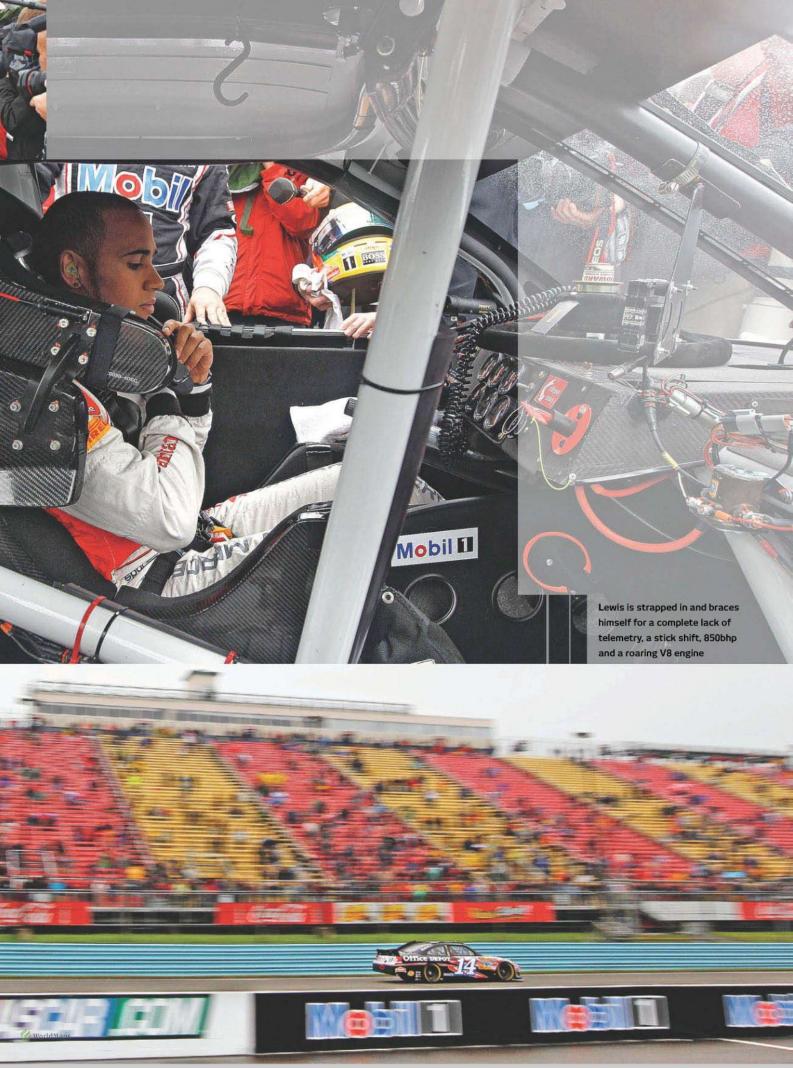
**Stewart is no** stranger to single-seaters, having previously won the 1997 IndyCar title before he switched to stock-car racing, but he will be wary of the proximity of the powder blue Armco around this track. "I don't want to wreck my race car, let alone someone else's," he jokes nervously. "You want to go out and find the limit but, at the same time, if you make a mistake, the penalty is going to be pretty large here."

The day before, the circuit's signature babyblue guardrail had to be replaced at the exit of the Toe after a BMW track-day car ran into it. You can instantly see why modern F1, with runoffs heading towards the horizon, would be wary about a return. Shame. One man holds aloft a cardboard sign that he clearly hasn't spent a lot of time on. It simply reads: 'Bring F1 back'.

Well, for today only, his wish has come true. Lewis is reunited with the chassis in which he won the rain-soaked 2008 British GP and heads into the gloom of The Glen. "Is it slippery?" the team ask him on his first lap. "No, there's

"There's no way you can just jump in and do what Lewis does" Tony Stewart on the MP4-23









actually quite a lot of grip," comes the reply on the radio and, with that, he plants his foot on the loud pedal and gives the fans a reminder of the high-pitched wail of F1-a sound they've been missing in these parts for years.

'To race one of these, I'd have

to lose 25lb straight away!"

He raves about the track and is really keen to climb into Stewart's stock car. "I'm actually quite nervous with excitement as I never thought in a million years I would get this chance," he says. "It's so different to what I'm used to. In an F1 car, we get beeps in our ear to tell us when to change gear at the optimum time. Here, I've been told revs and will have to watch the old school gauges. At least I've found reverse..."

Lewis can't stop taking pictures of the huge car he's about to be strapped into which has an incredible 850bhp, a top speed equal to his F1 car and tons of torque. Finally, the moment arrives and Lewis starts his first lap to play out his *Talladega Nights* moment. The onboard footage shows he's initially tentative with the gearshift, unsure exactly when to change up, but he's soon in the groove; "This is wicked, this is brilliant!" he reports back to his team on the radio. After a number of laps, he's mastered the art of sliding the 3,400lb monster around the tight, late apex curves of The Glen and is clearly having the time of his life. "Pit this time Lewis," comes the call from his crew. Then Lewis is

on the radio rounding the last corner, "Sorry, I didn't hear that." And he starts another lap. "Okay, one more lap, then pit," says his engineer doubtful that he really did mishear that last instruction. "Okay, no problem."

But again, Lewis avoids the pit entrance — heading to the start/finish line to complete a donut or two for the crowd. What a showman. When he gets out of the car, he climbs up on the door to huge cheers from the crowd. One man shouts: 'Lewis, you're the man!' The world champion from Stevenage looks the happiest he's been for a while, the pressures of the last few races seemingly a distance memory. "Woooh! Shake and bake, baby — that was awesome!" he exclaims, grinning from ear to ear. "I felt like a kid today, it's so much fun.

While driving an F1 car is great, the competitive side of it is so serious. In the old days, I know they would allow drivers to do different classes in different cars; it would be cool to actually do a weekend over here and vice versa. I know that's not possible these days, but I tell you what, with the problems I've been having recently, I think change might not be a bad thing!"

Now the time has come for Tony Stewart to try the McLaren, and he lowers himself into the cockpit. "Hey Tony," shouts one idiot in the stands. "You need to shed a few pounds". "Tuck it in!" cries another, larger than Stewart himself, one suspects. Oblivious to the noise, Stewart slowly sets off on his laps, not before he's had to reset his car a couple of times, "It kept going into anti-stall as I wasn't giving it enough revs," he says. There's no doubt he's driving hard, but there's no wildness in the corners and the lap is quicker than Lewis's only because the track is drier. Stewart, a five-time winner of the Sour Cream Dips Challenge – or whatever it's called – is no slouch.

"It's incredible how well these cars handle but the thing that probably stands out the most is how amazingly efficient the brakes are and how deep you can brake into the corner," grins Stewart afterwards. "It's easy to see why it's so

"This is so much fun! With the problems I've been having, change might not be a bad thing..." Lewis Hamilton on the Chevy Impala



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hard for those guys to overtake each other. I know I didn't reach the car's full potential as I was probably running at 80-85 per cent, but there's no way you can just jump into one of these cars and do what Lewis can do – the first thing I would have to do is lose 25lbs straight away and go and work out in a gym again..."

As the two drivers exchange notes and swap email addresses, the sodden spectators slink away to a nearby hostelry to warm up. Those in the know head to the Seneca Lodge, a former haunt of grand prix teams and drivers. The bar doubles up as a Formula 1 shrine, with memorabilia covering the walls and a TV showing re-runs of home-movie footage from

the 1970s, featuring Gordon Murray with his huge-collared, flowery shirt, clinking tankards with Herbie Blash. Behind the bar are the laurel wreaths of former winners, now browned and withered with age, but untouched since the evening they were put into position by Jackie Stewart, James Hunt, Carlos Reutemann and Ronnie Peterson. When F1 visits a town, its legacy isn't easily forgotten.

"Each year the winning team would buy a huge keg of beer for the whole crew and stay up till about five in the morning," says the bar's owner Jack Brubaker. "James Hunt was the wildest driver I ever saw, once he took a bite out of some dinner guest's steak as we were serving him! I remember him sitting over there, passed out, holding a hand-held fan."

Watkins Glen is steeped in motorracing history, a far cry from the barren, soulless autodromes in Bahrain, Turkey and Shanghai. The place remains full of passionate, knowledgeable fans who will happily turn up in their thousands on a wet Tuesday to see an F1 car back on their beloved track. It's a shame the grand prix can't return here as, instead, F1 ploughs ahead with a new facility in Austin, Texas. But for one day, the hills around the Finger Lakes region of New York state buzz once again with the sound of F1.

## Fancy a spot of NASCAR, Lewis?

It's getting more common for Formula 1 drivers to switch to oval racing

#### Jacques Villeneuve



After retiring from F1, Villeneuve entered a couple of Cup Series races for Bill Davis Racing in 2007 and tried to qualify for the 2008 Daytona 500. Last year, he did three roadcourse races in the second-tier Nationwide Series.

### Narain Karthikeyan



Last year,
the Hispania
driver entered
nine races in
the lower-tier
Camping World
Truck Series.
His best overall
qualifying position
was ninth place
in Chicago and he
scored his best
race finish of 11th

place in Texas.

### Nelson Piquet Jr



In the aftermath of the 'Crashgate' controversy, Piquet has reinvented himself in NASCAR. Starting out in ARCA, he is racing in the truck series this year for Kevin Harvick. His best result to date is second place in Nashville.

### Kimi Räikkönen



Despite his focus being in the World Rally Championship, Kimi has entered both a truck series race and a Nationwide event, finishing 15th and 27th respectively, and delivering an amusing tirade over the radio.

### Juan Pablo Montoya



After splitting with McLaren halfway through 2006, Montoya signed up with Chip Ganassi to race in the Nationwide series before a full Cup season in 2007. Despite victories on the road courses, he's yet to win on an oval.





# THE MAURICE HAMILTON INTERVIEW

A lunch time chat with the legends of F1, every month

"When I had the problem with the News of the World, the things Bernie said weren't good. He should have stuck with me in the same way I would have stuck with him. But he didn't"

**Max Mosley** reflects on his friendship with Bernie Ecclestone, how he tried to get McLaren banned after 'Spygate' and reveals a surprising love of Ali G...

**PORTRAITS ALASTAIR STALEY/LAT** 

ver the years, I've had many lunches with Max Mosley

– but never on a one-to-one basis. So I'm approaching this one with a mixture of pleasure and apprehension. Max never fails to be good company thanks to his eloquence, intellect and a wonderfully waspish sense of humour. For this interview, he has chosen Cassis on London's Brompton Road, a French restaurant described as having 'a certain Provençale panache'. Panache: that's a good word for my guest. I'm bracing myself. But it will be entertaining, come what may...

Maurice Hamilton: So how are you?

Max Mosley: I'm alright, and yourself?

**MH:** Yes, great, thank you. Good of you to come. You've been busy recently, popping up a lot in the media...

MM: I'm as busy as when I ran the FIA.

**MH:** How much of that has got to do with the *News of the World* and your pursuit of privacy through the European Court of Human Rights?

MM: Quite a lot, but it's really more the general privacy campaign going on in the UK; it's by no means only me. There are a lot of legal and political things going on: it's just non-stop. It's lawyers, politicians or celebrities who have had trouble, or people who are not celebrities who have had trouble. I'm in touch with an awful lot of people.

MH: Are you getting a lot of support for what you're doing?

**MM:** Very much so. We had a modest success against the *News of the World*, but it encouraged a lot of people, particularly victims of the phone hacking business, to have a go. People are frightened of papers, particularly people who depend on the media to some extent: actors, politicians, authors. If the newspapers have it in for you, they can do enormous damage.



MH: Shall we order? I'd like the sea bass, please.

MM: Can I have risotto? No starter.

**MH:** You were quiet for a while on the motorsport front and then we had Bahrain and suddenly, there you were...

MM: I didn't want to get involved in it at all.

The Times rang me and asked for a comment.

I couldn't say "no comment" because it could be seen as endorsing the regime.

My comment appeared on the Friday morning. When the decision came out, lots of different programmes were asking me to comment. I turned them all down; I really didn't want to get involved. On the Saturday, the *Sunday Telegraph* asked if I would like to write a piece. I felt I should because the thing that needed explaining was: why do you go, for example, to China where there are human rights problems, then say you shouldn't go to Bahrain?

Then, to my astonishment, Bernie [Ecclestone] saw which way the wind was blowing, and he did a quick 180 degree turn. In the meantime, Jean Todt was just plodding on with the party line. I was asked onto the *Today* programme the next morning and that led to six television interviews, of which four were live, and then there were three more radio interviews. I didn't set out to do that, but I did feel that what I said needed saying. There's a big world out there that doesn't care about F1.

MH: Bahrain had been given a slot for 13 March.

**MH:** Bahrain had been given a slot for 13 March They couldn't fulfill it for the reasons we know about, but then why were they being given another chance? That's what I just couldn't understand. The Formula 1 calendar's very busy as it is...

MM: I agree. I think from every point of view it was a mistake because, even if there was peace, how are you

worldMags F1 Racing August 2011

possibly going to slot them in? Secondly, the chance of there being complete peace is very small, so they risked making the problem worse.

MH: After hearing what you said, many people felt that yours was a voice of reason. But I also thought that Todt wasn't appearing in a very good light. You were more or less saying that he didn't appear to know his own regulations.

MM: I don't want to criticise poor Jean, and I can't because I had a hand in getting him elected, but I don't believe that there was a formal vote [over Bahrain] and I think that it all got a bit confused.

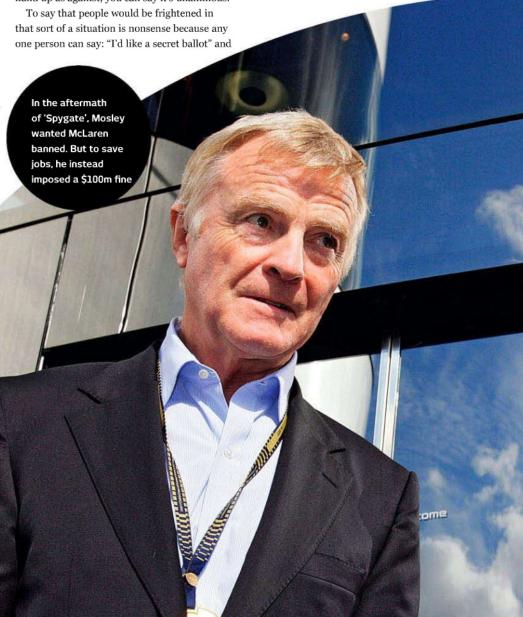
MH: That was our impression on the outside.

MM: There seemed to be discussion over who raised a hand and who didn't raise a hand. In situations like that, I'd say: "Right, there seems to be a consensus for: is there anybody against? Are there any abstentions?" If nobody puts their hand up as against, you can say it's unanimous.

then you have to do it. It's in the statutes. If you didn't have that, you could intimidate people.

MH: So, either way, you were quite a high-profile presence in terms of the whole Bahrain Grand Prix issue. But now I want to take you back to when you became president of what was first of all FISA and then later the FIA in October 1991. We happened to meet by chance in the big dining room at the Suzuka Circuit Hotel and you and I had breakfast together with a couple of my colleagues.

**MM:** Yes, I remember; I'd just been elected. **MH:** That's right, and you said you were going to keep a low profile; that F1 was going to run itself. Which appeared to be the case for ten years or so. But then, in the latter part of your presidency, you were quite – I would use the word 'confrontational'.



MM: Well, that's true. My view always was that if you're the manager, so to speak, like in a hotel, a good hotel, you never see the manager because you only see him if there's a problem. So if it's running properly and you're the person in charge, you shouldn't be visible. If you're visible, it means something's wrong. Obviously I became visible to some extent following Imola 1994. But then, for the next ten years or so,

there were road safety matters and things of that kind. But it all really changed in 2002 when it was recognised that F1 costs were getting out of control. People forget that in those days you had a qualifying car, which was completely different to the race car. You had a qualifying engine that would do the necessary extreme lap, and that was it. Then a different car was presented for the race. A company like BMW would be making

"I do like Ron and I've

600 engines a year for one team. That includes test engines. Six hundred! It was obvious that this was not sustainable.

There was a consensus among the teams that the costs had to be brought under control, but they could never agree. We started reducing the number of the engines and all of this was massively confrontational - but, if you were to ask Frank Williams now, I think he would confirm that if we hadn't done those things five or six years ago, then they wouldn't be in business now.

MH: Okay, so we're talking about necessary legislation. But what about 'Spygate'? That was

MM: First of all, on the mobile, I had Ron saying they'd just raided Mike Coughlan's house and taken this information, which they knew nothing

Then Todt came on and told me his side of the story and this fascinating thing about the information being taken to the photocopy shop. I was on holiday at the time and I just sat there thinking: "Oh, no...." Because that meant the end of the summer as far as I was concerned. I knew there was going to be endless aggravation. MH: It was massive! We knew there had always

been a bit of furtive spying here and there - but

MM: Exactly. So we summoned McLaren in front of the World Motor Sport Council (WMSC).

> wanted to convict. I said we hadn't got the evidence and that if we found them guilty, we'd be challenged in court and would lose. So we

> > Then we had





the McLaren emails, which showed it was quite simply untrue that nobody else knew. But they still went on, trying to pretend. We sent in a team of IT specialists and they went through 1.3 terabytes of emails; that's something like 85million pages, but there are ways of doing this. Then we found the killer email, the one from the chief engineer on the '07 car to his equivalent on the '08 car, saying something like "Are we sure about this? Did we get this from our mole at Ferrari?"

It was getting to the stage where, really, they should have been thrown out of the championship. We'd had a big argument [on the WMSC] because I wanted to exclude them from the championship, and probably for the following year. But that would have put them out of business, which nobody wanted to do. There were 1,300 jobs there. So that's why they came up with the \$100million fine. The fact that the team didn't miss a beat and won the championship the following year shows that the \$100million was by no means disproportionate. MH: The impression, rightly or wrongly, was that there seemed to be enmity between you and Ron - perhaps going back to certain things you'd said. I can remember one press conference...

MM: I know what you're going to say ...

MH: It was Magny-Cours. You referred to Ron Dennis as perhaps not being the sharpest tool in the box...

MM: Yes.

MH: So you'll understand why we felt that. MM: I know everybody thinks I don't like Ron - I do like Ron, he's fine and I've actually tried quite hard with him. I once had dinner with him. I said, "Look, you've been really successful, just relax." I think he thought I was patronising him. It's quite sad for someone not to be able to enjoy life and be pleased with their success. He just seems unable to do that, which is a shame.

MH: Moving on to Indianapolis 2005. That is one area where I found it difficult to agree with you over what you were doing - as you're probably aware. I was re-reading the full page comment we gave to this in The Observer and, looking at it from my angle, you were in Monte Carlo and you appeared to be not very accommodating. We had this situation - and never mind the fact that Ian Phillips and I had to talk about six cars racing for an hour and a half on BBC 5 Live! - I thought it was handled badly. How do you look back on it now?

some of the competitors had brought the wrong equipment was wrong in principle. Take the Hahnenkamm: if some of the teams turned up there with the wrong skis, not the proper ones for downhill racing, you wouldn't then change the course into slalom to suit them. You'd say: "Well, do the best you can." It's a sporting matter and you cannot change the rules to suit the majority when it's they who have brought the wrong equipment. There was no excuse because Michelin raced there the year before. They went to the edge - and got it wrong.

The third point is that Briatore, Bernie and some of the teams decided that, if they refused to race, we'd have to give in because we would have a nothing race. The drivers wanted to race but were told: "It's okay, go out, come into the pits and then they'll change the course and we can have a normal race." I knew they were going to do that. It was an attempt to strong-arm. But there were at least three solutions - I can't remember what they were now.

MH: One was to drive through part of the pitlane; one was for the Michelin runners to stop and change tyres; and neither of those solutions were accepted by the teams.

MM: That's right. They were determined to have a confrontation and win. I couldn't, even if I wanted to, give in on the first two points. The

fault - I suppose I would say this - was theirs because they didn't appreciate that even if I had wanted to, it would have been wrong for me to give in. I don't like giving in, but it would have been wrong. We also said you can slow down [going through the troublesome banked curve]. MH: Ah yes, I remember; but I just couldn't see how that would work.

MM: The way it would work is that you'd have a speed trap and any of the Michelin runners that exceeded a certain speed would be given a drivethrough penalty.

MH: I couldn't see how those drivers would know by how much they had to back off.

MM: After one or two drive-throughs, the Michelin runners would have found a way! MH: Yes, but surely it's dangerous to have such a

speed differential on a fast part of the track? MM: They're used to it. You race at Le Mans and you have a much greater speed differential.

MH: Michelin refunded the gate money and, to my surprise, the fans, or most of them anyway,

came back the following year. So, I suppose you're going to say it worked out okay.

MM: It was absolutely the right thing to do. But it was a very, very difficult decision.





MH: Going back to our breakfast at Suzuka in 1991, you were replacing Jean-Marie Balestre. Have you seen Senna yet? The clips with Balestre talking to the drivers?

MM: Yes, it all came back to me!

MH: The thing is, we've never seen behind-thescenes stuff like that before. We weren't aware of just how barking mad he appeared to be.

MM: I went to see it as the guest of a firm of lawyers in a private cinema. When it got towards the end, I left. I really couldn't face talking to people about it. You see, I didn't go to Senna's funeral; I went to Ratzenberger's funeral instead. All the beautiful people went to Senna's and I thought that somebody needed to go to Ratzenberger's because, to his family, it

mattered just as much. It was awful for them; for everybody. Terribly sad.

But, as you say, when I saw Balestre in the film, I was thinking: "I can't believe what it was like then!" One forgets. Extraordinary behaviour. I should have arranged for Balestre to come back for a month each year, just to remind people how bad it could be! That might have made it a bit smoother for me.

**MH:** Were there any other memories that were invoked by the film?

MM: Senna won the championship and then he let rip in a press conference. Ron, quite rightly, was very alarmed and concerned that Balestre, who was still president of the FIA and very

powerful, would do him by not giving Senna a licence or whatever. Ron came to me and said: "Ayrton needs to apologise but he absolutely refuses to. Will you talk to him?"

So I invited Ayrton up to my suite - I always got on quite well with him - and I said: "Ayrton, there are two kinds of people in the sport. There are amateurs and professionals. The amateur does what he feels like doing; the professional does whatever will further his career. What you did about Balestre was amateur."

He thought for a long time, and then he said: "Yes, you're right. But what you've got to understand is that I've been doing this since I was six years old and it's all I do," And his eyes started to well up. He was so emotional. We 🧼

"The whole 18 years of my FIA presidency was spent in a constant haze of irritation"



cobbled together a weasel statement that was put out. It wasn't really an apology but it was close. And that was the end of it.

MH: The problem was that Balestre was so inconsistent, particularly in his treatment of Prost and Senna in successive years in Japan.

MM: When Senna and Prost had the coming together at the chicane in 1989, Balestre just fixed the whole thing [excluding Senna and handing the championship to Prost]. I was outraged. It went against all my instincts. I would never do that. People used to think I spoke to the stewards; I never did in my entire 18 years as president. There was one occasion when, wrongly, they rang me up to ask my opinion. I said: "Well, I'm going to give you my view, but you don't need to follow it."

In 1990, Balestre was furious with poor old John Corsmit [the then FIA race director], saying that he should have penalised Senna for having Prost off instead of letting Senna win the championship. Arguably, that was right. But it wasn't Balestre's role. Balestre was the legislature, not the judiciary. He didn't understand about the separation of powers.

It's like these halfwits in Parliament and the House of Lords who out people under parliamentary privilege. It's an abuse of the constitution; it's absolutely and fundamentally wrong in a democracy – but they're too stupid to understand that.

**MH:** Do you think Ayrton's behaviour in 1990, and the fact that he got away with it, set a bad example? Michael Schumacher seemed to adopt that tactic – more than once.

**MM:** I think, possibly, it did. It was wrong. It was understandable – but wrong. But it started with the great wrong the previous year.

MH: Talking about Senna, 1994 became a very difficult year for you in the aftermath of Imola, particularly following Karl Wendlinger's accident two weeks later at Monaco. I remember *L'Equipe* becoming hysterical and publishing a full front page picture of Wendlinger's car and shouting from the headline that this should be stopped. You had to be seen to be acting. And quickly. How difficult was that?

MM: It was becoming pressing within some of the company board rooms. For instance, as you say, that picture of the crashed car with the big Mercedes symbol on it. The annoying thing is, you try to get something done about safety – and nobody will listen. "No, we haven't had an accident for years." Then an accident occurs – which will happen sooner or later – and they start running round like headless chickens. You need balance.

You need to appreciate that it's a dangerous sport and you must do everything you can to make it safer. When an accident occurs, you've got to be calm, saying, 'This is really unfortunate and there may be lessons to be learned, but we've done everything we possibly can.'

People talk about living on the edge, then when somebody actually gets killed, it's a total disaster in the minds of the same people. There's no balance. So you have drivers 20 to 30 years of age and our job – my job – was to see that they lived to 70-80 years, whatever.

**MH:** Seeing Pérez's accident at the same spot in Monaco as Wendlinger's 17 years before and watching Pérez being removed, almost unharmed... did you take some comfort from that? In 1994, he might not have survived.

MM: Yes, there is a lot of satisfaction in that. But the most far-reaching thing after Senna was that I set up this committee with Professor Sid Watkins. Sid isn't just a brain surgeon; he's also a scientist. His attitude is to approach the whole safety thing scientifically. I said to Sid quite early on: "Let's have a look at what the governments are doing for the roads because they're killing 50,000 people a year in the EU. There must be some massive research going on and we can feed off that and learn."

But when we looked into it, we found they hadn't changed the crash-test regulations for road cars since 1974. There was a massive lobby from the industry to downgrade some of the tests. So, we mounted a campaign to stop the industry doing that. We started Euro NCAP.

The NCAP has saved, I think I can say, thousands, certainly hundreds, of lives. The European Commission said that it had advanced road safety in the EU by five years. That is the

Mosley was never

as unpopular as FIA

predecessor Balestre:

"I should have got him

to come back once a

since the seat belt. It's

massive. That all came from Senna; that's what gave it the impetus. **MH:** That must have given you more satisfaction than anything else?

MM: In the end, when you are finally sitting in a rocking chair, you want to feel that you've made a difference – and that's made a difference.

There are lots of other things that have been satisfying – but that made a difference.

MH: Okay, while you are sitting in that rocking chair and thinking back on your varied life – you were a racing driver, then you started March Engineering in 1969 before moving on to assist Bernie and FOCA in the fight with FISA and then you became president of the FIA – which aspect will give you the biggest glow? I don't necessarily mean the most successful period of your life, but the one you enjoyed most.

MM: Mmmm. That's a good question. I think probably the period after stopping March when I was concentrating on FOCA and we started organising the odd grand prix; stuff like that. It was fun. The FIA presidency was very satisfying, but my whole 18 years was spent in a constant haze of irritation. There would always be something happening that you really didn't want; something annoying or people were being tiresome. Somebody — a big person in F1 — asked me recently if I would come back and I said nothing could induce me.

**MH:** The days you're referring to – the battles with FISA, Jean-Marie Balestre and so on – must have been right up your street. It required a bit of politics, manoeuvring and outthinking the opposition, a bit of fun, getting the teams together; going racing. You're still a racer at heart, aren't you?

MM: Yes, very much so.

MH: The 1981 South African GP FOCA organised in the face of FISA's opposition – you had no money but pretended you did. What a story!

MM: That was a classic. The next time we went to South Africa officially, Balestre came along. I told a security chief: "Balestre will try to get on the podium and you really should stop him." He was a big man and he said: "Yes, Mr Mosley,



we will stop him." I said: "But you won't succeed. He always gets on the podium." He assured me that it wouldn't happen.

I left before the race had finished, sat myself down at the Kyalami Ranch Hotel, ordered tea and waited. I was on the second cup when this furious figure with a purple face stormed in and said in French: "You cannot believe what happened. I tried to get on the podium and they stopped me!" I said "No! How dreadful..." Things like that made it great fun.

**MH:** Bringing us up to date: what is your view on Lewis Hamilton as a racing driver? There was a lot of comment following Monaco and Canada. I love his free spirit behind the wheel and would

"Lewis overdid it – in Monaco, certainly. He's been trying to make up for an inferior car – which is understandable"

hate to see that crushed. But perhaps he's been trying a bit too hard; overdriving, if you like.

MM: Yes, I think he overdid it — in Monaco, certainly. And he probably knows better than anybody. He's been trying to make up for having a slightly inferior car — which is understandable. The only bad thing was that he took out Maldonado, who really needed those points for himself and his team.

What upset me about what Lewis said after the Monaco race was that nobody got the point of his Ali G joke. You see, the whole thing about Ali G was that he wasn't black; but he wanted to pretend he was and he wanted to absorb this culture as a young white person. Any time anything happened that he had the slightest objection to, he'd say: "Is it because I'm black?"

The way I interpreted Lewis was that he wasn't saying it because he was black; he was using the catch phrase as a joke. But the unfortunate thing is that most of the British press would fail to get it because it's a long time ago now. And, of course, the Continental press would completely think it was racist.

MH: Are you saying you were an Ali G fan, Max?

MM: Yes, I used to love watching him and his successor, Borat. It just makes me laugh so much. But, getting back to Lewis: I thought, "Lewis, you can't say that because people just won't get it." And there was so much pompous stuff written as a result of it. I think he is a thoroughly good person, though. I like Lewis.

**MH:** Have you been enjoying the racing during the past two seasons?

MM: Yes. This is where Bernie gets so lucky; you couldn't make up the things that happen. I call Bernie quite often after a race and tell him I really liked his script!

**MH:** Do you keep in touch with Bernie? Would you still describe yourselves as big mates?

**MM:** I'm in touch with him quite often, yes. When I had the problem with the *News of the World*, the things he said weren't good. He should have stuck with me in the same way I would have stuck with him. But he didn't. To be

fair to Bernie, he has been very public in terms of his support since then. We've known each other for about 40 years. We've done an awful lot together and you can't dissolve that. The fact of the matter is that even when you're annoyed with him, he's really good company.

Sorry, I think I've got to abandon you. I have an appointment at 2.30pm and the traffic is terrible in this part of London.

**MH:** Not at all. Thank you. It's been most interesting – as ever.

**MM:** It's been lovely to see you and catch up. I must say it's nice to be able to do things like this and to sit at home, watch the races and not think when something goes wrong: "Oh dear, everyone will say that's my fault!"





If you thought movable rear wings were a new idea, then think again. The devices actually made their first appearance in F1 back in the 1960s

WORDS JONATHAN REYNOLDS PICTURES LAT ARCHIVE



the driver pressed the brake pedal

First practice, Friday 2 August 1968, the Nürburgring. The climate of the Eifel mountains has left the circuit shrouded in mist, a light drizzle of rain adding to the misery. Most teams are content to sit and wait for the weather to change, but the French Matra squad are keen to get going. They are preparing to run their new trick device for the first time: an electronically activated, driver-operated moveable rear wing.

It wasn't surprising that Matra were the first F1 team to experiment with moveable aerofoils (as they were known back then) - the company were also involved in aviation. What's more surprising is that it took F1 so long to embrace the devices; after all, moveable rearwing concepts had been trialled successfully in sportscars as early as the mid-1950s.

As it happened, the introduction of moveable wing devices in F1 happened almost as soon as F1 teams began bolting wings onto the cars. Matra's German GP device was controlled by a small electric motor. When the driver pressed the brake pedal, an electrical circuit was closed, energising a solenoid valve and altering the angle of the rear wing. According to contemporary reports, this gave the MS11 increased 'downthrust' and stability under braking, but offered no extra advantage through the corners once the driver was off the brakes.

A device was needed that gave the driver grip in the corners but speed on the straights, crucial in the next race at Monza. There, several teams introduced new moveable-wing concepts. Ferrari altered the angle of the 312's chassismounted rear wing using a complex hydraulic system that took pressure from the gearbox oil. In first, second or third gears the wing was on its maximum downforce setting, but there was also an override lever behind the steering wheel. Jacky Ickx nearly paid the ultimate price when he fiddled with the lever through the flat-out Curva Grande just to see what would happen:

Chris Amon's Ferrari, with its hydraulically operated wing on its maximum downforce setting (inset), leads Jackie Stewart's fixedwing Matra and Jo Siffert's wingless Lotus at Monza



By the start of the 1969 season, Lotus's drivers could manually adjust the front and rear wings

only deft car control stopped him hitting the barriers. Team-mate Chris Amon was less lucky, spinning out of the race on oil that was reportedly leaking from the wing's hydraulics.

The Cooper team's device, manufactured with help from aviation engineers Vickers, was beautifully simple. At maximum speed, the wing was pressed down into a drag-reducing horizontal position by the air pressure; two small levers compressed coiled springs so that as the speed dropped, the wing moved back to its maximum downforce angle. Brabham, meanwhile, opted for a simple cable-operated system controlled from the cockpit by a lever.

Unusually, Colin Chapman's innovative Lotus squad didn't introduce a moveable rear wing until the crucial final round in Mexico, and it almost cost eventual champion Graham Hill the title. The team had a cable-operated system controlled by a foot pedal alongside the clutch. Pressing the pedal on the straight would flatten the wing and reduce drag but, on the third lap, one of the rubber cables holding the wing snapped. "The world championship rested on a single rubber strap," explained Hill. "Fortunately it held together, but it seemed like an endless race..."

By the first race of 1969, most of the top cars had moveable wings and many teams, including Lotus and McLaren, were also controlling the angle of the front wings with cables. But the technology was not to last. After several big shunts caused by failing wing supports at the Spanish GP, the sport's governing body became worried and, at the next race, the Monaco Grand Prix, they outlawed suspension-mounted rear wings. By the Dutch Grand Prix, moveable wings had been banned altogether, and would not return to F1 until 2009, when driver-controlled moveable front-wing flaps were introduced.



## How computers like this took over F1

This is **Team Lotus's** £1million supercomputer. It's one of the smallest in the sport and it can't even play a DVD – yet the team can't operate without it. It's just one example of how progress in computing power has taken F1 to a whole new level...

WORDS HANS SEEBERG PICTURES ANDREW FERRARO/LAT

ometimes it's pointed out that just over 40 years ago in F1, Tyrrell won the constructors' title with a car built in a shed. An extreme example maybe, but it does reflect an era when cars were designed with drawings and craftsmanship - and occasionally brute force and a hammer. Yet it could never last. Just as pioneering technology has advanced every part of our world, from fax machines and pagers to mobile phones with built-in internet, some time around the early 1990s, F1 changed irreversibly, as well. Quaint anecdotes about sheds have been replaced by the complex war of physics we watch today. The reason for

this can be attributed solely to one thing: computers.

These are the machines that surround us at home and at work; the unbelievable magic boxes that help to drive our cars, fly our planes and dispense our cash from the bank. Fittingly, F1 has kept pace with advances in computer power in

the relentless search for tenths of a second, to the point where it cannot operate without them. As we stand in Lotus's Norfolk HQ, marvelling at their supercomputer, we're aware that, as is the case with all teams, they are totally dependant on hard drives, gigabytes and teraflops. "You even need a computer to switch on an F1 car," Bill Peters, their head of IT, tells us.

Here is a tour of just some of F1's most indispensable equipment, highlighting the sport's incredible reliance on machines.

### The supercomputer: 400 times faster than your average PC

This piece of kit is central to everything

Lotus do with their car. The computer

you use at home or at work has

one core to run it; this bespoke
Dell supercomputer, roughly
the size of five fridge-freezers,
has 1,500 cores and is
essentially 186 lightning-fast
computers rolled into one. It
can run the internet 400 times
faster than a laptop but, for F1
teams, machines like this are used
for one thing only: CFD.

Left: Ken Tyrrell's first title-winning car was built in his shed. Main: Lotus's supercomputer wouldn't even fit in Ken Tyrrell's shed





CFD – or Computational Fluid Dynamics – is a 'windtunnel in a computer' that lets teams try new parts to see if they offer any performance potential. To do this, CFD performs billions of calculations about how air flows over a part and how it affects airflow over the rest of the car.

The supercomputer is constantly on. Running one job to see how, for example, a rear wing might perform takes 17 hours – and the machine can run six jobs at once. When completed, the several billion calculations present themselves as videos, pictures and graphs for the engineers to analyse. "It lets us experiment with loads of ideas at once and costs us hours in this machine rather than having to physically fabricate the parts to try in the windtunnel," explains Geoff Dunk, who runs the supercomputer. "You can put a hundred slightly different versions of a wing through CFD and it'll tell you which will be the most efficient."

Yet there's something refreshingly primitive about the supercomputer. Its monitor display is black with bright green text — think basic 1980s computers rather than the flashy desktops with fancy icons you get now. "We can't have any of that on this machine," says Geoff. "It would take up too many of our resources. It just needs to be kept free to do the job it's there to do. It's all about power, memory and speed."

## How computers dictate strategy – even on the formation lap

The thing about computing power in F1 is that just when you thought teams could not go any further in their search for tiny fractions of time, they do just that. Take the simulation work Lotus have done on tyre degradation alone: it's been one man's job for the past year to develop a computer model for a tyre and how it wears, just so the team can get the actual tyres to the optimum temperature before the race starts.

Elliot Dason-Barber, head of vehicle dynamics, explains: "Thanks to this tyre model, we know the construction of the tyre and how will heat and slip as it spins. So when Heikki and Jarno are weaving and doing burn-outs on their formation laps, we're now able to tell them

### A very specific set of power requirements...

Beside the supercomputer is a transfer unit to clean the electricity powering it. *Clean* the electricity? "Yes," laughs Geoff Dunk. "The electricity must be spotless, with no



interference – the sort of thing that makes your TV or fridge produce a funny noise occasionally. The computer mustn't be upset by anything."

You might expect a million pound computer to be able to run off normal electricity, but machinery like this can be temperamental in the same way that a Lamborghini isn't as reliable as a Mondeo. Speed always comes at a price.

If there's a power cut, the supercomputer will switch to a stack of 60 24V batteries without interruption. Such are its power requirements that these batteries will run it for only 12 minutes – just enough time for Geoff, or whoever's on site, to shut it down properly.





The supercomputer can spend 17 hours analysing a part, then presents its calculations as a graph



The computer is continuously switched on and its massive capacity lets it run six jobs at a time

things like, 'We think you need to do x number of burn-outs on this lap, including three longer ones and two shorter ones,' so that when they stop in their grid slots the temperature of the tyres will be slightly higher than it should be, meaning it will have dropped to the optimum temperature by the time the red lights go out. This will help them get the best possible start. We're pretty sophisticated at this as a team now, and it's one of the reasons why our starts have been good this season."

So when you see drivers snaking and revving on a formation lap, the likelihood is that even this has been precalculated by computer.

### Pre-race, 100,000 scenarios have already been calculated

Such is Formula 1's obsession with the performance of other teams that Lotus have two people working full-time just writing strategy software. It's true to say that calls relating to Heikki and Jarno during the race will largely be made by Mike Gascoyne & co on the pitwall, but a good and quick-thinking strategy call is not down to human brainpower alone.

"We spend a lot of time analysing other teams, what their tyre degradation is and what sort of strategies we think they're going to run," admits Keith. "Computationally this is one of the most intensive parts of what we do. We have a mini cluster we've been developing that sits in the factory and runs about 100,000 simulations for us. It takes every conceivable



start position possible for every driver on the grid, what their differing strategies might be in terms of tyre combinations, all the permutations that could arise if there's a Safety Car, what happens if someone drops out, the likelihood of one driver being able to overtake another... all of these are run to give us the best race strategy we can have. It's basically a massive cribsheet that's studied beforehand, saying what could happen in the race and how we should react to it. At the moment it's a supporting tool, but what we're working on developing now is real-time scenario analysis, so that on every lap the tool can re-run the sims to constantly give an update as to what our best strategy option is. We're just starting to trial this now."

### Internet usage alone costs as much as £10,000 per race

At the track, the computing situation is no less complex. With 150 sensors attached to every F1 car to send data back to the garages, Lotus have around 20 people who need to analyse information in real time at the track. Senior IT support engineer Anthony Smith is the man responsible for making sure all the equipment at the track is fully operational. "In terms of getting everything ready, I'll usually get to a

track on the Monday before a race and by that evening I'll have the email and servers up and running,"

> says Anthony. "It's easier for the European races because everything's in the trucks and it's already cabled you can be up and running in no time. At the flyaways you turn up and it's just an empty garage, so there's a lot of cabling to do."

There will also be a team of around five people back at Lotus's Norfolk HQ during a race weekend, analysing data that gets sent back. "There's a high-speed link at every race to get the stuff back to the factory," confirms Anthony. "Even at the Australian GP, there's only a 400-millisecond return time on the data back to the UK - that's about two minutes."

Of course, all this comes at a price - as Bill Peters will tell you: "The bandwidth to get the internet connection at the track is expensive. The infrastructure needed to get data back to the factory, the fibre-optic connectivity, getting the garage cabled up - you're looking at about £10,000 per race." This means Lotus spend about £200,000 every year just to ensure they can have email at every race and the ability to send data back to the factory. In 1970, the first car Tyrrell built only cost them £22,500. Then again, they didn't need to buy computers. @

# Way back when

Famous Formula 1 occurrences from the month of August, many moons ago...



THIS MONTH **47** YEARS AGO

### From bikes to F1 in a year

They might have been the biggest motorcycle company in the world, but Honda's entry into F1 in 1964 was still a huge surprise. The Japanese manufacturer had launched their first car as recently as 1963, but founder Soichiro Honda's passion for motorsport meant that the Honda RA271E made its debut at the German GP at the Nürburgring on 2 August that year. The announcement of little-known American Ronnie Bucknum as driver surprised many, and the car qualified last then retired with steering failure. But one year on in Mexico, Richie Ginther brought the team a stunning first win.







**THIS MONTH** YEARS **AGO** 

## Fangio's fitting finale

In what is considered to be one of the greatest drives in F1 history, victory for Juan Manuel Fangio in the German GP at the Nürburgring on 4 August 1957 was notable for a whole host of reasons. After a disastrous pitstop on lap 13, he battled back from 50 seconds behind leaders Peter Collins and Mike Hawthorn to pass them on the penultimate lap, while his win clinched him his fifth world title with just two races left in the season. It would also be his 24th and final grand prix victory.



THIS MONTH YEARS AGO

### Joy for Jordan in Belgium

Seven years after their debut and starting their 126th race, Jordan finally became a race-winning F1 constructor at the 1998 Belgian GP, held at Spa on 30 August. In extremely wet conditions, Damon Hill took an early lead for the Silverstone-based team but was passed by Michael Schumacher on lap 8. But when Schumacher drove into the back of David Coulthard's McLaren in the process of lapping him, Hill was back in the lead with 20 laps left. As teammate Ralf Schumacher started to catch Hill following a late Safety Car, the team told the pair to hold their positions, ensuring a historic one-two.





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## It's good to be back

Sixty years after their first ever grand prix win (also at Silverstone) Ferrari do it again



## FINISHING STRAIGHT

Reports Previews Analysis Opinion Stats



### **EUROPEAN GP**

**106** SYMONDS' EUROPEAN DEBRIEF

After the excitement of Canada, it's all a bit predictable in Valencia

108 THE GP YOU DIDN'T SEE ON TV

That's it Sebastian - have a good old nose around inside that Ferrari

**109** EUROPEAN GP STATISTICS

Another race win/fastest lap combo for Sebastian Vettel's collection



### BRITISH GP

**110** SYMONDS' BRITISH DEBRIEF

Ferrari turn it around as Red Bull are forced to settle for second and third

**112** THE GP YOU DIDN'T SEE ON TV

It's MC Lewis... and is that Vettel on guitar? They don't just drive, you know

**113** BRITISH GP STATISTICS

Vettel had the fastest pitstop. Er, it obviously wasn't THAT one though



### OPINION

**115** THE FRANK WILLIAMS COLUMN

The Williams-Renault partnership, new recruits... and an iffy curry

**116** ALAN HENRY COLUMN

It'll take more than Renault engines to get Williams winning again

### PREVIEWS

**118** KOVALAINEN'S GERMAN PREVIEW

Heikki prefers the old Nürburgring to the new one

**120** KOVALAINEN'S HUNGARIAN PREVIEW

F1 heads to the Hungaroring for the last race before the summer break





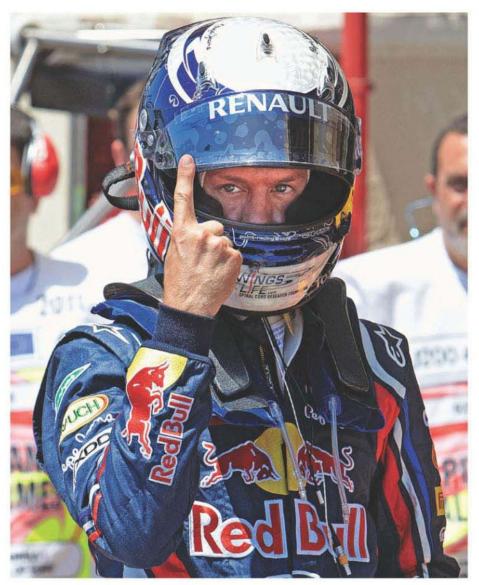


## **RACE DEBRIEF** by Pat Symonds

## The European Grand Prix

26.06.2011 / Valencia

A pedestrian race ...Vettel wins ....Absolutely no surprises



## The finger returns

After his Canadian hiatus, Vettel and F1's most irksome hand gesture make a predictable return to season-dominating form

alencia has always struggled to convince the F1 aficionado that it is capable of rivalling Monaco as a proper race venue. A harbour with a few luxury yachts and a vestige of a street circuit set in a populated area are not what the thrill of Formula 1 is about and somehow the circuit itself, which should have been designed to provide spectacular racing, has done nothing to elevate the location to classic status.

Previous races have been processional and therefore the race this year, like Barcelona, was anticipated to be a further marker of the success of the new rules designed to enhance the racing. Unfortunately, while changes to the regulations have undoubtedly improved the show beyond

measure, there comes a point when the sow's ear remains just that no matter how hard one tries to make a silk purse. The porcine auricle in this case is the circuit itself: flat and featureless with a collection of similar slow corners. Even the section of fast corners are wide enough to be driven flat-out in most circumstances, so cannot challenge the drivers in the way classic fast corners should. Indeed, such corners merely ensure that competitors follow one another with no real prospect of a challenge.

Practice took place under a baking sun with circuit temperatures in the mid 40s, thereby providing a real test of the soft and medium tyre compounds selected by Pirelli for this event. Last year, the Bridgestone choice had been for the super soft and medium tyres and some thought that Pirelli were being conservative in not choosing their version of the supersoft compound. During practice, however, the performance differential between the two tyres seemed large, with the soft tyre proving, on average, to be 1.6 seconds a lap quicker than the medium. In a similar way to the other Iberian race, the gap was probably too large, forcing similar strategies to be employed by all the frontrunners. Indeed, even after practice there were many who thought that a racier tyre choice could have been made but Pirelli, mindful of the very high surface temperatures often seen in Valencia, were happy with their decision.

First practice was noteworthy for the distinct lack of action during the first half hour as teams waited for the inevitable dust to be swept off by the passage of the passing cars. Nico Hülkenberg, having an outing in Paul Di Resta's car, found to his cost the lack of grip on the green track, hitting the wall and causing sufficient damage to limit the running Di Resta could do later in the day.

In the remaining sessions, while Red Bull always had the upper hand, it was Ferrari who maintained the challenge. McLaren, who arguably had the quickest race pace in the last

"Pirelli, KERS and DRS were not enough to bring this race to life"

three events were very slightly behind on the softer tyre and more so on the medium tyre, which they were struggling to make work.

Qualifying produced few surprises although Alguersuari must be getting increasingly worried about his ability to make it into the second part of qualifying after missing the cut three times in a row. There were also concerns over a change in regulatory procedures, which precluded teams from altering the programming of their electronic control units between qualifying and the race. Some thought this might affect the status quo, but the reality was that Red Bull continued to dominate the ultimate test of vehicle and driver performance. In spite of the problems McLaren had experienced with balance in practice, Hamilton managed to claim third on the grid albeit aided by Alonso - a pace setter all weekend - making a mistake at the critical time in final qualifying.

At the other end of the top ten, Force India and Renault displayed some cynicism for the sport by engaging in unnecessary gamesmanship to save tyres. Sutil did not even leave the pitlane and Renault, on realising that Force India had taken this route, called Heidfeld in before he started a timed lap. Although it might lead to some arguments, I feel that a penalty should be applied to a driver who, while perfectly capable of setting a time, elects not to.

The race start was, unusually, clean into Turn 2. Alonso and Massa got the jump on Hamilton who had to battle Rosberg for position. Button,

### View from the paddock

### Alonso pulls the crowds

Fernando's car rolls to a halt and the spectators whoop with delight. Mechanics swarm around his Ferrari, attaching cooling fans to the radiators and strapping blankets over the tyres, oblivious to the noise. He steps out of his car into the shade of an umbrella held by his manager, Luis Garcia Abad. Finally he turns to his followers and waves, resulting in an approving roar.

The Valencia street circuit has come in for a lot of criticism this weekend. The track produced good racing in the support series, but failed to deliver in the showcase event; most F1 folk wouldn't notice if it dropped off the calendar. Yet its major plus point is the size of the race-day crowd: 85,127 this year, up nearly 2,000 from last.

At least this is a race with atmosphere and a fan base, unlike the soulless tracks at Turkey and Shanghai, And we have Fernando Alonso to thank for that.

James Roberts

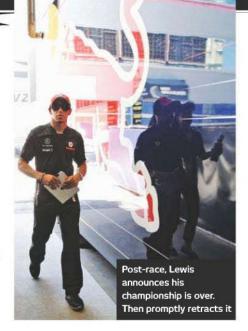


### FINISHING STRAIGHT

meanwhile, was held behind the Mercedes and, in spite of numerous attempts to use the drag reduction system to pass him, actually executed a perfect pass on the entry to Turn 2 without the use of any enhancements other than good oldfashioned racing skill.

Up front, Vettel pulled a small margin from Webber up to the first round of stops. With the frontrunners all taking on the softer tyre at the first stop things looked settled until Alonso, having just set the fastest lap and taking full advantage of the DRS, managed to put a move on Webber into Turn 12. The top three were all pulling away and, as they approached the second stop, Webber took the initiative, calling his stop early, and used the enhanced performance of his fresh tyres to gain race position on Alonso.

Hamilton meanwhile, running fourth, looked to be in trouble with his tyres. He had been the first of the frontrunners to stop and this, combined with a mistake by Massa on lap 11 had allowed him to get in front of the Ferrari. However, his fresh tyres seemed to perform for only a very short while and by lap 19, he was rapidly losing touch with the top three. His response was to make another early stop and while this naturally looked good for a while, by the time the others had made their second



stops, Hamilton's challenge was over. He and Button slipped ever further from the front until, by lap 40 they were around 30 and 40 seconds respectively from the lead. The highly competitive race pace of the last few events seemed to be eluding them and high rear tyre temperatures were the likely culprit.

The race had by now become pedestrian but the runner-up position was still up for

grabs. Aware of Alonso tracking his every move, Webber tried to use the undercut that had been successful at the first stop to wrongfoot the Ferrari driver. It was a dire mistake as the required switch to the harder of the two tyres was enough to scupper the plan altogether. While the performance of this tyre was somewhat better than it had been in qualifying, it was still significantly slower than the supersoft one. Webber's times dropped from fuel-corrected low to mid 1min 41secs to low 1min 42secs. Alonso was able to keep his pace and emerged from the pits a mere 0.8 seconds in front of Webber. Considering what had been shown by Kobayashi, who switched to the harder tyre on his second stint and then back to the soft tyre nine laps before Webber's change, it was a costly and unnecessary mistake.

The race ran out with Alonso just ten seconds behind Vettel, but Vettel had everything under control. It was anything but a classic race and it took place on a track as far removed from a classic circuit as one can imagine. Even the combination of Pirelli, KERS and DRS was not enough to bring this one to life. With new circuits vying for a place on the calendar and a desire to keep to a 20-race series, Valencia must surely be feeling the pressure.

### The GP you didn't see on TV

Taking you behind the scenes at Valencia



Pre-race Valencia: it's a street circuit, but not like Monaco's a street circuit. More yachts, please!



Is Sebastian Vettel feeling a bit queasy as he peers into Alonso's Ferrari? Alonso will be hoping not...



When it's this hot, apply a thick layer of sun cream and an even thicker layer of newsprint



Fernando Alonso warms up with a spot of arm-wrestling before the main event



Mercedes racer Nico Rosberg does his best 'anti-ninja' impression

# **European Grand Prix stats**

The lowdown on everything you need to know from the weekend in Valencia...

### THE GRID



2. WEBBER RED BULL 1m37.163secs Q3



4. ALONSO **FERRARI** 1m37.454secs Q3



6. BUTTON McLAREN 1m37.645secs Q3



8. SCHUMACHER MERCEDES 1m38.240secs Q3



10. SUTIL FORCE INDIA NO TIME IN Q3



12. DI RESTA FORCE INDIA 1m39.422secs Q2



14. KOBAYASHI SAUBER 1m39.525secs Q2



16. PÉREZ SAUBER 1m39.657secs Q2



18. ALGUERSUARI TORO ROSSO 1m40.232secs Q1



LOTUS 1m42.234secs Q1





24. KARTHIKEYAN HISPANIA 1m44.363secs Q1

1. VETTEL RED BULL 1m36.975secs Q3





5. MASSA **FERRARI** 1m37.535secs Q3



7. ROSBERG MERCEDES 1m38 231 secs O3





11. PETROV RENAULT 1m39.068secs Q2





15. MALDONADO WILLIAMS 1m39.645secs Q2











23. D'AMBROSIO VIRGIN 1m43.735secs Q1

### THE RACE



THE	RESULTS (57 LAPS)	
lst	Sebastian Vettel Red Bull	1h39m36.169s
2nd	Fernando Alonso Ferrari	+10.891s
3rd	Mark Webber Red Bull	+27.255s
4th	Lewis Hamilton McLaren	+46.190s
5th	Felipe Massa Ferrari	+51.705s
6th	Jenson Button McLaren	+60.065s
7th	Nico Rosberg Mercedes	+98.090s
8th	Jaime Alguersuari Toro Rosso	+1 lap
9th	Adrian Sutil Force India	+1 lap
10th	Nick Heidfeld Renault	+1 lap

6th	Jenson Button McLaren	+60.065s
7th	Nico Rosberg Mercedes	+98.090s
8th	Jaime Alguersuari Toro Rosso	+1 lap
9th	Adrian Sutil Force India	+1 lap
10th	Nick Heidfeld Renault	+1 lap
11th	Sergio Pérez Sauber	+1 lap
12th	Rubens Barrichello Williams	+1 lap
13th	Sébastien Buemi Toro Rosso	+1 lap
14th	Paul Di Resta Force India	+1 lap
15th	Vitaly Petrov Renault	+1 lap
16th	Kamui Kobayashi Sauber	+1 lap
17th	Michael Schumacher Mercedes	+1 lap
18th	Pastor Maldonado Williams	+1 lap
19th	Heikki Kovalainen Lotus	+2 laps
20th	Jarno Trulli Lotus	+2 laps
21st	Timo Glock Virgin	+2 laps



Sebastian Vettel, lap 53, 1min 41.852secs



Fernando Alonso, 20.136secs (entry to exit)

### DDIVEDS' STANDINGS

DRI	VERS' STANDINGS	
lst	Sebastian Vettel Red Bull	186pts
2nd	Jenson Button McLaren	109pts
3rd	Mark Webber Red Bull	109pts
4th	Lewis Hamilton McLaren	97pts
5th	Fernando Alonso Ferrari	87pts
6th	Felipe Massa Ferrari	42pts
7th	Nico Rosberg Mercedes	32pts
8th	Vitaly Petrov Renault	31pts
9th	Nick Heidfeld Renault	30pts
10th	Michael Schumacher Mercedes	26pts
11th	Kamui Kobayashi Sauber	25pts
12th	Adrian Sutil Force India	10pts
13th	Jaime Alguersuari Toro Rosso	8pts
14th	Sébastien Buemi Toro Rosso	8pts
15th	Rubens Barrichello Williams	4pts
16th	Sergio Pérez Sauber	2pts
17th	Paul Di Resta Force India	2pts
18th	Pedro de la Rosa Sauber	0pts
19th	Jarno Trulli Lotus	Opts
20th	Vitantonio Liuzzi Hispania	Opts
21st	Jérôme D'Ambrosio Virgin	Opts
22nd	Heikki Kovalainen Lotus	Opts
23rd	Timo Glock Virgin	Opts
24th	Pastor Maldonado Williams	0pts
25th	Narain Karthikeyan Hispania	Opts

### THROUGH SPEED TRAP

Jérôme D'Ambrosio Virgin

Vitantonio Liuzzi Hispania

Narain Karthikeyan Hispania



Fastest: Kamui



+2 laps

+3 laps

+3 laps

Slowest: Jérôme Kobayashi, 197.57mph D'Ambrosio, 187.76mph

### TYRE COMPOUNDS USED









Intermediate Wet

	1 18	AA	TE
_	ш	VΙΑ	TE

Medium

TRACK TEMP

### CONSTRUCTORS' STANDINGS

•	ONSTRUCT	OK3 3	ANDIN
1	Red Bull	295pts	9 Will
2	McLaren	206pts	10 Lot
3	Ferrari	129pts	11 His
4	Renault	61pts	12 Virg
5	Mercedes	58pts	F (0)
6	Sauber	27pts	For co
7	Toro Rosso	16pts	F1 sta
8	Force India	12pts	www.f

9	Williams	4pts
10	Lotus	Opts
11	Hispania	0pts
12	Virgin	0pts
3	<b>●</b> 31X	

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# RACE DEBRIEF by Pat Symonds

### The British Grand Prix

10.07.2011 / Silverstone

Unpredictable weather ... Very exciting racing ... And a brand new winner

# We weren't expecting him

Vettel's botched pitstop hands Ferrari their first win of the year at a grand prix that – unlike Valencia – delighted the fans

ormula 1 has become adept at shooting itself in the foot and the latest twists and turns in the blown-diffuser saga, which unfolded during the British Grand Prix, were another chapter in that sad story. As far as the paying fan is concerned, the situation has once again degraded into a convoluted technical argument that is beyond

comprehension or even interest, as it's hard to see the logic in a situation where some obscure technical scheme is legal one day and illegal the next. The sport's various technical working groups are designed to stimulate reasoned debate, which follows a direction outlined by the FIA. The Formula 1 Commission allows the FIA to ratify the decisions reached through that

debate. The problem arises when the teams find, mid-season, that a ruse is being employed that falls into one of the many regulatory grey areas. Such discoveries are inevitable but the very public controversy that follows is unacceptable. Of course, the FIA wants to avoid race results sullied by protest, but it would be better to clarify rules for the next season. With less of an immediate axe to grind and, thanks to FOTA, the possibility of a reasonable majority suppressing any veto, pragmatic solutions could be found that would allow F1 to rise above politics.

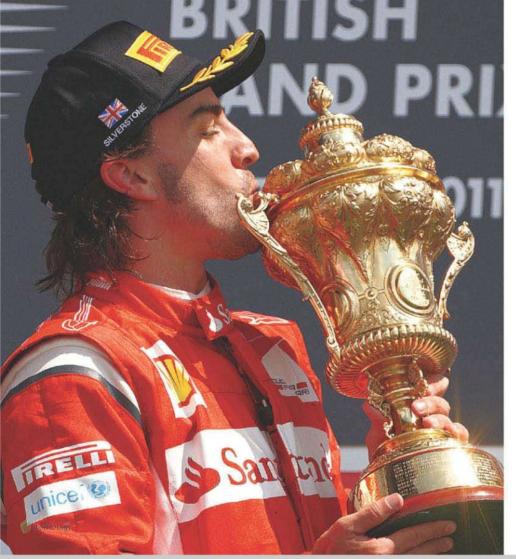
That said, the main discussion point in the run up to the race was the British weather. Friday took on a new significance this year as the teams are still getting to grips with the characteristics of the new tyres, so any loss of dry running is a bitter blow to them. So the fact that both Friday practice sessions were wet was therefore not to their liking.

While mid-season technical rule changes are generally to be frowned upon, a recent change to the sporting regulations implemented for the first time at this race was more welcome. That

### "After the tedium of Valencia, racing was back with a bang"

change allows for a further set of intermediate tyres to be issued if either of the Friday sessions is declared wet. This, together with some uncertainty over weather forecasts ensured that a reasonable amount of running was done on this day. The major revamping of the circuit that had taken place since last year was not particularly significant to either car setup or tyre life, as the changes to the Tarmac were minor and so the teams spent the time optimising their engine setups to the new mapping regulations. Even things like the automatic throttle blip timing that accompanies each downshift needed to be tuned to the new engine regulations.

Saturday practice at last allowed a reasonable amount of dry running, although showers still affected the circuit from time to time. While Sebastian Vettel may have established himself at the top of the time sheets with a couple of minutes to go, it was by the narrowest of



margins over Fernando Alonso. Ferrari, who had been surprisingly subdued during the engine mapping debate, looked as if they might be reaping unseen benefits.

While the short Saturday morning session may have given some dry running it did not provide much concrete evidence as to how the tyres might behave on the Sunday. Few, if any, ran on a high fuel load but, even so, rear degradation and front left graining were evident on the softer tyres. The race was more likely than ever to turn into a tyre lottery.

Qualifying started with some drops of rain falling – enough to render the circuit two to three seconds off the pace. Alonso had a lucky escape in the first qualifying session as he ran wide and through the gravel at Turn 7. He managed to keep his momentum and drive back to the circuit. With six minutes left, the rain started falling heavily in the area of the new pits and the session was effectively over, putting out both Toro Rossos but giving Kovalainen the chance to progress to the next stage.

The second part of qualifying showed how fickle this track can be with considerable standing water at Copse but reasonably dry Tarmac elsewhere. Times tumbled as the track dried and it was important to be as late as possible over the line before the flag dropped. In spite of all this, it was a remarkably tight session with just one second covering the first 12 places.

The looming clouds ensured everyone was out early for the final qualifying session, but

### View from the paddock

# Another year, another unhappy driver

A year ago, Mark Webber sat in the postrace press conference at Silverstone with a stony expression, seething at Red Bull's decision to hand team-mate Sebastian Vettel a new-spec front wing and, with it, virtual number one status. One year on and the Aussie's demeanour was nigh on identical, having been told by his team, mere laps from the chequered flag, to hold position behind Vettel, despite running at a faster pace than the German.

"I am not fine with it, no," answered Webber defiantly when asked what he thought of the team's decision. "I ignored the team because I wanted to try to get a place. If Fernando retires on the last lap, we are fighting for the win." Vettel may be the world champion and runaway leader this year, but Webber remains determined to make his life difficult, no matter what his team says.

Jonathan Reynolds



AIN PHOTO: STEVE ETHERINGTON/LAT, INSETS: ANDREW HONE/LAT; LORENZO BELLANCA/LAT; GLENN DUNBAR/LAT; STEVEN TEE/LAT, ILLUSTRATION: ALAN ELDRIDGI

### FINISHING STRAIGHT

both McLarens were on used soft slicks. It was a costly gamble as the rain fell once again while the drivers were on their second runs. Consequently, the first runs formed the grid with Webber pipping his team-mate to pole by less than half a tenth and notable performances by Di Resta and Maldonado for sixth and seventh respectively. Alonso was the closest to pole he had been all season - a little over one tenth away.

As the cars left the pitlane for the grid, the circuit was soaked between Turns 4 and 13 but dry elsewhere. The start tyre decision was not difficult. Where it was wet, it was too wet for slicks. Intermediates would have to be used and treated with care in dry sections. Within a few laps, as expected, the intermediates were fading and Schumacher, stopping on lap 9 for a new nose after a brush with Kobayashi, fitted slicks. The others followed suit over the next few laps.

By this stage, Button was flying and overtook Massa into Club without DRS. By lap 15, Lewis was right up there, overtaking Alonso into Copse for third. By lap 24 the tables were turned as McLaren appeared heavier on tyres than Ferrari and, with Alonso having repassed him, Hamilton made a second stop for tyres. Two laps later Webber pitted, but by this time Alonso was showing just how competitive the Ferrari was.



Schumacher puts in what is arguably the drive of the day after recovering from a coming together with Kobayashi, a subsequent stop-go penalty and a replacement nose cone to finish in ninth place

He was the fastest man on the track, but passing Vettel was another task altogether. As they both made for the pits on lap 27, the turning point of the race occurred as Vettel's left rear wheel snagged, causing an 11-second stop. Alonso was leading and never to be challenged.

Vettel meanwhile had Hamilton to contend with and got him by pitting on lap 36, one lap before Hamilton. It was enough to enable a position to be gained during the stop. Hamilton now had to contend with a fuel shortage so soon fell prey to Webber who, in turn, set off after Vettel. With team orders now legal, a curt

command to maintain the gap was ignored a few times before Webber capitulated and accepted third place. Button retired with a loose wheel, so McLaren honours were upheld by Hamilton who fought Massa over every centimetre of the track as they banged wheels and bodywork over the last lap. Massa finally succumbed, handing Hamilton a worthy fourth place.

After the tedium of Valencia, racing was back with a bang: Ferrari had ended their drought and finally, after more hours in meetings than were spent on the race tracks, the rules were established for all. Or were they?

### The GP you didn't see on TV

Taking you behind the scenes at Silverstone



Gonzalez took Ferrari's first win here in '51. After a quick go in his car, the magic rubbed off on Alonso



Really? We're not convinced. This selection looks a bit too subdued for Mr Jordan



More F1 drivers with popstar aspirations. That'll be Adrian Newey on design, and Vettel on lead guitar



Alright MC Hamilton - don't give up the day job. Leave the singing to the missus...



We do hope Mansell isn't telling HRH the one about Patrese grabbing him between the legs...

# **British Grand Prix stats**

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

### THE GRID



1. WEBBER RED BULL 1m30.399secs Q3



3. ALONSO **FERRARI** 1m30.516secs Q3



5. BUTTON McLAREN 1m31.898secs Q3



7. MALDONADO WILLIAMS 1m31.933secs Q3



MERCEDES 1m32.209secs Q3



11. SUTIL FORCE INDIA 1m32.617secs Q2



13. SCHUMACHER MERCEDES 1m32,656secs Q2



15. BARRICHELLO WILLIAMS 1m33.119secs O2



17. KOVALAINEN LOTUS 1m34.821secs Q2



19. BUEMI TORO ROSSO 1m35.749secs Q1



LOTUS 1m36.456secs Q1





2. VETTEL **RED BULL** 1m30.431secs Q3



4. MASSA **FERRARI** 1m31.124secs Q3









12. PÉREZ SAUBER 1m32 624secs O2



14. PETROV RENAULT 1m32.734secs O2



16. HEIDFELD RENAULT 1m33.805secs Q2



18. ALGUERSUARI TORO ROSSO 1m35.245secs Q1



1m36.203secs Q1





### THE RACE



THE RESULTS (52 LAPS)					
lst	Fernando Alonso Ferrari	1h28m41.196s			
2nd	Sebastian Vettel Red Bull	+16.511s			
3rd	Mark Webber Red Bull	+16.947s			
4th	Lewis Hamilton McLaren	+28.986s			
5th	Felipe Massa Ferrari	+29.010s			
5th	Nico Rosberg Mercedes	+60.665s			
7th	Sergio Pérez Sauber	+65.590s			
8th	Nick Heidfeld Renault	+75.542s			
9th	Michael Schumacher Mercedes	+77.912s			
10th	Jaime Alguersuari Toro Rosso	+79.108s			
11th	Adrian Sutil Force India	+79.712s			
12th	Vitaly Petrov Renault	+80.681s			
13th	Rubens Barrichello Williams	+1 lap			
14th	Pastor Maldonado Williams	+1 lap			

13th	Rubens Barrichello Williams	+1 lap
14th	Pastor Maldonado Williams	+1 lap
15th	Paul Di Resta Force India	+1 lap
16th	Timo Glock Virgin	+2 laps
17th	Jérôme D'Ambrosio Virgin	+2 laps
18th	Vitantonio Liuzzi Hispania	+2 laps
19th	Daniel Ricciardo Hispania	+3 laps

Retirements	
Jenson Button McLaren	39 laps - loose wheel
Sébastien Buemi Toro Rosso	25 laps – accident
Kamui Kobayashi Sauber	23 laps – oil leak
Jarno Trulli Lotus	10 laps - oil leak
Heikki Kovalainen Lotus	2 laps – gearbox

### THROUGH SPEED TRAP



Fastest: Vitaly Petrov,



Slowest: Heikki Kovalainen, 176.35mph

### TYRE COMPOUNDS USED



CLIMATE

Hard

192.72mph







Intermediate Wet

TRACK TEMP



Fernando Alonso, lap 41, 1min 34.908secs



Sebastian Vettel, 23.137secs (entry to exit)

### **DRIVERS' STANDINGS**

lst	Sebastian Vettel Red Bull	204pts
2nd	Mark Webber Red Bull	124pts
3rd	Fernando Alonso Ferrari	112pts
4th	Lewis Hamilton McLaren	109pts
5th	Jenson Button McLaren	109pts
6th	Felipe Massa Ferrari	52pts
7th	Nico Rosberg Mercedes	40pts
8th	Nick Heidfeld Renault	34pts
9th	Vitaly Petrov Renault	31pts
10th	Michael Schumacher Mercedes	28pts
11th	Kamui Kobayashi Sauber	25pts
12th	Adrian Sutil Force India	10pts
13th	Jaime Alguersuari Toro Rosso	9pts
14th	Sergio Pérez Sauber	8pts
15th	Sébastien Buemi Toro Rosso	8pts
16th	Rubens Barrichello Williams	4pts
17th	Paul Di Resta Force India	2pts
18th	Pedro de la Rosa Sauber	Opts
19th	Jarno Trulli Lotus	Opts
20th	Vitantonio Liuzzi Hispania	Opts
21st	Jérôme D'Ambrosio Virgin	Opts
22nd	Heikki Kovalainen Lotus	Opts
23rd	Pastor Maldonado Williams	Opts
24th	Timo Glock Virgin	0pts
25th	Narain Karthikeyan Hispania	Opts
26th	Daniel Ricciardo Hispania	Opts

### CONSTRUCTORS' STANDINGS

1	Red Bull	328pts
2	McLaren	218pts
3	Ferrari	164pts
4	Mercedes	68pts
5	Renault	65pts
6	Sauber	33pts
7	Toro Rosso	17pts
8	Force India	12pts

5	9	Williams	4pts
5	10	Lotus	Opts
5	11	Hispania	0pts
5	12	Virgin	0pts
5	3	XIF@	
	-	1	

For comprehensive F1 statistics visit www.forix.com

**WorldMags** 

# FINAL LAP

Senna

Rindt



Revealed:

The history of Formula One



Prost



Villeneuve



Mansell



Fangio

Hawthorn

Ascari

Fittipaldi

dboro

Piquet



Clark

Hamilton



Button



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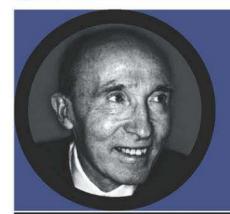
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# My month in F1

Every issue. Only in F1 Racing

### AN OLD FRIEND RETURNS

Renewing our relationship with Renault is an exciting development for us and we are hopeful that it will enable us to move forward. But, at the same time, I would like to emphasise that Cosworth have done a phenomenal job for us over the past two years and, in terms of acceleration, I just couldn't tell you which one is the better engine.

We've achieved a lot with Renault in the past and 'Williams-Renault' has a good ring to it. It also means we will be more ably measured against our peers. We will have to beat Renault's own team in 2012, and we'll have to beat Red Bull as well. We'll know exactly where we stand.

### SIX IS BETTER THAN FOUR

I'm pleased with the decision to pursue a sixcylinder turbo from 2014. It's a more exciting engine for Joe Public than the in-line fourcylinder originally proposed. That's the sort of thing that powers your grandfather's Vauxhall! It's also a good move for the manufacturers because they are moving towards smaller, more fuel-efficient engines for the road and F1 will be more relevant to them with this V6.

### **WELCOME ON BOARD...**

We've announced two new appointments this month. I don't want to shout about them too much, but I hope they'll help to move us up the grid. I know that's every team's ambition, but I'm confident Jason Somerville and Mark Gillan, our new heads of aero and race engineering, will contribute to performance. Success in F1 is all about having the right people in the right



places and these are two strong additions. Jason worked here in the late 1990s, before he was headhunted by Toyota. He's learnt a great deal on his travels and he'll be a useful addition to our aero department. Mark hasn't worked for us before, but he comes very highly recommended.

### A *REAL* TEAM LEADER

Rubens has been at the factory quite a bit recently and it's motivational for everyone here when he turns up. The work rate doesn't drop off when the drivers don't visit, but it's stimulating for everyone when they do. Rubens is very good at motivating the troops - better than quite a few drivers we've had. Nigel Mansell wasn't the most articulate man, but he knew how to get a tune out of people, as did Damon Hill.

You look at Rubens, you listen to him and you realise he's been around for a long time. He's in the twilight of his career, but when he gets into the car he reminds you that he was and still is a very fast racing driver. It comes naturally to him: he hasn't got to do a ten-lap run to nail a lap. He can do it in two laps. That's real talent.

### RAIN SUSPENDS PLAY...

I wasn't in Montreal, so the two-hour rain delay allowed me to do plenty of pushing in my wheelchair around the factory corridors. I always grab that time when I can. But I also thought the BBC did a phenomenal job of entertaining the fans during the break. There could have been long, boring and embarrassing pauses while they thought of something to talk about, but it was as if there was already a script. It was fantastic. I would love to see the Beeb renew their contract

> with Bernie Ecclestone at the end of next year because the TV coverage of F1 in the UK has never been better.

### ...BUT IT'S WORTH IT

Montreal was another cracking race. Jenson Button drove brilliantly and

we were reminded that if you want on-track excitement, you have to wet the track or reduce the aero grip of the cars. Even people who aren't racers will remember that Canadian Grand Prix: it was great for business.

### **HOLD THE POPPADOMS!**

I don't usually celebrate Fathers' Day, but my daughter cooked me a curry this year. It was meant to be a treat, but I've never liked curry! It was a lovely thing for Claire to do and I hope she didn't take offence. I won't eat curry even when we go to India later this year for the race.

### On my mind this month...

"Mark Gillan (pictured) and Jason Somerville will join us as heads of aero and race engineering



"Rubens has been at the factory quite a bit - he's very good at motivating the troops"

The BBC did a phenomenal job of entertaining the fans during the break in Canada'





For more information on Williams and what they're up to, visit www.attwilliams.com

"My daughter cooked me a curry for father's day - it was meant to be a treat..."

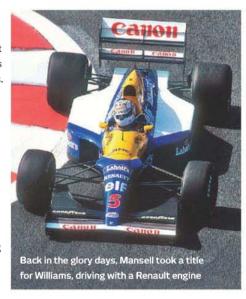
# **ALAN** HENRY

Forty years and counting on the frontline of Formula 1

# The Renault deal is only the start for Williams

So Williams have taken the first step towards reviving their glory days, with a shiny new contract that will see them using Renault engines for at least the 2012 and '13 seasons. It's possible the deal could even stretch beyond that into the sport's new turbo era, something that the French company certainly knows a great deal about, having pioneered the first generation of forcedinduction F1 engines in 1977.

Of course, Williams' decision to return to the Renault fold is in no way audacious, merely logical. After all, Sebastian Vettel is surging towards his second straight world title with a Renault V8 in the back of his Red Bull, so in a business



where minimising performance variables is the name of the game, getting your hands on possibly the best power unit in the business is a crucial first step. But only a first step.

The lessons of history are always clear. Think back to 1989, the fledgling season of the first Williams-Renault alliance. Although the 1.5-litre turbo era had come to an end the previous year, the legacy of these engines lived on. Their development had attracted a host of major engine manufacturers into F1, dramatically raising the technical stakes. Barely a month after Williams and their turbo-engine supplier Honda made public the news that

# "Can Williams shape a new design team to deliver on their lofty ambitions?"

they were splitting, Frank Williams and Patrick Head opened talks with Renault, who had been out of F1 since 1986. Renault had not closed their eyes to the value of F1 as a significant promotional and technical tool, but it would take Williams to raise their game when it came to chassis technology before results started to flow.

The key to unlocking their early '90s dominance, yielding Williams world titles for Mansell ('92), Prost ('93), Hill ('96) and Villeneuve ('97), was Adrian Newey. His deftly imaginative aerodynamic touch crafted the FW14 and 14B, which ran riot across 1991 and '92. Eventually, he would take his

genius to McLaren where he crafted the machines that came within a Mercedes engine failure of delivering Mika Häkkinen a hat trick of world titles between 1998 and 2000. Then he switched to Red Bull and repeated the process yet again.

Williams desperately want to revive their glory days, and forging this new deal with Renault is just part of the forward-thinking equation. The crucial question is whether they can shape a new design team in the wake of Sam Michael's imminent departure to deliver on their lofty ambitions. Clinching the Renault engine contract was the easy bit.

## NIGEL AND JACQUES ARE RIGHT, LEWIS: STAY PUT

Former world champions Nigel Mansell and Jacques Villeneuve are right in advising Lewis Hamilton that his best option for the future is to stay with McLaren, and give up any idea of moving to Red Bull as team-mate to Sebastian Vettel. I realise that drivers' relationships with their teams



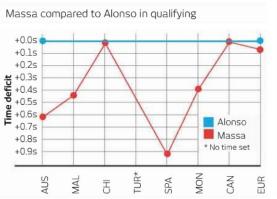
Joining Vettel at Red Bull would just be asking for trouble...

are cyclical and that there are times when the grass looks greener elsewhere. But, for all his genius behind the wheel, I think Lewis would be storing up a lot of trouble for himself if he joined Red Bull. Well, that's assuming he was ever asked, of course.

### IS MASSA'S FUTURE RED?



I remain slightly baffled by the mixed messages that have emanated from Ferrari over the past couple of months as far as Felipe Massa's future is concerned. One minute they seem to be taking a commendably loyal attitude towards the Brazilian who sometimes seems to be struggling in the wake of his 2009 Hungaroring accident, but the next they seem distant and non-commital about their plans for him. Will Felipe really survive alongside Fernando Alonso at the team in 2012? We are all holding our breath...



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It was Dan, a Dodo Juice forum member, who started signing off with 'the Juice, the whole Juice and nothing but the Juice'. I suppose for some, there really is no substitute. But who can blame him? We picked up 3 out of 4 Detailing World Awards in 2010.

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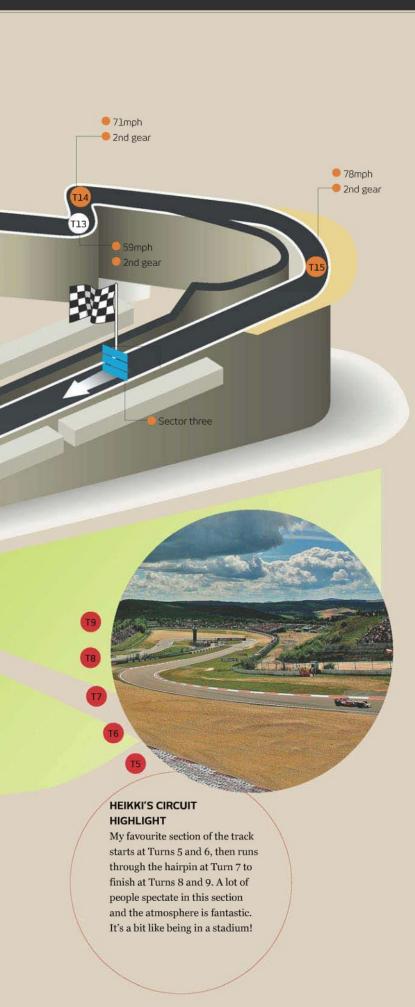
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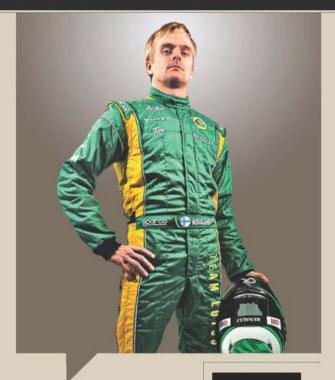
# The German GP preview

# by Heikki Kovalainen 24.07.2011 / Nürburgring

A safer offering than the old Nordschleife, the Nürburgring has good grip and fast corners







## It's not a patch on the old Nordschleife...

The Nürburgring isn't one of my favourite circuits to go to be honest. I mean it's fine, but it's nothing compared to the old Nordschleife. In fairness, it does have good grip and you can carry quite a lot of speed going into the corners, so it's actually pretty good in some respects.

What I really enjoy, is when I get to do a lap of the old Nordschleife. I remember we had a bit of fun there with Nelson Piquet Jr a few years back when we were both driving for Renault. We were doing some filming, but it turned into a bit of a race. We had a good time doing it, and the passengers – well, I think they had a good time too!

### "You're hanging in on the last corner, but it's pretty quick – quicker than you'd think"

But getting back to the modern circuit, apart from the early section, it's a track where you can get a good rhythm going and, like I said, the grip level is pretty high. It's only the last chicane that can slow you down a little bit.

You've just got to hang on in there.

By the end of the qualifying lap your tyres are starting to fall away, so you just have to try to keep everything together. It makes it challenging. You're also hanging on a bit in the last corner, because it's a reasonably quick corner – quicker than you think.

### All you need to know

### **CIRCUIT STATS**

Round 10/19

Track length: 3.199 miles

Race length:

191.918 miles

Laps: 60

Direction: Clockwise

**F1 debut**: 1984

Lap record:

1min 29.468secs

Michael Schumacher

(2004)

Last five winners:

2009 Mark Webber

2007 Fernando Alonso

2006 Michael

Schumacher

2005 Fernando Alonso

2004 Michael

Schumacher

Tyre allocation

Prime: Medium

riirie. Medidi

Option: Soft
TV SCHEDULE

Timetable (UK time)

Fri 22 July

Practice 1: 09:00 - 10:30

Practice 2: 13:00 - 14:30

Sat 23 July

Practice 3: 10:00 - 11:00 Qualifying: 13:00

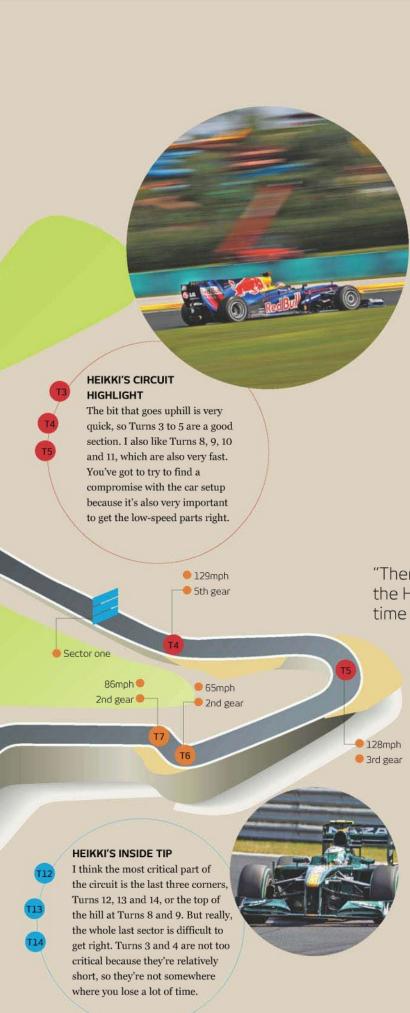
Sun 24 July

Race: 13:00

# The Hungarian GP preview

### by Heikki Kovalainen 31.07.2011 / Hungaroring







# A very hot race in a very cool city

I obviously have very good memories of the Hungaroring because of my victory there in 2008, but I really like it as a circuit anyway. It's quite technical so it's difficult to get the car setup right because it's quite bumpy and the circuit evolves a lot. It starts out very slippery on Friday but gets much grippier by qualifying. So to get

"There are a lot of corners at the Hungaroring and not much time to recover between them"

the car riding the bumps and the kerbs well is the most important thing. It's also very physically demanding. There are a lot of corners and not much time to recover between them; combine all that with the high temperatures and it can be really tough. I just use the normal preparation we have for hot and humid races though.

The weekend is a lot of fun: Budapest is a really cool city with lots of excellent restaurants and some great things to do. People enjoy going there and even the local fans get really excited about F1. The circuit itself offers some fantastic views: you can get really close to the cars as some of the grandstands are close to the circuit. We always get big crowds here and, for some reason, a lot of Finnish people – when I see their flags, it feels like a home race for me. Us Finnish drivers have done well here: Mika Häkkinen and Kimi Räikkönen have won races here, too.

# All you need to know

### **CIRCUIT STATS**

Round 11/19

Track length: 2.722 miles

Race length:

190.531 miles

**Laps:** 70

Direction: Clockwise

**F1** debut: 1986

Lap record:

1min 19.071secs

Michael Schumacher

(2004)

Last five winners:

2010 Mark Webber

2009 Lewis Hamilton

2008 Heikki Kovalainen 2007 Lewis Hamilton

2007 LCWISTIAMIRCON

2006 Jenson Button

### Tyre allocation

Prime: Soft Option: Supersoft

### TV SCHEDULE

Timetable (UK time)

### Fri 29 July

Practice 1: 09:00 - 10:30 Practice 2: 13:00 - 14:30

### Sat 30 July

Practice 3: 10:00 - 11:00 Qualifying: 13:00

Sun 31 July

Race: 13:00



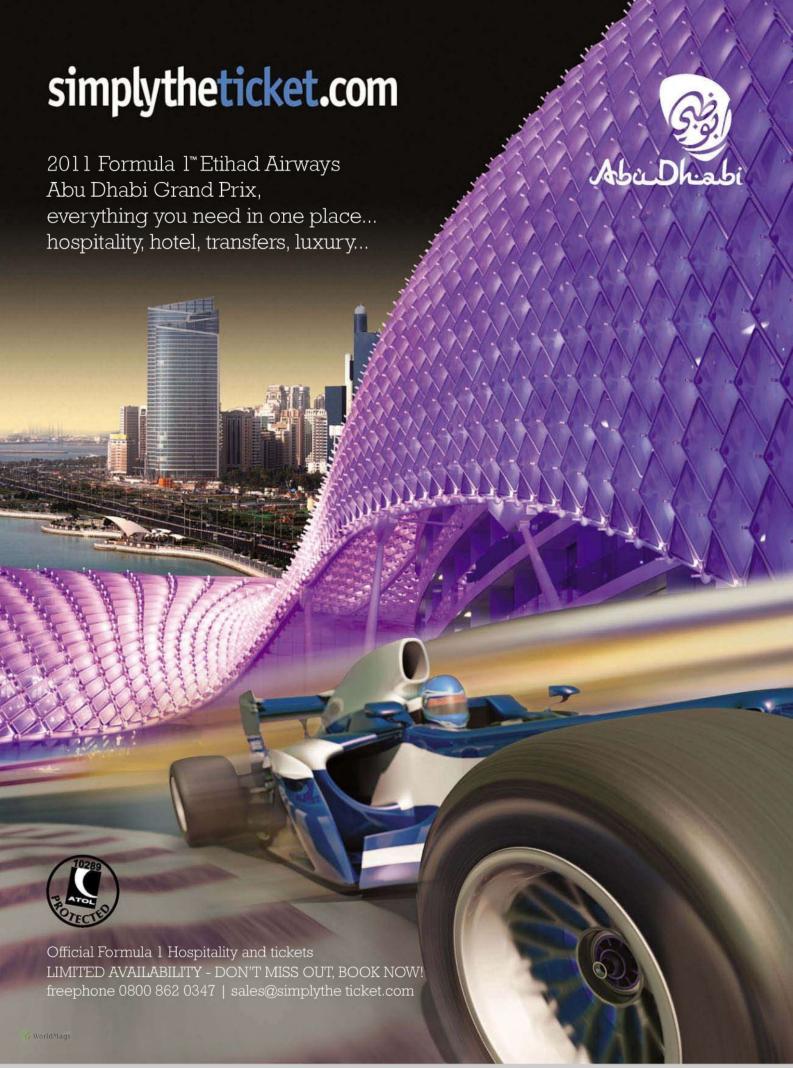
# Inside the mind of... PAUL DI RESTA

The pen-and-paper-based Q&A that you can win

ull name: PAUL DI KESTA		Nickname:	DAVE
occupation: LACING PRIVI	EL.		
Describe yourself in three words:	terarep. Comi	1710 -	FRIENDLY.
Who is your favourite F1 driver in history a	nd why? APRION SEN	NHA ,	His countment to
What's your favourite corner in F1?	reld not pick one who	's your best ma	te in F1? Lave Jov.
hat's the best grand prix you've ever see	The state of the s		
What was your best overtaking manoeuvro			
	J		
F1 could introduce one new rule, what would you be if you weren't an F1 dri	iver? OTM Driver.		
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