



Jenson & Lewis unplugged

"My F1 trophy spent last year in the cupboard" - *Button*

"Alonso's raw speed is just insane" - *Hamilton*

One legend.

Two world champions.

And ONE 17-page

fireside chat

PLUS

Martin Brundle

"I know my new job is a risk"

Paul Di Resta

New Brit on the grid

£4.2million for a toolbox!

The amazing cost of F1



NEW

Frank Williams writes exclusively for F1 Racing



No 182 \$4.70 April 2011

haymarket



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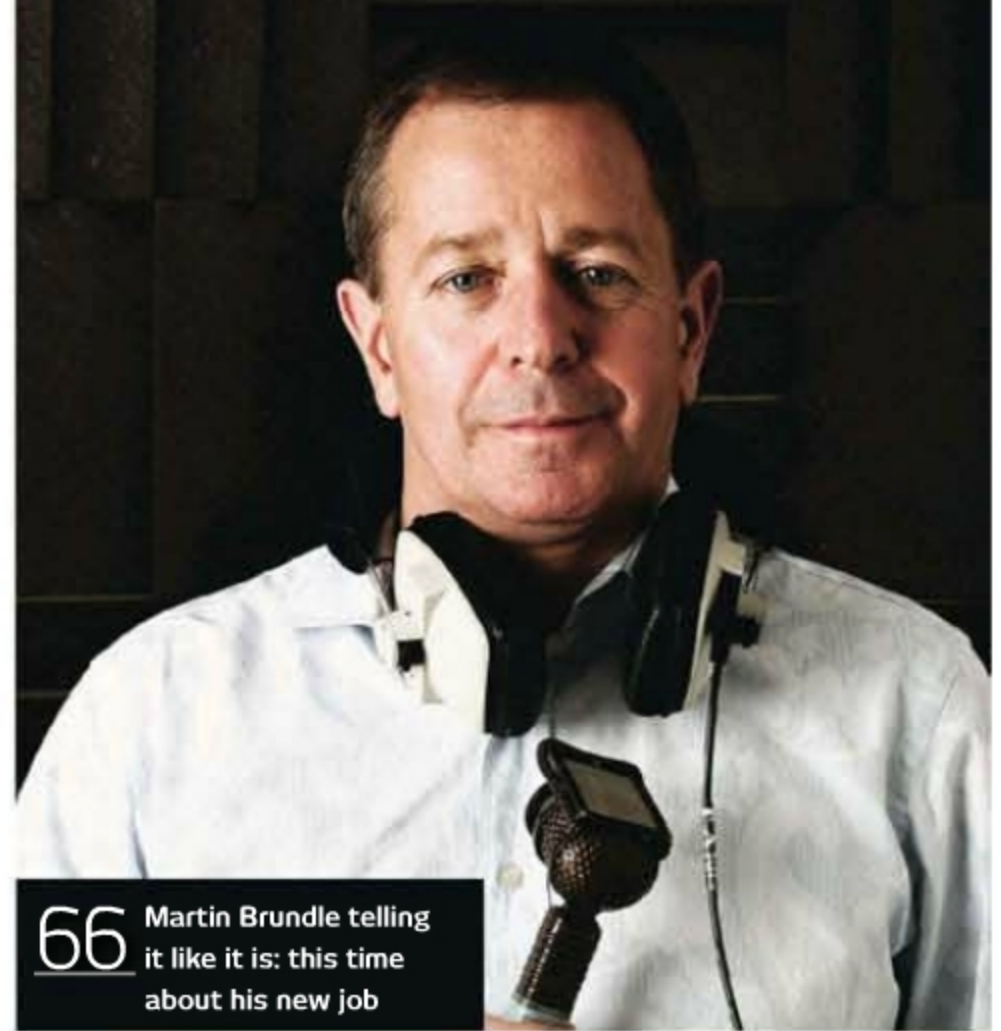
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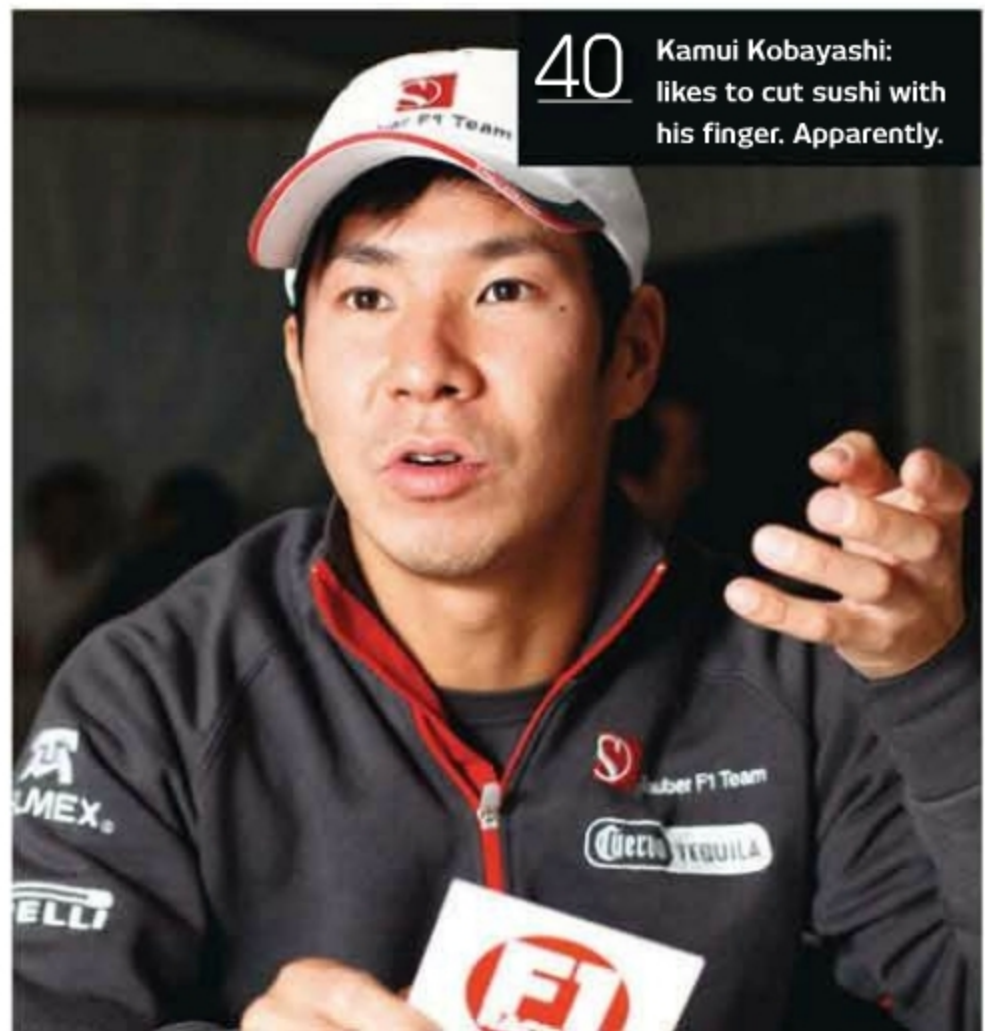
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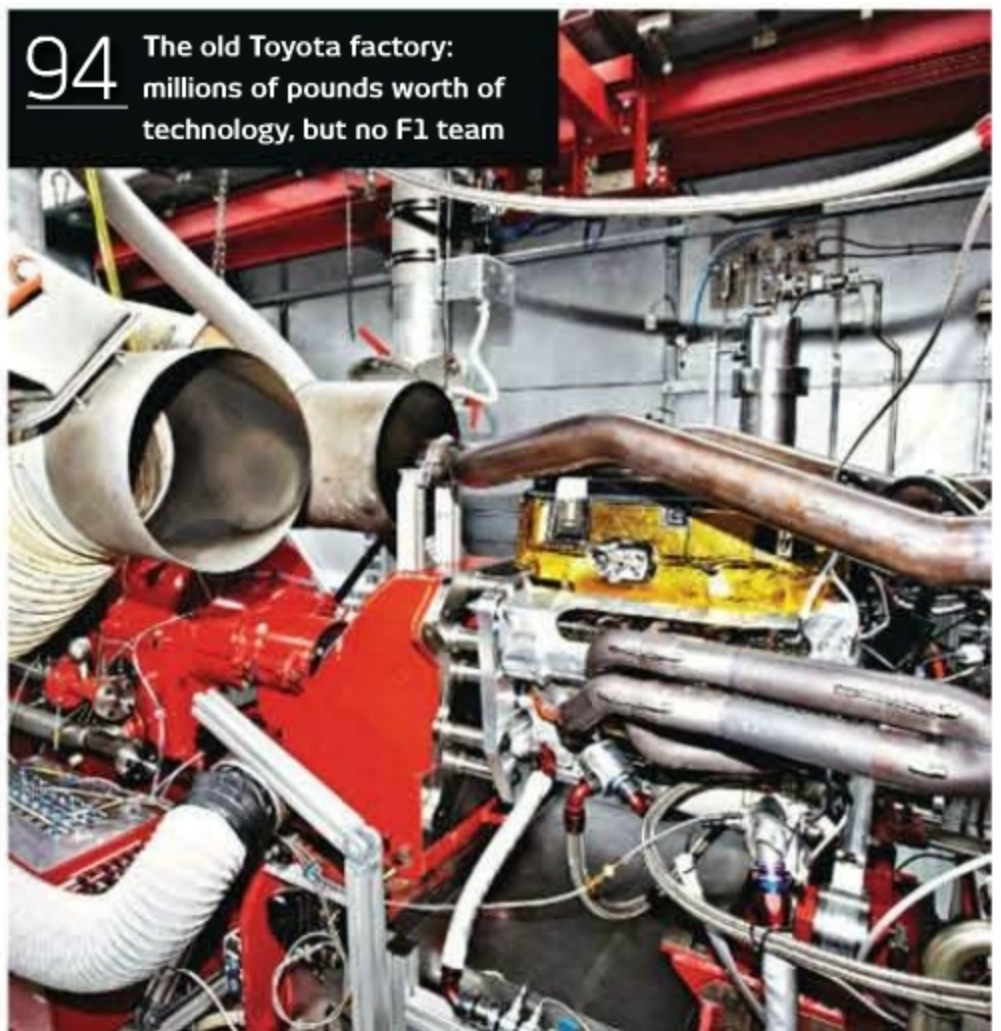
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94 The old Toyota factory: millions of pounds worth of technology, but no F1 team





Parade

No resting on your laurels Sebastian Vettel may be the reigning world champion, but he was giving it his all in the final test of the season at Barcelona. And now the *really* hard work begins all over again as he attempts to hold on to his title...

Where Circuit de Catalunya, Barcelona **When** 09.02am, Friday 11 March

Photographer Glenn Dunbar/LAT

Details Canon EOS-5D Mk II, 600mm lens 1/80th at F18



Parade

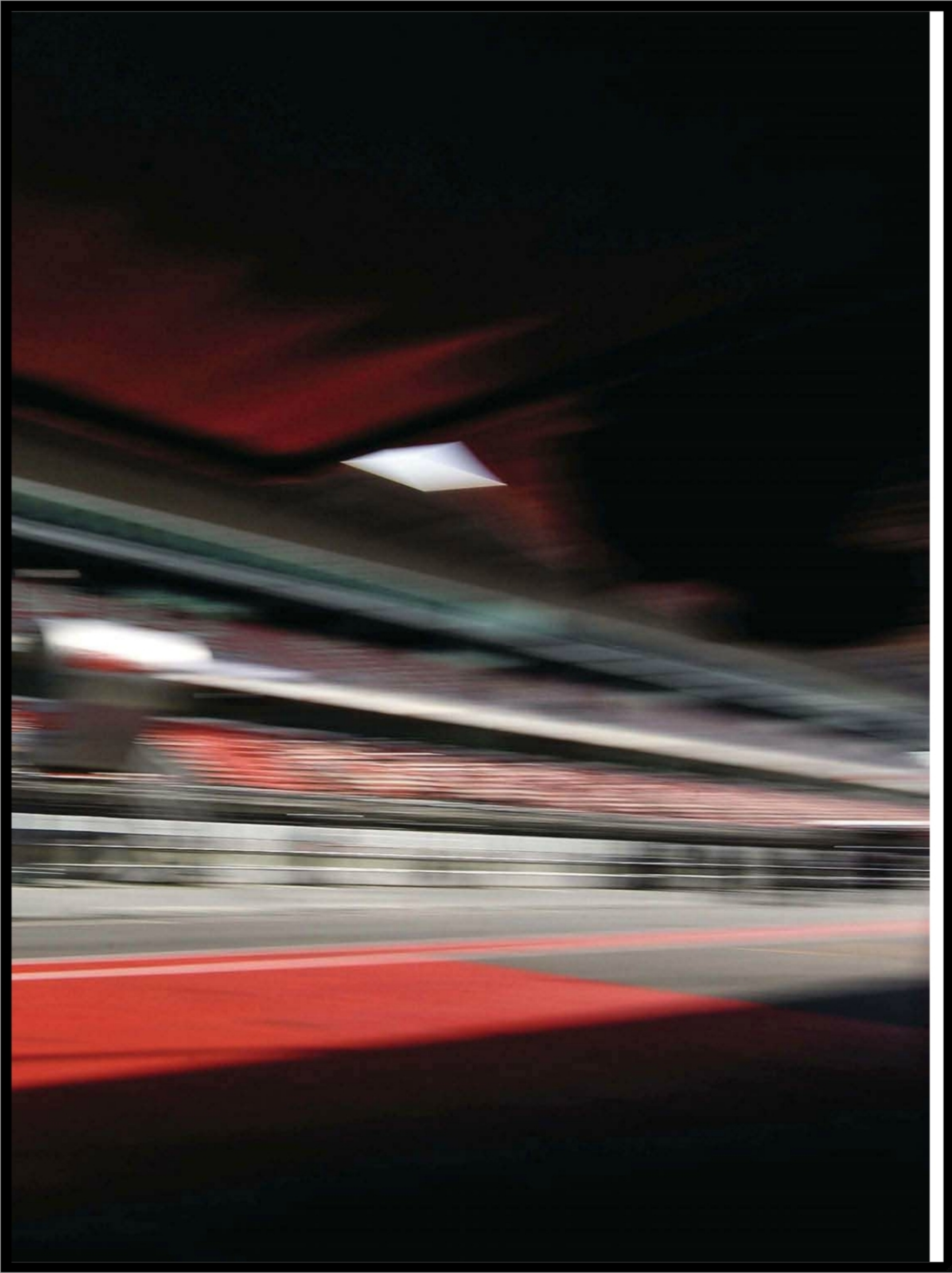
Last, last chance saloon It certainly wasn't the way he wanted to get a drive with Renault, but as a result of Robert Kubica's rallying accident, Nick Heidfeld has been given one more last chance to shine in Formula 1 – and maybe even grab that elusive first win

Where Circuit de Catalunya, Barcelona **When** 4.28pm, Thursday 10 March

Photographer Paul Gilham/Getty Images

Details Canon EOS-1D Mk IV, 100mm lens 1/30th at F16









Parade

Come rain or shine Whatever the elements threw at Red Bull in 2010, the team took it in their stride and now have two trophies to show for it. With Sebastian Vettel and Adrian Newey signed up to 2014, the good news continues to roll out from the Milton Keynes factory

Where Circuit de Catalunya, Spain **When** 10.40am, Friday 18 February

Photographer Glenn Dunbar/LAT

Details Canon EOS-1D Mk IV, 200mm lens 1/4000th at F2.2



HAYMARKET CONSUMER MEDIA, TEDDINGTON STUDIOS,
BROOM ROAD, TEDDINGTON, MIDDLESEX TW20 9BE, UK

The team

Editor Hans Seeberg
Managing Editor Stewart Williams
Features Editor James Roberts
News Editor Jonathan Reynolds
Chief Sub-Editor Vanessa Longworth
Art Editor Frank Foster
Senior Designer Lynsey Row
Principal Photographer Lorenzo Bellanca
Production Controller Helen Spinney
Editorial Tel +44 (0)20 8267 5806
Editorial Fax +44 (0)20 8267 5022

Out in the field

Editors At Large Alan Henry, Tom Clarkson
Agency Photographers LAT Photographic, Getty Images

Publishing

Publishing Director Peter Higham
Publisher Rob Ahern
Publishing Manager Samantha Jemson

Commercial Director Ian Burrows
Advertising Director Matthew Witham
F1 Racing Custom Emma Shortt
Sales Manager Luciano Candillo
Senior Sales Executive Ben Fullick
Senior Agency Sales Katie Gamble
Office Manager Laura Coppin
Subscriptions Marketing Executive Karen McCarthy
International Circulation Manager Charlotte Hope-Frost
Licensing Director Tim Bulley
Licensing Manager Alastair Lewis
Advertising Tel +44 (0)20 8267 5179/5916

Subscriptions enquiries

Email F1racing@servicehelpline.co.uk
Fax 01795 414 555
Customer Hotline 08456 777818

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Editorial director Mark Payton

Creative director Paul Harpin

Strategy and planning director Bob McDowell

Managing director David Prasher

Chairman and managing director Kevin Costello

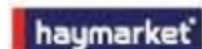
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PO Box 326, Sittingbourne, Kent ME9 8FA. Tel: 08456 777818.
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STOP AND GO / Hans Seeberg / 04.2011

“So a parachute comes out of your watch then, Lewis?”



This is not your average quote from an *F1 Racing* interview. But then Murray Walker's chats with both Lewis Hamilton and Jenson Button are not your average interviews.

Modern Formula 1 drivers are often criticised for not really saying anything. Perhaps they're too well-protected by their teams and managers, all of whom are suspicious of wily journalists trying to spin a controversial headline out of their drivers during an off-guard moment. But while the F1 driver of today will always be quite candid about the fact that speaking to the press is obviously necessary but hardly their favourite bit of the job, there's none of that when a proper old trooper like Murray Walker bowls up to do the interviewing. Lewis and Jenson's lives are usually allocated by the minute, but even as F1 world champions they respect him as an absolute legend of the sport and give him as much time as he needs. After all, this is a man who attended the first ever Formula 1 race at Silverstone in 1950 – 35 years before Lewis Hamilton was born.

Elsewhere in this issue there's plenty more stuff to entertain as the 2011 F1 season finally kicks off. We've been up close and personal with Team Lotus's new T128 (p82), a car that's expected to achieve a lot according to the bullish predictions of technical boss Mike Gascoyne. We've also collared Martin Brundle as he steps into F1's commentary hotseat (p66), and put your questions to the brilliantly random Kamui Kobayashi (p40). Who said there were no characters in F1 any more?



Thanks to Sofitel at Heathrow Terminal 5 for letting us photograph Paul di Resta there and generally being jolly nice (p78)



Kamui takes a freestyle approach to your questions (p40), astonishing features ed Jimmy with his pronouncements on sushi and airports



Breaking news: F1 Racing designer Lynsey Row confirms herself as Lotus's reserve driver for 2011. She just has to finish this pesky photoshoot first (p82)



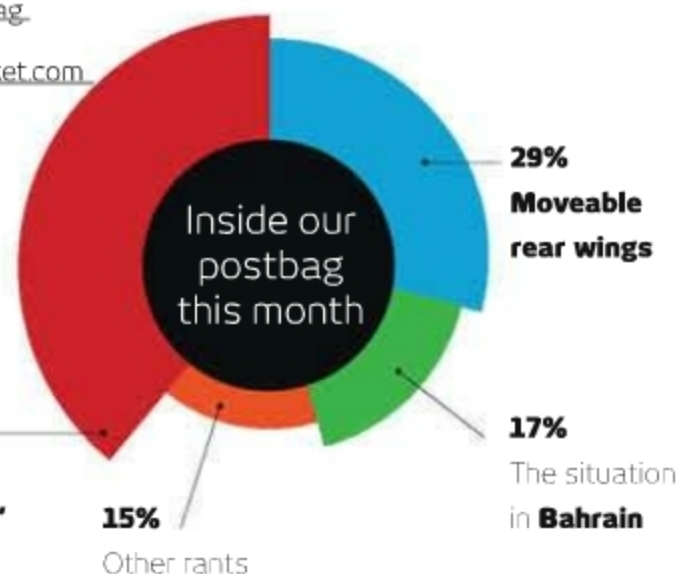
News ed Jonny asks Martin Brundle: "Why on earth did you risk it all by taking the job as the BBC's lead commentator?" Read Brundle's frank assessment of the move on page 66...



Special thanks to Tom Webb for going way above and beyond the call of duty in helping us shoot the Lotus T128 in this issue – an avant garde jazz CD is in the post for you, Steve Cooper, Claire Williams, Alexandra Schieren, Matt Bishop, Silvia Hoffer Frangipane, Clare Robertson, Wolfgang Schattling, Nicola Armstrong, Sabine Kehm, Katie Tweedie, Britta Roeske, Luca Colajanni, Roberta Vallorosi, Stefania Bocchi, Bradley Lord, Clarisse Hoffmann, Will Hings, Lucy Genon, Eric Silberman, Fabiana Valenti, Anna Goodrum, Hanspeter Brack, Heike Hientzsch, Alba Saiz, Tracy Novak, Chris Hughes, Paul Quinn, Liam Clogger
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Inbox

 @F1Racing_mag
 facebook.com/f1racingmag
 letters.f1racing@haymarket.com
 F1 Racing, Teddington Studios, Broom Road, Teddington Middlesex TW11 9BE



★ STAR LETTER



Forget rain machines: let's have variety

So Bernie would like to make F1 exciting again by acting like the almighty and making it rain to order. Well that should zip things up a bit, but as an F1 fan who shells out vast sums of hard cash to attend circuits around Europe, I would like something a little less random. Why go to all the expense of rain machines when spraying some oil on suitable corners should achieve the same results?

Why do we have such harebrained schemes dreamt up by somebody who should know better? I may be missing something, but the problem seems obvious to me. It feels like the past few years have seen the regulations remove more and more variables. No fuel stops, standard tyres, no in-season testing – all result in ironing out the differences. As soon as a team achieves a genuine development advantage with a double diffuser, a flappy front wing, an F-duct or a dipping undertray, a brand new regulation is immediately brought in to stamp it out.

Is it any wonder that the events unfolding out on the track are becoming less than riveting?

Tony Brown
Northumberland, UK



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Bring in revenue sharing

I don't understand the obsession with 'improving the show' when we've had several spectacular seasons in a row. I don't care for gimmicks like moveable wings, fake rain, KERS and so on. Every time changes are introduced, they favour the bigger teams who can quickly develop what is required. They also cost money – and aren't we always being told about how F1 needs to reduce its costs? If the sport really wants to boost interest, it should narrow the gap between the wealthy teams and the smaller ones: as a side benefit, we'd get more overtaking. Revenue sharing has worked wonders in the NFL where every team has a chance of winning. In F1, if you're not a Ferrari, McLaren, or Red Bull fan, you haven't got much to root for.

Jim Factor
Danville, USA

Is F1 too complex to be safe?

How many more buttons can be crammed onto F1 steering wheels? From the picture in the March issue, there's no space left! Sebastian Vettel recently said that the return of KERS and the debut of moveable rear wing causes drivers to take their eyes off the track and that it is now like "driving a car while playing with a mobile phone". Coming from the world champion, that begs the question... is all this necessary? I'm all for improvements and seeing how far the technology in an F1 car can be pushed, but I fear the distraction of added buttons will result in accidents caused by

drivers who feel they are playing on a games console rather than using their driving skills to win a race.

Niki Dolan-Pearce
Cornwall, UK

Battle begins at Toro Rosso

Helmut Marko has warned the Toro Rosso drivers he'll have no qualms about ousting them if they don't perform. It's harsh, but they should be integrated into F1 by now. There are no excuses, especially if the car is as quick as Alonso and Hamilton think. Daniel Ricciardo is waiting in the wings, and has proved himself as a fast driver. Alguersuari versus Buemi could be the most interesting battle of the year...

Ben Needham
Northampton, UK

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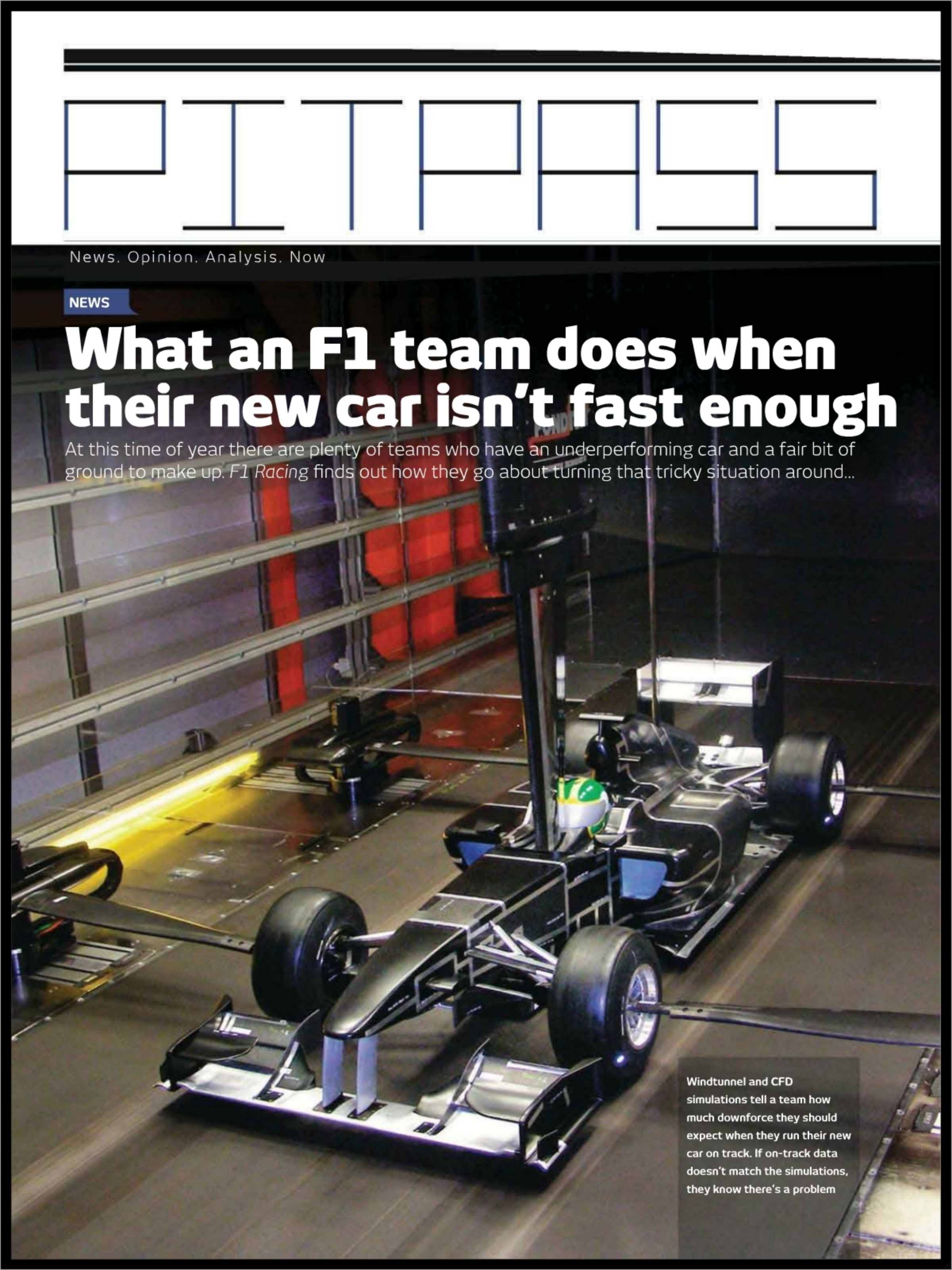
FIAT

News. Opinion. Analysis. Now

NEWS

What an F1 team does when their new car isn't fast enough

At this time of year there are plenty of teams who have an underperforming car and a fair bit of ground to make up. *F1 Racing* finds out how they go about turning that tricky situation around...

A Formula 1 car is shown in a wind tunnel, mounted on a complex rig. The car is black and silver, with a driver's helmet visible in the cockpit. The rig is supported by a tall, black vertical column. The background shows the interior of the wind tunnel, with metal structures and a red wall. The lighting is dramatic, with a bright yellow light source on the left side of the rig.

Windtunnel and CFD simulations tell a team how much downforce they should expect when they run their new car on track. If on-track data doesn't match the simulations, they know there's a problem



020

PRESSURE IN THE PITS

This season there'll be more pitstops than usual, and the crews won't even know when they're going to happen. Oh – and they'll have to do them in under three seconds...



025

SUPERSONIC COSWORTH

Their F1 engine will power the British-built Bloodhound SSC as it seeks to reach 1,050mph and smash the land speed record in 2012. They'll also be powering HRT...

It's every technical director's nightmare. You spend months and months carefully designing and building a new car for the forthcoming season, hopes run high as it's launched – and then it hits the track at the first test and performs way below expectation. But aside from having to deal with some pretty disgruntled drivers, what happens next?

"Emotions can run quite high before testing because there's a great urge to get the car out on track and figure out what's going on," explained Sauber's technical director James Key, the man credited with turning around the Swiss team's fortunes last season. "If you feel you've got problems that you need to solve then you can get a little panic-stricken. But to be honest, I don't think there's a single answer for what you do because it depends what the nature of the problem is. For example, let's say the exhaust-blown diffuser is supposed to be doing something and it's not. Then at least you can focus in on it and say: 'This is the problem, let's spend windtunnel and CFD time on fixing it because, fundamentally, the rest of the car is okay.' You can take a fairly structured approach then. But if it's the whole car that's not working, things get a lot more difficult."

So how do you go about solving the mystery of why your car is slow? "You have to go right back to fundamentals," said Key. "If you're a long way off the pace, it's normally an aerodynamic issue, in which case I think the approach would be to take lots of measurements, look at as much data as you can and compare it to what the simulations and windtunnel show. If the car is doing something totally different out on track to what the simulation says it should be doing, then you've got something to start looking at."

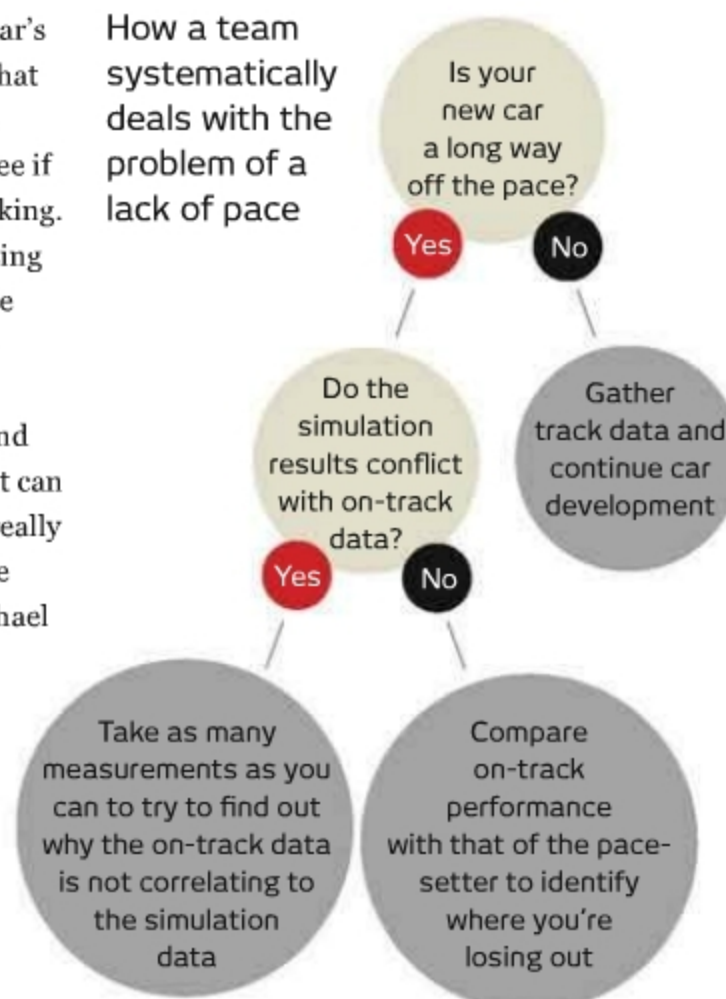
To complement the sensors covering the car, teams use all manner of contraptions to take readings. "There are a lot of complexities on track that you just don't see in a windtunnel or on CFD," reasoned Key. "You get rough road surfaces, bumps, and sidewinds so there could be the chance of instabilities being developed because the car is sensitive to these things. There are also factors like the wake off the front wing and tyres, the sensitivity of the rear wing or the diffuser and the ride-height sensitivity. Nine times out of ten they're okay, but if you have an issue you need to look at all of these parameters."

Another thing teams do is compare their car's performance out on track with that of a car that is setting the pace. For example, they might compare times through a specific corner to see if they're losing time under acceleration or braking. This can make it easier to target what is causing the shortfall. But you can only complete these measurements if your car is out on the track and not in the garage being fixed.

"If you're having performance problems and then you couple them with reliability issues it can be very draining on your resources and can really slow down your ability to fix the performance issue," Williams' technical director Sam Michael told *F1 Racing*. "But performance is always more of a grey area than reliability. It doesn't matter if it's KERS, the gearbox or the suspension – with a reliability problem, you know something's broken, so you look to see what's failed. With performance, it's a bit harder."

Of course all of the measuring and analysis can take a long time and, before you know it, testing is over and you're into the first few races. "You can still manage to salvage

How a team systematically deals with the problem of a lack of pace



What on earth is that?

Whether their car is fast or slow, all the teams use these odd-looking devices to collect data and check windtunnel correlation



the situation, but we have learned from our experience last season that if you start scoring the sort of points you need too late, it's incredibly difficult to catch up," explained Key. "While you're trying to sort out your car, the teams you are racing against are just developing theirs, so then you've got to develop even faster than them. We've been developing things for the European season since February. If we'd had an issue we would have had to have stopped all that. Luckily we haven't had major mysteries going on, so the process has continued. But that's the kind of impact it can have downstream."

On the plus side, the competitiveness of the modern Formula 1 grid means that it's not too late to turn your season around even if you aren't where you wanted to be in the first few races. "Just look at how close the grid is," said Michael. "The difference between the quickest car and the slowest car is actually very small. That means it can easily be turned around." James Key agrees: "If you've got a car that you believe is fundamentally competitive but it's got a problem, solving that problem can give you a big step forward."

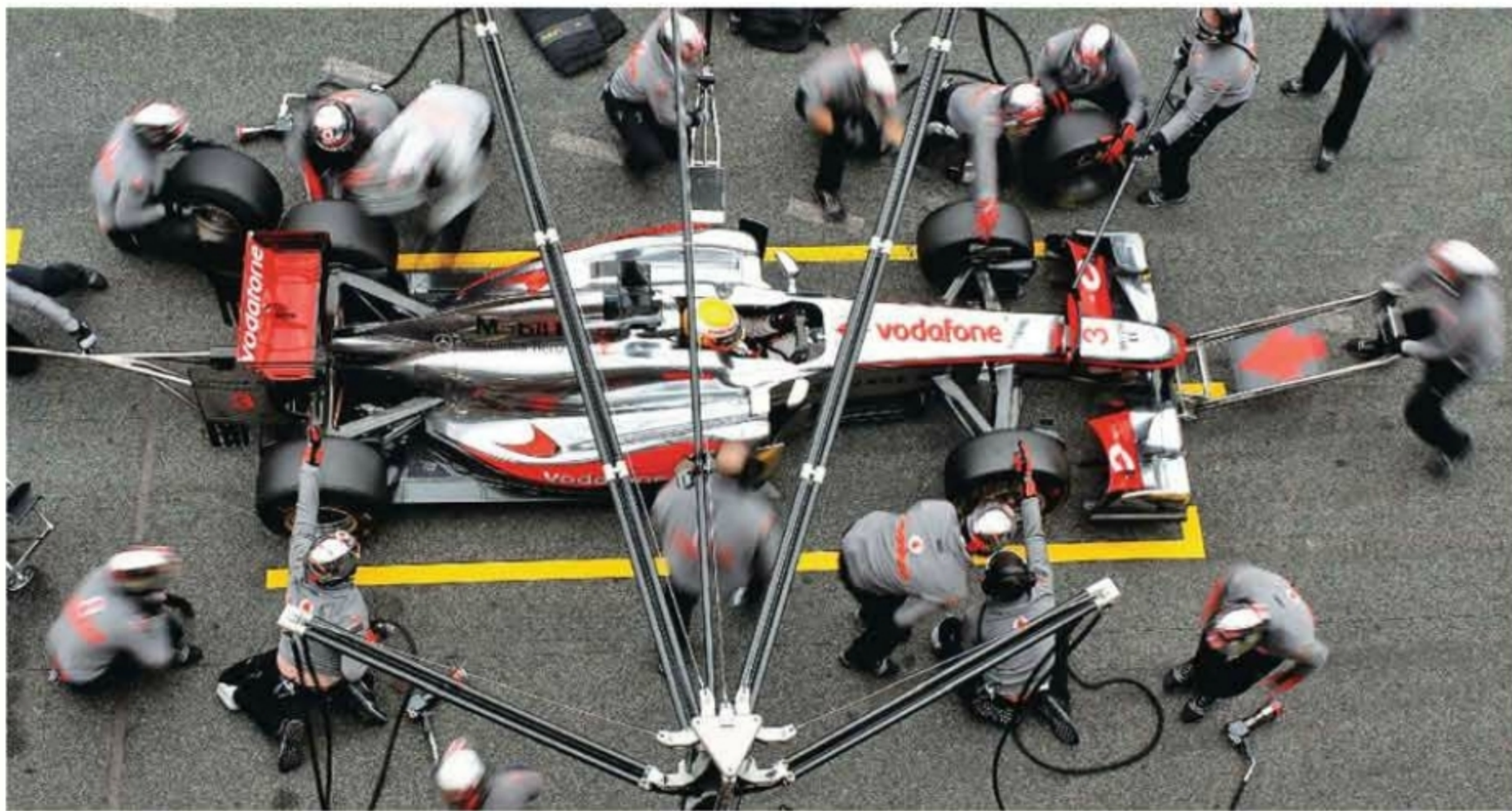
You can bet that following the Australian Grand Prix there'll be quite a few teams searching for that big step.

PHOTOS: GLENN DUNBAR/LAT; MARK THOMPSON/GETTY IMAGES; SUTTON IMAGES; TEAM LOTUS

NEWS

Change four tyres in 2.9 seconds?

That's what pit crews have to aim for in 2011 unless they want to lose race positions. And with the rapidly degrading Pirelli tyres, they'll have to do it several times per race



F1 pit crews are ramping up pitstop practice this season in response to the increased demand expected to be placed on them during races. The rapid degradation of the new Pirelli rubber means cars will make more pitstops per race in 2011, and that means more chances of gaining or losing time to rivals.

"Losing a second at every stop will cost you race positions," said Team Lotus's chief technical officer Mike Gascoyne. "There'll be a lot of pressure on the pit crew and they all know it." James Key, technical director at Sauber, agreed: "The pit crew will have to ensure every pitstop is as quick as it can be, but they'll also need to react very quickly when the need to change tyres arises."

Gascoyne believes pit crews will have to stay on their toes as they won't know when they'll be needed due to the nature of the Pirelli rubber. "The thing about the 2011 tyres is not just that there's massive degradation, but also that when they drop off they die – they ain't coming back." Gascoyne explained. "With the Bridgestones, if they dropped off

you could cool them down and bring them back a bit. Now there's no chance of hanging on for two or three laps and seeing how things will go – you've got to stop so you have mechanics rushing out into the pitlane at the last minute. I think you might see the wrong tyres being used on occasion."

So what sort of times can we expect to see the top teams setting in pitstops? According to Gascoyne, "The really quick boys will be looking to do sub-three second stops." Last season, Red Bull were the only team to dip below three seconds, recording a blink-and-you'll-miss-it tyre change on Sebastian Vettel's car in Monza in 2.9 seconds. But Mercedes proved to have the most consistently quick pit crew, setting the fastest pitstop time at eight of the 19 rounds.

But there are downsides to such speedy pitstops. "In the days of long refuelling stops we could change front-wing settings and those



Vettel about to set his 2.9-second pitstop in Monza 2010

kinds of things," noted Gascoyne. "Now you struggle to do that because, in a 3.5-second pitstop, tweaking front wings is very difficult. Nose changes seem like they take an age now, too. Back when you had stops of eight or nine seconds you could easily change the nose – now you've got no chance."

F1 drivers are always quick to thank their teams when they win, but this year they'll have more to thank them for than ever.



TECH

KERS: dividing F1 opinion like Marmite

Williams are loving it, Virgin, Lotus and HRT aren't even running it. So who's right?

With testing now over, the teams still can't agree on the significance of KERS. Some technical directors believe it to be worth 0.3secs per lap, while others think that the packaging disadvantages outweigh the extra 80bhp that's available for up to 6.6secs per lap.

"Assuming your car is on the weight limit," said Williams technical director Sam Michael, "use of KERS is a no-brainer. It gives you time every lap." The issue is so clear cut for Williams that driver Rubens Barrichello has lost five kilograms over the winter to free up more ballast on his FW33.

But Virgin, Lotus and HRT have all chosen to spend their money elsewhere and some front-runners have opted for smaller batteries to free up space under the bodywork. Remember that the ban on refuelling has been

introduced since KERS was last used in F1 in 2009.

KERS is of most use at the start of the race when cars can benefit from its extra horsepower when getting away from the line. It is believed that this is the only part of the race when some teams (one of which is believed to be Red Bull) with smaller batteries will actually use it. Smaller batteries mean tighter packaging, cleaner airflow, increased downforce and better tyre wear over the rest of the race, which these teams believe will give them an advantage over those with larger batteries who use KERS over the full race distance.

"Philosophies differ where KERS is concerned," said McLaren technical director Paddy Lowe. "The best direction will become apparent a few races in."

But a start-only KERS could well be the best compromise.

FIVE MINUTES ON THE PHONE WITH... **SERGIO 'CHECO' PÉREZ** MEXICO'S FIRST F1 DRIVER FOR 30 YEARS



How does it feel to make it into F1?

"It's a dream come true. I've fought to be here and I want to enjoy it. It's a lot of responsibility and work, but I enjoy it every day."

Next year's GP in Austin would be very close to home though...

"Yeah it's about 125 miles from Mexico, so it would be my 'home' grand prix. If I'm still in F1 it would be great to race there. If not, I'll watch from the grandstands!"

Is there a big interest in what you're doing back home?

"For sure. I did a pre-season road show in Mexico and more than 200,000 people came to support me. Mexicans have a lot of passion for sport and we always support each other."

We've heard your brother races. Is that what got you started?

"Yes, my older brother races in NASCAR, in fact he won the Mexican NASCAR championship. As soon as he started racing, I picked up some interest."

Before you signed for Sauber, were you well known back home?

"Not very well known even though I was winning races and fighting for championships in GP2. Step by step my reputation has grown, and now I've signed for Sauber it's getting bigger all the time."

You're part of the Ferrari driver academy. Is it a dream to drive for them one day?

"It would be nice - I've always had that dream. But for now I'm enjoying being at Sauber and I want to do a good job here."

Are people at home talking about bringing back the Mexican GP?

"Yes. And I'd like to have a grand prix at home. I've never raced in Mexico in formula-type cars."

What goals have you set for yourself this season?

"I would be very happy if I scored more points than Kamui - but I have to be realistic. I don't want to be too positive or I could end up being disappointed."



Pérez pulls the crowds at the pre-season road show in Guadalajara, Mexico

PHOTOS: MARK THOMPSON/GETTY IMAGES; PAUL GILHAM/GETTY IMAGES; CLIVE MASON/GETTY IMAGES; GERA PICTURES/RED BULL CONTENT POOL

Answers: **1** Michael Andretti **2** Five times **3** Williams **4** 1990 Japanese GP **5** Ferrari (5 to 3) **6** 1965 Italian GP **7** Clay Regazzoni and Jo Siffert **8** Anderstorp (Sweden) **9** Nigel Mansell **10** Weslake

F1 Mastermind

Your chosen specialised subject: the world's greatest sport...



- Which driver scored his only F1 podium at the 1993 Italian GP?
- How many times did Graham Hill win the Monaco Grand Prix?
- Which F1 team was sponsored by Sega in the early 1990s?
- Which grand prix was the last one to feature a podium without a European driver on it?
- Did Gerhard Berger win more grands prix driving for McLaren or Ferrari?
- At which race did Jackie Stewart score his maiden world championship win?
- Name the two Swiss drivers who have won grands prix.
- Which circuit's final corner was called Laktar?
- Who won the 1994 Australian Grand Prix?
- Which engine powered Dan Gurney's Eagle to victory at the 1967 Belgian GP?



THIS BOY CAN DRIVE

Keeping an eye out for the Hamiltons of tomorrow



Carlos Sainz Jr Who is he?

A 16-year-old Spanish Formula Renault driver backed by Red Bull. His father is Carlos Sainz Sr, world rally champion in 1990 and 1992.

Is he any good?

The early signs are promising. He stepped up to Formula BMW aged 15, winning the rookie cup with a victory at the British GP support race along the way.

Anything else we need to know?

Carlitos (as he's known to his friends) will spend his second

season of racing in the Formula Renault Eurocup. Strange to think that he won't qualify for a driving licence in his native Spain for another two years.

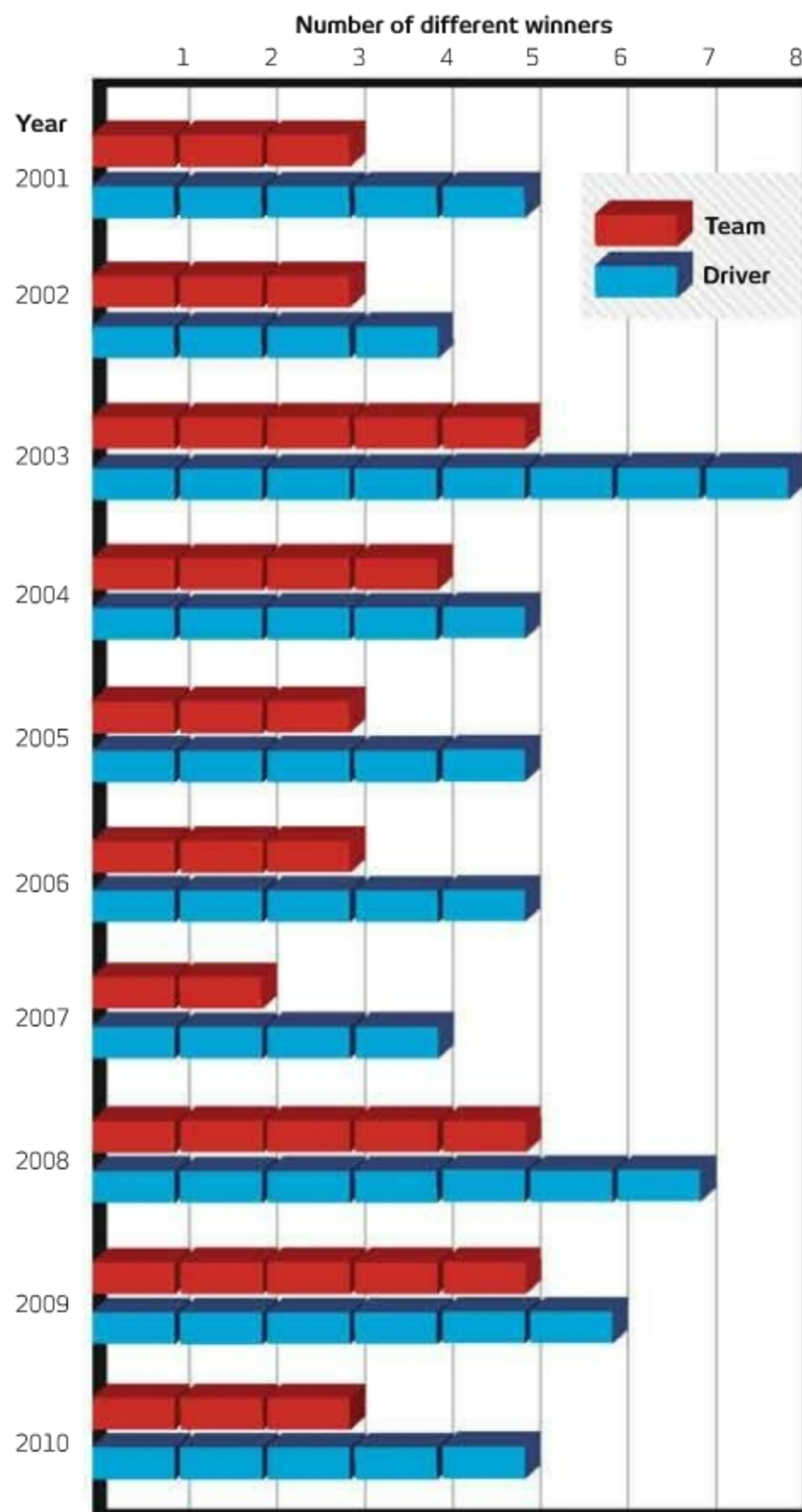
F1 chances:

Like his idol, Sebastian Vettel, Carlos was picked up by Red Bull at a very young age, which means he'll be carefully nurtured through the junior categories. But the fizzy drinks firm has never been shy about dropping drivers who don't perform. If Sainz Jr wants to reach the top, he'll need to keep impressing Helmut Marko, the head of Red Bull's young driver programme.

STATS

The number of different race winners in the past ten seasons

In 2003 eight different drivers were victorious in five different cars. Will we see that sort of variety this year?





NEWS

How Cosworth will top 1,000mph

This F1 engine will be used to pump fuel in a new attempt at the world land speed record

The Cosworth engines in the back of the Williams, Virgin and HRT cars regularly power them to over 200mph, but now those same engines are going to be used in a British machine that's bidding to top 1,000mph. In 2012, the Bloodhound SSC will take to the South African desert in an attempt to travel faster than a bullet and break the world land speed record.

The car, piloted by current record holder Andy Green, will be powered by the largest rocket ever designed in Europe – and it's the task of the 95kg, 750bhp+ Cosworth CA2010 F1 engine to drive the rocket's oxidiser fuel pump.

"Bloodhound needed a motor for the auxiliary power unit and it needed to be a very powerful engine that would act as a fuel pump for the rocket and deliver 1.5 tonnes of rocket fuel in 23 seconds," explained Cosworth's F1 general manager Mark Gallagher. "It's a very short requirement in terms of time but it requires a lot of horsepower – you need 700bhp to force enough fuel through to the rocket and that's best achieved through an F1 engine." During a 20-second run, the rocket will consume 800 litres of high-test peroxide (HTP) rocket fuel – that's equivalent to 40 litres per second.

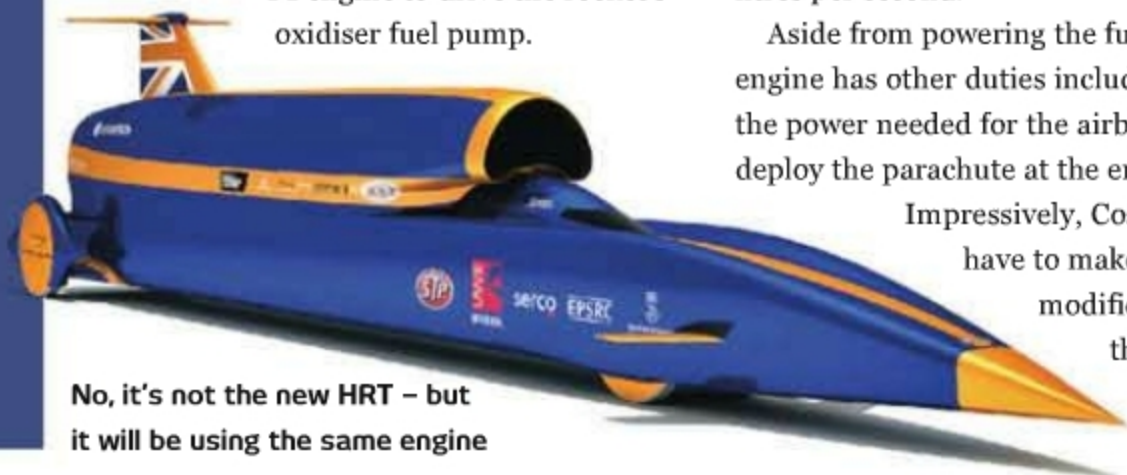
Aside from powering the fuel pump, the engine has other duties including providing the power needed for the airbrakes and to deploy the parachute at the end of a run.

Impressively, Cosworth didn't have to make any major modifications to the F1-spec engine. "It's essentially

off the peg," said Gallagher. "In terms of the engine's internals, there have been no changes at all. There was no need to tinker with it."

The CA2010 will face some unfamiliar challenges when it's bolted into the back of the Bloodhound. "It will be mounted in the opposite direction inside to how it is in an F1 car," Gallagher explained. "So the oil systems will be in reverse while being subjected to 3G under acceleration and braking. The car will run for a short period of time but you don't want oil starvation. Also, we've never had to deal with air coming into an engine air intake at 1,000mph before. In an F1 car, air comes into the airbox at a top speed of around 215mph – we'll have to manage the fact that air will come in at five times that speed."

Despite these challenges, Cosworth are confident that the quality of their engine will see it through and help propel the Bloodhound SSC to its goal of 1,050mph. "We want to be involved in a great British record-breaking programme," enthused Gallagher. Next summer, his wish could come true.



No, it's not the new HRT – but it will be using the same engine

GAMES

Compete in the Indian Grand Prix before the drivers get the chance

Codemasters' *F1 2011* video game features all this year's teams, drivers and circuits and hits the shops on 23 September – a month before Formula 1 hits New Delhi

Codemasters have revealed that *F1 2011*, the sequel to last year's award-winning video game *F1 2010*, will be released on 23 September for Xbox 360, PlayStation3 and PC. Looking to build on the success of *F1 2010*, which sold over 2million copies, they are promising technical and gameplay advancements, plus multiplayer options.

F1 2011 will feature all of this year's teams, drivers and circuits, including the brand new Jaypee International Race Circuit in New Delhi, India. With the grand prix there scheduled for the end of October, fans who buy a copy of the game on its release will have a whole month to race on the new track before the drivers hit the Tarmac for real.



The New Delhi circuit as it is now. The game will offer a more 'finished' version...

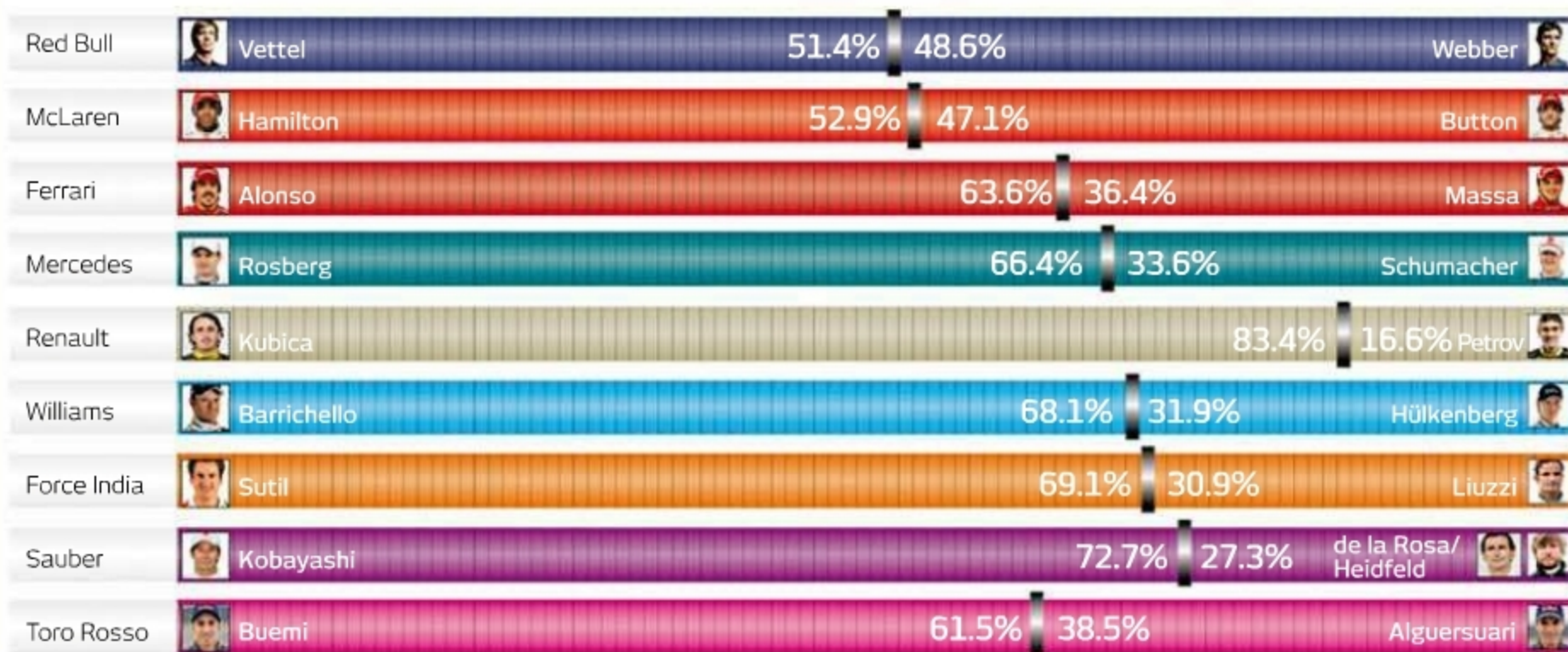
Codemasters are tight-lipped about new features at present, but expect them to expand on the in-depth career mode that was a stand-out feature of *F1 2010* and to introduce new devices such as KERS and moveable rear wings into the gameplay.

There's good news for hand-held gaming fans, as bespoke editions of the new game are being produced for Nintendo 3DS and Sony's next generation portable system (NGP). It'll keep you busy on a Sunday afternoon once the race finishes...

STATS

Who's doing all the work here?

Nico Rosberg contributed nearly 33 per cent more to Mercedes' 2010 points tally than Michael Schumacher did. Here's how drivers in other point-scoring teams compare



NEWS

Fed up with the lack of overtaking? So is the FIA

Abu Dhabi had just 13 passing moves last year, so the FIA is looking to boost overtaking. Fernando Alonso will be thrilled...

NUMBER OF OVERTAKES AT EACH CIRCUIT IN 2010

Bahrain:	21	Germany:	16
Australia:	41*	Hungary:	8
Malaysia:	24	Belgium:	67*
China:	82*	Italy:	15
Spain:	11	Singapore:	28
Monaco:	4	Japan:	8
Turkey:	29	Korea:	37*
Canada:	65	Brazil:	34
Valencia:	15	Abu Dhabi:	13
Britain:	29		* Indicates wet race

Data from cliptheapex.com. These figures do not include position changes on the first lap of the race, positions gained in the pits, positions gained due to drivers yielding or positions gained when a car has a serious technical problem



At some circuits, you know there's not much chance of seeing many overtaking manoeuvres. But that could now change as the FIA has announced that its circuit design group will be examining tracks to try to increase overtaking opportunities.

The move comes in the wake of last year's Abu Dhabi GP, when Fernando Alonso was unable to overtake Vitaly Petrov, despite the Spaniard driving what was widely accepted to be the faster car. While the design of the cars no doubt played a part, many, including FIA president Jean Todt, acknowledged that the design of the circuit was largely to blame.

However, modifying existing tracks is very expensive and often impossible due to the environment in which they sit. The FIA does not publish overtaking statistics but cliptheapex.com have compiled a wealth of data on the subject, which can be used to identify the least overtaking-friendly circuits.

According to their statistics, the hardest tracks to pass on last year were Monaco, Hungary, Japan and Abu Dhabi. But, as you'll see from the table opposite, there was a lot more overtaking in wet-weather races. So perhaps Bernie wasn't far off the mark with his idea of artificial wet weather...

NEWS

McLaren unveil their new creation

It took two years to make, spent an age in the windtunnel... and it's only got two wheels



McLaren's fancy new bike has a fancy £10,000 price tag to match

This sleek-looking road bike is the latest hi-tech machine to roll off the McLaren production line. The S Works Venge, which has been two years in the making, goes on sale this autumn. Produced in a joint venture between the Woking-based squad and American bike manufacturer Specialized, it's got a rather hefty price tag of £10,000.

McLaren's attention to detail means the Venge takes three times longer to make than other carbon-framed Specialized bikes, but it weighs in at less than 6kg. It's also one of the most aerodynamic road bikes in the world, with the team spending two days of windtunnel time just to perfect the position of the drinks bottle.

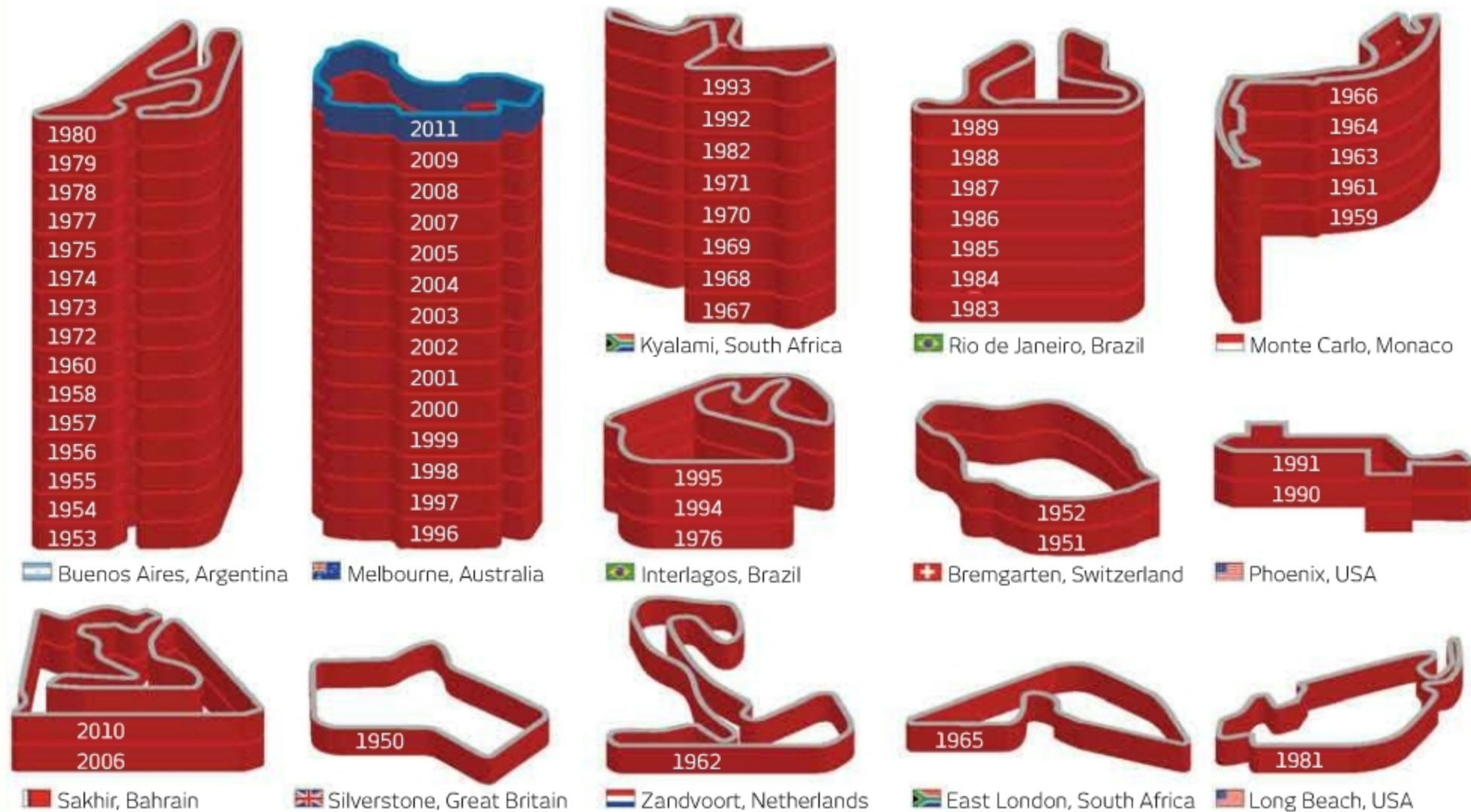
"It's been an interesting exercise for us," said McLaren's project leader Jonathan Heal. "We've used our experience with carbon composites in Formula 1 to reduce the weight while maintaining stiffness. One of the ways we've done that is by optimising the way in which we lay the carbon."

The bike has already had the thumbs up from those in the know. "I bloody love this bike," was the response of Britain's record breaking Tour de France cyclist Mark Cavendish when he tested it for the first time. He's not the only one who's impressed – we're told that a certain McLaren driver with a passion for competing in triathlons has been eyeing up the Venge as well...

STATS

Who's hosted the most season-openers?

Only 13 venues have held season-openers. Buenos Aires and Melbourne are tied in first place



NEWS

Kubica recovery continues

The Pole is making progress after his terrible rallying accident, but a return to F1 this year has been ruled out

After four operations, Robert Kubica has embarked upon on the long road to recovery following his crash in the Ronde di Andora rally in February. But no one connected to the 26-year-old Pole can be certain that he'll ever race in Formula 1 again.

Kubica partially severed his right hand in the accident and his long-term future as a racing driver depends on the extent of its recovery. He's already able to move his fingers and wrist, but movement is limited.

"It is too early to discuss the long term," said Riccardo Ceccarelli, Renault F1's team doctor. "We all hope that Robert will make

a full recovery, but we can't say for certain what is going to happen. All I can say is that I am very, very happy with the job that the surgeons did."

Kubica will continue his recuperation in the Pietra Ligure hospital, where he was admitted after the crash. According to his manager, Daniel Morelli, he has an army of specialists and physios on site to help him, and the treatment he's receiving is first class. But there is no chance of a return to F1 this year.

"A recovery period of one year is the best we can hope for," said Mario Igor Rossello, the surgeon who operated on Kubica's hand.



PHOTO: SUTTON IMAGES



Pat Symonds' TECHNOLOGY MASTERCLASS

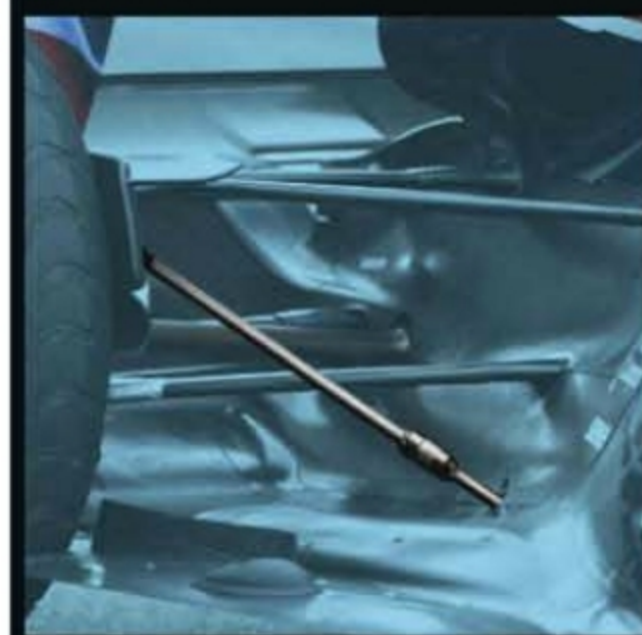
Lifting the cloak of secrecy on F1's complicated parts

THIS MONTH: PULLROD SUSPENSION



The spring and damper need to be hidden out of the airflow, so an intermediate link - in this case a pullrod - pulls on the rocker arm

PULLROD SUSPENSION EXPLAINED



As with the RB5 and RB6, the Red Bull RB7 (shown above) also features pullrod rear suspension, which works perfectly in conjunction with Adrian Newey's philosophy of keeping a low rear end. The lower positioning of the pullrods allows for a less obstructed flow of air to the rear of the car

What's the difference between pullrod and pushrod suspension?

In a road car, the spring and damper are anchored between the body and the lower wishbone, shielded within the bodywork. In an F1 car, the spring and damper need to be hidden out of the airflow, so an intermediate link and a rocker arm is used to operate them. This is known as a pullrod if it pulls on the rocker arm and a pushrod if it pushes on it.

Which system is more popular?

There are a mixture of systems being used - all the teams use pushrods at the front, but at the rear the pullrod is gaining popularity this year having been re-adopted by Red Bull in 2009.

Why is that?

These days, suspension layouts are dictated by aerodynamic requirements. At the front, high noses dictate a pushrod layout. At the rear, the high diffusers of recent years required the lower

area to be aerodynamically clean so the tendency was to mount the springs and dampers high and use pushrods. The 2011 diffuser is much simpler and lower than last year's, leaving plenty of room for teams to fit a pullrod system and exploit some of its advantages.

What are those advantages?

One of the advantages of a pullrod layout is that it lowers the centre of gravity of the car relative to a layout that uses pushrods. It can also provide a saving on weight. Perhaps most important of all is that, when used at the rear, it allows a very low deck height that enhances airflow to the lower rear wing. This, in turn, improves the diffuser's efficiency.

Are there any disadvantages to running pullrod suspension?

There are no big disadvantages, although it is generally a little bit harder for the mechanics to access in order to make changes and the

cooling of the dampers is something that also needs to be taken into consideration.

We've seen pullrods used at the rear of the car - are they ever likely to be used at the front as well?

When cars had lower noses, pullrod systems were very popular. The high noses needed for aerodynamic efficiency today mean that a pullrod layout cannot be used, as the pullrod itself would be nearly horizontal.

Are these the only solutions?

No, not at all. In the 1970s, simple rockers (as used on the Lotus 49 for example) were all the rage. Aerodynamically they worked as required but were not structurally efficient. Over the years various solutions have been adopted, including torsion bars attached directly to the wishbone pivots, but the pushrod and pullrod layouts provide the best compromise for designers working under the current regulations.



RAW NEUVE

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

Lewis has chosen his new manager wisely

It is good to see Lewis has new management in place, with a firm renowned for enhancing the commercial success of their clients. This should be great for his image and will increase his income – although not necessarily from driving. It might make him more expensive for teams to sign: while it won't change his value as a driver it will as a personality, so it depends how much a sponsor will pay for that little bit extra. If a driver brings added value to a team, there's nothing wrong with him earning more.

I know my ex-boss Frank Williams says in this issue that he thinks managers are not entirely necessary and that drivers and teams should negotiate salaries between themselves – but he would say that! Involving managers in negotiations costs teams more money. As a driver, you have to concentrate on the job and



Lewis was managed by his dad until last year. Now XIX Entertainment are taking over

cannot fully focus on dealing with the team. You need someone protecting you. Some contracts are 70 pages long, and without a manager and the necessary time to devote to negotiations, you could end up signing your career away.

Managers are vital for all sorts of things. First, they do all the fishing for a driver: they'll make sure that everyone knows that driver is good – even if he isn't. Some very average drivers have had good careers just because someone pushed

them at the right person at the right time. This spinning helps drivers get sponsors and can reinforce their position within the team. Second, managers ensure your image is used properly, because that's what helps you earn your living. Finally, you need someone you can trust when times get tough.

Some managers are annoying and overvalue what they have in their hands, but drivers still need them. You can't do it on your own.

I'd like Schuey to stay on

I see there's talk of Michael Schumacher staying at Mercedes for 2013. I think that would be good for F1 – and the longer he stays, the better he'll be. It shows that whatever people say



about his performance, he's bringing enough to Mercedes for it to be worth it.

Some point out that by 2013 he'll be 44 – but who cares? It's just a number. Look at drivers from 30 years ago: they aged because they never trained. Michael is super-fit, and as long as he's mentally sharp he'll be fine.

You can't beat talent and experience, but with Michael the key thing is hunger. Does he still really want it enough to make the sacrifices that go with being an F1 driver? If the answer is 'yes', he'll be fine.

Bahrain should be rescheduled

I see a decision will be made by 1 May about whether to reschedule the Bahrain GP or just cancel it. I don't think you can cancel it: teams, fans and sponsors have been sold the fact that there'll be 20 races in 2011, so that's what should be delivered. But from a racing perspective, I don't think a lot of people care that Bahrain won't start the season. It doesn't excite anybody.

PHOTOS: CHARLES COATES/LAT; STEVEN TEE/LAT; ANDREW FERRARO/LAT

THE JV KEY



Silly shunt



Driver error



Controversy



What a car



Fantastic drive



Good call



Bad call

MURRAY WALKER



“I’d hate to see F1 become an antiseptic high-speed blast devoid of risk”

Many’s the time I’ve been asked: “What’s the biggest change you’ve seen in Formula 1 since it began in 1950?” – and the answer’s easy. In a word, it is ‘safety’.

When the 21 cars lined up for the inaugural world championship grand prix at Silverstone in 1950, with four of the glorious Alfa Romeo 158s occupying the front row and Joe Kelly’s back-of-the-grid Alta a sad 14 seconds off the pace, each car had its engine in front of the driver. The drivers mostly wore non-fireproof linen trousers, T-shirts and cloth skull caps; they had no safety belts and they stuck vertically out of the cockpits, completely unprotected. Their cars were flimsy deathtraps with no safety-oriented features and had metal petrol tanks that could fracture and spew their lethal contents over hot exhaust

pipes with catastrophic results. The circuits generally lacked run-off areas and barriers; the massive crowds were separated from the hurtling projectiles on the track by, at best, a piece of rope; and the medical facilities were derisory compared with now. Your life was at risk whether you were racing or spectating.

So soon after the end of a long and devastating war, in which tens of millions of people had perished, attitudes towards circuit deaths were very different. It was not unusual for several drivers to be killed every year, but the general and dismissive opinion tended to be: ‘The throttle works both ways – and if you can’t take the heat, get out of the kitchen.’ By my reckoning, some 28 top drivers, plus a number of less successful ones, lost their lives at the

wheel between 1954 and 1986, including Alberto Ascari, Peter Collins, Wolfgang von Trips, Lorenzo Bandini, Jim Clark, Jochen Rindt, François Cevert, Ronnie Peterson and Gilles Villeneuve. Tragic times indeed and, as attitudes changed, something had to be done to stop the carnage and prevent F1 being outlawed.

Jackie Stewart became the catalyst for change, after his terrifying crash at the 1966 Belgian Grand Prix. Soaked in petrol, he was trapped in his BRM until he was rescued by Graham Hill and Bob Bondurant. Jackie was always outspoken about the need to improve safety and, outrageously, was regarded as a bit of a wimp because of it. But his crusade got results, mainly because of the efforts of three men: Bernie Ecclestone, Sid Watkins and Max Mosley.

If there is one man in this world who has shaped F1 and affected almost every aspect of its development, that man is Bernie Ecclestone: today’s stringent safety standards are the result of his initiative. When Bernie became the driving force for the whole of F1, he recruited the great Professor Sid Watkins, one of the world’s leading neurosurgeons, to do whatever was necessary to make the sport safer. Brooking no opposition, the much-loved ‘Prof’ did a fabulous job. Medical facilities were improved beyond recognition to include mini-hospitals at the circuits, high-speed medical cars with a doctor on board, helicopter availability and off-circuit major hospital back-up. With the circuits themselves made safer, (run-off areas and barriers were added) the results were dramatic.

As the fatality rate decreased there was a four-year gap between the tragic 1982 deaths of Riccardo Paletti in Canada and Gilles Villeneuve at Zolder and the equally tragic demise of the charming Elio de Angelis in a 1986 testing accident at the Paul Ricard circuit. But then, after eight fatality-free years, came the double blow that could have led to F1 being legislated out of existence: the deaths of Roland Ratzenberger and Ayrton Senna at Imola, 1994.

In terms of worldwide impact and horror, there had never been anything even remotely approaching such a disaster in the history of grand prix racing. Television had boosted the popularity of F1 and this, combined with his charismatic personality, had made Ayrton Senna the most famous driver of all time and a virtual



“In 1950, each car had its engine in front of the driver and the drivers wore non-fireproof trousers, T-shirts and cloth caps”



Forthright chatter from the legend of F1

"With the continued focus on safety, drivers survive mammoth accidents unscathed: think of Mark Webber's terrifying flight in Valencia 2010"



god in Brazil and Japan. His fatal crash at Imola and its drawn-out consequences were seen by millions all over the world, who were appalled by his death. Formula 1 was in crisis.


Enter Max Mosley, president of the FIA. By masterminding the necessary legislation, Max had always supported the efforts of Bernie Ecclestone and Sid Watkins but now, following Karl Wendlinger's crash at Monaco, the next race after Imola, and with the continued existence of the sport at risk, Mosley initiated further safety

regulations designed to reduce aerodynamic downforce, cornering speeds and engine power. Let me not tempt fate but, with the continued focus on safety, drivers have since survived mammoth accidents unscathed: Robert Kubica's car-destroying crash in Canada, 2007, and Mark Webber's terrifying flight at Valencia 2010, to name but two.

Indeed there are now those, led by no less an icon than Sir Stirling Moss, who contend that modern Formula 1 is too safe, causing drivers

to take serious risks in the subconscious belief that, cocooned, safety-belted and head-and-neck-supported in their carbon-fibre, bag-tanked survival cells, they will get away with it, no matter what. Would Ayrton Senna have contemplated his ultra-aggressive move on Alain Prost at the start of the 1990 Japanese Grand Prix if he had thought he would die as a result of it? Would Michael Schumacher have side-swiped Jacques Villeneuve at Jerez in 1997 and squeezed Rubens Barrichello towards the wall at Hungary last year if he had thought his mortality was at stake? It is hard to believe that they would and that's why Sir Stirling stoutly maintains that danger should be an inherent part of motorsport as an ever-present deterrent to the drivers.

Things have moved on from the days of Rome and the gladiators. Death is not a required part of the enjoyment. Today's viewing millions want to watch their heroes racing spectacularly, but safely, while wrestling with the complexities of different strategies, tyre degradation and which button to press next. They don't want to see them end their full-of-promise existence as lifeless heaps in a tangle of wreckage.

Nevertheless, I'm with Stirling. I'd hate to see F1 become an antiseptic, health and safety-oriented, high-speed blast devoid of risk. Everyday life isn't like that so why should one of its most dramatic and challenging activities be like that? Outraged answers on a postcard to me at *F1 Racing*, please. 



"Bernie and Sid have contributed greatly to improving the safety of F1, and medical facilities have improved beyond recognition"



PHOTOS: GLENN DUNBAR/LAT; STEVE ETHERINGTON/LAT; LAT ARCHIVE



WHATEVER HAPPENED TO...

DAVID HOBBS

Multi-category racer turned multi-category race commentator



Then

Standing in for an injured Mike Hailwood at Monza 1974 in the McLaren M23

When flicking through the history books, you're unlikely to find a driver who's raced in more categories than David Hobbs. In a career that spanned 30 years, the Brit raced in sportscars, touring cars, Formula 5000, Indycars and, on seven occasions, Formula 1.

Hobbs was due to make his F1 debut at the 1965 French GP but on the way to pick up his race car, which he was going to tow to the race, he was involved in an accident with a laundry van and broke his jaw, arm and nose. He eventually entered F1 in 1967, finishing in the top ten for Bernard White Racing in two grands prix.

The following year he picked up a drive with Honda at the Italian GP, but the full-time drive they'd promised him for 1969 never materialised.

Instead, he spent three successful years in sportscars and Formula 5000 before covering for Mark Donohue at Penske at the 1971 US GP. Three years later he made his final two F1 starts as a replacement for the injured Mike Hailwood at McLaren. Hobbs, by then aged 35, put in performances that were solid, if unremarkable.



Now

Owens a Honda dealership. His son runs it, and David commentates for Speed TV

"I've driven a lot of cars but I never broke into F1 when I wanted to, which is a good job as I'd probably be dead. It was an incredibly dangerous time and I was very lucky. By the end of 1974 I could feel F1 was slipping away from me, but I was doing well in the States so I didn't really worry about it.

"In 1976 I started working for CBS after Graham Hill, who was due to be their racing commentator, was killed. I was still racing, but thought, 'I could do this in the future.' I ended up working for them for 20 years.

"In 1987 I started working for ESPN as well as CBS, and in 1996 I started

doing F1 commentary for Speedvision (now Speed TV). When I was at ESPN we went to all the races, but these days we do them from the studio in Charlotte. We have just under 300,000 viewers per show: it's not much compared to the BBC, but our figures increased 14 per cent in 2010.

"I thought a car dealership would be ideal for retirement, so I went to Honda, who like to have race drivers as dealers, and set up David Hobbs Honda in Wisconsin in 1987. We had a bad start: my partners were running it, but my bank manager said that if I didn't take over, the bank would pull the plug. I did, we came through and now my son Gregory runs it.

"An incredible thing happened in 1993. I was on the national dealer council and we got flown out to Tokyo to visit the Honda factory. It turned out that the boss of the factory was one of my mechanics when I drove for Honda at the 1968 Italian GP!

"I don't have real regrets about F1 – I'd have liked to have had a proper go at it, but was I good enough to be world champion? Probably not."



1967: makes his F1 debut

Finishes a respectable eighth in the British GP at Silverstone driving a BRM P261



1974: F1 career high

Drives the McLaren M23 to a career best seventh place at the Austrian GP



Now...

The 71-year-old is an F1 commentator for Speed TV and owns a Honda dealership

"THE BEST RACE I'VE BEEN TO"

Passion, drama and excitement from your greatest grand prix moments



ISTANBUL 2010 / Paul English / 28 / UK

"It was one of the best races of the 21st Century"



"I've been to see 12 GPs, including classics like Ayrton Senna's mesmerising drive at the rain-drenched 1993 European Grand Prix at Donington Park. But for edge-of-your-seat excitement, nothing can beat last year's Turkish Grand Prix.

"We sat in the grandstand at the final corner, which gave us a perfect view. The race wasn't full of overtaking, but sometimes that doesn't matter. It's not always what F1 needs, so long as it's close. In Turkey it was about two of the



finest teams racing nose-to-tail for lap after lap. Webber led Hamilton with Vettel and Button close behind, and for the first portion of the race we were just waiting for someone to break: we knew it was coming.



"Button defended down the pit straight, but couldn't close the door on Lewis"

"The tension increased after the pitstops, with Vettel getting ahead of Hamilton and closing in on Webber. Then – suddenly – Vettel was sliding to a halt in front of us, and Webber was off, too. I snapped this picture of Vettel's wrecked car as they towed it back later. But not before Button slipped around Lewis, surprising us all. We watched in awe as Button defended down the pit straight, squeezing Lewis towards the wall... but he couldn't shut the door and Hamilton got through to win an outstanding race. On the slow-down lap, I managed to get a shot of Lewis celebrating. "Afterwards, we went to the pit straight to mingle with the crowd, having seen one of the best races of the 21st Century."

2010 TURKISH GP

- In a rare non-Red Bull one-two in qualifying, Lewis split pole sitter Vettel and Mark Webber
- Vettel's race ended on the 39th lap after his infamous coming together with Webber
- Webber finished third behind Button in second and winner Hamilton

BUENOS AIRES 1995 / Daniel Hugo Méndez / 44 / Argentina

"Reutemann's talent and feeling were still intact"

"The best race I've been to was the 1995 Argentine GP. F1 was coming back to our country after 14 years and it was returning to a place filled with the history of Juan Manuel Fangio, Froilán González and Carlos Reutemann. In fact, driving a demo lap, 'Lole' Reutemann showed that

despite the rain and years of inactivity, his talent and feeling were still intact.

"No Argentines were racing and it rained almost all weekend, yet 60,000 people came to the Óscar Alfredo Gálvez track. As the circuit was unknown to the drivers,



they were allowed to run on Thursday. I was stood by the main straight, when a helicopter began to take off. I thought: 'I need a car on track now or I'll miss the picture!' Then my salvation appeared – Mimmo Schiattarella in his Simtek. I focused the camera and shot... it was one of the many emotional moments I lived during a magical weekend."



"My salvation appeared – Mimmo Schiattarella in his Simtek"

MONZA 2009 / David Larusso / 26 / Canada

"Nothing compares to the passion of the tifosi"



"When Canada was removed from the 2009 calendar, I went instead to the Italian GP with family who live out there. Montreal is great, but nothing compares to the passion of the tifosi. My mate at Toyota got us paddock passes so we got to meet the drivers and tour the garages. The race was exciting with Brawn taking another one-two, plus I got to show my family a part of F1 that few see."



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

YOU ASK THE QUESTIONS

Kamui Kobayashi

He's the Japanese overtaking phenomenon who hates the smell of sushi and has been known to lose dogs. That said, he does enjoy the laid-back approach of Parisian airport security. Just don't call him 'Koba-crashy'...

WORDS JAMES ROBERTS PORTRAITS ANDREW FERRARO/LAT

This was quite an interesting proposition. Interviewing drivers in a language that's not their native tongue can lead to confusion. It's easy to get misquoted or to misunderstand a meaning or phrase in a sport that is complicated at the best of times – so there was an element of trepidation as we turned up to the pre-season test in Barcelona to put your questions to Japanese charger, Kamui Kobayashi.

What followed was one of the most bizarre yet entertaining 'You Ask the Questions' we've ever done at *F1 Racing*. You quickly begin to understand that Kamui is one of a kind; no-nonsense, no thrills, yet also something of a comedian. He's a real gem for the Sauber team. But over the next 30 minutes, things don't quite go according to plan. Not only do a number of the questions have to be re-read to clarify their English meaning, but there are a couple of unplanned interruptions.

The first comes when Kamui has to stop to go and try on a new balaclava and pair of gloves.

For 2011, Sauber have a new clothing supplier, P1, and it seems the company *must* get his feedback on these items of clothing immediately. The second interruption occurs towards the end of the interview as the Sauber motorhome is plunged into darkness when its generator fails. Without a moment's hesitation Kamui launches into a loud rendition of *Happy Birthday to You* – and a number of the Sauber engineers join in.

It's a surreal moment. And as you'll see from some of his answers, on questions ranging from his new role as team leader, to living in Paris and what it's liked to be called 'Koba-crashy', there is nothing that you would consider to be 'ordinary' about Kamui Kobayashi.

Why do you think that Japan has so far failed to produce an F1 world champion?

Anthony Shrubbsall, UK

Because I think that the history of Japanese motorsport began so late. For example, in Britain and Europe they started racing a very

long time ago and it is a popular sport in those countries. In Japan, interest only started when Honda joined Formula 1 – from those early days, nobody knew what F1 was, so it's taken time. Europe has a long history, so the development of drivers has given them the chance to compete in motorsport.

Hi Kamui, as the only Japanese driver in F1 and given the poor recent history of Japanese drivers in the sport, is there any added pressure to perform well from your homeland?

Mark Wilkie, UK

Ahh, no. No. No. I don't think so. For me, okay, maybe everybody thought that I was under a lot of pressure but, for myself, this is my job. This is my dream and if I do good, then everyone is happy. If I do bad, I'm not happy, but for the fans, maybe they have to wait for the next chance. You understand what I mean? So it all depends on me. But I'm not thinking about this. →



Sauber F1 Team





What kind of knife do you use to prepare sushi: hi-tech ceramic or good old-fashioned steel?

Hylton Waldek, UK

To prepare sushi? Everything. Everything! I don't care! If I could cut the fish with my finger I would!

What do you think of the nicknames for you, Koba-bashy and Koba-crashy?

Tom Swinburne, UK

Who? I don't like. I don't, I don't like this... [throws the card across the table]

Were you disappointed when Toyota announced they were leaving F1, or did you believe you would join a new team straightaway?

Rhodri Owens, UK

For one moment, yes. I think this question of Toyota is not for me. I think there are many reasons to pull out. I was contracted with them and if they continued then maybe I could drive for them. But this is life. I was surprised, definitely, but now I'm here I am happy.

If you weren't an F1 driver, which job would you like to do? Would you like to be a sushi chef like your father?

Leyla Elmas, Turkey

No. I don't like the smell of sushi.

What can you tell us about your dog?

Adrian Basiński, Poland

I don't have dog any more. I lost it.

Is it true you are an art lover?

Lee Bishop, UK

Yes, I like it. I'm interested in everything. I like to see pictures, architecture, you know – some buildings or whatever. I'm just very interested in everything and I like art because it's such a great experience. And if we didn't have art, then I think that fashion would be different as well. I think.

What hobbies do you have outside Formula 1?

Zuzanna Oskiera, Poland

Hobbies? To go on holiday somewhere nice. I think everybody has this hobby.

After the 2009 Brazilian Grand Prix, Jenson Button called you "absolutely crazy" and "very aggressive". Do you agree with him?

Rhys Hardstaff, New Zealand

No. I think you have to ask Jenson now. It was a good race, but these people have to ask Jenson again now and I think maybe he will say something different. I don't think he'll say "crazy" or whatever.

Why did you finish just 16th in GP2 then drive like a star in F1 the following year?

Richard Bell, UK

Different car... I think. I won the GP2 Asia championship in the same year – it was with DAMS, but it was a different car. And in GP2 Asia there wasn't much of a difference in drivers. So my excuse is only that it's a different car.

How does Sauber compare to Toyota?

Thomas Walsh, Ireland

I think Toyota is a big manufacturer, big company, while Sauber is a much more private team with a small capacity. It means that we react and can do things in a short time and I think this is important for Formula 1. Sauber have a good facility in Switzerland.

What is your goal in F1? Would you like to drive for a different team in the future?

Bruno Lizier, Sweden

My goal would be to drive the quickest car in that particular year. I've achieved my first goal, to be in Formula 1... My next target is to win. Win. Win a race first of all, then the next one is the championship. I don't think the first win will be this year, but we'll see. It's too hard to say that it will be next year.

Genki desu ka?

Tom Leistikow, Japan

Yes. This is: 'How are you?' I say, "Yes. Good." Always good. Never bad for me. Even if I lost my wallet, I'm always good... because I'm still alive. Even if I have no money, I'm happy to live.

How good is the Sauber C30? Can you be honest with us please...

Maciej Wojtysiak, Poland

From last year, we know what the problem is. We think we've corrected its biggest problem and I think the car has improved a lot. But there have been a lot of new rule changes, like new tyres and the direction of the car is a bit different – but I have a feeling it's going well.

What's your biggest fear in life?

Scott Houghton, UK

[long pause] To lose my girlfriend. Not too bad an answer, eh? She's nice...

Your former Toyota race engineer Juan Ramirez said that on your debut you adapted to F1 more quickly than any other driver he has known. Do you agree with him? Was it really that easy?

Benjamin Vinel, France

What does he mean? Ah, the Toyota guy? I adapted quickly because I had no time to test. The time when I entered the sport was very bad; they had just changed the regulations to restrict the number of test days and then nobody



"I've achieved my first goal, to be in Formula 1... **My next target is to win.** Win. Win a race first of all then the next one is the **championship.** I don't think the first win will be this year, but we'll see."



INSETS: GLENN DUNBAR/LAT; SAUBER F1

understood that rookie drivers need testing. Then, after two years, they began to understand that it was important and started to look at revising it. I would say that it was a little bit of bad luck for me, but it's okay – I'm here now.

Do you have any lucky rituals that you do before a race?

Colin Smith, UK

No. Nothing. →

YOU ASK THE QUESTIONS

Do you think that Formula 1 will ever make a return to Fuji?

Pete McCormack, Hong Kong

No. Because of money.

Japanese involvement in Formula 1 goes back a long way, but Japanese drivers have so far been pretty awful on average. What are the chances of you becoming the first F1 grand prix winner for your country?

Bortolo Baisotti, UK

I will try...

Kamui, I've read you live in France. What do you think about France, particularly its food and its people?

Clément Bouchet, France

The people? They're okay, but the best thing for me is to come back to my own home, eat some good food, sleep for a night and then think about the next destination to travel to. I base myself in Paris because of the airport, Charles de Gaulle. Some people say it's not a very good airport, but for me there are a lot of direct flights to everywhere I need to go and so it provides the best access. For example, the UK is good because

British Airways are a really big company, but the problem I have at the British airports is that every time I go there I have to wait at passport control for a very long time. For the British guys it's much easier – but for us, it's always a big mess. Even if I want to catch a European flight I have all these problems with passport control, so it wastes a lot of my time. You get asked, "Why are you coming here? Where are you staying? How long are you staying?" In France there is nothing like that. I arrive from Japan and sometimes they don't even put a stamp in my passport; they don't care. So it's much easier for me to live in France.

Do you spend a lot of time in Paris?

David Bénard, France

I know everywhere. It's nice for me. I like Saint Germain.

Who paints your helmet and what is the meaning of the Japanese lettering on the back of your helmet?

Gerbrand van der Vooren, Netherlands

He's a Japanese artist and the lettering spells out my name on the back of my helmet. My logo is my name: 'Kamui.'

Hi Kamui, I would like to know what is the best overtaking move you have made so far in your career?

Iain Mellows, Antigua & Barbuda

It was the one I made in 2009 in Brazil, against Giancarlo Fisichella. Into Turn 1 – that was nice, because the Ferrari had KERS – I didn't have KERS. It was very tough and the Toyota was not very fast on the straight.

Would you say that some of the overtaking moves that you've attempted in Formula 1 have been reckless and overambitious?

Peter Medhurst, UK

No.

Which driver were you inspired by when you were growing up?

Kashvinder Mann, Singapore

Nobody. I had no hero.

Is Suzuka your favourite Formula 1 grand prix circuit?

Sergio Andrés Rodríguez, Spain

It wasn't before last year's race, but afterwards – yes. Actually, Turkey is my favourite track.



On his F1 debut in Brazil 2009, Kobayashi defended well against Button's title charge to finish ninth. Post-race, Button described Kamui as "absolutely crazy"

Kamui, how do you feel as a team leader? Is it a big challenge for you?

Sebastian Stelmach, Poland

Yes, big challenge, but it's good for my future, especially if I've done a really good job at the end of the season. I didn't expect this role last year, to be honest, but now I am here and everyone believes in me, especially Peter Sauber and [chief executive officer] Monisha

Kaltenborn. They trust me to be leading the team, so I need to do a good job. I think there will be no excuses this year. And Sergio Pérez joining is good for this team as they have a good record of developing young drivers, so I think it's good for me. Next...



(L-R) Monisha Kaltenborn, Peter Sauber, Sauber's rookie driver Sergio Pérez, Kamui and James Key with the new Sauber C30



After a strong season in 2010, Kobayashi took the Autosport Rookie of the Year Award



Can you describe what it felt like to overtake Fernando Alonso's Ferrari in Valencia last year?

Robert Wood, USA

It's always nice to overtake that car. It felt good, but it wasn't good that it happened in front of his home crowd – I felt scared to go back into the paddock afterwards!

Do you think that you're doing better than Takuma Sato?

Vass Tamás, Hungary

Maybe [grins]. Maybe. We'll see... I'm not going to start judging myself: that's for other people to do. I don't really think that I'm better than anybody else – I just worry about how I can always try to be quicker.

How do you think that you'll handle the extra KERS and adjustable rear wing buttons on the steering wheel this year?

Sarah Baxter, UK

I think the changes for this year are very important but I think that we shouldn't just have one straight where we can use the moveable rear wing – we should have a couple of other places on the circuit where we can use it as well – maybe a little bit coming out of the corners? So it will be quite tricky. We shall have to see how it works when we get to the race.

Would you say that your reputation for being a bit of a 'have a go Harry' is deserved?

Gareth Roberts, UK

What does he mean – 'have a go Harry'?! Yeah, I'm ready for it! It's always very exciting to race in Formula 1, even without any practice or whatever. I like this because when I have this advantage I always have good results – I don't know why that is though.

Are you related to the hot dog-eating champion, Takeru Kobayashi? How many hotdogs can you eat in 12 minutes? He can eat 50.

Mark Wanenmacher, USA

He can eat 50 sausages? No, I'm not related to him. I don't know him. I don't even like hot dogs. 🍔

JOIN OUR READER PANEL

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

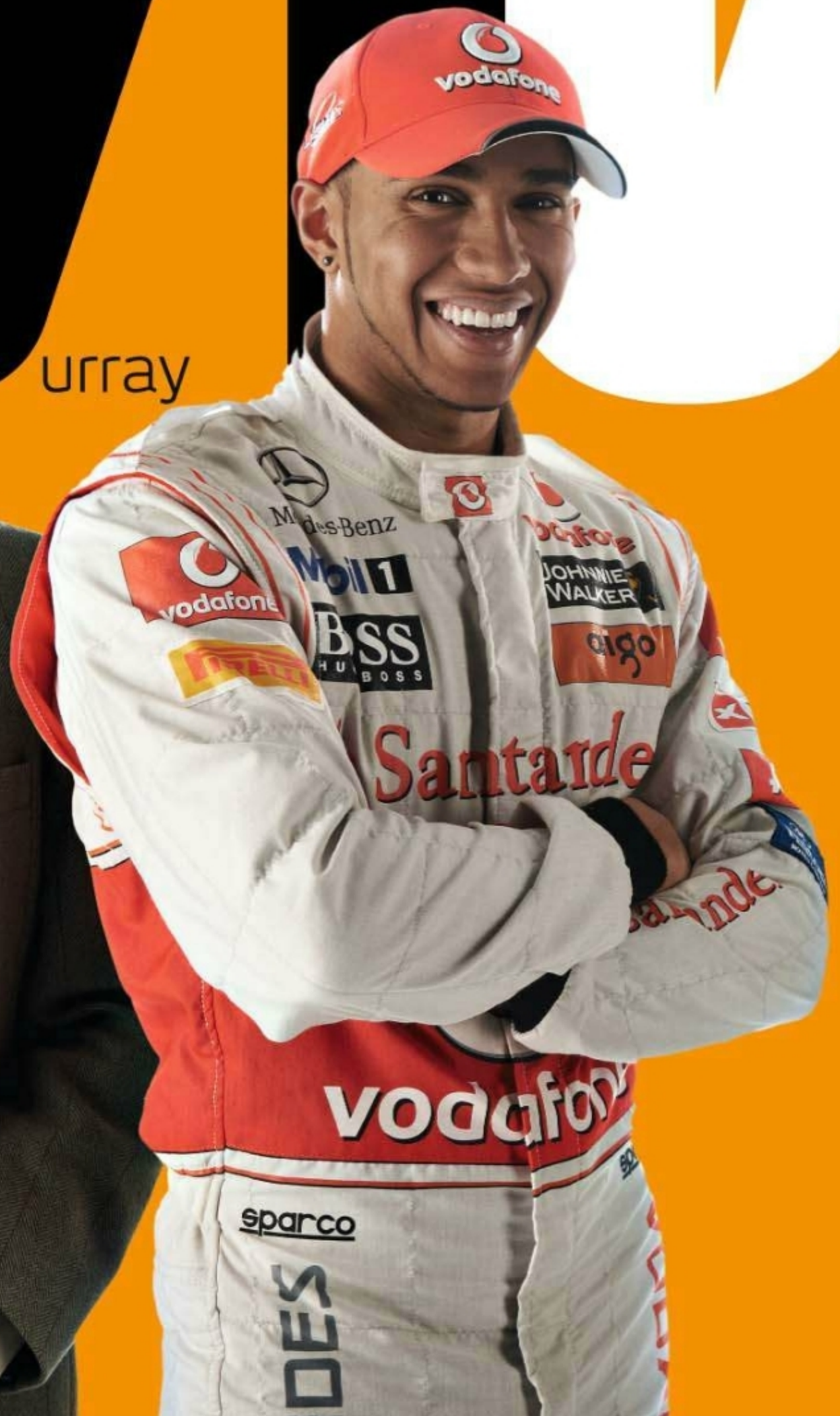
ONE LEGEND AND TWO WORLD CHAMPIONS

They say that the modern F1 driver can sometimes get a bit bored with answering the same old questions... so how do you make it more interesting for them? Send *bona fide* legend Murray Walker along to do the job, of course. Meeting with Lewis Hamilton and Jenson Button for an in-depth chat, this is one of the sport's elder statesmen at his honest, funny and brilliant best



When

urray



met

Murray asks the 2008 champion about the demands of fame, not to mention the demands of a car with so many buttons. Lewis, in turn, talks about his watch that can send out an emergency SOS. This is their conversation, exactly as it happened...

PORTRAITS
ADRIAN MYERS

ewis

MW

Murray Walker: Hello there Lewis. Tell me, first of all, what did you get up to over the winter?

Lewis Hamilton: Well, I finished work here on 12 December and then I flew straight to Colorado in the mountains for five weeks where I did some training and some cross-country skiing...

MW: Why Colorado?

LH: I live in Switzerland right next to the Swiss mountains, and usually I go by helicopter to the French Alps, but this just worked out better for me. It's a little bit quieter and I wanted to visit somewhere different. Ron [Dennis] has a place there and I asked if I could visit, and he said I should go and try it out. Plus my girlfriend lives in Los Angeles, so it's closer for her. Her family came over, so it was more central for them.

MW: And were you skiing?

LH: Yes and I did a little bit of boarding, too.

MW: Is there anything in your contract to stop you doing things like that – skiing and snowboarding and riding motocross bikes like Valentino Rossi?

LH: I don't do motocross bikes, but I hiked up into the mountains one day – that was it really.

MW: Do you find snowboarding comes naturally with your sense of balance?

LH: Yeah, I'm quite good on a board.

MW: I would be flat on my face in three yards!

LH: It's good for co-ordination; it's a good workout for the legs and it's quite cool when you hike up from the bottom of a mountain with the board on your back and then come back down.



PHOTO: ANDREW FERRARO/LAT



MW: And do you have your trainer with you? Or do you have a programme of your own?

LH: My trainer came over, so I was working with him the whole time. My family were skiing, and I'd meet them halfway up the mountain as they were skiing down and then I'd catch up with them at the top for lunch and stuff. But for the first few days I was there with a couple of my friends and we had a bit of fun. No training.

MW: How many watches have you got?

LH: How many watches have I got?

MW: I was just looking at that one you've got on.

LH: I've got a great collection of Tag Heuer watches actually.

MW: Are you a watch man?

LH: I am, I do love watches.

MW: Do you buy them for the name – because they all keep the same time you know!

LH: I've got one that's called an emergency watch and if you're lost on an island or a plane goes down, then you pull a cord out of the watch and it sends out an SOS.

MW: Oh, a parachute comes out?

LH: [Laughs] No, no. An SOS – the device sends out a GPS beacon.

MW: Listen, I obviously want to start talking about you and the way I see you and the way I

think the public sees you. You are good-looking, personable, eloquent, gigantically successful, a world champion. You've got a glittering future in front of you: how do you see yourself?

LH: Well thank you for the nice comments. Of course I've won the world championship in the past, I'm in my fifth year of F1 – it's crazy to think I've been here that long. After the first year went past, I couldn't believe it. And before I know it, I'll be at the end of my F1 career. But I feel I'm in a really good period of my life now: there have been lots of changes and ups and downs, but things have levelled out. Things are good with my family and in my personal life; there's great harmony in the team and with my team-mate. I feel fitter than ever, I'm enjoying life so much more. I think that when you come to where I've come to, when you're hit with fame and money and all sorts of problems then it affects not only you, but your friends and all the other people around you. You don't see it, but it changes over a period of time and then it hits you and it gets worse and worse. It's how you cope with that. And I'm enjoying it now, with all the people around me.

MW: It might be a bit of a cliché, but they say that when you become world champion it's like



I won my first world championship when I was very young and I still had huge amounts to learn. When you win the world championship, you get all the attention and you can easily be sidetracked



winning your first grand prix. You've done that and it becomes easier afterwards and you're more relaxed. Is that true or not?

LH: I disagree. I think it's different for everyone, I think it's a different feeling for everyone. When you win your first world championship, it's very intense and it doesn't come easy. But it's just as hard now as it was then. Every year you improve your training and approach and the timing of the schedule of your life and energy. I guess it's a bit like doing a marathon – which I haven't done – you can't just sprint the first part as you'd be knackered for the rest of the race. So you have to balance your energy levels out throughout the whole race as best you can. It's the same thing in a season with your preparations – you've really got to be ready to bounce at a certain point. And so I'm constantly altering. Every race is different, every year is different and I've been racing since I was eight. Every Sunday has had a different feeling to it. I've never had the same feeling: every single one has been different. A different nerve, a different perspective on how the race is going to go.

MW: You're a cheerful chap. Do you ever find that it's difficult to be cheerful all the time as you always appear to be?

LH: Not really. I'm quite happy...

MW: But if you have something happen to you like you did at the 2007 Chinese Grand Prix, where you went off, how much does that drag you down?

LH: Yeah, being a sportsman no one likes losing, regardless of what anyone might say. It's how you cope with the losing. None of us like not achieving what we know we can achieve. So it hits me hard, but somehow I channel it and it makes me want to go and get it more.

MW: Let me take you back. When did you first sit in something with four wheels and an engine? How old were you?

LH: I think I was five, in Spain somewhere.

MW: Was that Anthony putting you in to have a ride? Or were you tugging at his trousers saying, "Can I do that dad?"

LH: I remember it was our first holiday as a family. There was me, my dad and Linda [Lewis's stepmother], and we rented two mopeds, which we went around the whole town on, and they had this area where you put in a coin and ran round in little bumper cars. But their shape was like that of a Formula 1 car. So I was sitting in a model of Ayrton Senna's car driving this thing, which was a three-wheeler,

and I was in it all day long – they couldn't get me off it. And then we found a go-kart circuit that had about three corners, it was really small and I remember it like it was yesterday. I got in that kart and straight away I picked up this knack of braking, and when I started karting I won races with that same knack.

MW: Do you think that was because of the genes that your father and mother had given you? Or some natural attribute?

LH: I think it's a blessing for me. I feel like I've been given an incredible gift. I think the mixture of my mum and dad's qualities have made me the way I am, but it's difficult really to explain.

MW: We're living in a golden age of Formula 1 when you look at what happened last year and I think that it's going to be even more competitive this year. In my mind, the golden era before was the 1980s: Senna, Prost, Mansell, Piquet, all world champions all racing against each other. Does it move you to think you're in the same sort of era as names like that?

LH: It definitely does. I think when you're in among the generation that is racing right now, it's difficult to see it as Prost and Senna back then. But I guess maybe in ten or 15 years people will look back on us like we do on them. →

MW: Yes, precisely.

LH: I think that's the coolest thing and I feel so grateful to be a part of that.

MW: Where do you keep your world championship trophy?

LH: All my trophies are at my dad's house.

MW: Right, so you can't just get up and look at them in the morning...

LH: No, I live in an apartment in Switzerland, I love it there, but there's no room for my trophies. I've got a lot of them, so I've not bothered to transport the trophies or the gifts that I've received and put them in a cabinet or anything like that. I won't do that until I've bought my house.

MW: Listen, I had the privilege of interviewing Senna through his first Formula Ford season and then all through Formula 3 and upwards and onwards through Formula 1. He was charismatic and mystical – is that yellow helmet you wear in his honour?

LH: It's not actually. When I first started I had an FM helmet – a bog-standard motorcycle helmet. But I couldn't afford to get it painted, because they were a ridiculous price, like £300-£400 and we didn't have the money. So we went to Halfords and decided to choose some colours and my dad used to panic like crazy when I was racing on the go-kart circuit. At the back of the track he couldn't see me...

MW: Ah, visibility!

LH: So we went for a bright colour and we chose yellow together... I don't know if that was subconsciously because of Ayrton; I don't believe it was. And then I chose blue, red and green and came up with this ribbon effect that folds over and changes colour. Then when I got older, having ribbons around my helmet didn't look so good, so I made it more like a tick: that's how it evolved. I see other drivers changing their helmets and you don't know who they are – it doesn't stand for anything anymore. Drivers from the past like Senna and Prost had iconic helmets that will always remain in history. So I always want to make sure I keep my colours so everyone will always know that it's me.

MW: Given what he achieved and the sort of person he was and what you have achieved and what you *will* achieve, would you compare yourself to Senna?

LH: I never do compare myself to Ayrton. I think, as a kid, I always wanted to emulate him, I always wanted to be him – in my own light and in my own way – but also to be able to do what he does, in terms of his style and his way and his elegance in the way he moved. So I watched and studied him and all his movements from his videos and from watching him on TV. I do feel as though I definitely have some of his

qualities in some of my driving and my approach and I wouldn't change it for the world. That's the way I am and that's the way I've grown into it.

MW: You have worked extraordinarily hard at your career for a very long time. What is the motivation? Success? money?

LH: It's definitely not money.

MW: The deployment of your talents?

LH: For me or any driver who has got to F1, firstly you do go-karts... you're racing on the track and you do it because you enjoy it as you're having so much fun. I actually wanted to go into motorbikes and motocross when I first started...

MW: Good man, good man! That was my first love as well.

LH: My dad wouldn't get me a motorbike. I still love them and when I get a farm one day, I'm going to get quad bikes and motorbikes...

MW: Well, you be careful, you know what Valentino Rossi did...

LH: So that's what I wanted to do, but there was nothing quite like karting. When you're out of the kart, you're having fun with your friends at the track. And as you gradually get older it gets more serious. But the motivation was being out of a bunch of people...

MW: ...being the one who succeeds the most?

LH: ...being better than them. I love the challenge of outsmarting them on the track, getting them under braking and overtaking. I don't know how I do it.

MW: How much do you study what you can and should do as opposed to doing it instinctively?

Vettel closes his eyes and visualises the lap, but it doesn't work for me. I'm not crazy for going massively into detail and cooking my brain over it. I know how to drive; I know what gear ratios I need; I know the braking points



Perks of the job: Lewis got to try out Senna's MP4/4 at Silverstone. "I'd have loved to compete in that era"



LH: You can do a lot of things... brain training, reaction training. Vettel closes his eyes and visualises the lap. People have done that in the past, but it doesn't work for me. You have to find your own thing. I'm not crazy for going massively into detail and cooking my brain over it. I know how to drive, so I just try to work on small areas and I try to make sure that when I do get in a car I'm fully equipped. So I know what gear ratios I need, I know what setup I have, I know the braking points on the circuit – so I make sure I'm clear on those, but those are the easy areas.

MW: And then all you have to do, is do it. Easier said than done...

LH: Absolutely.

MW: Now, I'm right in thinking that you've driven Senna's McLaren?

LH: I have. I drove the MP4/4 at Silverstone.

MW: Did it seem terribly agricultural and old-fashioned to you?

LH: It didn't. It felt more like a Formula 3 car, although you had the H-box and that was amazing. The sound, the boost – it was lovely to drive and it had quite good downforce. It was



quite similar to my F3 car in '05, obviously with bigger tyres. They told me to go out for two or three laps and I didn't want to come back in.

MW: Would you have liked to have competed back in that era?

LH: I would have loved to.

MW: Because of the cars?

LH: I love the era I'm in now, I love the cars and every time they change, you think, 'That's not going to be good' but you eventually get used to it. Then you look at the old car and think, 'That looked terrible.' But I loved that era; it was a cool era. There were lots of things going on – I'm remembering the commotion they had in Japan and when Senna crashed into Alain and the competitiveness between those two. Great, great drivers.

MW: A lot of people incorrectly think that it's a lot easier for today's Formula 1 drivers than it used to be because the car does it all for you.

LH: It's just different. When you see Senna driving around Monaco and he had one hand on the steering wheel... we can do that. We did it in other classes. But the technical side is so much more advanced today, there are just as many thought processes that have to go into it...

MW: Sure, I think more actually.

LH: Especially with KERS – and the pressure of the business is much greater than it was then, because it is more of a business now. There is pressure from the sponsors, the brands and your personal life is affected. It's different. I don't say it's easier, but when I got into Senna's car, I drove it... I can get into any car and drive it.

MW: I suspect, and I haven't done it, but I think it would be harder to get the maximum out of today's car than it was back then. Because you have got to so many different things to operate...

LH: And now especially this year...

MW: I was going to say, you must have done this on the simulator? Do you have concerns about the number of things you have to do in the cockpit around the steering wheel?

LH: I'm not concerned, simply because I feel that the great thing about this team is that they give us a lot of preparation. We have a great tool in the simulator and it does help a lot. I think when KERS first came in, it wasn't easy because of the limits it gave us. So it will display 100 per cent and the team will tell me that to optimise it out of Turn 3 I'll have to use 16 per cent and then out of Turn 7 I'll have to use 42 per cent and so on. And so you have to look at the screen. As soon as you get to full throttle, you press the button and you have to watch the screen display go down 42 per cent and then you have to release. But now we have that and you have to engage the moveable rear wing and KERS, then come off KERS and then you've got to come off the wing before you get to the braking zone. So the thought-process is doubled. But I love the challenge, so I'm not complaining.

MW: So you're on top of it, are you?

LH: Yup, absolutely.

MW: I'm talking to you today. Now god knows how many interviews and promotional things you've had already...

LH: We've not had many... →

Murray remembers how Lewis sowed the seeds of his future McLaren career...

"I was there at the Autosport Awards when Lewis won the National Karting Championship, and went up to Ron Dennis and said, 'I'm Lewis Hamilton and I'm going to race one of your cars one day.' Ron metaphorically patted him on the head and said, 'Phone me in nine years, son,' or whatever his exact words were. I certainly wouldn't have thought it was something people would've said to Ron Dennis an awful lot, I can tell you, although I'm sure Ron would've been mildly amused. Anyway, I said hello to Lewis that day and congratulated him on his award, and then I thought no more of it for a while.

"I soon heard about him more and more, what with reading all the magazines and speaking to different people. It's amazing to watch drivers come up through the ranks; I saw it with Mansell all the way from Formula Ford. Lewis does have amazing ability and lots of determination, but he's also had the might of McLaren behind him as well, which has given him a very special advantage. I'm not suggesting for one moment that Lewis has succeeded simply due to that McLaren backing, but it must've helped. That said, you can have all the backing in the world, but it's nothing without talent."



MW: But how irritating and distracting do you find all of these things when you're really a racing driver? Are you happy about them?

LH: Yeah, every year you grow and you get used to it more. And you place more or less energy in certain areas. This year I feel fitter and I feel better equipped to handle everything than I have in the past. Of course you don't want to do a million interviews, but it depends on what mood you're in. Like I said, I feel pretty good.

MW: How much relaxation have you managed to have over the winter?

LH: I find it's a real balance. The comforting thing for me is that I'm pretty sure that I was training on days that no one else was. I'd be very surprised if any of the other drivers were doing things on the days I was. Christmas Day, for example, I was out training on the cross-country skis at 7am. I felt fantastic, came back and then opened up presents with the family. On New Year's Eve and Day I was out training again.

MW: It must feel great to be super-fit? I know I wish I was.

LH: It's gruelling though, the stage when you know you're less fit than you've ever been at the end of the season and knowing you have to start again. But once you get into it, it's easier. It's all about balancing; I wake up and I want to have



a lie in with my girlfriend but actually I've got to go training.

MW: Looking at this year Lewis, I reckon there are nine people who could win, given a fair wind and the right car. Who would you regard as your main rival?

LH: You've got Mercedes, two great drivers there and it will be interesting to see whether Nico can continue to stay ahead of Michael – it's a great challenge and I think he's loving it. Then you've got Fernando and Felipe – two fantastic drivers – and I hope Felipe comes back strong again.

MW: I hope so, too.

LH: Then you've got me and Jenson... and Sebastian who's world champion and at the height of his career so far.

MW: Do you think Mark is going to be a bit de-tuned this year or even more determined?

LH: I don't know. I think Mark is probably going to be more determined. I think last year he wasn't always in the right position, but he did a great job. I love the way that, against all the odds, he came out and won races – so although I had a huge amount of respect for him already, my respect for him went even higher.

MW: He's a top bloke. What about Vettel and Alonso in particular? What do you see as their strengths and weaknesses?

LH: Well, we all have weaknesses, in fact none of us are perfect, but Fernando is just incredibly talented. His raw speed is just insane. Great, great speed. I don't know who I would compare him to in the past. And he clearly works very hard; he's intelligent; he has great experience; he is great at making decisions on the track. But he gets frustrated by certain things. Then you have Sebastian Vettel who has some quite good experience now and his raw speed is also fantastic. What he was able to get from his car last year, particularly when competing with someone in the same car and rising above them and staying out of trouble...

MW: Do you feel – notwithstanding the fact he is world champion and will be more relaxed and confident – by virtue of his comparative inexperience, Vettel has still got things to learn? Or have you always got things to learn?

LH: You've always got things to learn. I won my first world championship when I was very young and I still had huge amounts to learn. And so, undoubtedly, Sebastian will as well. And it'll be interesting for me to see how he returns as the world champion and how he approaches this coming season. Because when you win the world championship, you get all the attention and you can easily be sidetracked, so it'll be interesting to see how he does.

MW: Now the old cliché goes that the first person you have to beat is your team-mate. In comparison with Prost and Senna, Arnoux and

Lewis on Ferrari...



"I hope Felipe comes back strong again"



"Fernando's raw speed is just insane"

Lewis on Mercedes...



"Michael and Nico are two great drivers"

Lewis on Red Bull...



"Mark will be even more determined"



"Vettel's got quite good experience now"

Prost and various other drivers in the past, you and Jenson do get on extremely well together. How much do you think that helps you, being at one with your team-mate instead of being in a state of constant friction?

LH: It helps the flow of the team because it's not just me and Jenson. There is a huge group of people, of partners, and we all have to work together as a team. We have good harmony. Jenson wants to beat me and I want to beat him – everyone knows that and people have tried to stir things up in the past, but we get on well together. We have no beef, we have no problems with one another. We have a huge amount of respect for what we both have achieved and that reflects into the team. When we do well and we have fun, that inspires people in the team to work that little bit harder.

MW: What about the Pirellis? Are they going to benefit you or not?

LH: We didn't do the initial test on them last year in Abu Dhabi and that was deliberate because it was important for us to give Gary Paffett some time in the car, firstly to understand the car and also to help develop the simulator because, in the long run, that is more beneficial to us. And so he came back and gave us a lot of good feedback on the tyres, but I also knew the tyre would change a lot from that test. The casing and the characteristics of the tyres have changed a lot.

MW: Last question. Assuming – and it's a big assumption – that all the team's cars are the way they want them to be, how would you guess the season might pan out?

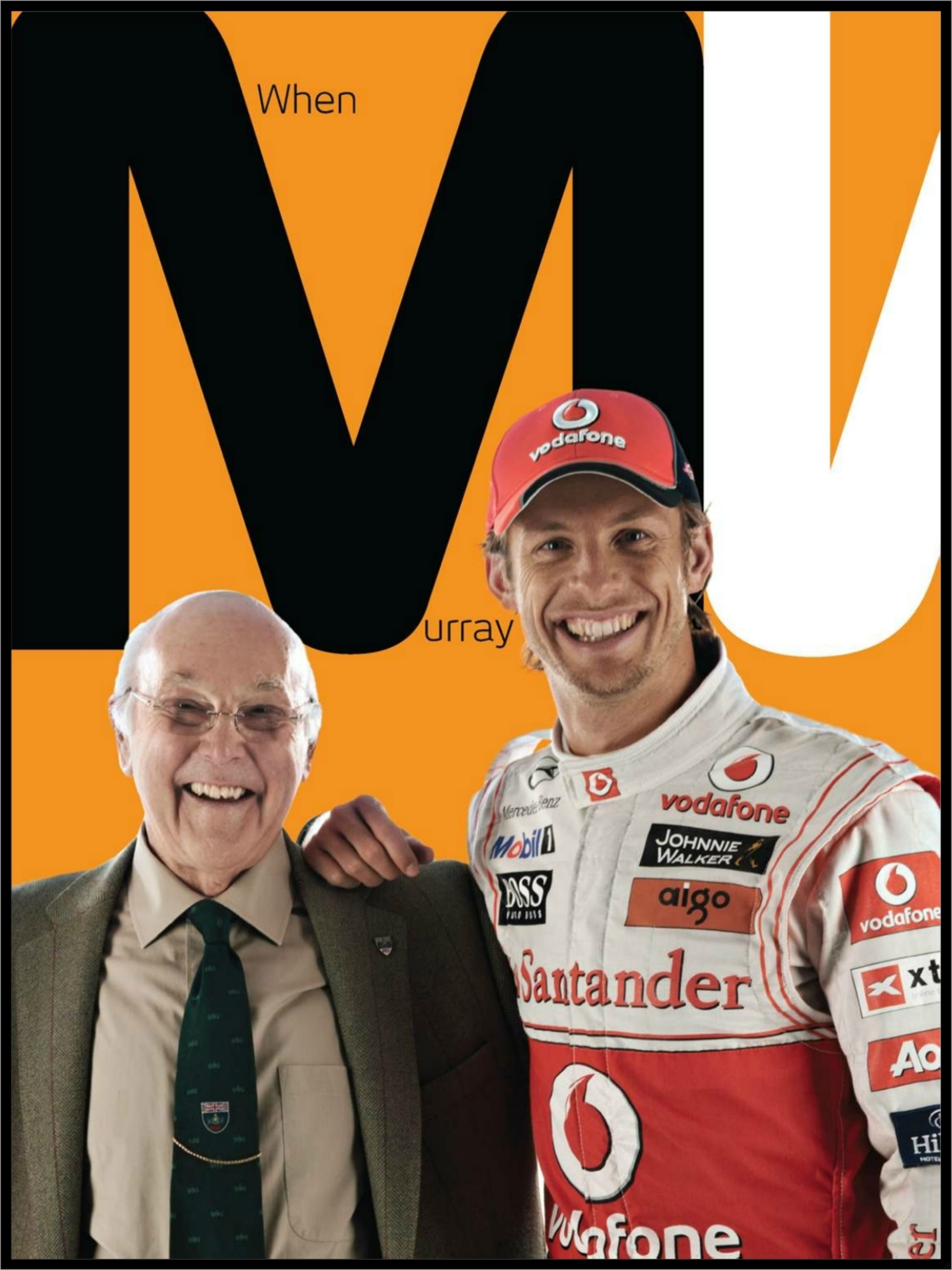
LH: We can only speculate, but generally every year, 2007, 2008 – maybe not 2009 when the car didn't even *look* good... but I feel that this car is going to be good, it looks great. I think that it looks absolutely wicked. I'm not sure if Jenson thinks the same way. But I really feel the team is more on top of it than they have ever been and we as drivers have been more on top of it in terms of the simulator at least, so we don't know how Red Bull or the other guys will perform over the course of the season. But I know that out of the teams, we've got a great ability to adapt.

MW: Thank you very much for your time.

LH: It's been a pleasure. 🏎️

When

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The commentating legend quizzes Jenson on everything from Ayrton Senna to KERS... by way of some banter about his championship trophy and 'good lookingness', of course. This is their conversation, exactly as it happened...

PORTRAITS
ADRIAN MYERS

MW

Murray Walker:

Jenson. Now, I want to tell you, how I see you. That is as someone who I think should be proud of himself. Because you are good-looking, you're eloquent, personable, you're a world champion and you still have a glittering future in front of you. That's how I see you and, I suspect, how most other people see you. How do you see yourself?

JB

Jenson Button:

I wouldn't normally talk about myself in a personal way, thinking that I was good-looking! What I think of are the things that I have achieved in my career in Formula 1 and the experiences I've been through: good ones and bad ones. And I wouldn't change any of them at all. They make you the man you are and they make you stronger. Yeah, I've had my ups and downs, but I've come through feeling a lot more confident in my ability, and more confident as a man – not just as a sportsman.

MW: Now, there is a philosophy that says it's the hard times that make you tougher and stronger and you went through a lot of hard times with your previous teams. Would you agree with that?

JB: I mean the good times also bring a lot of confidence. I think you've got to have a bit of both: if they are all good, it just doesn't work. You need to have bad times to realise how good things were and how good they can be. But I do agree that the tough times build a good base and the good times give you the confidence on top.

MW: Do you ever consciously think about what you have achieved? Where's your world championship trophy?

JB: It's at home in Guernsey on my office table.

MW: Have you got used to it, or do you still look at it now and again?

JB: You won't like this very much, but the actual Formula 1 trophy I never took out of its box. It sat in a cupboard for a year.

MW: Is it still in there?

JB: Well I haven't got it any more because you give the actual F1 trophy back. But the replica I had made, which is identical, sits on my office table now. I got it out a few weeks ago.

MW: And how often do you consciously look at it and think, 'Yeah, that's great, I've done that!'

JB: Er, not very often as I'm rushing around the whole time. It is nice to have a trophy, but while you're racing, you don't have time to sit still.

MW: There's always the next race...

JB: Exactly, it's always about what's going to happen next. When Sebastian won the title last year, I sat next to him in the press conference and I told him to enjoy the next few weeks because it goes around very fast.



MW: Speaking of which, I see you sitting next to me in a McLaren outfit and I've seen you sitting in other outfits and it was a very brave move, as world champion, to leave Brawn and go to McLaren. There is a story that says you came here and were blown away by the facilities and everything else. But what was your real motivation, because you could have had the expectation of being world champion again, with what has now become Mercedes?

JB: I had an inkling that for my future to blossom, I would have to move somewhere else. To still have the hunger and excitement and to come to a team that had achieved so much in the past, that does put pressure on you, which sometimes you need. I started watching racing in the mid to late 1980s with Alain Prost and Ayrton Senna in the McLaren and, for me, those were great times. I really wanted to be a part of that history and to work with McLaren...

MW: Can I interrupt? I mean this in the nicest possible way, but was that a reflection on Brawn, that you thought they couldn't do it last year?

JB: I think that they did a great job and, after seven years of being at the team, we finally won the championship and that was our goal. But I wanted to be with a team after that who would always give me a chance of winning the championship. McLaren have been around for decades and pretty much every year they are fighting for the championship. With Brawn, we won it in 2009 but that was the only year we were actually fighting for a title. So, don't get me wrong, I had an amazing time at Honda and Brawn and I can't compare anything else with that, because I had such a long relationship with them and it was 'my team' if you like. But to come here and race for McLaren was such an exciting challenge, because they are always fighting right up at the front and they'll give me so many opportunities.

MW: You've got a jolly good manager and a very supportive mother and father, how much do you talk to them about what you are going to do? You talk to Richard Goddard [Button's manager], presumably a hell of a lot?



I really wanted to work with McLaren... I wanted to be with a team who would always give me a chance at winning the championship. With Brawn, we won it in 2009, but that was the only time we were actually fighting for a title



JB: Yeah, Richard quite a bit, but my parents less so. They would like to have an opinion on the situation, but they hold back because they know I know the best direction for myself. Richard is a very good businessman and he'll always look at the business aspects of switching teams and my future. But when it comes down to what I feel inside and what really makes me happy and makes me confident in my ability, they don't know so much. That has to be down to me.

MW: Do you think John and Simone [Button's parents] look at themselves and say, "Gosh! What have we brought into the world?"

JB: I'm not sure about that!

MW: They should do.

JB: Hopefully they are proud. They always say they are... my mum especially. It's nice to have supportive parents. Obviously they're not together, but my father comes to every race and my mum comes to four or five a year.

MW: John's marvellous, because he's there taking an enormous interest and supports you and doesn't try to control you.

JB: He's definitely in the background. If he started trying to have an opinion on certain things to do with driving or what sponsors I should deal with, then I'd say, "Dad, time to take a back seat, maybe watch it on TV," – so he

knows his place, if you like. He knows he's there to have fun, enjoy it and see his son race.

MW: Joining McLaren turned out to be an inspired move and you won two brilliant races – but 2011 is something else. You must be very happy that, with McLaren, you've got a great chance of doing as well, if not even better, in 2011 than you did in 2010.

JB: In 2010, when I arrived at the team it was very late. The car was already built and I had my opinions about the car and, in testing, I did as much work as I could, but it was always going to be a year of learning and fitting into the team...

MW: Finding out who everybody is and what they do?

JB: Yeah, so considering that, I think it was a very good year and I was very happy with the season. I felt I fitted into the team very quickly and it's not just that I'm good at fitting into a new team; it's because of the people that I'm working with here. They really welcomed me, which is key to it all I think. And now with all the experience of working with my engineers and with trying different engineers throughout the year, I feel I'm part of this team. I've given my opinions and I've pushed certain areas of the car. After having driven the simulator and got into the tub to do the seat fit, you notice that they listen, because I get into the car now and I fit in the car and I feel at home. Whereas before I was too high in the car and I felt a little bit on top of it, but now I really feel part of it. It's definitely moving forward and I think we'll see the benefits of that this year.

MW: Now you're talking to me, you've been doing photographic stuff, you have to do umpteen sponsor things, but you are a racing driver. How irritating, how distracting is all that other stuff that you have to do, which has actually got nothing to do with driving the car fast on the track?

JB: The bit that I love is the racing. That's what we all love: we love competing. And I must admit that here at McLaren there's a lot of other stuff compared to what I'm used to. I came from a team where I did seven or eight PR days a year, but last year I did a lot more than that. Plus the simulator days. It's a much busier schedule, but you are working with a team that can go out there and theoretically win every race.

MW: But Jenson, you do it very well. I remember when I was doing the Honda stuff and you would come up to the Paddock Club after a very bad qualifying session, and you would walk into this room full of important sponsors and be bright and cheery and communicative and eloquent, giving good answers to what were sometimes not very good questions. Is that something that comes naturally to you? →

JB: I think there are many reasons for it. Firstly, if those people are not in that room then I'm not on the circuit: they are the people that make the car go round. We need the sponsors, especially in a team that is not a manufacturer, and getting big sponsors is something that McLaren are fantastic at doing. And our race suits are covered in sponsors and they're not just people who are giving products, they're giving a good amount of money. I will give as much as I think is necessary for them to give us what is necessary for us to go fast and to fight for a world championship. There is obviously a bit of give and take and, for me, making it fun also makes it interesting. If someone gives me a difficult question, I'll try and answer it as best I can and give them as much detail as I can. It's not the part of the job that I enjoy the most, but I try to make it fun so then it's not so bad.

MW: How old are you now?

JB: I'm 31. Just.

MW: And when was your first racing experience? In a kart presumably?

JB: In 1988. The start of 1988...

MW: So '88, 2008, plus three is what – 13 years?

JB: It's 23 years. This is my 24th year of racing and I'm 31.

MW: Gosh. What I'm leading up to is, how interested or uninterested are you in what you did, before you did it? Are you interested in

Formula 1 historically? Do you know who won the British Grand Prix in 1950 for instance? I'm not going to tell you...

JB: No. I don't know that much about Formula 1 history. But I read and I watch certain things and books that interest me about certain drivers that really stood out for me. I thought the Ayrton Senna movie was good.

MW: Do you know, the producers invited me twice while they were doing it and I still haven't had a chance to see it. It's that good, is it?

JB: It's good... I mean, it's an Ayrton Senna movie, so it's going to be biased towards Ayrton. If it was an Alain Prost movie then it would be biased towards Prost.

MW: But I've heard that it is anything but biased in favour of Alain Prost, is that a fair comment?

JB: That is a fair comment. I was a little bit surprised by some of it. It's a good film and it's also great to look back. We always keep moving forward and sometimes we look a bit too far into the future; we don't look at where we are at the moment and I think that is an important lesson to learn. Also we don't look back very often and I think it's exciting to look back at those times and the cars they were driving. I got the chance to drive one of Alain Prost's cars at Goodwood last year. It was the MP4/2C from 1986, the car that won the world championship, and it was a fantastic bit of machinery.

I put it into first gear, pulled away and nothing really happened. And I was thinking, 'These cars are slow.' Then suddenly the boost kicked in and it gave me a bang in the back of the head.

Jenson on driving Alain Prost's 1986 McLaren MP4/2C



MW: I was just going to say, today's cars are so complicated compared to yesterday's cars. You've got to press umpteen buttons every time you go round a corner. When you drove Prost's car, that would be: simple steering wheel, do-it-yourself gearbox, clutch and foot-pedal brakes. How did you feel? Did it make you think that you would have liked to have driven in that era and in that sort of a car? Did you think it was easier to drive that sort of a car?

JB: Easier... I'm not sure. I think it was a little bit more mechanical back then. You didn't have certain things that would help you change gear – these days we have a paddle on the steering



wheel that you pull and the gear changes electronically. There are many things that are different and the driveability of those cars was very different, particularly with the power. I put it into first gear, pulled away and nothing really happened. And I was thinking, 'These cars are slow.' Then suddenly the boost kicked in and it gave me a bang in the back of the head. It's all about understanding the equipment you're driving and I was totally lost because it was something so different to what I'm used to. Yet it was a great experience and when you watch the footage of those cars from the '80s, they were very wide cars and there was hardly any steering



input at all. Then you look at the '70s and it was all sideways – and now it's very different again. So it's amazing how every decade, there's a change in the style of driving and in the style of the cars.

MW: There are people who say it is 'easy' for the drivers today because the car does everything for them. I believe that no matter how 'easy' it is and how much the car does, the best driver will always get the best out of the car, won't he?

JB: Exactly. We don't have ride control and traction control, or ABS, which they had in the '90s. The cars have become more mechanical and now there's a lot to do. We have this

movable rear wing; we have KERS; and there are many different things with the differential that we can play with and it does help the balance of the car to have these switches. So it is a busier time on the steering wheel and it's more like a fighter jet now than a propeller plane.

MW: What's your take on how KERS and the movable rear wings are going to affect things? People keep banging on about needing more overtaking, but I don't think F1 needs more of it. Because a successful overtaking move that has been planned ahead for several laps is far more exciting than having cars blow past each other because of some device on the steering wheel.

Do you expect KERS and a movable rear wing will make that happen?

JB: I think it will make it easier and, initially, it might be difficult to understand why a car is suddenly so much quicker than the car in front. I like the KERS idea: I think it's nice for F1 to take a step in the direction of a hybrid car, I think that's a positive thing for the sport...

MW: What, because it's coming onto road cars?

JB: Exactly, and I think we can push the technology there. A lot of people have criticised the movable rear wing – we always will before we put it on the car – but we might end up liking it. You never know, we'll see what happens. →

MW: How can a simulator simulate a movable rear wing?

JB: It's all in the data. It's pretty amazing, the simulator we've got now. The guys have spent a lot of money on developing it and they can simulate parts on the car that don't even exist. So we can look at that part and, if it works, we'll build it. So it actually saves a lot of money.

MW: And when you press the movable rear wing button, do you feel an instant effect in terms of acceleration or is it gradual?

JB: It's not a bang in the back like KERS will be, but a lot of downforce will be taken off the car and the unusual thing is that in qualifying we'll be using it the whole time on every straight. In the race, we won't get that option...

MW: No, you have to be within a second of the car in front in some designated part of the course that Charlie Whiting has decided...

JB: Yeah, they'll have a little bit of control there.

MW: So if you've got someone on your tail when you enter that designated part of the course, you're going to be blocking as hard as you can?

JB: You're going to know they'll have less drag than you and will be 6mph quicker than you.

I don't know; we'll see what happens. People

Murray recalls Formula 1 in the 1980s... and a promising young driver with an outgoing dad

"When Jenson was born on 19 January 1980, it was a very exciting period in Formula 1. Williams had won their first race in 1979 and McLaren suddenly had some competition. There were some great characters around: you had Alan Jones, who was bloody-minded, feisty and very tough; then there was Keke Rosberg. He was great – an outspoken chain-smoker who'd fought his way up from nothing.

"People often ask me how modern drivers compare to those of 20 or 30 years ago, and I suppose the main difference now is all the corporate speak – you don't get to see many of them as they are. I think Jenson's a bit of an exception to that rule, though, because he's a very friendly and outgoing chap.

"I've got a lot of time for him. I first came across him in Formula 3, and I also saw a lot of him when he was at Honda, where he had a pretty grotty car most of the time – but he never slated Honda in public. I used to do a few interviews with him in the Paddock Club, and he'd have people eating out of his hand.

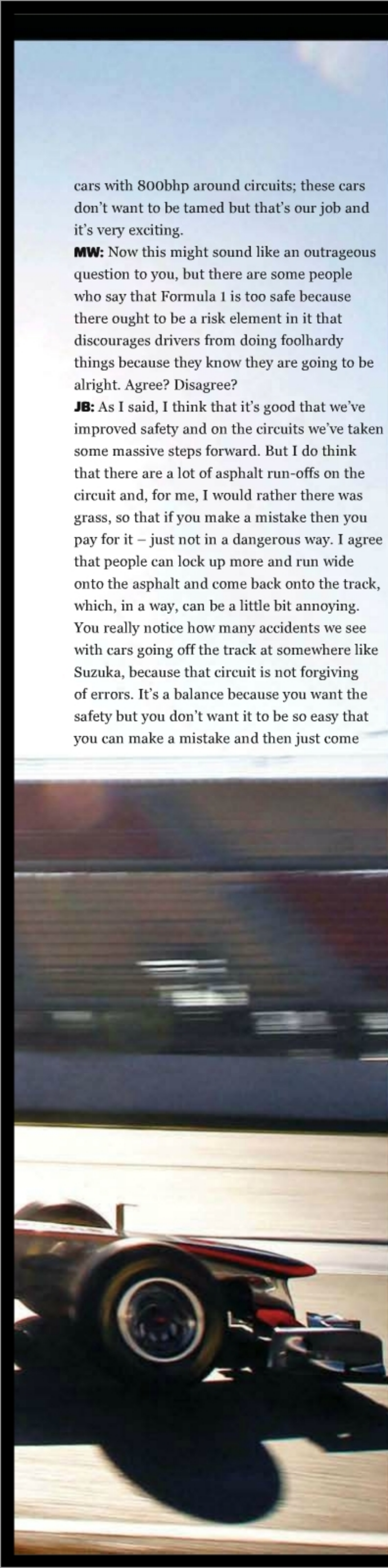
"I knew his dad John quite well, because I used to commentate on rallycross down at Lydden Hill in Kent and John used to race a VW. Like Jenson, he's an outgoing and cheerful chappy, so I suppose that I used to look out for Jenson's career because of the family connection. I was really pleased when he won his world title, I must say."

might criticise it now, but we'll make the best of it. It's the same with the HANS device around our necks. We hated them initially and they were so uncomfortable, but then three races in, everyone had forgotten about it and they looked at the positives, which was the safety.

MW: Talking about safety, in the Prost and Senna era and earlier days, cars were not nearly as safe as they are now and, sadly, four or five people would be killed throughout a season. The attitude was: 'The throttle works both ways and if you can't take the heat, keep out of the kitchen.' So you must feel a lot happier about the fact that when you get into a car now, you're more likely to get out of it than they were?

JB: The car still does over 200mph and you're racing wheel-to-wheel with other cars doing 200mph and when wheels connect you can have a big accident. But I think the steps that have been made with safety have been fantastic and it's something that the sport needs. I don't agree with the theory that safe racing is boring racing, because it will never be 100 per cent safe – it's a dangerous sport. But we're improving the cars all the time and I think it's the right way to go. It's still a crazy sport and we're driving crazy





cars with 800bhp around circuits; these cars don't want to be tamed but that's our job and it's very exciting.

MW: Now this might sound like an outrageous question to you, but there are some people who say that Formula 1 is too safe because there ought to be a risk element in it that discourages drivers from doing foolhardy things because they know they are going to be alright. Agree? Disagree?

JB: As I said, I think that it's good that we've improved safety and on the circuits we've taken some massive steps forward. But I do think that there are a lot of asphalt run-offs on the circuit and, for me, I would rather there was grass, so that if you make a mistake then you pay for it – just not in a dangerous way. I agree that people can lock up more and run wide onto the asphalt and come back onto the track, which, in a way, can be a little bit annoying. You really notice how many accidents we see with cars going off the track at somewhere like Suzuka, because that circuit is not forgiving of errors. It's a balance because you want the safety but you don't want it to be so easy that you can make a mistake and then just come

straight back onto the track. It's a tough one and we're trying to find a good balance.

MW: We live in a golden era as far as I'm concerned. Look at 2010 and I would compare it with the 1980s: Prost, Senna, Piquet, Mansell. There are about nine people that could beat you this year and you could beat them. Does the fact that you are living in this fantastic time move you in any way?

JB: It does. All through my career in F1 there have been talented drivers – there always have been. If you are at the pinnacle of your sport, you are extraordinary. And there are always three or four, but now there are seven or eight drivers who in the right car, or the right environment could lift the trophy at the end of the year. And that's astonishing...

MW: It's fabulous.

JB: There aren't many sports at the moment that have that, so motorsport is exceptional and, for me, it's the best it has ever been. It's difficult to compare eras. I loved watching in the 1980s: Ayrton, Alain and Nigel. But for me, 2010 and 2011 and the next couple of years will be the most exciting years for the sport.

MW: You're a public persona because of television and the amount of exposure you get in the media. You must get recognised everywhere you go and have people wanting autographs and photographs. Does that bother you?

JB: It doesn't bother me, no.

MW: What if you were having a meal with somebody in a restaurant, and some berk comes up and says [in cockney accent] "Hello Jenson, can I have your autograph..."

JB: It doesn't happen. People are normally very respectful, which is great. Sometimes when you're out in London and it's late at night, you might get someone saying something after they've had a few drinks.

MW: I think the British are very courteous.

JB: Most places in Europe are, and in Japan they are *very* courteous. But if I travel home to Guernsey, I'll go via Gatwick and that's a pretty busy time for me! That's hectic, so I wear a hat normally and look pretty inconspicuous. But everyone's really friendly.

MW: We've said that any one of nine people could win a race this year, but some of them are better than others. Who is your main rival?

JB: I would say the main one would be my team-mate, Lewis. Apart from him, Fernando does stand out. He's an extremely fast driver, but more of his skill comes from controlling a situation and mentally he's very strong. He's probably not the quickest over one lap. Sebastian is very quick over one lap and he's obviously very confident at the moment. For Mark, 2011 is a very important year for his career.

MW: Yes. Make or break.

JB: Yeah and I think...

MW: Well hopefully not break.

JB: Even for Mark, I don't know if he's going to want to race after this year whether he wins it or loses it. He's still going to be a threat, but then you don't know what's going to happen with Michael. Nico's confident, he'll be competitive this year. For me, my main rival should be Lewis as that'll mean we have a competitive car: we're both under one roof, we respect each other enough, so we can fight and do it properly.

MW: The interesting thing is that there's the cliché that the first person you have to beat is your team-mate. But unlike so many partnerships in the past, Piquet and Mansell, Prost and Senna, for instance, you genuinely do get along with Lewis. Is that because you are both tolerant and understanding?

JB: I think we understand it's important that we both work together. There might be a time when we both disagree and I'm sure it will happen in 2011. It has to – you're never going to agree on everything – but it's important to deal with the situation between yourselves, not blow it out of proportion and move on. You want to beat your team-mate but you also have to work with him. You learn so much from your team-mate and you can really move the team forward.

MW: Do you like the car set up in a similar way?

JB: Strangely, we have a similar feeling for a car. We might drive in a different way, but the setup is normally quite similar. But I would never have believed that before I arrived here.

MW: What difference do you expect the Pirellis to make this year, or is it too early to say?

JB: From testing and testing in the simulator as we obviously have a tyre model that reflects what the tyre is doing on the circuit...

MW: Thought you might have...

JB: The tyre is different and I'm happy about it being different.

MW: Good.

JB: The rears have a more stable structure and I hate a car that moves on entry when I hit the brakes, but this tyre is really good. It's very stiff there: it reminds me of the Michelins we used to use. Very stable, very good kerb riding, although traction is meant to be worse.

MW: Degradation?

JB: There is degradation, but I think it's what the FIA wants. It's probably what the fans want as well and it makes it interesting to have a tyre that's difficult to manage and a tyre that is maybe too hard. It mixes it up a little bit and perhaps that is the right thing to do.

MW: Jenson, god bless you. That's it, all the best.

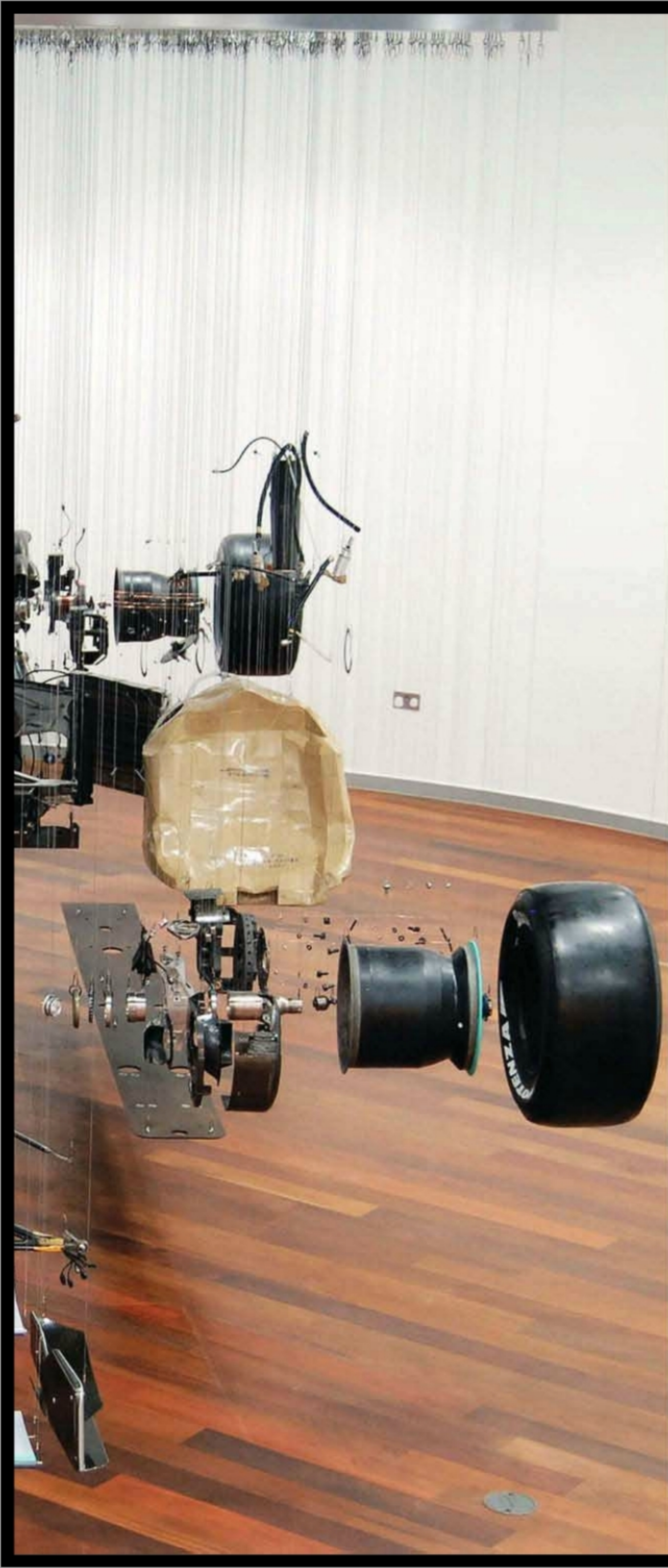
JB: Thank you very much. Good man... good to see you. 🍕

Formula 1 stripped bare

Take one Mercedes F1 car, blow it up, string its 3,200 parts from the ceiling – and what have you got? An astonishing inside view of F1 machinery like you've never seen it before...

WORDS JONATHAN REYNOLDS





F

rom Tracey Emin's bed to Damien Hirst's formaldehyde-preserved animals, modern art is famous for dividing opinion. But F1 fans will be unanimous in their approval of the stunning new art installation recently unveiled at Mercedes-Benz World in Weybridge, Surrey. For *View Suspended II*, created by Dutch artist Paul Veroude, a Formula 1 car has been deconstructed into more than 3,200 individual pieces. Each piece, from the tiniest nuts and bolts to the large monocoque survival cell, has been suspended in mid-air to form an 'exploded' view. It's essentially a real-life 3D technical drawing and represents a unique opportunity for fans to get a glimpse of the precision engineering that's usually hidden under the skin of an F1 car.

View Suspended II follows on from Veroude's highly acclaimed *View Suspended* project from 2006 in which he 'exploded' a Honda F1 car. But while that was a travelling installation that toured the globe, his newest work of art will, for now, remain in Britain.

It took Veroude and his team around three months to create the nine-metre long, four-metre high installation and then a further five days to hang it. "Dismantling the car is actually quite easy – in fact it's easier to dismantle an F1 car than a normal car," explains the artist, who specialises in 'exploded' views. "After we'd dismantled it, I made a drawing of the work in my head and defined where all the parts had to be. Then we started hanging sections of the car." Each part is suspended by at least one support to a 220-piece, custom-made, carbon-fibre frame. Heavier items like the engine and monocoque hang on steel wire, while the smaller items are suspended with a high-tech fibre created in Holland called Dyneema. "It's about 0.4mm thick – almost the same thickness as a human hair – but it can hold 37kg of weight," says Veroude. "It's also much more flexible than steel."

For now the car is a work of art, but the beauty of the design means that at any point it can be reassembled back into a fully functional racing car. "There was a lot of work in making the hanging points for each part because we weren't allowed to make any holes," explains Veroude, "and anyway, I really didn't want to damage the car."

A lot of work was involved, but for Veroude, a dedicated F1 fan who, until recently, had never missed a race, it was well worth it. "This was a very special project for me, a dream come true. For me, there are two elements to the work. There's the technical side, which I really love, but the piece also says something significant about life and how things come together." 🏎️

PHOTOS: CHARLOTTE KOSTER & PAUL VEROUDE

“

I know
with this
job I'm
taking a

RISK

In his role as F1's co-commentator for the past 14 years, **Martin Brundle** has established himself as a favourite of the fans. So what's made him swap that – along with those legendary grid walks – for the hot seat?

WORDS JONATHAN REYNOLDS **PORTRAITS** JOHN SOOTHERAN

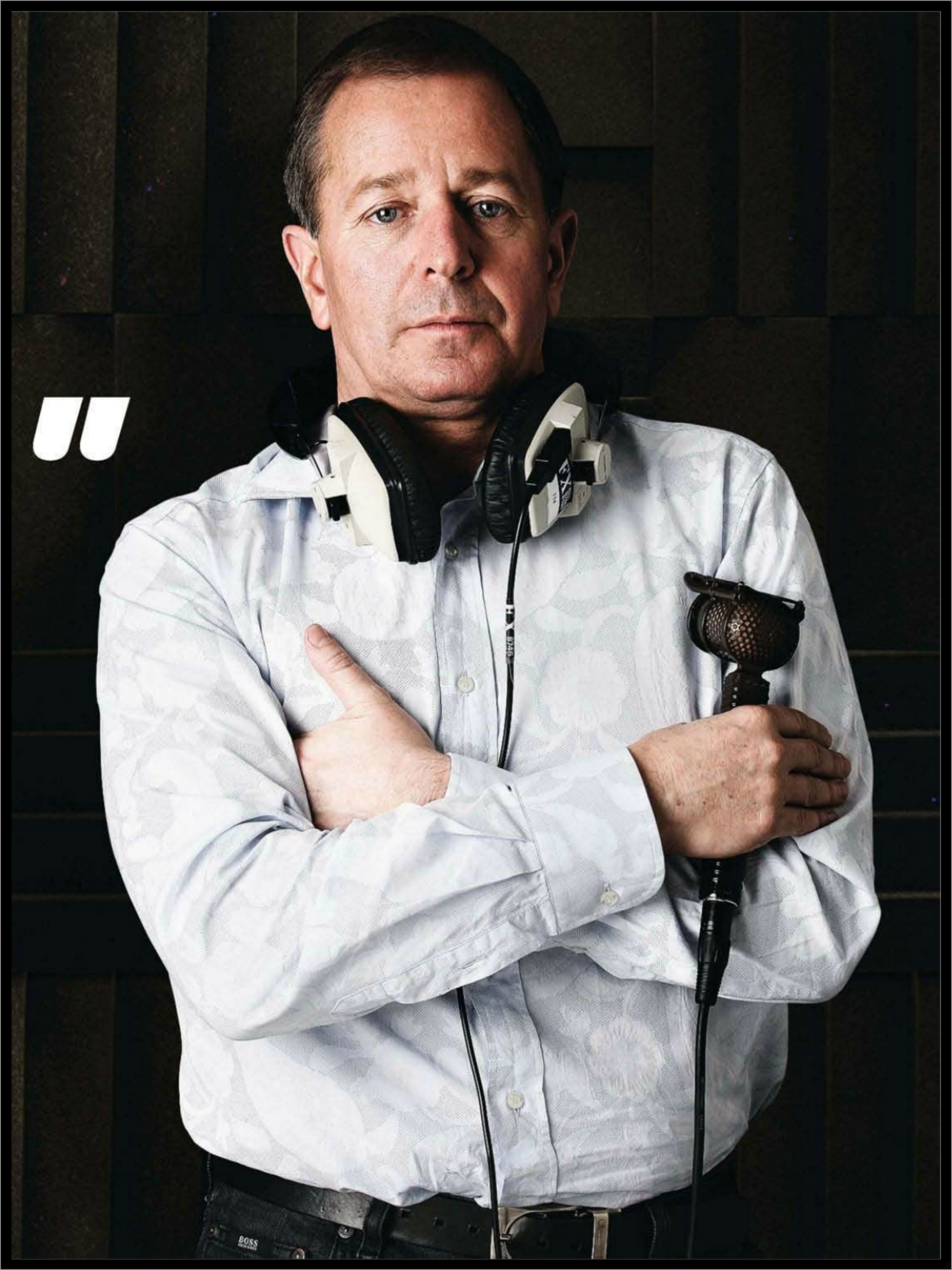
“That McLaren is so harsh over the bumps, I'd imagine that Lewis has a dental appointment and then a chiropractor appointment on Monday morning. It looks violent to drive.” Humorous and instantly comprehensible, this is the type of comment that has made Martin Brundle such an integral part of the F1 viewing experience for English-speaking fans around the world. But it's also the type of comment that, for the 14 years since Brundle first burst onto our screens alongside Murray Walker in 1997, has always been delivered from the position of co-commentator.

For 2011, the 51-year-old will face a new challenge as he steps up to become the BBC's lead F1 commentator. When his appointment was confirmed in early January the blogosphere went into overdrive: was Brundle up to the job? Would the Brundle/Coulthard partnership work? Did this signal the end of his legendary grid walks? Brundle himself admits that by taking the job

he's taking a risk. Prior to the Australian GP, *F1 Racing* sat down with the self-confessed “racing driver who does a bit of telly” to find out why, in his opinion, it's a risk worth taking.

Did it take you long to get your head around the idea of being lead commentator?

No. The BBC asked if I'd consider doing it and I was happy with the concept. It's a different role so I'll do it differently but I've had a good apprenticeship. I've always felt ready to say more and I don't lack knowledge or passion. David is the new expert witness but I can't start pretending I don't know what's going on. Whatever happens on track will have happened to one of us at some point. And David's very recent – it's 14 years since I started a race. No one has said it's time I stepped out of my role [as co-commentator] but I'd rather move three years too early than three years too late. →



“

BOSS



So changing jobs was already in your thinking then?

It has been. I could have done the same role for another few years but I'm ready for a freshen-up. A lot of my content before was opinion-based. Now it's got to be fact-based. But I still want to use humour and I can have fun with DC because he's a mate. We've done a lot together, including racing each other in F1. When I crumpled the Jordan into a ball at Melbourne in 1996, who did I ride up the back of to start that? David Coulthard! I used to negotiate his contract, but I still had him poking me in the chest over things I'd said about him on the TV.

Really?

Yeah, of course, because it's my job to tell it how it is. I get a few sideways glances around the paddock sometimes but I tell it the way I see it, rightly or wrongly. He'll have to be exactly the same.

Does it amaze you how drivers find out what you've said and take you to task about it?

People only hear the negatives: they expect the platitudes and the positive stuff. Family, friends and managers are sensitive to anything you say. The only driver who's ever thanked me for something I've said is Nico Rosberg last year. It was funny because he said, "Thank you – you said some very nice things about me." I said, "That's nice, what did I say?" and he said, "I don't know, my mum and dad told me!" But you can't be Smashy and Nicey all the time because the viewers will just switch off.

So you'd never be afraid of voicing an opinion?

I'm well known for telling it the way it is – even with Bernie and Max and the teams. I find the teams respect you for it, providing you give them credit where credit is due. In a fast-moving, complex sport like F1 you have to give a view quickly and you can look pretty stupid when a new camera angle or another piece of information comes through. I get huge satisfaction when I listen to a press conference and the drivers say, "This happened in the race and the car was doing that," and I think: 'I really aced that. I really understood that race and told the story as it was.' But occasionally I get it wrong and look stupid.

It's going to be a real buzz being the main man on the microphone as the cars pile into the first corner, isn't it?

Yeah. It's my job to call that now. It's a challenge and it makes me slightly nervous to think about it but, as racing drivers, we're all adrenaline junkies.

Are you risking your reputation by taking this new role?

Of course – but life's a risk. It was a risk when I went to Daytona [Brundle raced in the Daytona 24 Hours in January, finishing fourth]. I'm ready for a change. It would be easy to carry on doing what I'm doing until somebody finally said, "What does he know any more?"

So if, say, in six years, someone says to you: "Martin you haven't driven in a GP for 20 years," would you say, "fair enough" – and step back?

If I started getting those vibes, yeah. I've had two careers in F1 so far, maybe I'll have more. I know every aspect of it from being chairman of the board at Silverstone to having been in every gravel trap, barrier and press office. You've got to take risks in life – if you're not in it, you can't win it. I might crash and burn but I don't think I will.

Brundle and DC make the perfect commentary box combination: good mates with very different points of view



"When I crumpled the Jordan into a ball at Melbourne in 1996, who did I ride up the back of to start that? David Coulthard!"

You've mentioned your relationship with DC – will things get quite heated in the commentary box?

We did a screen test using last year's Australian GP, and the first thing me and DC did was disagree on whether that first-corner incident was Alonso or Button's fault. But that's fine because it was respectful. It's interesting because I think the tyres will be the overriding story of the first half of the season and David doesn't. He thinks it will be down to downforce and how drivers set up the cars. So we'll be coming at it from different viewpoints. But we'll have some banter and a laugh because humour is a powerful communication tool – people remember one-liners and silly things you say.

Do you realise a website called brundlequotes.com documents all your one-liners?

Yeah, I do. I know the girl who runs it, it's nice. I trawl through it occasionally to see if I can steal something! I think if I can't remember them, then hopefully other people won't...

Do you think up the one-liners beforehand?

They just pop into my head. When I was driving for Benetton, the boys used to rip me to shreds because I used one-liners to describe how the car handled. I might say: 'That rear wing feels like I'm towing a caravan.' That was my way of explaining to them that the car had so much drag that it wasn't accelerating. →

So just to go back to that very first screen test – when did you actually do it?

We did it before we signed the deal. I read some comments about the BBC gambling on us. Do you really think they would throw me and DC in the commentary box without thinking it through very carefully? We've done a lot of rehearsals to get the procedures right – knowing when to throw back to Jake and things like that. The content is no problem at all. DC and I have been to 700 GPs between us, and we've started 404. We know more or less everyone in the paddock and between us we've driven for three quarters of the teams. I've got half a dozen touchstones in the paddock that I can go to for the inside story. They trust me that if they tell me something that's not for broadcast I won't broadcast it. But it helps to know.

Are you going to be doing grid walks this season?

I'll do some, but it depends on the geography of the circuit. The Tilke circuits are so well-secured to stop fans running on the track that it stops me running to the commentary box. It usually involves a 400-metre walk, a scooter through a tunnel and then a lift to go up nine floors. I wrote on Twitter that I was ready to stop doing grid walks and I got replies saying: "We're not ready for you to stop!" I know that they offer a unique opportunity. I spoke to Vettel two minutes before he pulled on his crash helmet and went and won the title. I don't know any other sporting arena where you can do that.

How many do you think you'll do now?

At ITV I used to do two every three races. This year I'll end up doing one in two. But I don't recognise the person who does the grid walks because it's so not me – it's like an alter ego. I hate bothering the drivers. When I turn up all guns blazing I'm going out live – I don't have time to stand and wait for Alonso, I have to dive in. I'm stupid to think about giving it up because it's my signature – I'm

more famous for interrupting people to get interviews on the grid than I am for winning Le Mans and being on ten F1 podiums. That miffs me, to be honest, but then who am I to complain? Maybe I am taking a big risk by taking the lead commentator job, but I think that I'm taking an even bigger risk by dropping many of the grid walks.

Why do you hate interrupting the drivers on the grid – is it because you appreciate what they're going through?

Of course I do but, you know, a lot of the drivers come up and say: "You haven't been to see me on the grid for a while, come and see me!" Others look at you with daggers, like: "You of all people should know better than to bother me now."

When I interrupt them as they're talking to their engineers [Brundle groans and screws up his face in discomfort]... I hate it.

Do you see yourself as a journalist these days?

I'm a racing driver who does a bit of telly. If I've got any skill, it's explaining a complex, fast-moving sport in a succinct and understandable way. I think I can write a mean column [Brundle does one for *The Sunday Times*], but I don't see myself as a journalist in that respect.

"It's my job to tell it how I see it, rightly or wrongly. You can't be Smashy and Nicey all the time because the viewers will just switch off"

Do you listen to other commentators more now?

I do since I got this job. I think some commentators shout too much and that's something I'm intent on not doing. The energy is in the sport and the engines make enough noise. I'm not going to be faking some orgasmic moment of make-believe excitement if it's not there.

How are you going to try to tailor your style to the different types of viewer?

Well this is how I explained it to DC: if you imagine you're talking to 50million people, your tongue will go dry and you'll get nervous. So I imagine I'm talking to one family. One knows everything about the sport; one is pretty interested; one is watching because it's raining outside; and one watches the start but will go off and do something else until the end. There's a broad spectrum of people who listen to us and we've got to give something to everyone. That's why I'll talk about drag squares per speed, then in the next breath will be talking about how tyre graining is like using an eraser on a pencil line.

Jonathan Legard got a lot of stick from fans on internet message boards. Does that worry you?

No. If I worried about getting flak I'd never have done the job in the first place. We talk to more than 50million English-speaking people around the world. Sometimes it's as many as nine million people in the UK alone – that's 15 per cent of the country watching. So if 30 people want to write in to a forum because they have the platform to do so, then that's just today's social media world. Not everyone is going to like what you do, not everyone is going to agree with what you say. If you can please 50 per cent of the audience, you're doing pretty well. 🍌





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1974

MH

Hero,
racer, joker,
gentleman

Thirty years after Mike Hailwood's tragic death, **Alan Henry** recalls a talented driver with interesting ideas on what to do if your F1 car broke down...

PICTURES LAT ARCHIVE/GETTY IMAGES/SUTTON IMAGES

It was practice for the 1973 Italian Grand Prix at Monza: the pitlane was bustling and filled with dust, debris and the sound of reverberating exhausts. Down in the Surtees pit, Mike Hailwood was about to make a stab at setting a grid time in his unloved TS14. This had hardly been the car of the season, but as I stared at its driver I found myself wondering if Mike was piling on the pounds.

It seemed to be that he was a bit broader around the chest. Even since yesterday – but surely this couldn't be the case? Then I noticed that the front of his driving suit wasn't fully zipped up. It looked as though – no, surely it *couldn't* be – he'd got a paperback stuffed inside his Nomex overalls. And he had!

"If this damn thing is going to break down again and strand me out on the circuit, then I

might as well take something with me to read," he said with his gravelly cackle. And with that, Mike let in the clutch and clunk-clunk-clunked off along the congested pitlane.

It was a charming and telling insight into the personality and temperament of the man whose death 30 years ago, in a road traffic accident close to his Warwickshire home, was mourned almost universally across the motor racing and motorcycle communities. Mike Hailwood may have been one of motorsport's stars, but there was never anything pushy or obtrusive about his personality. Colourful he certainly was, but he was always one of the boys and never lorded it over his colleagues. The nine motorcycle world championships that he took before making the switch over to Formula 1 spoke for themselves. →

Stanley Michael Bailey Hailwood

was perhaps the greatest motorcycle racer in history. The other claimant to that title was John Surtees, so it was entirely logical and understandable that, when Mike made the full-time switch from two wheels to four, he would drive for the team owned by the only man to win world titles in both disciplines.

Don't get me wrong here. I'm not suggesting that Hailwood and Surtees were soulmates joined at the hip. Far from it. In fact, as individuals, they were as different as they could be. John was serious-minded, bordering on the ascetic. Mike was irrepressible, extrovert and fun-loving to the point of being outrageous. Yet the bond between them ran deep, based as it was on their mutual understanding of what it took to be successful on both two wheels and four.

Surtees had won the F1 world title for Ferrari in 1964. Eight years later, Mike drove the F2 Surtees TS10 – probably the best Surtees ever – to victory in the closely fought European F2 championship. Mike produced some really great results that year, including second to Emerson Fittipaldi's Lotus 69 at Rouen and runner-up to Jody Scheckter's McLaren M21 in the final international meeting held at Crystal Palace.

"Mike was a really splendid character," recalls Brian Hart, whose engines powered the compact TS10. "On one occasion, the night before the Rouen F2 race back in 1972, he and I spent a night on the tiles in Paris. When I arrived at the circuit the next morning, I found him fast asleep in the driving seat of his Citroën SM, the Maserati-engined coupé that he loved. I tapped



Ever the joker, Mike took a laid-back approach to F1

"There was absolutely no side to him at all. The overwhelming consensus was that Mike was a great guy who was a real gentleman; he could certainly call a spade a spade, but he would never put people down or belittle them in public, or in front of their friends. A gentleman in so many ways."

One man who got to know Hailwood very well was five-time Le Mans winner Derek Bell. They shared a JW/Gulf Mirage in endurance races during the early 1970s, although Derek admits it was hard to break the ice at first. "I didn't really warm to him when I first met him – he was a bit on the casual side," he says, "but once I got to know him, he was tremendous fun to be with. We got on very well, but I wasn't prepared to live it up in quite the way he did. I think after his bike racing, Mike's car racing was a fairly casual business. For me it was deadly serious and Mike was always saying, 'For goodness sake, Derek, don't be so bloody serious about

on the window and he awoke with a start. 'I thought you were asleep on the back seat!' he said." Mike made Brian – and me, come to that – promise not to mention his little excursion to John Surtees, who believed drivers should be tucked up in bed with nothing more than their cocoa on the night before such an important race."

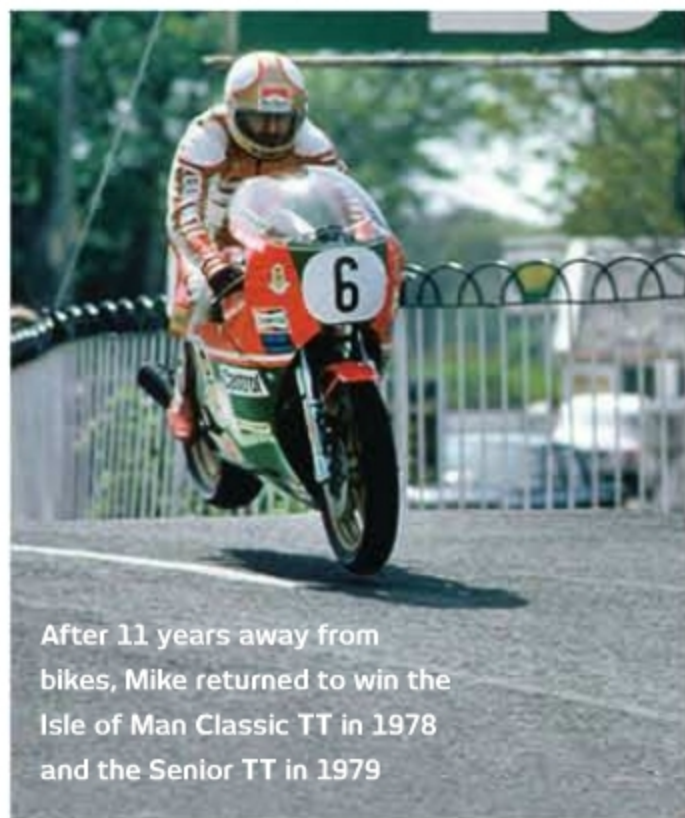
Niki Lauda, then an F1 freshman grappling with an uncompetitive March, was a great friend and admirer of Hailwood and spent a lot of time in London knocking around with Mike and James Hunt. "It was incredible how laid-back and modest Mike was when you consider his status and what he had achieved," says the triple F1 world champion.

it all. Relax and enjoy yourself.' In some ways I envied that philosophy, but it wasn't my way."

Mike's relaxed aura of self-assurance was a result of his upbringing. His father Stan had raced MGs at Brooklands in the pre-war era

Mike was irrepressible, extrovert and fun loving to the point of being outrageous

and later made a substantial fortune out of his business interests, the centrepiece of which was Kings of Oxford, which he built into the largest and most successful motorcycle dealership in the country. Unquestionably, Mike had a golden childhood. At 13 he drove his mother's Jaguar →



After 11 years away from bikes, Mike returned to win the Isle of Man Classic TT in 1978 and the Senior TT in 1979

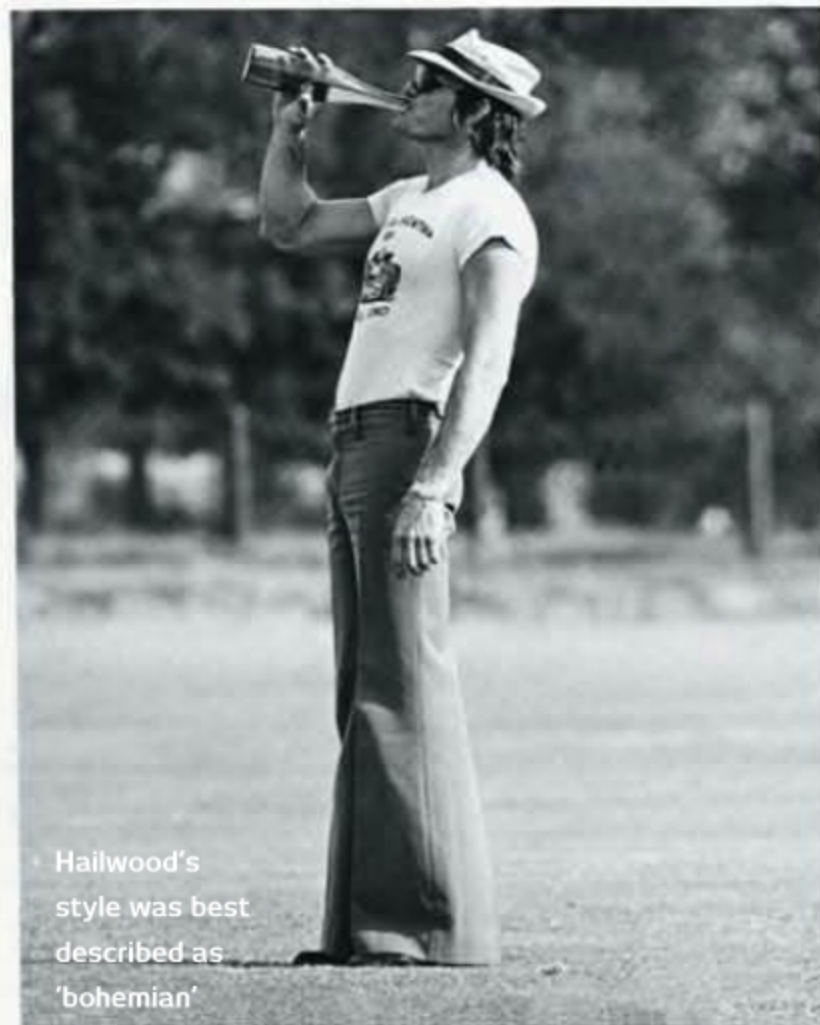


Hailwood didn't let a night on the tiles stop him from taking second place at the Rouen F2 race in 1972

XK120 home from boarding school with his mother indulgently sitting in the passenger seat. When his father heard what he had done, he just laughed out loud.

Mike loved his road cars, but never shared Surtees' reverential respect for Ferrari. He and his motorcycle racing friend and rival Jim Redman bought a couple of Ferrari 330GTs – "If you bought two, you got a better deal" – but Mike found the two-door coupé to be so unreliable that the experience put him off Ferraris for good.

By contrast, he loved his Iso Grifo. He bought two of those as well, wrecking them both: one in an accident in South Africa and one returning from a race meeting at Mallory Park. Mike's wilful streak was also known to one West London Mercedes dealer. When Mike, dressed in a style that bordered on bohemian, was treated dismissively by a rather snooty salesman when he dropped by to order an SLC, he immediately changed his mind and went straight out and bought a Citroën-Maserati SM. To rub salt into the wound, he then drove it slowly past the front door of the Mercedes dealer



Hailwood's style was best described as 'bohemian'

occasionally created tension in his relationship with Count Domenico Agusta, whose MV Agustas he rode with huge success. On one occasion, Agusta kept Mike waiting too long for a meeting, so Hailwood told his secretary, "If he doesn't come out to see me *now* then I'll tear my contract into little pieces." Agusta didn't – and Mike did! Eventually the contract was taped back together, but it was an episode that hardly helped their relationship in the long term.

Mike had a happier time with Honda between 1965 and '68, dabbling in F1 between 1963 and '65 when he handled a Parnell Racing Lotus 25 fitted with a BRM engine. This carried him to sixth place at Monaco in 1964 but was otherwise

spectacularly disappointing. He would not drive in F1 again until 1971 when he celebrated his return with a storming fourth in the Surtees TS9 at Monza, right up there at the front with Peter Gethin's winning BRM, Ronnie Peterson's March and the Tyrrell of François Cevert. As Mike said at the time, "The other three all thought they could probably win the race. I thought I probably couldn't, but that wasn't going to stop me giving it a damn good try."

Mike never won an F1 race, but he came tantalisingly close. In the 1972 South African GP he reckoned he'd "got Jackie Stewart measured up and there was no way in my own mind that I wasn't going to win". Then his Surtees TS9B's suspension failed and the dream died in a cloud of dust as he skittered to a halt.

He should have won the International Trophy only for a radiator cap to fail and blow out all his coolant; ditto the 1973 Race of Champions when he crashed his Surtees TS14 after another suspension failure. By the end of 1973 he'd had enough of Big John's team and they parted company, amicably of course, as you would expect from two old motorcycle buddies. That same year, he was deservedly awarded the George Medal for bravery when he rescued Clay Regazzoni from his blazing BRM at Kyalami, an act of heroism Mike modestly brushed aside.

Mike was awarded the George Medal for bravery for rescuing Regazzoni from his blazing BRM

to make the point that he may have dressed akin to a tramp, but he had the resources to pay up front for whatever car took his fancy. In cash.

Just as he disliked Ferraris, so Mike also had little time for the Italian way of life, which

For the 1974 season, Mike was signed to drive for the single-car Yardley McLaren team alongside the two-car Marlboro squad represented by Emerson Fittipaldi and Jochen Mass. But he crashed heavily in the German GP at the Nürburgring, badly breaking his leg. At the time, some critics suggested that he had been unfairly squeezed by the Lotus of Ronnie Peterson, but Mike characteristically denied that was the case with great generosity of spirit. "I can't imagine how anybody could accuse a gentleman like Ronnie of dirty driving," he said, shaking his head.

Mike then retired from racing, returning sensationally on two wheels to win the Isle of Man Classic TT in 1978 on a 900cc Ducati – and the following year won the Senior TT on a 500cc Suzuki before stepping back to run a motorcycle dealership with fellow ex-racer Rod Gould.

In 1981 Mike Hailwood was killed in a road accident together with his young daughter Michelle, when their Rover 3500 collided with a truck that was executing an illegal U-turn on a dual carriageway close to their Warwickshire home. They'd just popped out to collect fish and chips. It was a tragedy that left the motorsport community in stunned silence. 🚫



Mike at the 1974 Monaco GP: this was his final season in F1, which ended when he badly broke his leg

G R E E A T ? S C O T

Jim Clark, Jackie Stewart, David Coulthard... some pretty decent F1 drivers have come from north of the border. **Paul Di Resta**, the 14th Scot in 61 years to race in the sport, is aiming to emulate their success

WORDS JAMES ROBERTS
PICTURES SAM BARKER





here has been only a handful of top-line racing drivers born under the colours of The Saltire, but their achievements place Scotland as one of the most successful countries in the

history of Formula 1. Think of legends Jim Clark and Sir Jackie Stewart, with five F1 world titles between them. Or David Coulthard, who carved out a solid career with 13 grand prix wins. And outside F1 are double Le Mans winner Allan McNish and Dario Franchitti, two-time winner of the Indianapolis 500.

This season, Scotland's newest talent makes his debut on the international scene. Dario Franchitti's 24-year-old cousin, Paul Di Resta, steps into the Force India cockpit to commence the next chapter, not only in his family's racing legacy, but in his country's too.

"It's great to be part of that," says a relaxed Di Resta during the Barcelona pre-season test. "It's something I'm very privileged to be part of. Jim Clark has probably got the best reputation in Formula 1 history, equally Jackie has had great success and I'm glad that I'm in close contact with him and David Coulthard, because they have both been very supportive and I know they are just a phone call away."

The thirst for racing that extends throughout this family has come from Louis Di Resta, Paul's father, a former racer and a Formula Ford 1600 champion. As a result, Paul has been consumed with racing from the moment he was born. Grainy video footage exists of him as a two-year-old toddler, skidding a kart sideways to a halt and riding a tiny motorbike across a grassy paddock. Those early glimpses of talent were then nurtured and given the chance to flourish. Louis stopped racing and the Bathgate businessman started to concentrate on helping his son compete in motorsport.

"I couldn't tell you the first moment I thought about racing, because I grew up in this environment, so it was always a case of 'When can I start?' rather than 'Am I going to?' My dad didn't get the opportunities I've had, but what he did he did off his own back when he was younger and then he switched his support and effort into me. He's got me to where I wanted to be in life and I hope that it gives him great satisfaction."

Di Resta commenced karting when he was eight and quickly started collecting trophies

along the way. From Larkhall club champion, he was soon Scottish and then British champion, and graduated to cars in 2002. Two years later, he followed in the footsteps of his cousin Franchitti and won the prestigious McLaren/Autosport Young Driver of the Year Award. His successes caught the attention of Stuttgart and just as he was on the verge of commencing his Formula 3 campaign with John Booth's Manor Motorsport outfit, he found a new benefactor in the form of the three-pointed star.

"He was very quick and talented from the outset," says the boss of Mercedes Motorsport, Norbert Haug. "It's easy to say with hindsight, 'Yes, I knew he was good from the beginning,' but it's actually rare to step into a competitive series and be on the pace straightaway."

Mercedes had backed and run Dario Franchitti in touring cars in the mid 1990s, so it was a natural extension of that relationship when Mercedes chose to support Di Resta. In 2006, in his second season in the F3 Euro Series, now with ASM, the Scot came up against one of his toughest challenges to date. Two of his team-mates that season included Sebastian Vettel and Kamui Kobayashi. In equal machinery, Di Resta had a fight on his hands and the crown became a closely fought duel between him and Vettel. The German took four wins that season, but as the title chase narrowed, so the errors crept in. Di Resta took one more victory over the course of the year and eclipsed Vettel to win the title by 11 points.

"It was a very competitive season and working with the team was exceptional," Di Resta recalls today. "I had five wins, but there were a few others that didn't come my way. I had one win taken off me, as well as a clutch and driveshaft failure elsewhere, so it was an up and down season. The best thing was getting the ultimate job done. Sebastian and I were both very young and it feels like a long time ago now. We were full of beans and a lot of nonsense went on, but when it came to racing we're the same drivers as we are now. It doesn't really change much: your natural talent is still there."

The strength of his title-winning season in the F3 Euro Series, naturally led to Mercedes giving Di Resta a chance in the Deutsche Tourenwagen Masters (DTM), and he could have won his first race in the category. "The season between him and Sebastian in F3 was very close," recalls Norbert Haug. "And I know that Sebastian rates him very highly, but perhaps even more impressive was his DTM debut. Outside of Formula 1, that championship is one of the most intense ones in which to fight and challenge for victory. In his first season, in a year-old car, Paul led the championship and could have won on his debut if he hadn't stalled in a pitstop. That was a very impressive achievement."


"I grew up in a racing environment so it was always a case of 'When can I start?' not 'Am I going to?'"

While the usual way up the ladder of single-seater racing is to follow the established route of karting, Formula Renault, F3 then either GP2 or Formula Renault 3.5, Di Resta was placed in the DTM by Mercedes. But as other drivers have found, notably fellow Mercedes-backed British racers Gary Paffett and Jamie Green, the route to Formula 1 doesn't naturally follow after racing in tin-tops. The DTM, however, is unlike many other national touring car series, primarily because the cars are more like prototypes and the racing involves tyre management, pitstops and strategy.

"That's the thing," says Di Resta, the reigning DTM champion. "I think the DTM is underestimated. The cars have tremendous downforce, there is backing from different manufacturers, a new car is built every year and when you go testing, you work with an entirely different team of people. I think the series has given me a good foundation to come into Formula 1 and to be comfortably quicker than most people who have come from a one-make single-seater category."

Di Resta is no longer officially affiliated with Mercedes, although he and Haug remain friends, and Norbert still refers to Paul as being "a member of the Mercedes family". Haug was responsible for recommending Di Resta to Force India, a customer team of Mercedes, who ditched Ferrari power in favour of Stuttgart two seasons ago. Di Resta is being managed by Lewis Hamilton's father, Anthony and, after running on a number of Fridays for the team during practice sessions last year, he isn't going to be fazed by stepping up to the race seat this season.

"It was definitely a great help to be part of Force India last year, as I now know how an F1 team works," says Di Resta. "I know what's expected from a driver over the course of the weekend and I feel very comfortable here. All I'd say is that from finding out I'd got the drive to the start of the season, it's come along pretty fast. It's been quite a busy period and I know I can't expect too much as Formula 1 is a big ask. I want to enjoy my first year and I want to enjoy racing in a competitive environment but I'm realistic about the season and what happens in Formula 1 because I've got an open mind."

From those kart circuits in West Lothian, Paul Di Resta has graduated to the global stage. It's now his turn to represent Scotland in F1 and to build on the legacy established by greats such as JYS and Jimmy Clark... It's a big ask, but he's up for the challenge. 

GREAT SCOTS AND THEIR F1 DEBUTS

David Murray 1950

Ian Stewart 1953

Jimmy Stewart 1953

Ron Flockhart 1954

Leslie Thorne 1954

Archie Scott-Brown 1956

Innes Ireland 1959

Jim Clark 1960

Jackie Stewart 1965

Jim Crawford 1975

Johnny Dumfries 1986

David Coulthard 1994

Allan McNish 2002

Paul Di Resta 2011

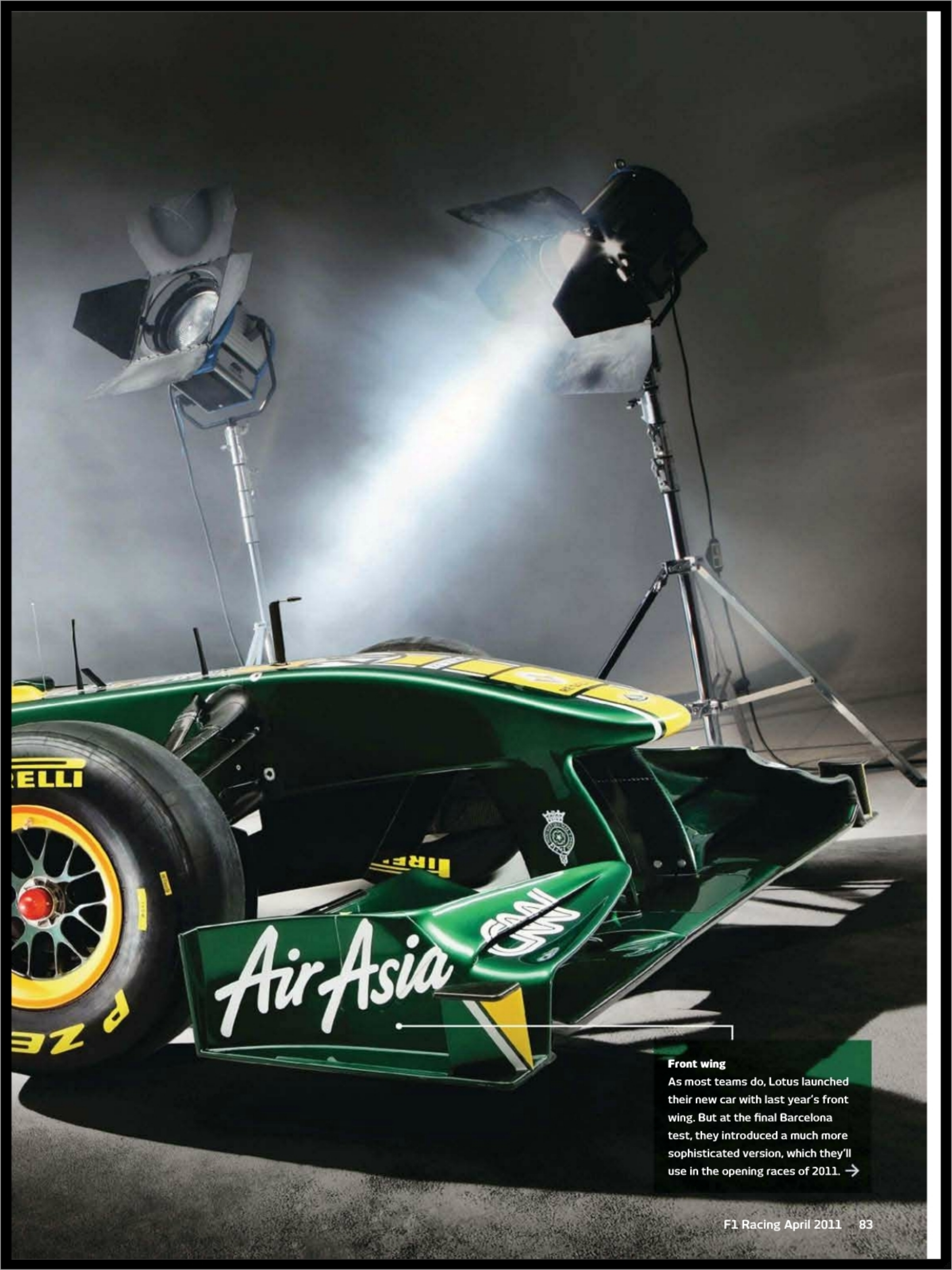
In the

Spotlight

Team Lotus seem very confident about their new T128. The question is, can it start making life difficult for F1's midfield teams? *F1 Racing* takes a closer look...

WORDS JONATHAN REYNOLDS PHOTOGRAPHS MARC WRIGHT





Front wing

As most teams do, Lotus launched their new car with last year's front wing. But at the final Barcelona test, they introduced a much more sophisticated version, which they'll use in the opening races of 2011. →



Sidepods

The T128, like so many of this year's cars, features heavily sculpted sidepods that slope away towards the rear of the car. This design relies on some clever packaging of the radiators and crash structures.

The T128: from conception to creation

May 2010

Initial plans are fleshed out two months into the 2010 season by technical staff including chief designer Lewis Butler, chief technical officer Mike Gascoyne, deputy technical director/sporting director Dieter Gass, head of R&D Elliot Dason-Barber and head of aerodynamics Marianne Hinson. Butler then puts together a lengthy design spec, detailing fundamentals such as chassis length, wheelbase and fuel cell volume.

June 2010

Work begins, as the team divert a third of their aero resources to the 2011 car. The monocoque is first to be worked on because it has the longest lead time. "Aerodynamically, it isn't that interesting," says Hinson. "You play around with the height of the front monocoque and nose as that defines the volume of air you can get under the chassis and to areas like the barge boards – but you have to commit to the design quickly."



Blade roll hoop

The blade-shaped roll hoop with split airbox, pioneered last season by Mercedes, is one of the more obvious differences between the T127 and T128. The idea is to encourage better airflow to the rear wing.

20

1 M
Malaysia

July 2010

The aero team start to investigate different front-suspension layouts, something that's an area of significant aero importance. Once the team are happy with the performance of the monocoque in the windtunnel, they aim to have it released into full-scale design before the mid-season shutdown at the end of the month. Then the full-scale design office can begin work on the design's structural detail.

August 2010

For a small team like Lotus, choosing when to stop developing your current challenger and start looking towards the next one is crucial. By now, the team have turned all their resources towards the 2011 car, despite a furious battle with Virgin and HRT for tenth place in the constructors' standings. During this period, the design team make the decision to go with the blade roll hoop design that gives the T128 its distinctive look.

September 2010

The design team are busy investigating the rear-suspension and choosing between pushrod and pullrod systems. They decide the layout of the impact structures and radiator cores – critical factors that dictate what freedom the aero team have over the sidepods. "We aren't releasing aero surfaces like bodywork," says Hinson. "We're trying to agree structural details that the bodywork can fit around." →



Rear end

The T128 features much tighter packaging around the rear of the car than the T127, which will help improve airflow to the rear wing and diffuser. And unlike many other teams, Lotus haven't had to worry about packaging KERS.

The T128: from conception to creation

October 2010

With five months left until the launch, the pace of development is really starting to pick up. The aero team turn their attention to the bodywork and features such as the radiator ducts. "October is when we start the final definitions of big chunks of the aerodynamic surfaces," explains Hinson. Elsewhere, the team confirm that from 2011 they will be using gearboxes supplied to them by Red Bull Technology.

November 2010

As the 2010 season draws to a climax, there's no let-up at the design office with several critical aerodynamic areas of the car being worked on including the rear wing, the brake ducts, the floor of the car and the diffuser. Further equipment changes are announced for 2011 with the team confirming they are to switch from Cosworth to Renault engines. The car's rear is adjusted to accommodate the new engine and gearbox.

December 2010

Christmas draws near and the race team enjoy a well-earned break. But there's no rest for the design team, who are now focusing on smaller aerodynamic details such as the turning vanes, which are quick to manufacture. "We're also starting to look ahead to the update package we'll bring to the first race," explains Hinson, "so in the aero department we're working quite intensively on the front-wing design."



Lotus Renault T128

Engine: Renault V8 RS27-2011
Chassis material: Carbon fibre
Bodywork material: Carbon fibre
Front suspension: Carbon fibre
Rear suspension: Carbon fibre
Dampers: Penske & Multimatic
Steering: Team Lotus
Gearbox: Red Bull Technologies
Clutch: AP
Discs: Carbone Industrie/Hitco
Calipers: AP
Pads: Carbone Industrie/Hitco
Cooling system: Team Lotus
Cockpit instrumentation: MES
Seat belts: Schroth
Steering wheel: Team Lotus
Driver's seat: Team Lotus
Extinguisher system: FEV
Wheels: BBS to Team Lotus specification
Fuel cell: ATL
Battery: Yuasa
Fuel provider: Total
Lubricants provider: Various
Wheelbase: More than 300cm
Overall length: Approx 500cm
Overall height: 95cm


January 2011

Fourteen-hour days are now commonplace for chief designer Lewis Butler as the team work to finish the T128 on time. Vehicle level and component tests are undertaken to ensure the car complies with FIA regulations and at the end of the month, the team fire up their new Renault engine for the first time. "It was a really nice occasion," says Hinson. "The whole team was there and we had champagne and cupcakes."

February 2011

The T128 undergoes mandatory FIA crash testing at Cranfield Impact Centre in Bedfordshire to ensure it's safe to race, and the new car is then officially unveiled at the first test of the year in Valencia. "It's great to see the full-sized car in its full livery for the first time, especially for us aero designers who are used to working with scale models," says Hinson. "When it's unveiled, I feel a mixture of nerves, excitement and pride."

March 2011

Bahrain is postponed and an extra Barcelona test is added in its place, giving the team four more test days to hone the T128. Jarno Trulli reports that the car has "good balance, pace we can build on and the potential to help us take the fight to the midfield". It's encouraging feedback, but no excuse for the team to relax. In fact, back at base, the design office are already shifting their focus towards mid-season updates... 

Race against time

Over the past 61 seasons, grand prix racing has changed beyond recognition, but fundamentally the sport remains the same: men and machines competing against each other and the clock...

WORDS JAMES ROBERTS **PICTURES** LAT ARCHIVE



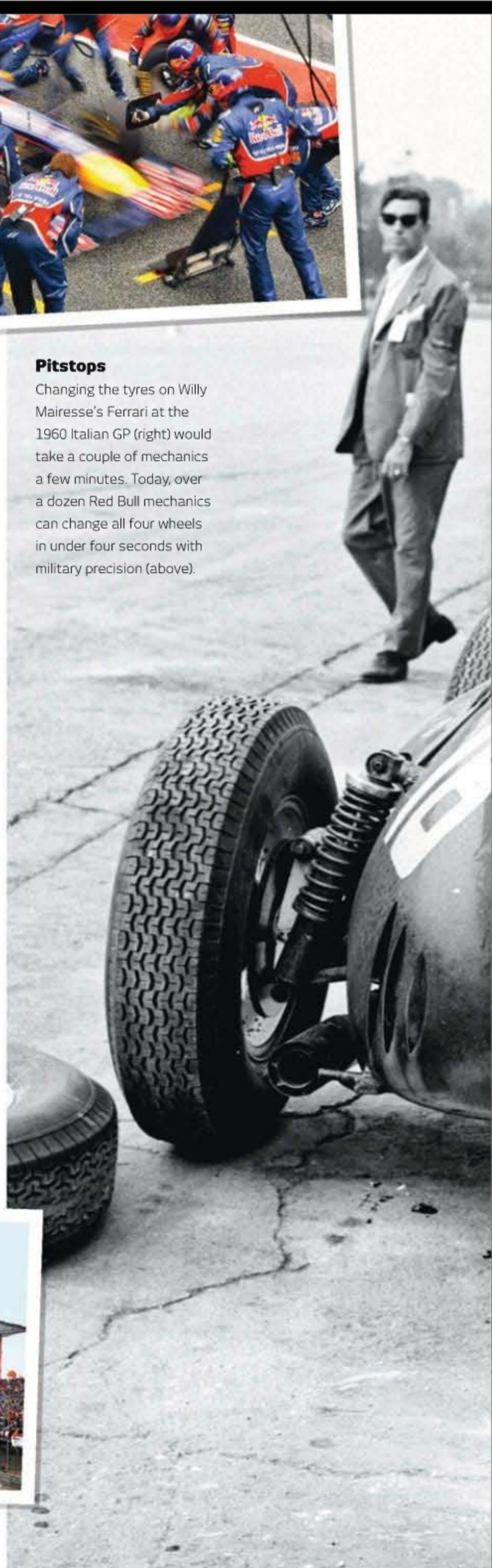
Pitstops

Changing the tyres on Willy Mairesse's Ferrari at the 1960 Italian GP (right) would take a couple of mechanics a few minutes. Today, over a dozen Red Bull mechanics can change all four wheels in under four seconds with military precision (above).



Grandstands

At the 1950 French GP at Reims, spectators lined the length of the start/finish straight behind a concrete wall (above). Contrast that with the incredible aerial view that premium ticket holders get from the spectacular Shanghai grandstand (right) today.

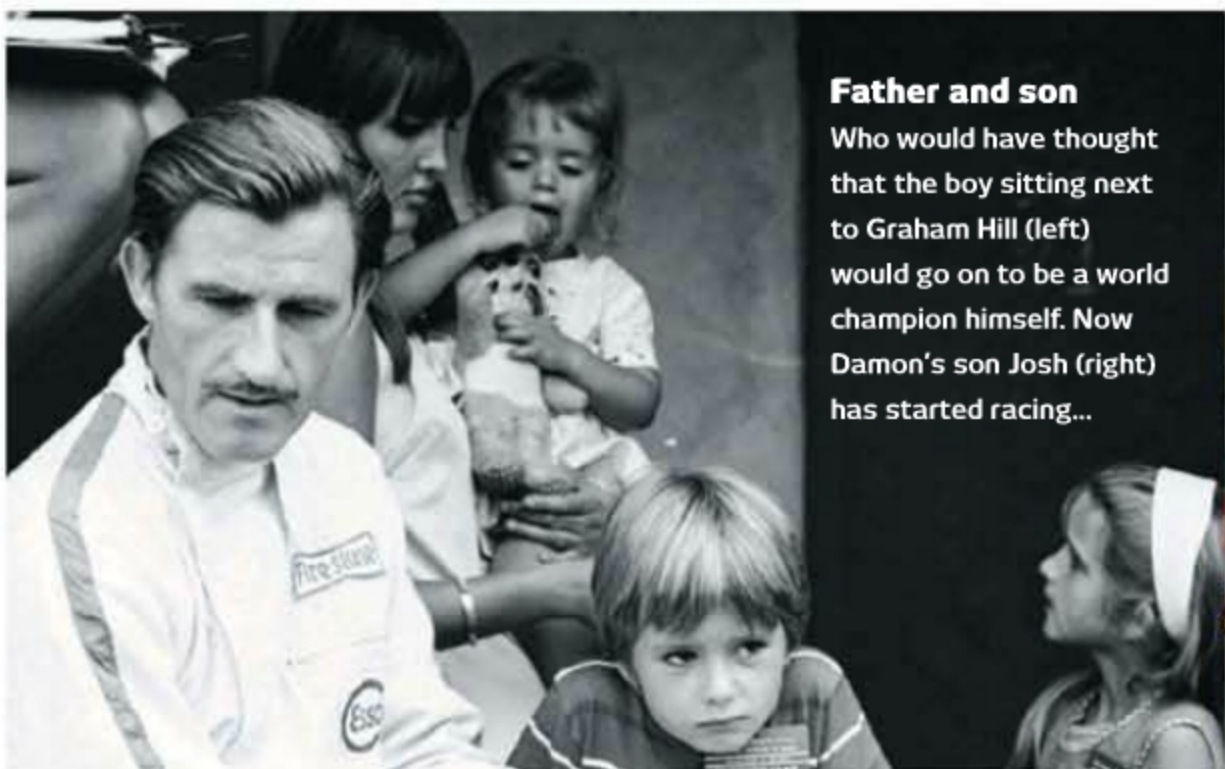






Trackside signage

At Monaco's Tabac corner back in 1957 (above), the side of the track was adorned with sponsorship, but while BP untidily vied for space with Shell and Esso back then, today's trackside banners (right) are bigger, clearer and focus on one particular sponsor, which can easily be picked up by the TV cameras.



Father and son
 Who would have thought that the boy sitting next to Graham Hill (left) would go on to be a world champion himself. Now Damon's son Josh (right) has started racing...



Team transporters
 All Ferrari needed was a truck to carry their three 246s for the 1960 Dutch GP (left). Now, state-of-the-art transporters carry just one chassis each and also double-up as engineering offices (right).





The podium

Stirling Moss, cigarette in mouth, made do with a wooden platform, which had a sign on a couple of oil drums behind him (above) at Riverside, 1960. A far cry from the official ceremony held under lights in Korea last year (right).



Drivers' overalls


A cloth cap, some goggles and a collared shirt was good enough for Alberto Ascari in 1952 (far left). Today, fire-proof Nomex underwear, a bulletproof helmet and the Head and Neck Safety (HANS) device are all obligatory (left).

Team garages

A can of oil, a worn-out jack and a tool box was all that was needed to fettle Jackie Oliver's BRM at Montjuich Park in 1969 (below). You wouldn't find even a spec of dust in McLaren's sophisticated, telemetry-controlled race bay now (bottom).



Leaderboards

Electronic transponders in today's cars record positions to fractions of a second (below). It's a far cry from the days when a man used to replace the slate boards in the scoreboard at Silverstone in 1950 (right). 



Want to start your own F1 team?
You'll just need...

£62,315,

Even though they're not involved in F1 any more, Toyota still have all the equipment available for hire at their 30,000m² HQ in Cologne. *F1 Racing* has a nose at the staggeringly pricey tools required to build and fettle an F1 car

WORDS JAMES ROBERTS



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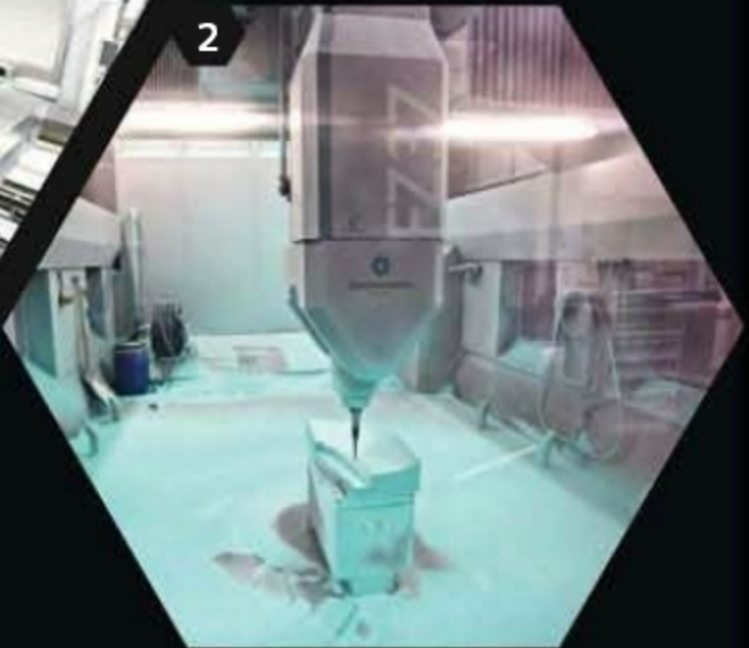


1

1 Engine milling machines

Cost: £2.1million

Back in 2003, at the height of the Formula 1 engine programme, which included separate practice and testing engines, Toyota manufactured over 200 units per year. Place a block of aluminium into one of these £1million milling machines and, eight hours later, an engine block comes out of the other side. The five separate pallets mean that five jobs can be computer-controlled at any one time, increasing efficiency.



2

2 CNC and turning machines

Cost: £14million

There are 24 five-axis CNC machines designed to make parts for an F1 engine, including blocks, heads, cams and sumps. CNC stands for 'computer numerically controlled', which means production is automated to fractions of a millimetre. Two turning machines make components such as suspension arms, trackrods and driveshafts, while two other CNC composite finishing machines are used to create moulds for pieces of carbon fibre. These are then set in the autoclave ovens.



3

3 Tool box

Cost: £4.2million

Over ten years of manufacturing has led to one of the biggest tool boxes in the sport. Three lots of paternoster lifts, costing £250,000 each, contain approximately 100,000 tools and drills that are used for precision engineering in the CNC machines. Each tool costs between £30 and £150 and takes just seconds to find... →



4 Rapid manufacturing machines Cost: £4.6million

Toyota's site for rapid manufacturing production is the biggest in Europe. Ten machines can make 2,000 parts per month. The process creates parts from 3D CAD files, by firing a laser into a layer of epoxy-resin. Once that hardens, the laser is fired into the layer above it. Layer by layer, a model is formed. Parts created can include anything from windtunnel models to brake ducts.

5 Windtunnel Cost: £30million

Two 60 per cent scale windtunnels with continuous steel-belt rolling roads that can reach speeds of 70 metres per second are housed at Toyota. The first was built in 2001 and the second – which can take a full-sized car – was constructed in 2007. Both tunnels use laser technology to track particles to get a much more detailed picture of airflow around the car.

6 F1 simulator Cost: £2million

Two types of vehicle model, road or F1, are available, and are placed on six hydraulic posts to simulate cornering movement, braking and acceleration. Five projectors beam the image of the track onto a 220° wraparound screen. With a direct link to the windtunnel and CFD modelling, Toyota's former driver Timo Glock could use it to establish a baseline setup for the car before flying out to a race. It's still fully functional: put £3,000 in the slot, press start, and the machine is yours for the day.

7 Full-car road simulator Cost: £1.8million

This vehicle spindle gives control over vertical, lateral and longitudinal forces, brake/drive torque, camber and steer movement, and a further four actuators can simulate downforce. In addition, the wheels are covered in heaters that will simulate brake temperatures of up to 900°C. This £1.8million tool can also be used to fine-tune stiffness and damping settings.

8 Seven-post rig Cost: £800,000

This independently sprung rig replicates aerodynamic and lateral G-forces. The machine also simulates the immense loading to test and proof suspension and damping for strength and efficiency. When Toyota were in F1, they would send data from Friday testing back to the factory. A replica car would then run on the rig and, after a night of research, refined suspension settings could be sent back to the team before the race. The rig costs just under £1million to buy or can be hired out for £2,500 a day. →



9 Autoclaves Cost: £900,000

Autoclave ovens with a 7m² curing platform cook carbon-fibre pieces, such as front wings, under high pressure at around 135°C. This process takes somewhere in the region of six hours. Toyota have two large autoclaves costing around £370,000 each, plus one smaller unit.



10

10 Suspension and hydraulic testing rigs

Cost: £130,000

The high-performance component testing laboratory can test the hydraulic lines on every suspension part. There is also a full rear corner testing rig (£50,000) that runs the rear suspension not just through a simple axis, but through different loads that can be put through a simulated lap of every circuit. On site, a centre-of-gravity rig calculates the weight distribution of the car, while another device tests the strength of the nose.

11

11 Power steering rig

Cost: £95,000

Some of the dynamic high-performance rigs allow the real-time simulation of a piece of track or road. Each rig has a calculated super lap that simulates the most extreme load cases from across an F1 season. G-forces, acceleration, braking, top-speed, compression and extreme kerbs are all added up to create an artificial lap of around 90 seconds. Then you set in motion an entire GP distance for 90 minutes to test component wear.

12

12 The fuel ignition rig

Cost: £90,000

This can test fuel nozzles for spray and volume, and it measures spread, angle and displacement of fuel. Fuel droplet size is important for combustion: too much is inefficient, too little means not enough power. Putting lasers through the injections shows up the particle distribution.

13

13 Engine dynamometer

Cost: £200,000

This dyno is housed within double doors. These are located in an exclusion zone to contain any parts of the engine that fly out of the powerplant should it blow up! The dyno tests various engine functions, including longevity, exhaust configurations for the powertrain and torque.

14

14 Engine component test rigs


Cost: £100,000

These include clutch-development rigs, cam rigs, radiator windtunnels, water and fuel system pumps and the oil shaker (Rodeo) rigs that can recreate any bump on any track in the world. There is also a KERS rig, as Toyota are continuing to look at advancing the use of electric vehicles.

15

15 Transmission test systems and gearbox test rig

Cost: £1.3million

The transmission test system is primarily used for bearings and coatings. Oil is heavy, so this machine calculates oil usage to save weight. The gearbox can be run on this rig for the length of four GPs and the internals are inspected for wear. The rig turns and moves the unit in all directions to observe the flow of oil around it. A motor at the back drives the gearbox, while hydraulic arms simulate suspension forces. Conditioned oil can replicate the temperature it would reach at some of the hotter F1 venues. 

The car that made Cosworth stick to the day job

Cosworth have always made a respectable F1 engine, but they once tried making their own F1 car. 'Once' being the operative word...

WORDS MATT JAMES PICTURES LAT ARCHIVE & SUTTON IMAGES

Cosworth's reputation in Formula 1 was cemented by their huge success as engine supplier to Team Lotus. But it was a prickly alliance, with Cosworth bosses Keith Duckworth and Mike Costin growing frustrated with the fragility of the Norfolk squad's F1 racers. In 1967, they decided to branch out on their own.

They recruited up-and-coming young designer Robin Herd from McLaren and commissioned their own grand prix car. Its stand-out feature was to be four-wheel-drive, something that was captivating F1 constructors at the time. Lotus, Matra and McLaren had all tried unsuccessfully

to introduce four-wheel-drive to F1 and Cosworth were hot on their heels.

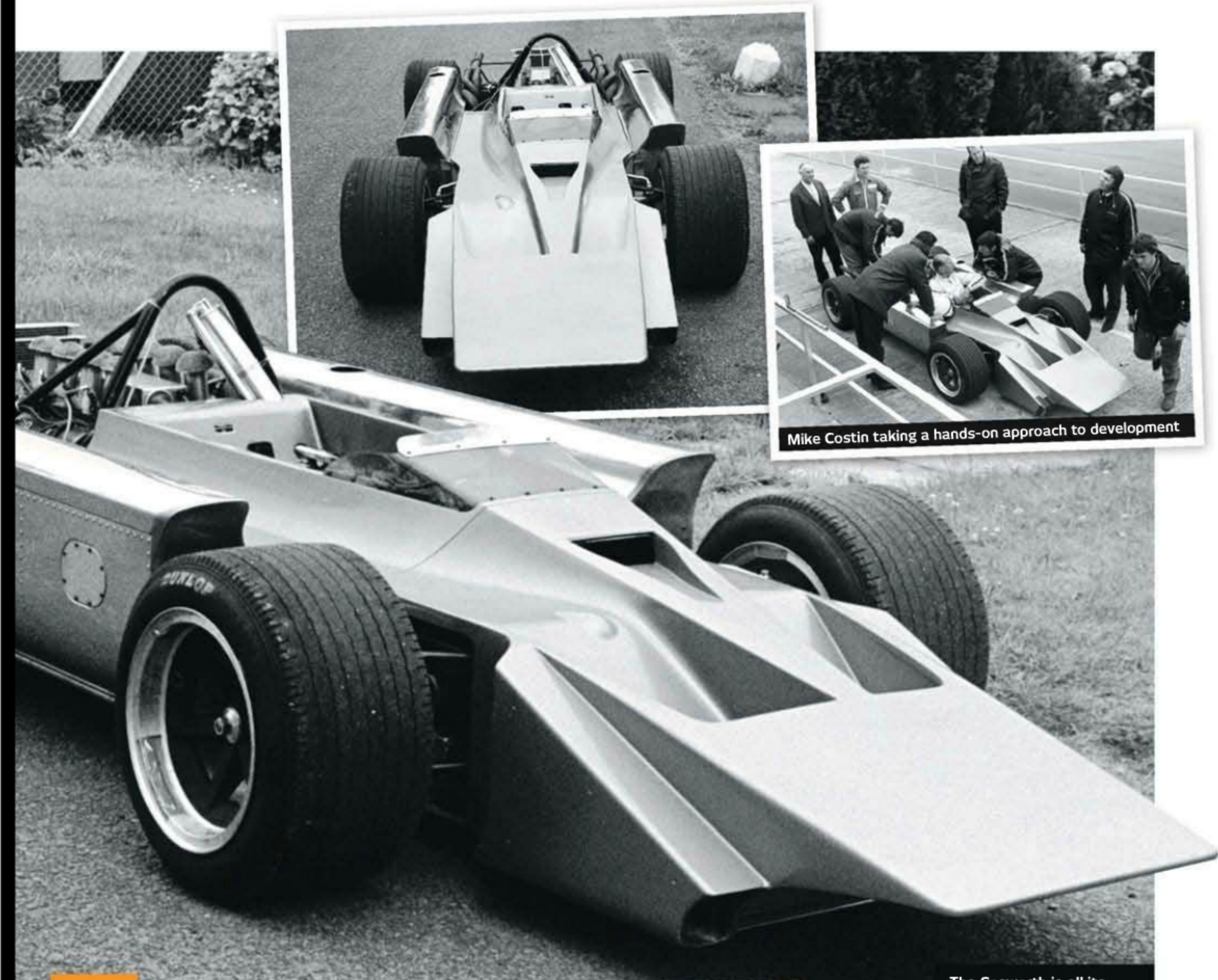
Herd recalls those days well: "When I was tempted to go to Cosworth I was in the unique position of working alongside Keith Duckworth and I was privy to the inner workings of the business. Neither Mike or Keith lacked confidence and they were becoming fed up with [Lotus founder] Colin Chapman getting all the credit for the victories. They figured that if they could build their own car and tempt Jim Clark to drive it, Cosworth would be the name up in lights. They wouldn't have to rely on anyone else. They wanted four-wheel-drive because they



Cosworth doing what they did best of all: putting very good engines in other people's cars

were both engineers: engineers love a challenge and four-wheel drive was the flavour of the time."

Just a few months into the new project, Jim Clark was killed at Hockenheim and, as Herd describes it, "The drive went out of the project, in every sense." Even so, the Cosworth bosses insisted the project should still be completed. They wanted to take all the technologies they had acquired from building Formula 1's greatest engine and apply them to a chassis. The V8 motor they used was a one-off made from cast magnesium to make a saving on the weight that would have to be expended on the extra parts required to create the car's ungainly



Mike Costin taking a hands-on approach to development

“Keith and Mike figured that if they could build their own car and tempt **Jim Clark** to drive it, then Cosworth would be the **name up in lights.**”



Robin Herd, designer

The Cosworth in all its angular glory, suggestive of a rather strange partnership with Lego

transmission. But while the powerplant itself was forward-thinking, it just wasn't matched by techniques used to build the chassis.

The driver sat off-centre to enable the driveshaft to run the full length of the car. Initial problems with oil cooler positioning (it had to be moved from behind the drivers' seat to the rear of the car) and weak front driveshafts were quickly overcome. However, there was one fundamental issue that would scupper the project for good: the four-wheel drive itself.


“The car was very easy to design because there are so many fundamentals that have to be in place on a four-wheel-drive machine

that it more-or-less penned itself,” says Herd. “There was much more frontal downforce than I had imagined, but we never had the chance to balance it at the rear, so the drivers didn't like it. It was also badly affected by the tricky front differential, which meant that none of the men behind the wheel ever felt it was properly balanced. Bruce McLaren drove his own four-wheel drive F1 car and he told me it was like trying to sign an autograph while having someone nudge your elbow at the same time.”

Costin himself developed the wayward car and even Jackie Stewart had a go at driving it. “I remember Jackie saying that it was ‘a promising

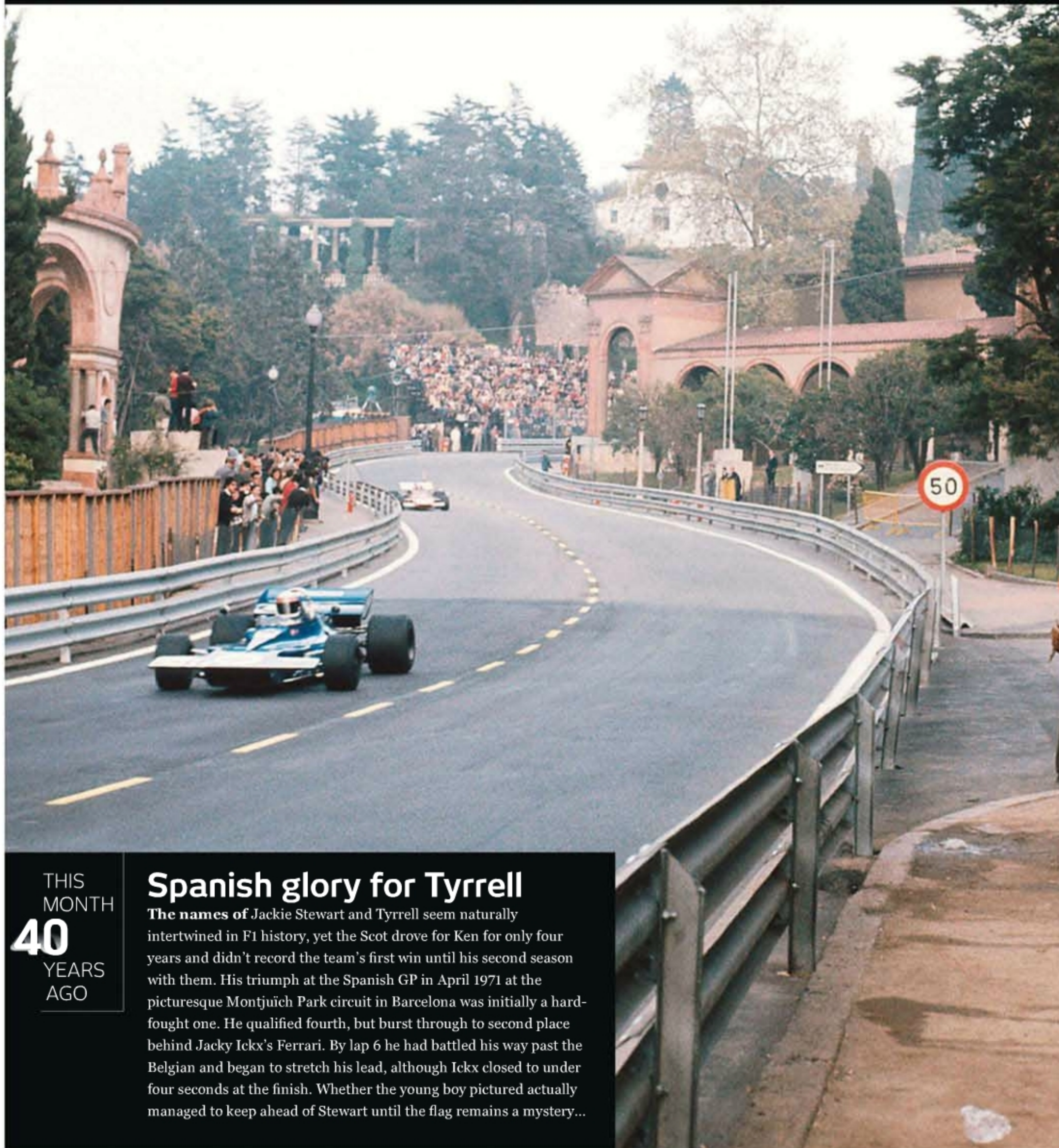
car but it needed one or two adjustments’. He was being very kind at the time,” recalls Herd.

Still convinced that all these problems could be overcome, the Cosworth was entered for the British Grand Prix at Silverstone in July, 1969. After struggling through a pre-race test former Lotus driver Trevor Taylor's entry for the race was pulled. That was the last of the machine's outings, and the last time Cosworth would venture into the chassis design area.

Despite its lack of success, Herd believes that the project was one that so very nearly pulled all the right ingredients together. “Had Keith decided to build a conventional two-wheel drive car and tempted Jimmy Clark away from Lotus, which was possible, motor racing history could have looked very different indeed,” he claims. 

Way back when

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



THIS
MONTH
40
YEARS
AGO

Spanish glory for Tyrrell

The names of Jackie Stewart and Tyrrell seem naturally intertwined in F1 history, yet the Scot drove for Ken for only four years and didn't record the team's first win until his second season with them. His triumph at the Spanish GP in April 1971 at the picturesque Montjuich Park circuit in Barcelona was initially a hard-fought one. He qualified fourth, but burst through to second place behind Jacky Ickx's Ferrari. By lap 6 he had battled his way past the Belgian and began to stretch his lead, although Ickx closed to under four seconds at the finish. Whether the young boy pictured actually managed to keep ahead of Stewart until the flag remains a mystery...

THIS
MONTH
28
YEARS
AGO

When points didn't matter

There was a time when non-championship F1 races were a regular occurrence, but on 10 April 1983 Brands Hatch hosted the last such event: the Race of Champions. Just 13 cars entered, the rest of the F1 grid choosing to test at Paul Ricard instead. The reigning world champion, Keke Rosberg in a Williams FW08, trumped Danny Sullivan's Tyrrell, the American chasing the Finn all the way to the chequered flag.



THIS
MONTH
26
YEARS
AGO

Senna displays early promise

Ayrton Senna had joined Lotus in 1985 having made his Formula 1 debut with Toleman the year before. The Portuguese Grand Prix, held on 21 April in Estoril, was only his second race for Lotus, yet it proved to be a memorable one for the Brazilian. He managed to put his Renault-powered Lotus 97T on pole and, in the pouring rain, slipped comfortably into the lead at the start of the race, ahead of his team-mate Elio de Angelis. A majestic drive followed as Senna recorded the first of his 41 grand prix wins and celebrations in the paddock (inset) were unrestrained.

PHOTOS: LAT ARCHIVE

ALAN HENRY

Forty years and counting on the frontline of Formula 1

It makes sense to defer the decision on Bahrain

The FIA's announcement that it will defer until 1 May any decision about whether the Bahrain Grand Prix can be staged later in the year is a sensible and well-reasoned one. If nothing else, it gives all the parties involved some welcome breathing space to consider the implications of a problem that may well be way beyond the capacity of the sport's governing body to resolve.

But it is my intention to strike an optimistic note here. The Bahrain authorities have shown themselves to be huge supporters of F1 and the government now has a stake in the McLaren empire. Yet the warning signs were on the horizon from the moment the first signs of civil unrest in the Gulf sheikhdom began appearing on our television screens. Formula 1 lost its customary unanimity with Williams revealing that, had the race not been pulled from the calendar, they would not have been attending anyway. Similar signals of dissent also came from the Renault camp. No matter how much the brotherhood may have enjoyed competing at the Sakhir circuit, clearly there was a time and a place for major sporting events to take place in the Middle East. And this was neither.

"How will the Abu Dhabi organisers proceed, given the political climate?"

I can think of only one other occasion when political unrest has come close to jeopardising the staging of a Formula 1 grand prix, and that was in 1977 in Buenos Aires for the Argentine GP. Queuing up to be checked over by nervous-looking teenage army conscripts precariously fingering machine guns was not the best recipe for settling one's breakfast and subtle it certainly wasn't. But when sport and politics collide, it can often be very difficult to predict the outcome. Which is why the Bahrain promoters have, on this occasion, so wisely erred on the side of caution. They at least deserve approval for that.



Bahrain: off the calendar – for the time being at least

Of course, things may have changed sufficiently by the start of next month for the Bahrain promoters to ask the FIA and Bernie Ecclestone if the race can be rescheduled possibly before or after the season finale in Abu Dhabi. It is also quite possible that Bahrain may deem the social conditions within its borders still to be sufficiently volatile for them to postpone attempting to run the race until 2012. All of which leads me to wonder how the organisers of the Abu Dhabi Grand Prix will view proceeding with their own race at the other end of the season, if the political climate in the Gulf region remains as uncertain as it is at the time of writing.

COSWORTH ARE FEELING CONFIDENT

I dropped in on Cosworth a few weeks back to discover a genuine sense of upbeat optimism surrounding their three customer teams and, in particular, high hopes for the Williams FW33 that will be driven by Rubens Barrichello and Pastor Maldonado. I was also reminded that it's 39 years since I first visited their site at St James Mill Road, Northampton, to interview their founder, Keith Duckworth. From a journalistic viewpoint, it was probably the most stressful experience I can ever recall, mainly because Keith assumed that I was as conversant with the subtleties of the internal combustion engine as he was. Seriously scary!

COSWORTH



Cosworth will supply engines to Williams, Virgin and HRT this season – and they're very excited about Williams

PATRICK ON PASTOR: "HE'S NOT A PAY DRIVER"

I was much impressed by Patrick Head's denial that Pastor Maldonado is a pay driver just because he comes with bundles of Venezuelan dosh. "Does that mean that Fernando Alonso is a pay driver at Ferrari because he comes with Santander sponsorship?" booms Patrick. Er, nice one Patrick. Probably, yes!



Pastor Maldonado: not the only F1 driver with a major sponsor

The Malaysian GP preview

by Heikki Kovalainen 10.04.2011 / Sepang

Despite the temperature, the mix of fast and slow corners make this a good circuit to drive



T1



HEIKKI'S TOP OVERTAKING SPOT

The first corner is best because you come out of a very slow hairpin – even slower than the second to last corner if you like – plus the entry to the first corner is more like a hairpin. On the last corner you can take a defensive line without losing time.

T13



HEIKKI'S INSIDE TIP

The penultimate corner is the hardest and, again, there are a lot of different lines so you have to make a decision about which line to take. The idea is to maximise the entry without compromising your exit. You can do both if you nail it.



T5

T6

T7

T8

HEIKKI'S CIRCUIT HIGHLIGHT

I think that Turns 5 through to Turn 8 are my favourites – they're fast corners. You've got quite a good grip and a smooth surface that hasn't got any big bumps. But you need to get the high-speed stability right to be able to go faster here.

Sector one

68mph
2nd gear

T4

150mph
6th gear

T5

154mph
6th gear

T6

60mph
2nd gear

T15

T8

T7

126mph
4th gear

118mph
4th gear

"The extremely hot conditions make Sepang one of the toughest races physically for drivers, teams and cars"

Acclimatisation is the key in Malaysia...

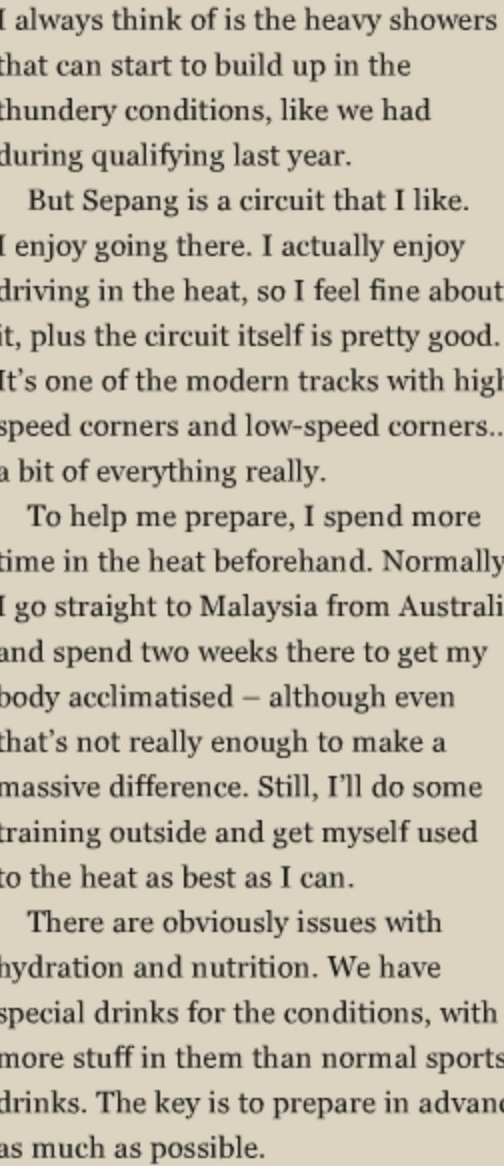
The first thing that comes to mind when I think of Malaysia is the heat and the humidity. The extremely hot conditions make it one of the toughest races physically for drivers, teams and cars. The other thing that

I always think of is the heavy showers that can start to build up in the thundery conditions, like we had during qualifying last year.

But Sepang is a circuit that I like. I enjoy going there. I actually enjoy driving in the heat, so I feel fine about it, plus the circuit itself is pretty good. It's one of the modern tracks with high-speed corners and low-speed corners... a bit of everything really.

To help me prepare, I spend more time in the heat beforehand. Normally I go straight to Malaysia from Australia and spend two weeks there to get my body acclimatised – although even that's not really enough to make a massive difference. Still, I'll do some training outside and get myself used to the heat as best as I can.

There are obviously issues with hydration and nutrition. We have special drinks for the conditions, with more stuff in them than normal sports drinks. The key is to prepare in advance as much as possible.



All you need to know

CIRCUIT STATS

- Round 2/19
- Track length:** 3.444 miles
- Race length:** 192.878 miles
- Laps:** 56
- Direction:** Clockwise
- F1 debut:** 1999
- Lap record:** 1min 34.223secs
Juan Pablo Montoya (2004)
- Last five winners:** 2010 Sebastian Vettel
2009 Jenson Button
2008 Kimi Räikkönen
2007 Fernando Alonso
2006 Giancarlo Fisichella

Tyre allocation

Prime: Hard
Option: Soft

TV SCHEDULE

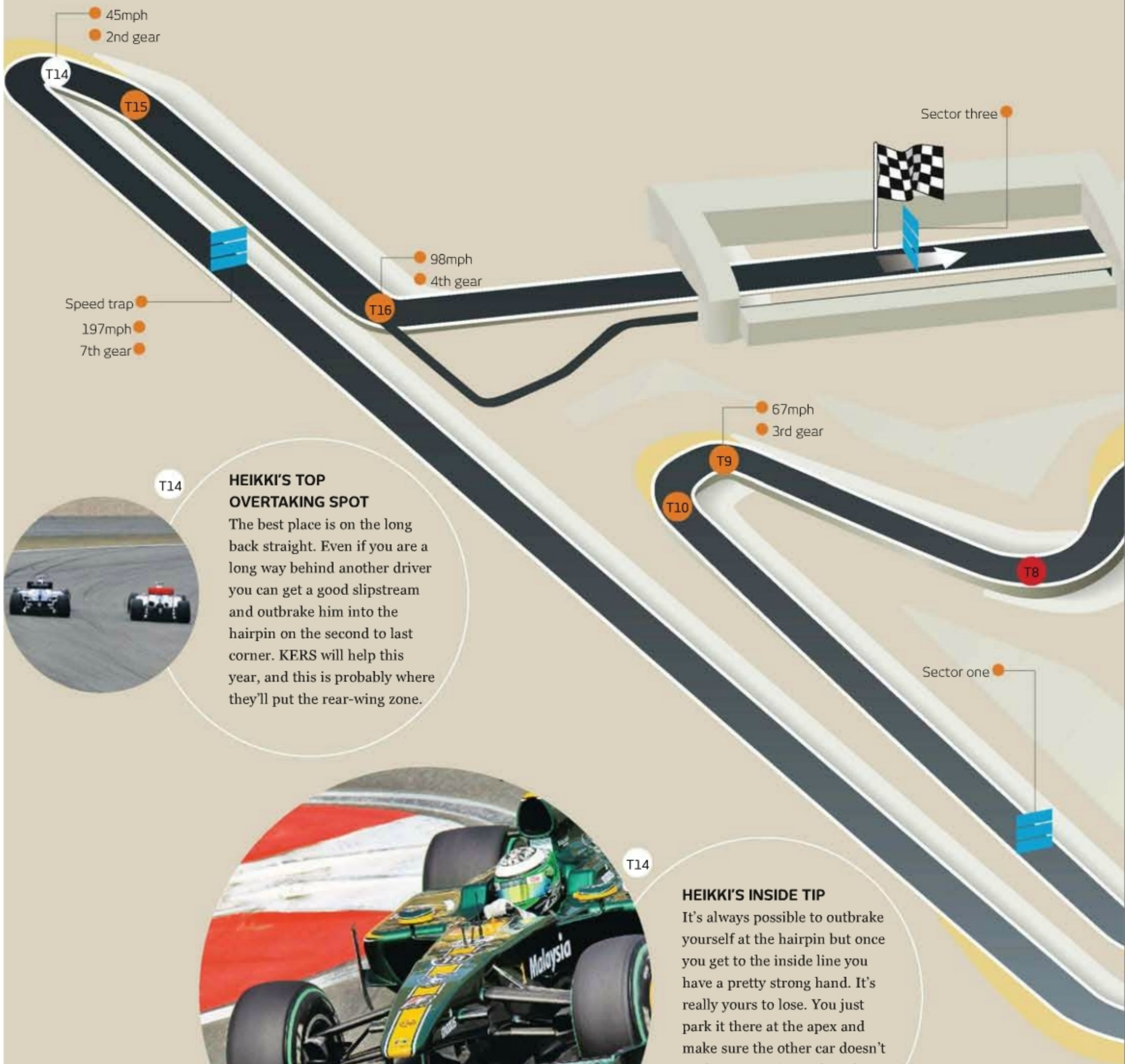
- Timetable (UK time)
- Fri 08 April**
Practice 1: 03:00 - 04:30
Practice 2: 07:00 - 08:30
- Sat 09 April**
Practice 3: 06:00 - 07:00
Qualifying: 09:00
- Sun 10 April**
Race: 09:00

ILLUSTRATION: ALAN ELDRIDGE. PHOTOS: GLENN DUNBAR/LAT; STEVE ETHERINGTON/LAT

The Chinese GP preview

by Heikki Kovalainen 17.04.2011 / Shanghai

A Tilke-designed circuit, with compromises to be made between downforce and straightline speed



T14

HEIKKI'S TOP OVERTAKING SPOT

The best place is on the long back straight. Even if you are a long way behind another driver you can get a good slipstream and outbrake him into the hairpin on the second to last corner. KERS will help this year, and this is probably where they'll put the rear-wing zone.

T14

HEIKKI'S INSIDE TIP

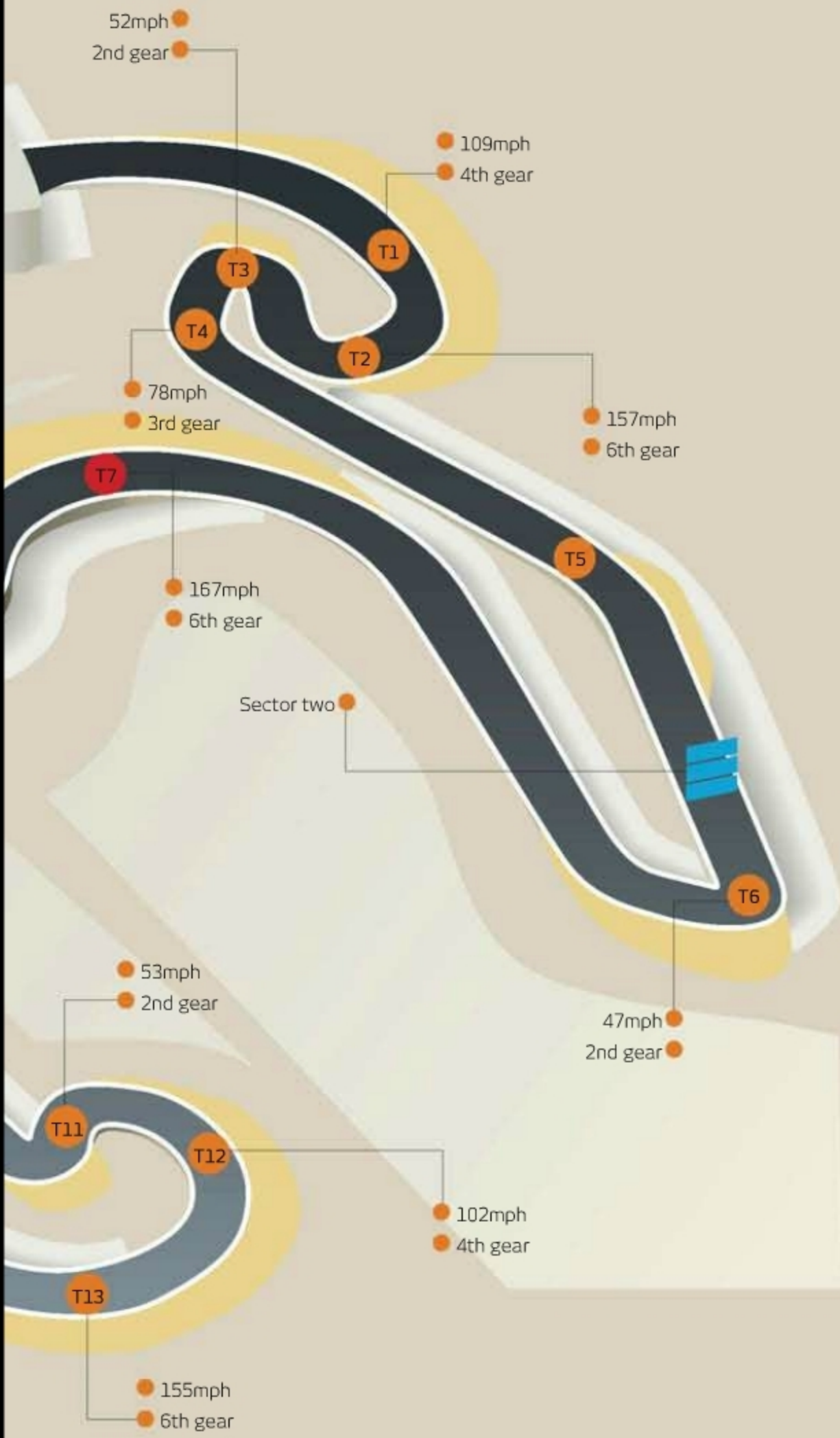
It's always possible to outbrake yourself at the hairpin but once you get to the inside line you have a pretty strong hand. It's really yours to lose. You just park it there at the apex and make sure the other car doesn't get better traction – then there is nothing they can do.





HEIKKI'S CIRCUIT HIGHLIGHT

I think I find in Shanghai, as I do in Malaysia, that it's the high speed corners that I enjoy the most. Turn 7 and Turn 8 are the best bits – Turn 7 is the first fast left. And for me, that's definitely my favourite part.



The best bit about China? No jet lag...

Shanghai is a Tilke-designed circuit with all types of corners, and long straights. You need to find a lot of compromise with the downforce level here as you can't run the maximum downforce for the first two thirds of the circuit because you need straightline speed on the last sector.

China differs from Malaysia in that it usually runs in quite cool conditions. Sometimes it can be quite difficult to get the tyres warmed up and working properly in the right temperature zone. This is always a challenge here, plus you've usually got a pretty good chance of rain. I've raced in the wet in China on a few occasions, so I know I need to be prepared for it to happen.

"It can be hard getting the tyres warmed up, plus there's usually a good chance of rain"

It's good fun racing in the Asian countries. I enjoy Asian food and I like the people, plus the fans are really hardcore – they're really warm in their support. Generally, I have always had a good time here. And jet lag is not a problem because by the time I get to China, I've already been in Asia for a couple of weeks – so I don't suffer too much. I'll prepare for it before I start travelling by altering my timings a little bit while I'm still at home.



All you need to know

CIRCUIT STATS

- Round 3/19
- Track length:** 3.387 miles
- Race length:** 189.559 miles
- Laps:** 56
- Direction:** Clockwise
- F1 debut:** 2004
- Lap record:** 1min 32.238secs
Michael Schumacher (2004)
- Last five winners:**
2010 Jenson Button
2009 Sebastian Vettel
2008 Lewis Hamilton
2007 Kimi Räikkönen
2006 Michael Schumacher

Tyre allocation

- Prime: Hard
- Option: Soft

Timetable (UK time)

- Fri 15 April**
Practice 1 03:00 - 04:30
Practice 2 07:00 - 08:30
- Sat 16 April**
Practice 3 04:00 - 05:00
Qualifying 07:00
- Sun 17 April**
Race 08:00

ILLUSTRATION: ALAN ELDRIDGE. PHOTOS: ANDREW FERRARO/LAT; GLENN DUNBAR/LAT



Inside the mind of... **KARUN CHANDHOK**

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

Full name: KARUN CHANDHOK Nickname: "GOSSIP KING"
 Occupation: BRUNO SENNA'S WAKE UP ALARM! F1 RACING CONSULTANT
 Describe yourself in three words: CHEEKY PROFESSIONAL OBSESSED WITH F1
 Who is your favourite F1 driver in history and why? ALAIN PROST - LOVED HIS ABILITY TO LOOK ~~SO~~ SLOW BUT BE QUICK!
 What's your favourite corner in F1? LEFT HANDER AROUND HOTEL DE PARIS Who's your best mate in F1? BERME :-)))
 What's the best grand prix you've ever seen? 1986 ADELAIDE! Who do you owe your success to? MY BANK MANAGER!
 What was your best overtaking manoeuvre? PASSING ANDY SOUCEK AROUND THE OUTSIDE AT LES COMBES TO WIN AT SPA IN GP2
 If F1 could introduce one new rule, what would it be? PUSH TO PASS LIKE INDY HAVE
 What would you be if you weren't an F1 driver? F1 RACING ARCHIVE EDITOR!
 What's the best piece of advice you've ever had in F1? ALWAYS ASSUME EVERYONE IS PLAYING A DOUBLE GAME WAS WHAT A FORMER DRIVER TOLD ME
 What's your career highlight so far? MALAYSIAN GP WHERE I HAD MY STRONGEST WEEKEND SO FAR What car do you drive? VHM... A PASSAT!
 What was the last thing Bernie Ecclestone said to you? KEEP YOUR CHIN UP!

Who's the sport's toughest competitor (apart from you)?

ALONSO

What are the three key elements to a perfect lap?

NO BLUE FLAGS!

7 GEARS!

NO CURRY BEFORE DRIVING

Please draw a quick self-portrait:



MY BUDAPEST LOOK FROM THE COMBES BOX!

I declare that all the information on this form is correct to the best of my knowledge

signed

Karun

WIN THIS FORM!

Karun Chandhok was the second Indian driver to race in Formula 1. Who was the first?

- a) Narain Karthikeyan
- b) Sundaram Karivardhan
- c) Armaan Ebrahim

Email your answer to writeoff@haymarket.com or enter at www.f1racing.co.uk. The winner will be chosen at random.

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