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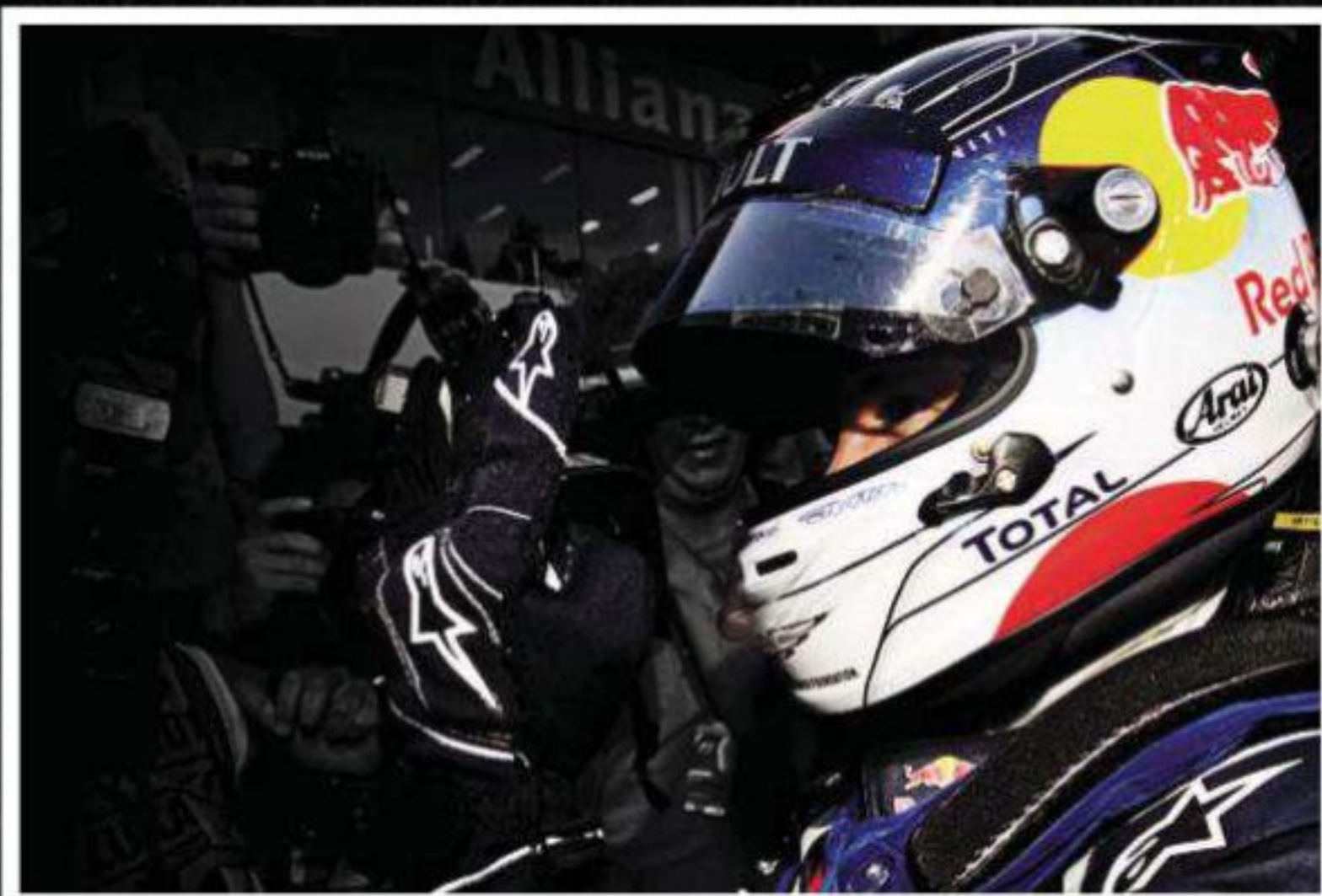
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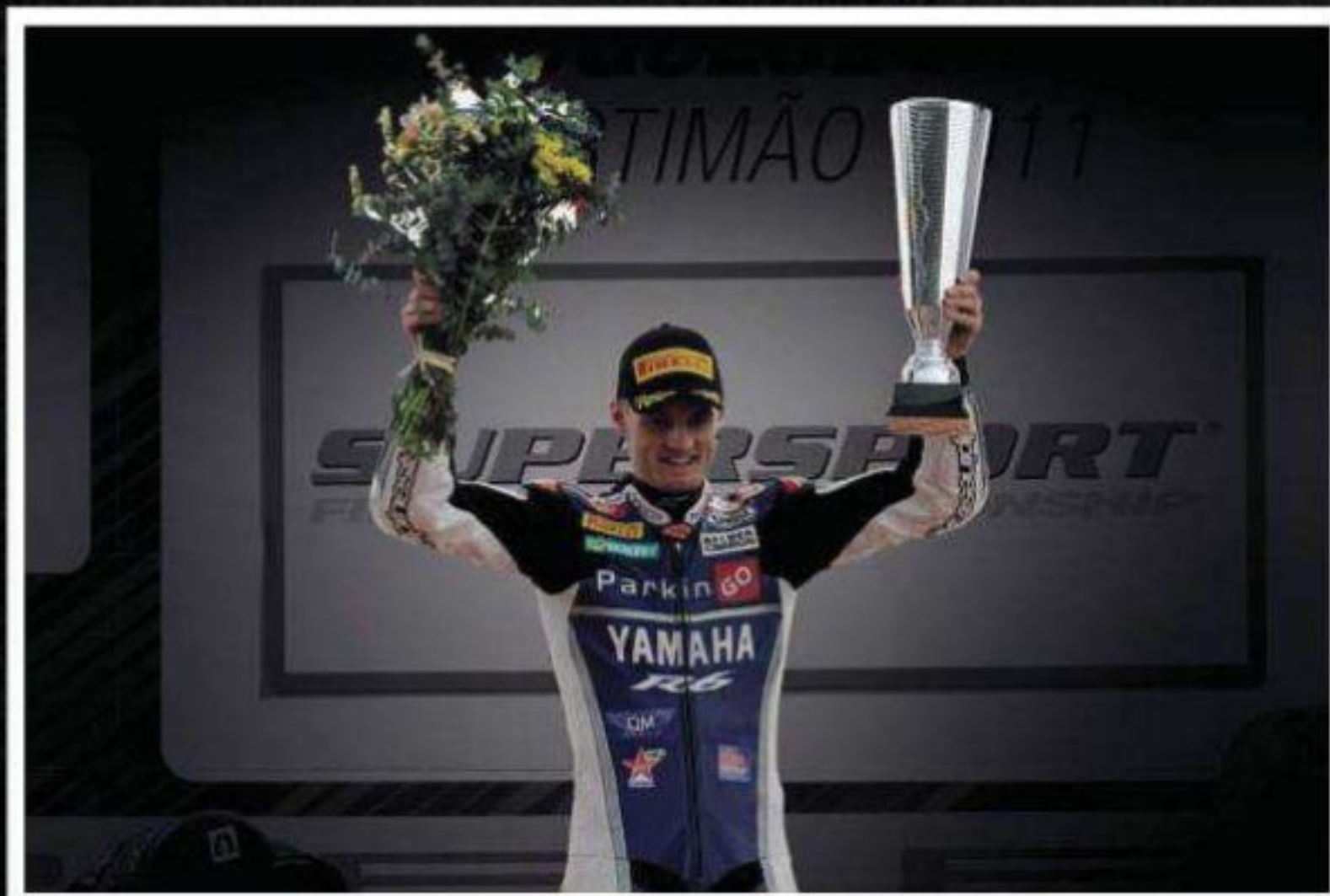
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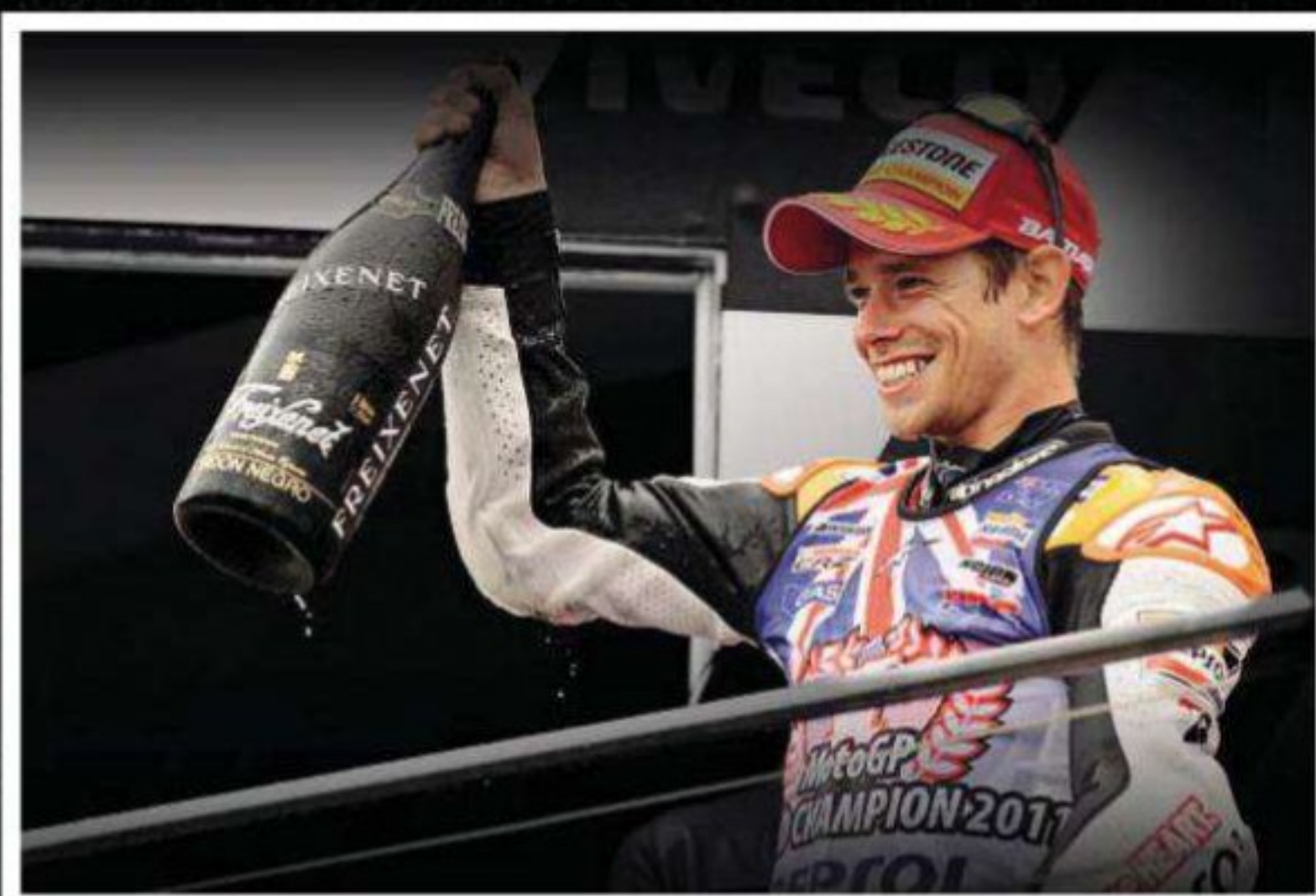




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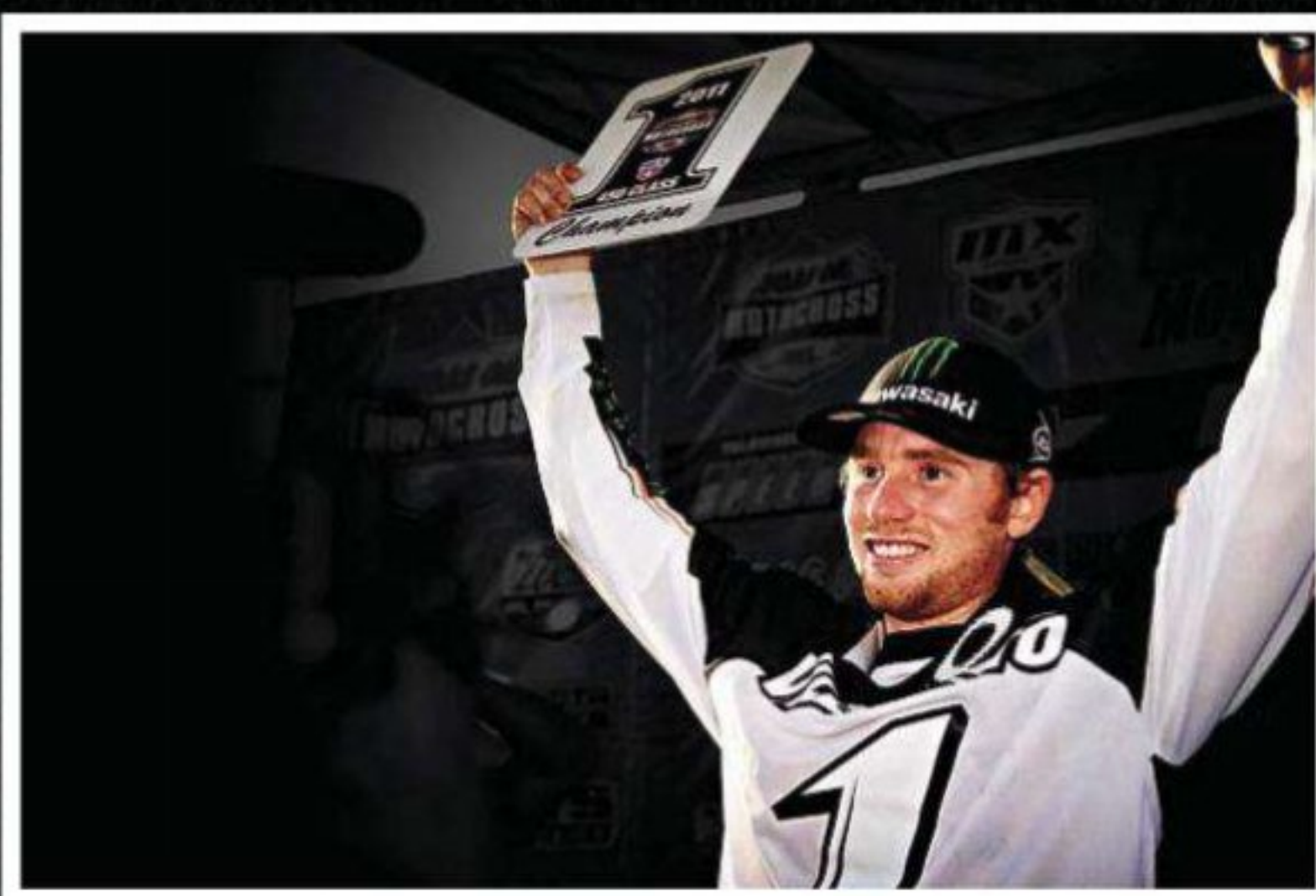
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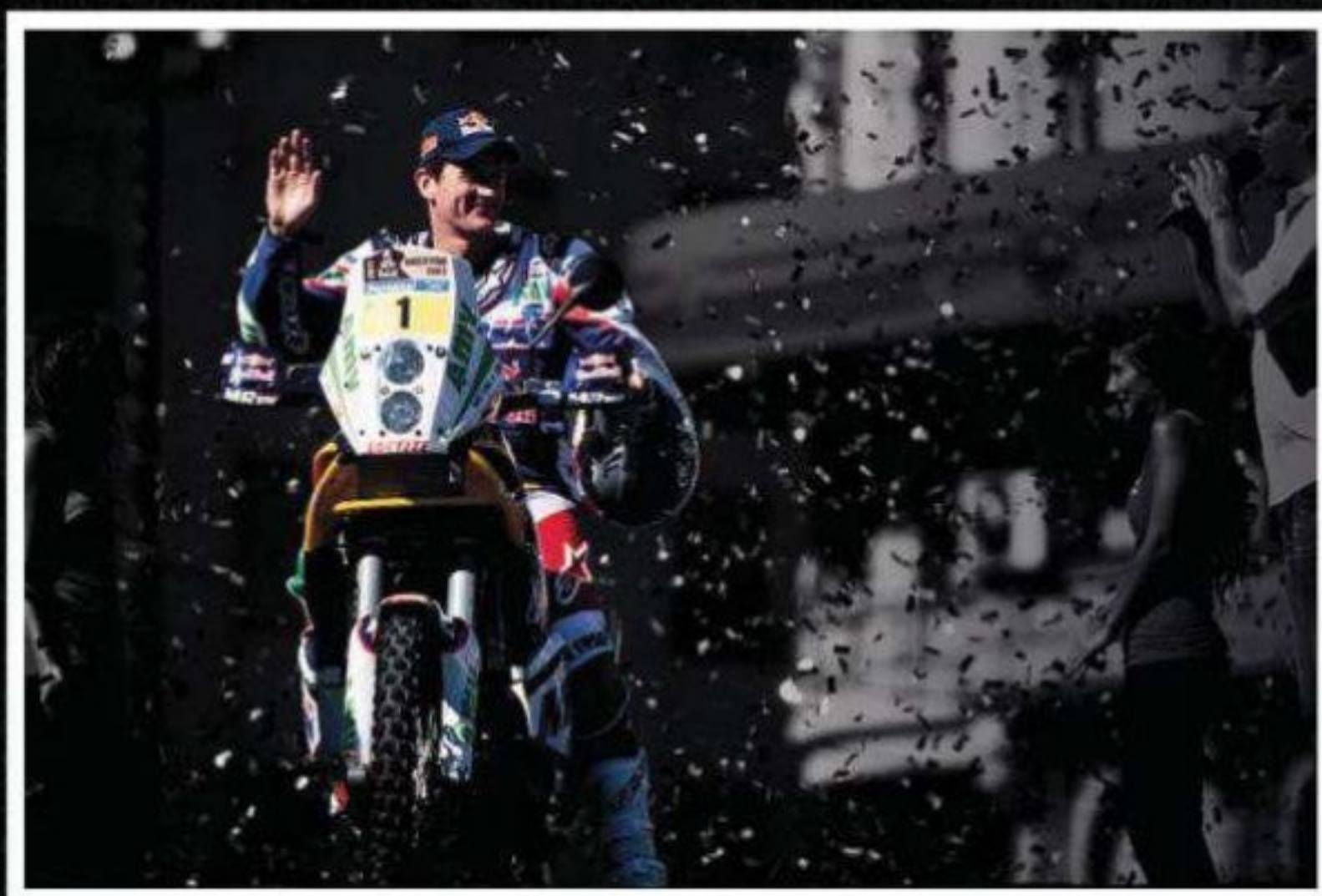
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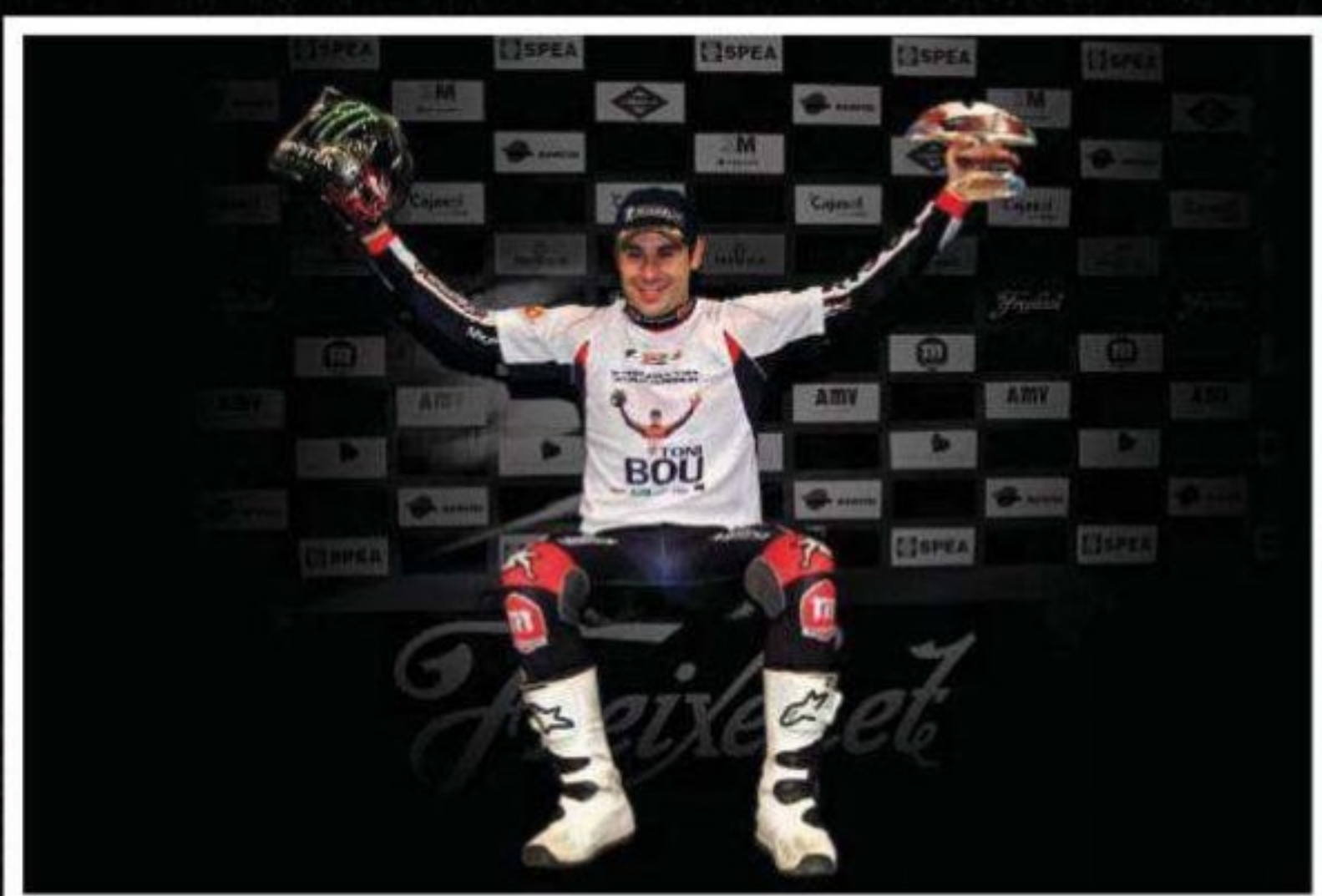




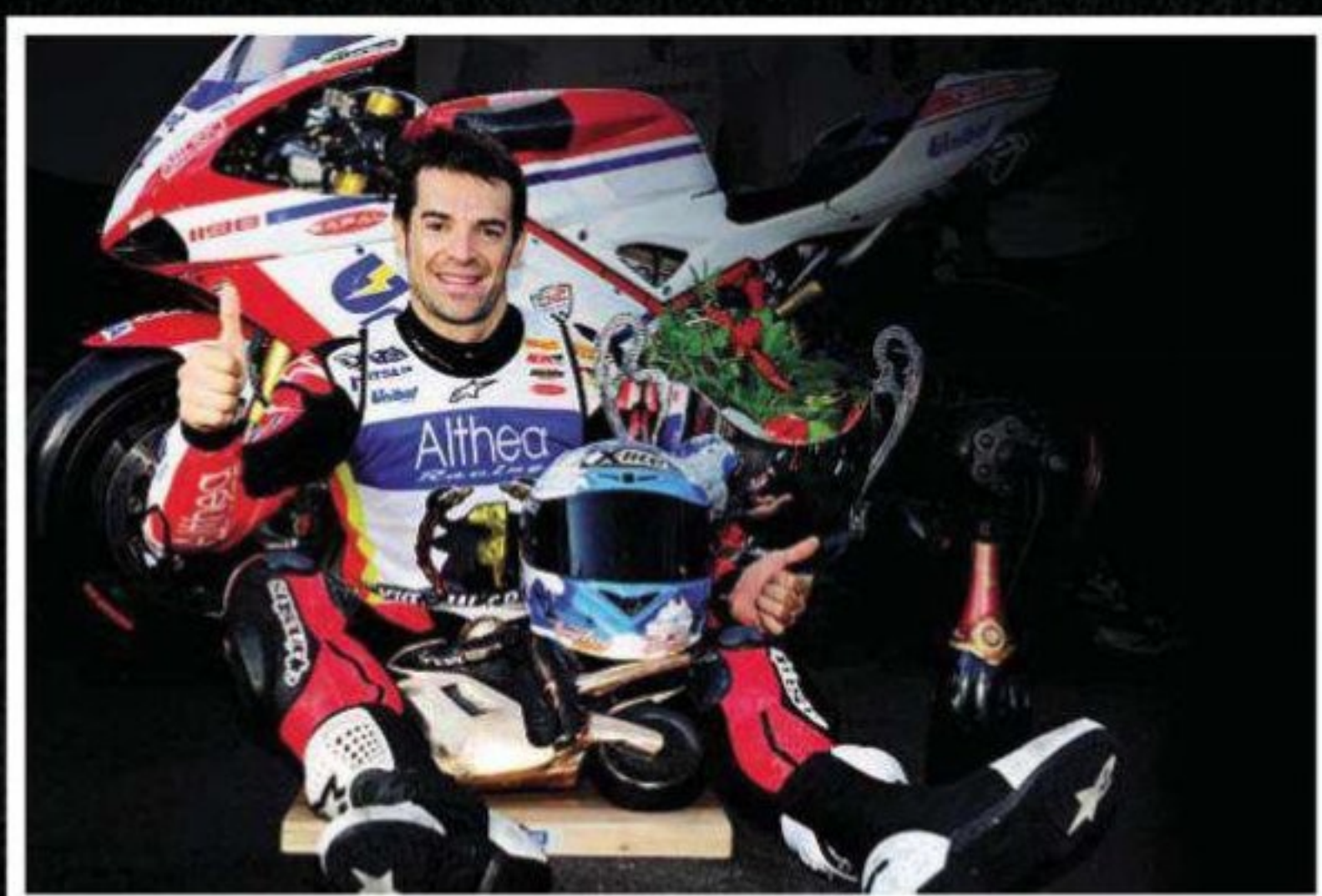
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December 15-22 2011 – vol 206 no 11



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**"Kimi is a cool guy, and he has grown up. He knows what people expect and I think he takes it a bit more seriously than when he was at McLaren"**

**GROUP LOTUS CEO DANY BAHAR IS CONFIDENT RAIKKONEN CAN DELIVER**

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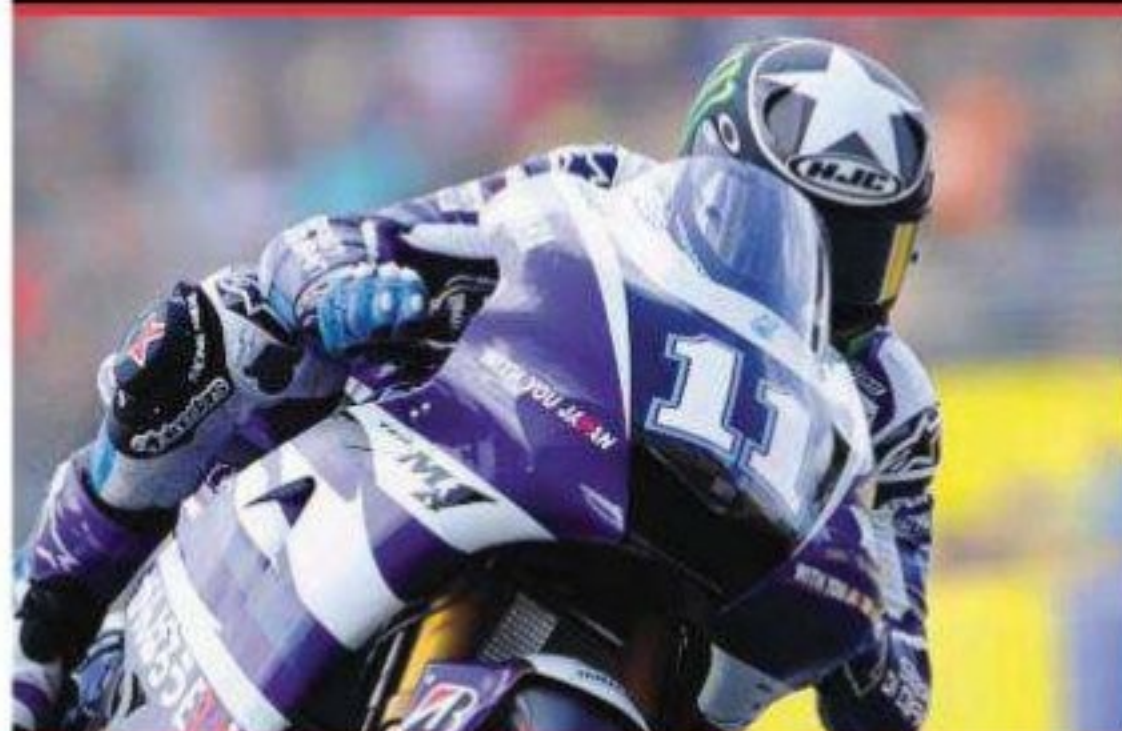
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## POLE POSITION

# Join us as we look back on a classic season of F1



THERE'S A DIFFERENT LOOK TO OUR Christmas double issue this year, as the demands of the ever-expanding grand prix calendar mean our in-depth Formula 1 season review takes centre stage.

And what a season it was: Sebastian Vettel joined the grand prix all-time greats – see Mark Hughes's top-10 driver rankings (p38), David Coulthard's exclusive view (page 44) and our revealing interview with Adrian Newey (p48) for validation.

The team principals give their top-10 ratings straight from the pitwall, and we also speak to Michael Schumacher, Felipe Massa and Ferrari's Pat Fry about their recent travails and hopes for the future. And on the subject of tricky seasons, we evaluate the rollercoaster 12 months of Lewis Hamilton, and get to the bottom of what scuppered Renault after its false dawn.

If you're a fan of our annual Top-50 driver rankings, don't fear: you'll find it on autosport.com 'PLUS' on December 21. And don't forget our final 2011 issue on December 29, when we look back on the rest of the international year.

I wish you a very merry Christmas.

Charles Bradley, editor

## BAMBER'S WEEK





FORMULA 1

## Boulevard of realised dreams

Red Bull teamsters Mark Webber and Sebastian Vettel entertained an estimated 60,000 crowd as they raced up Midsummer Boulevard in the team's home town of Milton Keynes. Presumably those wide, sweeping roundabouts that predominate in MK would truly play to the team's aero strengths if anyone thought of racing there.

Pic: Staley/LAT



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Grosjean impressed Renault in free practice at Interlagos

# Grosjean takes on Raikkonen

GP2 champion granted equal status with world champion, and tipped to give him a hard time. By EDD STRAW

**L**otus expects GP2 champion Romain Grosjean to push his team-mate, former world champion Kimi Raikkonen, after signing him up for 2012.

Grosjean has been granted equal status in the team with the returning Finn, and he is well-placed to be one of the revelations of the 2012 season. The move comes two years after he was dropped by the team, then called Renault, after replacing Nelson Piquet Jr in late '09.

Meanwhile, Raikkonen has been outside of car racing for two years, aside from a couple of NASCAR outings, and has competed mainly in the World Rally Championship.

Team boss Eric Boullier, who has overseen the Franco-Swiss driver's career in his capacity as Gravity Sport Management head, has no doubts that Grosjean is ready for F1.

"Romain is the driver that ticked

all of the boxes," Boullier told AUTOSPORT. "He fulfilled all of the objectives that we set him and he also got back his credibility in the F1 paddock and in the team. Because I've been watching him for a long time, I know what his speed is like.

"It will be equal status between them, although naturally I will expect some leadership from Kimi because of his experience. The aim is to have two top-class drivers because they push each other. You can create very good competition between them and that can help them find the speed of the car. That's very good for team performance."

Even though both Raikkonen and Grosjean have been absent from F1 for two years, Boullier believes that both have the class to get back up to speed, which makes his new line-up for next year worth the risk.

"When you have the chance to



Boullier insists Grosjean is ready

have two pure diamonds, you just have to polish them," he said. "In one case [Raikkonen] you have to refresh it and in the other [Grosjean] you have to build it up.

"They have to develop differently. Even though Romain had seven races in 2009 he is still a rookie compared to those with thousands of miles of testing. Kimi has to get back to his peak and find his reflexes, which should not take long. They both have a high level of talent and very good speed. So it's down to them to

get used to working with the team, the Pirelli tyres and the regulations."

Grosjean admits that he is relishing the challenge of taking on Raikkonen. It is the second time that he has been paired with a world champion, after being Fernando Alonso's team-mate in 2009. He suspects that his knowledge of the Pirelli tyres, from Friday practice sessions and as a test driver for the Italian company, is one advantage in his armoury.

"Kimi is a fantastic driver," said Grosjean. "I'm sure that I will learn a lot from him. But on the other hand I know the Pirelli tyres, so that's on my side. It's going to be a very interesting year. Kimi has been in a rally car for two years and I have been trying to make my way back into F1. We both missed 2010 and 2011 — we have that in common — so let's come back together."



## TEAM-MATE SURPRISES

### LEWIS HAMILTON/FERNANDO ALONSO

The GP2 champion was expected to play second fiddle to Fernando Alonso at McLaren in 2007, but ended up shading him in the championship. The relationship between the pair broke down in Hungary, where the Spaniard baulked Hamilton in the pits ahead of their final qualifying laps.



### NIGEL MANSELL/KEKE ROSBERG & NELSON PIQUET

The 31-year-old Brit was perceived as a journeyman when he joined Williams in 1985. Yet that season he showed strongly against former world champion Keke Rosberg by winning two late-season grands prix. He outperformed megastar new signing Nelson Piquet the following season.



### MICHAEL SCHUMACHER/NELSON PIQUET

After his famous Spa debut with Jordan, Schumacher switched to Benetton and immediately started outpacing three-times world champion Piquet. Schumacher outqualified the veteran in four out of their five races together, and the Brazilian's F1 career was over.



### JACKIE STEWART/GRAHAM HILL

The Scot had built up a good reputation early in his career, but when he stepped up to grand prix racing with BRM in 1965 few expected him to trouble Graham Hill. He pushed him hard all season and claimed a first victory at Monza after Hill ran off the track at Parabolica on the last lap.



## AUTOSPORT SAYS...

### EDD STRAW F1 EDITOR

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**R**omain Grosjean may become Kimi Raikkonen's worst nightmare. The 2007 world champion already has the challenge of reacclimatising to Formula 1 after two years of rallying, not to mention a car that is more likely to be thereabouts than there. And now he has a seriously fast team-mate.

The Grosjean of 2009 did a better job with Renault than most gave him credit for, after zero testing. And now here is a new Grosjean, every bit as fast as he always was, but now a more mature, rounded individual who has the toolkit to make the most of his talent.

Team boss Eric Boullier played a key part in Grosjean's rehabilitation and has backed him to the hilt by pushing for him to be in the car. There's no way he would have done that if he wasn't absolutely confident that he will fulfil the expectations. Grosjean has championship wins in French Formula Renault, the Formula 3 Euro Series, Auto GP and the GP2 Series under his belt, and he has that stellar CV for a reason.

He has stared into career oblivion and made his way back, and knows exactly what is at stake. As Michael Schumacher's return has shown, experience doesn't count for so much when you've been away, and Raikkonen could be brutally exposed if he takes time to feel his way back in.

And even if Raikkonen is on it from the off, expect Grosjean to be snapping at his heels. He has that much potential.



Grosjean will give Kimi a hard time

## ➔ P13 SENNA'S OPTIONS

Fuel company Total played a part in Grosjean's signing, although the deal extending the contract between the lubricants manufacturer and the Lotus team was completed last month. The driver announcement was made in a joint press conference with Total and the company plans to use him extensively in its own PR projects, but Boullier insists that it never insisted on a French driver.

He has been convinced that Grosjean is the right choice given that the injured Robert Kubica is now almost certain to make his F1 comeback with another team, and any financial support from Total did not play a part in the decision. He added that his management relationship with Grosjean was also immaterial.

"I don't believe I've been too close or too friendly and in fact it's more a case of the reverse," said Boullier. "Romain respected what we wanted him to do."

Grosjean added: "Lotus made a decision based on performance. It was not a money decision and I'm pleased. Total made a big effort, but everybody has been going in the same direction."

**6.58pm**

The exact time – as recalled by the man himself – that Romain Grosjean's phone rang last Wednesday evening, with team boss Eric Boullier on the line telling him he would be racing for Lotus next year.



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Senna is looking for another seat in F1

# Senna open to NASCAR future

After losing his Lotus seat, the Brazilian is prepared to look elsewhere if he fails to land another F1 drive

**B**runo Senna will consider a switch to NASCAR if he can't land a Formula 1 seat next year.

The Brazilian is determined to stay in grand prix racing despite missing out on a Lotus drive and would consider either a race seat or a test role with running during free practice. The 28-year-old remains a contender for race seats at Williams, Caterham and HRT but accepts that if he can't land a place in F1, he must attempt to make a career for himself in a different discipline.

Senna added that if he did switch to NASCAR, he would be happy to do so in one of the junior categories, such as Trucks or ARCA (the third and fourth tiers respectively), in order to learn his trade.

"If everything fails in F1, then maybe it's time to move to the United States and do something else there," Senna told AUTOSPORT. "It's very doubtful that I would go to IndyCar because I'm not keen on the combination of ovals and single-seaters and I don't think my

Ex-F1 racer Nelson Piquet Jr has turned to NASCAR



family would allow me to do it. But it would be NASCAR.

"It's important not to jump straight into the [top level] Cup series because it would be a big struggle because it's a very different type of racing. So it will be like climbing from F3 up to F1 again."

Senna admitted that he might consider a switch to sportscars, although it would have to be with a manufacturer team. He also did not rule out a return to GP2, in which he finished second in 2008.

"You have to be in the right team to win and if you're not in the right

place at the right time, you look like a fool," he said. "GP2 is an option only if everything else fails."

Senna is understood to have good financial backing, which will strengthen his position, but with only three race seats likely to be available he faces a tough fight to stay in F1.

"We are looking at all the seats that are free," he added. "There are some teams a bit up in the air about contracts, so it's not all lost. The competition is strong and hopefully I will be one of the winners in this game of musical chairs."

## Key changes to Formula 1 regulations for 2012

### THE FIA'S WORLD MOTOR SPORT

Council approved a number of changes to the 2012 Formula 1 sporting and technical regulations for next season. AUTOSPORT runs the rule over the most significant changes.

- A new overtaking rule, preventing drivers from 'moving back onto the racing line having moved off it to defend a position', was rubber-stamped.

- The 2012 exhaust regulations, preventing exhaust-blown diffusers by mandating top-exit exhausts, were approved.

- Grand prix race time limited to a maximum of four hours, capping the length of a race suspension (red flag).

- All lapped cars will be allowed to unlap themselves under the safety car to prevent backmarkers interfering with the race near the front of the queue.

- Drivers short-cutting the track without a 'justified reason' will be punished.

- A driver can now use any of his tyre allocation on the opening day of practice. Previously, there were restrictions on the rubber used.



Rules on defending have been cleared up





L-r: David Croft, Georgie Thompson, Simon Lazenby, Martin Brundle, Natalie Pinkham, Anthony Davidson, Ted Kravitz

# Sky's blueprint for F1 2012

When Sky announced that it would be broadcasting Formula 1 in the UK, it promised to raise the bar for grand prix coverage. Last week it announced its full presenting team, including BBC defectors Martin Brundle and Anthony Davidson. Here's a taste of what else Sky has planned for its F1 coverage in 2012.

## BEHIND THE SCENES

**SKY HAS COMMITTED TO A** significant amount of programming outside of its live broadcasting. Overall, the aim is to try to offer more in-depth coverage of the major F1 stories both during race weekends and outside them.

There will be extensive behind-the-scenes coverage dedicated to the lower-profile people involved in the sport.



Sky plans features on everyone in paddock

Practice-session analyst Anthony Davidson said: "With F1 there are so many important roles, and a lot of the time the sport is guilty of just focusing on the celebrities in the paddock. Teams are built up of 50 people now at the track and there are another 700-odd back at base for the bigger teams. There are a hell of a lot of things going on."

There is also a desire to better plot the narrative of weekends. Reporter Ted Kravitz added: "These technical rows like we had this year at Silverstone, when we went on air we only said, 'This is what the situation is now.'"

"It was the same with the tyre [blistering] story at Spa. We never got into it. I'm looking forward to the big stories."

## MORE TIME FOR ANALYSIS



### SKY HAS SET NEW STANDARDS

for analytical tools in sports broadcasting and it plans to introduce a number of new innovations to its coverage, which will feature extensive build-up and post-race airtime.

Anthony Davidson said: "We're now going to have the dedicated channel where we can just take our time and go through the overtaking manoeuvres. The clashes between Felipe Massa and Lewis Hamilton, for example, we can delve deep into why they happened, where they were on track, view it from lots of different angles and spin it around in 3D."

Sky has made use of 3D analytical technology in both its football and

cricket coverage. The ability to render events in 3D and then view them from any angle would be unique to Sky's coverage.

It is also hoped that Sky will be able to conduct more in-depth analysis of race strategy. Ted Kravitz, who joins Sky from the BBC as one of its pitlane reporters alongside Natalie Pinkham, is keen to focus on post-race analysis.

"There's stuff that just hasn't been done before in terms of graphics and analysis of strategy," he said. "I've got some ideas about how to tell those stories that normally we'd talk about during the race and it will evolve, but there are actually graphical ways that we can show how somebody missed out in a stint or how somebody made up a place in the stops. I'm looking forward to delving into the strategy a bit more."

Such features can also be included in the magazine programmes that Sky plans to put together. This opens up the possibility for more reflective reviews of the race that could be broadcast more than 24 hours after the live coverage.



## BIG HISTORICAL PUSH

**FORMER ITV ANCHOR STEVE Rider** will conduct a series of interviews with former greats for Sky.

It is hoped that all the living world champions will feature in interviews, with a wide range of high-profile ex-drivers also being lined up.

"We've started already with Emerson Fittipaldi in Sao Paulo, and we hope to do the same with every surviving world champion," explained Rider.

"We want to get their views on what happened 20 or 30



Emmo has already been interviewed

years ago, the style of racing in their day, the experience of racing in their day and the contrasts with today. The great luxury is having a lot of airtime, so you can really go to town. They are great

storytellers and it will be important for Sky to acknowledge the history."

Sky is also keen to exploit the FOM archive, which is available to it as part of the deal.

"Just about everything that is out there will be available to us," says Rider. "Plus, we've got researchers on the ground, as when you go back to the 1960s and '70s there are loads of people with cine cameras and boxes full of film. We'll try to create an outlet for that sort of material as well."

## COMMENTARY-BOX RAPPORT

**DAVID CROFT, BBC RADIO 5 LIVE** lead commentator for the past six years, will partner Martin Brundle to call the race for Sky. They are confident of a good rapport.

"Any commentary team is a partnership," said Croft. "Martin and I are going to spend as much time with each other next year as we do with our other halves and we've got to have that same sort of understanding."

Brundle will return to his previous summariser role after a year as lead commentator.

"I'm stepping back to what I did for 14 years, being the expert witness and giving the driver's-eye view. Croft is going to be the lead. One of the clear criteria I had when we first started speaking is that I didn't want to commentate on the practice sessions because that's when I'm walking the track,



Brundle will go back to analyst role

going up and down the pitlane and gathering information, not delivering content."

The lead-commentator role can be an emotive one for fans. Croft has experience commentating on TV on both World GT and GP2 and is looking forward to the challenge of adapting to the medium. He will partner Brundle during qualifying and the race, and renew his 5 Live partnership with Anthony Davidson in practice.

"I can breathe now on the first lap," said Croft. "I don't have to be at full pelt the whole time, which will give me time to think about what I'm seeing."

"I'm renowned for enthusiasm and energy and I'm not going to leave that out at all, because the more enthused you are by what you are seeing, the more you're going to carry these people that have invited you into their living room."

## TECHNICAL FEATURES



Plan is to focus on tech details

**MARTIN BRUNDLE HAS SAID** several times that the opportunity to carry more technical content than he was able to on the BBC was key to his decision to switch to Sky.

Brundle is hoping to use footage and custom graphics in order to boost this specialised programming.

"There are stories that have got to be told and you can't always do it with a real car," said Brundle. "Graphics are better."

"I've always liked doing the technical stuff, right from the beginning in my ITV days. It has frustrated me of late with, for example, those Pirelli pieces that I did. We were only able to get four two-and-a-half-minute

pieces in the show, two on qualifying and two on race day. There is so much more to tell."

"I don't feel in the last two years that we've really explained f-ducts properly or DRS or a blown diffuser. That has frustrated me a lot. I'd like to get more into that and I can think of 50 stories that I want to tell."

There is also likely to be technical content created away from the race weekend, with pieces filmed at F1 team factories.

## THIS WEEK IN F1



**RED BULL** Chief technical officer Adrian Newey is confident that the new RB8 will be ready in time for the first pre-season test on February 7, but admitted that the schedule is "tight".



**McLAREN** Bernie Ecclestone has suggested that ex-world champion Lewis Hamilton would have been better off to stick with his father, Anthony Hamilton, as manager. In an interview with *The Guardian*, Ecclestone suggested that "he didn't appreciate how much help his dad was".



**MERCEDES** Dyno work on the 2014 Mercedes V6 F1 engine is expected to start imminently. Mercedes is well-advanced with work on its new powerplant.



**LOTUS** New signing Kimi Raikkonen escaped serious injury after crashing during a snowmobile race in Austria last Saturday. The Finn suffered a sore wrist in the accident, which is not expected to hinder his F1 return.



**FORCE INDIA** Ferrari tester Jules Bianchi is believed to be closing on a third-driver role with the Silverstone-based team. The Frenchman would run regularly during Friday-morning practice as part of the deal.



**SAUBER** Rookie Sergio Perez has named the Japanese Grand Prix as his highlight of the season. The Mexican finished eighth in the race and set the second-fastest lap.



**TORO ROSSO** The Italian team was expected to serve notice of its intent to leave FOTA as AUTOSPORT closed for press. Red Bull, Ferrari and Sauber have already begun to work through their two-month notice periods.



**CATERHAM** Veteran Jarno Trulli's future at the team remains bleak, with a number of drivers having approached the squad. AUTOSPORT understands that a deal to run HRT's Daniel Ricciardo with Red Bull backing is close, but that Renault refugees Bruno Senna and Vitaly Petrov have been in talks.



**HRT** The Spanish squad insists that it will head up the design and build of its own monocoque. This is despite sources indicating that Caterham Technology and Innovation, an offshoot of Caterham F1, is involved in the project.



**MARUSSIA** New signing Charles Pic does not expect to be fully up to speed by the start of his rookie F1 season. "Six days of testing is a very short period and not quite enough," he said.



**BBC** The BBC was awarded the FIA's prize for best F1 broadcaster at last weekend's gala event in New Delhi. Force India team principal Vijay Mallya presented the award.



**USA** The United States GP remains on the 2012 F1 calendar after last week's FIA's World Motor Sport Council. But question marks still remain over whether the Austin track will be ready.





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# MPH Mark Hughes

AUTOSPORT grand prix editor

Is the withdrawal from FOTA of Ferrari, Red Bull and Sauber the end of the teams body's useful life? Or does it free it up to take on those who care little about driving the sport away from its traditional heartland?

**S**o, predictably it's happened: Ferrari and Red Bull, two of the three biggest names in Formula 1, have pulled out of teams body FOTA. There was no great surprise at the news; it had been coming for weeks, ever since other teams began voicing suspicions that Red Bull was not sticking to the (voluntary) Resource Restriction Agreement and Ferrari started making noises about how, if one team wasn't playing, then perhaps the whole point of both the agreement and FOTA itself should be questioned.

FOTA was formed originally to combat the divide-and-conquer modus operandi of Max Mosley and Bernie Ecclestone. After Max stood down as FIA president, the body continued to work away at keeping more of the generated income within the sport, rather than bleeding it out to the private-equity company that Bernie represents.

PIC: THOMPSON/GETTY

For a time it was successful in this, its united strength far greater than the sum of its parts, but Ferrari and Red Bull were always seen as the two most likely to defect.

Back in 2005, the last time the teams had a seriously strong hand, Ferrari had done a deal that enhanced its own interests and in the process made unviable the negotiating position of those remaining. Red Bull, meanwhile, was getting heat from the other teams about its perceived busting of the Resource Restriction Agreement, partly through its friendly links with Bernie. It just so happened that one of these teams is the biggest name in all of racing, the other the dominant competitive force of the past two years — two fantastic assets in any negotiation of the sport's future.

Those of a cynical disposition might not have taken too seriously the reasons Ferrari and Red Bull were giving when they were expressing doubts about the RRA prior to pulling out. With everything to play for as the Concorde Agreement expires at the end of 2012, and formal negotiating permitted from January 1, this just happens to have pulled the rug from beneath FOTA's feet right on the eve of that deadline. If you were a cynic, you may say the teams have been divided and conquered yet again.

"If that is what's happened, I can't understand the mentality," fumed a smaller team director. "All they would be agreeing to would be getting a little less screwed than the rest of us. If we stayed together we could get a better deal for everyone, them included." But not, presumably, CVC Capital. But CVC

Capital just happens to have one of the greatest negotiators in the history of the world on its side.

The teams are intensely competitive entities, led by unusually individualistic people. In hindsight it's quite surprising they managed to stay grouped together for as long as they did before the competitive paranoia took hold. Ironically, it's not even certain that Red Bull was busting the Resource Restriction Agreement.

It wasn't too surprising when last week Sauber — which has traditionally voted with Ferrari — also pulled out of FOTA, and inevitably there is now speculation that Toro Rosso will follow the lead of its sister team Red Bull in withdrawing too. So that's it then? Everyone now just does whatever deal they can and the private-equity fund continues to suck out almost half the money? So the unbalanced need for vast profit continues to dictate at which venues the sport races, continues to leave non-government-supported traditional races staring at a bleak future, continues to migrate the sport to places where few genuine fans come to watch and where that's of no concern? Quite possibly, yes.

On the other hand, FOTA still exists and, freed of those no longer committed to its aims, may now be able to be more radical. That is the view of at least one of the remaining members, but going hardline against a brilliant poker player who you already suspect has two aces in his hand? That sounds much like a recipe for discord and chaos — and for the final triumph of divide and conquer. ❧



Red Bull chief Horner with Ecclestone

**“CVC has one of the greatest negotiators in history on side”**

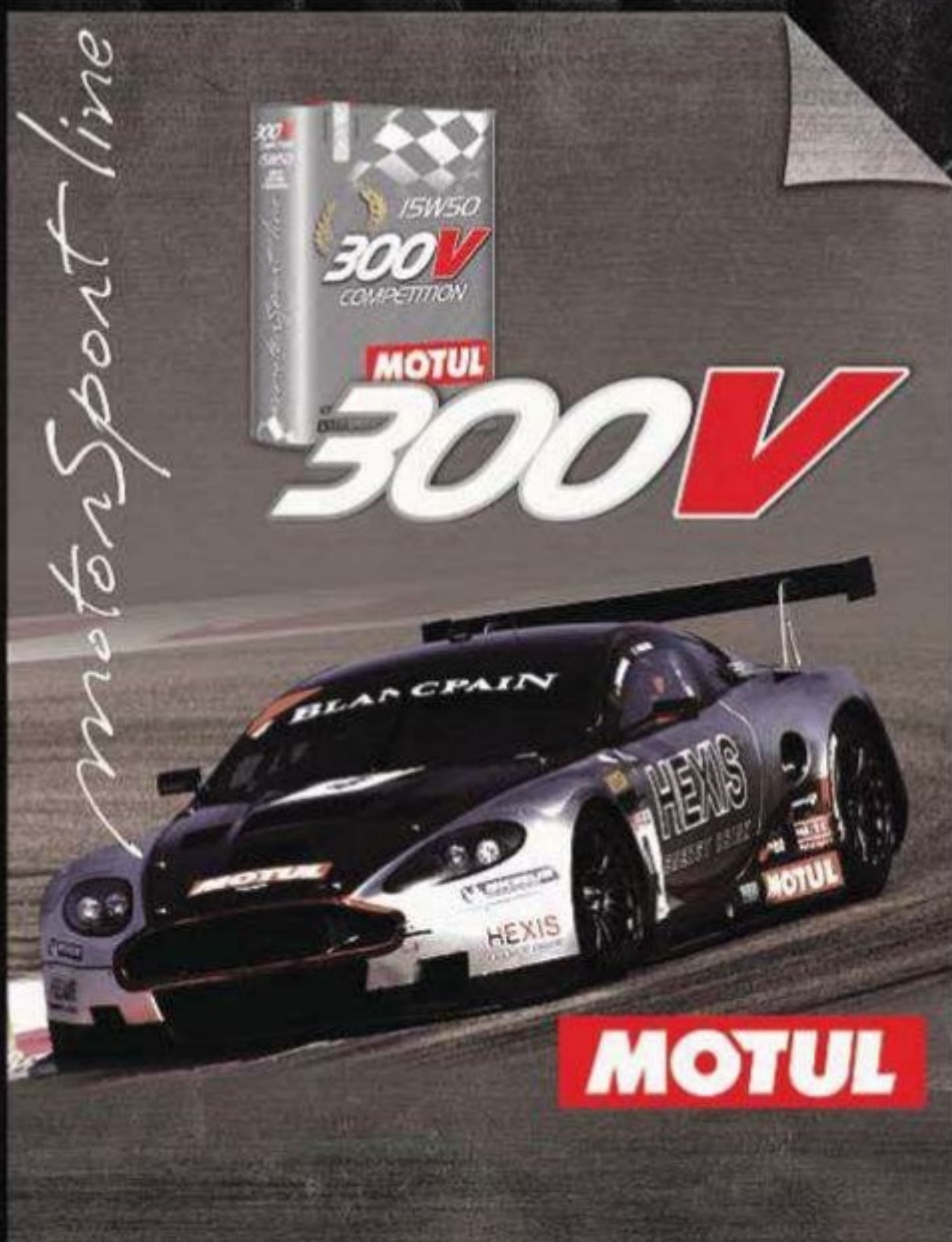




ASTON MARTIN  
RACING



# 2011 FIA GT1 WORLD CHAMPION



Sabelt

KONI

ProTech



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GRAND-AM

## US-SPEC AUDI HITS DAYTONA

The new Audi R8 GRAND-AM hit the track for the first time at Daytona last week. Frank Stippler completed 600 miles over two days in this test car ahead of the race debut of the US-spec R8 in the Daytona 24 Hours in January.



SUPER GT/DTM

# Super GT makes DTM move

Top-tier Japanese sportscar series prepares for step towards common rules with Germany. By GARY WATKINS

**T**he Japanese-based Super GT Series is about to take a giant step towards common rules with the DTM.

Representatives from the series are meeting with the DTM-organising ITR this week to finalise details of its next rulebook. These

will closely align its premier GT500 class with the DTM for 2014.

Super GT will adopt chassis rules that mirror those of the DTM. It is expected that the new breed of GT500 car will be built to the same dimensions and share the spaceframe structure of the

new-for-2012 DTM cars.

Officials from Super GT are in Germany investigating which of the common components shared by the three DTM manufacturers can be used in the Japanese series. These include the carbon-composite safety cell and the transmission.

Super GT will retain its existing engine formula, however. The GT500 cars raced by Honda, Nissan and Toyota are powered by 3.4-litre V8s, while DTM cars have four-litre V8s.

The move towards common regulations was driven by BMW's return to the DTM for next season. A precondition of its entry in 2012 was an ability to race its M3-shape contender in multiple markets.

BMW has yet to comment on whether it plans to exploit the latest move and field cars in

Japan, one of the biggest markets for its M Brand cars.

ITR boss Hans Werner Aufrecht explained that attracting Japanese marques to the DTM was not a short-term aim of the drive towards common rules.

"We wanted to create regulations that have significant value in international motorsport around the world," he said.

The move could have implications for plans for Grand-Am to put on a series for DTM cars. Grand-Am vice-president Dave Spitzer said: "The initiative is still very much alive. Some key decisions need to be made and they are in the hands of the folks who need to make them."

Asked if he was referring to the three DTM manufacturers, Spitzer replied in the affirmative.



Nissan, Lexus and Honda could take on Germans

INDYCAR

## Pagenaud bids for Indy and Le Mans

**SIMON PAGENAUD LOOKS SET TO** dovetail his assault on the 2012 IndyCar Series for Sam Schmidt Motorsports with another attack on the Le Mans 24 Hours driving for Peugeot.

Pagenaud, whose full-time return to US single-seater racing with Schmidt was confirmed last week, has revealed that he expects to continue his

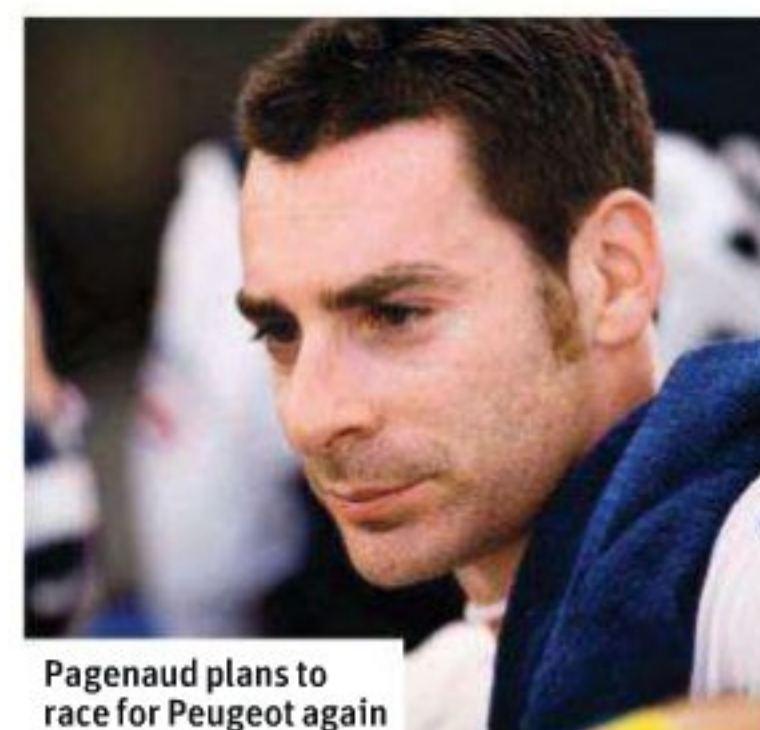
relationship with the French manufacturer into a fourth season.

"I can't do the Test Day, but that doesn't appear to be a problem for Peugeot," he said. "I hope to be part of their programme next year and expect to do Le Mans, but it's not done yet. It was important that I was able to do Le Mans, because Peugeot will be in a position to win it and winning that

race is one of my goals."

Pagenaud explained that IndyCar engine supplier Honda Performance Development, with which he raced in the American Le Mans Series in 2008-09, had helped him land the Schmidt ride.

The Frenchman was due to get his first taste of the DW12 at the wheel of Honda's test car at Sebring on Tuesday.



Pagenaud plans to race for Peugeot again





DW12 is beginning to make progress on ovals

INDYCAR

## Step forward for DW12 on ovals

**INDYCAR TEAMS ARE HOPEFUL** that the latest developments on the new Dallara DW12 chassis will mark a step towards the end of pack racing following last week's test at Homestead.

The two-day test was the first time that IndyCar has attempted to gather data about how the DW12s work when running close to each other.

Former champions Tony Kanaan and Scott Dixon drove the Chevrolet and Honda-powered test cars respectively, with rookie

JR Hildebrand also in the Chevy machine. They reported that in 1.5-mile oval trim the car generated much more wake than its predecessor, making it easier for the trailing car to pick up a tow and overtake. They also claimed that there was less buffeting than in the old IRO7 chassis.

The test also gave hope that the handling problems that had been reported in earlier runs with the DW12 in oval spec are at least part of the way toward being solved.

Some of the improvements

came through the introduction of new lightweight components from gearbox supplier Xtrac, although these were only prototypes.

The series will now decide whether to work towards a permanent solution of adding weight to the front of the car, or to pursue the preferable but costly approach of mass-producing the lightweight parts.

Dallara also took the opportunity to trial a number of bolt-on aerodynamic parts as part of the effort to reduce drag.



Back in Baltimore in '12?

INDYCAR

## Lifeline for Baltimore

**INDYCAR'S BALTIMORE RACE HAS BEEN** thrown a lifeline after a takeover proposal was submitted by a local financier.

The event's future has been in doubt following revelations concerning the financial situation of the company responsible for running the race.

It was reported last week that Baltimore Racing Development, which holds the race contract, faces more than \$12 million of debt, with just \$100,000 in available cash. But an investment firm headed by former Goldman Sachs executive Felix J Dawson has offered to take control of the company in an effort to salvage the event.

BRD was recently given a deadline of December 31 to have its problems sorted out, under threat of having its contract cancelled by the City of Baltimore.

INDYCAR

## Phoenix wants IndyCar return

**PHOENIX COULD STEP UP TO** bolster the dwindling number of ovals on the IndyCar schedule, although it will not be able to host a race before 2013.

The one-mile oval, a regular NASCAR venue, has not hosted IndyCar since 2005. But PIR president Bryan Sperber said this week that he was hopeful of getting his venue back onto the calendar.

"Phoenix has a long history with IndyCar, and while there would be challenges in bringing the series back to

the track, we'd certainly like to try to work through them," said Sperber. "I think 2013 is the earliest we could entertain anything."

The news comes a few days after IndyCar confirmed that it had bought out the contract committing it to race at Las Vegas Motor Speedway next year.

IndyCar boss Randy Bernard said that the series needed to complete its investigation into Dan Wheldon's fatal accident at the venue this year before racing there again.



Phoenix last hosted IndyCar in 2005

## AUTOSPORT SAYS...

**GARY WATKINS**  
INTERNATIONAL  
EDITOR-AT-LARGE



**D**TM America. That's what I've always called the idea to take the German tourers to the USA in my mind. But that's where I suspected it would stay – in my mind and those of its proponents on either side of the Pond.

It sounded a bit unlikely when it was announced last October, and it became more so when it emerged that Grand-Am was only ever going to put on the series if the DTM manufacturers parachuted in a full grid.

BMW North America has a budget to run two entries in the American Le Mans Series, but it would be stretched a bit thin to put six cars on the grid, surely the minimum required from each of the three DTM manufacturers for a viable series...

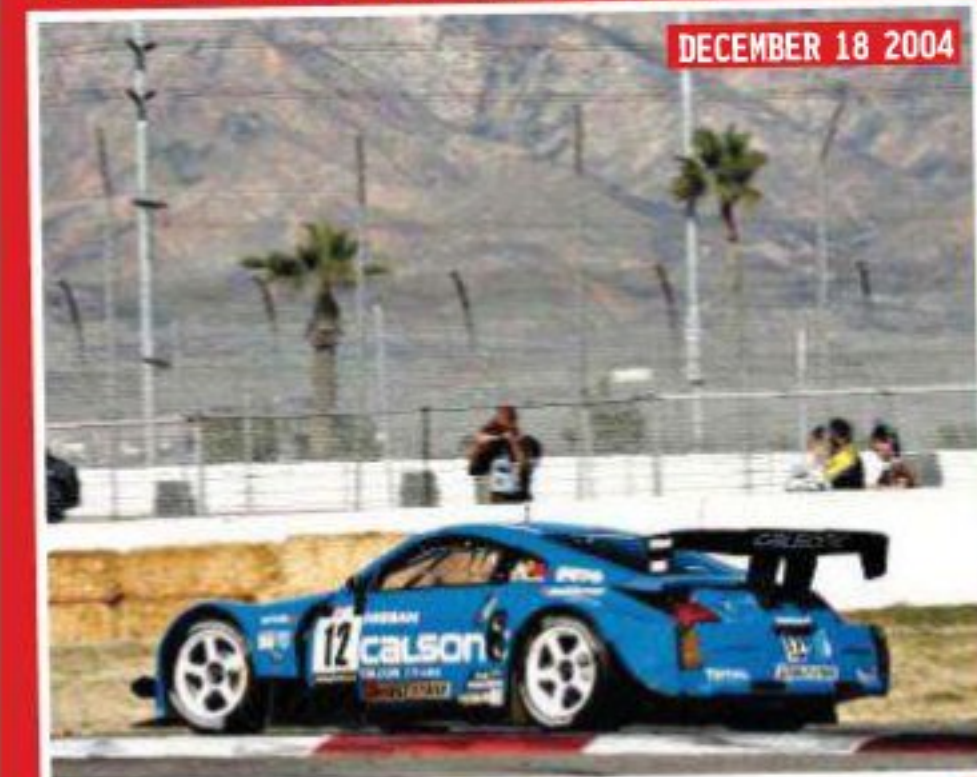
Conspiracy theorists suspected that DTM America was nothing more than a ruse to sway the BMW board. The fact that the original announcement caught Grand-Am officials by surprise made it look even more of a sham. But the news that Super GT is to move its regulations closely in line with those of the DTM could change my mind. Splitting the grid between the three German marques and three Super GT manufacturers sounds a bit more do-able.

Can the DTM translate to US?



## REMEMBER WHEN...

DECEMBER 18 2004



**...Super GT raced in the US?** The All-Japan GT Championship, the forerunner of Super GT, held a race at California Speedway in support of a drifting event. Andre Lotterer and Tsugio Matsuda won for Honda.





NASCAR

# Johnson streak is 'unrepeatable'

Team chief Rick Hendrick claims that his star driver's run of five NASCAR Cup titles will never be matched

**N**ASCAR team boss Rick Hendrick believes Jimmie Johnson's run of five consecutive Cup championships will never be repeated.

Hendrick's star driver missed out on the title for the first time since 2005 this year, and his sixth-place finish in the standings is his lowest since he began racing full-time in NASCAR's top tier in 2002.

"I'm real proud of what they've accomplished, and I don't know if anyone will ever do that again,"

said Hendrick. "To be able to win five in a row is unbelievable."

Hendrick pointed towards NASCAR's new-for-2011 points system and the increasing competitiveness in the field as the main reasons why a streak like Johnson's is unlikely to ever be repeated.

"Everybody knows that it has to come to an end," he said. "The odds of you winning six years in a row, especially with the new [points] format, I think it's going to be harder and harder for anyone

to do that. And, definitely, the competition has got stronger. But that's racing, and when you've been beat, you've got to go to work and come back stronger."

Hendrick believes that losing the title will only fire Johnson's crew up to get back to winning ways next year.

"When you've been to the top of the mountain like they have, then you don't do it the sixth time, of course you start trying to figure out how you can be better," he said.

"When you've been successful

and you get knocked off the block, it fires your people up."

Johnson, who added just two wins in 2011 to take his total Cup tally to 55, believes that the end of his streak has made more people appreciate the significance of his achievement of taking consecutive titles from 2006-10.

"Maybe we needed to not win for it to be appreciated," said the 36-year-old Californian. "I have been overwhelmed with the respect that has been paid to our streak."

## JOHNSON IN THE CUP He'd never been lower than fifth before the 2011 campaign



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BTCC

# Thompson Toyota test a one-off

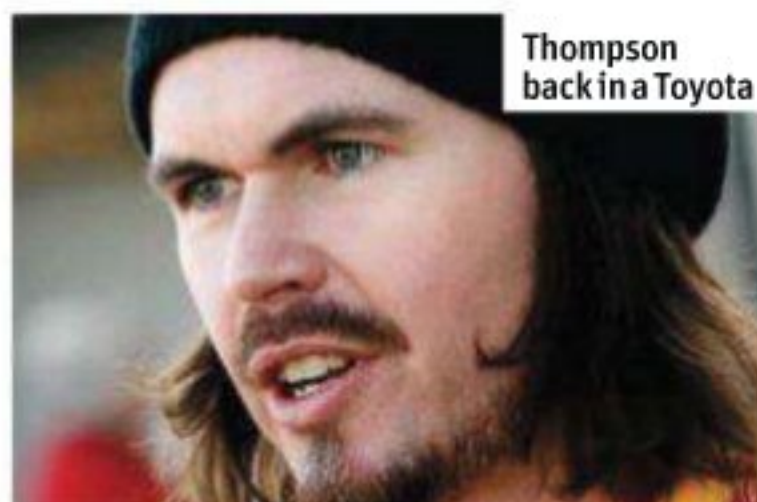
## FORMER BRITISH TOURING CAR

champion James Thompson is unlikely to race for Speedworks in the series, despite testing for the team this week.

The 2002 and '04 title winner was due to test the NGTC Toyota Avensis usually driven by Tony Hughes at Donington Park today (Thursday).

Although the squad is hoping to run a second car in 2012, Thompson – who did the initial test driving on the NGTC Toyota prototype – is not expecting to race it. “I’m not reading any more into it,” he said. “I’m testing for them and that’s all we’ve spoken about.”

Team boss Christian Dick added: “We approached him to make sure we hit the ground running. Thommo’s got so much experience he’ll save us time and money getting the car where it needs to be.”



Thompson back in a Toyota

## NASR SETS THE PACE ON DAYTONA BOW

British Formula 3 champion Felipe Nasr’s Daytona 24 Hours preparations kicked off when he tested a Riley-Porsche there last week – and went quickest



FIA

# Berger good for FIA role

## OUTGOING FIA SINGLE-SEATER

Commission president Barry Bland has thrown his support behind ex-grand prix race winner Gerhard Berger as his successor.

The move was announced at the recent FIA World Motorsport Council, and Bland told AUTOSPORT that Berger is a good choice.

“He’s probably one of the few people who could do it who’s not going to be on an ego trip, which is vital, because the job gives you

a lot of opportunities to change things,” said Bland.

“It was very clear that it’s a full-time job for somebody – it was taking up more and more time, which I didn’t have, away from my normal business activities.

“You could see the huge potential there is to achieve, and it was mindblowing to see what is being done with the development of safety. I just felt I couldn’t commit to doing the job as well as I’d want to.”

## IN BRIEF



Hinchcliffe in an RX8

## HINCHCLIFFE FOR DAYTONA

IndyCar ace James Hinchcliffe will make his sportscar debut in next month’s Daytona 24 Hours. The Canadian’s team-mates at the SpeedSource Mazda team will include Scot Marino Franchitti.

## NEWGARDEN’S BIG CHANCE

Indy Lights champion Josef Newgarden will step up to IndyCar with the renamed Sarah Fisher Hartman Racing for 2012.

## NO UK RACE FOR WTCC

The World Touring Car Championship will not race in the UK next year after dropping Donington from its schedule. The calendar includes new rounds in the US (Sears Point), Austria (Salzburgring) and an undecided venue in Argentina.

## PROTEAM PRESSES ON

WTCC BMW squad Proteam has denied that it will close its doors. Italian newspapers reported that the squad was in liquidation, but team boss Valmiro Presenzini told AUTOSPORT that “the team participated this year, and next year will be the same”.

## HAKKINEN DTM TEST

Two-time world champion Mika Hakkinen has played down talk of a comeback after testing a new-spec Mercedes DTM car at Spanish track Montebelco last week.

## BRIGHT SPELL FOR FOGG

Angus Fogg increased his New Zealand V8 points lead by winning twice at Ruapuna and adding a second in the reversed-grid race behind Tim Edgell last weekend.

## DAYRAUT IN CHARGE ON ICE

Jean-Philippe Dayraut seized the lead of the Andros Trophy with a win on day one in Andorra at the wheel of his Mini.

## RICHELMI TO TRIDENT

Formula Renault 3.5 racer Stephane Richelmi will join Trident Racing for a full GP2 Series campaign next season.

Richelmi raced in Abu Dhabi



FORMULA RENAULT 3.5

# Young Brit joins Carlin

## FORMULA RENAULT EURO CUP RACE

winner Will Stevens will join reigning champion team Carlin for an assault on the Formula Renault 3.5 title.

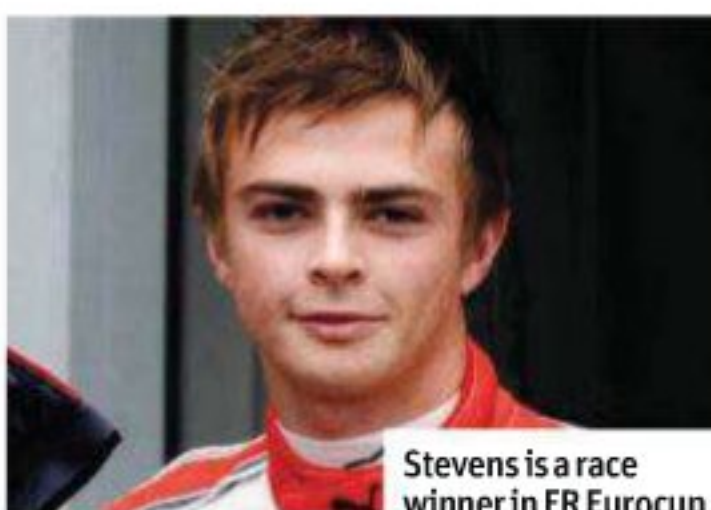
The 20-year-old Briton, formerly backed by the Honda/Brawn Formula 1 team, topped 2011’s final day of testing at Motorland Aragon in November in a P1 Motorsport car.

“I’m really excited to be with the championship-winning team next season,” said Stevens.

“I really enjoyed my experience in the FR3.5 car in the official tests last month, which confirmed to me that it needed to be my aim in 2012.

“I believe signing with Carlin will give me the best possible chance to challenge for race wins from the outset, and I can’t wait to get in the new car for the first time next year.”

Stevens, a BRDC Rising Star, will join British Formula 3 Championship runner-up Kevin Magnussen to form an all-rookie line-up, but team boss



Stevens is a race winner in FR Eurocup

Trevor Carlin was bullish about his pairing’s potential.

“Will is a driver who has been on our radar for quite some time,” said Carlin. “His performance at the recent FR3.5 tests confirmed to us that he was more than ready to make the step up to the next level.

“With Will and Kevin we have a very exciting driver line-up for the 2012 season. Despite their rookie status, their potential should not be underestimated.”

The first official test of 2012 takes place at Paul Ricard on March 13-14.

WORLD GT

# New Merc for World GT1 series

## THE NEW MERCEDES GT3 CONTENDER

will be on the grid for next year’s FIA GT1 World Championship.

The All-Inkl.com/Munnich Motorsport squad has ordered a pair of Mercedes-Benz SLS AMG GT3s to run in the 2012 championship, a move that means it is ending its relationship with Lamborghini. It fielded Murcielago R-SV GT1 cars in 2010-11 and had been expected to run Lambo’s Gallardo GT3 next season.

Team boss Marc Basseng would not confirm the switch, but he and the team have close links with Thomas Jager, who coordinates the SLS customer programme at AMG. Jager, a former Mercedes DTM driver, raced an All-Inkl Lambo alongside Basseng at four GT1 World events in 2010.

All-Inkl’s decision means Mercedes will go head to head with McLaren, which uses Merc engines in Formula 1.







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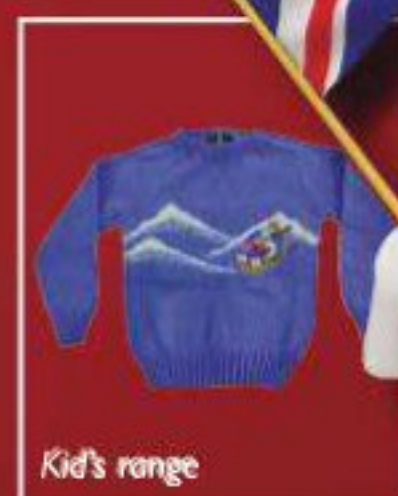
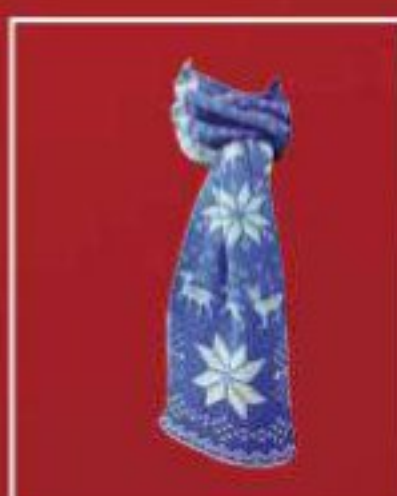
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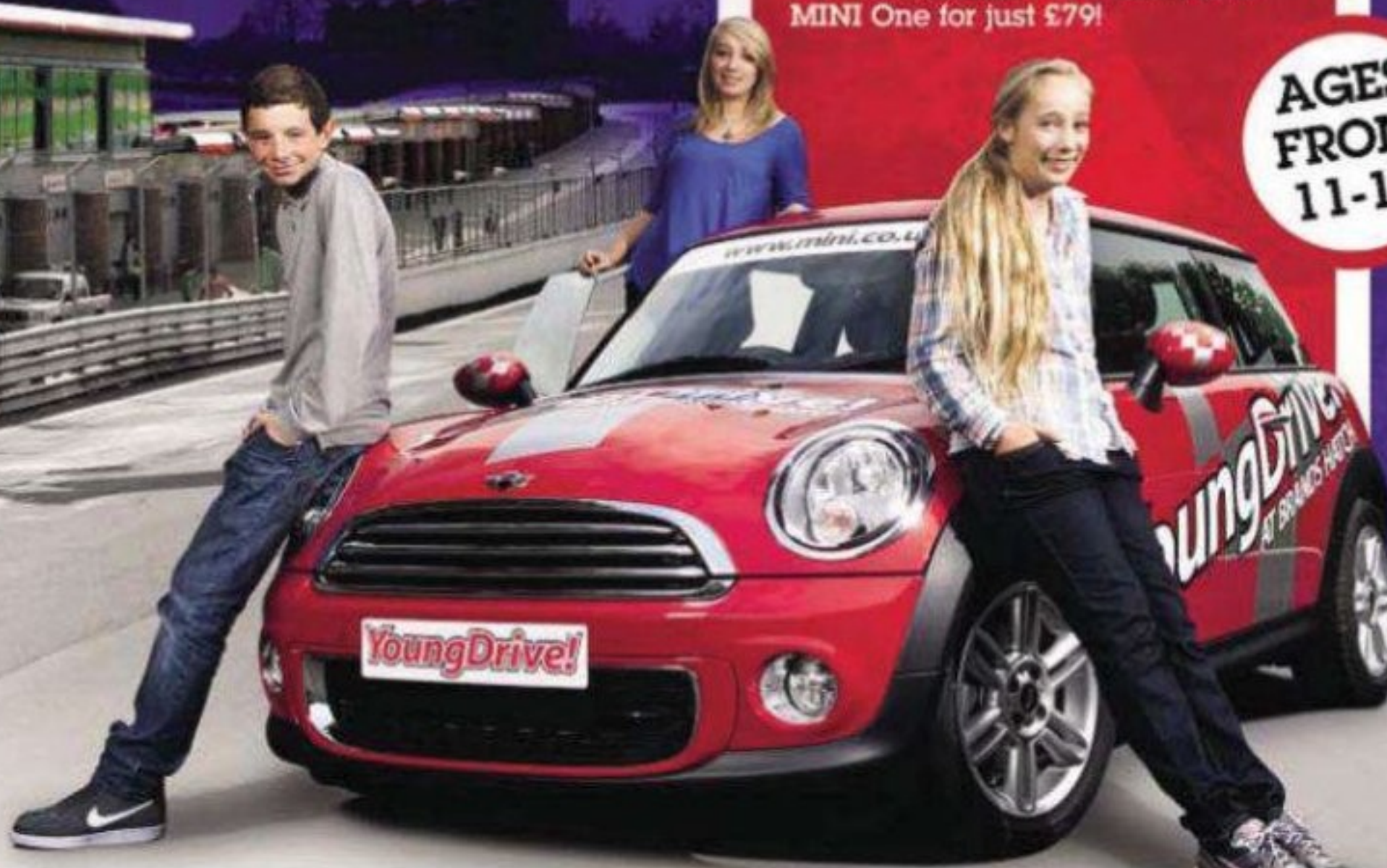
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WRC

## SOLBERG'S SIGN-OFF

Petter Solberg signed off his career as a Citroen privateer with a win in last weekend's Bettega Memorial Rallysprint in Bologna. Solberg beat MotoGP rider Andrea Dovizioso in the final. Kris Meeke was third, Jari-Matti Latvala fourth.



NEWS  
SPECIAL STAGE

WRC

# Al-Attiyah lands works Citroen

Qatar-backed driver to contest WRC in factory-specification DS3 alongside Loeb and Hirvonen next season

**N**asser Al-Attiyah has confirmed he will drive a third factory Citroen DS3 WRC alongside Sebastien Loeb and Mikko Hirvonen next season.

The former Production Car World Rally Champion's machine will run in the same specification as the other two cars and be serviced alongside them. Al-Attiyah's DS3 WRC will run branding from Qatar, with all three cars expected to run the Middle East livery in 2013.

Al-Attiyah will not start his programme until Sweden, missing the season-opening Monte Carlo

Rally due to his Dakar rally-raid commitments. Al-Attiyah's deal is just the beginning of a much wider sporting commitment from Arab state Qatar. Citroen and French football team Paris St-Germain (owned by Qatar Investment Authority) are expected to announce a major tie-up and Al-Attiyah, who is poised to sign his three-year deal this week, has admitted there is a desire to see a round of the World Rally Championship running in Qatar.

"I hope to test the car for the first time before I go to Argentina [for

Dakar]," he said. "If not, then I will test for the first time after Monte Carlo. The [Qatar] government wants to focus on me and the joint venture with PSG is very exciting. It would be fantastic to take a round of the WRC to Qatar."

In addition to his WRC commitments, Al-Attiyah will also attempt to win his eighth Middle East Rally title with the Citroen-owning PSA group. He starts the series driving a Peugeot 207 S2000 on his home event in Qatar, before switching to a Citroen for round two in Kuwait.



Al-Attiyah takes Qatar support to Citroen

"Citroen is developing a regional variation of the DS3 WRC for me," he added. "It will have a smaller restrictor, which means I can use it in the Middle East. It's a dream for me to have Qatar behind me."

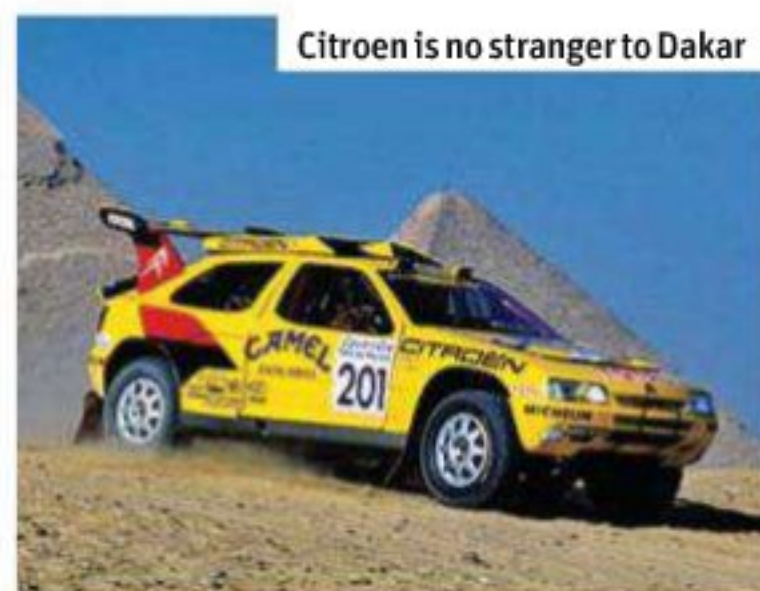
DAKAR

## Citroen tipped for return to Dakar enduro

**CITROEN HAS BEEN TIPPED FOR A** return to the Dakar Rally and its first rally-raid programme for 15 years.

Citroen ended its cross-country assault at the end of 1997, but it is rumoured that the Versailles firm is working on a desert racer that could be ready to run in two years. This has heightened speculation that Citroen could leave the WRC at the end of Sebastien Loeb's current contract in 2013 to focus on raid-type events.

2011 Dakar winner Nasser Al-Attiyah is expected to be announced as a third Citroen WRC driver for 2012 (see above) and admitted he had heard the rumours.

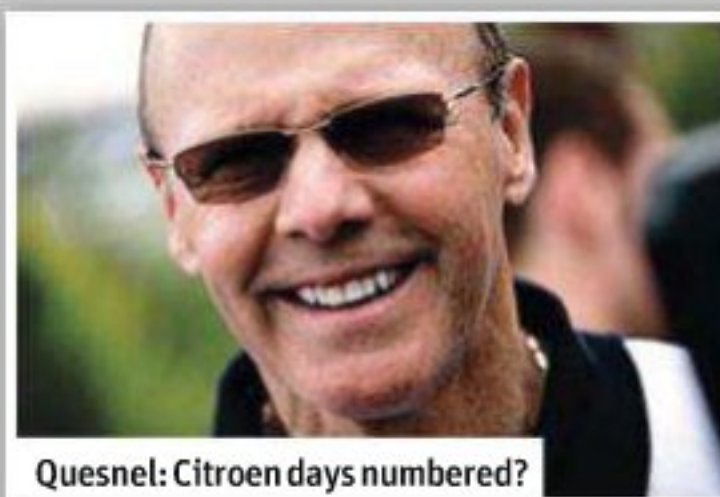


Citroen is no stranger to Dakar

"It would be a dream for me," said Al-Attiyah. "Citroen has had great success on this side of the sport and they have great experience. It would be fantastic for me to help develop a car and be back with a factory for Dakar and that kind of rally."

Citroen's ZX Rallye-Raid won four Dakar Rallies, with Ari Vatanen in 1991 and Frenchman Pierre Lartigue unbeaten between 1994 and 1996. The firm also clinched five drivers' and manufacturers' FIA World Cup titles.

## IN BRIEF



Quesnel: Citroen days numbered?

### QUESNEL IN DOUBT AT CITROEN

Citroen team principal Olivier Quesnel's position with the French squad was the subject of strong speculation as AUTOSPORT closed for press. Former Mitsubishi team manager Dominique Serieys has been linked to the role.

### NO SUPERALLY FOR MONTE CARLO

As expected, next year's Monte Carlo Rally

will not include the facility for SuperRally. The opening WRC round is the only event on which retirement will mean retirement – re-entry will be possible on all other rounds.

### NEUVILLE LANDS CITROEN DS3

Thierry Neuville will drive a Citroen DS3 WRC in next year's World Rally Championship. The Belgian, who tested the car last month, is expected to run in Citroen's Junior team. He will also tackle rounds of the IRC in a Peugeot 207 S2000.

### ABBING SET TO JOIN SKODA

Dutchman Kevin Abbring is expected to join Skoda for next season's IRC. He would partner Juho Hanninen in the factory squad, replacing Jan Kopecky. Hanninen has completed further running for Volkswagen in its test all-new Polo R WRC.



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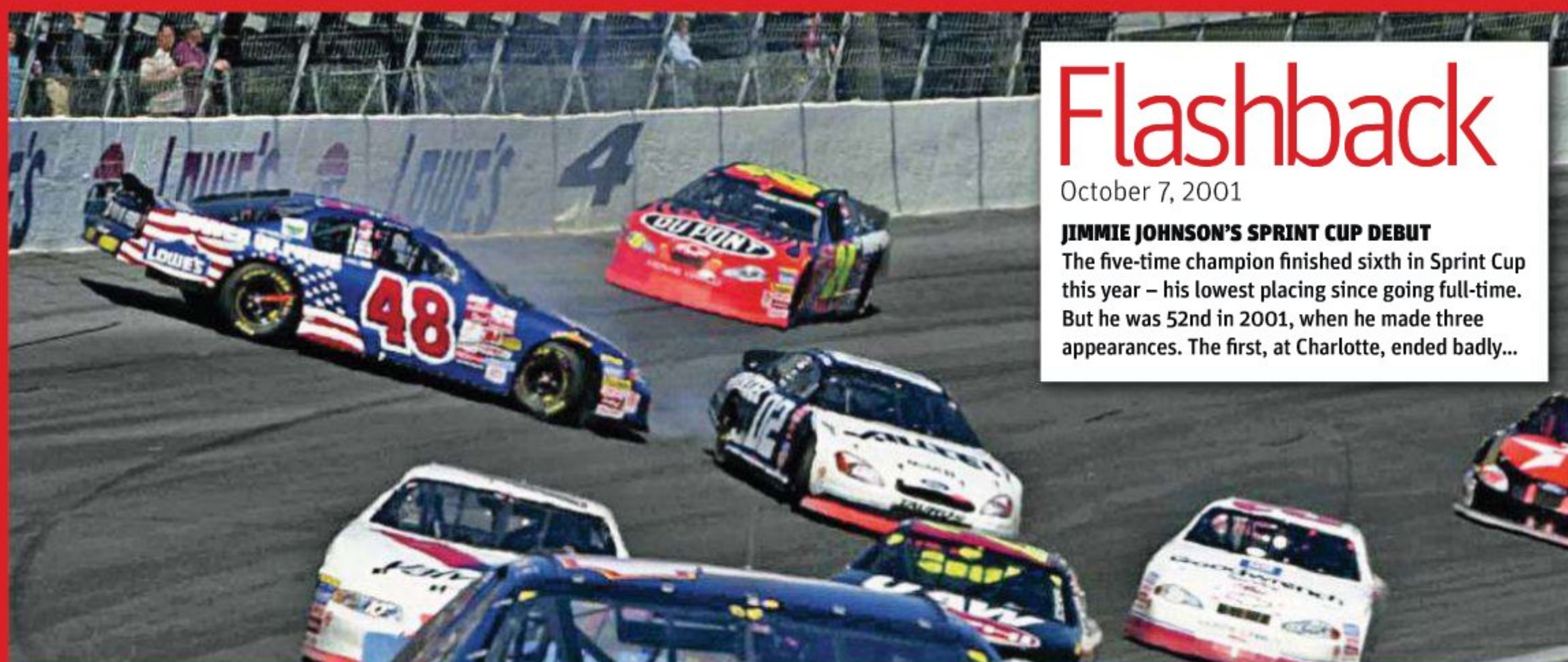
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# PIT BITS

Facts and stats plus championship-winning margins revealed



## Flashback

October 7, 2001

### JIMMIE JOHNSON'S SPRINT CUP DEBUT

The five-time champion finished sixth in Sprint Cup this year – his lowest placing since going full-time. But he was 52nd in 2001, when he made three appearances. The first, at Charlotte, ended badly...

## TOP FIVE

Rookies of 2011



Di Resta starred in F1 debut

### 1 Paul di Resta

Impressive return to single-seaters by Force India's former DTM tin-top champion.

### 2 James Hinchcliffe

'The Mayor' was consistently in the mix for Newman/Haas in his first season of IndyCar.

### 3 Sergio Perez

The Mexican proved to be a strong match for Kamui Kobayashi at the Sauber F1 squad.

### 4 Edoardo Mortara

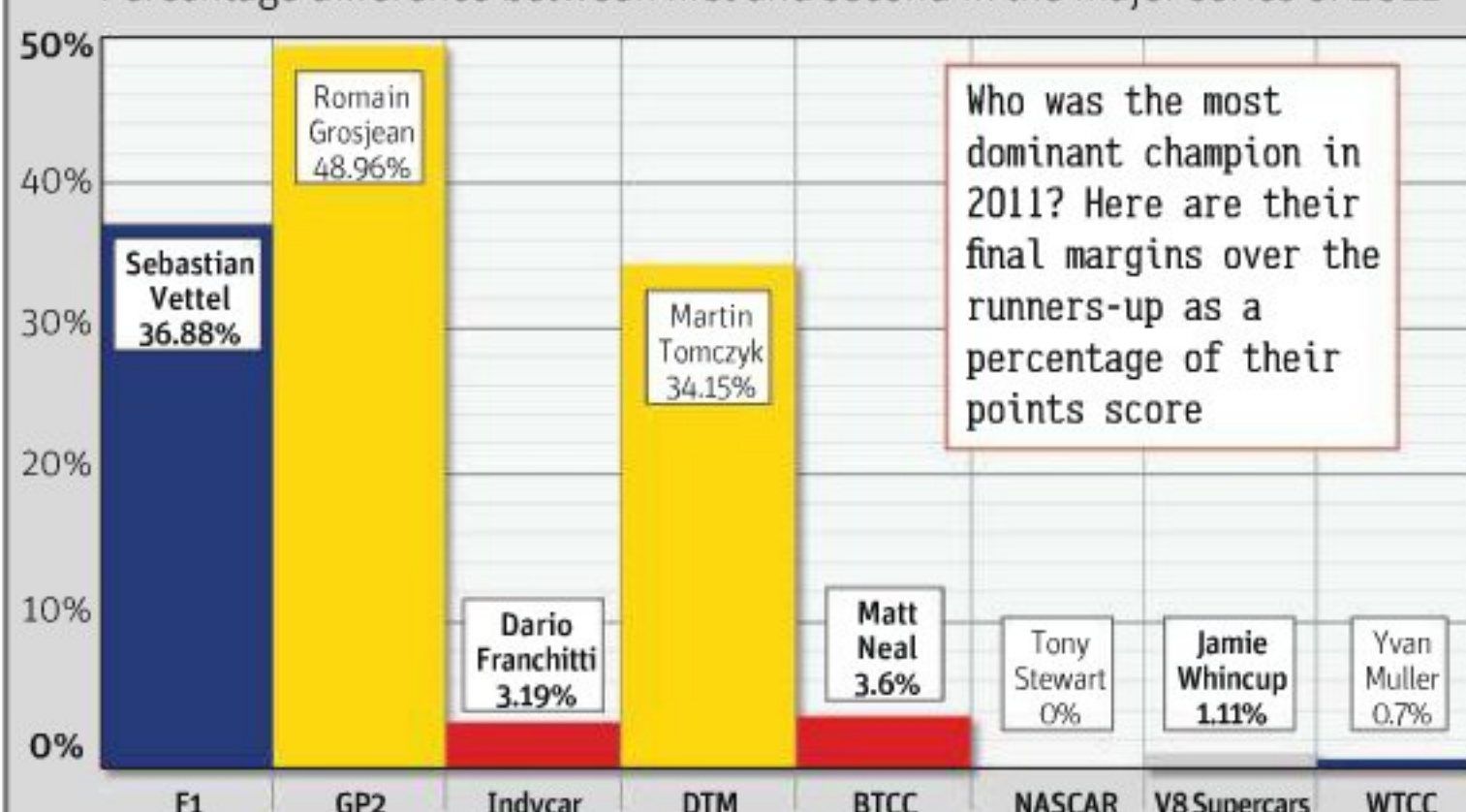
Took an older-spec Audi to two podiums in his first season in the DTM.

### 5 Valtteri Bottas

Won the GP3 Series in his debut season and got himself onto the F1 radar with Williams.

## DEGREES OF DOMINATION

Percentage difference between first and second in the major series of 2011



Who was the most dominant champion in 2011? Here are their final margins over the runners-up as a percentage of their points score

## top tweets



@WadeCunningham

Excuse me while I give up on life for the next 20 hours of travel, you can't miss me, I'm the ball of depression stuck in seat 46]



@Teixeira\_Angola (Ricardo Teixeira)

Prob better take my cat to fat camp



@maxpapis

They stole my wallet with passport inside now I'm at consulate figuring out how to be back to USA after test in Phillip island



@AllWaltrip (Darrell Waltrip)

you know I'm not too worried about where #KurtBusch ends up, he'll be fine, what worries me is the hundreds of crew members laid off this week.



@simonpagenaud

Ok, since a few of you asked me; lets start on the right foot: Simon is SIGH-MON



@RyanLewisRacing

Regretting not parking in long term. I will never live this down.

## NEXT WEEK



### 2011 INTERNATIONAL REVIEWS

IndyCar, GP2, GP3, Sportscars, WRC, DTM, WTCC, British F3, F2, Renault 3.5 get the season-review treatment

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The best of the national racing season, including BRSCC, BARC, 750MC, MSVR, HSCC and CSCC

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# PASSING FANCY

Overtaking was the new fashion in 2011 - and funnily enough it was created by economic and environmental gloom. MARK HUGHES evaluates the season's themes



PIC: HONE/LAT





DRS rear wings created increased overtaking

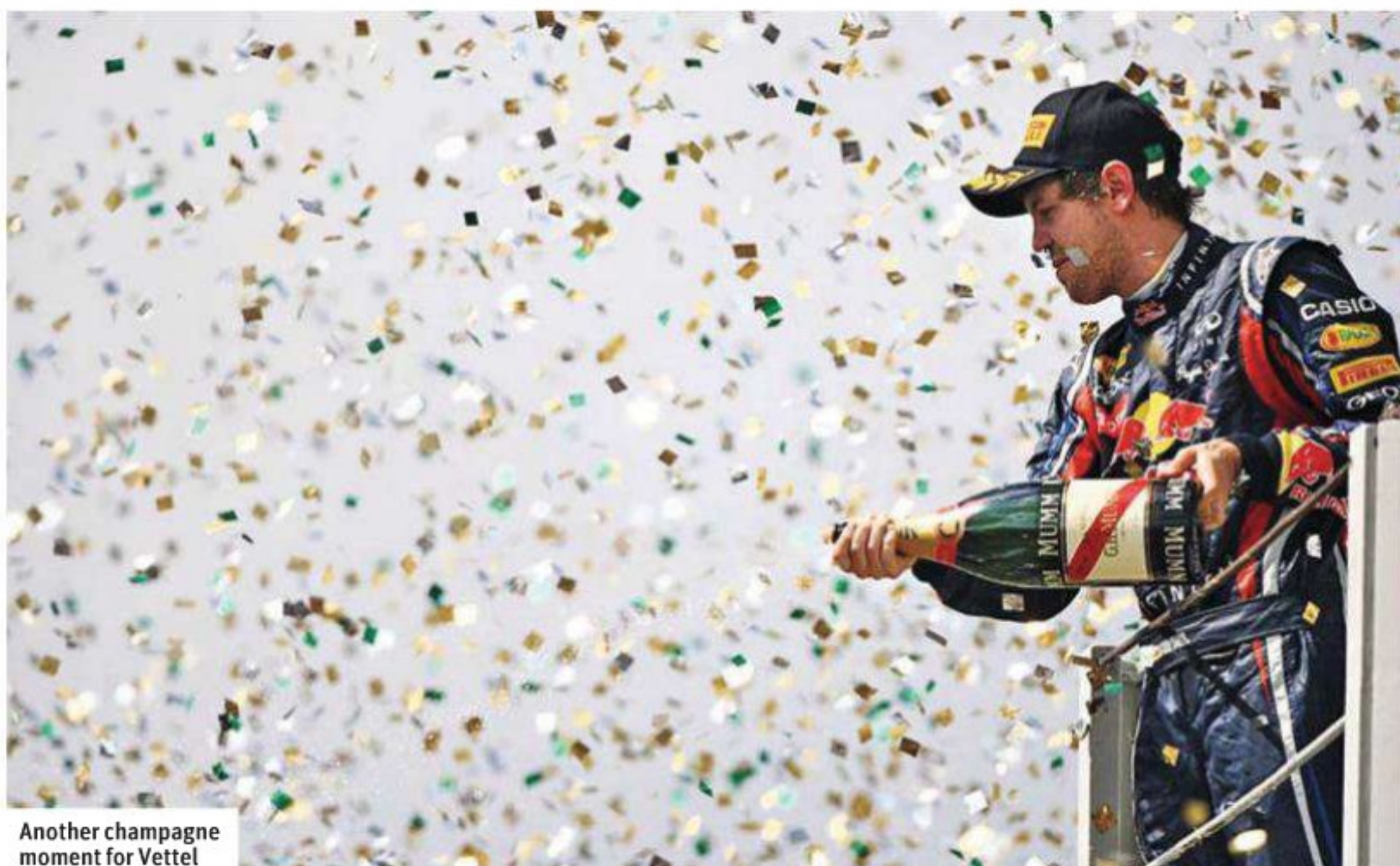


2011 **SEASON REVIEW**



PICS: ETHERINGTON, HONE/LAT





Another champagne moment for Vettel

**S**ebastian Vettel and Red Bull danced between the walls as surely as they did the circumstances of the outside world, and in the process enjoyed one of the most emphatically dominant seasons in the sport's history. Yet a glance at the results sheets gives no sense of how closely-fought many of those races actually were; it was only very rarely a case of Vettel disappearing off into the distance. The reasons for that were complex and very much to do with the revolution visited upon F1 by three key factors.

In many ways it was a happy accident, a confluence of circumstances, that in 2011 F1 finally cracked one of its most intractable problems: overtaking. Each of the three-pronged solution that was Pirelli, DRS wings and KERS (in that order of effectiveness) was formed some time earlier in reaction to the world's two greatest challenges: economic and environmental. With a bit of marshalling from teams' body FOTA, these tools were redirected at the overtaking problem and hey presto...

#### 1) Pirelli

Pirelli had been invited to tender upon Bridgestone's withdrawal, announced at the end of 2009, effective from one year later. The Japanese company did not consider F1 to be appropriate to the new green image it wished to portray - and at the very bottom of the first of the economy's double-dips, the cost of supplying tyres free of charge to the teams surely also played a part in that decision. So along came Pirelli, much ▶

Even tight confines of Monaco produced a spectacular race



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Schumacher (left)  
raced hard in 2011



◀ smaller in both stature and world sales, to actually sell the tyres this time.

Crucially it was also very amenable to the idea of having its product used as an intrinsic part of the show: fast-degrading tyres that lead to a huge variation in performance is not a concept into which Bridgestone or Michelin would have bought, but it was the number-one reason for the exponential increase in on-track passing this year. Root cause: economic and environmental crisis.

## 2) DRS wing

For a decade or more the sport had tried to address the problem that efficient aerodynamics had imposed upon it: the harder the air works those downforce-producing surfaces, the more dependent were those surfaces upon a clean airflow – and the dirtier the airflow became in their wake. Wing dimensions, diffuser shapes and flick-up restrictions were all

tweaked to little or no effect. It was time for something more radical...

Step forward the DRS rear wing, an idea with its roots in the bad old days of the FIA-FOTA war for control of the sport in 2009. Then it had been proposed by the governing body as a sledgehammer attempt at controlling budgets; if a team spent no more than £40 million, it would be allowed a huge aerodynamic advantage over those spending more than that – by having a driver-adjustable rear wing capable of dumping most of its drag on the straights.

That never came to pass (see what I did there?), but the basic idea was reworked by FOTA and incorporated into the FIA regulations for 2011: no longer budget-related, the drag-reduction system (DRS) would be available only to a car less than one second behind the car in front at prescribed points on the circuit. It was effectively an artificial recreation of how things used to be before the aerodynamics became so effective, whereby the following car held an intrinsic advantage. Root cause: economic crisis.

## 3) KERS

Prior to the economic meltdown of mid-2008, F1 was wrestling with how to be seen as part of the solution to the world's environmental crisis rather than part of the problem. The FIA encouraged the development of KERS hybrids, and the manufacturer teams that then populated F1 set off spending gazillions

on the technology – just in time for the greed and cynicism of the banks to destroy the economy.

Used by a few teams in 2009, they agreed on a KERS moratorium in '10 for reasons of cost, but then came to realise that, with the development money already spent, there was no reason not to reintroduce it – for both the environmental message and as an overtaking aid. It actually helped significantly with the latter, in that it was particularly useful for getting within 1s

**“With the Bahrain GP, so the downside of relying on governments rather than ticket-buying fans was made explicit”**

of the car in front by the DRS detection point. Root cause: environmental crisis.

## HOW THE BATTLE WAS WON

That pesky outside world was imposing itself on other fronts too. Bahrain, the intended season opener, had to be postponed as the 'Arab Spring' uprising spread there from Tunisia, Egypt and Libya and neighbouring Saudi Arabia became very nervous. With the Bahrain race very much the personal project of the ruling family against which the uprisings were being made, so the downside of F1 relying on the money of governments ▶

## PIRELLI AND THE NEW WORLD ORDER

**BEING NEW TO THE GAME, PIRELLI COULD NOT** risk the bad publicity of tyre failure in the high-profile world of Formula 1. Consequently, design criterion number one was an ultra-safe, very conservative stiff construction. The next came by way of a request from the teams: could the crazy Montreal 2010 race – when the chosen Bridgestone compounds were too soft for raceday conditions – be replicated in any way? So we got a tyre with a super-stiff construction and very soft compounds.

That had consequences that defined much of the season's competitive shape. Without a 'bendy' construction to help out under braking, cornering and accelerating, the compounds were abused and quickly overheated. Great chunks of compound were simply ripped from the tyre under cornering and littered the off-line parts of the track. The mechanism by which the circuit rubbers in and a chemical bonding unfolds at higher grip levels didn't really happen – almost all of the grip was 'mechanical' rather than chemical, derived by the tyre's contact patch simply clawing the surface against the load.

It used to be the case that as grip rose, the chemical bonding process would increase. That meant fast cars did not usually degrade their tyres faster than slow cars, but with the Pirellis the faster you went, the faster the tyre lost performance. So Red Bull was having to pay



particular attention to how much of its car's performance to use, either from Sebastian Vettel's perspective in the race as he pulled out an early gap then merely monitored it, or sometimes even in terms of set-up. At several races the car had to be given an artificial understeer balance that hurt its one-lap pace, to keep the rear tyres from degrading too quickly. At Suzuka the team was even having to reduce front and rear downforce for lower total grip just in order to make competitive stint lengths possible on a track with such long, fast corners.

When new, the tyres gave their maximum grip over a very narrow peak. It was very easy to under- or over-commit with them in qualifying. Their grip was extremely sensitive to surface temperature – and it was easy to overheat them

particularly through a long, fast corner. Mark Webber suffered compared to Vettel in adapting.

He remained supremely committed through the fast corners but often this would simply overheat the tyres, and into the slow corners he could not master Vettel's way of using a sliding rear end to 'back into' the slower corners well before the apex, leaving the car pointed straight and allowing outrageously early throttle application. The softer the compound in relation to the circuit's demands, the more peaky its performance and the less Webber could feel it.

At McLaren Lewis Hamilton had no problems adapting to the qualifying technique required, but did not always find the best race trade-off between pace and stint length. At Hungary, for example, even before he spun he was already losing the race to team-mate Jenson Button as it was already clear he was going to have to do one stop more. Button was able to maintain a similar pace while taking far less from the tyres.

There were signs that Michael Schumacher had got his head around the race demands of the tyres well – he defeated team-mate Nico Rosberg in India using much the same combination of race pace and tyre usage as Button had in Hungary – but the final couple of qualifying tenths remained elusive. He maintains this was tyre-related, but he was having similar problems on the Bridgestones last year.





Webber struggled to adapt as Vettel did

“The changes struck at the very heart of F1’s identity and did not find universal favour among the purists”



Button's Canada win was drive of the season



Rosberg ran strongly in compromised Merc



Renault went wrong way on design concept

PICS: HONE, FERRARO, STALEY, DUNBAR/LAT, THOMPSON/GETTY IMAGES



◀ rather than ticket-buying race fans was made explicit. The commercial owners of F1 continued to damage the sport by attempting - unsuccessfully - to reinstate the race later in the year, even as reports of excessive force against the demonstrators continued to fill the news. If in any conflict between oppression and freedom F1 is perceived to favour the former, it is surely courting disaster. Privately, most of the teams felt the same way, but it's not the teams who decide such things. That's the domain of those who take vast income from the sport and invest it elsewhere.

Teams body FOTA continued to attempt to dilute the worst excesses of the commercial-rights holder, and as the season - which finally began in Australia in late March - moved on, so there were delicate negotiations in the background about the sport's structure beyond the end of 2013, the expiry of the current commercial contract. Concurrently there was discussion between the teams and the FIA on the future engine formula, with president Jean Todt insistent that from 2014 his new 'green' turbo formula would come into force. Again, economic reality and environmental message fought the battleground.

Meanwhile, the racing was overwhelming the back story - thankfully. Those three overtaking tools had been married to a few further aerodynamic tweaks, notably a ban on double diffusers, to provide genuinely thrilling races in the season's first half. The changes - deliberately fragile tyres, a false aerodynamic advantage for the car behind, against which the driver in front had no defence - struck at the very heart of F1's identity and did not find universal favour among the purists. But to be saying that after the Malaysian Grand Prix, with its multiple overtakes, was way out of step with the moment.

That race was prototypical of Vettel's season, with all the crazy action going on behind - but not so very far behind - his serene drive. The Red Bull RB7 never left the field for dead the way the RB6 did on a few occasions, but it was definitely the fastest car. One significant trait of the Pirelli was the faster you went, the faster its performance deteriorated (see panel, p35). So Vettel's task, once he'd set pole (using his uncanny ability to use slow-corner pre-apex oversteer to limit the time the delicate rears were under lateral load) and won the start, was to use up just enough of the tyre's performance to keep himself out of DRS reach of the car behind, and no more. That way, he could still have enough tyre life left at the end of the stint to do the fast in-lap, responding to the guy behind trying to get the new-tyre undercut by pitting first.

Had Vettel simply used the car's performance to drive away at the front in the way he could have done on the Bridgestones, the Pirellis would have degraded faster and left him struggling



Alonso won British GP



LH superb - sometimes



Webber won in Brazil

**"Hamilton's season was a rollercoaster of brilliant highs and cack-handed lows; Button was superb"**

after a few laps. In this way the Pirellis applied a certain self-levelling effect to the frontrunning cars and there are those - Red Bull design chief Adrian Newey among them - convinced that this disguised just how dominant the RB7 could have been.

The car was simply the third evolution of the theme started with 2009's RB5, adapted to fit the latest rules. One very significant part of this adaptation was its new exhaust layout, the pipes routed to exit just ahead of the rear wheels in a cut-out that fed directly to the outer channels of the diffuser. This came to be the standard F1 exhaust - but only after everyone saw it on the Red Bull. Others, notably Renault and Ferrari, had tried the layout in their tunnels before the Red Bull appeared and couldn't make it work, and Newey later confirmed that it actually took months of simulation work to maximise. It was very easy for the aero blockage formed by having the exhausts there to overwhelm the downforce they were creating.

With the abolition of double diffusers, blown exhausts became *de facto* the most powerful area of aero development, especially so given that the engine departments of Renault, Mercedes and Ferrari had all developed 'hot-blowing' off-throttle software. Continuing to feed the engine fuel/air when the driver had lifted the throttle, but not providing spark, the mixture would ignite in the exhaust, increasing the flow's velocity to the diffuser, thereby further boosting the off-throttle grip that had been introduced with the 'cold-blowing' (no fuelling or spark, just continued pumping of air when off-throttle) introduced in 2010.

The way the various designs lent themselves to the profound performance authority of the blowing exhausts to a large extent defined their seasons.

At Red Bull the way that exhaust-blowing energised the diffuser allowed the extreme rake, apparent since mid-2010 and continued with this car, to work even better. It allowed a significantly higher rear-ride height without leakage from the space beneath causing it to stop working. This in turn allowed the front wing and leading edge of the floor to run in ground effect - and for the leading edge of the diffuser to be running in approximately triple the amount of negative pressure, vastly accelerating the flow.

McLaren, after suffering a catastrophically bad winter - its new exhaust system had left it two seconds off the pace and unable to complete a single race distance - hastily configured an RB7-like system on the very eve of the season. It worked spectacularly well. From that moment the MP4-26 was the Red Bull's closest challenger and took six victories. Initially it didn't run much rake, but from mid-season onwards did so. It used a rear wing with a larger flap and smaller main plane than the Red Bull,

which gave a less-powerful DRS stall in qualifying (where the feature could be used freely) but more power when not in DRS mode (most of the race). Consequently it was a bigger threat to the Red Bull on Sundays than Saturdays, a pattern exaggerated by its more-powerful, more-reliable KERS. It could also switch on its tyres spectacularly quickly. Lewis Hamilton's season was a roller-coaster of brilliant highs and cack-handed lows amid a lot of frustration and difficulties off-track, while Jenson Button was consistently superb, well-attuned to these tyres and much happier with a McLaren that he could sit in rather than on. His Montreal victory was surreally brilliant and definitely the drive of the season.

For Ferrari, the enhanced importance of blowing diffusers was not good news. Like any Ferrari of the past few years it had a basic understeer trait and struggled to get its front tyres switched on quickly enough for qualifying. The last thing it needed was more rear downforce - and that's what the blowing diffusers generally provided. Silverstone was run to regulations that limited off-throttle blowing - and Ferrari took its only victory of the year, by which time technical director Aldo Costa was no longer there. Thereafter the previous rules returned and Ferrari faded.

None but these three teams won races, and only five of the drivers. At Red Bull Mark Webber could not attune himself well to the demands of the Pirellis, and if you qualified that car anywhere other than pole it was not very raceable, with its poor straight-line speed and weak KERS. He made the victory breakthrough in the final race, after Vettel encountered a rare mechanical problem. Mark did, however, pull off the move of the season with that extraordinarily brave Eau Rouge pass on Alonso. At Ferrari Felipe Massa seemed ground down and browbeaten by the whole Alonso effect and was a sad shadow of the driver we used to know.

Mercedes did a short-wheelbase car in anticipation of problems the enhanced power of blown exhausts cured, leaving it with just the downsides. Renault configured its whole car around a forward-blower that gave a forward centre of aero pressure in a year when the Pirellis dictated it needed to be rearwards - and lost its superstar Robert Kubica to serious injury. Force India transcended its modest circumstances to leapfrog Renault on pace and be running with Merc by the season's end.

By the time the championship made its first visit to India - a great event on a fantastic track - the teams had all become too good at understanding the tyres and the last few races lacked the sparkle of the first half-season. For next year Pirelli plans to use a new construction to enable it to go as risky as necessary on compounds.

Let's hope that works, for it would be a shame if the great breakthrough had lasted only half a season. ☹



# The top 10

F1 drivers of 2011

Twenty-eight drivers competed in a grand prix this year. So *MARK HUGHES* is about to disappoint 18 of them...

10<sup>th</sup>



## Sergio Perez

**HERE WAS A FORMULA 1 DEBUTANT WHO GAVE** his more established and highly-rated team-mate a reality check. Perez debuted in style by making a miraculous one-stop strategy work in Australia, bringing the Sauber home a great seventh, and in the races that followed he was more often than not quicker than Kamui Kobayashi, if not quite so consistent a scorer. The early signs suggest someone with a brain to go with the flair, just as comfortable driving the measured Melbourne one-stopper as the more aggressive, hustling sort of performance he was putting together in Singapore when he was assaulted by Schumacher. His accident during Monaco qualifying came after he'd already comfortably got the Sauber through to Q3, 0.5s quicker than his team-mate through most of the weekend up to that point. A 70+g impact with the chicane barrier left him detuned for a few weeks, but soon enough he was taking up where he left off. He's more at ease with oversteer than his team-mate and this has allowed him access to Pirelli acrobatics that serve him well in qualifying, giving him the sort of form that interested Ferrari enough to give him a test at Fiorano.

## Paul di Resta

**AT HIS BEST, THIS ROOKIE WAS VERY IMPRESSIVE** indeed, but by his own super-high expectations di Resta was probably slightly disappointed with the way the season panned out. He made an instant impression, with points-paying drives in the first two races and an eight-one qualifying advantage over Adrian Sutil by the time he was a superb sixth on the grid at Silverstone. There were a few rookie incidents along the way, the odd mashed front wing, but generally his high-momentum, minimum-fuss way with a car drew comparison with Jenson Button, and he was similarly efficient in his use of the tyres – and in his calm calling of strategy when needed, as was apparent in Hungary at the tricky inters/dries phase. A potential sixth place escaped him at Silverstone due to a pitlane error on the part of the team, but he was later able to achieve that result in Singapore after a relentlessly on-it performance through the streets. There was little to choose between the two Force India drivers over the balance of the season, with di Resta excelling in the first half, Sutil in the second. Achieving this in his first year suggests his potential is greater.

9<sup>th</sup>

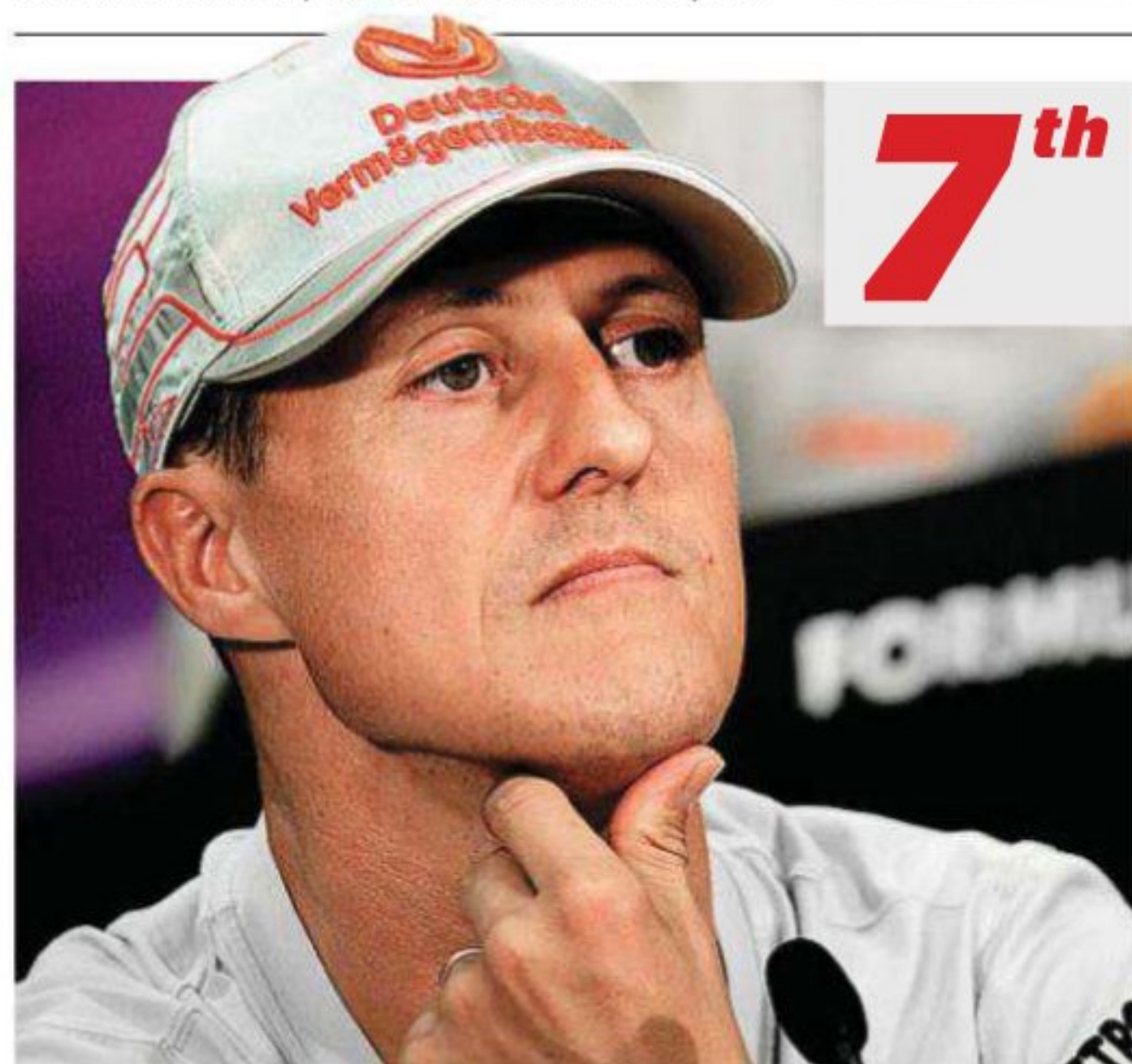


PICS: DUNBAR, COATES, FERRARO, HONE/LAT



## Adrian Sutil

**THINGS DIDN'T BEGIN WELL FOR SUTIL,** out-paced initially by his rookie team-mate and then involved in what was a potentially career-ending off-track incident. For a while it looked like his time in F1 might be coming to a close. But he retained focus, dug deeper and into the season's second half began to get the upper hand over di Resta. In contrast to previous seasons, the speed was coming incident-free and there was definitely a feeling within the team that in the season's second half he was dragging all there was from the car. His aggressive style seemed to generate tyre temperature easier than the neater approach of di Resta, and while this was perhaps a disadvantage in the hot early-season races, it switched around come the cool of the Nurburgring, Hungary and Spa, while in the late long-haul races Pirelli's conservatism with its compound choice may also have played in his favour. As the Force India benefitted from a late-season development spurt, so Sutil went with it and signed off his season in Brazil by winning a straight fight with Nico Rosberg's Mercedes for sixth, something that couldn't have been contemplated at the start of the year.



## Michael Schumacher

**THERE WERE DAYS WHEN** Schumacher was doing a passable impersonation of the driver he was first time around. In Canada, for example, he looked very comfortable taking opportunistic advantage of the conditions, combining great improvisational driving with a sharp tactical call to run near the front. But the big lap, the lap-time that defied all reason within the constraints of the car, the sort of thing he used to do regularly? At no point was that apparent and were Mercedes not in such a competitive bubble, then his 0.3s qualifying deficit to Nico Rosberg would have been

far more costly to his grid position. As it was, he was usually not too far behind and would habitually make great opening laps, usually the baseline for a race performance comparable to Rosberg's. In fact into the season's second half, with a re-arrangement of his race engineering team, he was altogether a more consistently pacey race driver than he had been. The reality is that he is now a good F1 driver who justifies his place on performance alone – and for a 42-year-old that must count as remarkable. But this is Michael Schumacher we're talking about.

## Mark Webber

**WEBBER AND PIRELLI WERE JUST NOT** meant to be. The 2011 rubber did not give him the feel needed to maximise the car on entry into slow-speed corners, nor the ability to eke out the life of the tyres in the race. Being more progressive with the car on corner entry kept it under lateral load for longer and his rear tyres would run consistently 8C or so higher than Vettel's. His great fast-corner commitment remained intact, but that only used up the tyres even more. The softer the compound, the worse it was for him. Combine that with a car slow

in a straight line and with a weak KERS, and if you were running in the pack with the McLarens and Fernando Alonso, it was extremely difficult to race. That combination is how Vettel won 11 times and Webber only once. Yet many times he enlivened a race through his sheer competitive will – for example, coming from the back to third in China where, with another couple of laps, he would probably have won. Then there was his pass on Alonso at Spa, quite possibly the bravest move conceivable in modern F1. He's not forgotten how to drive fast.





## Nico Rosberg

### THE MERCEDES DEFINED

Rosberg's horizons and though he did a consistently flawless job, you'd struggle to think of any occasion in which he out-drove the car. He remained regularly two or three tenths out of Schumacher's reach in qualifying, though he was occasionally harder on his tyres in the race, Michael's quite often being the slightly quicker Mercedes on race day. In China he'd put himself in a great position to capitalise when both Sebastian Vettel and Jenson Button ahead of him failed to pit on the laps they were instructed to, this leapfrogging him into the lead.

But as he then tried to hang onto the position while also desperately saving fuel, he made a few messy defences that dropped him further down the order than was probably necessary, fifth place a poor result on the day. Most of the time he was in a competitive bubble – too far away from the Ferraris but well clear of the Force Indias/Renaults – and therefore all he could do was circulate. But whenever unusual circumstances created the opportunity to run up front – China, Spa – he was there. If Mercedes can deliver a winning car, he's easily good enough to be winning races in it.



## Lewis Hamilton

### A ROLLERCOASTER SEASON FOR THE

lost boy genius, Hamilton's frustrations and off-track life imposed upon his season. Quite aside from his string of incidents and his regular appearances in the stewards room, he was not always getting the best from these tyres, which did not pay back his aggressive style in the races the way the Bridgestones did. Quite often Button would be circulating comparably quickly but using way less rubber. But there were some trademark moments of sheer combative brilliance. The way he fought his way past Alonso and Webber to win at the Nurburgring was very special, coming on top of a

qualifying lap out of nowhere that completely transcended the McLaren on the Saturday. His take-no-prisoners pass on Button on the way to victory in China raised eyebrows and may well have been the background to their collision when he tried for a repeat in Canada. His brilliance between the walls at Abu Dhabi can be taken for granted and he was the obvious beneficiary of Vettel's first-lap tyre problem there. But he was a tormented soul for much of the year and stretched the patience of his team on several occasions, not least after he wandered down for a very public chat with Red Bull in Montreal.

## Fernando Alonso

### EVEN HAMSTRUNG BY A LESS-THAN-GREAT

Ferrari, he could never be discounted. If there was a chink of daylight he'd be through it, and he carried this team as a true and inspirational leader. He spends more time at Maranello than even Michael Schumacher used to and he backs up his assumption of leadership with delivery of the goods on the track. The Ferrari was often a respectably good car on Sunday with its light tyre usage bringing it strongly into play by the end of the stints, but usually this could be used only to reclaim the ground lost early in the stints – and its qualifying deficit left him starting from too far back. He did a couple of 'miracle' qualifying laps – in Barcelona and Singapore – and followed that up in Spain with a stunner of a start that took him to the front. He was a lapped fifth by the end... But at Silverstone, through a combination of factors, the car was right in the ballpark and it would actually have been surprising had he not then delivered the sure-footed victory he did. That's how much of a gold standard he is.





2<sup>nd</sup>

## Jenson Button

### THIS WAS JENSON'S MOST PROST-LIKE

season yet, a velvet combination of speed and stealth and he became the first team-mate in Lewis Hamilton's entire career to beat him over a season. Some might have been surprised that he had held onto Hamilton as well as he had in 2010, but they'd seen nothing yet. For 2011 he was in a car that fitted him and which had a window of set-up options that could much more easily accommodate his tastes. He loved how this car felt, allowing him to more consistently access the enormous potential that in other seasons was sometimes disguised by his very specific handling preferences. He was also gifted a present by the traits of the Pirellis, in that they required a lot of sensitivity to maximise – and that's always been one of the cornerstones of his game. His wet-weather win in Montreal was one of the greatest ever seen. He was last with 60 percent of the race distance gone, yet pressured Vettel into sliding wide on the final lap. His other victories in Hungary and Suzuka oozed class. He was consistently able to maximise the car in the races and even Vettel admitted he'd get a little spooked when late in the race he'd receive the radio message: "Button is now up to P2."

1<sup>st</sup>

## Sebastian Vettel

**YES, HE WAS IN THE FASTEST CAR BUT** not by the margin of his dominance. He was dynamite, first in understanding and adapting to the challenges of the Pirelli tyres, then in how he built the pieces of his weekend and put them together perfectly at the critical time, building to a crescendo. Fantastic in qualifying, he has not in the past been seen to his best in wheel-to-wheel racing and he rarely needed to do much of it this year, but on the few times he did he was superb – witness his move on Rosberg around the outside of Blanchimont or his two-wheels-on-the-grass overtake of Alonso at Monza. The Red Bull was not the most raceable of cars with its relatively slow straight-line speed and weak KERS, so it was essential he establish himself at the front, out of DRS reach, while also eking out the tyre life. Throw in the complication that even when it was working, the KERS could often only be used on alternate laps and the adverse effect that had on braking stability and it was a mentally challenging job, yet he made it look easy. You really couldn't see where the joins were.





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# F1 Team Principals' Top 10

**AUTOSPORT** asked Christian Horner, Martin Whitmarsh, Stefano Domenicali, Ross Brawn, Eric Boullier, Frank Williams, Vijay Mallya, Peter Sauber, Tony Fernandes, Colin Kolles and John Booth to choose their favourites from 2011

## The panel



Christian  
**HORNER**  
Red Bull



Martin  
**WHITMARSH**  
McLaren



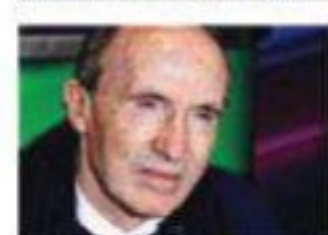
Stefano  
**DOMENICALI**  
Ferrari



Ross  
**BRAWN**  
Mercedes



Eric  
**BOULLIER**  
Renault



Frank  
**WILLIAMS**  
Williams



Vijay  
**MALLYA**  
Force India



Peter  
**SAUBER**  
Sauber



Tony  
**FERNANDES**  
Lotus



Colin  
**KOLLES**  
HRT



John  
**BOOTH**  
Virgin

# A

s the hirers and firers in the pitlane, Formula 1 team principals can be a pretty ruthless lot when it comes to judging the various merits and weaknesses of the men behind the steering wheel.

So, with few people better qualified than them to give a verdict on the performances of the drivers, AUTOSPORT has again conducted its annual

Team Principals' Top 10 to see how they rate the current grid.

After asking each of the 11 team principals (Scuderia Toro Rosso boss Franz Tost declined to vote) for their top 10 rankings, their individual results, which are kept secret, have been converted into points (25-18-15-12-10-8-6-4-2-1) and the scores added up to find out which drivers the bosses felt had done the best job in 2011.



**1<sup>st</sup>**  
Sebastian  
**VETTEL**  
241  
UP 1



**2<sup>nd</sup>**  
Jenson  
**BUTTON**  
200  
UP 4



**3<sup>rd</sup>**  
Fernando  
**ALONSO**  
188  
DOWN 2



**4<sup>th</sup>**  
Lewis  
**HAMILTON**  
122  
DOWN 1



**5<sup>th</sup>**  
Nico  
**ROSBERG**  
90  
UP 2



**6<sup>th</sup>**  
Mark  
**WEBBER**  
70  
DOWN 2



**7<sup>th</sup>**  
Paul  
**DI RESTA**  
44  
NEW ENTRY



**8<sup>th</sup>**  
Adrian  
**SUTIL**  
38  
RE-ENTRY  
FROM 2009



**9<sup>th</sup>**  
Heikki  
**KOVALAINEN**  
26  
RE-ENTRY  
FROM 2008



**10<sup>th</sup>**  
Michael  
**SCHUMACHER**  
23  
NEW ENTRY

## PREVIOUS YEARS

### 2008

1. LEWIS HAMILTON	88
2. FELIPE MASSA	86
3= FERNANDO ALONSO	50
3= ROBERT KUBICA	50
5. SEBASTIAN VETTEL	37
6. KIMI RAIKKONEN	27
7. TIMO GLOCK	13
8. HEIKKI KOVALAINEN	10
9. NICK HEIDFELD	4
10= JARNO TRULLI	3
10= ADRIAN SUTIL	3

### 2009

1. SEBASTIAN VETTEL	76
2. JENSON BUTTON	67
3. LEWIS HAMILTON	65
4. FERNANDO ALONSO	39
5. RUBENS BARRICHELLO	35
6= KIMI RAIKKONEN	30
6= MARK WEBBER	30
8. FELIPE MASSA	19
9. ROBERT KUBICA	10
10. ADRIAN SUTIL	8

### 2010 RESULTS\*

1. FERNANDO ALONSO	229
2. SEBASTIAN VETTEL	220
3. LEWIS HAMILTON	196
4. MARK WEBBER	146
5. ROBERT KUBICA	129
6. JENSON BUTTON	86
7. NICO ROSBERG	68
8. NICO HULKENBERG	17
9. FELIPE MASSA	17
10. RUBENS BARRICHELLO	11

\*Stefano Domenicali's vote came in too late for our 2010 review, so wasn't included. This is the final 2010 list, after his nominations were included.

Scuderia Toro Rosso declined to take part.





# David Coulthard

## Season review

13-time GP winner and 2001 world title runner-up

**The AUTOSPORT columnist and BBC TV pundit gives his forthright views on the best – and worst – bits of F1 2011**

**W**e saw a lot of good stuff on the track this year, whether it was that amazing race in Canada

– where Jenson Button raced through from the back of the pack to grab the win on the final lap – or Sebastian Vettel racing wheel-to-wheel with Fernando Alonso at Monza, or Alonso and Webber side-by-side into Eau Rouge at Spa.

But one man stole the show, and that was Vettel – especially on Saturday afternoons in qualifying. He started out looking like an instinctive driver just doing his thing. But, by the end of the year, you realised it was more than that. This was a special talent who was pre-planning everything, finding that space for a clear lap, masterminding that bedrock result which so often led to a great performance the following day.

### VETTEL: AN ALL-TIME GREAT IN PROGRESS

There's no question in my mind that Sebastian has, at the very least, etched his christian name on to the trophy of the all-time greats of Formula 1. The journey from here on in will decide whether you'll see Vettel alongside those such as Fangio, Brabham, Stewart, Prost and Senna, and I think he's well on his way to doing that.

His ability to turn a lap in, whenever he needs to, is sublime. He's proved he can race wheel-to-wheel with the best of them – remember that move on Alonso at Monza on the grass? He's

proved he has great race-management skills – at Monaco he had Fernando and Jenson right on his tail, but he was keeping his well-worn tyres alive before that red flag. Then there was Brazil, where he nursed his ailing gearbox to the finish.

When you have a mechanical issue like that, the driver can be the biggest influence in whether it makes the finish or not. These V8s are little buzzboxes, you have to carry a high rpm at the apex because of the blown diffusers, so to manage that by short-shifting to bring it home was a massive effort.

He's ticking all those boxes, and he's winning all these races not solely because he's got a great car. What validates it for me is that you wouldn't

**“The bottom line is Sebastian Vettel has stepped up his game and left the others gasping in his wake”**

**David Coulthard**

have said, going into this season, that Mark Webber lacks speed. And Sebastian has been so quick that he's made Mark look like a support act on a number of occasions this year.

The bottom line is Vettel has stepped up his game and left the others gasping in his wake. And the only two drivers who look like they can challenge that, based on this year's form, are Alonso and Button.

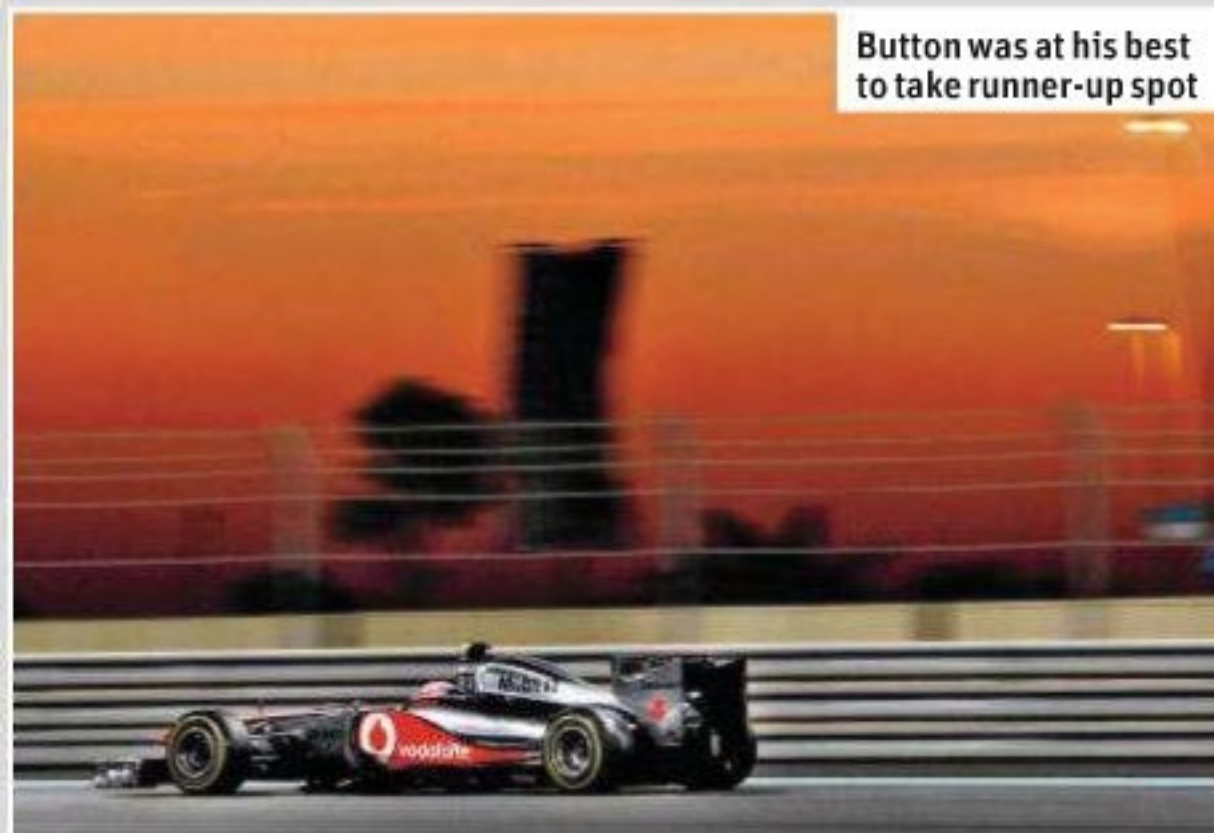
### McLAREN'S NEW NUMBER ONE

It's worth considering that if you'd cloned Mark Webber at Red Bull, instead of having Sebastian there, then McLaren would have been world champion with Button. I don't think there's any argument that Jenson is a better racing driver today than when he won his championship with Brawn in 2009. His stock has never been higher, and his positioning within that team reflects it.

His well-being, his health and happiness have never been better. He's won the team over. Jenson had a few wobbles in qualifying, but put in some incredible race performances.

Jenson and Lewis Hamilton are like chalk and cheese when it comes to communication. Lewis is very open,

Button was at his best to take runner-up spot







Vettel drank an awful lot of fizz during 2011

almost too much so, and that allows people to question his mental state even further. Jenson is still open, but very much on-message 24-7. A good case in point came in Abu Dhabi, when Jenson said, "Lewis was too fast for me today, I couldn't beat him" - it takes a racing driver very comfortable with himself to admit that publicly.

The disastrous start to McLaren's test programme is well documented, as was its subsequent recovery from that into genuine race-winning potential. It didn't pack the sort of qualifying speed that could take the fight to Sebastian, but it did have great race pace, which put it right in the mix.

#### WEBBER: A HARD ACT TO KEEP UP

It's amazing to think Mark Webber went over a year between victories, but his end-of-season performances will give him reason to be cheerful going into 2012. He was strong throughout the Brazilian weekend, he's won there before of course, and was there to pick up the pieces when Sebastian hit trouble. I hope it'll give him the boost he needs.

If you rewind to 2010, he was really on the frontline for the first time in his career, and he was in the world championship



Webber didn't make the most of his equipment

fight for the first time, coming up short in the last race at Abu Dhabi. It's almost as if that experience took away some of his mojo this year, and we only saw glimpses of what we know he's capable of - China being a good example, when he fought back from 18th on the grid to finish third.

If you're one of those who doubts his commitment to the cause, you need look no further than his overtake of Alonso in Eau Rouge at Spa. That was borderline insanity! The line between brilliance and madness is a very fine one when it comes to that sort of stuff, and you can either look a hero or go flying like he did in

Valencia the year before.

I felt the main detail separating Mark from regular grand prix victories this year was his lack of qualifying speed, which used to be his strength. This will be tough reading for him, but the bottom line is he wasn't on form, and we know he can do better.

#### FERRARI - A YEAR OF DISAPPOINTMENT

You expect more from Ferrari, especially with the star quality of Alonso being there. He didn't seem to get it together a couple of times in qualifying, perhaps as a legacy of the Ferrari's tyre warm-up issues, perhaps because he's not as strong as he used to be.

There were some high points, one obviously being Silverstone on Ferrari's 60th anniversary of its first grand prix success, and there were a couple of other times where he'd be right up there, such as the starts in Spain and Monza. For me, however, his comment of the year was in Korea when he came on the radio and said: "I give up, I give up!" That shows his clarity of thought to throw that comment out there to confuse the opposition.

Massa showed flashes of his old, 2008-spec form, but not consistently ►

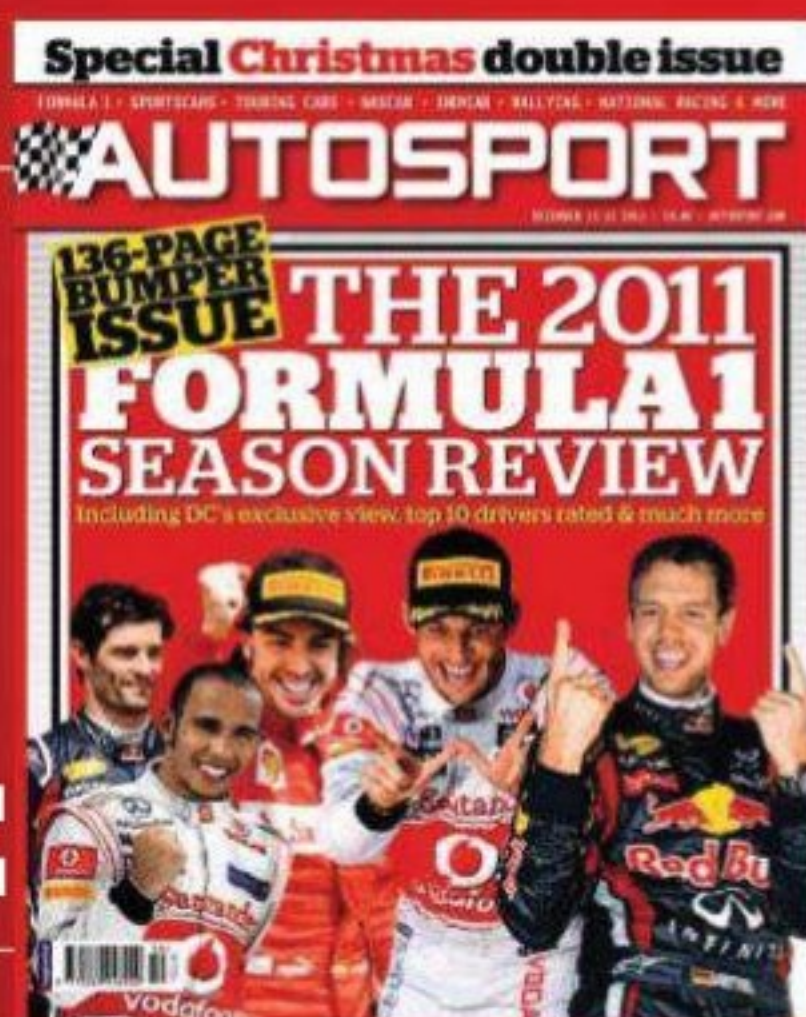


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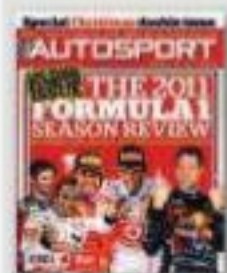
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◀ enough to see him ever return to championship-contending ways. Could you ever see him outperforming Alonso over the course of a season? Neither can I.

Fernando can deliver the title, if Ferrari can give him a car capable of it. I've got a lot of respect for Pat Fry, who I used to work with at McLaren.

He's got a no-bullshit approach and isn't afraid to air his views if more senior people are in the room. And I think he's exactly what Ferrari needs. He'll need time, but I think if he can give the Scuderia a more 'British' way of working, as it had with Ross Brawn, then it can come back and take on Red Bull and McLaren.

### MERCEDES - MUCH WORK TO DO

There is a lot of quality within this organisation, which won a world championship as Brawn, and it's got the best engine in F1. So that means you don't even need the best chassis, you need one that's within a couple of tenths of the quickest to be contending for victories. In some ways, as it's openly acknowledged that the Renault isn't the best engine, so Red Bull's design team have to build a car that's quicker than the opposition to make up for that deficit.

Michael Schumacher is two years into his comeback, and even he'll have to admit that his Achilles heel has been his qualifying performance. Maybe if you gave him a world championship-winning car it would unleash his inner mojo, but like a boxer, whose hand speed is the key to his success, if that goes due to age, then you're never quite as good as before.



Schumacher mixes it with Rosberg at Monaco

The question remains: has he lost that qualifying speed, or is it a consequence of these two Merc cars that he's driven?

In Nico Rosberg, Mercedes has a driver

**“Maybe if you gave Michael Schumacher a world title-winning car it would unleash his inner mojo”**

**David Coulthard**

who is young and quick. His last two races of the year were fantastically aggressive, especially that pass on Michael in Abu Dhabi. Wheel-to-wheel with a team-mate like him, who should come with subtitles: 'Approach with caution!' That says all you need to know that Rosberg is the real deal.

### RENAULT FLATTERS TO DECEIVE

The forward-exhaust idea was an interesting technical concept that

seemed to hit the ground running, then petered out. Obviously, you'd assume with Robert Kubica that the team would have achieved much more, but he wasn't and it endured an uncomfortable ride after the opening few races of the season.

The team took some brave decisions on the driver front, and I think Bruno Senna performed better than I expected, especially in qualifying - that's a tick in his favour. Vitaly Petrov wasn't as impressive this year as he was last year, but he's done enough to warrant his place in F1. It's interesting it has gone down the Kimi Raikkonen route, long-term, and it's a firm statement of its intent to pick a former world champion.

Kimi is naturally gifted and easily young enough to come back. The only question is: does he have that ultimate hunger? He's got more baggage of life to carry than when he arrived in the sport with Sauber 10 years ago.

### ROOKIE OF THE YEAR

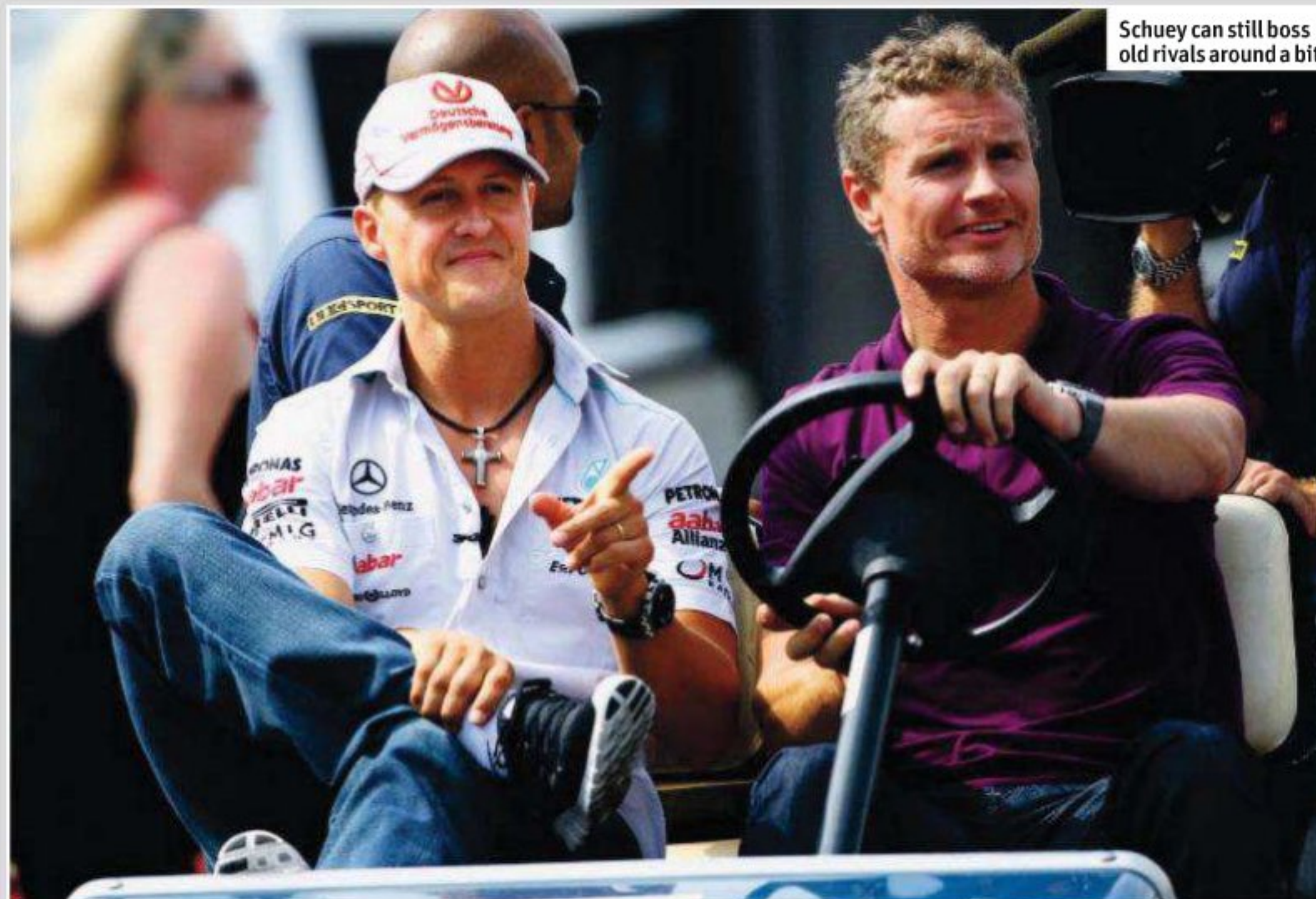
I think Paul di Resta did a fantastic job in his debut season. That qualifying performance at Silverstone was superb, and Force India made some excellent strategic decisions, too. Just look at its reserve driver, Nico Hulkenberg. He is a very strong talent and I think having such a strong combination pushed Adrian Sutil into his best-ever season.

It feels like the management at Force India has a very strong vision of where it's going in the future. I'm liking what I see there, and it's a nice place for Paul to be and I think he can make serious progress with the team next year.

Heidfeld had wild ride at Renault then got sacked



Rookie di Resta did a great job for Force India



Schuey can still boss old rivals around a bit



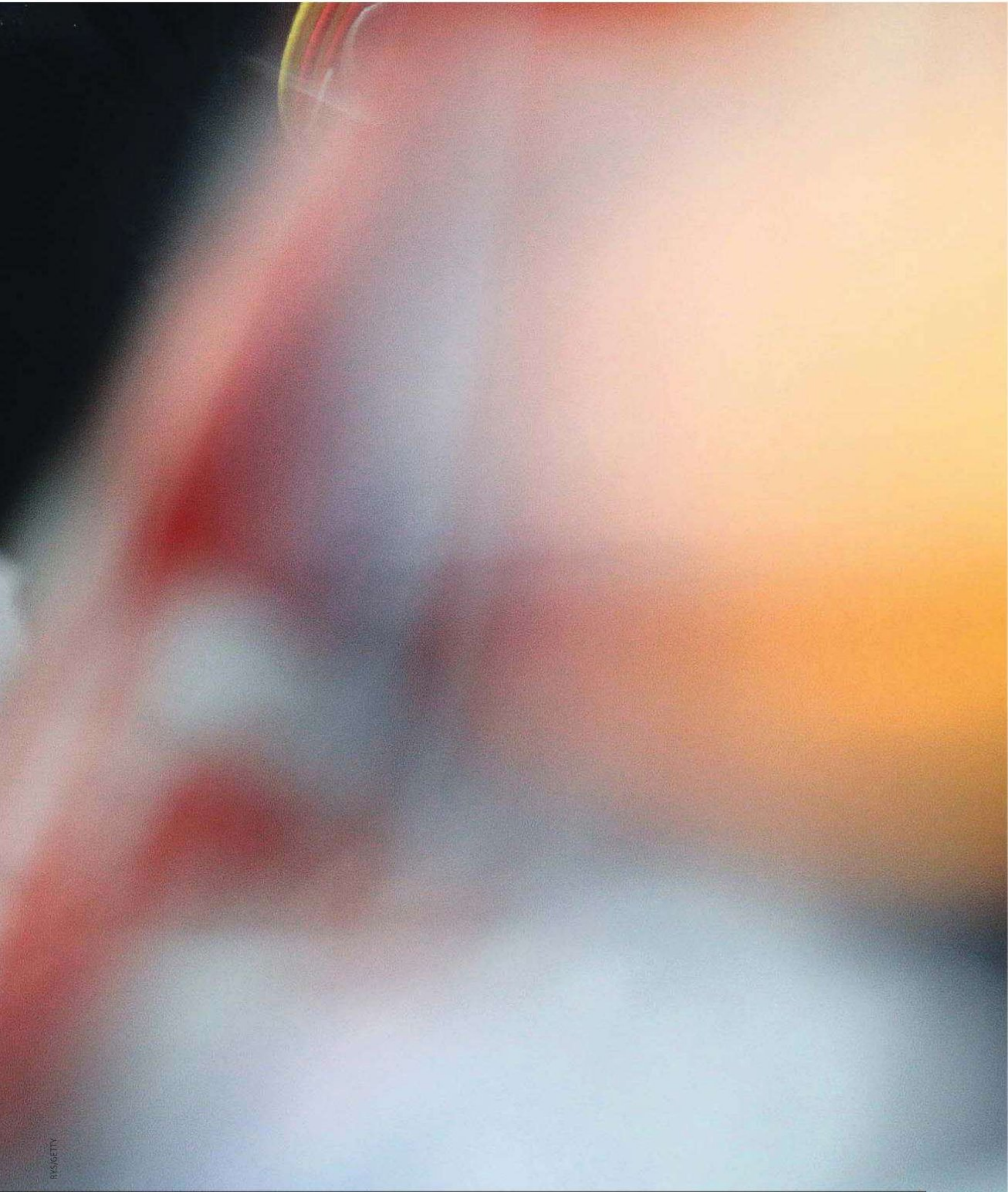


# NEWHEY'S NEARLY PERFECT YEAR

Red Bull's design guru talks *EDD STRAW* through a glorious season of almost complete domination

**R**ed Bull's annus mirabilis started in earnest on February 1 when the RB7 hit the track for the first time at Valencia. It didn't take long for the world to realise that Adrian Newey's latest creation was the car to beat, but few would have believed that it would go on to snare a record 18 pole positions, 12 victories and wrap up both the drivers' and the constructors' championships with six weeks to spare. Even by Newey's standards it was a great season and one that stands among the greatest in world championship history. ►

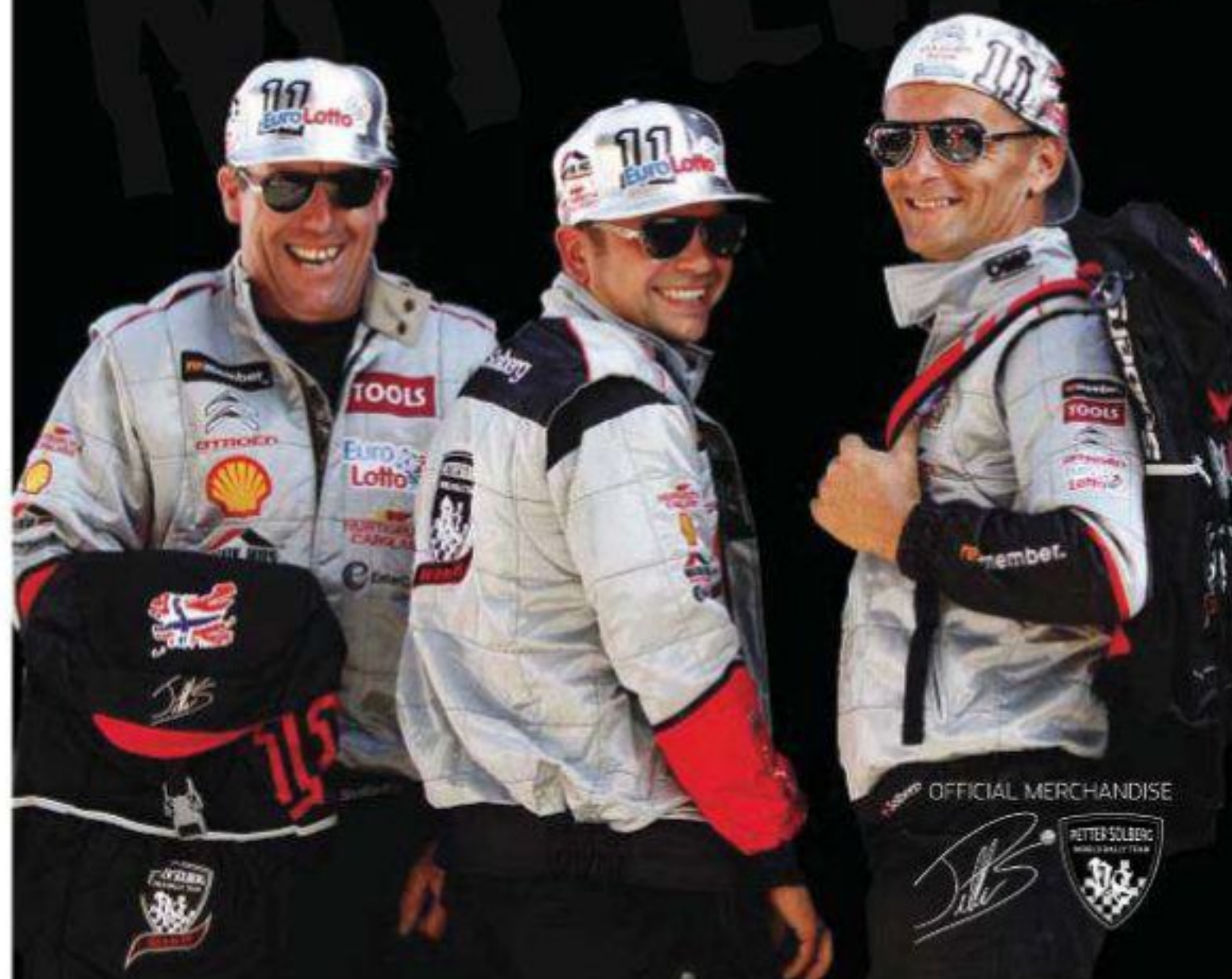






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## THE CAR

Red Bull effectively had a headstart even before Newey started thinking about the 2011 car. With the regulations relatively stable, the fundamental car concept already existed and it was largely a case of adapting to the one major change that had been imposed.

"The big thing was the banning of double diffusers," explains Newey. "Given the level of development we'd achieved with that, it was a huge reduction in downforce so we had to try to recover



RB7 looked good in pre-season testing



First race, first place. A sign of things to come

as much of it as we could. So it was the normal form of continual development and trying to use the exhaust in an even more powerful way than last year.

"It was clear that if we were going to try to recover the downforce of the double diffuser, it had to be in that area."

Red Bull's diffuser, which blew in exhaust gases from the side, proved to be the *de rigeur* concept for 2011 and was adopted by many other teams. But, in harness with Renault's engine mapping, it also mastered the design better than anyone else.

## PRE-SEASON TESTING

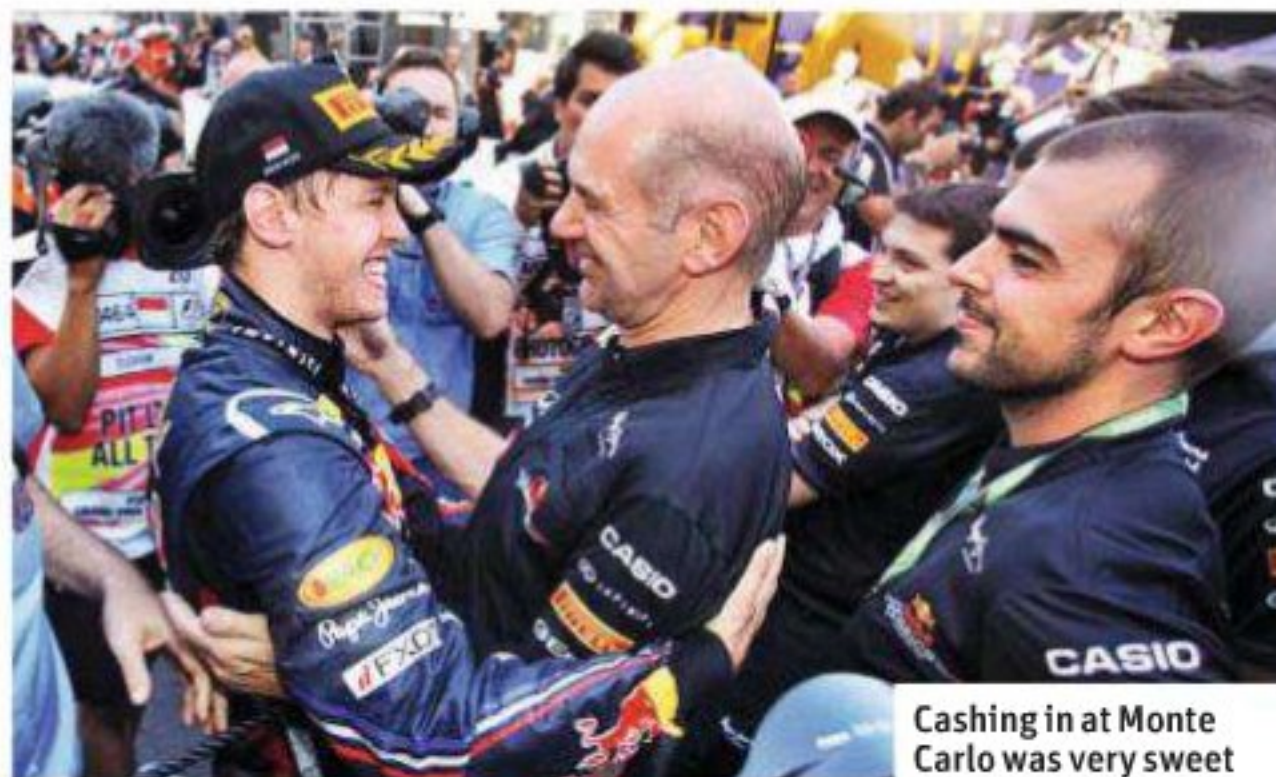
Unlike the previous two campaigns, Red Bull had its new car ready for the opening pre-season test. Although a little consideration was given to running last year's RB6 on the new Pirellis, ultimately it was essential for Red Bull's aspirations of starting the season better than it had in previous years to have the new car on track from the off.

"We learned from the fact that we wasted a lot of points early on in 2010," says Newey. "We wanted to avoid that this year and one of the things we felt would help that would be to get the car out early. But the biggest reason for was the Pirelli tyres as we wanted to be learning about them with the new car.

"The car seemed pretty reasonable from the first test and we introduced the planned developments. Then it was about understanding how to get the car to suit the Pirellis. We had run them in the Abu Dhabi test [in December 2010] but they hadn't given us an enormous

"We were trying to go as slow as we could to win the race because we didn't know if the tyres would last"

Newey on Australia



Cashing in at Monte Carlo was very sweet



Aerial loss caused China crisis

amount of information. It was a very rapid learning curve."

Having performed well in the phony war, Red Bull came into the first race of the season better prepared than it had in the previous two campaigns. With McLaren struggling after tying itself in knots over the octopus exhaust system and Ferrari's last upgrade package not working well, the reigning champions headed to Australia as favourites.

## BACK-TO-BACK WINS

Sebastian Vettel proved that the high expectations for the RB7 were well-placed, taking pole position by 0.778s in

Melbourne from Lewis Hamilton. But after the disappointment of losing victory in 2010 because of a wheel mounting problem, Red Bull was all nerves heading into the first grand prix Sunday of the year.

They needn't have been. Vettel took a comfortable victory and followed it up with another triumph from pole in Malaysia a week later. Both drives were cagey, controlled performances that left a nagging doubt as to whether the full potential of the car had been unleashed.

"We were trying to go as slow as we could to win the race," says Newey. "Also, while we normally had a working KERS in qualifying, generally speaking by about two laps into the race, the thing had broken! Seb in particular very much drove to the slowest pace that he could to conserve the tyres because we just didn't know how they were going to last."

They did, and in both races Vettel underscored his superiority by extending his lead during the final stint. The die had been cast.

## THE CHINA SYNDROME

Vettel and Red Bull went to China, the third round of the championship, in command and despite Mark Webber qualifying a disastrous 18th after

dropping out in Q1, Vettel looked set for another victory after taking pole.

Vettel had control of the race until five laps from home when Hamilton, on fresher tyres after Vettel had made just two pitstops, overtook him.

As Newey admits, this was a race that the team should

have won and it was a rare case of dropping the ball.

"China was very frustrating because, of all of the stupid things that can happen, the radio aerial snapped off. When we wanted Seb to come in, he didn't because we hadn't realised that it wasn't working.

"We ended up doing one less stop, not because we intended to but because the radio failed and threw our strategy to pot. The car had very good inherent pace and it was a silly reason to lose a race."

After another victory in Barcelona, where Vettel held off Hamilton in the closing stages, came Monaco where Red Bull's young charge again triumphed. But this was no ordinary race. This time, by design, he opted to attempt a one-stop race, compared to the two-stopper for Fernando Alonso and three-stopper for Jenson Button.

The three ended up running line astern in the closing stages with Vettel, on the oldest tyres, first ahead of Alonso, on fresher rubber and Button on the freshest



◀ **Pirelli.** It was set up for what might have become one of the great Monaco Grand Prix finishes, only for Vitaly Petrov's stricken Renault to bring out the red flag and allow all three to change tyres during the delay.

But it's worth noting that Vettel was driving immaculately before the stoppage, ensuring the car was slow where it needed to be to keep Alonso at bay. Newey has no doubts who the winner would have been, especially after seeing one of his previous legendary cars thwarted almost two decades earlier.

"Seb would have been pretty difficult to pass," he says. "Think back to Nigel Mansell in 1992 when he was whole seconds faster than Ayrton Senna, but could find no way past."

### A CRAZY AFTERNOON IN MONTREAL

Montreal's Circuit Gilles Villeneuve had not been a happy Red Bull hunting ground before 2011, but it seemed that was going to change as Vettel controlled the race in both wet and dry conditions.

But repeated safety cars meant that he could never consolidate his lead and Jenson Button, recovering from running last earlier in the race, took advantage of Vettel making a small mistake while trying to stay out of DRS range to take the lead on the last lap.

"Throughout the wet phase of the race, Seb had very good pace and was able to draw away at will," says Newey. "But on that final stint, after the long red flag, while running on the slicks we struggled with tyre warm-up in the cold conditions. Jenson didn't. That was a story that would come back to haunt us at Silverstone, the Nurburgring and Hungary."

After another dominant win in Valencia, Silverstone was a difficult weekend for Red Bull despite lining up first and second on the grid with Mark Webber and Vettel. The FIA's attempt to ban off-throttle exhaust blowing, which led to so much controversy and the move's eventual abandonment, dominated the weekend. Ultimately, Fernando Alonso won after a pitstop fumble cost Vettel time, but despite that Red Bull was well-beaten.

"All you are worried about is relative performance," says Newey of concerns in the build up to that race. "Obviously we were going to lose a load of performance with mapping restrictions, but would it be more or less than the others?"

"The big problem we had was that Renault liked cold blowing for exhaust reliability and we were fearful of that. In the lead-up to Silverstone we believed we'd be allowed cold-blowing on the basis that if you used it in 2009 or earlier, you would be allowed to use it on that basis.

"So when we weren't allowed to run it that weekend, it hurt us quite badly. It all became very messy and the correct decision was made to simply revert back."

Vettel got the job done with third place in Japan



### THE FINAL FRONTIER

The Belgian and Italian grands prix were rightly regarded as two of Renault-powered Red Bull's weakest tracks, with Monza's long straights in particular expected to afford McLaren and Ferrari the chance to take centre stage.

At Spa, Vettel started from pole but serious thought was given to whether or not to start from the pitlane with the aggressive camber - slightly beyond the Pirelli advisory limit - eased off. In the end, Red Bull gambled on starting with the cars in qualifying specification and the worst didn't happen. In fact, Webber was even able to two-stop on his way to second.

"It was one of the scariest races that I have been involved in," said Newey after the race. "First and foremost, our duty of care is to the drivers' safety. I found it quite a difficult judgement to make. At the end of the race, I was relieved that both of our drivers were safe."

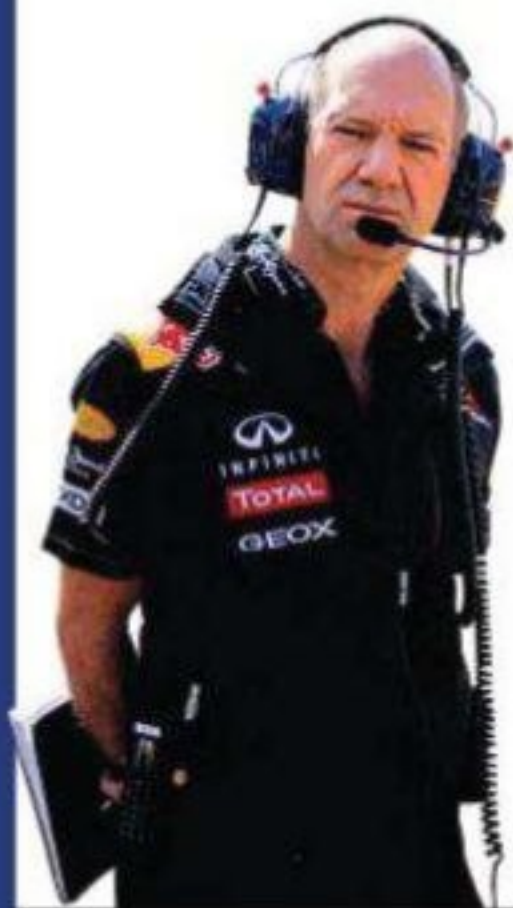
That victory was the first of the memorable double, with Vettel's stunning victory at Monza, after overtaking Fernando Alonso at over 160mph on the grass, crowning a remarkable weekend.

"We tried to learn from the previous

Silverstone pitstop blunder



Webber led 1-2 in Brazil



"Sebastian didn't want to cruise to the title and that's what you saw at Monza. It was a really ballsy move"

Newey on Italy





couple of years and took a slightly different approach in our preparations to those races in terms of aero and setup," says Newey. "But we went into Monza fearing it was going to be damage limitation and I didn't expect us to be as competitive as we were."

"Sebastian didn't want to cruise to the world championship and that's what you saw at Monza. It was a really ballsy move."

### CLINCHING THE TITLE

Red Bull and Vettel headed to the final flyaway races on the brink of the title, but Newey was not willing to switch complete development focus to the RB8 – and not only because of fears that Red Bull might be overhauled.

"Even after Monza, while it was looking very good for the drivers' championship, we didn't feel that we could totally relax with the constructors," says Newey. "Plus, the regulations are generally similar and any work that went into this year's car could be applied to next year's."

Vettel chalked up another victory in Singapore, although Button's second place kept the championship alive. He secured the drivers' crown with second to the McLaren driver in Japan,

but despite Red Bull clinching the constructors' title in Korea a race later, there was one disappointment.

Hamilton's pole position at Yeongam denied Red Bull a full house. Its record of 18 in 19, eclipsing the previous best seasonal haul of 15, was impressive but Newey would have loved to have grabbed that perfect score. "It was a bit of a shame," he admits. "It would have been quite special to get a 100 per cent qualifying record for the season."

And, in effect, that was it for the season. Vettel added his 11th victory in India and Red Bull remains tight-lipped about the exhaust heat that caused the his right-rear tyre to fail at the start in Abu Dhabi.

Then, there were the conspiracy theories about Vettel's gearbox problem in Brazil, supposedly concocted to allow Webber to win. Data seen by AUTOSPORT confirms that there was a genuine malady, so Red Bull's 12th win of the year legitimately went to Webber.

But despite Vettel taking many of the plaudits, the other star of the season was not just Newey, but the whole technical team he has created. Worst of all for the rest, there's no reason why they can't do it all again next year. 

## HORNER'S MAGIC MOMENTS

Red Bull team principal Christian Horner picks out his greatest memories of the 2011 season.



### AUSTRALIA

"Winning the first GP of the year with Sebastian was a fantastic feeling. Turning up with a new car, new tyres, new regulations and nailing it was particularly rewarding. We hadn't ever been on the podium in Australia, so it was very gratifying. We'd had a great pre-season and would have been strong for Bahrain if that race hadn't been cancelled because McLaren were struggling with their exhaust."

### TURKEY

"After the low point of 2010 in Istanbul, when Sebastian and Mark collided, to go back and dominate the race with a one-two finish was tremendously rewarding."

### SPAIN

"Seb's win in Barcelona was one of his best drives of the year. With a KERS that was intermittently working, which meant that the brake bias was shifting constantly, plus Lewis Hamilton glued to his exhausts, it was impressive that he didn't make the slightest mistake."



Get thee behind me, Lewis

### MONACO

"Sebastian ended up on the wrong set of tyres, but found a way to drive the car and had the discipline to back off and save the tyres and keep Fernando Alonso and Jenson Button behind. Our analysis after the race showed he had enough rubber to get to the end so he probably would have held on."

### BELGIUM

"We'd never won at Spa before so to achieve a one-two, especially after Mark's pass on Alonso into Eau Rouge, where we all shut our eyes, was absolutely incredible. Did he need to do it there? Maybe not, but a racing driver doesn't think like that and it was one of the moves of the year."



Testicular fortitude at Spa

### ITALY

"Monza has been our Achilles' Heel, so to be dominant there was fantastic. And Sebastian dispelled the myth that he wasn't any good at wheel-to-wheel racing. During the move we were a bit worried, but after it we were very happy! He could have waited for the pitstops, but he wanted to get on with it. We ran the car in a very different way and it worked."

### KOREA

"After the disappointment of leaving Korea last year, thinking that our championship hope had gone up in engine smoke, for Sebastian to win the race in the manner that he did and clinch the constructors' crown was fantastic."



Vettel beat Hamilton in Korea

### BRAZIL

"It was tremendous for Mark to end the season on a high with a win. Had he not got a win, the winter would have been hard for him, but it was a good reward for his efforts and sets him up perfectly for 2012."



# Frying times at Ferrari

**EDD STRAW** talks to technical director **Pat Fry** about how he plans to lead the Prancing Horse back to the head of the pack

**W**hile most of the Formula 1 paddock was in transit from Barcelona to Monaco news came through that Ferrari technical director Aldo Costa had been jettisoned by the team. But this wasn't the good old-fashioned Ferrari scapegoating that some superficially took it for. Instead, it heralded a change in direction for the Prancing Horse.

Ex-McLaren man Pat Fry's task as Costa's successor is not simply about doing a better job; it's more far-reaching. He is tasked with changing the way that Ferrari works, with the aim of transforming it from a team that has finished no higher than third in the constructors' points in the past three seasons into a force worthy of the title.

Judged crudely by the results after Costa's departure, the move has made little difference. But this is about the long-term. To grasp the shortcomings that Fry is addressing, we need to look a little more deeply at Ferrari's 2011 travails.

Rewind to pre-season testing and all appeared well. The cumbersomely-monikered 150° Italia was reliable straight out of the box and looked quick too. The headline times suggested that it headed to Australia as favourite, although looking

a little more closely at pre-season it was clear that the Red Bull was going to be the benchmark car. Behind the scenes, Ferrari was baffled by the lack of performance produced by the aerodynamic package introduced during the final pre-season test at Barcelona. But this was just a symptom of the wider problem with the technical department at Maranello. The numbers in the factory simply weren't translating to the track.

So it's a correlation problem? Well, kind of. Perhaps it would be better to call it a correlation weakness, for 'problem' suggests that something had gone awry with the technology. Ferrari embarked on a detailed process of evaluating its Maranello windtunnel using the excellent Toyota Motorsport facility in Cologne as a reference point. The windtunnel was up and running again after the August break, but this is just one part of a change in philosophy at Ferrari.

And it is all about circumstances. Ten years ago, if Ferrari had a problem, it simply wheeled out its car at Fiorano. For example, in 2001, test driver Luca Badoer alone did 41 days of running at Ferrari's private test track. Designs developed in the windtunnel and with CFD could be churned out and compared, meaning that the Scuderia was the master of the ►



PIC: THOMPSON/GETTY





Ferrari's Pat Fry has plenty to ponder



Have track, will test.  
A wet Fiorano in 2001



There wasn't much for Alonso,  
Costa and Massa to smile about



◀ old empirical way of working. It's not a criticism, merely the reality of how Ferrari made best use of the available resources.

"There's no substitute for track testing," explains Fry. "I wasn't at Ferrari when they could open the back door of the race shop, wheel out the car and then go testing whenever they needed to. That would certainly put a different perspective on things if we could do it today, but we're working within the FOTA testing agreement."

"Other teams without the luxury of opening a back door and wheeling out the car put effort earlier into simulation and advancing that technology, so we are playing catch-up. And we will be for a little while yet. So we have got to improve on other areas so that we make decisions without track testing, which Ferrari were working on before I got here and continues now. Eventually, we'll get there and to the point where we have actually got an advantage from that."

By 'simulation', Fry doesn't only mean computer simulations, which have become a fundamental tool for grand prix teams since being pioneered by McLaren in the 1990s, but all forms of 'dry' testing. This includes the windtunnel, CFD facilities and dynamic rigs. These were the areas that McLaren focused on in the absence of having anything to rival Fiorano (although it did acquire the Lydden race track in Kent with a view to turning it into its own test track before usage regulations stymied the plan), so it was logical to invest in

facilities. Ferrari, rightly making best use of its resources, ploughed more funds into testing, which was hugely beneficial at the time but has no value in 2011.

Fry has seen both sides and is determined to get Ferrari onto level terms with McLaren and Red Bull. In contemporary F1, parts must now roll off the production line, be bolted onto the car on race weekends and achieve a good hit rate if teams are to be successful.

"You are never going to get perfect correlation," says Fry. "It's a constantly evolving thing. But we've learned a lot and are improving. That's why we kept on bringing parts to the track late in the season, because it's a good way of testing if the correlation is working. We are getting better. We are not perfect and even with track testing, you'd want that correlation, but once you can use mathematical modelling to analyse the car and work out what's quicker, that also allows you to make better decisions."

Fry has also regularly re-iterated the need to allow the technical team at Maranello to be more creative to combat the conservatism that has evolved there - particularly on the aerodynamic side. Tempting as it is to view being 'creative' as a meaningless buzzword, there is method behind what Fry is trying to achieve. It is about unlocking potential in the staff who are already there, rather than simply culling a load of personnel, replacing them and hoping for a different result.

After several years of relatively conservative machinery and allowing



One victory in 2011 did  
not compare well...



... with 15 wins for the  
Scuderia in 2004

"Other teams put effort earlier into simulation and advancing that technology, so we are playing catch-up"

**Pat Fry**

Red Bull and McLaren to steal the plaudits for innovation, the 2012 Ferrari is expected to be more eye-catching. What's more, Ferrari's very public battles with flexi-wing technology suggest that progress is being made on that score, even if the flapping front wing suggests that there is more work to be done.

"The group of engineers will be more creative next year," pledges Fry. "We've only made a few changes and it's mainly the same engineers that designed this year's car that are designing next year's. They are working a lot better."

"It's about giving them a willingness to come up with ideas and not be scared to share them and to give them the tools to make the right decisions. Nothing is simple. If, for instance, you design a better exhaust flange that produced more downforce at a certain point, you need to know if it will cause the car to lose downforce at another point. You need to know what the net laptime gain or loss is."

"And they need not to worry about making mistakes. I always say to them that I can have 10 ideas on aerodynamics - and I'm not an aerodynamicist - but out





Alonso's Silverstone win was a one-off

of my 10 bad ideas, we might take two of them and come up with a good idea. It's about a change of working environment and mentality. The aero department in particular has been a lot more creative and that's good to see."

In the latter stages of the season, we've started to see the Fry regime paying off. Fernando Alonso has said numerous times that he is content that parts being introduced are producing the benefits that he expects and after getting the 2011 season, during which he won just once,

over and done with he is now eagerly anticipating next year.

But there is one question mark hanging over this season. That one victory came at Silverstone in July, when the FIA's much-vaunted ban on the off-throttle blowing of the diffuser was in place. After much to-ing and fro-ing, the ban was eventually discarded but it did influence the competitive order at the British Grand Prix. Alonso won, crucially only after Red Bull botched a pit-stop for Vettel, so could there have been more wins without this? And, if so, were Ferrari's struggles this year based more on the inability to match the kind of advanced engine maps and aero tricks employed by the Red Bull-Renault?

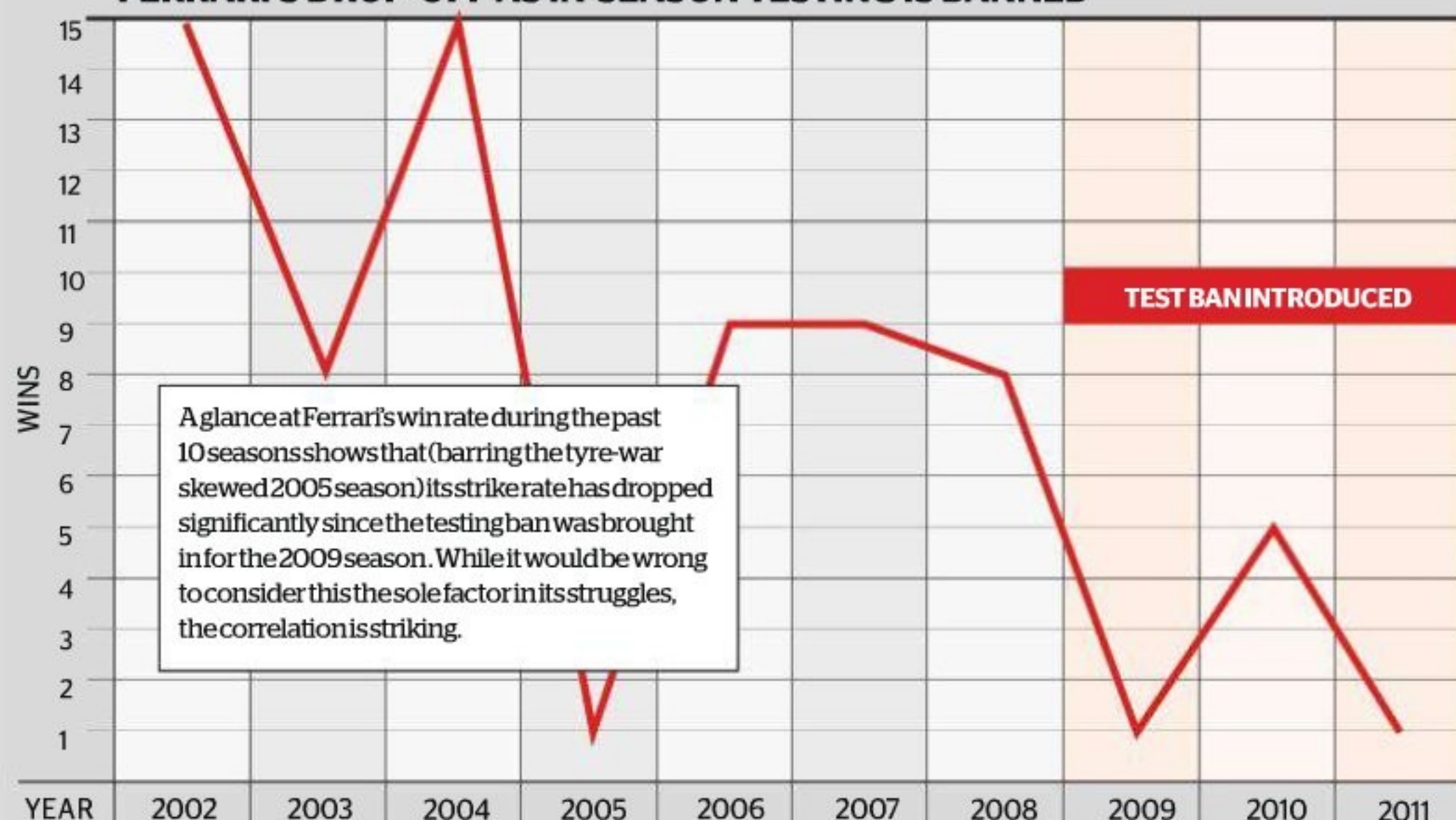
"I don't know," says Fry when asked if there would have been more wins had the rule change stayed. "We looked quite good at Silverstone, but if you analyse the qualifying data, we were the same distance off Red Bull that we were all year. And it doesn't look like they used KERS in qualifying. Our race pace was quite good. But we never got used to the hard tyre."

"Maybe we would have been up the grid a little, but it wouldn't have changed everything. The other thing to note is that there wasn't much time to re-optimize the cars around that level of exhaust blowing, so maybe we just did a better job on that specific event. It's hard to say that the fact that we didn't win before or afterwards is clearly down to the exhausts."

Fry admits that the process of rebuilding is a long-term one. It might not be until 2014, and the new engine and chassis regulations, that we can fairly judge this revolution at Ferrari. But what we should expect is a step forward next year. Things might have changed at Maranello, but ever-imposing president Luca di Montezemolo will still demand an improvement in results.

As Fry himself says: "We'll know in Melbourne, won't we?"

### FERRARI'S DROP-OFF AS IN-SEASON TESTING IS BANNED



## FERRARI'S CLOSE CALLS

While McLaren and Ferrari were generally grouped together as Red Bull's nearest challengers, the Italian team was very much third best. Despite having Fernando Alonso - arguably the most formidable competitor in F1 - leading the line, the car was often too slow to seize on the opportunities presented to it.

### SPAIN

Alonso was delighted with his near-perfect qualifying lap, and an incisive move up the inside of the first corner gave him the lead. Despite heroically leading the first 17 laps, the car simply wasn't quick enough and Sebastian Vettel put him a lap down on the 63rd tour.

### MONACO

After the ignominy of writing off his chassis in a needless Saturday morning shunt last year, Alonso made amends with a spectacular drive this term. Was second and pressuring Vettel, who was on older rubber, when the red flag ruined the grandstand finish.

### BRITAIN

The on/off exhaust-blown diffuser rules row played into Ferrari's hands, as did a blunder during Vettel's pitstop that handed Alonso the lead. The Spaniard was relentlessly fast to close out his sole win of the year.

### GERMANY

Alonso was in the thick of a battle for victory with Lewis Hamilton and Mark Webber, but despite being quick enough to stay in touch he didn't have the speed to get ahead of Hamilton. Ended up a strong second, just four seconds down.

### ITALY

Another flying start gave Alonso the lead, but just as in Spain he didn't have the pace to stay there as Vettel scythed past him on the fifth lap - at 160mph and on the grass!

### ABU DHABI

With Vettel out on the first lap with a puncture, Alonso passed Jenson Button for second place and set off in pursuit of Hamilton. Despite a superb drive, the car simply didn't have the speed to challenge and he finished 8.5s down.

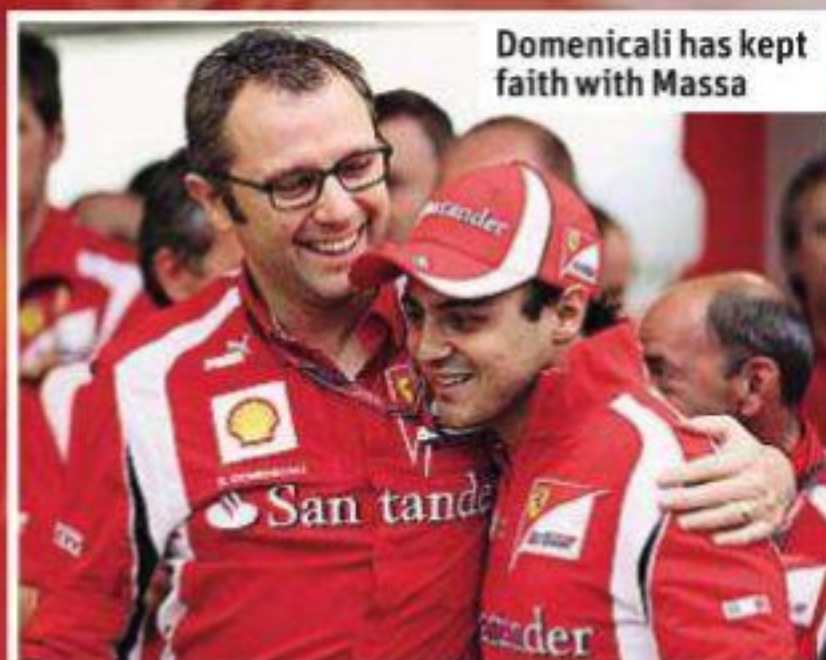




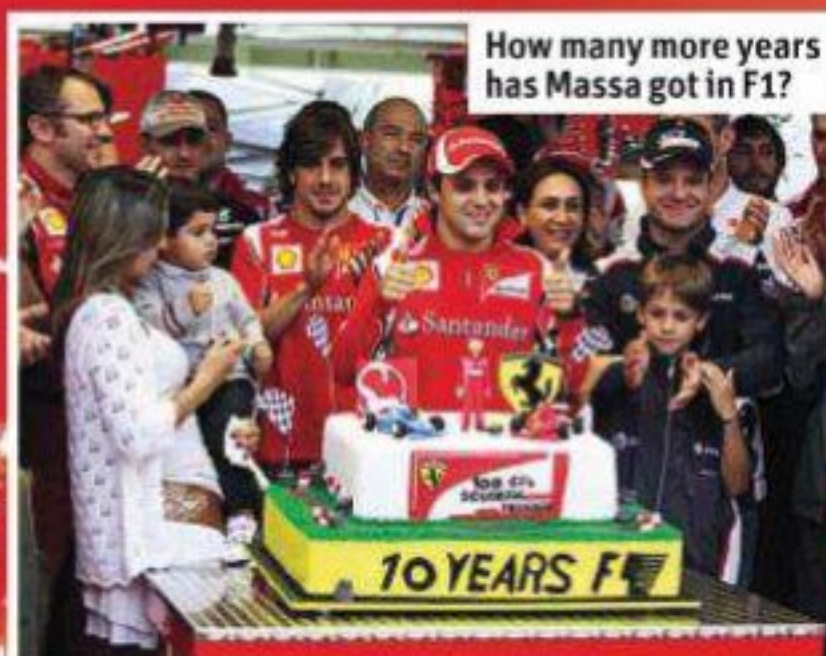


# MASSA FACES HIS LAST CHANCE

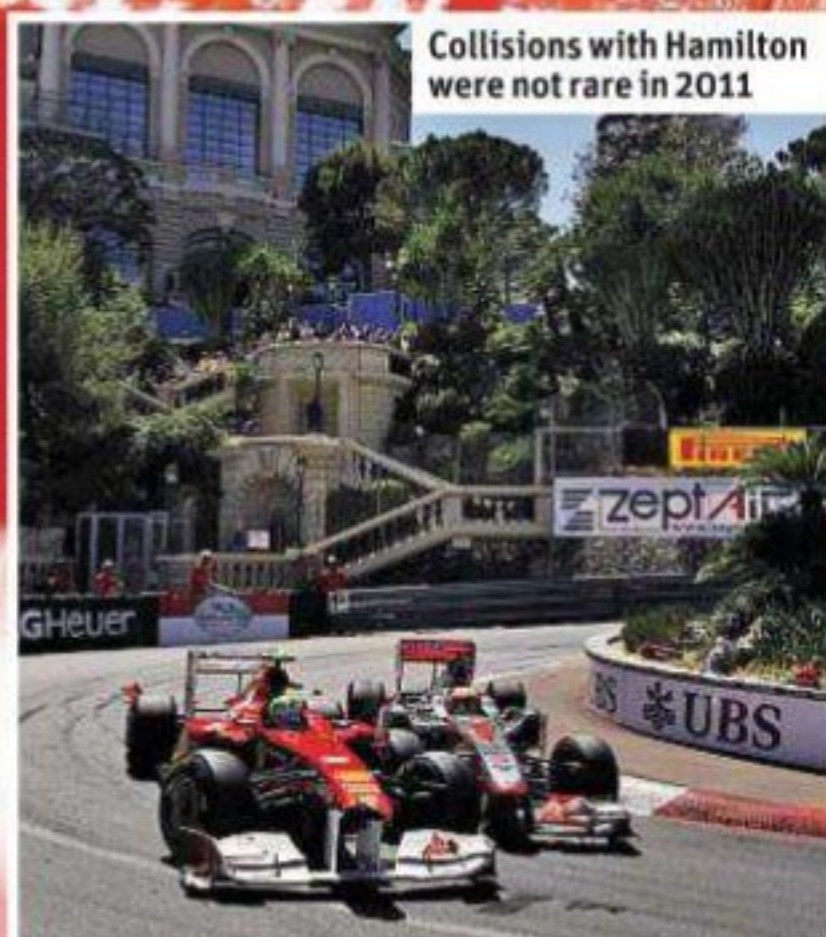
The Brazilian tells *ADAM COOPER* why he believes he can still win with Ferrari



Domenicali has kept faith with Massa



How many more years has Massa got in F1?



Collisions with Hamilton were not rare in 2011

**T**he contract extension announcement was a regular feature of 2011, and Sebastian Vettel, Fernando Alonso,

Jenson Button and Nico Rosberg all now have deals that stretch far into the future. Lewis Hamilton is expected to join their ranks at some stage.

Among the top four teams, that leaves Michael Schumacher, Mark Webber and Felipe Massa with their seats fixed for 2012 only. In the case of the first two, any decision is, we assume, in their hands. It's impossible to predict whether one or both will walk away from the sport, or carry on for another season, although the consensus is that Webber may well call time on his career, and thus free up a prime seat.

But for Massa, the future is far from secure. The man who celebrated his 100th race with Ferrari at Interlagos endured a nightmare season, and there are plenty of people queuing up to take his job in 2013, with Robert Kubica and Sergio Perez among the contenders.

There's also the question of whether he is the same driver he was before his accident at the 2009 Hungarian Grand Prix. It's not one that Felipe can answer, but it has to be in the minds of those around him. He's shown flashes of speed since, but has seemed to struggle to put a race weekend together.

The only way Massa can dispel the doubts is by upping his game, and the Brazilian knows he must do so if he is to have any chance at all of extending his Maranello career.

"I think every year is very important," he says. "Maybe it can be a very, very good season and you stay for a long time, but maybe not. You always have the good direction and bad direction in your mind. We live in a risk situation, but this is part of our job and our mentality. I really have no problem with that."

Manager Nicolas Todt acknowledges: "Next year is very important for him, and

he knows it. Next year will definitely be crucial. Felipe knows the situation very well, but if he performs there is no reason why Ferrari would not keep him. But we have to do a good job, and we are going to do everything we can to turn the situation around. I'm not a magician, I don't have a special recipe, but we'll work harder than ever."

Publicly, Ferrari has given Massa its full support, and you could argue that - even if no one would admit such a job description exists - he fulfils the role of supporting act to Alonso. But, at the very least, that job entails keeping Fernando on his toes and being there to earn big points if the Spaniard hits trouble.

That wasn't the case in 2011, when Alonso earned 10 podiums and Massa didn't get one, thus becoming the first regular Ferrari driver to fail to make the top three since Ivan Capelli in 1992. Indeed Felipe didn't even land a fourth place, his season producing just a string of low-key fifths and sixths, punctuated by some frustrating retirements.

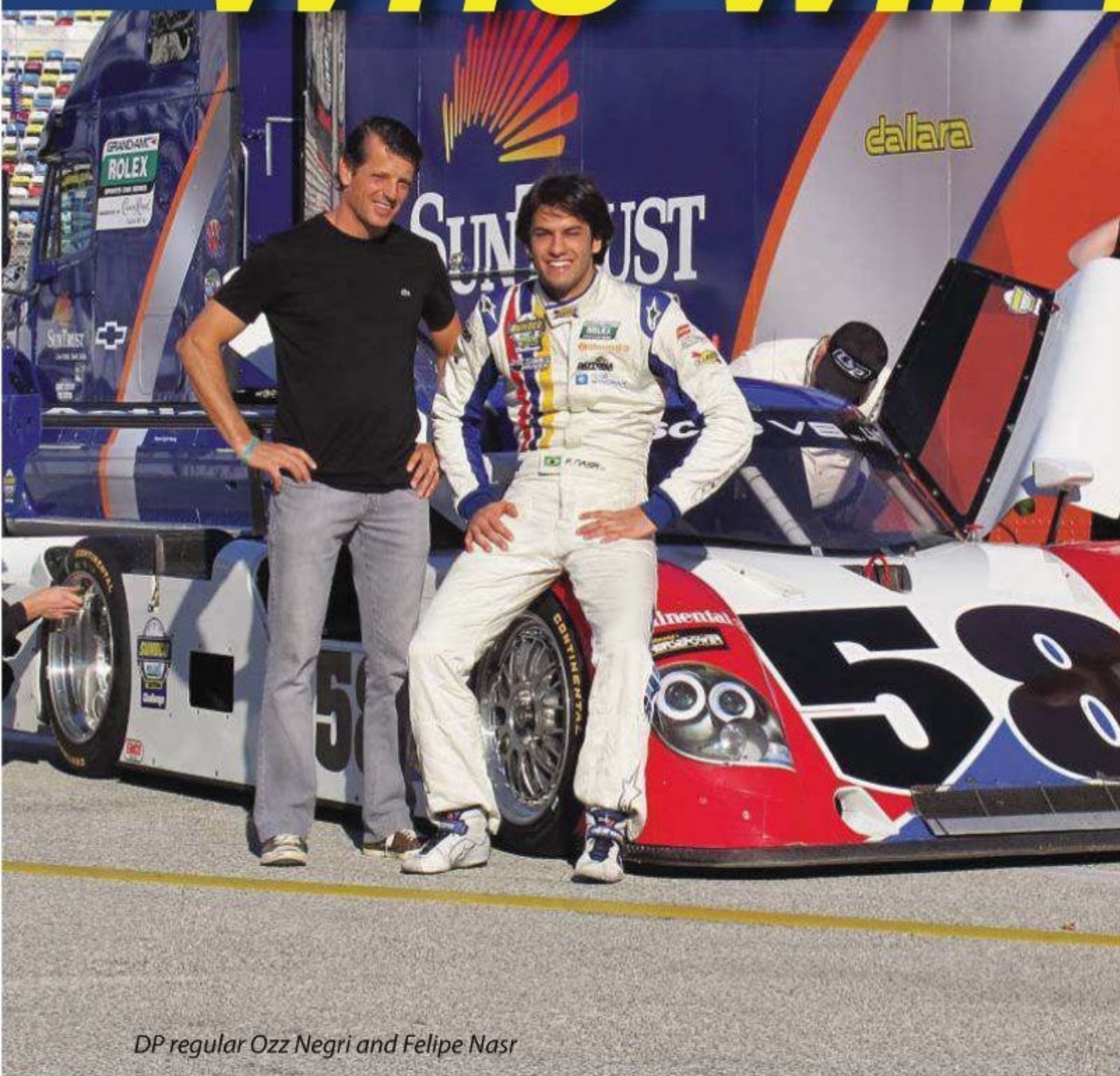
Clearly he is going to have to make huge progress to have any chance of retaining his seat for another year. The man who so nearly won the 2008 world championship was a bit-part player in 2011, overshadowed by Alonso to an even greater extent than he was in their first season together. That year Felipe was given some leeway as he got up to speed after the Hungary accident - this time he had no such safety net. The performance simply wasn't there.

"As you can see, there have not been great results," says Massa. "I think for the team, not just for me. I expected better results. It's been a difficult season and I'm just pushing hard to make it better. You always learn and you always improve more from the difficult results compared to victories."

Tyres always seem to play a role in the Massa story. In the latter years of Bridgestone, he struggled badly to get them to work in qualifying. Starting ►



# Who will it be?



DP regular Ozz Negri and Felipe Nasr

## Felipe Fastest

In preparation for the 50th Anniversary of the Rolex 24 At Daytona, the 2012 Sunoco Rolex 24 At Daytona Challenge winner and British F3 Champion, Felipe Nasr, flew to Daytona for two days testing. Felipe shocked the establishment by posting the unofficial fastest lap times both days.

Going into its fourth year – who will win the 2013 Sunoco Daytona Challenge?

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12th-15th January	Birmingham	Autosport International Racing Show
26th-27th January	Daytona	Test Rolex 24 At Daytona
28th-29th January	Daytona	Race Rolex 24 At Daytona

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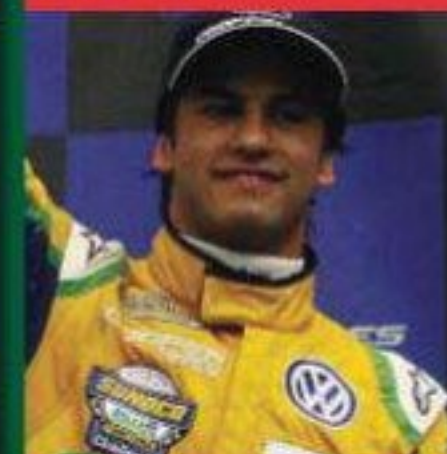
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2013



2012



Felipe Nasr

2011



Ross Kaiser

2010



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Contact with Webber ruined Monza result



Massa was left behind by Alonso

## TODT: IT'S GOOD TO TALK

### FELIPE MASSA'S MANAGER NICOLAS TODT

has long been a powerful ally for the Brazilian, and in the coming months he will have the job of persuading Ferrari to keep his man – while also keeping an eye on another client, the team's third driver Jules Bianchi.

"Obviously it was a very average season from Felipe, and I think he was the first one to acknowledge it," says Todt. "Things happen, you have highs and lows in your life. However, we have to turn the page of this difficult year, focus on next year, and find ways during the winter time to improve the situation and have a better approach. Fernando is a great driver, but I think that we are in the same league. I think we have to talk, Felipe and I, Felipe and his race engineers and all the team, talk very openly about what he felt he was missing. It's not easy to find out, but it's important to talk and be open."

"Confidence plays a big part in the final result, but Ferrari is very supportive. He has people who fully believe in him alongside him, otherwise I don't think Ferrari will have renewed the contract, so it's a good sign. We have to do the job. Three years ago we were about to be world champion, two years ago we didn't know if Felipe would race again. Life is unpredictable, but I think that many great drivers have been through some hard times, and have managed to turn the situation round, so that's what we have to do."

Then there's the elephant in the room – is Massa the same driver he was before Hungary 2009? Todt has no doubts. "Honestly I don't think the accident changed him. That's my own feeling, and I think that's Ferrari's feeling as well."



◀ further down the field than he perhaps should have inevitably made his life more difficult on Sundays. This year he preferred the Pirellis, but the way the Ferrari used them proved a handicap.

"We were not going in the right direction in terms of warming up the tyres," he says. "We saw in many races that we were fighting and then we put the hard tyres and fell behind. It's not just for me, but for Fernando as well. For example if you look at Barcelona, Fernando was fighting with Sebastian at the front, then he took new tyres and he lost one lap. It's not just me, it's related to both drivers."

"It's not just the tyres. The car is not as good as last year's car. Last year I was struggling more in this tyre direction, because the tyres were so hard. This year the tyres were not a problem, but the performance from the car was more difficult."

Massa's qualifying form did at least improve as the season went on, and he even beat Alonso on the odd occasion: "Fernando did a better job in the qualifying, clearly it was something I was struggling with a little bit," he admits. "I improved a lot in the last races in terms of performance in qualifying."

Ferrari has made it plain that under Pat Fry's leadership the 2012 car will be more aggressive, and there's been a lot of optimistic talk in the camp recently. Massa insists that it will be backed up by results: "I'm very confident. It's also true from one season to another, when you don't have the results you expected, there's always a lot of talk. But talk does not make the car quick. What makes the car quick is the job done inside the factory and I believe we can make the car more competitive, we can make a good car to fight for the championship. That is more important than the talk."

However good the car, Massa will still have to get the job done, and show that he is capable of being more than just a number two to one of the greats of the era. Does it bother him that people have quickly forgotten 2008, or question his ability to reach such heights again?

"To be honest, no. Since I started in F1, you always see bullshit in the papers, and things change so quickly. The most important thing is to work for the result. When you have the result you still read bullshit, but it doesn't matter."

"I never really care so much what other people say, because I saw many people saying things, and saying completely different things the day after. That's why you don't really care so much. I think you just need to care for you, and for the team, and for your direction. That's the most important thing. I'm sure if next year, or the next event you win the race, you will see completely different stories. It's not a problem."

Nevertheless, getting back on to terms with Alonso, who has established a strong position for himself within the

Maranello camp, will be an uphill task.

"It is hard, but it's also normal. When you go to a top team you know you're going to have a strong team-mate. I have always had a strong team-mate for my whole career. I never raced with a slow guy, I always raced with important drivers. I started with Heidfeld, then I raced with Fisichella, Villeneuve, Michael, Kimi, Fernando."

"I never wanted to go to a team to have nobody racing with me, because it's not part of my experience. You always need

**"When you don't have the results there is always talk. But talk does not make the car quick"**

### Felipe Massa

to work to beat everybody, including the top drivers. It's always like that."

For all his struggles Massa remains upbeat. The Hungary accident and its aftermath obviously allowed him to put a few things in perspective, and it further strengthened his bond with the team.

Massa has strong support from his close-knit family, and from his management. Even his simmering feud with Lewis Hamilton appears to have been to put to rest after they got together in Brazil. In other words, Massa pretty



Has Hungaroring 2009 had long-lasting effects?

much has his head together off the track, and he denies that his problems have been a burden.

"I'm very confident," he says. "I'm really pushing hard to get the right direction, just pushing hard to make things completely different to what we had this year. You need to be motivated in your life because you know what you are able to do and if you have everything right, you can do it."

"I have a special relationship with everybody at the team and I think that's important. It doesn't matter if you're winning or not, it's important that you work in a good direction. If you are working in a good direction you will arrive quicker to a victory."

And Massa knows he needs to score his first win since the 2008 Brazilian GP sooner rather than later. "The result is the most important thing," he says. "When you have the result it's the proof." ❧





# Rollercoaster year in the life of Lewis

Fifth in the championship represents Hamilton's worst ranking of his F1 life. But there were glimmers of good among the bad. By *EDD STRAW*

“

I was talking to a friend recently who is very wise, and I said that it had been a very difficult year. He said that it has

not been a difficult year, it has been a year of growth, which was one of the most positive things that I've learned this year. In the future, I'll look back on this season, smile and say that I needed that.”

That was Lewis Hamilton's summary of the 2011 season at the Brazilian Grand Prix finale. But whatever perspective from which you choose to view his turbulent campaign, and whatever adjective you append to a year during which his blunders have

attracted as many headlines as his triumphs, this was his worst year in F1. That's not just any old opinion, but the opinion of the man himself.

Needless to say, 'worst' is very much a relative term. The 26-year-old still won three grands prix, the same number as McLaren team-mate Jenson Button, and finished fifth in the world championship with some great drives along the way. The vast majority of drivers who have graced F1 would count such a 'terrible' campaign as their greatest, but Hamilton is a world champion and it wasn't up to his own standards, or those expected of him.

“It could be a lot worse,” says Hamilton. “There is only one driver

who won more races than me, but it could always be better. If I look back on this year, while it's not been one where I've won a lot of grands prix and the world championship, I've learned a lot. When I reflect on the whole season, I'm definitely a lot wiser.”

There has been a lot to learn from, no question as, unlike any other driver, Hamilton has arguably endured the longest 'journey' since the start of the year. But there were plenty of times when the real Hamilton - who remains potentially one of the best in the business - shone through. His late-season win in Abu Dhabi should set him up perfectly to return to form consistently in 2012.





## THE GOOD

Remember this? There was a time when Hamilton was running second in points, as Vettel's closest rival...

With so much focus on the bad during Hamilton's season, it's important not to overlook his successes.

At the start of the year, he was the man most likely to topple Sebastian Vettel, taking a strong second in Australia. He then pulled off an inspired overtaking move in the closing stages of the race - with clever use of KERS - to win in China. Then there was the intense pressure he put on Vettel in the closing stages in Spain after proving to be the quickest thing on the prime tyre at the Circuit de Catalunya.

After the first five races, Hamilton was having a great season and was second in the world championship, despite having endured his first slice of controversy in Malaysia, where he was penalised for weaving. Then came a rough patch, but he put all of that to bed with a great win at the Nurburgring after a tense battle with Fernando Alonso and Mark Webber.

Later in the year he took an inspired pole in Korea and claimed a strong second after prevailing in a great fight with Webber. Then came the victory in Abu Dhabi that appeared to represent a

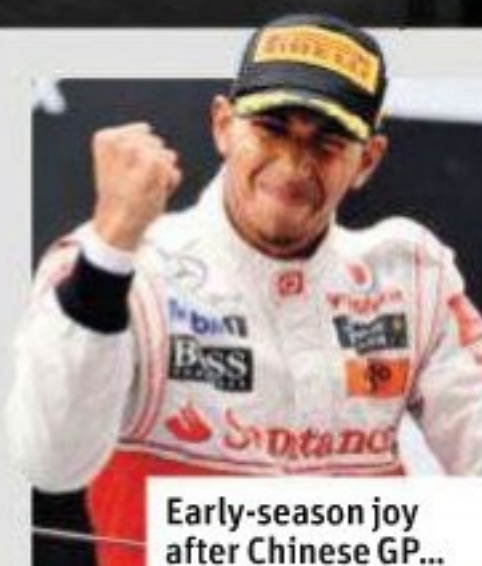
watershed in his career. It's that win, which appeared to be accompanied by a change in attitude and focus on Hamilton's part, that may be regarded as the turning point in his ensuring that he goes on to live up to his potential as a multiple world champion.

There wasn't as much good as there should have been for Hamilton, but to write off his season without acknowledging the high points

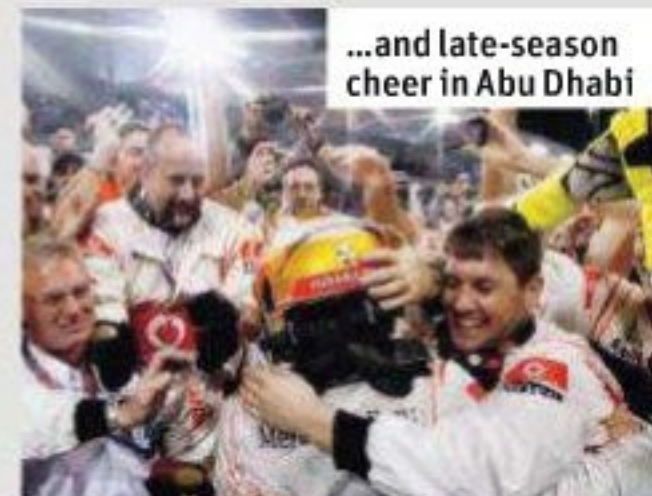
**"The Abu Dhabi win may be the turning point in living up to his potential as a multiple champion"**

would be grossly unfair.

While the top three in the championship were head and shoulders above the rest in 2011, as Mark Hughes' top 10 shows (see [page 40](#)), there was still plenty to write home about for Hamilton - despite the awful lows and embarrassing mistakes.



Early-season joy after Chinese GP...

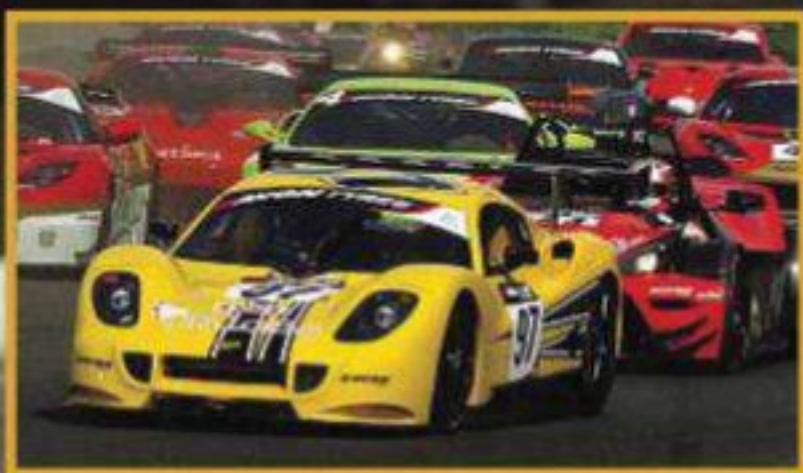


...and late-season cheer in Abu Dhabi



Hamilton also won the German GP





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## THE BAD

The season started with frustration over the new Pirellis, and continued with wild speculation over his private life

Hamilton fell behind Button



Grassy battle with Schumacher at Monza



There were two factors that appeared to make life difficult for Lewis Hamilton in 2011. Firstly, there was the change in rules: the DRS rear wing and the high-degradation Pirelli tyres forced him to moderate his maximum-attack style. Secondly, he admitted at the Abu Dhabi Grand Prix to off-track problems that played their part in his on-track struggles.

It was clear during testing that Hamilton was not impressed by the characteristics of the tyres. With rear-end grip more of a limiting factor than in the Bridgestone era, his aggressive driving style was not ideal and he often struggled compared to arch-calculator Jenson Button at races where tyre degradation was high. There were signs even during pre-season testing that Hamilton was far from at ease with the tyres.

"It's very strange," he said during the first Barcelona test, "even compared to last year, when we had heavy fuel and you had to drive it a little easier at the beginning of the race to preserve the tyres. The tyres just go away so fast and there's nothing you can do about it. I didn't feel like I was really racing the car."

It would be wrong to say that Hamilton didn't make any effort to change his driving style, but it was clear that he didn't buy into the philosophy of tyre preservation. It's understandable that a driver who came into F1 during the era of flat-out sprints between fuel and tyre stops would struggle, but the best drivers eventually have to realise they must adapt. It was this battle, arguably a philosophical one in

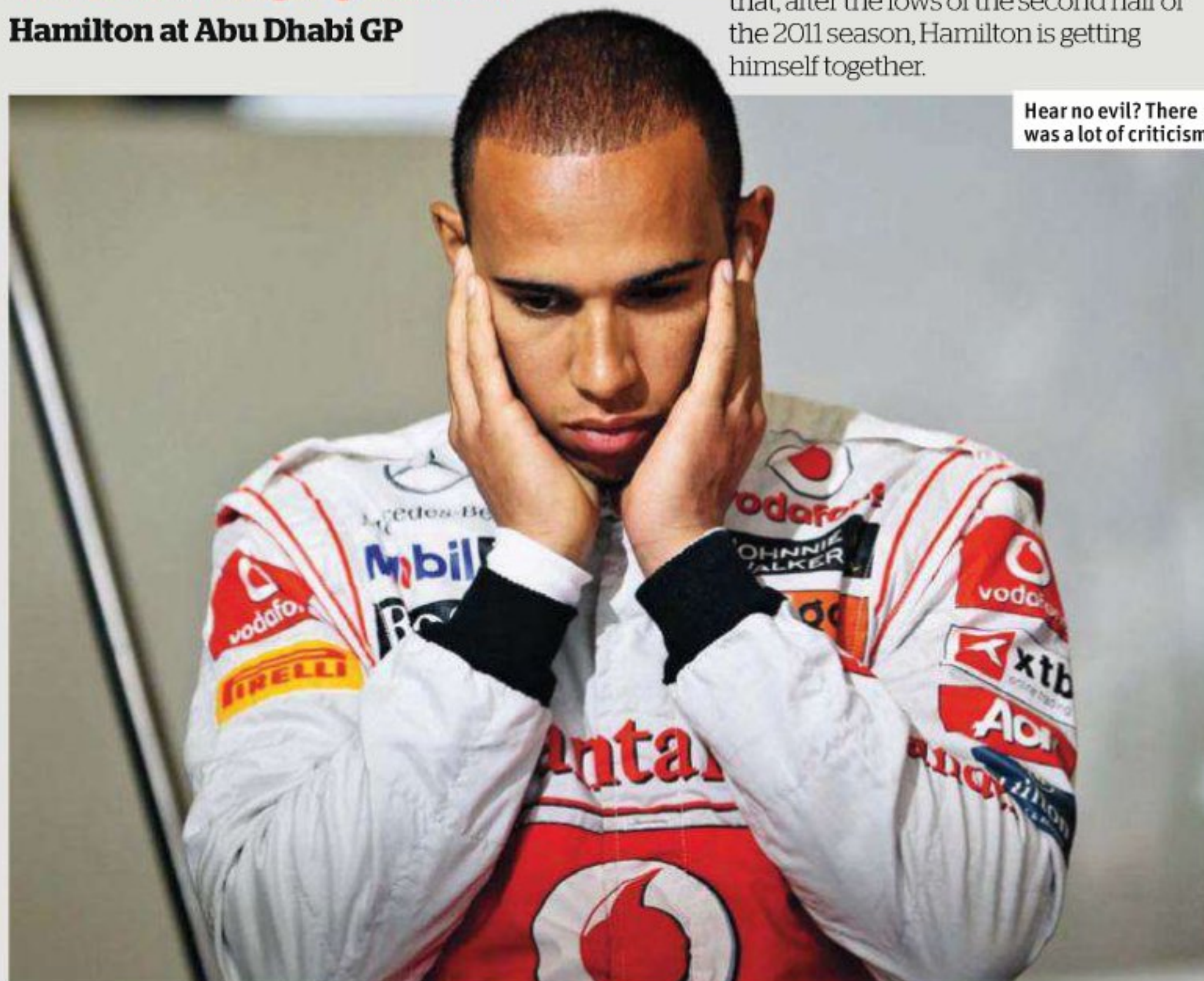
which Hamilton struggled to set aside his maximum-attack style, which allowed Button to assert himself courtesy of often being quicker over the course of a full stint. Hamilton almost seemed to hold a grudge against the F1 world for foisting this kind of racing - the wrong kind of racing - on him, and it seemed to take a lot of effort on his part to accept it.

His off-track problems are more difficult to talk about. It's known that he parted ways with Pussycat Doll girlfriend Nicole Scherzinger, and it's clear that what has been dubbed his 'LA lifestyle' by some has created some degree of distraction. In Abu Dhabi he talked about wanting to create the famous "happy bubble" around himself with family and friends, and perhaps this was a reaction to the difficulties in his personal life that led one senior member of the team to refer to him privately as someone who was trying to 'find himself'.

Hamilton later distanced himself from the happy-bubble comment, which suggested that he had gone through the cathartic process of being open about his problems and begun the process of rebuilding. We can't ever know what

**"The summer months were really difficult to get through. I think we're on the right path now"**

**Hamilton at Abu Dhabi GP**



Hear no evil? There was a lot of criticism



Relationship was in the spotlight

influence the mysterious off-track problems - and there were plenty of rumours about their nature flying around - really had on Hamilton, but he did make direct reference to them as a factor.

When asked in Abu Dhabi whether Button's improving form had made life harder for him, Hamilton said that "my issues have been much bigger than that - they've been more personal". After the race, he made clear how important his superb victory was in getting himself back on track.

"Considering how tough it has been, and how bad this season has been, it was very important to answer the critics and also to answer myself," he said. "The summer months were really difficult to get through. I think we're on the right path. I've had my family members with me here, which has been really positive. I've been a little bit clearer with my thought process this week."

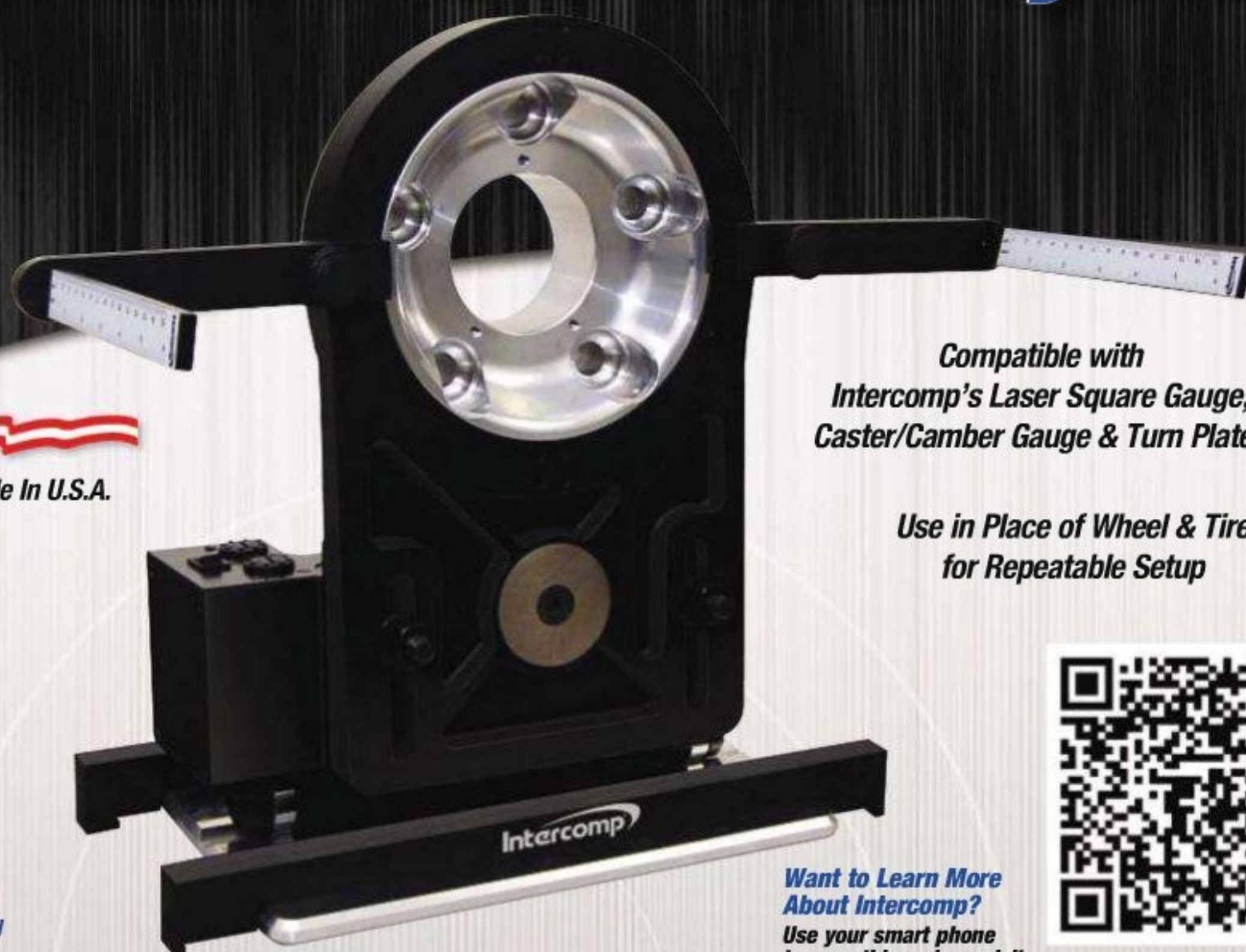
It's hoped that this attitude will carry over into next season. All the signs are that, after the lows of the second half of the 2011 season, Hamilton is getting himself together.



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## THE UGLY

Hamilton had more on-track clashes than any other driver this year. Here are the lowlights of his dramatic campaign



Defence towards Alonso frowned upon

## MALAYSIA

**Post-race time penalty for weaving while battling with Fernando Alonso**

Hamilton had been explicitly warned about this in 2010 after pulling a similar trick while fighting Vitaly Petrov. While he could legitimately argue that he was breaking the tow, it wasn't a wise move to commit the same offence for a second year in a row.



More disaster struck in Hungarian GP

## HUNGARY

**Reckless recovery**

Spun while leading, and performed a spin-turn in the path of Paul di Resta, who was forced to go off-track to avoid him. Earned him a drive-through penalty that potentially cost victory.



Massa pits his wounded Ferrari

## SINGAPORE

**Massa magnetic attraction**

Clashed with Massa during qualifying, then clipped the rear of the Ferrari during the race, giving both damage and earning Hamilton yet another drive-through. Refused to speak to Massa in parc ferme, leading the Brazilian to accost him in the post-race TV interview pen. Hamilton refused further interviews, while Massa likened him to a "faking footballer".



Trouble looms – again

## JAPAN

**Massa again**

Hit the side of Massa's Ferrari on the approach to the chicane after failing to notice him. Blamed lack of rearward visibility from mirrors.

## MONACO

**Clashes with Felipe Massa and Pastor Maldonado**

Late dive up the inside of Massa at the hairpin earned him a drive-through penalty, which was compounded by putting Pastor Maldonado into the wall at Ste Devote late in the race after launching too late an attack under braking. Post-race, his quip about the regularity of his visits to the stewards – invoking Ali G's "is it 'cos I is black?" line – was an ill-advised joke rather than malicious, but poured fuel on the fire.



Leading his 'victim' Pastor Maldonado



Team-mate clears off to win the race

## CANADA

**Collision with Jenson Button**

Attacked his team-mate on the start/finish straight, knowing that the usual racing line could put him in harm's way. Button has to share the blame for this one. But, as Hamilton was comfortably quicker at that point in the race, a little patience would have served him well.

## BELGIUM

**Mirror, signal, manoeuvre**

Arguably the single most cack-handed piece of driving of the season. Hamilton had just passed Kamui Kobayashi and then defended from the Sauber driver, who was in the tow on the run to Les Combes. He then moved over to take the line, and turned his McLaren into the barrier across the Sauber's nose. Escaped penalty as he was the only victim of the error. That came on top of spat with Pastor Maldonado in qualifying.

What happens when you hit a Sauber



Massa about to open door. And close it

## INDIA

**Not his fault this time**

The final part of the Hamilton v Massa wars came in India, although this time it was not Hamilton's fault. He pulled alongside Massa on the approach to Turn 5, but the Brazilian turned in on him and – although Hamilton tried to back out – the pair

clashed. This time it was Massa who was penalised. FIA steward Johnny Herbert pointed out that Massa's decision to "open the door" was the key factor. Earlier in the weekend, Hamilton had been penalised three places on the grid for not taking heed of a yellow flag after escaping several similar incidents earlier in the season.



# “If we had a winning car, I would be fighting for wins”

The seven-times Formula 1 world champion came good in 2011, with vastly improved race performances. *EDD STRAW* discovered that Michael Schumacher still has big ambitions to fulfill on his comeback

**M**ichael Schumacher re-established himself as part of the Formula 1 furniture in 2011. After the excitement of his trying comeback season in 2010, there was less focus on the Mercedes driver this year at a time when his performance level was steadily improving. Although once again outscored by Nico Rosberg, this time by the much-reduced margin of 13 points, and thrashed by his team-mate in qualifying, his race performances really caught the eye. Six times the 42-year-old was the first driver from outside the Red Bull, McLaren and Ferrari ranks to reach the chequered flag - one more than Rosberg - and over a race stint he was very often the faster Mercedes man.

That's a big step forward from last year. Hypothetically, were Mercedes to produce a race-winning car, it's fair to conclude that Schumacher would now be able to claim that long-awaited 92nd grand prix victory. It was a good season for him, albeit one that didn't stand out given his incredibly high standards, but what is most engaging about the German is that he remains fully focused on the *next* victory rather than spending too much time dwelling on a much-improved campaign. As ever, he is looking at the big picture and realises that he will only get into a car capable

of winning if he plays his part in Mercedes fulfilling its potential.

"Probably, it is fair," says Schumacher when this interpretation of his season is put to him. "The point is that it's heading in the right direction. We have made a good step in terms of our engineering team and we are already the best team on pitstops. We have definitely raised our game and now the point is to get the car sorted out so we have a package that we can compete with. You are probably right to say that if we had a winning car, then yes I would be fighting for wins.

"A lot of people asked me if would I do the same [come back to F1] knowing what I know now, and I have to say yes. I didn't expect the difficulties and would have expected a little more success, but the most important thing is how it ends. If you have to work hard to have that successful ending, I don't mind."

While many clamour to write off Schumacher, it's clear that the man himself believes that any conclusions as to the success of his return are premature. It's a fair point, and if Mercedes delivers on its promise to be upwardly mobile in 2012 after two years as resoundingly the fourth-best team in F1, the best results are yet to come.

But whether or not his return was a good idea, and whether or not becoming a good, grand prix-winning driver is sufficient for a competitor of

Schu's shown blinding first-lap form



his standing, is less interesting than the questions of motivation. Every few months, rumours flare up about his imminent retirement, and there's no shortage of people keen to knock him for his supposed failure. Although, frankly, returning after a three-year absence and performing well when you're in your fifth decade is worthy more of praise than condemnation.

But the question mark remains - why did he return? Some have suggested, compellingly, that a certain ennui in retirement had hit him. Perhaps he'd failed to fill the void left by the unfulfilled racing bug, hence the flirtation with bikes that ended with his damaging shunt in February 2009. Jackie Stewart is among those to have suggested that Schumacher came back to racing to fulfill a need that couldn't be satiated elsewhere. But the German gives that interpretation short-shrift.

"If you listen to some of my answers ►







# GRAND PRIX PREDICTOR IS THE MUTTS NUTS

Winner heads for Monaco after late surge earns the £20,000 prize



'TheMuttsNuts' proved to be as good as its moniker by storming to the top of the overall leaderboard in the final round of the Castrol EDGE Grand Prix Predictor – and scooping the Ultimate Prize of a combination of motorsport experiences worth up to £20,000!

A bold gamble paid dividends at the final race of the 2011 season in Brazil as 'TheMuttsNuts' correctly predicted a surprise victory for Mark Webber. A 30-point bonus for also predicting the top three in the right order was also pivotal in overturning a 43-point deficit to 'FireHawk'.

The man behind the name, Richard Waine, now has a menu of motorsport's most prestigious events to choose from in 2012. "I can't believe it! I thought I was too far behind the leaders," he said. "I have not decided which

prizes I'm going to take yet, but the Monaco Grand Prix is an absolute must."

## PREVIOUS WINNERS

Richard can also draw upon the testaments of previous winners in the Castrol EDGE Grand Prix Predictor.

Melvin Bowman was our first prize winner of 2011, earning a trip to a thrilling Canadian Grand Prix. "It was the most memorable experience I have had," said Melvin. "I will always be able to say I was there – magic!"

Thomas Dalton claimed a BMW Nürburgring Experience which left him 'overjoyed'. "I am in awe of the Nürburgring, so it was a thrill."

Andrew Roberts won an 'unforgettable' Ford WRC Catalunya trip, including a passenger ride with Jari-Matti Latvala, and David

Edgar won a simulator session with sportscar ace Darren Turner. Nathan Lea claimed a PalmerSport experience and Nigel Boulton earned Johnny Herbert's racing boots from the Le Mans Series in 2004.

For the final standings and updates on next year's Predictor competition, visit: <http://predictor.castroledgerankings.com>





to questions about other teams and drivers, I don't answer because I don't know the details," says Schumacher. "I would very much appreciate if other people would be quiet and think before they talk. How can they know what I'm feeling and why I'm doing what I'm doing? He [Jackie Stewart] hasn't asked me once and I would appreciate it if some people minded their own business."

"It's clearly not the case. I had a great career and for three years [after retirement] I had lots of fun. The biggest thing was that I had the freedom to live the way I wanted to live, something that I missed out on in all the years before."

"So why did I come back again if I enjoyed it so much? The main part is that I was doing competition anyway, but after my motorcycle accident it sort of cleaned up my ambitions there! Secondly, I was doing go-karts and enjoying it."

"My intention was simply to come back and enjoy the sport - the challenge, the competition - due to the fact that there was this combination of Ross [Brawn] and Mercedes that I didn't even dream about. It just came out and I took the decision of why not again? If you had asked this two years before, I certainly would have said no."

"I wouldn't have the energy any more to do testing and racing as I used to do, but what we have now is very easy for me. The timescale works out."

Schumacher points out the irony of enjoying the relatively light commitment in terms of track time. Aside from the 19 races in 2011, there were only four tests spread over 15 days. With in-season testing banned since the start of 2009, this has, however, made life very difficult for him. Had he made his comeback under the previous testing rules, he could have thrown huge numbers of tyres at the car and dialed himself in at his own pace. But while his 2011 performance proves that he's managed to get himself firmly back into the F1 groove, there are still weaknesses that he believes have been caused by the lack of testing.

In qualifying in particular - the one area where you have to ask if Schumacher will ever recapture his past speed - he has struggled. But it's not just about the driver, for the paucity of running outside of grand prix weekends has also hurt Mercedes as a whole.

"If you have a problem, to fix the problem it's a hindrance to have as little testing as we have," he says. "Last year, with the f-duct, it took us a long time but with two or three tests we would have cured the problem. So you must confront your own team infrastructure so that you don't run into this problem by using simulation tools."

"The other thing, and we are still working on it now, is the sensitivity of the tyres. In the past, you had more tyres and could go and test to feel the tyre,



Bruising battle with Hamilton at Monza

understand the difference on a single lap and learn how to warm it up. You had more background information from that. This, I am very clearly missing. Occasionally I still have issues with this in a one-lap situation. This is the luck I'm having coming back but not having testing."

When it comes to racing, the area where Schumacher has rightly come in

**"I've had so many fights this year that in some you will make mistakes - and we all make those"**

for criticism is the number of on-track clashes he's had. During 2011, he twice collided with Vitaly Petrov - once inexcusably while rejoining the track after exiting the pits at Valencia. He also rear-ended Sergio Perez in Singapore, after having clipped the other Sauber of Kamui Kobayashi during the British Grand Prix. This hardly qualifies him as excessively accident-prone, but it is a worrying trend. Tempting as it is to dismiss this as the doddering of an old man with no spacial awareness, his stunning form on opening laps suggests that the racing instinct and ability to find a gap remains as keen as ever.



Fighting his successor at Ferrari, Fernando Alonso

"One part is that I have been involved in a lot of fights, many more than in previous years," explains Schumacher. "I've had so many that in some you will make a mistake - we all make those. The other part of it is the front wing. It's wide and in front of the front tyre and it's more difficult to see this limit than it was when the wing was narrow. What happened to me in Valencia was just that. I misjudged the length of the front wing. It was the same with Lewis Hamilton and Felipe Massa's collision in Singapore."

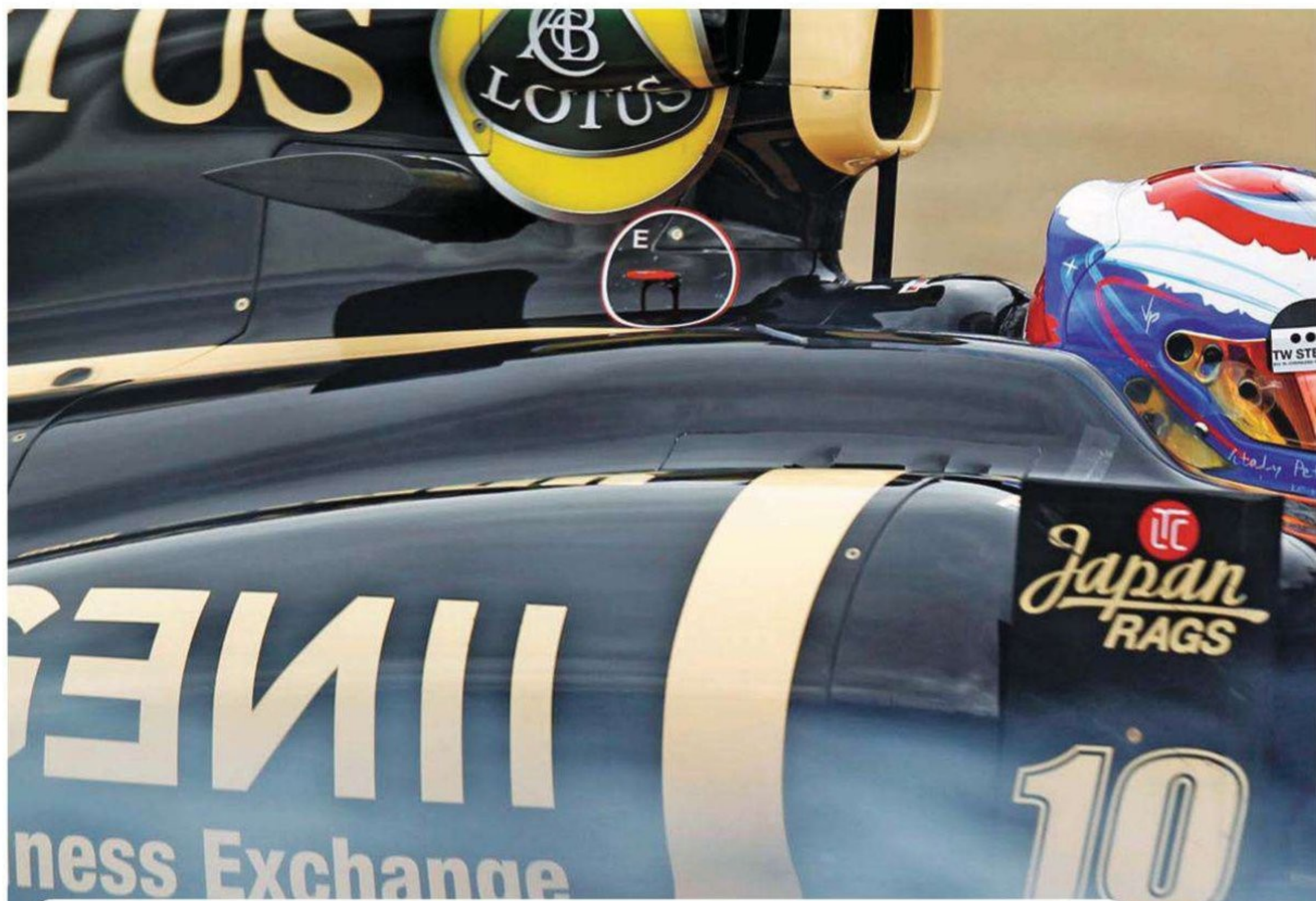
Of course, you could also suggest that his relative lack of wheel-to-wheel combat when in his pomp perhaps plays a part in his ring-rustiness. Perhaps this capacity for the odd accidental clash was always there. Whatever, it's another symptom of a driver who returned to F1 to find himself having to learn about an element that was once his own. He has admitted that it's harder than he expected, but like all great champions that's only left him more determined. And a determined Schumacher is something to be respected... and feared.

We still haven't seen the best of Schumacher 2.0. If he continues to improve in 2012 along with his team, don't bet against his three-season return being extended into the following year and beyond. ☘



More fights mean more mistakes, says Schuey





# Exhausted

## Renault runs out of puff

It started the year with impressive momentum and an innovative design that promised much, says *EDD STRAW*. Then it lost its star driver...

**R**emember those winter days when Renault was the coming team? Scuderia Enstone, which morphs into Lotus next season, headed into 2011 on the crest of a Robert Kubica-inspired wave after producing a very nimble and effective car the year before that reminded everyone of the qualities of an outfit that won back-to-back crowns with Fernando Alonso in 2005 and '06.

The future was bright. The innovative

R31, with its bold front-exit exhaust, topped the first pre-season test at Valencia in the hands of Kubica, and team principal Eric Boullier's hopes of gunning for victories were rightly taken seriously. Third-place finishes for Vitaly Petrov in Melbourne and Nick Heidfeld in Malaysia suggested that all was not lost, even with Kubica out for the season following his rally crash. Yet for all that, Renault ended the year with fewer than half the points it took in 2010. After those early podiums, the R31 was reduced to

squabbling over minor points positions, and even those became increasingly hard to come by as the season progressed. It ended holding onto fifth place in the constructors' championship by the skin of its teeth after scoring just seven points in the final nine races.

Knowing how it all finished, that early-season expectation seems little more than blind optimism, but this really was a campaign that had huge potential. So what went wrong?

In short, while it's reductive to boil ►

PIG: COATES/LAT







down Renault's failure (a relative term, for fifth is still acceptable for what is the fifth-largest team in F1) to two things, there are twin factors that dominate any analysis of its season. First, Kubica's horrific crash on the Ronde di Andorra Rally, in which a barrier sliced into the front of his Skoda and cut through his right leg, arm and hand. That cost Renault its talismanic driver, the beating heart of the team, after just one pre-season test. Second, those front-exit exhausts were cleverly executed and innovative, but proved to be a letdown.

To his credit, technical director James Allison shouldered the blame for the design, admitting that "If I had a time machine, I wouldn't have made this exhaust", as the concept created a developmental glass ceiling that restricted the R31 relatively early on.

The exhausts would surely have restricted Kubica's potential had he been fit, even though there is little doubt that the points tally would have been higher with the mercurial Pole at the wheel. But Boullier, who was ultimately very happy to see the end of a trying season, unhesitatingly points to the loss of his star driver.

"The biggest problem this season was Kubica's accident," he says emphatically in response to whether the exhaust concept was the main reason behind his team's struggles. "It's difficult to blame the exhaust design for many reasons. The design was innovative and the concept was very clever, so I have to praise my guys for having this idea and making the car fast at the beginning of the year.

"But when you innovate, you can risk development problems. The mapping rule was also revisited in the middle of the season and we lost time developing a rearward exhaust rather than working on our own concept. We lost some development time. But our car ended the year faster than it was in Australia. The trouble is that other teams made huge progress and developed quicker than us."

The point about the FIA's flip-flopping on the exhaust-blown diffuser rules - first outlawing engine strategies that generated exhaust gas to drive the diffuser when the driver was off the throttle at Silverstone and then backtracking after becoming bogged down in an irresolvable debate about whether this would jeopardise reliability - is fair. Renault did try out its rearward exhaust, but with no testing available decided to persevere with its original system given the lack of development time. But to understand fully why the decision to go with the forward exhaust was a reasonable one despite its ultimate failure, you have to rewind to last year.

"When we ran a blown exhaust in 2010, it gave us plenty of downforce but it produced a rather unpleasant handling effect on our car on Bridgestone tyres," explains Allison. "Every time you put



After decent start Renault slipped down timesheets

"I'd be kidding myself if I though Robert could have steered us out of the mire. It was too far away for God himself to put it on pole"

#### Tech director James Allison

your foot down and generated downforce, it was all at the rear and you got a whole heap of understeer. We had many hypothetical discussions about forward blowing because one of the benefits would be that you're generating most of the lift from the middle of the car rather than the rear and not getting that understeer effect.

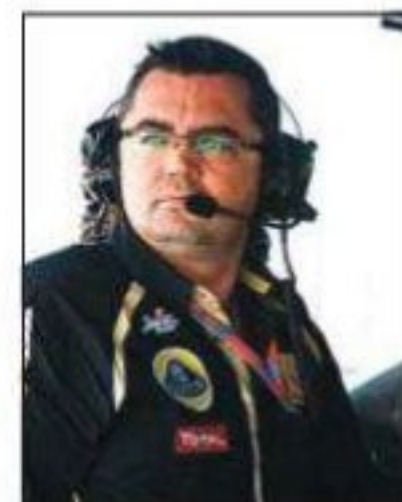
"It took us a while in CFD to find a front-blowing layout that worked, but eventually we got one that was somewhat better than our best rear-blower, which was very similar to the Red Bull concept - even though I wouldn't pretend that we were getting as much out of that as they have. And the front-blowing layout didn't alter the balance much."

So far, so good. Not only did the forward exhaust generate more downforce, but it neutralised a car balance problem. It sounds like a win-win, and so it appeared. But there was one imponderable: the Pirelli rubber. Bear in mind that when this design was chosen, Renault had yet to run on the new tyres, and ahead of pre-season testing, like everyone it had

only two Pirelli-shod test days in Abu Dhabi which took place when the 2011 car was already well advanced.

"Wind on to the start of the year and you find out that the Pirellis actually have a very different set of characteristics," says Allison. "By comparison, they suffer more under combined load [ie: when the tyres have lateral load while cornering and have to deal with traction as the driver gets on the throttle] and the rear becomes unhappy quite quickly. So what you really want is a load more rear downforce. We ended up with a car that has been fairly snappy and difficult for the drivers all year in those 'combined' conditions. So the car is as ugly as hell at the tracks where these conditions predominate - Monaco, Hungary, Singapore - where little of the redeeming features of the car are to be seen but its nastiness is on display in every corner. We were boxed in. The design served us well early on, but we couldn't escape the fact that what we really needed was a lot more rear downforce."

It was not deemed to be worth investing further in the rear-facing exhaust that was briefly trialled mid-season and would have been introduced had the FIA's off-throttle blowing ban gone through. While it might have helped in the short-term, the new exhaust rules for 2012 meant that any work put into that area would have been scrapped at the end of this year. So it was simply a case of getting whatever was possible out of the original R31 design. Unfortunately, its



Boullier happy to see end of a trying season





Hungary highlighted "ugly as hell" handling

Kubica a fan favourite, and at the heart of team



ultimate potential proved to be capped.

"Aerodynamicists always worry that they are at a 'local optimum', that they've finally iterated to a very finely-honed solution that might be the peak of the hill, but that just over that hill there's a higher peak," says Allison. "But to get there, you have to slope off down the valley first. When you find a new concept that's different and already competitive with the one that you've spent hours honing, you assume that you're probably only halfway up that hill. If it's already competitive, you keep investing in it. That's the point that I made the decision to go with the exhausts."

As the original design was closer to the optimum than might reasonably be expected (which is ironically a testament to the effectiveness of Renault's CFD set-up) the R31 didn't improve as much as the rest even on the quicker circuits. That added up to a car in the second half of the season that even on the quick tracks was at best a marginal Q3 contender.

The interesting question is what might have been achieved with Kubica at the wheel when the car was, relatively speaking, at its strongest early on. If Petrov could finish third in Melbourne, might Kubica have been even higher up?

"Robert is a super-quick driver and was settling into the car pretty well, so I'm sure that he would have made our bright start to the season even brighter," says Allison. "I'd be kidding myself if I thought that Robert could have steered us out of the mire that we subsequently found

ourselves in because it was in the DNA of the car. All Robert would have done was to wring every drop that there was to be taken from the car. It was too far away for God himself to have put it on pole, but a guy of his class is always going to be missed. Vitaly surpassed expectations this year and has done a creditable job and Nick put in some good performances as well. And Bruno [Senna] faced a tough task stepping in mid-season. It would have been nice to have had Robert though."

There were other factors that held Renault back. There were some curious strategy gambles made in the second half of the season as the team rolled the dice a little too readily. Also, the dropping of Heidfeld after his solid, but ultimately disappointing, half-season created a little instability, as did the on-off-on-off saga of Kubica's return during which the lack of reliable information on his condition regularly frustrated Boullier.

The bottom line is that Renault's fate was sealed long before the start of the season. The exhaust design was a bold experiment that was ultimately a failure, but done for the best of reasons. Kubica's rallying hobby meant that we never quite saw the best of the car when it was at its peak early in the season. In the circumstances, salvaging fifth in the constructors' championship was a decent job. Now the challenge is for the team to pick up where it left off at the end of 2010 with an orthodox exhaust system... and Kimi Raikkonen. 

## THE REPLACEMENTS

All three of Renault's 2011 drivers were replacements. Nick Heidfeld, who took Kubica's seat from Australia to Hungary, and Bruno Senna, who took over from Spa, in the literal sense, and Vitaly Petrov in that he was suddenly cast as a potential lead driver. Asking whether any of the trio adequately replaced Kubica is fatuous, for the Pole was irreplaceable given that he's a driver of world championship calibre. None of the three was up to that standard. But beyond that, how did they do?

### VITALY PETROV

**Starts:** 19

**Points:** 37

**Best finish:** 3rd

**Best qualifying:** 6th



Improved on his difficult rookie season, certainly, but his habit of pushing too hard when struggling led to an increasing number of mistakes as the season went on. Drive to third in Melbourne was exemplary, but squandered too many points through his own errors to justify his complaints about the team's shortcomings after the Abu Dhabi Grand Prix.

### NICK HEIDFELD

**Starts:** 11

**Points:** 34

**Best finish:** 3rd

**Best qualifying:** 6th



The obvious choice to replace Kubica – and team principal Eric Boullier maintains that he has no regrets about signing him – Heidfeld did better than some critics claimed but still disappointed. Had a tremendous amount of bad luck, though, which cost him points and surely would have picked up more points than Bruno Senna had he stayed on.

### BRUNO SENNA

**Starts:** 8

**Points:** 2

**Best finish:** 9th

**Best qualifying:** 7th



Faced with a near-impossible task, he was a qualified success even though he never managed to string together a complete weekend. In a tricky car, he settled in well, but his race-rustiness showed even though he did enough to suggest that his underlying pace is stronger than Petrov's.



# Red Bull



## Red Bull's RB7 was again class of the field, helping the team to another drivers' and constructors' world championship double

**D**ouble world titles for the second consecutive year for Red Bull, this time in resounding fashion.

The RB7 was the most statistically dominant car since that other Renault-powered Adrian Newey design, the 1992 Williams FW14B. On his way to his second consecutive world crown, Sebastian Vettel took the car to 15 poles and 11 race wins, Mark Webber taking a further three poles and one victory.

The design was an adaptation of the theme initiated with the 2009 RB5. Many features introduced within this lineage – pull-rod rear suspension, extreme rake and blown exhausts – have since become de rigueur for any generic F1 car, though Red Bull still best combined them all.

But although the design was the dominant part of the success equation, it was deployed to devastating effect by

both a driver and a team that came into full maturity this year. Some of the car's traits – its tyre use, its weak KERS and lack of end-of-straight speed – made it tricky to race, both from a driving and strategic perspective, yet you'd barely have noticed, so brilliantly were both parts of the job executed. With the possible exception of Vettel's puncture in Abu Dhabi – the definitive cause of which will probably never be agreed – the car was 100 per cent mechanically reliable too. It was a remarkable performance from all concerned. "We don't make the mistake of believing this level of success is normal," says team principal Christian Horner. "It's not and it cannot continue indefinitely. All we can do is keep focusing on getting the maximum from ourselves."

With the ban on double diffusers, Newey's design team had looked long and hard at how to enhance the power of

Webber and Vettel took one-two in Brazil finale



### Sebastian VETTEL (D)



Championship position

**1<sup>st</sup>**

Starts	19
Wins	11
Poles	15
Fastest laps	3
Points	392
2010 position	1 <sup>st</sup>

Vettel was relentless in 2011, refusing to sit back and collect points even once in a strong title-race position and dispelling any doubts over his status. His qualifying form was Senna-esque and he controlled races to perfection – and proved that he could overtake when he needed to.

### Mark WEBBER (AUS)



Championship position

**3<sup>rd</sup>**

Starts	19
Wins	1
Poles	3
Fastest laps	7
Points	258
2010 position	3 <sup>rd</sup>

There was no question the Australian was resoundingly Red Bull's number two in performance terms and didn't extract the best from the machinery. Ten podiums, three poles and a late-season win in Brazil was a solid, if unspectacular, return. Tyre struggles were his undoing.

Webber rarely led Vettel during 2011



PICS: TEE, COATES, HONE/LAT



"We don't make the mistake of believing this success is normal. It can't continue indefinitely. All we can do is focus on getting the maximum out of ourselves"

**Christian Horner**



**1st**

Championship position

**12**

Wins

**27**

Podiums

**18**

Poles

**10**

Fastest laps

exhaust-blowing over the single diffuser. The exhausts exited in the outer 5cm of the open-floor area ahead of the rear tyres, directed towards the diffuser's outer channels - rather than the conventional position much further forwards and inwards. This controlled the disruptive airflow-jetting effect of the rear tyres, giving the diffuser a much better flow. The exhausts themselves created some airflow blockage here and it took some time in simulation before the aero group more than overcame that with the downforce the pipes were creating via their blowing. But Newey was adamant the time was there and, when it came, it came big. That was the vital headstart the team got with a concept that was already intrinsically the quickest.

Maintaining powerful flow to the diffuser allowed the high level of rake introduced in the middle of 2010 to be maintained without losing diffuser performance. This in turn allowed the front to be run low in ground effect and with most of that extra front-wing downforce being created at its outer ends, it unloaded the centre of the wing, improving airflow through there to the underfloor and diffuser. It made for a virtuous circle of aero performance. The negative-pressure increase at the foot of the diffuser with this level of rake is believed to be potentially spectacular.

Newey had created more space to work with by not buying fully into KERS. He kept the fuel tank down low by not incorporating batteries in there like everyone else. Instead he had smaller (60 percent capacity) batteries at the gearbox end. They weren't as powerful, nor could they store as much energy as allowed by the regulations. This was surely a decision made in the assumption that the car would be running up front, not in the pack - a brave and confident choice. Not

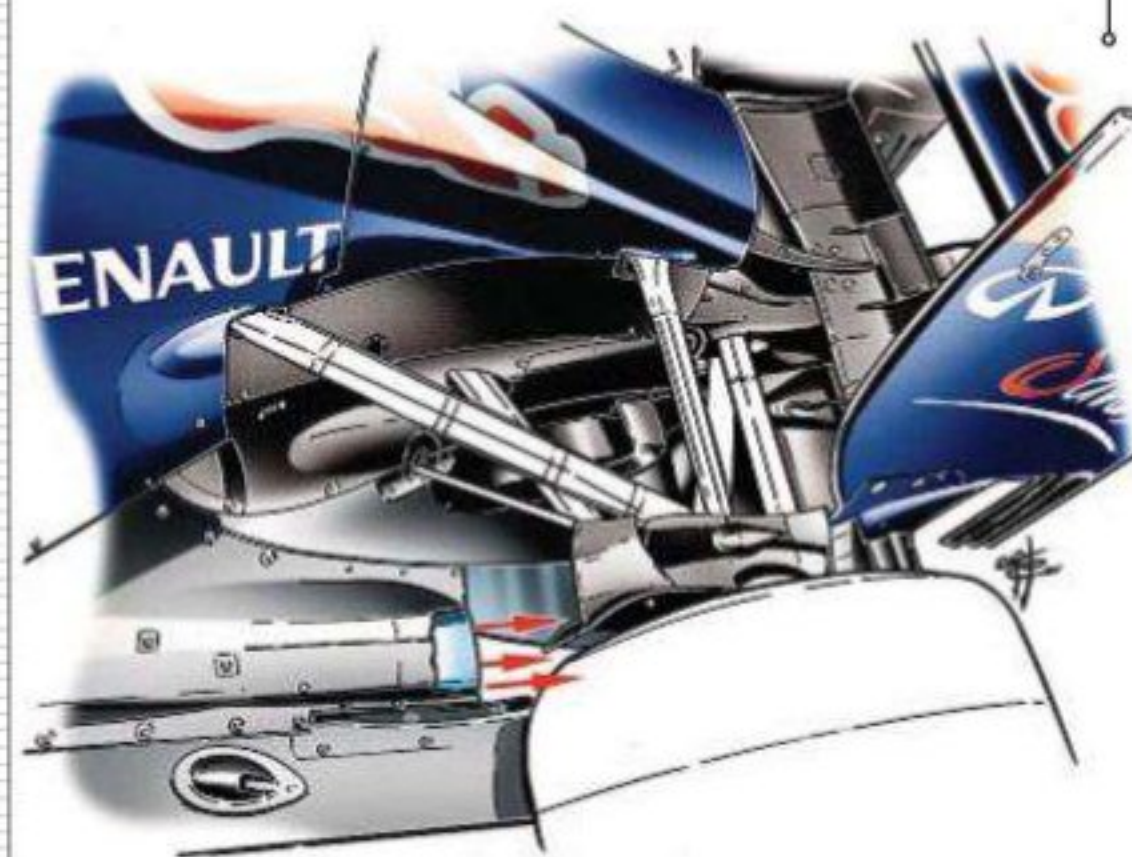
unsurprisingly KERS performance was the car's weak point, in both performance and reliability terms. The season was half-way done before the system could be made reliable, down among all that heat and vibration. Initially Horner dismissed the fabled 'mini-KERS' rumour but it was soon established to be true.

Although Renault Sport led the way on hot-blowing software, Red Bull found it tough to prevent this overheating the rear tyres and did not actually use it during a race for the first time until Korea. That this was the only time the car failed to sit on pole all year reflected how the set-up had to be re-thought to maximise the feature.

Meantime Vettel glided from one perfectly-judged victory to the next, his task made easier by Webber's struggle to get his head around the demands of the Pirelli tyres. This gave an equilibrium the team lacked last year, with only Webber's late-race challenge to Vettel at Silverstone threatening to renew hostilities. It was, though, only a de facto support role from Webber and he doesn't plan on allowing it to be formalised.

## GARY ANDERSON'S TECHNICAL APPRAISAL

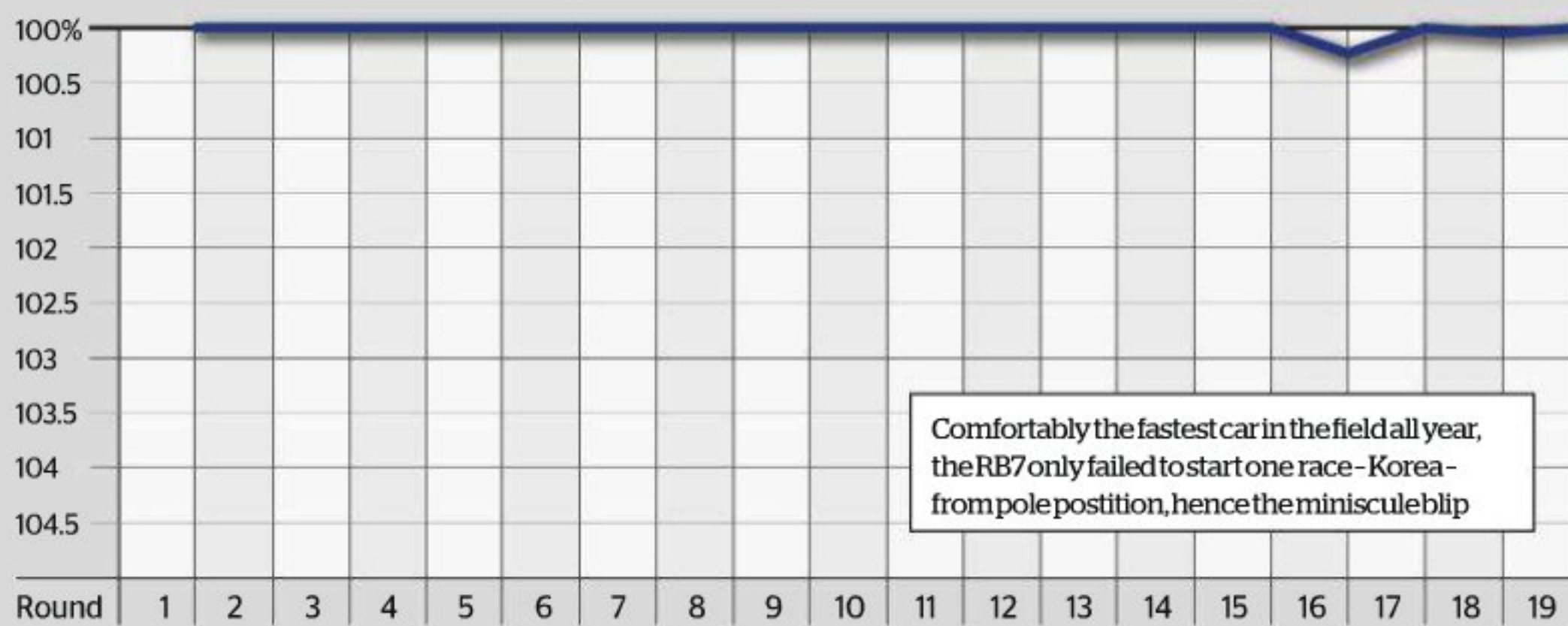
→ Red Bull was the team that came up with the definitive exhaust-blown diffuser - although it's important to note that you also need the engine maps to make it work. The outer part of Red Bull's diffuser was a bit different to everyone else's in the way that it has an undercut area, which allows exhaust gases to flow under the diffuser as well as over the top. This is to try to seal off the leakage of airflow at the rear tyres. Red Bull's car had high rear ride height, which if you can get your diffuser working properly, is a good thing. With a normal car, if you just put the ride height up you would get more leakage. Red Bull avoided this very successfully.



Vettel added yet more records to his F1 CV



## RED BULL'S PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE





# McLaren



## A last-ditch switch of exhaust layout after winter woes allowed this British bastion to be the only season-long rival to Red Bull

**D**uring the grossly troubled off-season testing of the new MP4-26, McLaren would surely have settled for a year in which it won six races, took second in the constructors' championship and had Jenson Button second in the drivers' standings.

Realising the enhanced importance of exhaust-blowing power in the wake of the ban on double diffusers, the reach was initially greater than the grasp and the quality of the car's design was disguised by an over-ambitious exhaust layout. Exhaust reliability was so horrendous during pre-season testing that the car failed to put together a single race-duration run. As a consequence the team had very little idea of how fast or slow it was. Team boss Martin Whitmarsh made an executive decision on the eve of

the season: forget the 'octopus' exhaust, which was consigned to an R&D project. Do instead a copy of the Red Bull's layout. "It was a copy," concedes technical director Paddy Lowe, "but in contrast to the others who copied it later, we understood it and got it to work immediately. That was because, although we couldn't make our original solution work, the knowledge it gave us transferred across; it wasn't as if all that effort had been wasted on a red herring."

The new system made its debut in practice for the first race and worked perfectly, finally revealing the car as the Red Bull's closest rival. Competitively, McLaren was in business and from that foundation the strategists and drivers were at least in a position to put pressure on the blue and red rockets. Actually, it soon became apparent that the car was a



Hamilton and Button both won three times...

### Jenson BUTTON (GB)



Championship position	Starts	19
	Wins	3
	Best grid slot	2nd
	Fastest laps	3
	Points	270
	2010 position	5th

Came of age as a McLaren driver in his second season with the team to establish himself as the go-to guy in Woking. Last-to-first victory in Canada was his most spectacular day, but aside from his trio of wins he was fast and consistent to take second in the standings.

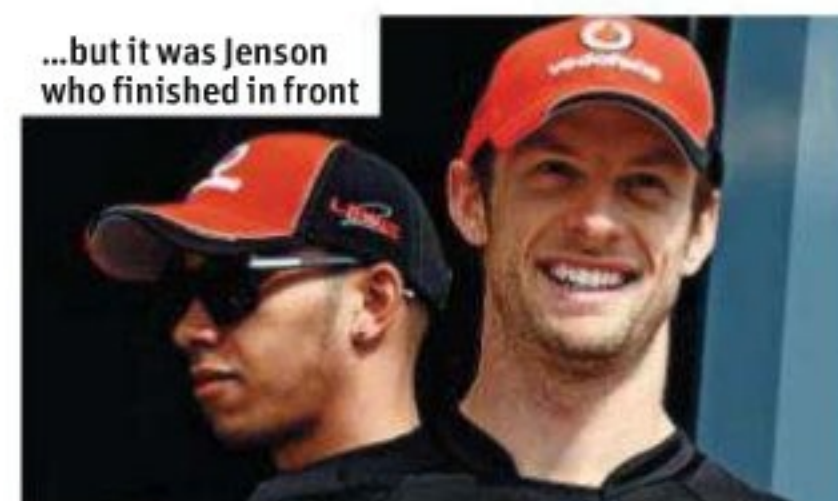
### Lewis HAMILTON (GB)



Championship position	Starts	19
	Wins	3
	Poles	1
	Fastest laps	3
	Points	227
	2010 position	4th

A season of highs and lows for Hamilton, whose strong start went awry when he clashed with Massa and Maldonado in Monaco. Wins in China, Germany and Abu Dhabi were the highs, but there were cack-handed errors symptomatic of a driver distracted by off-track concerns.

...but it was Jenson who finished in front

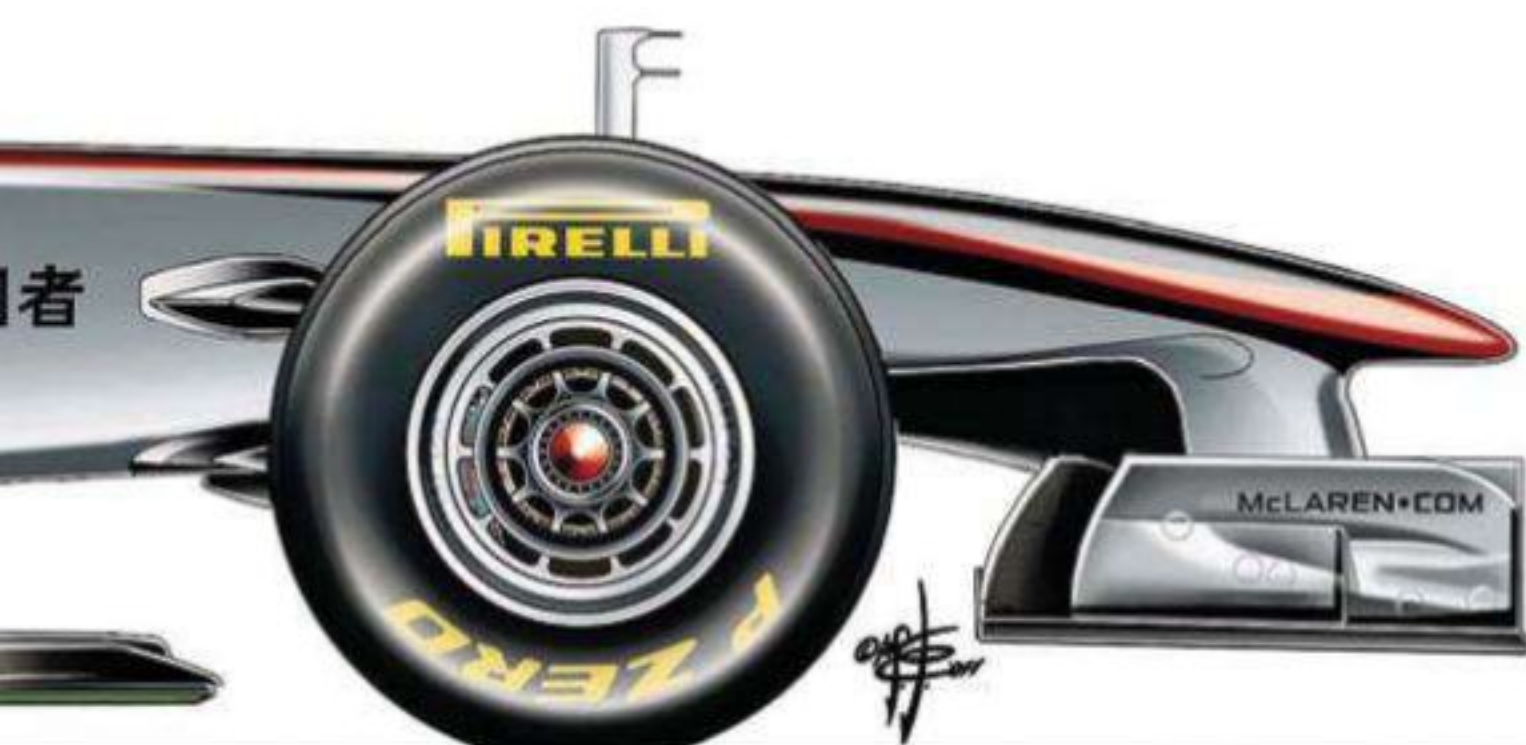


PICS: COATES, DUNBAR, FERRARO/LAT



“We couldn't make our original [exhaust] solution work, but the knowledge it gave us transferred across. It wasn't as if all that effort had been wasted on a red herring”

**Paddy Lowe**



**2nd**

Championship position

**6**

Wins

**18**

Podiums

**1**

Pole

**6**

Fastest laps

much closer match for the Red Bulls than the qualifying gap suggested. It had a rear wing that gave a better race-day trade off between DRS and non-DRS modes, at the expense of less stall in qualifying. It also had a stronger KERS system and apparently a better tyre combination of warm-up and durability. This latter trait allowed Lewis Hamilton to pressure Sebastian Vettel around the first stops in Australia while in Malaysia Jenson Button was within 3s of Vettel at the end.

Strategy, Lewis and a communications problem at Red Bull allowed a victory in China, against the run of competitive play, and part of Lewis' heady drive that day included a ruthlessly committed pass on Button, in which Jenson was put in the position of either conceding or having an accident. He could not allow that to happen again and when next they were in a similar situation - in Montreal - there was indeed a collision, and Lewis came off worse. Button went on to a brilliant win that day and within the kaleidoscope of circumstances of that victory lay two very significant underlying factors in determining the team's season: Button's great ease with the MP4-26/Pirelli combination and the way in which this car could generate tyre temperature in cool or damp conditions. Compared with last year, the car had a much wider set-up window, leaving Button - a driver with very specific handling requirements - no longer boxed into a corner of viable options, giving him full access to his ability. Furthermore, the way that all McLarens since 2008 have combated understeer through aggressive weight transference at the front left this car very well suited not only to generating tyre temperature on a cool track but also able to benefit a lot from rear-end grip boosted by the car's powerful blowing diffuser.

A small clue as to how much the car

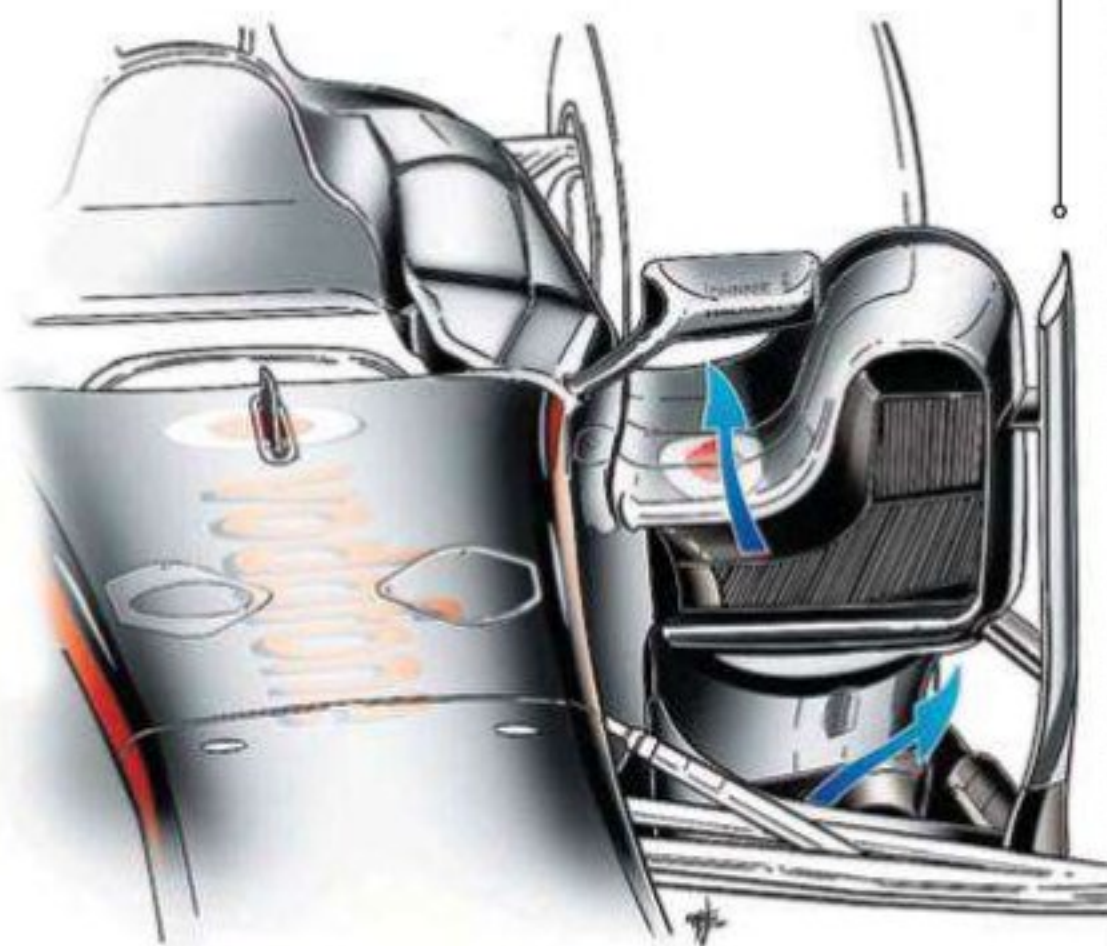
might have been relying on that came at Silverstone when the rules temporarily restricted the permitted off-throttle blowing. McLaren was more adversely affected by this than any other team.

The car's tyre usage - plus Hamilton's combative acrobatics - played their part in Lewis winning in the cool of Germany and Jenson in the damp of Hungary. There were a few strategic errors along the way, most notably putting Button on a third set of super-softs when he pitted from a big lead at Monaco, thereby consigning him to another stop at a place where the risk of a safety car is always high, but most of the limitation came from the car's inevitable qualifying deficit. A rear wing with a more aggressive DRS stall helped put Button on the Suzuka front row, which was a significant part of his beautifully-judged victory there. That development also played its role in Hamilton rebounding back from his doldrums in Abu Dhabi, where he won from pole. The car was by now running almost Red Bull levels of rake, too.

Had it only started 2011 in such form...

## GARY ANDERSON'S TECHNICAL APPRASIAL

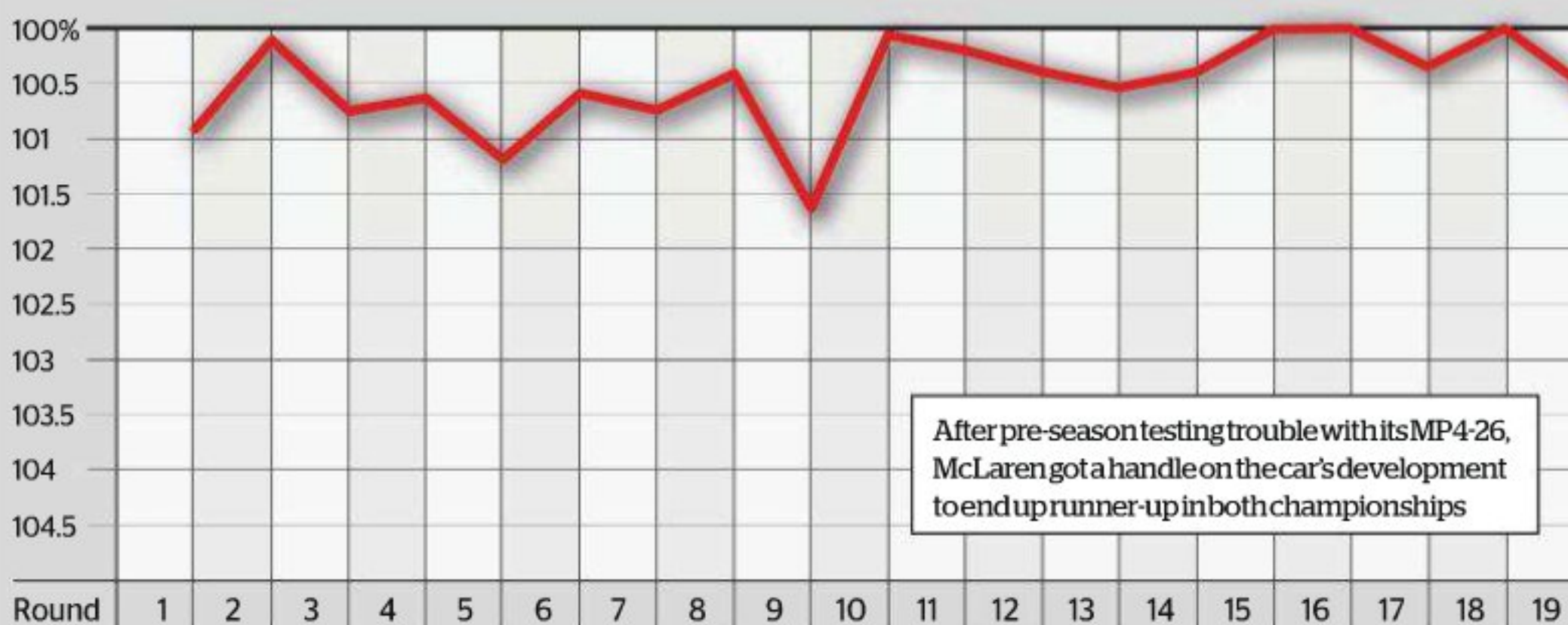
➔ Every team is looking for the concept at the start of the season that other teams can't copy and McLaren's lower sidepod was the package that it pursued in an effort to get better airflow to the rear of the car. The problem is that the radiator inlet, which is quite large, is not in the best position to optimise the airflow. The more air that goes into the radiator, the less you have to create downforce. If you can get the 'Coke bottle' and the undercut under the radiator duct to operate as one, then the low pressure in the 'Coke bottle' helps to accelerate the air. But with the air flowing over the top with this concept, they don't talk to each other so you can't accelerate the air.



Button 'switched on' Pirellis in cool running



## McLAREN'S PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE



After pre-season testing trouble with its MP4-26, McLaren got a handle on the car's development to end up runner-up in both championships



2011 SEASON REVIEW

# Ferrari



## Ferrari managed just one race win in 2011 – a result of it failing to get a handle on the new-tyre and diffuser-ban regulations

**F**errari was too conservative in the conception of its car, having not re-evaluated hard enough the design implications of new tyres and regulations. Its regression in competitiveness from 2010 was only exacerbated by an initially-undiagnosed windtunnel limitation. Such are the pressures at this team that it all cost technical director Aldo Costa and chief of aero Marco de Luca their jobs. Fernando Alonso was consigned to a sophomore Ferrari season much less competitive than his first, though he was a multiple podium finisher and managed to win once. Felipe Massa's competitive doldrums continued – he failed to finish better than fifth.

The 150° Italia was an evolution of previous cars, too much so. It retained

push-rod rear suspension as rivals switched to the pull-rod layout, though there was some attempt to limit the aero damage of this by miniaturising the dampers and angling them forwards. Perhaps more damning was that no attempt seemed to have been made at changing the front-limited traits of all Ferraris of recent years. Previously, giving the tyres an easy time had brought benefits to offset the struggle for front-tyre qualifying heat. The enhanced power of this year's blowing diffusers could not be fully accessed by an understeering car. The design team had initially believed that the double-diffuser ban would limit rear downforce enough to retain the car's balance – that turned out to be wide of the mark, so much more powerfully did the exhausts boost rear downforce, once the team had copied and developed the



Alonso held off the Red Bulls for Brit GP win...

Fernando  
ALONSO (E)



Championship  
position

**4<sup>th</sup>**

Starts 19  
Wins 1  
Best grid slot 2nd  
Fastest laps 1  
Points 257  
2010 position 2nd

He did his best to convince the world that the Ferrari was better than being the third-best car and on occasions did so after adding nine further podiums to his win at Silverstone. Flew at race starts and always kept the car in the game, but it lacked the pace of Red Bull and McLaren.

Felipe  
MASSA (BR)



Championship  
position

**6<sup>th</sup>**

Starts 19  
Best finish 5th  
Best grid slot 3rd  
Fastest laps 2  
Points 118  
2010 position 6th

The Brazilian's highlights were not especially impressive, with a sextet of fifth places that didn't compare well with Alonso's form. Sporadically quick, but the days when Massa was regarded as a top-line grand prix driver are behind him right now.

... and took nine  
other podium slots



PICS: DUNBAR, HONE/LAT



“Ferrari was too conservative with its car, having not re-evaluated hard enough the design implications of new tyres and regulations”


**3rd**

Championship position

**1**

Win

**10**

Podiums

**2nd**

Best grid slot

**3**

Fastest laps

Red Bull layout. In its initial form the car had also lost the ability to usefully run the degree of rake used in the second half of 2010, Costa believing tightened rules on nose/wing flexing would outlaw it.

As the first races got underway an alarming lack of correlation between windtunnel and track showed up. In the move from 50 to 60 per cent scale models, a blockage had been created that polluted the data, something that was confirmed by use of Toyota's tunnel in Cologne. It took the first three races for this to be established and much of the rest of the season to make the necessary changes to Ferrari's tunnel.

Meantime the season was passing in a blur of unremarkable results. The car was significantly better than the Mercs but only rarely challenged McLarens or Red Bulls. Its tyre usage remained gentle and this could often bring benefits towards the end of stints, sometimes enough for Alonso to jump a struggling McLaren or Webber for a podium place. But more usually it was just making up the ground lost by the same trait in qualifying and the early part of the stints. The harder the tyre the worse the problem and after Alonso finished a lapped fifth in Spain, having led the first two stints on the softer tyres after a fantastic start, Costa and de Luca were asked to resign. Pat Fry - who had joined from McLaren during the off-season as head of track engineering - became technical director.

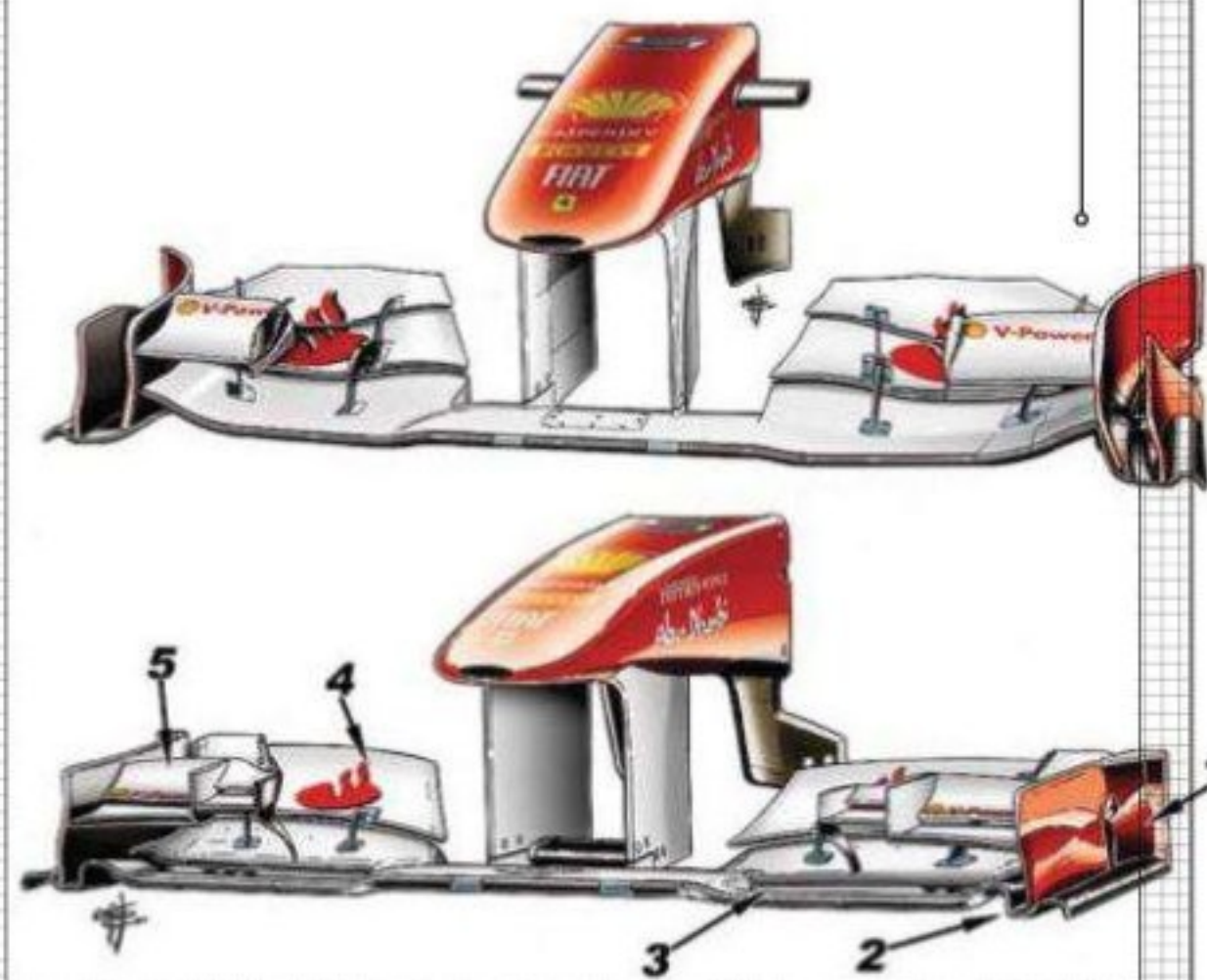
Fry was very much of the opinion that the team had fallen well behind in its simulation tools. Its previous reliance on the in-house test track of Fiorano to compensate - which the rules now forbid - had left it bereft as the emphasis had swung to simulation. Neil Martin - a former colleague of Fry's at McLaren - joined from Red Bull to upgrade simulation technology at the factory.

In the meantime, the Red Bull exhaust solution - which was ready pre-season but not very effective until further development a few races in - combined with an aero upgrade (Costa's last project) and a favourable regulation change to boost the car's competitiveness at Silverstone. From this race the car was able to run significantly more rake and though this hurt its traditional strength of traction, it did enhance the aero performance. The regulation limiting off-throttle blowing of the diffuser hurt Ferrari less than most others - on account of having been unable to access the full benefit of it previously - and Silverstone's long, fast corners generated tyre temperature. Alonso maximised this perfect confluence of circumstances to take a fighting win that looked on even before Vettel suffered a final pitstop delay.

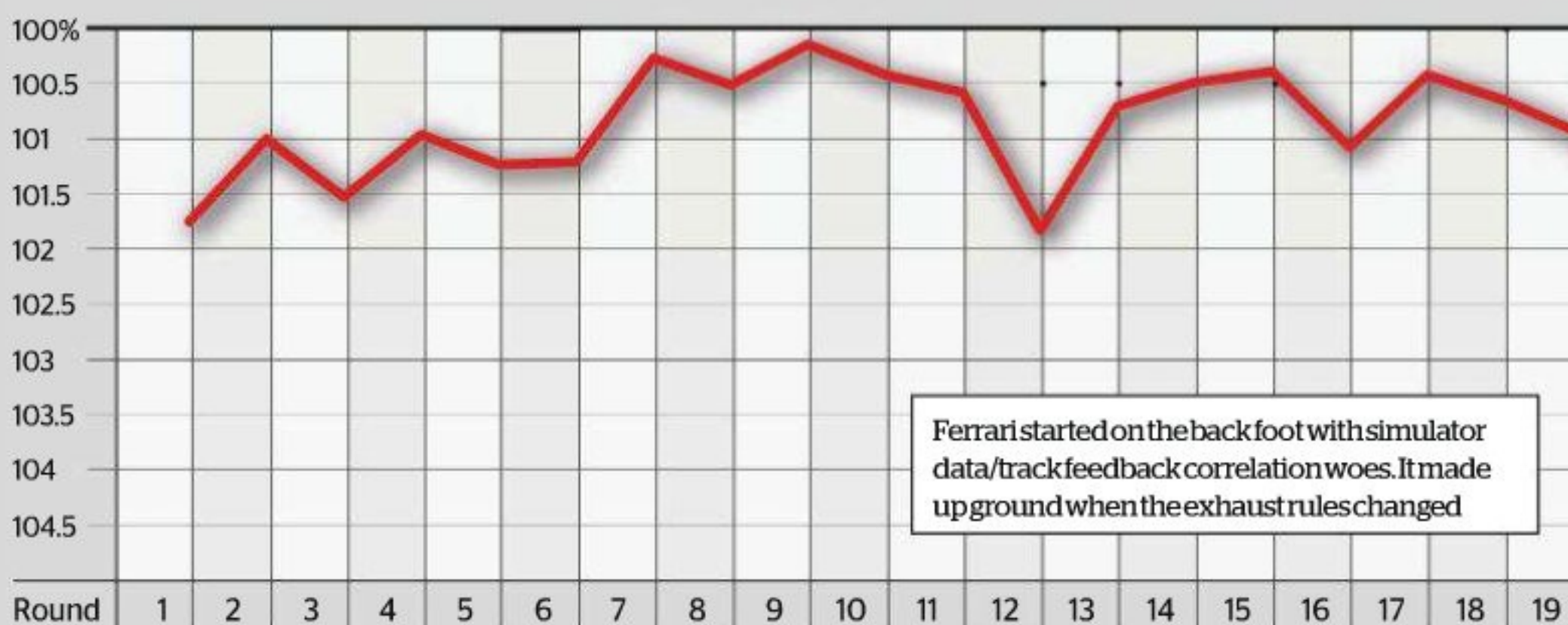
Thereafter the focus switched to 2012. Towards the end Ferrari experimented with Red Bull-like front wings, the fluttering of which caused headaches. The technical direction is set to change, but there's now a lot of catching up to do.

## GARY ANDERSON'S TECHNICAL APPRAISAL

➔ Early on, Ferrari ran the two-piece front wing at some points and the three-piece at others. The three-piece (top picture) is better for airflow consistency but if you've got a lot of low-speed corners, like Monaco or Nurburgring, then you will get more downforce from the two-piece wing, which is more critical at high speeds. I can understand that philosophy, but sometimes you can get too clever as every time you switch you end up having to rethink how you set up the car. At the end of the year, we saw Ferrari experimenting with flexible front wings, but the problems it had with it flexing too much suggests that there is still work to be done.



## FERRARI'S PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE



Ferrari started on the back foot with simulator data/track feedback correlation woes. It made up ground when the exhaust rules changed



2011 **SEASON REVIEW**

# Mercedes



## Persevering with a short-wheelbase chassis, designed to stabilise under-floor aero, didn't pay off, with Merc failing to get on the podium

**C**oming home a distant fourth in the constructors' championship without a podium to its credit has to count as another deeply disappointing season for the now wholly Daimler-Benz-owned team. Nico Rosberg and Michael Schumacher were seventh and eighth respectively, more closely-matched this year than last, but never seriously troubling the frontrunners.

Chief designer John Owen and chief of aero Loic Bigois devised the GP W02, continuing the ultra-short wheelbase concept of its disappointing predecessor as other teams went longer to incorporate the combination of full-distance fuel tanks and KERS. It was a direction based upon what turned out to be a pessimistic view of the likely power of blown exhausts in the single-diffuser

era. "We chose a short wheelbase because we wanted a nice short area of floor ahead of the diffuser to keep the underfloor airflow consistent," explained Ross Brawn. The expectation was that the reduced power of the single diffusers to pull the flow through would make it subject to detaching, something that would be minimised by a short floor. "But the exhaust-blown diffusers cured that problem straight away," rued Brawn, "leaving us with just the downsides of the short wheelbase."

In the no-refuelling era those disadvantages included a notably high centre of gravity when loaded up with fuel, almost certainly a contributory factor in the car's heavy rear tyre degradation for much of the season. Its tyre use made for a car that tended to qualify better than it raced, though that

Rosberg qualified well but faded in the races



PICS: GILHAM/GETTY

Nico  
ROSBERG (D)



Championship position

**7<sup>th</sup>**

Starts 19  
Best finish 5th  
Best grid slot 3rd  
Fastest laps 0  
Points 89  
2010 position 7th

As consistent as ever, only twice retiring from races, and even then only thanks to intervention from other drivers. Seemed to struggle on occasion with tyre degradation, which cost him the odd place or two in several races, but overall it was a good, solid season.

Michael  
SCHUMACHER (D)



Championship position

**8<sup>th</sup>**

Starts 19  
Best finish 4th  
Best grid slot 5th  
Fastest laps 0  
Points 76  
2010 position 9th

His qualifying form was poor and he once again lost the intra-team battle with Rosberg. But, despite that, he was formidable in the races, when he wasn't hitting midfield rivals, and was often the faster of the silver arrows over stints during races.



Rosberg had the measure of Schumacher once more



“We chose a short wheelbase because we wanted a nice short area of floor ahead of the diffuser to keep the underfloor airflow consistent”

Ross Brawn



4th

Championship position

4th

Best finish

0

Podiums

3rd

Best grid slot

0

Fastest laps

was still a relative term for a car that only rarely strayed beyond the fourth row. It seemed there was a faster one-lap car locked in there somewhere - as suggested by Rosberg's amazing Q2 time in Brazil - but it was over an incredibly narrow band of tyre temperature and therefore not generally accessible.

Schumacher took a good improvisational fourth in the wet Canadian GP, helped by favourable timing of the safety car and a shrewd tactical call, and that remained its best result of the year. By the end of the season its status as fastest of the non-winning cars was being challenged by the identically-powered Force India.

On the plus side, its strong engine and KERS worked well in combination with a rear wing that gave a spectacular drag reduction in DRS mode, albeit with some over-sensitivity and re-attachment problems when in normal mode. Schumacher's qualifying seemed disproportionately affected by this. In the first few races the car was also suffering a chronic cooling problem, associated with its unique, stacked radiator arrangement - another corollary of that wheelbase. This required the bodywork cooling holes to be opened out to compensate, hurting the car's speed. In the cool of China this wasn't a problem and Rosberg starred by qualifying fourth and leading, though this translated only to a fifth-place finish.

The cooling problem was fixed by Turkey where Rosberg again qualified superbly and this time ran an early P2 before sliding back to an eventual fifth, the car simply unable to hold onto a good pace for more than a few laps. Nico's qualifying pace was out of Schumacher's reach, Michael an average of around 0.3s down over the year. A mid-season reshuffle of race engineering staff on his car seemed to improve his race

performances to the extent that several times his was the faster Mercedes in the race and in India he beat Rosberg in a straight fight, partly through better management of his tyres, partly through more favourable timing of his final stop. Beneath the surface Schumacher's intense competitive spirit was burning bright but remained betrayed by that qualifying deficit, even though he'd often overcome that with great opening laps.

A few key upgrades were made, most notably a Red Bull-inspired front wing and blowing exhaust, but all they did was keep pace with the developments at the front. In Suzuka an intriguing nose was tried with internal channels within the pillars directing air according to a pressure-controlled switch. It's believed this was a try-out for a technology that will be used on the 2012 car. That car will be the recipient of a heavily upgraded senior technical staff. Bob Bell was recruited pre-season as technical director and joining him will be Aldo Costa (design) and Geoff Willis (aerodynamics). Big names, big pressure, clock ticking...

## GARY ANDERSON'S TECHNICAL APPRAISAL

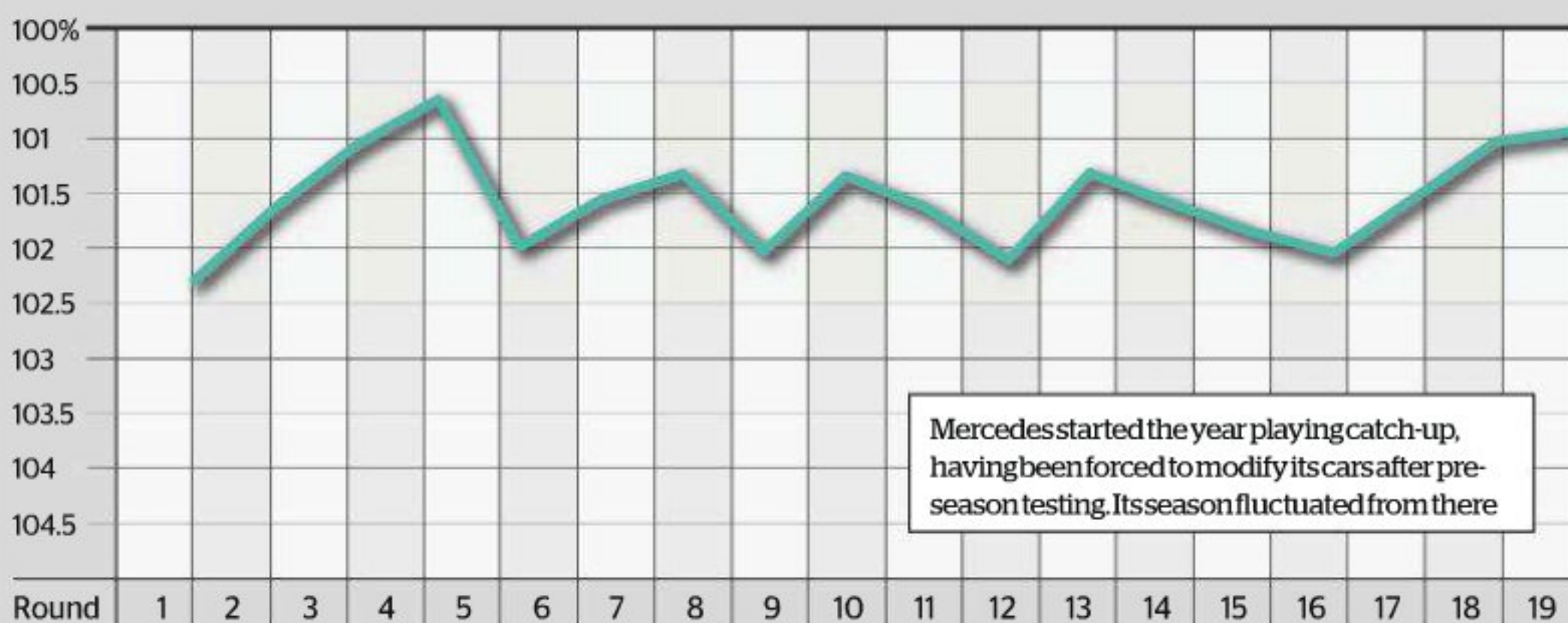
➔ The approach Mercedes takes confuses me. It is very reluctant to go to a genuine three-element front wing, which should give more stable and consistent downforce. The wing it used is a nod to a three-element wing, but it's not a true one. There is an area on the front wing where there are three elements, but if it's getting separation problems there, it shouldn't be. You don't want separation in the middle of a wing profile, you want it outboard so you can control it. Then there is this duct idea, with the air going into the nose and down the pillars and feeding out under the floor. I'm not convinced that this works. It's something Mercedes experimented with but I don't see how it fits in with the way that the car works.



Schuey, 43 in January, remains focused on job



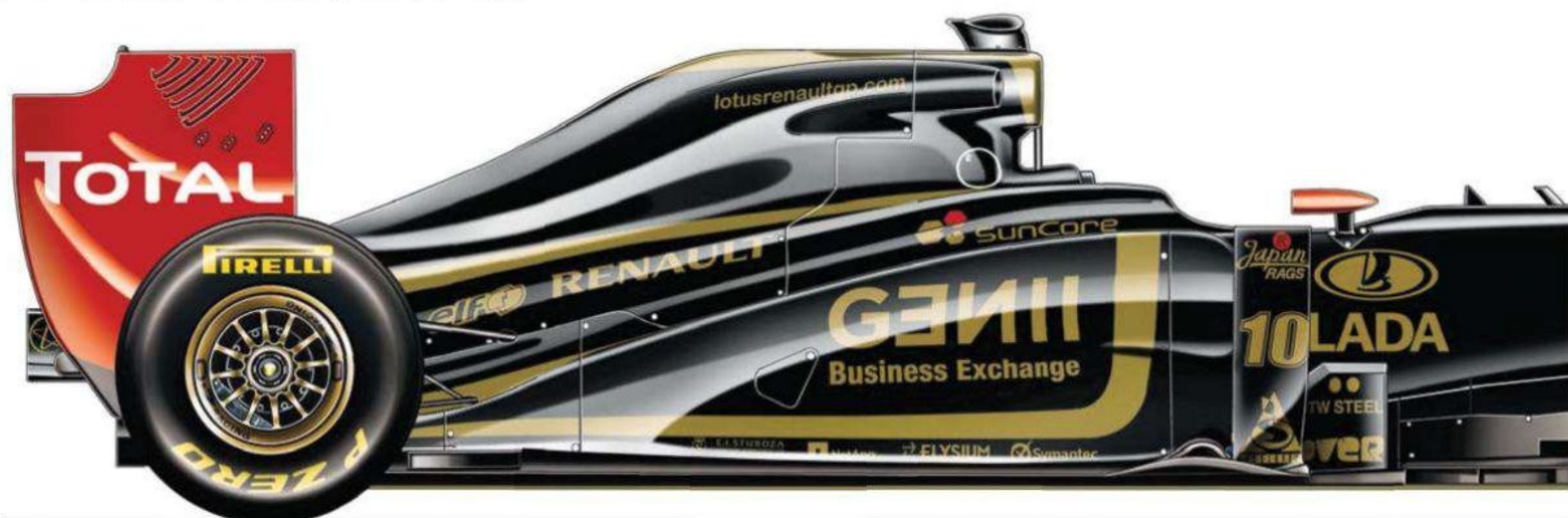
## MERCEDES' PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE



Mercedes started the year playing catch-up, having been forced to modify its cars after pre-season testing. Its season fluctuated from there



# Renault



## An innovative design and a fast start were promising, but the season drifted away as rivals adapted and Renault stood still

**O**n the surface things looked so promising pre-season; a great-looking new car with a unique technical feature, Robert Kubica on hand to wring every last gram of potential from it. Beneath the surface were continuing concerns about the team's future financing and a uneasy fit between the Genii management and the core race team. But all those stresses would surely be eased by a competitive showing from the new R31.

Kubica went fastest on the last day of the first bout of testing, finding the forward-blowing exhaust of the car to be very effective in generating aero grip. But a few days later everything was turned upside down as Kubica suffered his rally accident. As surgeons fought to save Robert's arm, the relatively inexperienced

Vitaly Petrov was thrust into the role of team leader. It's tempting to see the team's mediocre 2011 season as having its roots in Kubica's accident, but as technical director James Allison points out: "We ended up so far adrift that God himself could not have put it on pole."

Yet the season began brightly. Petrov stood on the Melbourne podium, a feat Kubica's stand-in Nick Heidfeld repeated in Malaysia. The forward-blowing exhaust worked quite well relative to the conventional systems initially used by everyone other than Red Bull and McLaren. It was flattered further by the headstart Renault Sport had given the team with cutting edge hot-blowing software, the black car's progress always audible as the drivers lifted off to create a thunderous soundtrack that signified a big boost in off-throttle downforce.

Petrov was on the podium in Melbourne...



### Vitaly PETROV (RUS)



Championship position	Starts	19
	Best finish	3rd
	Best grid slot	6th
	Fastest laps	0
	Points	37
	2010 position	13th

A great drive to third in Melbourne, but still too many mistakes. Often, small offs and slips made the difference between points and obscurity.

### Nick HEIDFELD (D)



Championship position	Starts	11
	Best finish	3rd
	Best grid slot	6th
	Fastest laps	0
	Points	34
	2010 position	18th

Drafted in to replace the injured Kubica, Heidfeld acquitted himself well and scored regularly even though he seemed to struggle to drag the ultimate single-lap pace out of the car. Dropped after 11 races.

### Bruno SENNA (BR)



Championship position	Starts	8
	Best Finish	9th
	Best grid slot	7th
	Fastest laps	0
	Points	2
	2010 position	23rd

In the circumstances, did a decent job. Showed that his underlying speed is good, although at times his racecraft didn't convince.



“The forward-blowing layout brought the centre of aero pressure forward. What we really could have done with was a load more rear downforce”

**James Allison**



**5th**  
Championship position

**3rd**  
Best finish

**2**  
Podiums

**6th**  
Best grid slot

**0**  
Fastest laps

So the car was initially a Q3 certainty, Petrov getting through for the first five races, and both cars scored regular points that turned out to be the foundation of the team clinching fifth place in the championship. But as the rearward-blowers adapted their exhausts to be Red Bull copies, so Renault was pushed steadily further down the grid.

“When we went to off-throttle blowing last year,” recalls Allison, “it gave us a lot of downforce but came with the unpleasant side-effect on the Bridgestones of creating a lot of understeer. The forward-blowing layout brought the centre of aero pressure forward, but we then found that the characteristics of the Pirelli were very different to those of the Bridgestone and that the rear tyre was relatively weak. What we really could have done with was a whole load more rear downforce - ie: what we'd had last year!”

Given that the whole layout was devised around the forward-blowing concept, with quite bulbous sidepods, it wasn't the work of a moment to abandon the concept. The car remained quite effective through fast corners but its instability off-throttle into slow corners made it a handful at places such as Monaco, Montreal and Singapore. It was also aerodynamically sensitive to body fit around the sidepods. To cope with the exhaust heat in that area, the forward edge of the pod had to be fashioned from metal and if the fit wasn't perfect where this bonded with the carbonfibre in such a sensitive area, a lot of the downforce was lost.

A rearward blower was tried in practice at the Nurburgring but the experiment was discarded when it became clear that exhaust-blowing was to be outlawed for 2012. The car's development parts did not always bring the predicted lap time early in the year, but this was corrected

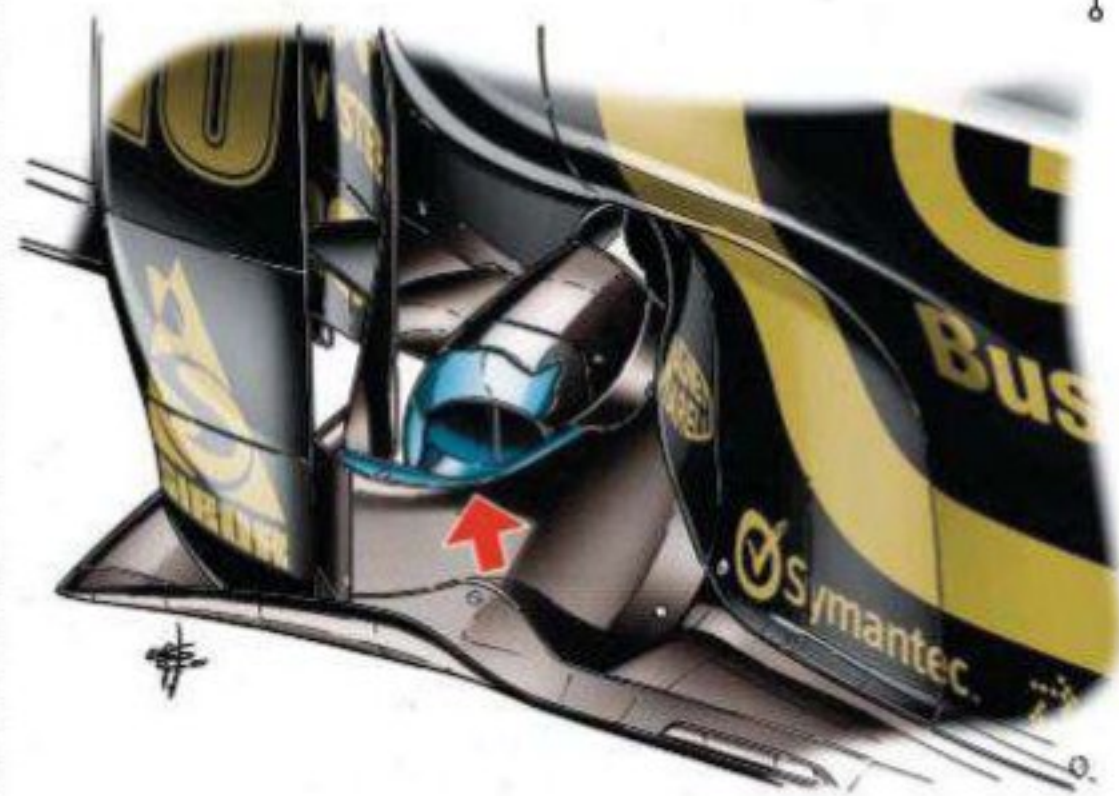
when the team moved from 50 per cent to 60 per cent models in the windtunnel.

Behind the scenes, the stresses between the Genii and Enstone part of the management remained and Steve Nielsen resigned his position as sporting director part-way through the season, having felt undermined when John Wickham was brought in as a consultant to assess the team's performance.

Meantime, Heidfeld was not proving to be the team leader the management had hoped, usually being outqualified by Petrov, and from Belgium onwards he was replaced by Bruno Senna. This required an out-of-court settlement be made with Heidfeld and it was a tough task for Senna too, having had only minimal testing in the car and no experience of the Pirelli tyres. In their eight races together he proved a match for Petrov on pace and was particularly impressive on the Saturdays in Spa and Interlagos. But he never quite strung together an incident-free weekend and in the end it was not enough to force the team to stop looking elsewhere for 2012.

#### GARY ANDERSON TECHNICAL APPRAISAL

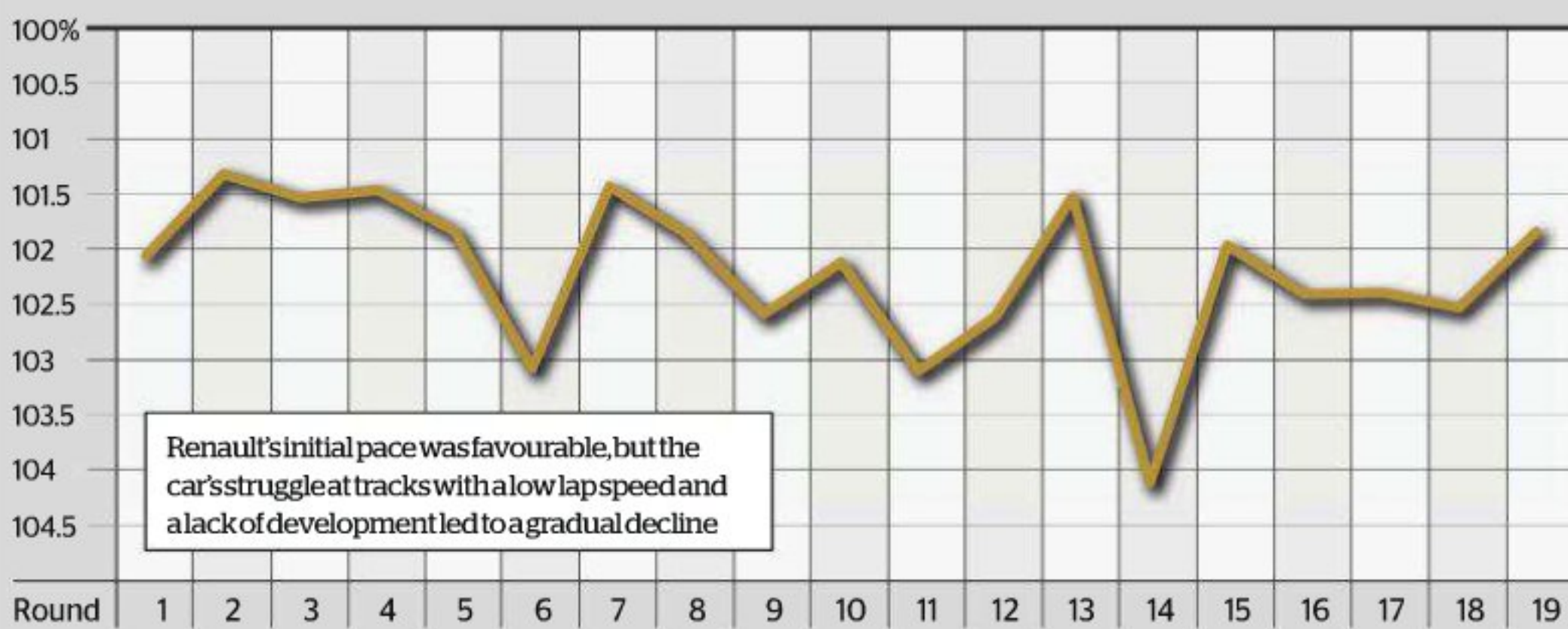
➔ This was Renault's secret weapon and I'm sure when they committed to the concept that it was a positive - but then again they didn't realise the full potential of the Red Bull system when they tried their original version of it. Blowing high-speed exhaust gases at the leading edge of the floor created more downforce, but what do you do with the gases after that? Others were able to make better use of it with new brake ducts etc, but what Renault started with they were left with - there was relatively little they could do to develop it. It created other compromises - higher radiator and sidepod packaging problems that put the COG up, so the negatives outweighed the positives. It was good early on, but there was little room for development.



... but towards the end of the season he trailed behind Senna



#### RENAULT'S PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE





# Force India



## A natural progression from the 2010 machine meant the team had a solid understanding of its car and how to constantly develop it

**T**he Silverstone-based team was genuinely impressive, taking a solid sixth in the constructors championship after a relentlessly effective latter half-season development programme. It ended the year challenging the Mercedes as fastest of the non-winning cars, enough to give Paul di Resta a highly promising rookie season even though he was outscored by his more experienced team-mate Adrian Sutil.

The VJM04 was a straight development of 2010's car, again using the Mercedes engine/McLaren gearbox package as well as the Mercedes KERS. The gearbox defined the rear suspension as pull-rod in layout but otherwise the Andy Green-led design was quite familiar and the task the team had set itself was to

smooth away the few remaining traces of the old Force India trait of being quick on low-downforce tracks but below-par on the more conventional circuits. Investment had been made in the team's windtunnel to aid this cause.

Testing revealed the car to initially be some way off the pace and the design team was quick to understand the significance of the Red Bull RB7's exhaust layout. A major programme was undertaken to come up with something similar but this entailed not only the design of the exhaust itself but also a redesign of much of the rear bodywork and floor to accommodate it. There was a system ready by Spain but even then it did not work satisfactorily and it was not raced until Silverstone, from which point the car's development programme really took off.



Adrian  
SUTIL (D)



Championship  
position

**9<sup>th</sup>**

Starts 19  
Best finish 6<sup>th</sup>  
Best grid slot 7<sup>th</sup>  
Fastest laps 0  
Points 42  
2010 position 11<sup>th</sup>

After a slow start to the year, Sutil got into his stride in the second half. Great sixth place on home soil kickstarted his campaign although Brazil stands as his high-water mark after repeating the result. Proved that he's a consistent scorer in the ultra-competitive midfield.

Paul  
DI RESTA (GB)



Championship  
position

**13<sup>th</sup>**

Starts 19  
Best finish 7<sup>th</sup>  
Best grid slot 6<sup>th</sup>  
Fastest laps 0  
Points 27  
2010 position n/a

Made a stunning start to his F1 career with points in his first two races. Great charge to fifth in Canada before clashing with Heidfeld and sixth on the grid at Silverstone underscored that start. Had a quiet end to the season on unfamiliar circuits, but made his point impressively.



Di Resta made an impressive start

PICS: HONE, COATES/LAT, GILHAM/GETTY



“Now we’ve got a fuller understanding aerodynamically and have given ourselves a good baseline, we have to start pulling up the total performance”

**Dominic Harlow**



**6th**

Championship position

**6th**

Best finish

**0**

Podiums

**6th**

Best grid slot

**0**

Fastest laps

In the meantime the car was a regular lower points scorer. Di Resta was generally the quicker driver over the season's first half - outqualifying Sutil more often than not - but it was the German who was around to best benefit from the timing of the Monaco safety car, helping him to a seventh-place finish. Despite the distraction of the legal trouble surrounding his night club incident in China, Sutil was a more rounded performer this year, with few of the on-track incidents that have blighted his previous seasons. Into the second half, as the tracks were cooler and as Pirelli adopted a more conservative approach in the flyaway races, Sutil was more usually ahead of di Resta on the grid, his more aggressive style generating tyre temperature easier than the fluid Di Resta.

For Silverstone the car's aero upgrade incorporated the RB7-style exhausts and Di Resta took spectacular advantage to qualify sixth fastest. That remained the qualifying highlight of the team's year but generally into the season's second half the Force India leapfrogged itself ahead of the Renault/Toro Rosso/Sauber/Williams competition on speed, although the points deficit incurred to Renault in the first half could not ultimately be overcome.

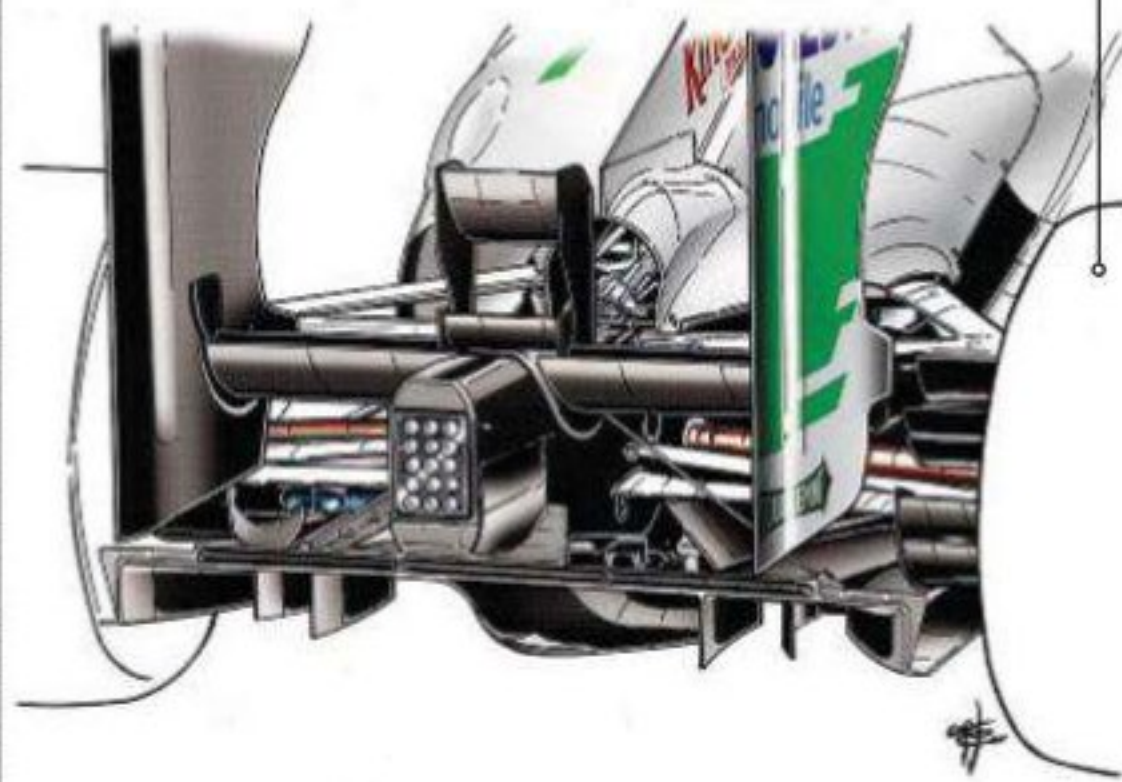
Nonetheless Sutil and/or Di Resta scored points in nine of the latter 10 races, Adrian crowning the season by defeating Nico Rosberg's Mercedes in a straight fight for sixth place in Brazil. The only race in the second half where no points were scored was Japan where both drivers slipped out of the top 10 late in the race, having hindered each other in different parts of their strategies. Had it not been for that, the four points by which the team ultimately trailed Renault in the constructors table might have been within reach.

“We got ourselves into a nice optimisation loop,” says engineering director Dominic Harlow of the late-season development programme that had the car improving right to the end. “In an ideal world, and in some teams, it's something you can do with software tools if you've got them. We didn't have that capability so we had to use a bit of a realistic approach and our other simulations to validate it. Now we've got a fuller understanding aerodynamically and have given ourselves a good baseline, we have to start pulling up the total performance. To an extent that's limited by your resources - CFD in particular.” Certainly when James Key made the move from Force India to Sauber in 2010 he was blown away by how much more powerful the Swiss team's simulation tools - built up during the BMW era - were.

For Force India to take the next step of eating into the deficit to the top teams might therefore prove to be more difficult than having got this far, but there's little doubt the team maximised what it had in 2011.

## GARY ANDERSON'S TECHNICAL APPRAISAL

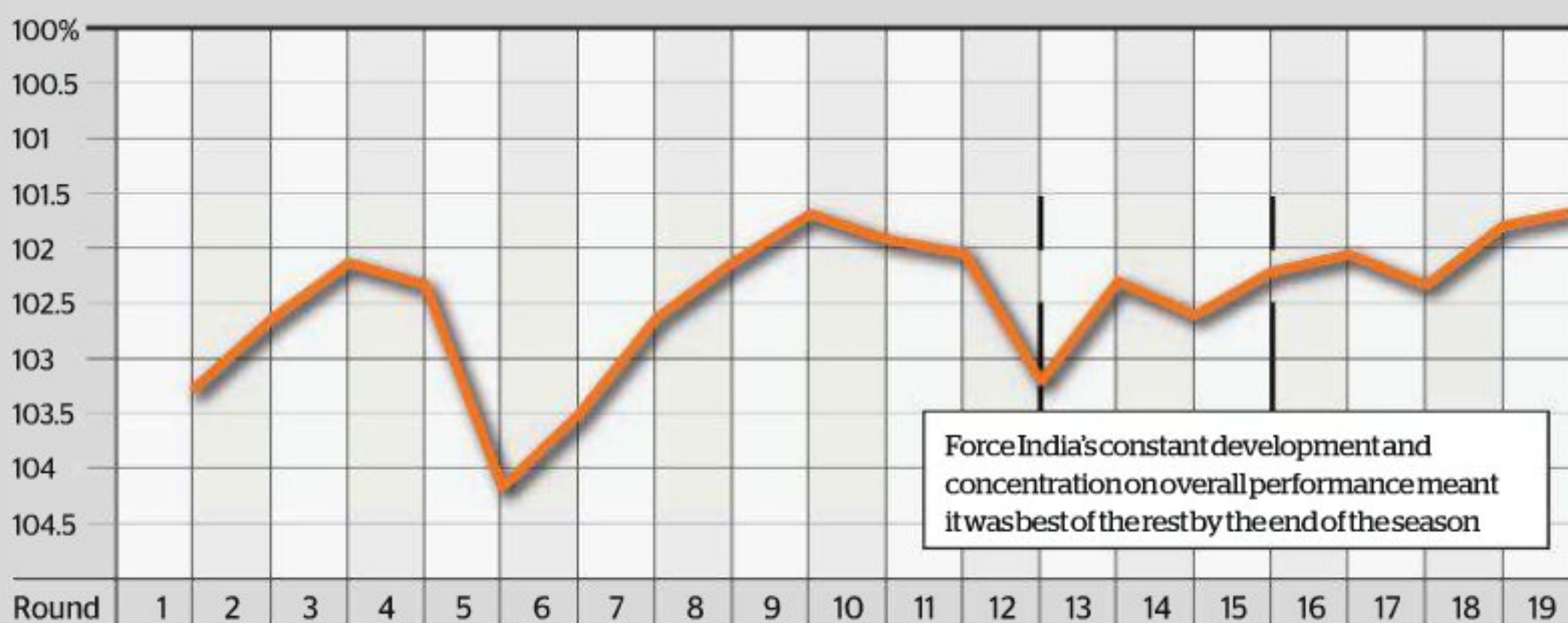
➔ Force India really turned around their season with the major upgrades introduced in the middle of the season. There is more to its exhaust/diffuser combination than meets the eye. The exhaust outlet blows into the top of the floor. The Force India floor is very different to the Red Bull, and classifying it as an exhaust blown diffuser is a little misleading. The exhaust gases here go quickly over the top of the floor, which takes the airflow that's displaced by the front of the tyre that would normally go under the floor and weaken the diffuser. It effectively acts as a skirt. It's not blowing directly into the diffuser, but as we saw from Force India's improvement it was very effective.



Sutil had the better of the second half of 2011



## FORCE INDIA'S PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE





# Sauber



## The veteran squad suffered with the ban on – and reinstatement of – diffuser blowing, sending it up a blind alley on development

**S**auber misread the potential of blown diffusers and suffered for it. The geometry of its exhaust layout defined the car's ultimate potential as limited. The team was then wrong-footed by the FIA's ban on off-throttle blowing at Silverstone, a ban that lasted only one race. It left the Saubers only occasionally making Q3, thereby narrowing the points-scoring chances for Kamui Kobayashi and Sergio Perez and leaving the team seventh in the constructors' table.

"We had a Red Bull-type outboard-blowing arrangement in the tunnel over the winter but we didn't really see any advantage," says tech director James Key. "But in February it suddenly kicked in and we saw that actually these were quite powerful." It was too late to get

such a system on the car for the start of the season, but with few others having them at that stage either, the car was quite respectable in Melbourne. Kobayashi got through to Q3 and Perez made a great F1 debut by finishing P7 on a miraculous one-stop strategy when everyone else was trying to decide between two or three. That was the team's payback for having deliberately designed-in a lot of set-up adjustment.

"We didn't really know what we were going to get with Pirelli," says Key, "so we gave ourselves a wide range of set-up tools. This enabled us to trade-off wear against degradation and that served us well on occasion." The 10 points scored by Perez and Kobayashi in Australia were later taken away for a rear-wing infringement, the result of an oversight in the rush to ready parts for the first race.



Kobayashi recovered from a mid-year wobble

Kamui  
KOBAYASHI (J)



Championship position

**12<sup>th</sup>**

Starts 19  
Best finish 5th  
Best grid slot 7th  
Fastest laps 0  
Points 30  
2010 position 12th

Made a great start to 2011, but Perez's impressive pace and Sauber's ongoing battle with tyre temperature seemed to unsettle him. Returned to form with points in the last two races.

Sergio  
PEREZ (MEX)



Championship position

**14<sup>th</sup>**

Starts 17  
Best finish 7th  
Best grid slot 9th  
Fastest laps 0  
Points 14  
2010 position n/a

Outdid Kobayashi 11-7 in qualifying and produced a series of accomplished race drives. There were a few mistakes, but he ended 2011 with his reputation enhanced.

Pedro  
DE LA ROSA (E)



Championship position

**20<sup>th</sup>**

Starts 1  
Best finish 12th  
Best grid slot 17th  
Fastest laps 0  
Points 0  
2010 position 17th

Called up by Sauber after Friday morning practice in Canada to replace the nauseous Perez and acquitted himself well, taking 12th in the rain-hit race.



“We weren’t big enough to run two separate development programmes so we took a decision not to pursue the exhaust programme”

James Key



**7th**  
Championship position

**5th**  
Best finish

**0**  
Podiums

**7th**  
Best grid slot

**0**  
Fastest laps

As it was, the team would still have been behind Force India at the end of the year.

An RB7-like blowing exhaust was readied for round three in China but discarded after practice. This was the first clue that going this route was not going to be straightforward. Just like Ferrari and Mercedes, Sauber was finding accurate simulation of exhaust blowing to be quite difficult. “The blockage from just having the exhaust there was costing a lot more than it should have,” says Key, and this is where the car’s old-school pushrod rear suspension complicated things. The car used the Ferrari engine/KERS/gearbox package, meaning the C30’s design team was obliged to use a push-rod system in order to mate it to the gearbox. This quite possibly played its part in making the Red Bull-type exhaust difficult to incorporate. Work continued on the system behind the scenes while Kobayashi took regular lower-points places, the highlight being a safety car-aided fifth in Monaco.

Kamui’s was the only Sauber in that race, as Perez lay in hospital with concussion, courtesy of a 70g collision with the chicane barrier in Q3. With Perez still feeling unwell two weeks later after Friday practice in Canada, Sauber old boy Pedro de la Rosa stood in for him and was able to offer some useful set-up advice that benefitted the team later. However, there was a downside to the car’s tyre kindness – and it came whenever the track was cool, or otherwise low-grip. In those conditions the car refused to get the rubber into a temperature window and remained resolutely gripless. This hurt its chances in several races.

During the Turkish GP weekend, the FIA’s Charlie Whiting made it known that he would be outlawing off-throttle blowing of diffusers. This came into force from Silverstone onwards – at which point Sauber abandoned development

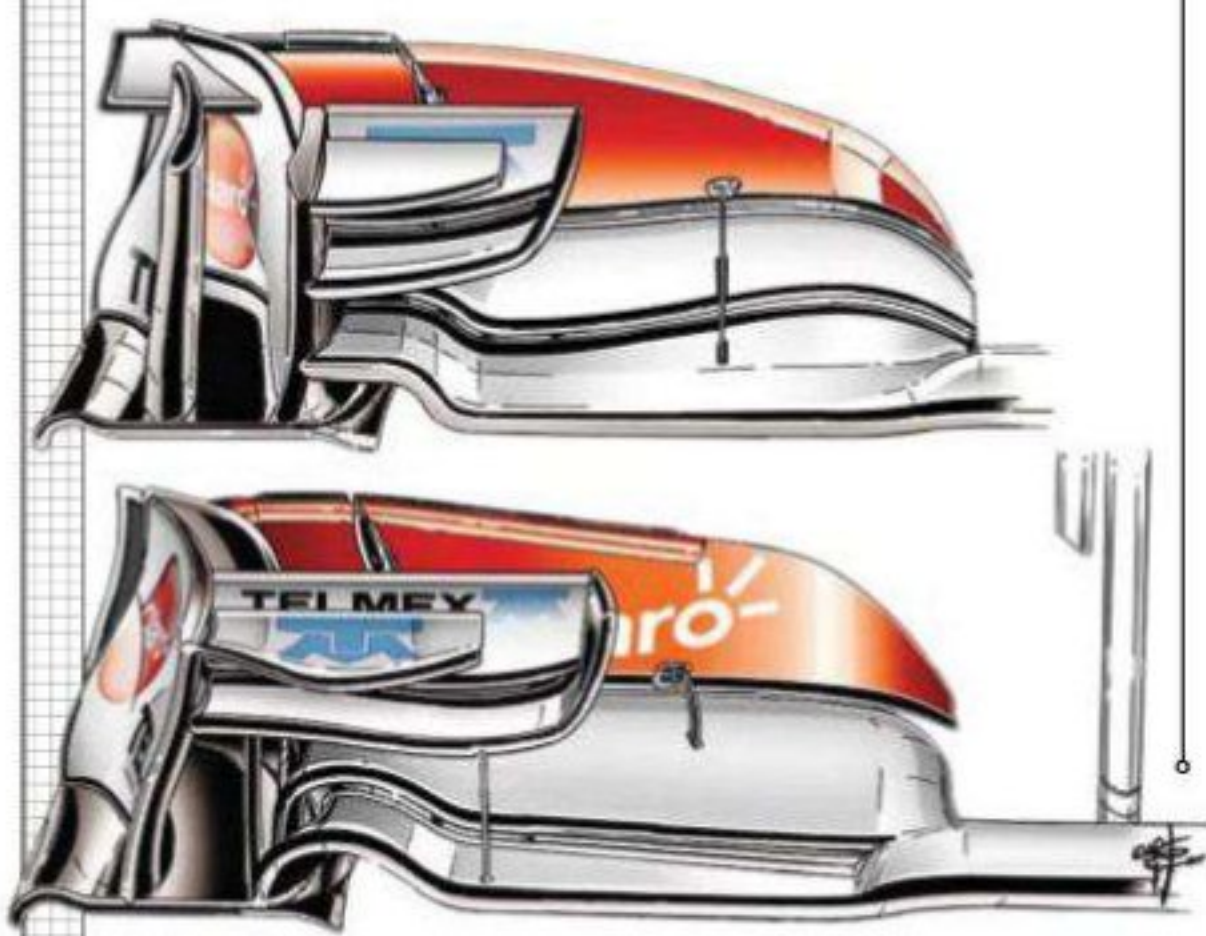
of the Red Bull-type exhaust layout, reasoning that its potential was now more limited. As it turned out, that ban was only in force for Silverstone and for the second half of the season the regulations reverted back to how they’d been. “By this time we’d lost weeks of development of something that was troublesome anyway,” says Key, “and our conventional aero development was going quite well. We weren’t big enough to run two separate development programmes so we took a decision not to pursue the exhaust programme.”

Kobayashi reckoned that decision hurt the team’s prospects and certainly his head seemed to go down for a while as Perez proved quicker. Even Ferrari supplying its hot-blowing software in Germany wasn’t enough to prevent the C30 being leapfrogged by those cars that had adopted the Red Bull-type system and made it work. An upgrade for Japan helped claw back some ground and Perez responded with a good P8 there.

That could only be counted as damage limitation under the circumstances.

## GARY ANDERSON’S TECHNICAL ANALYSIS

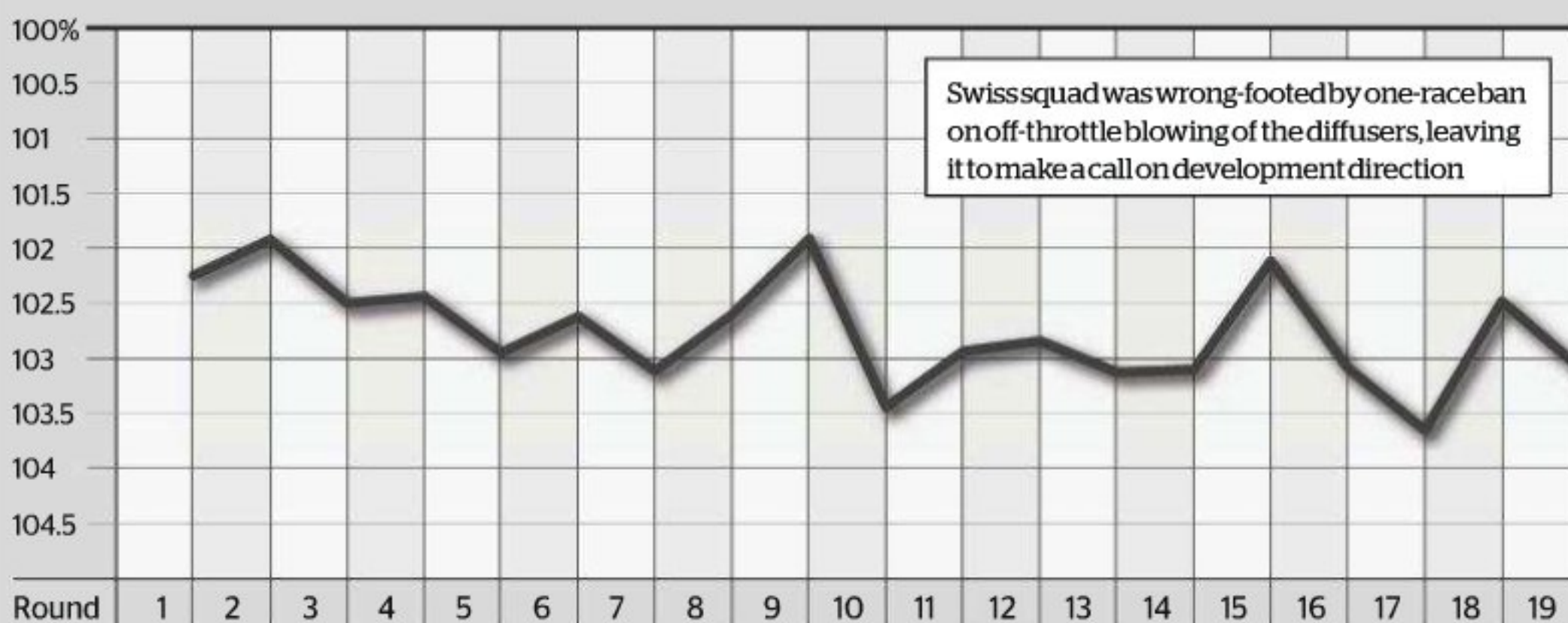
➔ The front wing is the first thing that the airflow touches – the rest of the car can only work with what’s left. The Sauber front wing was a nice design. The thing is to get the endplate and the wing profile themselves to turn the airflow around the front tyre. The top wing (the earlier version) is what I call a 2D wing, where the slot gaps are horizontal where they join the endplate. In the lower wing, it’s a 3D design in that the slot gaps drop down onto the footplate of the endplates. You’re making the wing sections turn the airflow as opposed to the vertical part of the endplate, where it can be very difficult to keep the airflow attached.



Mexican Perez made an impressive F1 debut



## SAUBER’S PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE





2011 **SEASON REVIEW**

# Toro Rosso



## Still the smallest of established midfielders, Toro Rosso acquitted itself well in 2011, with regular points from Alguersuari and Buemi

**T**he Faenza team grew in stature as well as size in 2011. Now numbering around 270 people - about double the size of Team Lotus - it's still dwarfed by, say, Williams, a team that in 2011 Toro Rosso comprehensively out-pointed. It also gave Sauber a close run for seventh.

It did so with a car, the STR6, that featured a striking twin-floor concept, with the sidepods lifted around 10cm from the floor to create a channel to give the air an easier passage along the lower body to the diffuser and rear beam wing. This was the design team's solution to clawing back downforce lost to the banning of twin diffusers. There was some penalty to CoG height and this combination may have been partly why the car was much more competitive on

aerodynamically-demanding, high-speed tracks than low-speed stop/start venues (by an average of as much as 0.7s). Its aerodynamic efficiency was notably better than its braking and traction. Jaime Alguersuari and Sebastien Buemi scored regular points in it through the year, with the Spaniard's two P7s (Monza and Korea) representing the peak.

Its engine and KERS unit were sourced from Ferrari, but the team continued to do its own gearbox, allowing the pull-rod rear suspension layout that was denied the similarly-powered Sauber. It was an adventurous design for such a small team. Two times in the first three races one of the cars made it through to Q3 but as others evolved their exhaust-blowing performance, so the car got left behind into the European season, particularly as Ferrari did not provide hot-blowing



Buemi's efforts often went unrewarded

Jaime  
ALGUERSUARI (E)



Championship  
position

**14<sup>th</sup>**

Starts 19  
Best finish 7th  
Best grid slot 6th  
Fastest laps 0  
Points 26  
2010 position 19th

Only outqualified Buemi six times, which often left him on the back foot, but once he'd got on top of tyre-wear he managed to turn in some strong race drives. His seventh in Korea was outstanding and he banked plenty of points for the team in the second half of the year.

Sebastien  
BUEMI (CH)



Championship  
position

**15<sup>th</sup>**

Starts 19  
Best finish 8th  
Best grid slot 9th  
Fastest laps 0  
Points 15  
2010 position 16th

Strong in qualifying and one of the most unlucky drivers on the grid, the Swiss had a convincing season that was not rewarded with as many points as it should have been. He was also one of the most effective drivers on opening laps, setting up challenges for the top 10.



Alguersuari put in some strong race runs...

PICS: GILHAM, ROSE, FOX/GETTY



"I must give credit to both of our drivers, Sebastien and Jaime, because their attentive, conservative attitude has brought us many points"

**Giorgio Ascanelli**



**8th**

Championship position

**7th**

Best finish

**0**

Podiums

**6th**

Best grid slot

**0**

Fastest laps

software until Spa in late August. "We did not have a good tool for simulating its aero performance," says technical director Giorgio Ascanelli. "We only had a blown exhaust facility in the tunnel from March and we had to learn how to use it."

Buemi tended to be the faster qualifier and was unlucky to suffer mechanical problems on a couple of occasions when running in the points, but it was Alguersuari who seemed to have an uncanny knack of getting points even from lowly grid positions. Twice he used the tyre allocation benefit from failing to graduate from Q1 to put together good points-paying drives. For all that the team was well-served by the consistency of both drivers, Ascanelli had some reservations about their approach: "Well thank God for parc-ferme regulations," he said, "because otherwise we would be looking for what magic tweak we had made to make the car so much more competitive in the race than qualifying - and we would have become very confused! This way at least we knew we had done nothing. I think a lot of that is about the drivers. I must give credit to both of them because their attentive, conservative attitude has brought us many points and when you look at the teams around us, a couple of them had drivers that were quick but kept getting into trouble. I would say our guys are not too ambitious with their speed. But like Gilles [Villeneuve] said, if you want to drive on the limit you must know where it is." Neither seemed well attuned to wringing the last ounce of qualifying speed from the softer tyres, not liking the sensation of how the tyre tends to float on its carcass on the softer compounds.

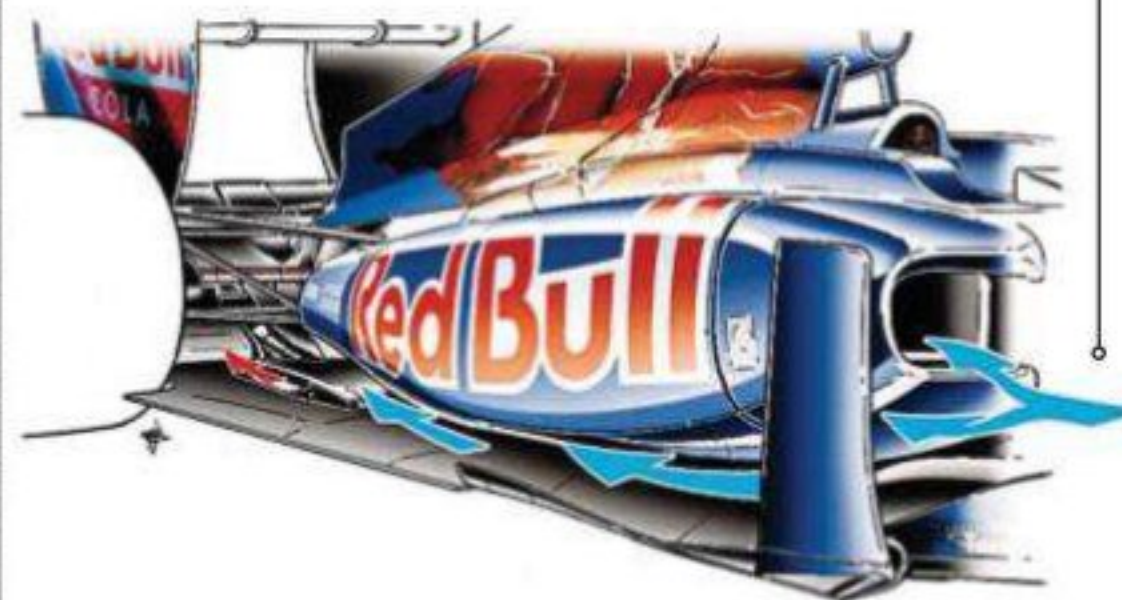
The first significant development came at Barcelona with a revised gearbox casing that allowed the lower wishbones to be lifted up, further improving flow to

the rear. From Valencia the space between the sidepods and floor was given an enhanced duct shape to speed up the flow, while a slimmer nose and an improved DRS rear wing came at Spa. But the most effective change was the switch to a more Red Bull-type of exhaust from Suzuka onwards. It took a couple of races to perfect the system's reliability but on the aero-demanding track of India it helped both cars get through to Q3. This was the foundation for another points-paying drive from Alguersuari and more bad luck for Buemi, whose engine failed.

So effective were the late-season aero mods that inevitable rumours began circulating about how much Red Bull may have been involved, something that Ascanelli takes as a compliment for his young aero team, a department that didn't even exist two years ago. Chief aerodynamicist Ben Butler has since been re-recruited by the parent company. There was no giant-killing on the scale of 2008, but the performance of Toro Rosso in 2011 certainly grabbed the attention of some bigger teams.

## GARY ANDERSON'S TECHNICAL APPRAISAL

➔ The aim is to get the 'Coke bottle' talking to the sidepod by getting the airflow to move as fast as possible. The positive is that, aerodynamically, the STR6 had an aggressive undercut that would have helped to create more downforce. But the negatives are that the packaging is compromised and you have a higher centre of gravity that can have an affect on tyres on longer runs. The idea seems to have worked but Toro Rosso may need to make it more powerful next year. I wouldn't be surprised to see some other teams going in a similar direction, albeit perhaps not to the same extreme.

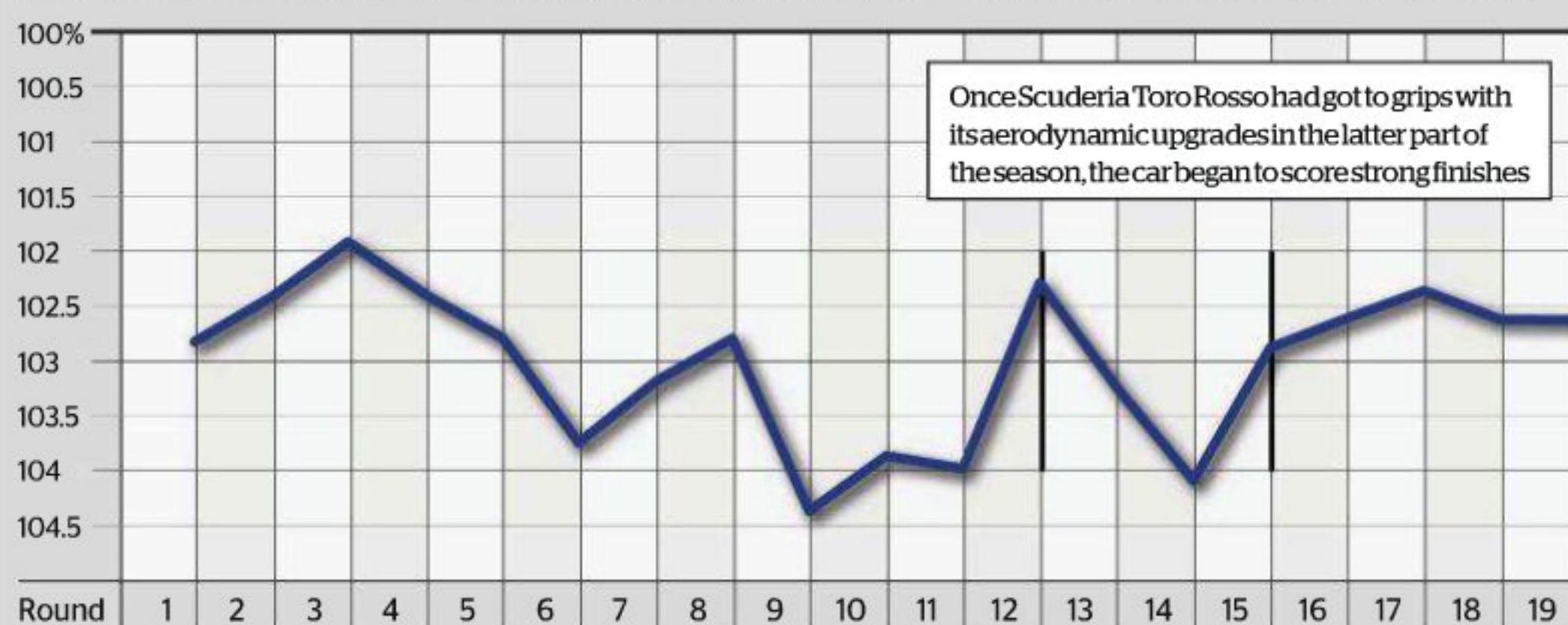


...and took seventh-place finishes in Italy and Korea



Team grew in size and stature during season

## TORO ROSSO'S PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE



Once Scuderia Toro Rosso had got to grips with its aerodynamic upgrades in the latter part of the season, the car began to score strong finishes



# Williams



## This once great team suffered its worse season on record with a recalcitrant car whose radical rear end did not work well

**T**he Williams technical team saw the regulation change for 2011 as an opportunity to stop the rot, to halt the steady decline in competitiveness. Accordingly, it wound down development on its 2010 car early as it ramped up its focus on the radical FW33, the concept of which was based around an improbably tiny gearbox. With the ban on double diffusers the importance of flow over the single diffuser and to the low beam wing would increase approximately three-fold. As a result, Williams devoted huge energy to freeing up this flow and that tiny gearbox was going to be the key. Instead, Williams suffered the worst season in its history, mired down in ninth place in the constructors' championship with a meagre five points, four scored by

Rubens Barrichello, one by Pastor Maldonado. On only three occasions did a Williams make it through to Q3. Early in the season technical director Sam Michael and head of aero Jon Tomlinson proffered their resignations, effective at the end of the year.

Rotating the differential down from its conventional position allowed the gearbox height to be reduced by that amount. It meant very trick articulation to enable the driveshafts to reach down that low from the wheel centres and both the gearbox and driveshaft design took up much of the company's engineering resource. So much smaller was the gearbox casing that the upper suspension wishbones (of pull-rod layout) could no longer be mounted onto it and they instead had to be attached to the base of the rear wing central pillar.

Rookie Maldonado often outqualified Barrichello



### Rubens BARRICHELLO (BR)



Championship position

**17<sup>th</sup>**

Starts 19  
Best finish 9th  
Best grid slot 11th  
Fastest laps 0  
Points 5  
2010 position 10th

There were times when you wondered if the Brazilian was quite as motivated by driving the poor Williams FW33 as he might have been, but there were plenty of flashes of his class. A superb qualifying lap in the Brazil finale was proof that he still has the speed to cut it.

### Pastor MALDONADO (VV)



Championship position

**19<sup>th</sup>**

Starts 19  
Best finish 10th  
Best grid slot 7th  
Fastest laps 0  
Points 1  
2010 position n/a

Impressed on his F1 debut, outqualifying Barrichello on numerous occasions. Deserved to end the season with a higher points tally, especially after being robbed of sixth place after a noteworthy charge at Monaco. Despite pay-driver baggage, proved he merits a place in F1.



Barrichello showed flashes of speed

PICS: TEE, DUNBAR/LAT



"We have brought too many aerodynamic parts and you can't use a race for testing. We are confused; the team is shrouded in uncertainty"

**Rubens Barrichello**



**9th**  
Championship position

**9th**  
Best finish

**0**  
Podiums

**7th**  
Best grid slot

**0**  
Fastest laps

It miniaturised the whole rear end of the car to a startling degree, a big swathe of daylight clearly visible between gearbox and rear wing when viewed from side-on, where in other cars there was just the density of components.

The creation of this space did not bring the appropriate increase in flow capacity, for reasons that had much to do with the blockage formed ahead of it by the engine cover. "In trying to minimise the engine cover we were constrained by the homologated position of the engine's inlet trumpets," explained Michael. "That gave a very bluff trailing edge to the cover that we were stuck with."

Furthermore, the huge engineering effort spent in creating the layout took focus away from where it could, with hindsight, have been much more profitably spent - on optimising the power of exhaust blowing, the single most powerful aero differentiator of 2011.

There were further contributory causes to the crushingly disappointing form of the car, notably engine supplier Cosworth's refusal to develop off-throttle hot-blowing software, the engine unsuited to the level of ignition retardation necessary. This also had adverse effects on the car's stability during the KERS harvesting phase, as varying ignition retardation is used to retain the stability of the car as the harvesting is completed. "We could either have blowing under braking but no control of the brake balance as the KERS finished harvesting," explained Michael, "or we could control the brake balance but not have off-throttle blowing." The choice was off-throttle stability or off-throttle downforce, but not both.

It was with that backdrop that Williams pushed against an open FIA door for restrictions to be made on off-throttle blowing. These duly came to pass at

Silverstone, which happily co-incided with the race debut of the FW33's Red Bull-like exhaust, improving the flow over the diffuser far more effectively than the tiny gearbox did. The rule change and new components helped the car deliver by far its most competitive performance of the year, Maldonado qualifying a solid seventh. As the restriction in off-throttle blowing was relaxed in Germany, so it was back to midfield mediocrity.

Aero developments came thick and fast but too few of them added performance. At one point Barrichello said: "In recent months we have brought too many aerodynamic parts. We could not test them completely and you can't use a race for testing. We are confused; the team is shrouded in uncertainty."

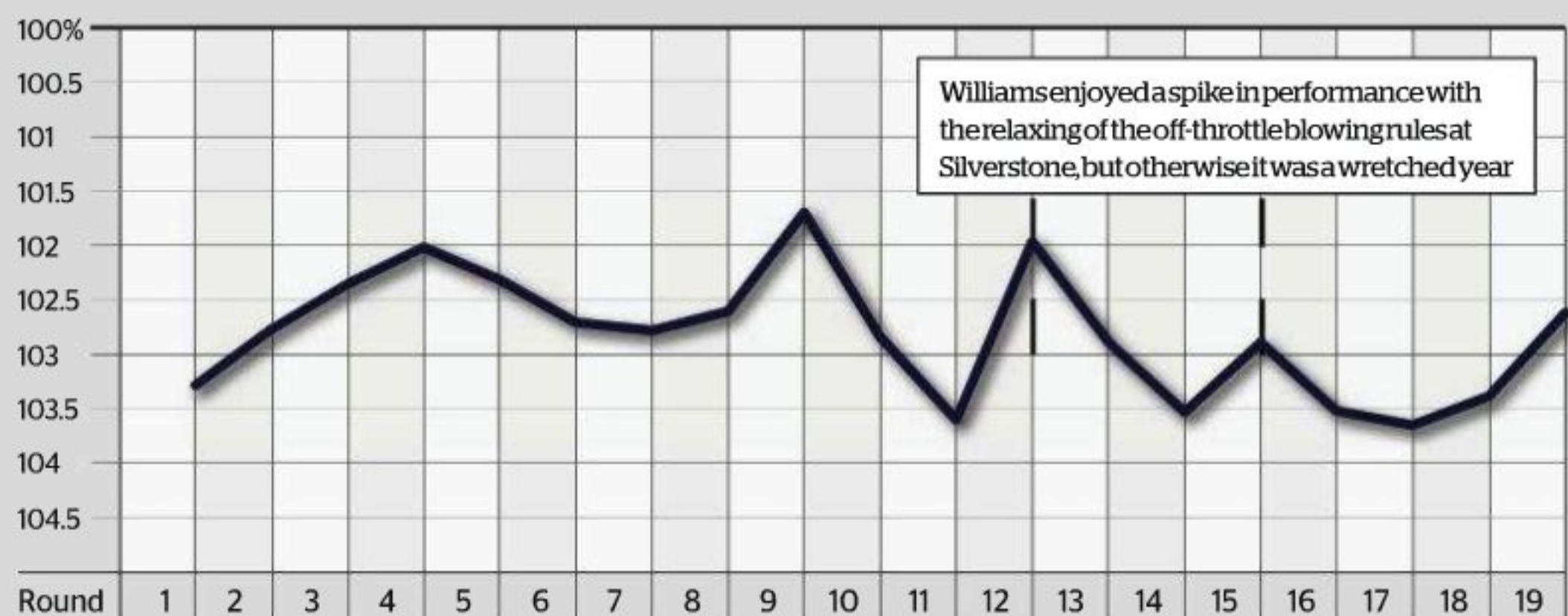
Mike Coughlan was recruited as chief designer and Mark Gillan as chief operations engineer early in the year. Together they will form the nexus of the engineering team tasked with building Williams back up from ground zero that resulted from the final rolling of the dice that was the FW33.

## GARY ANDERSON'S TECHNICAL ANALYSIS

→ Williams was at times guilty of trying a little bit too hard to be clever rather than just getting the best out of what it had. The rear-end packaging is very impressive in engineering terms, as it's not easy to get the gearbox so tightly packaged. The aim was to get a cleaner airflow to the beam wing, which any aerodynamicist would like, but it's hard to see that it made up for the compromises you would have had to make with the box internals in terms of stiffness in particular, and with the power loss from having the driveshaft at an angle. I might be proved wrong and every car will launch with motorcycle gearboxes in 2012, but I'd be surprised. The penalty is too great.



## WILLIAMS'S PERFORMANCE, AT EACH RACE, RELATIVE TO THE ABSOLUTE PACE





# Lotus



"The exhaust didn't give us what we were expecting and it was difficult to sort when we had around 60 per cent of the tunnel time of the teams ahead of us"

**Mike Gascoyne**

## Second-year Team Lotus again eclipsed its rival back-of-the-grid teams, but there was still a deficit to the established squads

**T**he reborn Team Lotus completed its second year of F1 by further distancing itself from fellow sophomores Virgin and HRT, but failing to make the break into fighting with the established teams.

The Renault-powered T128 used a Red Bull RB5 gearbox but no KERS (worth around 0.3s). Engineering chief Mike Gascoyne reckoned KERS would have been a step too far for a new design team operating from the team's own office for the first time, with a new engine, gearbox and hydraulics system to contend with. Unlike its predecessor the car featured a blown diffuser and its sidepods were noticeably more sculpted than before. It was a more sophisticated piece of kit than the T127 but still lagged behind the Toro Rossos and Saubers it aspired to compete with. Much of the aero work was again completed at Jean-Claude Migeot's Aereolab tunnel in Italy.

Ultimately the car was around 5s off the identically-powered Red Bull, but this was still good enough to put it around 1.5s-2s clear of the Virgins and HRTs. Three 13th places scored by Heikki Kovalainen and Jarno Trulli eclipsed the

single 13th scored by HRT and the 14th by Virgin, keeping the team on-course for the coveted 'column 1' historic prize money.

Kovalainen was again the cutting edge of the team's driving strength, with Trulli unable to cope with a power-steering system that did not give him the feel he professed to need to perform to his best. An alternative system was created, which did improve his form noticeably, but this could only be used on tracks that didn't place much load on the steering.

But the key development was a Red Bull-like layout for the blown exhaust, which first ran in Turkey. Sadly, it had little effect on the car's competitiveness as the team found the exhaust flow extremely hard to simulate in the tunnel. "It didn't give us what we were expecting," said Gascoyne, "and it was difficult to sort something like that, to do all the mapping across the different throttle settings, when we had around 60 per cent of the tunnel time of the teams ahead of us."

That shouldn't be the case next year, however, as the Caterham-rebranded team moves to Leafield with a Williams tunnel-sharing arrangement, all under the technical direction of Mark Smith, recruited in March.



Kovalainen (1) had the edge over Trulli all year

**10th**

Championship position

**13th**

Best finish

**0**

Podiums

**15th**

Best grid slot

**0**

Fastest laps



Kovalainen had strong season, despite results

Jarno  
TRULLI (I)



Championship position

**21<sup>st</sup>**

Starts 18  
Best finish 13th  
Best grid slot 18th  
Fastest laps 0  
Points 0  
2010 position 21st

Struggled for much of 2011 with lack of feel from power steering, and only showed the briefest flashes of his speed.

Heikki  
KOVALAINEN (FIN)



Championship position

**22<sup>nd</sup>**

Starts 19  
Best finish 13th  
Best grid slot 15th  
Fastest laps 0  
Points 0  
2010 position 20th

Fast, consistent and Lotus's lead driver by a mile, Kovalainen enjoyed arguably his best F1 season, despite best result of 13th.

Karun  
CHANDHOK (IND)



Championship position

**28<sup>th</sup>**

Starts 1  
Best finish 20th  
Best grid slot 20th  
Fastest laps 0  
Points 0  
2010 position 22nd

Drove in German GP in place of Trulli, finishing 20th after a couple of spins while acclimatising to new Pirelli rubber.



# HRT

“Surviving 2011 was an achievement and it wasn't even last in the constructors' championship fight”



## A pre-season rush to build cars and money woes did not help

**J**ust 13 weeks before the season, work had still to begin on a new HRT. A deal to run the unraced 2010 F1 Toyota had fallen through before team boss Colin Kolles told technical director Geoff Willis to adapt the '10 cars to the new regulations. As well as changing from twin to single diffusers, Willis oversaw a few aero improvements to the bodywork and a switch to a Williams gearbox/hydraulics package in place of the previous Xtrac. Cosworth continued to supply engines

but there was no blown diffuser or KERS. This backdrop hints at the financially perilous state the team began the year in. Mid-season, owner Ramon Carabantes sold up to Thesan Capital, a Madrid investment company and from that time the purse strings were loosened slightly. There was a further injection of cash when Red Bull had the team run its protege Daniel Ricciardo in one of the cars from Silverstone onwards, this costing Narain Karthikeyan his seat. Surviving 2011 was an achievement and it wasn't even last in the constructors' fight. Tonio Liuzzi's 13th place in Montreal with the adapted 2010 Dallara-designed car put the team ahead of Virgin. Willis left before the end of the season and the new owners plan to relocate the team to new premises in Valencia.

**11th**  
Championship position

**13th**  
Best finish

**0**  
Podiums

**20th**  
Best grid slot

**0**  
Fastest laps

Vitantonio LIUZZI (I)



Championship position	Starts	18
	Best finish	13th
	Best grid slot	20th
	Fastest laps	0
	Points	0
	2010 position	15th

**23<sup>rd</sup>**

Narain KARTHIKEYAN (IND)



Championship position	Starts	7
	Best finish	17th
	Best grid slot	22nd
	Fastest laps	0
	Points	0
	2010 position	n/a

**26<sup>th</sup>**

Daniel RICCIARDO (AUS)



Championship position	Starts	11
	Best finish	18th
	Best grid slot	20th
	Fastest laps	0
	Points	0
	2010 position	n/a

**27<sup>th</sup>**



Ricciardo joined at the British GP

# Virgin

“The dream of the all-CFD F1 car died as Virgin and Wirth Research went their separate ways”



## The windtunnel-free team was all at sea and finished last

**T**he dream of the all-CFD F1 car died as Virgin and Wirth Research went their separate ways part-way through 2011 in the wake of the poor pace of the MVR-02. Cosworth-powered with uprated Xtrac gearbox and hydraulics, the car was way more reliable than its predecessor - but even less competitive. Not only was it further adrift of the front, but the gap to Q2 qualification had also widened. The company's investors Marussia agreed with team boss John Booth that Wirth

should be bought out and an alternative, limited-budget route be found. Timo Glock and rookie Jerome d'Ambrosio pushed as hard as they could. The Belgian averaged around 0.5s off the quick and experienced Glock, which exceeded expectations, and he scored the team's best result - 14th - in Australia. The car drastically lacked aero grip but had no particular vices. Although fitted with an exhaust layout to run a blown diffuser, it was never used as the team's CFD could not replicate the airflow. For next year the race team and design/build facility will be under the same roof. A technical co-operation with McLaren will allow access to a proper windtunnel and former Renault technical chief Pat Symonds has put together an expanded design team.

**12th**  
Championship position

**14th**  
Best finish

**0**  
Podiums

**19th**  
Best grid slot

**0**  
Fastest laps

Jerome D'AMBROSIO (B)



Championship position	Starts	19
	Best finish	14th
	Best grid slot	20th
	Fastest laps	0
	Points	0
	2010 position	n/a

**24<sup>th</sup>**

Timo GLOCK (D)



Championship position	Starts	19
	Best finish	15th
	Best grid slot	19th
	Fastest laps	0
	Points	0
	2010 position	25th

**25<sup>th</sup>**



D'Ambrosio did not disgrace himself



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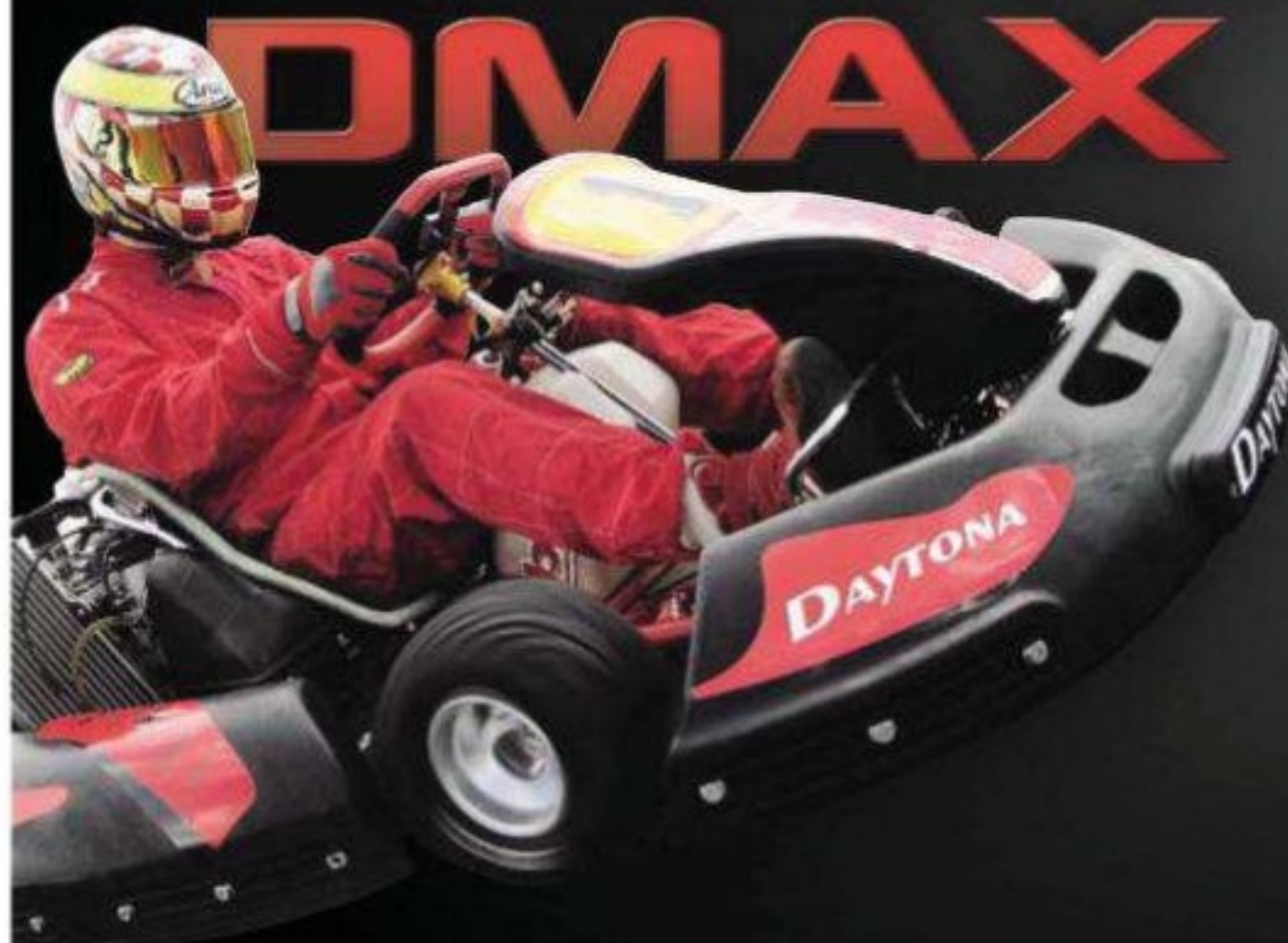


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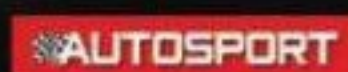
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4	20th May	Lydd, Kent	Clubman
5	17th June	Whilton Mill, Northants	National Circuit
6	8th July	Daytona Milton Keynes	International Extra
7	19th August	PF International, Lincs	Extended Circuit
8	16th September	Daytona Milton Keynes	International
9	21st October	Rye House, Herts	Raceway Circuit
10	18th November	Daytona Sandown Park	Alternate

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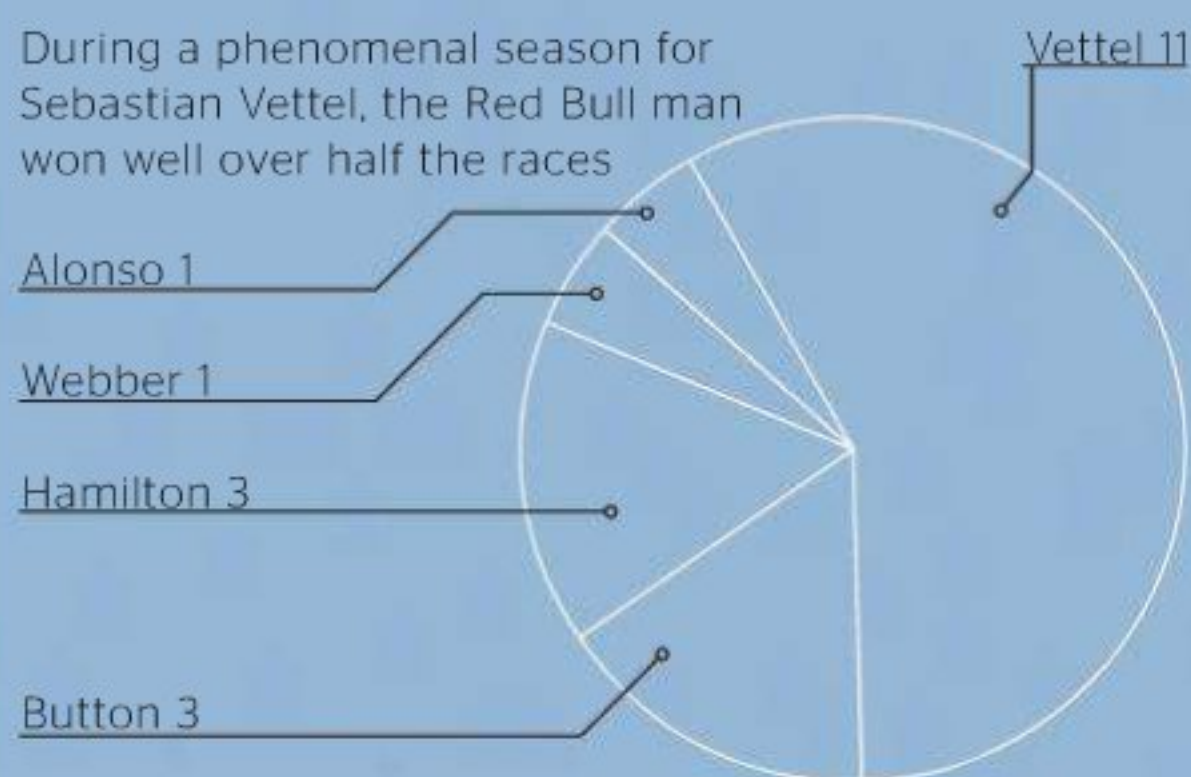


# The season in statistics

The Formula 1 World Championship is a stat man's dream, with reams of data produced throughout the season. *ANDREW VAN DE BURGT* selects the best bits

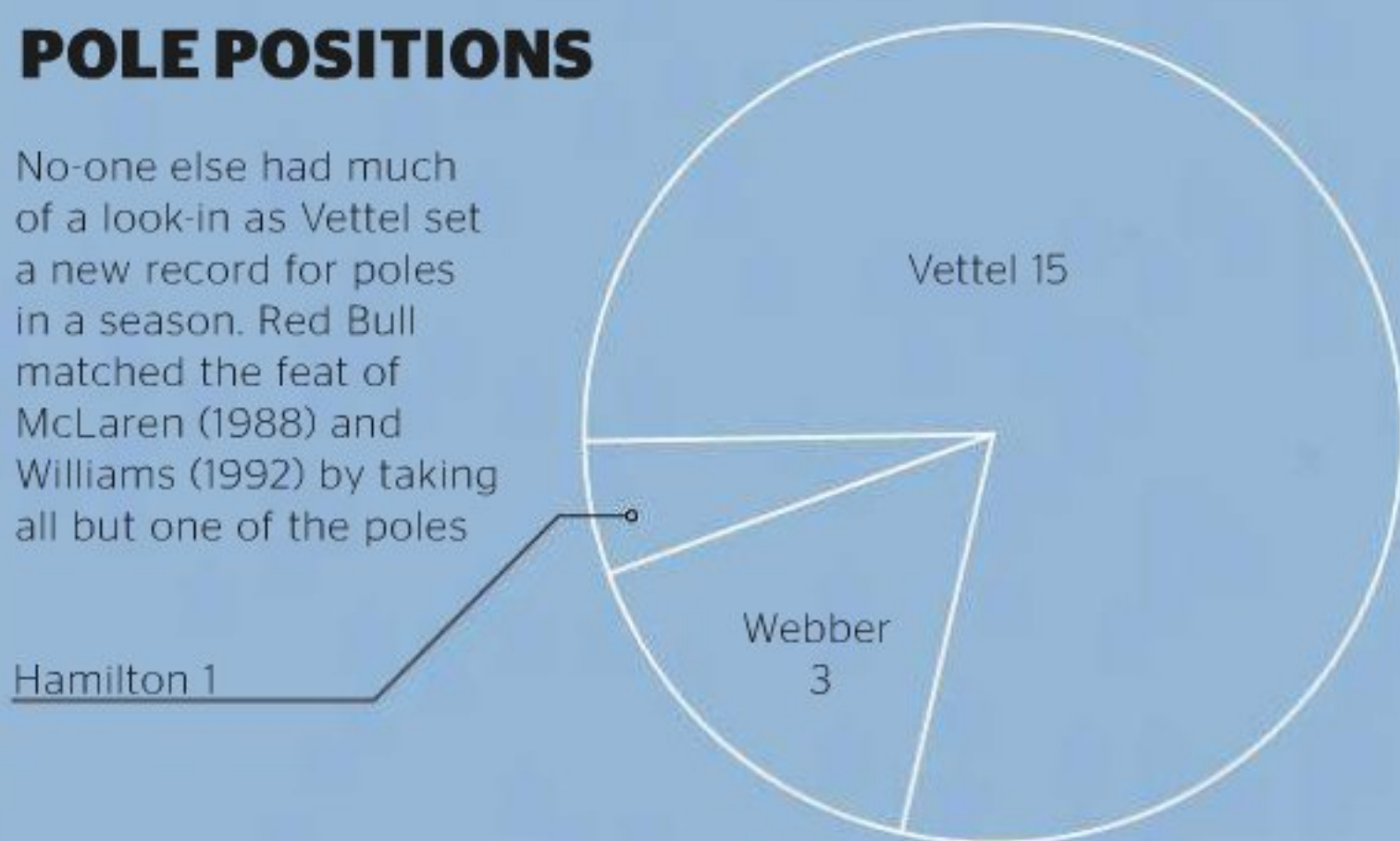
## RACE WINS

During a phenomenal season for Sebastian Vettel, the Red Bull man won well over half the races



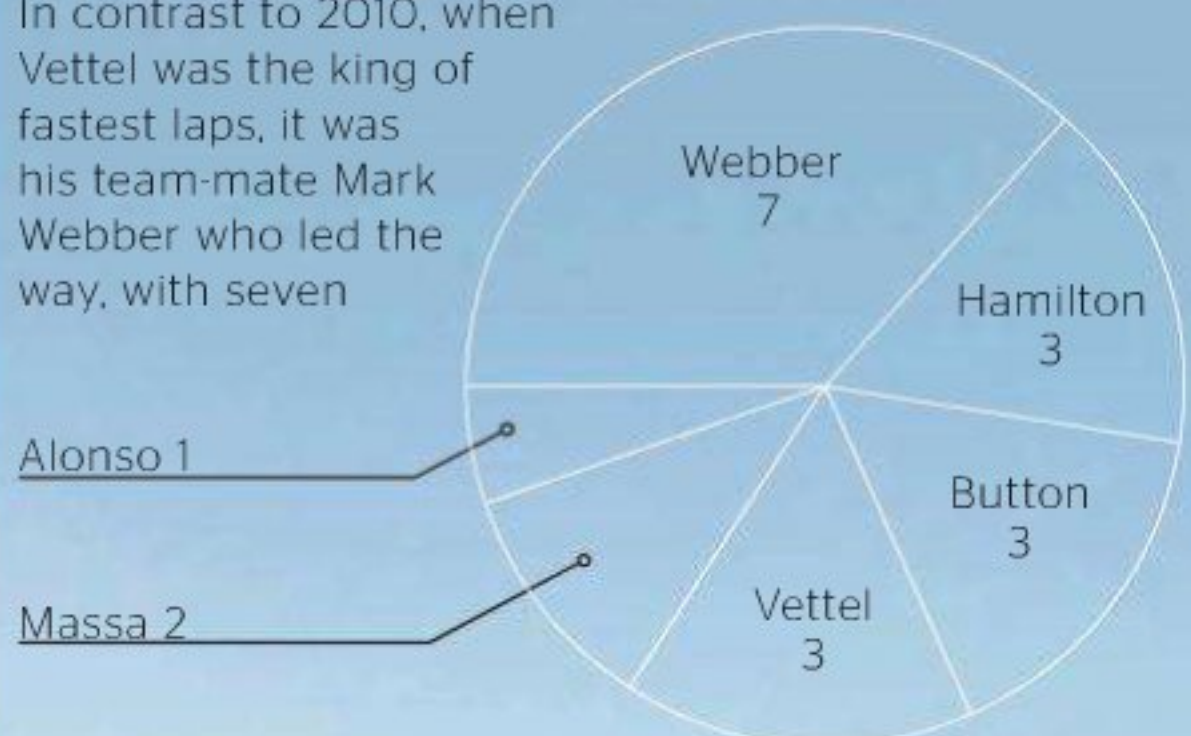
## POLE POSITIONS

No-one else had much of a look-in as Vettel set a new record for poles in a season. Red Bull matched the feat of McLaren (1988) and Williams (1992) by taking all but one of the poles



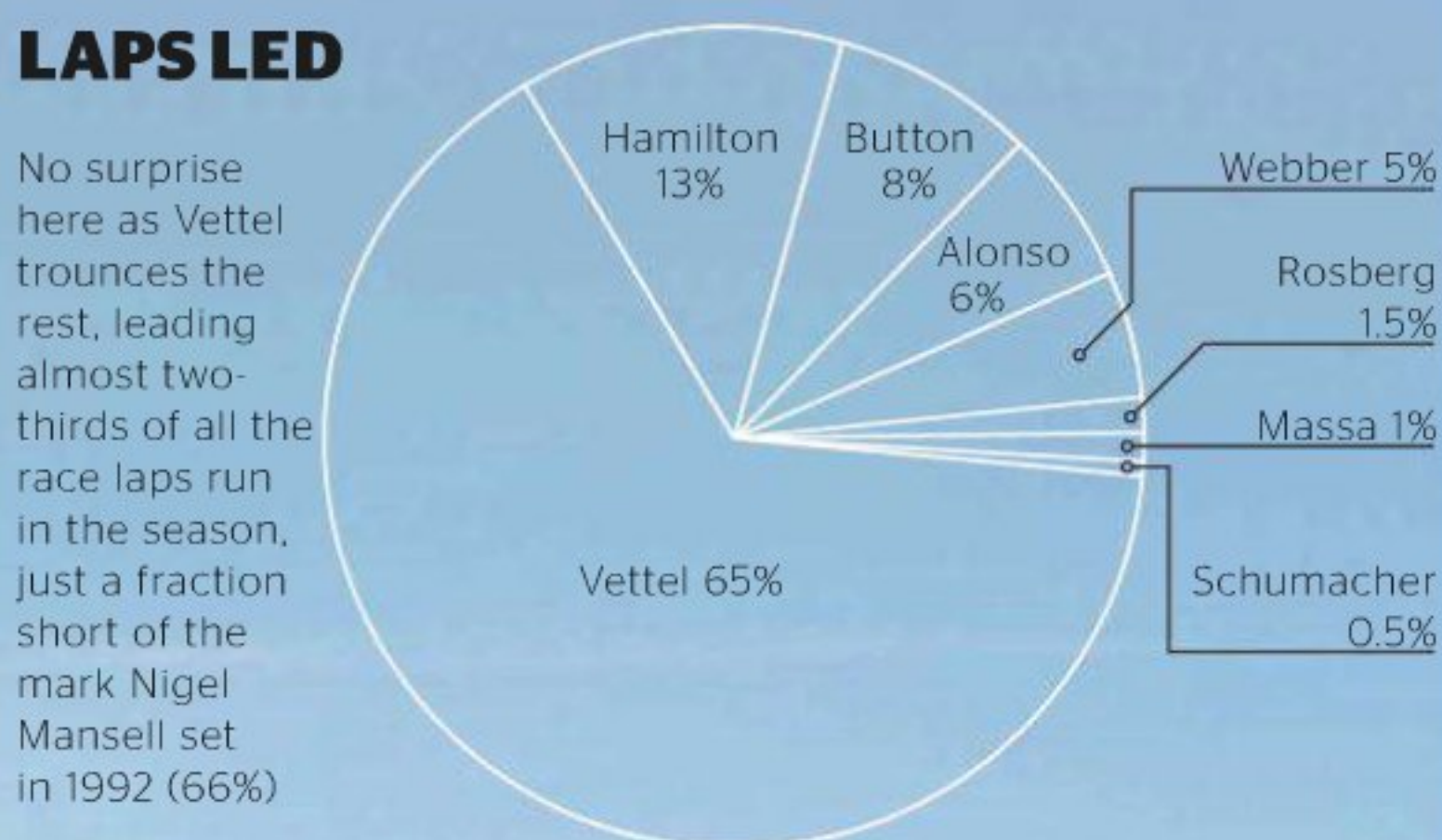
## FASTEST LAPS

In contrast to 2010, when Vettel was the king of fastest laps, it was his team-mate Mark Webber who led the way, with seven



## LAPS LED

No surprise here as Vettel trounces the rest, leading almost two-thirds of all the race laps run in the season, just a fraction short of the mark Nigel Mansell set in 1992 (66%)





## 2011 SEASON REVIEW

QUALIFYING  
HEAD TO HEAD

Sebastian Vettel and Nico Rosberg come out on top, outqualifying their team-mates 16 out of 19. Force India duo Adrian Sutil and Paul di Resta were the most evenly matched, with Sutil gaining bragging rights by qualifying ahead in the season finale in Brazil.

EDD STRAW'S  
DRIVER RATINGS

For every race weekend, AUTOSPORT's F1 editor Edd Straw marks the drivers out of 10. Here are how his average scores look for the 2011 season

1. Pedro de la Rosa*	9
2. Sebastian Vettel	8.8
3. Fernando Alonso	8.5
4. Jenson Button	8
5. Lewis Hamilton	7.3
6. Paul di Resta	7.3
7. Nico Rosberg	7.2
8. Adrian Sutil	7.1
9. Heikki Kovalainen	7
10. Michael Schumacher	6.9
= Sebastien Buemi	6.9
12. Mark Webber	6.7
= Daniel Ricciardo	6.7
= Sergio Perez	6.7
= Kamui Kobayashi	6.7
16. Jaime Alguersuari	6.6
= Timo Glock	6.6
18. Rubens Barrichello	6.3
19. Vitaly Petrov	6.2
20. Bruno Senna	6.1
= Narain Karthikeyan	6.1
= Pastor Maldonado	6.1
= Jerome d'Ambrosio	6.1
24. Tonio Liuzzi	6.0
25. Karun Chandhok	6.0
26. Felipe Massa	5.8
= Jarno Trulli	5.8
28. Nick Heidfeld	5.7

\*De la Rosa only contested one race - in Canada - so his score is unrepresentative

## RELIABILITY WAR

With long-life engines and gearboxes, F1 cars have never been more reliable. But this puts even greater pressure on reducing the number of failures. Only twice did a Red Bull fail to finish, and neither time due to a technical glitch. In contrast, Williams and Lotus suffered nine retirements, and most of these were due to mechanical problems.



## FINAL STANDINGS - Points and positions

POS	DRIVER	PTS	AUS	MAL	PRC	TR	E	MC	CON	EU	GB	D	H	B	I	SGP	J	ROK	IND	UAE	BR
1	VETTEL	392	1st	1st	2nd	1st	1st	1st	2nd	1st	2nd	4th	2nd	1st	1st	1st	3rd	1st	1st	ret	2nd
2	BUTTON	270	6th	2nd	4th	6th	3rd	3rd	1st	6th	ret	ret	1st	3rd	2nd	2nd	1st	4th	2nd	3rd	3rd
3	WEBBER	258	5th	4th	3rd	2nd	4th	4th	3rd	3rd	3rd	3rd	5th	2nd	ret	3rd	4th	3rd	4th	4th	1st
4	ALONSO	257	4th	6th	7th	3rd	5th	2nd	ret	2nd	1st	2nd	3rd	4th	3rd	4th	2nd	5th	3rd	2nd	4th
5	HAMILTON	227	2nd	8th	1st	4th	2nd	6th	ret	4th	4th	1st	4th	ret	4th	5th	5th	2nd	7th	1st	ret
6	MASSA	118	7th	5th	6th	11th	ret	ret	6th	5th	5th	5th	6th	8th	6th	9th	7th	6th	ret	5th	5th
7	ROSBERG	89	ret	12th	5th	5th	7th	11th	11th	7th	6th	7th	9th	6th	ret	7th	10th	8th	6th	6th	7th
8	SCHUMACHER	76	ret	9th	8th	12th	6th	ret	4th	17th	9th	8th	ret	5th	5th	ret	6th	ret	5th	7th	15th
9	SUTIL	42	9th	11th	15th	13th	13th	7th	ret	9th	11th	6th	14th	7th	ret	8th	11th	11th	9th	8th	6th
10	PETROV	37	3rd	17th	9th	8th	11th	ret	5th	15th	12th	10th	12th	9th	ret	17th	9th	ret	11th	13th	10th
11	HEIDFELD	34	12th	3rd	12th	7th	8th	8th	ret	10th	8th	ret	ret	-	-	-	-	-	-	-	-
12	KOBAYASHI	30	dsq	7th	10th	10th	10th	5th	7th	16th	ret	9th	11th	12th	ret	14th	13th	16th	ret	10th	9th
13	DI RESTA	27	10th	10th	11th	ret	12th	12th	ret	14th	15th	13th	7th	11th	8th	6th	12th	10th	13th	9th	8th
14	ALGUERSUARI	26	11th	11th	ret	16th	16th	ret	8th	8th	10th	12th	10th	ret	7th	21st	15th	7th	8th	15th	11th
15	BUEMI	15	8th	13th	14th	9th	14th	10th	10th	13th	ret	15th	8th	ret	10th	12th	ret	9th	ret	ret	12th
16	PEREZ	14	dsq	ret	17th	14th	9th	ns	ns	11th	7th	11th	15th	ret	ret	10th	8th	12th	10th	11th	13th
17	BARRICHELLO	4	ret	ret	13th	15th	17th	9th	9th	12th	13th	ret	13th	16th	12th	13th	17th	13th	15th	12th	14th
18	SENN	2	-	-	-	-	-	-	-	-	-	-	-	13th	9th	15th	16th	14th	12th	16th	17th
19	MALDONADO	1	ret	ret	18th	17th	15th	18th	ret	18th	14th	14th	16th	10th	11th	11th	14th	ret	ret	14th	ret
20	DE LA ROSA	0	-	-	-	-	-	-	12th	-	-	-	-	-	-	-	-	-	-	-	-
21	TRULLI	0	13th	ret	19th	18th	18th	13th	16th	20th	ret	-	ret	14th	14th	ret	19th	17th	19th	18th	18th
22	KOVALAINEN	0	ret	15th	16th	19th	ret	14th	ret	19th	ret	16th	ret	15th	13th	16th	18th	15th	14th	17th	16th
23	LIUZZI	0	dnq	ret	22nd	22nd	ret	16th	13th	23rd	18th	ret	20th	19th	ret	20th	23rd	21st	-	20th	ret
24	D'AMBROSIO	0	14th	ret	20th	20th	20th	15th	14th	22nd	17th	15th	19th	17th	ret	18th	21st	20th	16th	ret	19th
25	GLOCK	0	nc	16th	21st	dns	19th	ret	15th	21st	16th	17th	17th	18th	15th	ret	20th	18th	ret	19th	ret
26	KARTHIKEYAN	0	dnq	ret	23rd	21st	21st	17th	17th	24th	-	-	-	-	-	-	-	-	17th	-	-
27	RICCIARDO	0	-	-	-	-	-	-	-	-	19th	19th	18th	ret	nc	19th	22nd	19th	18th	ret	20th
28	CHANDHOK	0	-	-	-	-	-	-	-	-	-	20th	-	-	-	-	-	-	-	-	-



## David Higgins is King of the Hill

On June 27, David Higgins unleashed his Subaru STI up the 7.6-mile Mt. Washington Auto Road reaching the 6,288-foot summit and setting a new course record.



*Confidence in Motion*

1998 Record

~~06:41.99~~

New 2011 Record

**06:11.54**

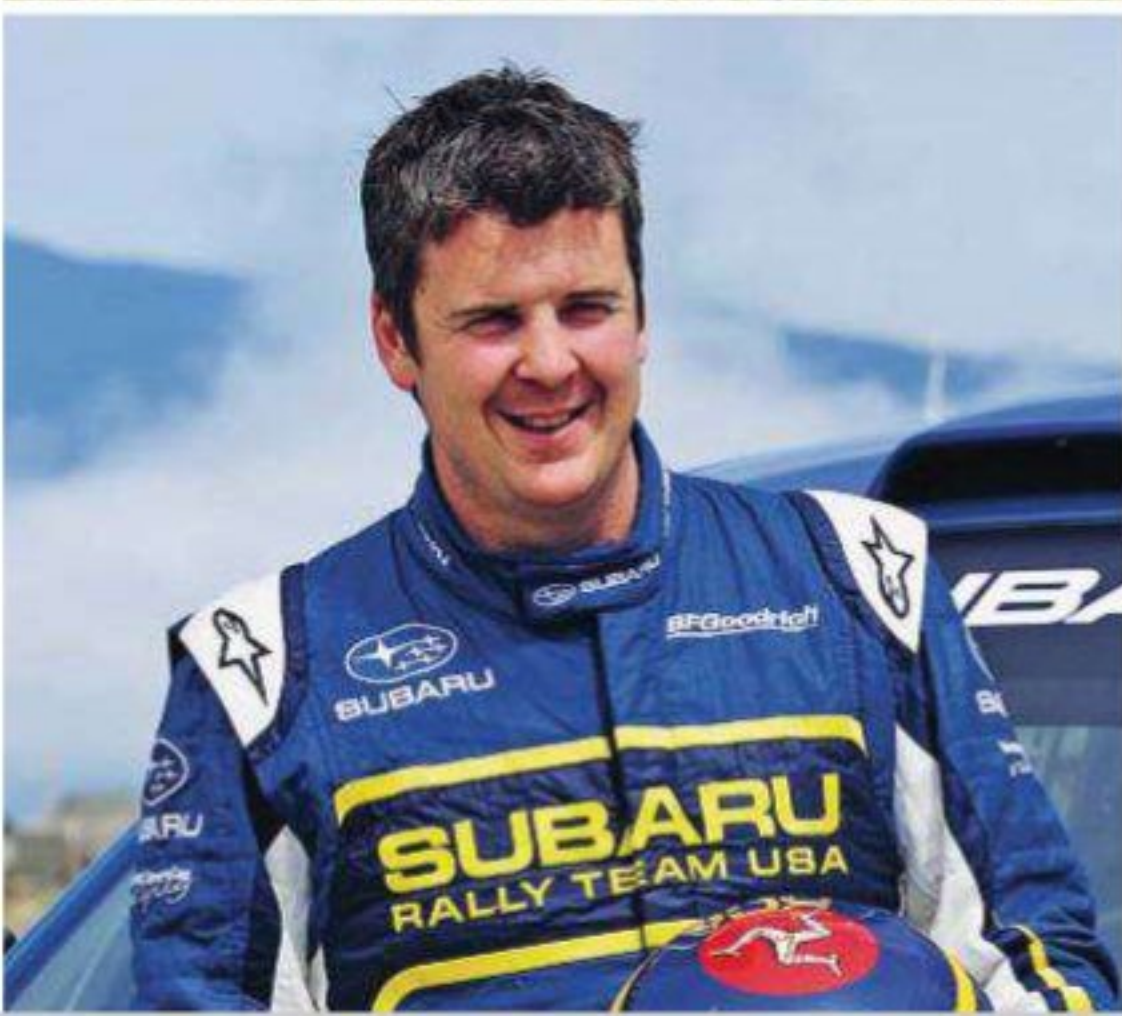
**-30.45**





# SUBARU

## RALLY TEAM USA



## 75 David Higgins

Trefeglwys, Powys, Wales, UK  
2011 SUBARU STI

Subaru Rally Team USA's David Higgins and co-driver Craig Drew logged a dramatic season while piloting their 2011 Subaru STI across the United States. The duo secured the 2011 Rally America National Championship after racking up three event wins and five podium finishes in six events. David Higgins also set a new course record at the legendary Mt. Washington 'Climb to the Clouds' Hillclimb, and raced to podium finishes at his inaugural runs in both X Games 17 and the Global RallyCross Championship. 2012 brings a host of new challenges and SRT USA will be ready!

- 2011, 2003, 2002 U.S. National Rally Champion
- X Games 17 Medalist
- Current record-holder at Mt. Washington Hillclimb
- 2004 British Rally Champion
- 2002, 1999, 1997 British Group N Rally Champion

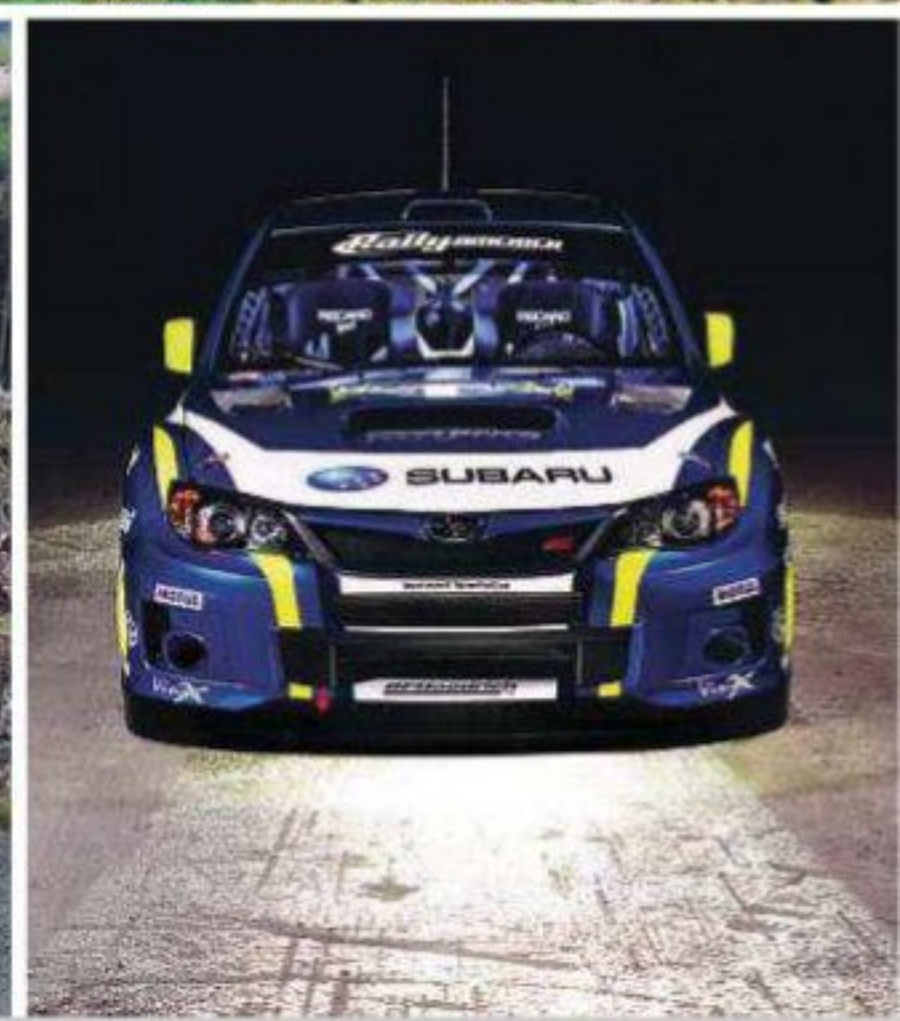
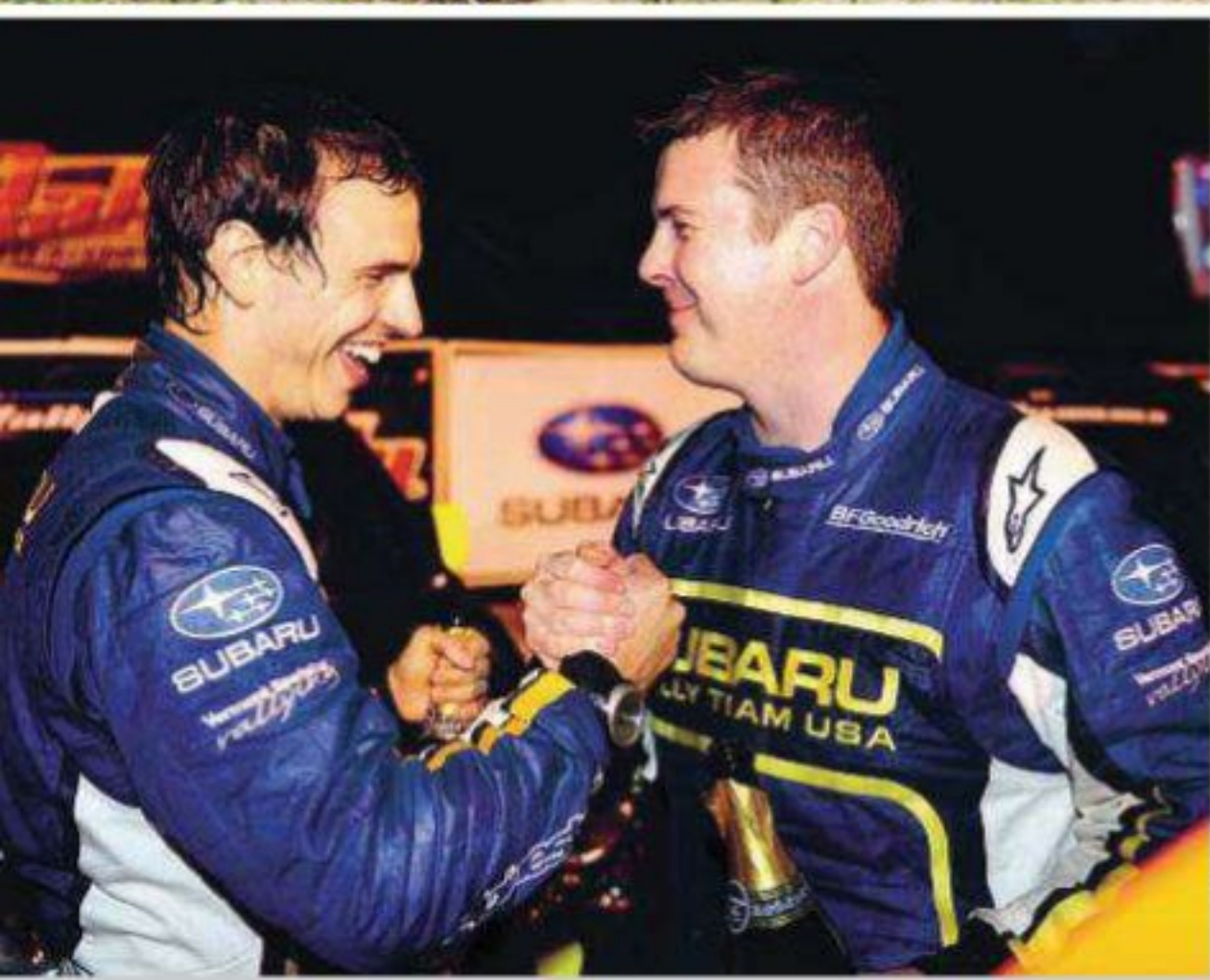


# 2011 Rally America National Champions

Congratulations David & Craig!



Photography: Lars Gänge - [subaru.com/rally](http://subaru.com/rally)







**SUBARU.**

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# 40 Dave Mirra

Greenville, North Carolina, USA  
2011 SUBARU STI

- All-time highest X Games medal count with an unsurpassed 14 Gold and 24 total
- Pioneer athlete in BMX Freestyle
- 2 Rally America podiums in 2011
- First-ever BMX Double Backflip in competition





# FESTIVE FEVER 2011

Win 2012 British Grand Prix tickets in *HENRY HOPE-FROST's* fiendish Christmas quiz

## A Only the lonely

Unravel the mysteries of these one-off winners/results

- |  |  |  |
|--|--|--|
| <p><b>1</b> Where and when did Mika Hakkinen win an Italian F3 round?</p> <p>.....</p>                                 | <p>Championship for Manufacturers rally win?</p> <p>.....</p>  | <p>championship F1 grand prix race-winning car.</p> <p>.....</p>   |
| <p><b>2</b> Which two drivers gave Panoz its only European Le Mans Series victory?</p> <p>.....</p>                    | <p><b>5</b> For which marque did Johnny Herbert score his only Superstars touring car series win?</p> <p>.....</p>             | <p><b>8</b> Who's the only American to have won a British Touring Car Championship race outright?</p> <p>.....</p> |
| <p><b>3</b> Who was the only driver to beat Sebastian Vettel during the 2004 Formula BMW ADAC season?</p> <p>.....</p> | <p><b>6</b> Who is the only driver to have taken fastest time at the Brighton Speed Trials on five occasions?</p> <p>.....</p> | <p><b>9</b> Who, and in which event and when, gave Nissan its only WRC win?</p> <p>.....</p>                       |
| <p><b>4</b> Where and when did Citroen take its only International</p>   | <p><b>7</b> Name the only time a three-figure number has adorned a world</p>   | <p><b>10</b> Where, when and with which driver did Minardi score its only European Formula 2 win?</p>              |

## B The missing link

Spot a theme and fill in the blanks

- |  |  |
|--|--|
| <p><b>1</b> Bailey, Coulthard, Davies, Donnelly, Herbert, Irvine, McNish and -----.</p>                | <p><b>7</b> Frank Biela, Tom Kristensen, Laurent Aiello, Dindo Capello, Michele Alboreto, Johnny Herbert, -----, Philipp Peter, Marco Werner, Pierre Kaffer, Allan McNish, JJ Lehto, Emanuele Pirro.</p> |
| <p><b>2</b> Hulme, McLaren, Donohue, -----, Gurney, Gethin, Revson, Cevert.</p>                        | <p><b>8</b> Ivory Coast 1987, -----, Sweden 1995, Australia 1995, Sweden 1997, New Zealand 1997.</p>   |
| <p><b>3</b> -----, Sweden 1980, Monte Carlo 1982, Ivory Coast 1982, Safari 1983, New Zealand 1988.</p> | <p><b>9</b> Dario Franchitti, Martin O'Connell, Ralph Firman, Peter Dumbreck, Marc Hynes, -----, Doug Bell, Antonio Pizzonia.</p>  |
| <p><b>4</b> Corner, Williams, Hales, Fisker, Pirro, -----, Barazi, Vergers, Newey, Rahal.</p>          | <p><b>10</b> --, '54, '58, '60, '61, '62, '63, '64, '65.</p>   |
| <p><b>5</b> Michel Vial, Michel Gamet, -----, Jean-Claude Lefebvre.</p>                                |  |
| <p><b>6</b> Jarier, Giroix, Collard, Malcher, Bouchut, Dupuy, -----, Estre.</p>                        |  |

## D 2011 and all that

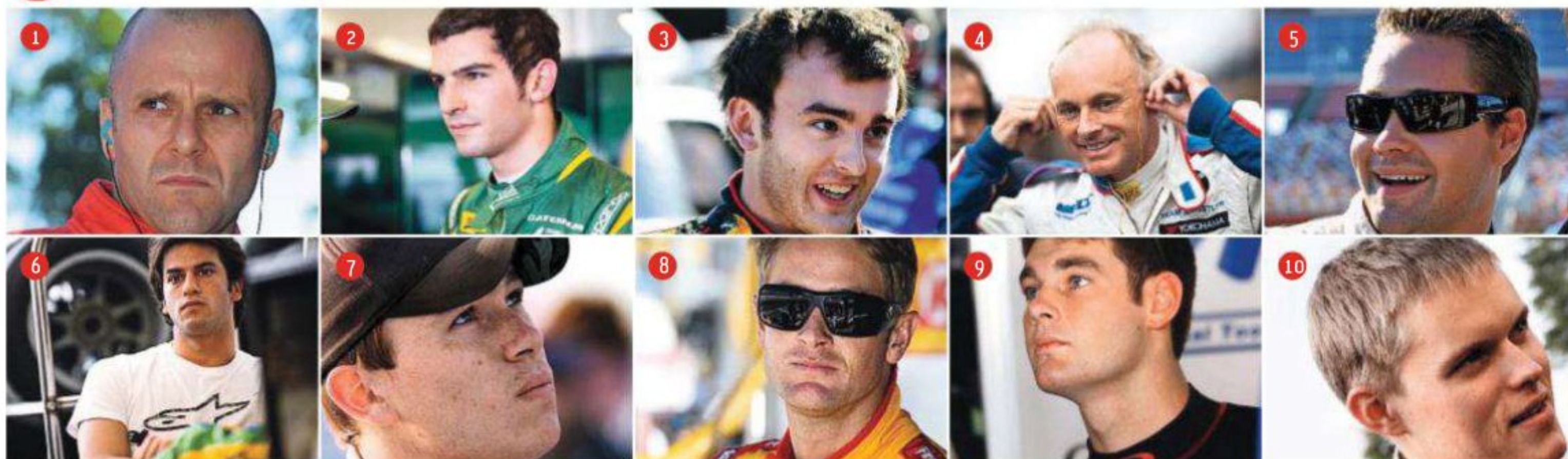
Name the drivers, cars and events – all from the season past



## C Winners' gallery

Can you put a name to the 10 personalities below who all won races, rallies or championships during 2011?

**P104 QUIZ CONTINUES**





## CHRISTMAS QUIZ

### WIN BRITISH GP TICKETS



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Five runners-up will receive copies of the official 2011 BTCC, Le Mans 24 Hours and WRC DVDs, courtesy of Duke. For more info check out [www.dukevideo.co.uk](http://www.dukevideo.co.uk)



**E Formula 1 retro** Can you identify these obscure F1 racers from the 1960s, '70s and '80s? Clue: they managed 100 race starts between them



**F Who, what, where, when?** Usual rules apply: who's pedalling what, at which venue and in which year? The more you tell him, the more impressed Henry will be!



**Send your answers to the 60 questions, clearly numbered by section, on a separate sheet of paper to the address on the right by Thursday January 12, 2012**

Remember: in the event of a tie-break an answer deemed to be the most detailed will be adjudged the winner.

**Your details – must be completed**  
(Block capitals please)

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Surname: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

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Seasons Greetings to all our readers and looking forward to seeing you in January for the Autosport Show!




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Looking forward to



Merry Christmas!




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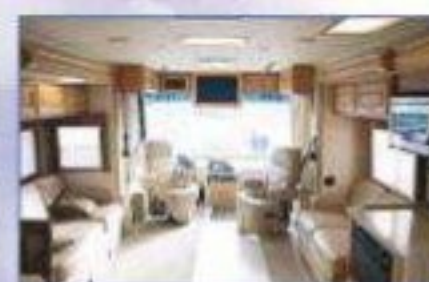
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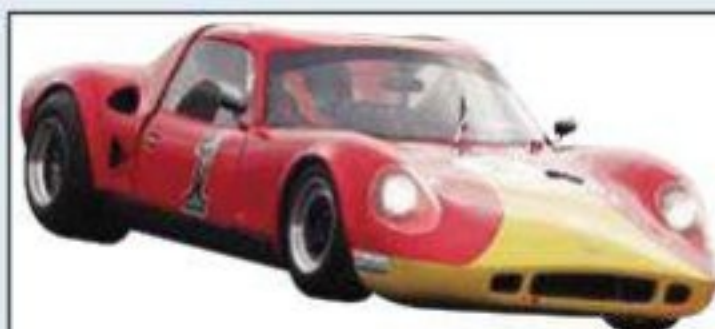


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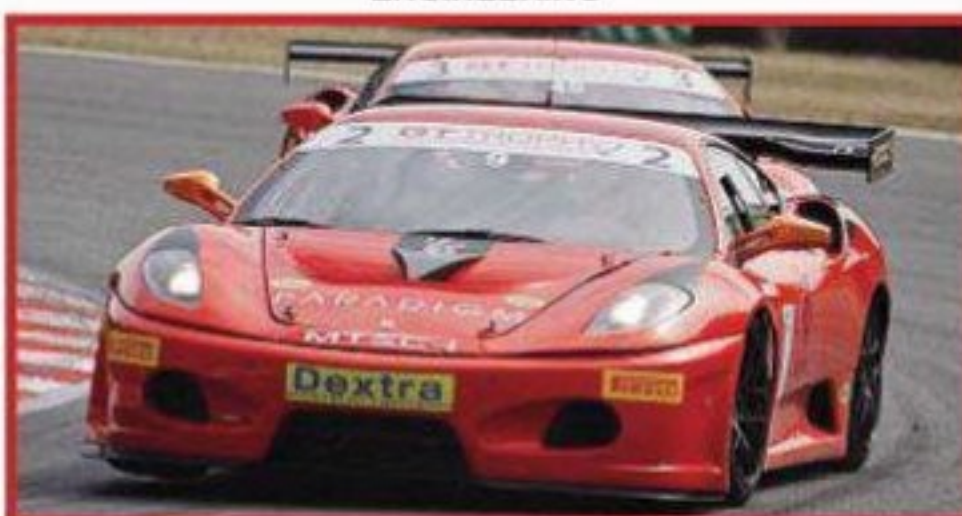
## RACING CARS



#### 2009 Scuderia GT3

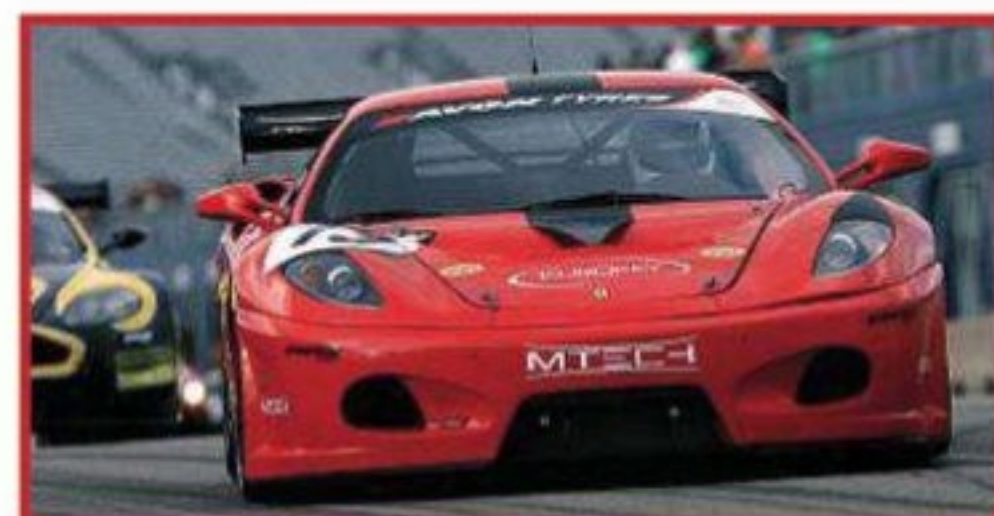
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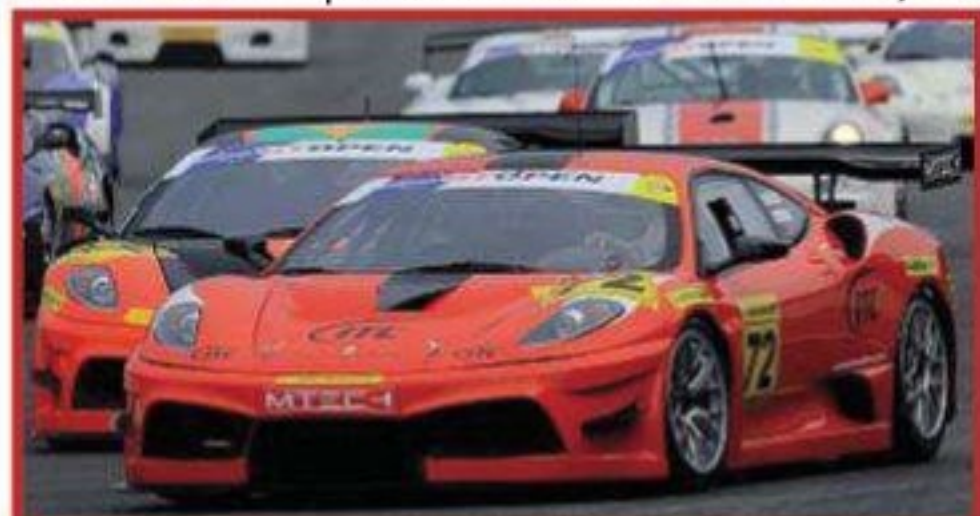
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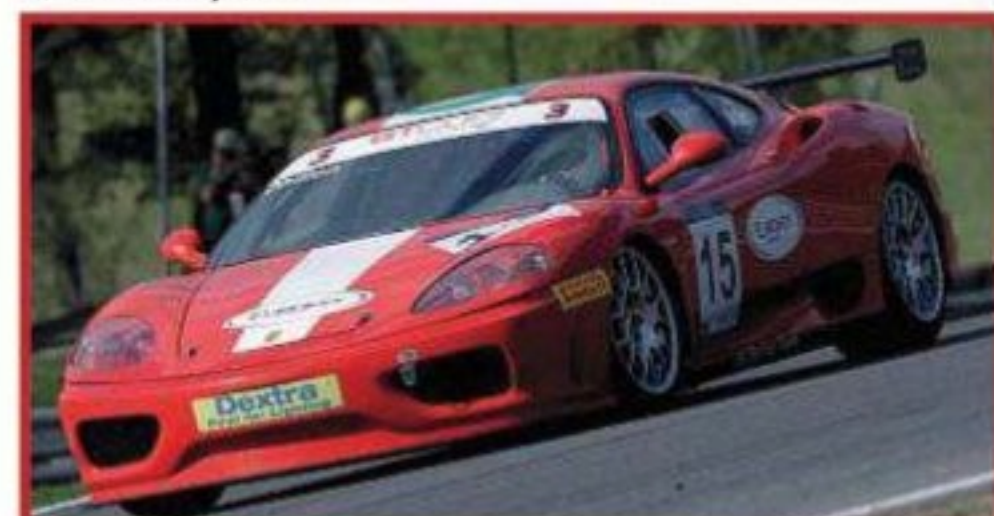
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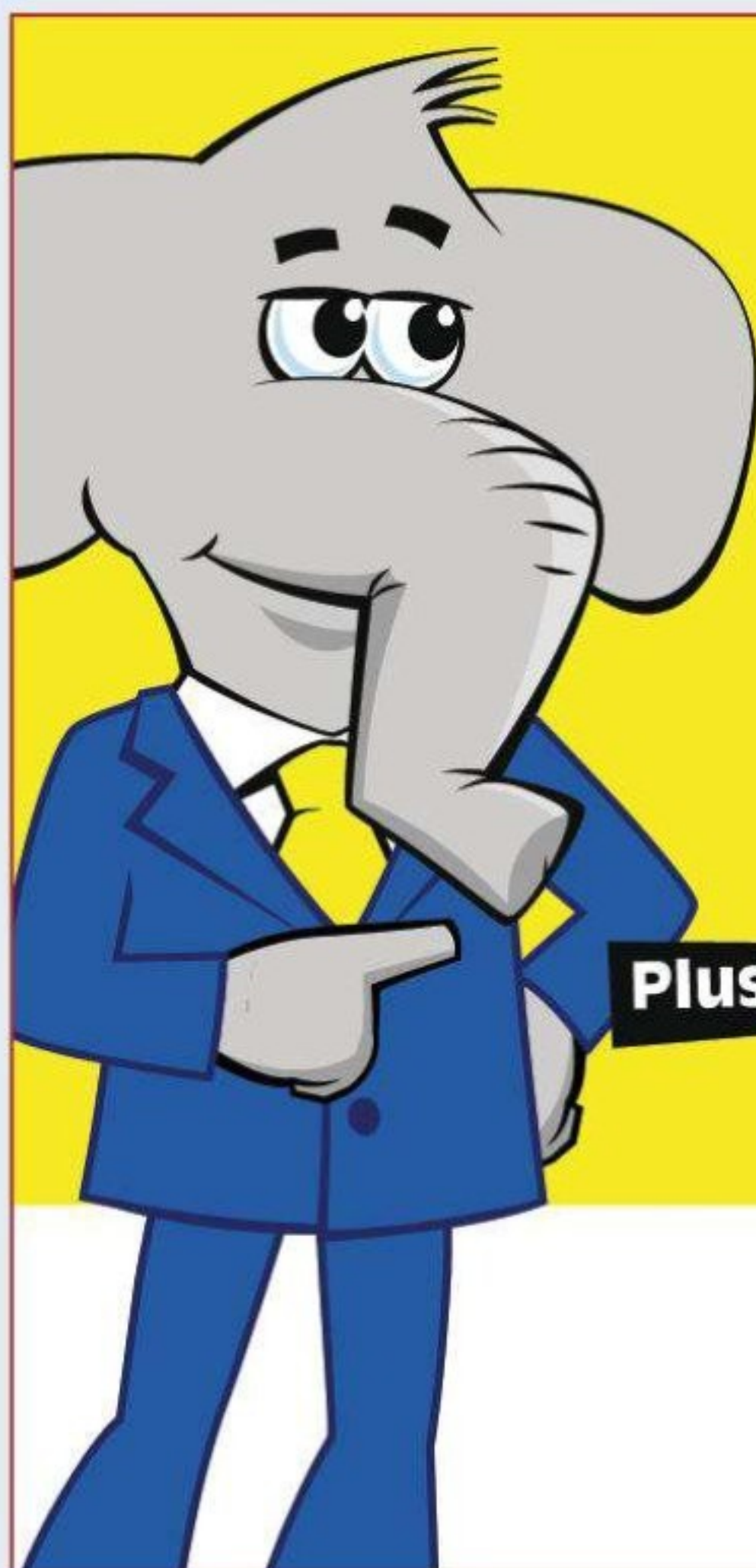
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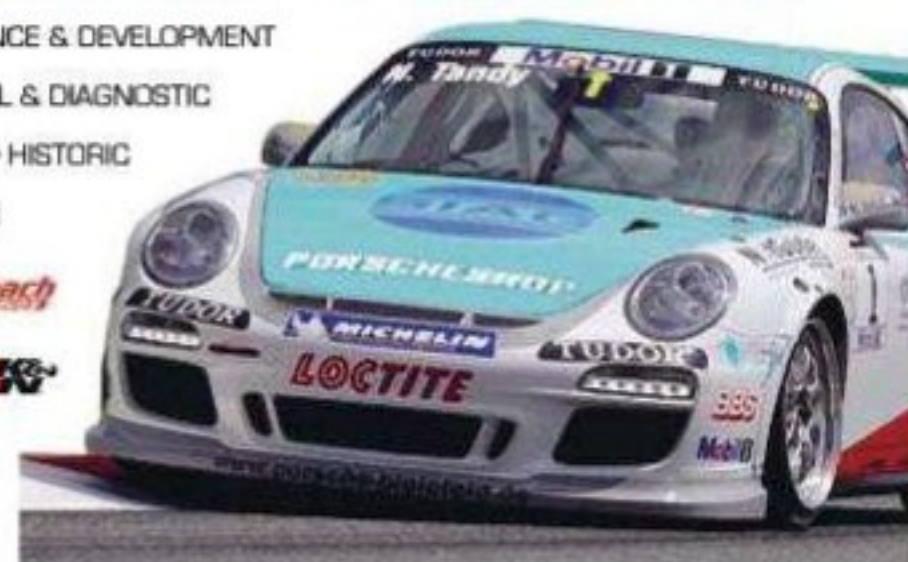
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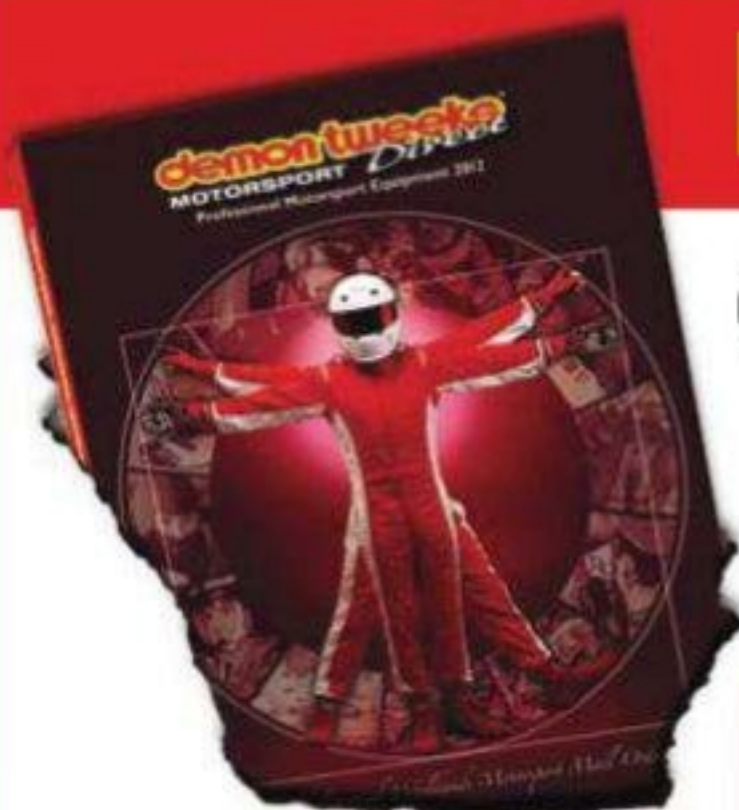
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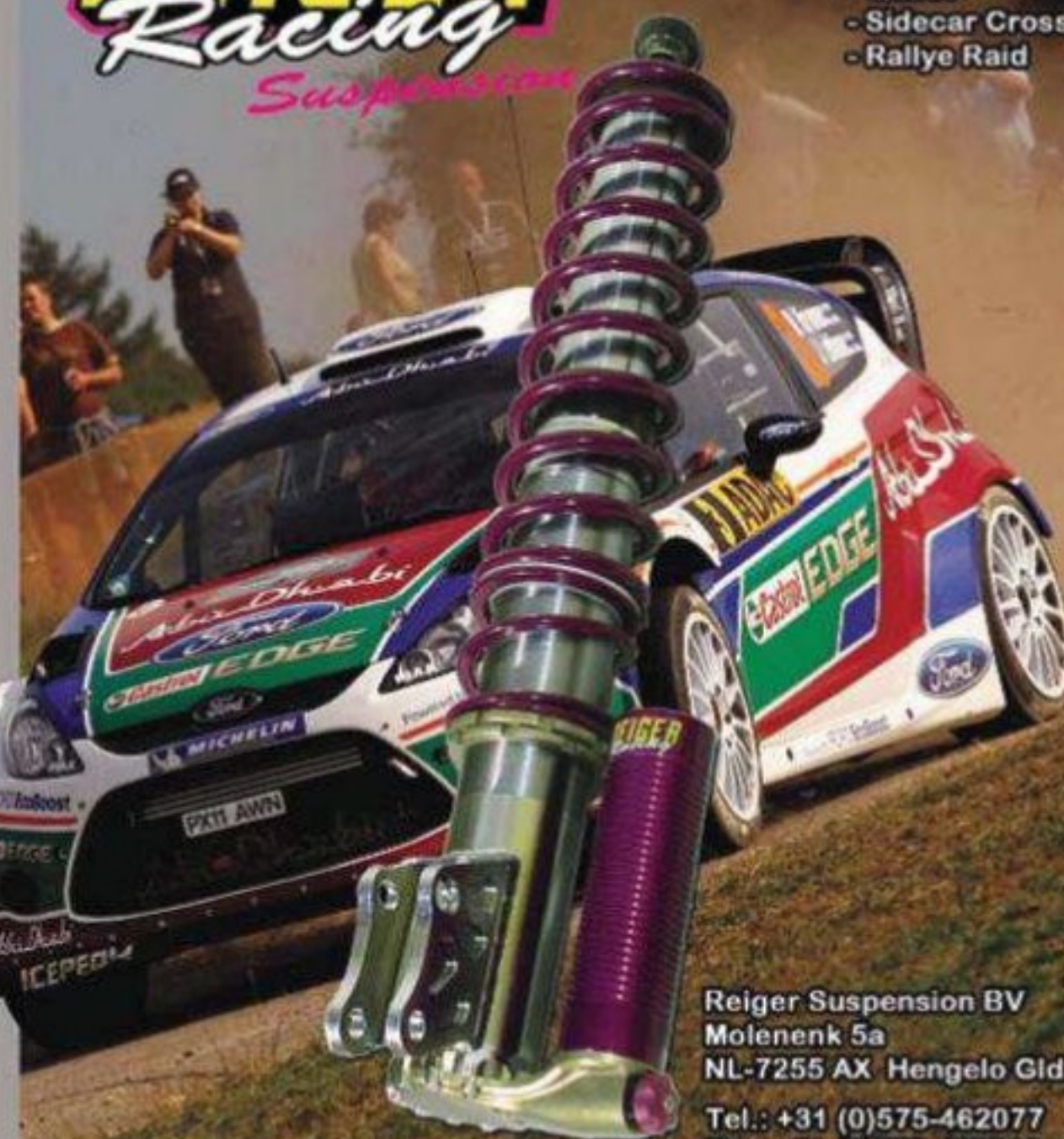
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APPOINTMENTS



# APPOINTMENTS



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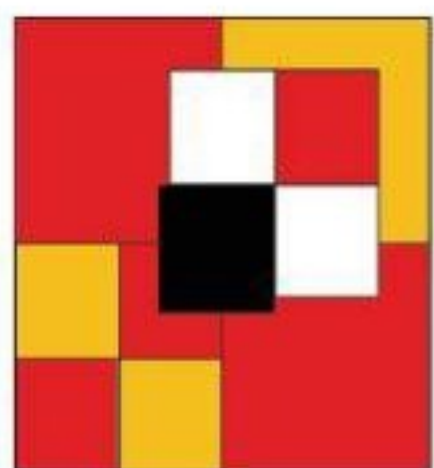
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The ideal candidate will have been involved in rigging at events and have a current clean LGV Class 1 licence. Knowledge of electrical & AV systems / equipment and experience in the transport/promotions field would be an advantage.

Please reply in writing, enclosing current CV to:  
Procar International Ltd., Unit B, 201 Long Lane, Stanwell, Middlesex TW19 7AU.

Or email your CV to [kathy.rogers@procar.co.uk](mailto:kathy.rogers@procar.co.uk)

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## And here are the views of some of our satisfied clients:

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The department maintains and repairs our fleet of driving experience vehicles which includes a variety of saloon cars, supercars and single seaters.

The successful candidate must have a minimum of 2 years experience of maintaining single seater race cars, either within the same industry or as part of a race team.

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As part of the ongoing expansion of our aerodynamic development program, using the Williams Grand Prix Customer Wind Tunnel Facility in Grove, Caterham F1 have several exciting opportunities within our Aerodynamics Department:

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## Senior Operations Engineer

Working to support our Race Team, you will be responsible for the factory based race operations support during the season.

Reporting to the Chief Operations Engineer, you will be responsible for preparation of event simulations including driver in the loop simulator sessions, correlation, driver evaluation and 'what-if' studies. Close liaison with Aerodynamics, Vehicle Dynamics, R&D and the Design Office is essential.

Possessing an upper-second or first class degree in mechanical engineering (or equivalent), you will have to demonstrate significant Formula One experience in race engineering and/or vehicle dynamics, ideally within a driver in the loop simulator environment. You will be a strong team member with good communication skills, diplomacy and tenacity, who has the confidence to make quick decisions under tight deadlines. Commitment and flexibility are essential for this role, as you will be required to support all track events, albeit primarily from our UK factory base.

## Support Team/PR Mechanic

We require an experienced mechanic to support the Company's PR and test events, as well as attend some race events to provide cover, as and when required. You will primarily be responsible for the preparation, assembly and running of our show cars both in the factory and at locations around the world, ensuring they are presented to the highest standards.

To succeed in this role it is essential that you are an excellent technical problem-solver under pressure and a team player, with a strong mechanical background in Formula One or another motorsport environment. Experience of working with historic cars would be an advantage. You should be self-motivated and prepared to travel, with a flexible approach to your work.

## Sub Assembly Technician – Temporary Contract

We have an opening for a Temporary Technician with significant experience of working on gearboxes and drivetrain systems, gained within a Formula One, WRC, sports car, or similar environment. You will be a highly motivated individual with a 'can do' attitude, and able to work under pressure to exacting standards and deadlines, with minimal supervision. A good working knowledge of Microsoft Excel is desirable, as is flexibility in hours and approach.

This position will be for approximately 2-3 month's duration, commencing in January 2012.

To apply, please visit our website at [Williamsf1.com](http://Williamsf1.com) and select the Recruitment option under the Team heading.

Closing date: Friday 30 December 2011.



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As part of a large expansion of the Aerodynamic Design Group, we are looking for talented Aerodynamicists, Engineers and Designers to contribute to the Team's continued ambitions of moving up the grid.

#### **AERODYNAMIC CAR PROJECT LEADER(s)**

This is a high level position within the Aerodynamics Department and covers two aspects through a car design life-cycle. The first aspect is as aerodynamic project leader for future car development. This covers all aspects of the start-up of a new car aerodynamic program and will include early involvement in the architectural definition of the car within a multi-disciplinary design team; to ensure that any regulation changes are incorporated and that existing aerodynamic philosophies are maintained and enhanced, as well as considering new aerodynamic concepts. The second is as main liaison between the aerodynamics group and the rest of the design organisation during the mainstream car development phase; to ensure that the flow of information with respect to the aerodynamic development program on the current car is smooth and efficient; and to ensure that aero deliverables to full size production are agreed and met. As well as a solid knowledge of F1 aerodynamic design, the successful candidate will have a proven track record of effective planning and management. You will be self-driven, and will be able to develop and maintain good working relationships within the team.

#### **LEAD CFD AERODYNAMICIST(s)**

As a key member of an aerodynamic design team you will be responsible for ensuring that the CFD based design activity is planned, effective and in-line with the global objectives of the aerodynamic development program. Working alongside the Aerodynamic Group Leader, you will be expected to have a key input in proposing new ideas, and to lead the development and progress of concepts to a point where they can be optimised in the wind tunnel. As well as a solid knowledge of F1 aerodynamic design and the use of CFD in the design process, the successful candidate will have a proven track record of effective planning and management of complex aerodynamic projects.

#### **CFD AERODYNAMICIST(s)**

As part of a design team within the aerodynamics group you will be responsible for the development of aerodynamic performance items for the racecar. Using CFD as your main tool, you will be expected to take a project from the initial concept through the Aerodynamic design-refine-optimisation loop, in order to deliver a well understood and working solution. You will also work closely with the Wind Tunnel Aerodynamicists to provide extra layers of analysis and understanding to the on-going wind tunnel based development program. Candidates should have a solid working experience of the latest CFD methods along with aerodynamic design experience in a high level motorsport environment.

#### **EXPERIMENTAL AERODYNAMICIST(s)**

As part of a design team within the aerodynamics group you will be responsible for the development of aerodynamic performance items for the racecar. You will be expected to take concepts from the senior aerodynamicists, create further designs, and propose wind tunnel test programs to explore, refine and optimise these concepts. You will liaise with the model designers and model shop, undertake test preparations, run wind tunnel programmes and analyse and report the results. Candidates should have previous experience in wind tunnel testing and aerodynamic design in a high level motorsport environment.

#### **AERODYNAMIC SURFACER(s)**

As a key part of an Aerodynamic Design team, you will work directly alongside the Aerodynamicists and Model Designers. This is very much an 'up stream' creative role which ensures you will be responsible for creating robust and clean parametric 3D surface models for use within our CFD and Wind Tunnel Aerodynamic development programs. Candidate(s) must have a proven track record in creating complex 3D CAD models (Catia V5 preferred), possess excellent communication skills, have a flair for 3D design and have a strong 'can do' attitude.

#### **AERODYNAMIC MODEL DESIGNER(s)**

As part of the Aerodynamic Design Group, you will work on the design and development of our 50% wind tunnel models. It is essential that candidates possess a Mechanical Design background coupled with strong CAD surfacing skills, preferably using Catia V5. A good understanding of mainstream manufacturing processes is also required, along with the ability to create engineering detailed drawings. Candidates will possess a recognised Mechanical Engineering qualification, and have ideally served a Mechanical Engineering Apprenticeship.

In all of these positions, the successful candidates should be able to demonstrate a creative approach to problem solving, and possess the ability to work through problems in a scientific and analytical way.

If you are interested in applying for any of the above positions, please email your CV with a covering letter including your salary expectations to: sarah.watson@forceindiaf1.com (closing date 23 December 2011). NO AGENCIES





# Sports Extra

NATIONAL RACING • HISTORICS • CLUB • RALLY • RALLYCROSS • HILLCLIMB



Wiltshire is aiming to get more Astons on track

## AMOC revival plan

Struggling club brings in new organiser to boost grids



### MOTOR RACING LEGENDS

founder Duncan Wiltshire will take charge of the Aston Martin Owners Club's competitions department next season as part of a major revamp of the way the club runs race meetings.

AMOC is seeking to revitalise interest following a dwindling of competitor support in recent seasons. The club was founded in 1935 and this is the first time its racing activities have been farmed out to an independent company, with the newly-formed Aston Martin Club Racing Ltd organisation taking over.

### CLUB REVIVAL

Wiltshire, an Aston Martin enthusiast who brought his experience with the Bentley Drivers Club into play when he founded the Motor Racing Legends organisation, hopes to reignite the spark of AMOC racing through his

Historic Promotions Ltd organisation.

"I am relishing the challenge, but it's not going to happen overnight," said Wiltshire, who has welcomed early Aston Martins to MRL's Pre-War Sportscar events, GT and sports-racers to its RAC Woodcote Trophy and Sir Stirling Moss Series, and a Group C AMR1 prototype to the Le Mans Legends races he promotes with the ACO at the 24 Hours.

"Aston Martin is an iconic brand with a fabulous heritage and, with its centenary just over the horizon in 2013, now is the perfect time to reinvigorate AMOC's racing, with opportunities for everything from historic models to the contemporary GT4 Challenge.

"We want to ensure that 2012 is the year the club's racing programmes start to regain energy, vitality and packed grids."

AMOC's 2012 season is expected to start at Silverstone on April 29, with

Oulton Park (mid-May), Brands Hatch (June 4 or 5), Donington (July 28) and Snetterton (October 6) also on the schedule. The long-established Intermarque championship will pitch Aston Martins against ACs, Austin-Healeys, Ferraris, Jaguars, Morgans and Sunbeams at each meeting.

### AMOC BREAKAWAY

Meanwhile, a breakaway group from the AMOC has formed a new club to organise a six-race calendar for 1950s sportscars in 2012.

The Fifties Sports Car Racing Club has been formed by many of the same people who were involved in the AMOC's discontinued 50s Team Challenge.

It has announced a series of races catering for sportscars and GTs of under four-litres engine capacity, built prior to 1960. There will be three classes based on the level of modification, with the emphasis being on period specifications.

Club chairman John Turner said: "We're endeavouring to get as close as possible to 1950s sportscar and GT grids, with few modifications. We've already got 40 to 50 cars registered and we're looking to get grids of 30 or more."

The inaugural season will kick off at the MG Car Club meeting at Brands Hatch in May, and will include MGLive at Silverstone and trips to Thruxton and Castle Combe.

"There'll be as much emphasis on team awards as on individual scratch results," added Turner.

### AUTOSPORT SAYS...

**KEVIN TURNER**  
FEATURES  
EDITOR

kevin.turner  
@haymarket.com



### THIS IS NOT THE ASTON MARTIN

Owners Club's first attempt at revitalising itself. At a similar time last year we wrote about the new Pre-'60 and Pre-'66 series, but they didn't have the desired effect.

The two grids usually had to run together and even then fields barely reached a dozen cars. The more-established Intermarque did better - starting with over 30 entries at Silverstone in April - but had a worrying downward trend during the season. The revamped Aston Martin-supported GT4 Challenge also failed to really take off.

Duncan Wiltshire therefore has a lot of work to do. Details of exactly what his plans are haven't become clear yet, but he has a good track record. MRL series are usually strong and it's a positive that AMOC has shown enough commitment to bring someone like Wiltshire on board.

The fact that a breakaway group has decided to do its own thing is a blow to AMOC, because they represent some of the competitors the club could have done with bringing back. But FISCAR, as it is calling itself, is already heading off in a different direction, and Wiltshire has a history of going for big events. It remains to be seen whether he can do enough to get AMOC back to the strong health it enjoyed in the 1980s and '90s.

● The last AUTOSPORT of 2011 will be a bit different. As part of a mammoth season review in the December 29 issue, Sports Extra will take a look back at the various title battles in the major clubs during the season. We hope you enjoy it and wish you a happy Christmas break.

### Extra contact details

**Ben Anderson**, national editor  
ben.anderson@haymarket.com



Breakaway club to run 1950s sportscar races

## CONTENTS

**p126** TOP 10s OF 2011  
RIVALRIES

**p127** TOP 10s OF 2011  
CARS





Formula Renault BARC

# CDR quits British Formula Ford

Cliff Dempsey to branch out into Formula Renault BARC with new young-driver scheme

Dempsey's team ran FRenault in 2001/02

**TOP FORMULA FORD TEAM**  
Cliff Dempsey Racing will quit the British championship in favour of Formula Renault BARC in 2012.

CDR, which has run cars sporadically during the Duratec-engined era of British FFord and ran 2011 champion Scott Malvern to second in the series in 2010, will run Tatuus chassis in FR BARC and Kent-engined Rays in FF1600.

Team boss Cliff Dempsey, who ran Tatuus FR2000s for two seasons in

Formula Renault UK in 2001-02, said: "Ford are bringing out the new [EcoBoost] car, but there are two reasons we can't go in that direction.

"The main one is financial – the climate is not right to bring out a £50,000 car. The other is that we feel it has moved away from what we understand Formula Ford to be. Having paddleshift and things like this is too hi-tech. I love Formula Ford, but this is a step too far for me."

Dempsey will sell his existing Ray

Ford-Duratecs because he does not want to run drivers in "a class within a class" next season. He hopes to use his successful existing Kent-engined Formula Ford team to feed talent into Formula Renault and beyond, as part of a new driver-development programme.

Drivers will be able to buy an inclusive package of two seasons of racing for £125,000, rising to £150,000 if they take up options for driver coaching, media training, and simulator sessions

at iZone Driver Performance.

CDR also plans to form links with FR UK, F3, US F2000 and Star Mazda teams to help its drivers progress further.

"We find that most drivers get to the end of the first year and don't know what to do or can't afford the second season," Dempsey added.

"We feel this would be a great way to help young drivers with not a lot of money get the training they need to become professional drivers."

Toyota Racing Series

## Hill joins expanded NZ line-up

**FORMULA RENAULT FRONTRUNNER**  
Josh Hill will return to the New Zealand-based Toyota Racing Series next month.

Hill, who finished 13th in this year's TRS title race and fourth in the New Zealand Grand Prix, joins an expanded line-up of foreign drivers heading Down Under for competitive track time during the European winter.

Formula Renault 3.5 racer Nathaniel Berthon, German F3 Cup frontrunner Hannes van Asseldonk and FRenault racer Felix Serralles will also compete in a field that

includes drivers from Italy, France, Austria and South America.

JK Asian Formula BMW champion Lucas Auer, 17 (the nephew of former F1 star Gerhard Berger), French racer Victor Sendin, 16 (a protege of sportscar aces Alexandre Premat and Nicolas Lapierre) and Italian Superstars race winner Michela Cerruti will also be on the grid.

Series boss Barrie Thomlinson said: "The interest in racing 'Down Under' during the New Zealand summer is a testament to the emerging role of TRS as a recognised training ground for young drivers."

VW Racing Cup

## Walker to get new car for 2012

**VW RACING CUP RUNNER-UP**

James Walker will swap his Golf GTI for a Scirocco next season.

Walker, 25, who has campaigned the Golf for the past four seasons, will form part of an expanded six-car line-up at KPM, the squad run by former Honda F1 technician Kevin Poole.

Poole said: "James's Golf was a race-winning car last season and we're building the best parts of that car into a new Scirocco shell. James is one of the quickest guys out there so this should make all the difference."

A second Scirocco is in build for

former bike racer Craig Milner, while Philip Morris and 1993 Renault 5 GT Turbo champion Mark Howard will return to the series in KPM-run Golf MkVs. The squad will also run a Beetle RSI for Cameron Thompson and a new MkVI Golf as a race-rental machine for next year's series, which includes a DTM support slot at Brands Hatch on May 20.



Walker's Golf will evolve into a Scirocco

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VSCC

## Donington SeeRed dropped for 2012 after Zandvoort historic clash

**THE VINTAGE SPORTS-CAR CLUB'S** flagship SeeRed meeting will not take place next season.

The Donington Park event had been scheduled for the first weekend of September, but a calendar clash with the new Zandvoort historic meeting (see AUTOSPORT, October 20) has resulted in SeeRed's cancellation.

Club secretary Mike Stripe said: "We were to be joined by the Historic Grand Prix Cars Association, Historic F1,

the GT Cup series and the Bugatti Owners' Club. Unfortunately, and quite late in the day, the anniversary meeting at Zandvoort was announced and it was unlikely that the historic racing fraternity could be successfully in two places over the same weekend.

"We and Donington decided it wasn't viable to go up against another meeting."

No other suitable date could be found, but Stripe confirmed the VSCC intends to bring SeeRed back in 2013.

The club's 2012 calendar nevertheless includes race meetings at Silverstone, Cadwell Park, Pembrey, Mallory Park and Snetterton. The visit to the Snetterton 200 circuit will be the VSCC's first meeting at the Norfolk venue since 1984.

No VSCC meet for Donington in 2012



British Rallycross

## Fewer races for British Rallycross

**THE BRITISH RALLYCROSS** Championship will shrink its calendar to six events next year in an effort to reduce costs.

The series has usually been contested over eight rounds in recent seasons. The 2012 schedule has dropped trips to Ireland's Mondello Park and Maasmechelen in Belgium, while this year's cancelled Mallory Park event has been reinstated.

Welsh venue Pembrey also

returns to the calendar at the expense of the Blyton 'night race'.

Supercar privateer Simon Horton cautiously welcomed the changes. "I can see what they are aiming at and if that means we get more drivers out there then it's good," he said.

"It looks as though there is a good spread of dates and venues, but personally I'd have done eight rounds anyway so I'll probably try and find one or two extra events."

Rockingham Stages

## Hollamby wants more rallying

**BRITISH TOURING CAR**

team boss and former racer Shaun Hollamby made his competitive rallying debut on the Rockingham Stages last weekend.

Hollamby finished 29th in a Skoda Fabia co-driven by Volkswagen Apprenticeship scheme boss David Vardy. Aron and Pete Rayner's Ford Escort won the rally - the pairing's first win in 12 years of competition.

Hollamby said: "I did the rally stage at the Goodwood Festival of

Speed and loved it, then David Vardy, who runs the VW Apprenticeship Scheme, told me about the Rockingham Rally.

"I absolutely loved it

and I think it's so good for learning car control. I want to come back next year with a Skoda Fabia Super 2000 now and win it."



Hollamby enjoyed his Rockingham Fabia run

MARCUS PYE

## HUMBLE PYE

The voice of club motor racing



Another year is almost history, thus it's time for Old MAMP's Almanac to review the happenings of 2011 in my sporting world and reveal the recipients of the 14th 'Not the AUTOSPORT Awards'. Cue trumpet fanfare...

**Drive of the Year:** With 31 events under my belt this season, I saw fine performances aplenty. Mac Hulbert's sensational Goodwood victory, wrestling the notoriously savage ERA R4D in the wet, edged it. Teenager Bill Cowley's 750 Formula win at Cadwell Park in October - a first for the (now Fiat-powered) Cowley built by his grandad in 1969 - was magical too. **Best Event:** The Spa Six Hours and Goodwood Revival provided peerless entertainment (if you've never been, make a date in 2012!), but I had as much fun at a chilly Anglesey clubbie in March, Northampton Stadium's National Hot Rod World Championship counter at Easter, and the GP de l'Age d'Or showpiece at red-hot Dijon-Prenois in June.

**Off-Track Genius:** Scott Moran's third British Hillclimb crown in four years marked the 14th successive title for drivers of David and Sean Gould's awesome cars. With 15 crowns, starting with Chris Cramer's in 1985, the Newbury concern is now just two behind Mike Pilbeam's marque's score.

**Down At The Club:** Whether you compete or appreciate from the

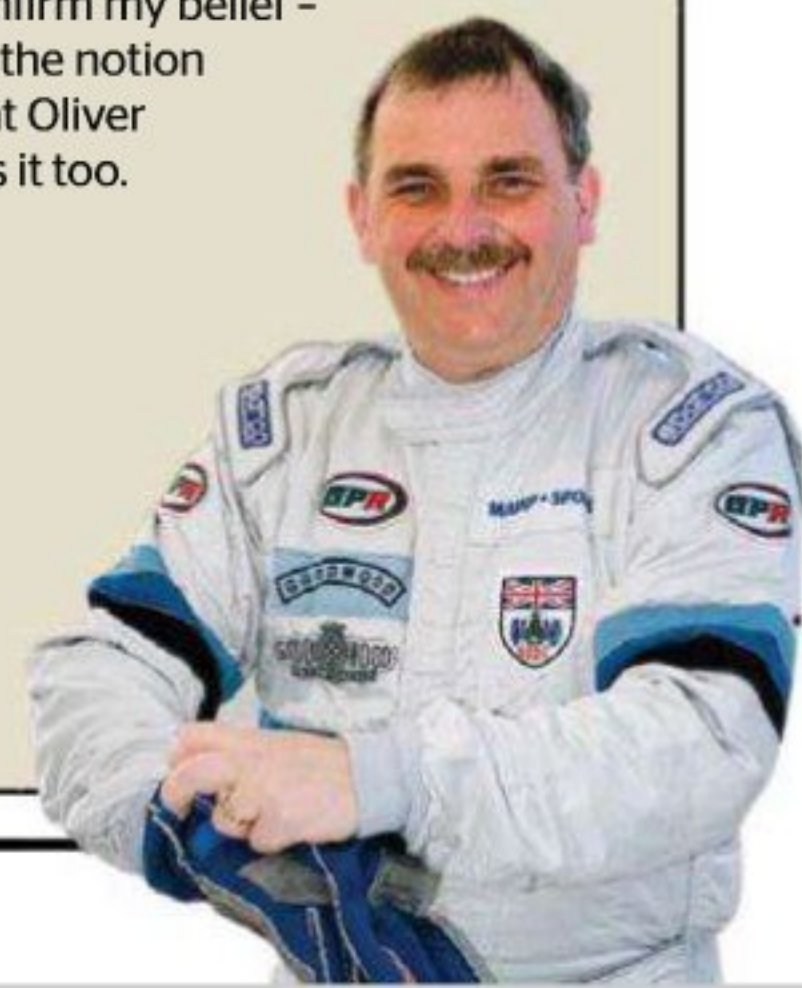
sidelines, the Historic Sports Car Club has enjoyed an epic year. Bigger and better events, greater market influence and record membership say it all for old-stager Grahame White's and business guru Chris Sharples's helmsmanship.

**Export Achievement:** The Radical phenomenon now embraces every motorsport continent with the recent news that India has bought a fleet of the Peterborough concern's stunning SR3 sportscars, and a supply of proven RPE V8 engines has gone to Argentina for the next generation of its popular TC2000 touring car series.

**Ones to Watch in 2012:** A big influx of new mid-engined chassis from several manufacturers this winter should raise the profile of the 750 Motor Club's Road-Going Bike-engined championship. MG fans will hope to emulate the success of the Jaguar E-type's 50th birthday series when the 'B' celebrates its golden jubilee in similar style.

**Star of Tomorrow:** McLaren AUTOSPORT BRDC Award winner Oliver Rowland's brilliance at November's run-off reminded me of 1998 winner Jenson Button's stellar performance. I detected a Tony Brise-like quality in Jenson and I'm nearly sold - another year should confirm my belief - on the notion that Oliver has it too.

Mac Hulbert's Goodwood victory, wrestling the savage ERA R4D in the wet, was sensational"





# TOP 10

## Rivalries of the year

Plenty of battles - some clean, some not so clean - raged throughout the world of club racing in 2011. Here's our pick of the best



10

### Fletcher v Mitcham

*Formula Jedi*

Useful rookie James Fletcher kept former champion Richard Mitcham honest in the title race. Engine woes meant pacesetter Mitcham had to win it the hard way (on dropped scores), despite Fletcher's points advantage.



9

### Richards v Craig

*SEMSEC Saloons*

Bill Richards and Nigel Craig provided the best action in SEMSEC, which had a difficult year. Mini man Richards usually came out on top, but often had to find a way by fast-starter Craig's Subaru or Ford machinery.



8

### Knox v Caudle

*Mini Challenge*

The Excelr8 Motorsport team-mates were involved in a tempestuous title battle that also included reigning champion Lee Allen. It went down to the final round at Snetterton, where Caudle crashed and Knox clinched it.



7

### Hinson v Cross

*750MC Toyota MR2*

Close in the points all season, but matters came to a head when they collided on the penultimate day of the season at Cadwell Park's hairpin. Cross admitted wrongdoing, and was penalised, but still did enough.



6

### Watts v Sirrell

*750MC Formula 4*

The Robbie Watts/Raw Van Diemen package was the quickest in F4 - topping all but two of the qualifying sessions - but Oliver Sirrell raced hard. He held off Watts in the finale to take the title with six wins to Watts' five.



5

### Grindrod v Dance

*Pickup Trucks*

This was the old stager (Steve Dance, 54,) against the young(er) charger (Nic Grindrod, 36). The advantage seasawed back and forth between the two, but Dance prevailed to become the first four-time Pickup champion.



4

### Rivett v the young ones

*Renault Clio Cup*

The Clio Cup hasn't enjoyed a title fight this close in years. Youngsters Aron Smith, James Dixon and James Colburn all came to the Brands Hatch finale with a chance of the title, but old hand Paul Rivett took the crown.



3

### Zamparelli v Webster

*Formula Renault BARC*

The most consistent performers in a strong field. Three straight wins at Croft and Thruxton gave Dino Zamparelli momentum, but Josh Webster never gave up and lost out by just nine points at season's end.



2

### Six-way GT title decider

*British GT*

Never has Brit GT been so keenly contested. Seven crews won races and six went to the final round with a chance of the title. In the end, CRS Ferrari duo Glynn and Jim Geddie took the crown despite scoring no wins.



1

### Milicevic v Wilson

*Formula Junior*

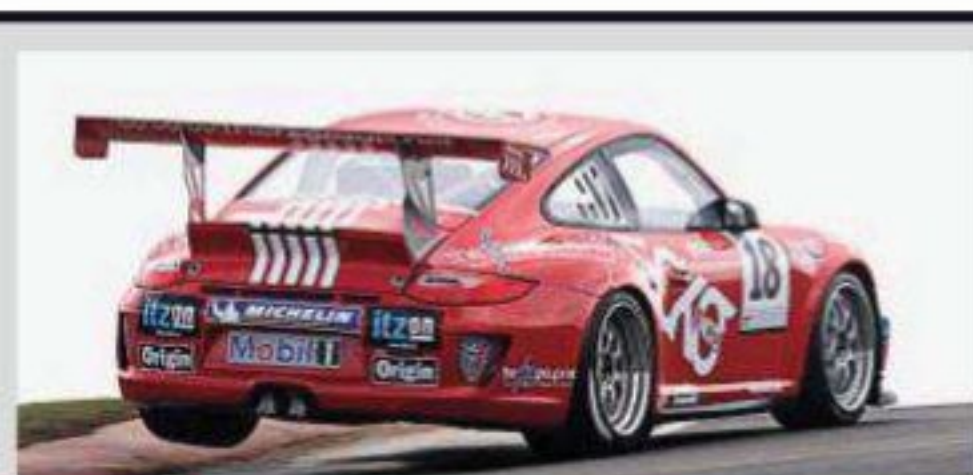
For clean, close racing there was no matching Cooper T59 drivers Sam Wilson and Jon Milicevic in 2011. The battle was fought out in the best of spirits, but was so intense that Wilson was awarded driver of the weekend honours at both the Silverstone Classic and Goodwood Revival meetings. In six fights they took three wins apiece and most were decided by a matter of tenths.



# TOP 10

## Cars of the year

Here are the one-off specials, new designs, and venerable old warhorses that have caught the imagination of spectators and racers in 2011



10

### Porsche 997 GT3 Cup

*Porsche Carrera Cup GB*

The Porsche Carrera Cup GB waited a year before introducing the latest 911 into its single-make domestic GT3 category. The decision was vindicated by a close title fight and bigger grids than the BTCC for most of the season.



9

### Mercedes C11

*Group C/GTP*

The Mercedes C11 was arguably the ultimate turbocharged Group C machine and two raced this season. Bob Berridge normally set the pace in the example he shared with Gareth Evans in a series that is growing again.



8

### Mazda MX5

*Ma5da Racing*

The little Japanese roadster is the car of choice for club racers right now. Ma5da Racing's Mk1 drivers are so numerous they are split into five groups, while the Mk3 Cup grew to more than 20 cars in its second year.



7

### Jeff Wilson's Lotus-Jade

*Northern Saloons and Sports Cars*

This is the sort of brilliant odyssey that club racing often throws up. Jeff Wilson took his Jade and put a Lotus Elise body on top to create a modern-day special GT. Having grabbed everyone's attention, he then won lots of races.



6

### Swift Cooper SC10

*Castle Combe Formula Ford 1600*

Rob Hall and the works Swift Cooper team combined for five wins in the Wiltshire track's resident series. The 21-year-old took his maiden car-racing crown, and the team's first outright Castle Combe FF1600 title in 25 years.



5

### Tatuus FR2000

*Formula Renault BARC*

Venerable single-seater was made redundant when Renault launched a brand new car into its top UK series in 2010, but has enjoyed a renaissance in the cheaper BARC category, where grids have outstripped TOCA cousin.



4

### AHS Dominator

*750MC Formula Vee*

It's taken a while to get there, but Alan Harding's newest design finally found success in 2011. Paul Smith won six times in eight starts and would likely have blitzed the Formula Vee title race had he contested the full season.



3

### Mygale SJ11

*British Formula Ford*

Mygale setting the pace in Formula Ford is not new, but the French firm took its dominance to a new level in 2011. Only a single win by an older SJ07 prevented the SJ11 taking every British and Euro round of the season.



2

### Jaguar E-type

*HSCC E-type Challenge*

The E-type didn't suddenly become a great car in 2011 - it always has been - but the series to celebrate its 50th birthday attracted huge grids and provided a great spectacle. It was so good the contest will continue in 2012.



1

### Ferrari 458 Italia

*Brit GT/Britcar/GT Trophy*

At last, Ferrari drivers took the British GT3 crown, courtesy of Glynn and Jim Geddie. In its first year the 458 scored four British GT wins from 10 races. Scuderia Vittoria's example also had successful raids on Britcar, while Leon Price and Rob Barff utterly dominated the GT Trophy in their FF Corse-run car. The 458 was successful in Europe too, which just goes to prove it had the results to match those looks.



## YOUR SAY

What you think of the motorsport news of the past week

### Smile... and win!

Happiness is the key to success! I'm studying sports science and as part of my dissertation I am researching how happiness can make the difference in a sportsperson achieving their goals.

I have painstakingly watched each of the 19 grands prix in the 2011 championship and found there is a direct correlation between smiles and points. Sebastian Vettel smiles in front of the cameras, on average, 39 times during a grand prix weekend, compared to 22 smiles for Jenson Button, 20 for Mark Webber, 14 for Fernando Alonso and a miserable six for Lewis Hamilton. The only driver to buck the trend is Michael Schumacher, with an average of 17. But after all his success it's no surprise he has so much to smile about.

(It could be argued that this evidence is circumstantial and it is of course unverified, but I think it's more than a happy coincidence. Pun intended.)

**Laura Bayntun** Saffron Walden, Essex



The double world champ has good reason to grin

EDITORIAL CONTACT [mail@autosport.com](mailto:mail@autosport.com)

**Does anyone have** any photos, memorabilia or stories that would help celebrate the life of great British all-rounder Gerry Birrell, who was sadly killed at Rouen in an F2 car in 1973?

My sister Kara – Gerry's daughter – has a number of photos and newspaper cuttings from the period but would like to get as much as possible to include in a new website.

If anyone has anything they think would help please contact me at [alex@alexshore.co.uk](mailto:alex@alexshore.co.uk)

**Alex Shore**  
By email

**Red Bull put** on a great show for the fans last Saturday – all 60,000 of them – which demonstrates just how popular the Milton Keynes-based team is.

It was delightful that the team and its drivers were able to stage such an entertaining show in their 'home' town.

Holding such fan-friendly events is great for F1. Thanks for a brilliant day out guys!  
**Duncan Sabiston**  
Didcot

**I wonder if** anyone knows whether the BBC was allowed to choose which GPs it gets to broadcast, or was it told by Sky which ones it could have?

If the BBC chose, then selecting Barcelona, Valencia and Abu Dhabi, all of which are inevitably tedious processions, was a masterpiece of incompetence.

**Julian Nowell**  
Walton-on-Thames

*There was certainly no Sky diktat, but the BBC's initial wish list underwent some changes during the negotiations – ed*

**So! Europe is** to lose five grands prix! It's clearly obvious that Bernie Ecclestone is so desperate to kowtow to the 'new kids on the block' circuits that the true grassroots fans can go hang.

He seems to forget the amount of money that the well-trodden British fans have spent in the past. We sat for hours in mud, rain and cold weather many times, giving full attention to the racing, not posing about, suited and booted, pretending to know what was going on...

**Carole Anne French**  
Isle of Wight

**AUTOSPORT.COM**

### TOP FIVE ON OUR WEBSITE

1. **MERCEDES CLOSE TO 2014 ENGINE TEST**
2. **GROSJEAN GETS SECOND RENAULT SEAT**
3. **SKY CONFIRMS F1 COVERAGE LINE-UP**
4. **FIA ANNOUNCES NEW SPORTING RULES**
5. **SAUBER ALSO LEAVES FOTA**

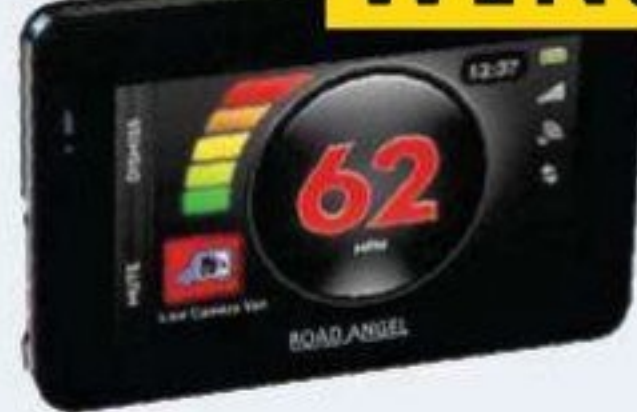
**AUTOSPORT.COM PLUS**

### TOP STORY ONLINE

#### TEN F1 ENGINE SECRETS

To read this exclusive feature and many others like it, log on to [autosport.com/plus](http://autosport.com/plus) and choose which package you'd like. A month will cost £5.50, a year £46. Includes access to Forix – the ultimate stats website.

**WIN!**



#### ROAD ANGEL VANTAGE

This week's star letter will receive a Road Angel Vantage – a dedicated safety camera and blackspot locator that displays the legal speed limit of every road you drive, automatically and wirelessly updating its database every few minutes as you drive. For more details on Road Angel visit [www.roadangelgroup.com](http://www.roadangelgroup.com). Please ensure that your full address is included on all correspondence.

#### CORRECTIONS AND CLARIFICATIONS

MIS Motorsport Ltd – Motorsport Insurance Specialists were wrongly named within the AUTOSPORT Directory as Motorsport Insurance Services Ltd. This was a typographical error made by AUTOSPORT Directory for which we apologise. MIS Motorsport Ltd can be contacted for all motorsport insurance requirements at MIS Motorsport Ltd 43-45 Oxford Road, Guiseley, Leeds, LS20 8AB, telephone +44 (0)1943 884 555, email [info@mismotorsport.com](mailto:info@mismotorsport.com), website [www.mismotorsport.com](http://www.mismotorsport.com).



# THE LATEST GEAR

The most desirable new releases for motor racing fans: books, DVDs, models, art and gifts

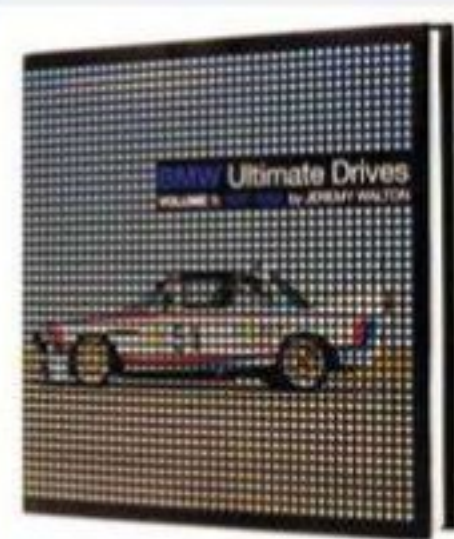
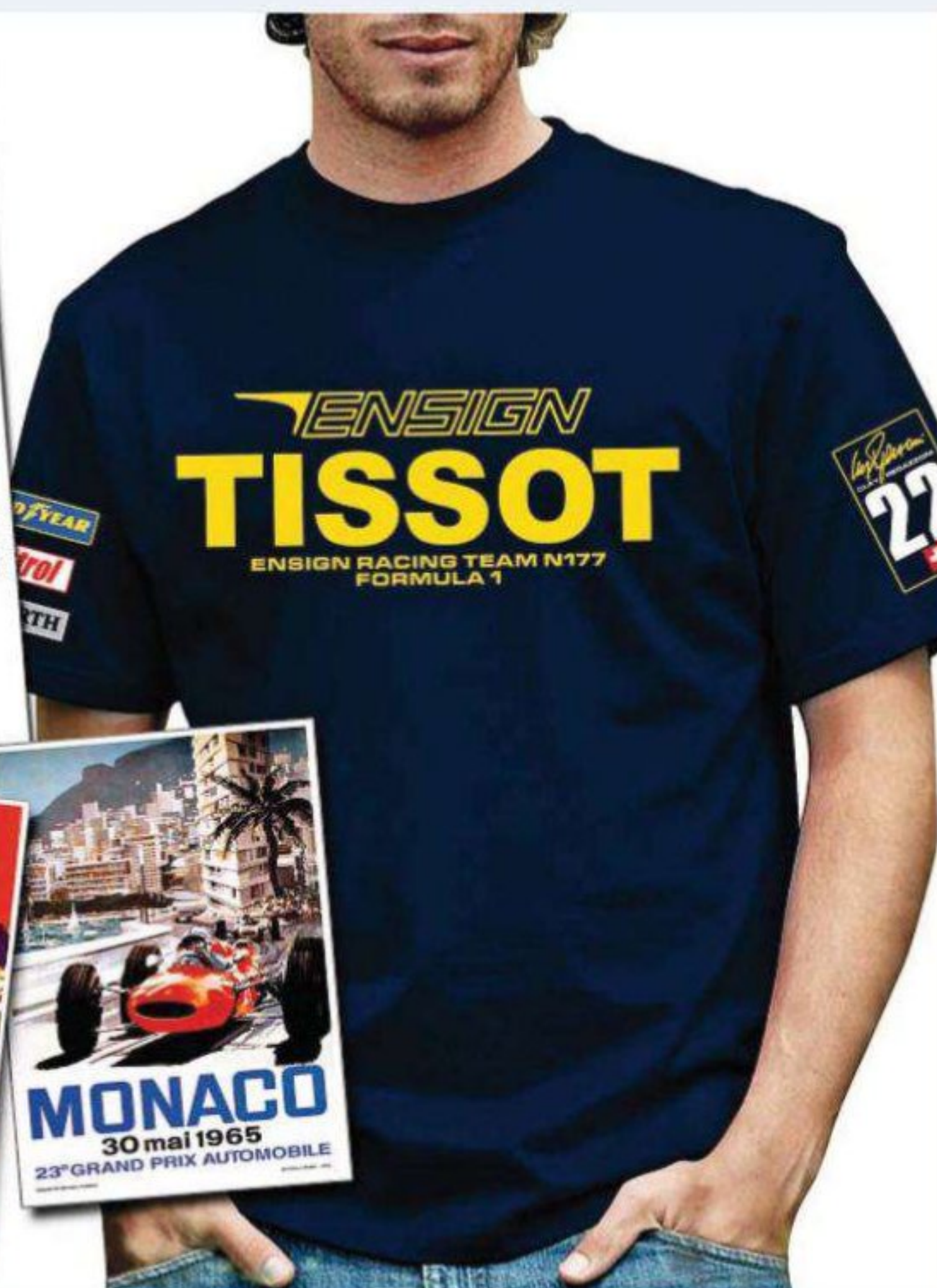
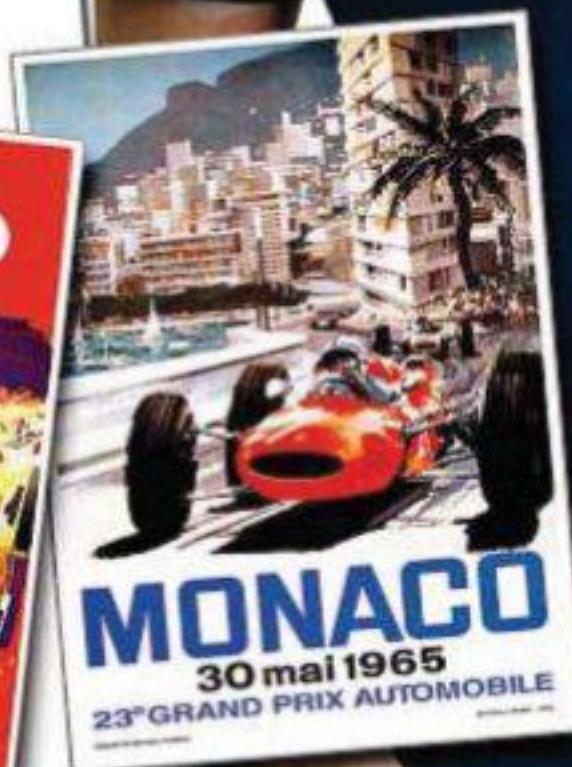
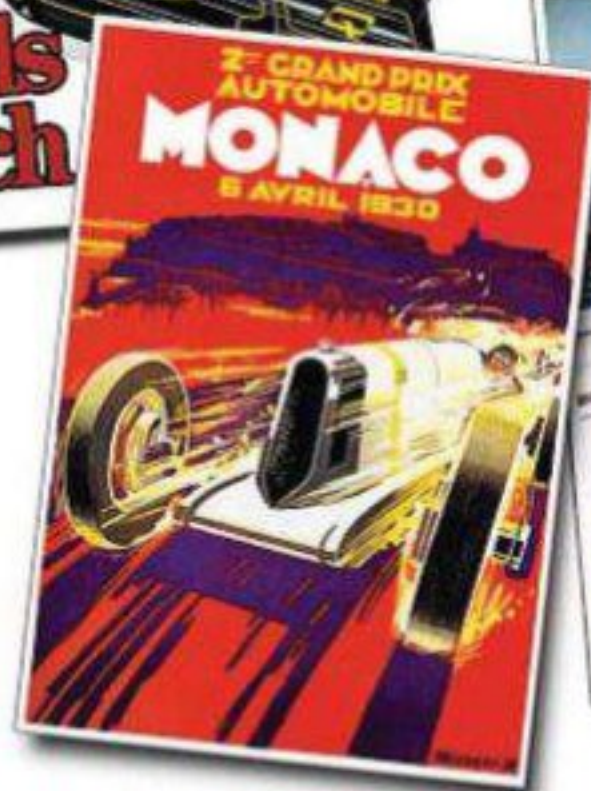
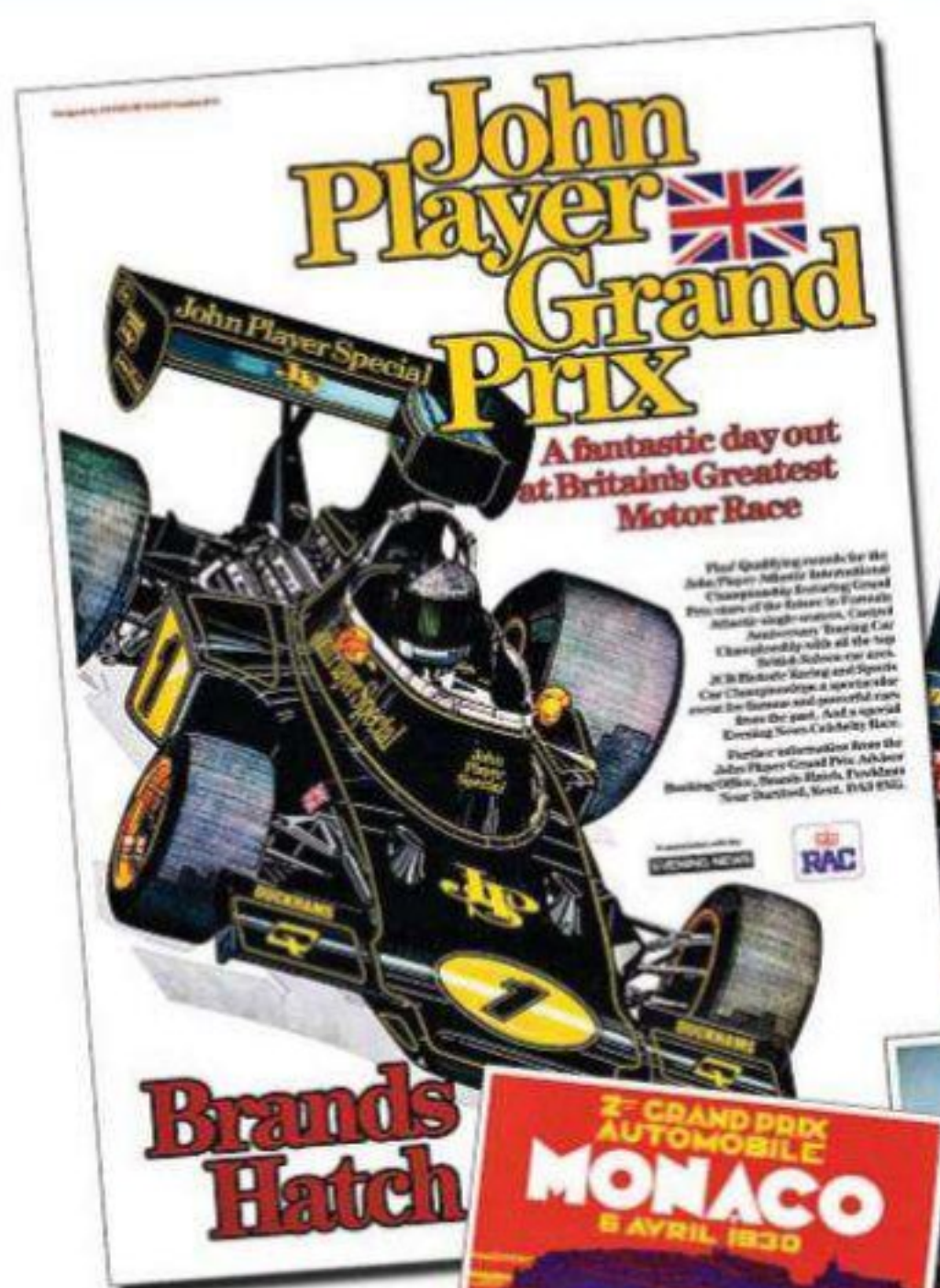
## F1 RETRO T-SHIRTS & POSTERS

From £15

[retroformula1.com](http://retroformula1.com)

Retro Formula 1, those purveyors of all things classic about F1 of yore, have added stunning, digitally-remastered prints of some of the official event posters from the British and Monaco Grands Prix to their collection. Available in four sizes (A4 to A1), the giclee prints come on super-thick paper, and rich in colour, for a fraction of the cost of an original.

And while you're there, check out the new '70s T-shirt that's joined the set. Mo Nunn's tiny Ensign team battled hard between 1973 and 1982, winning many fans. Join them by logging on to the website and branding yourself up.



## BMW ULTIMATE DRIVES, VOLUME 1 BOOK

£39.99 (978 1902 3514 90)  
[autosport.com/shop](http://autosport.com/shop)

Respected BMW author Jeremy Walton tells the story of 16 iconic Bavarian Motor Works from 1937 to 1982, covering such gems as the 328, 507, CSL, 2002 Turbo and M1.

First-hand narrative on each car's history and tech spec is complemented by scores of superb images.



## WRC 2011 & 2001 DVD OFFICIAL REVIEWS

£24.98 (599 mins)  
[dukevideo.com](http://dukevideo.com)

Almost 10 hours of world rally action is packed into this double DVD bundle: the official review of the 2011 season title fight and the best bits of Richard Burns's glory year for Subaru 10 years ago.

Classic camera angles, inside and outside the cars, abound in this muddy feast.



## VALENTINO ROSSI DUCATI TEST BIKE

£79.99  
[autosport.com/shop](http://autosport.com/shop)

Minichamps' 1:12 Ducati Desmosedici GP11 is an exact replica of the test bike on which Valentino Rossi first acquainted himself at the end of 2010.

Limited to 4999 pieces worldwide, it comes with removable fairing panels, real rubber tyres, and a detailed engine.

## HOT ON THE WEB THIS WEEK

**YOUTUBE: RED BULL MILTON KEYNES DEMONSTRATION**



**SEARCH FOR:** Red Bull Milton Keynes Home Run (HD) (12:02)  
Red Bull Racing paraded in its home town of Milton Keynes last week, with Sebastian Vettel and Mark Webber treating thousands of fans to donuts and burn-outs. A NASCAR V8 and stunt bike also star...



# WHAT'S ON...

Your guide to the best events taking place in the UK and around the world this week – plus TV and online

'Ice' racing at Mallory Park...



## MALLORY PARK

BARC

December 26

Admission £11 in advance, £13 on the gate

Tel: 01455 842931

The hardened saloonatics who can't face turkey leftovers or any more terrible Christmas TV scheduling should head to Leicestershire for a final festive fix of club-racing action at Mallory Park's speedbowl on Boxing Day. Prolific winner Joss Ronchetti is expected to forsake his trusty trick Lotus Sunbeam in order to debut his new Holden Monaro in the 38th Plum Pudding meeting, which features two open saloon races and a pair of sportscar thrashes.

...and ice racing (including Alain Prost) in France



## ANDROS TROPHY

Rd 3/7

Alpe d'Huez, France

December 16-17

[tropheeandros.com](http://tropheeandros.com)

The Andros Trophy heads to the Alpe d'Huez for its third round, the final event of 2011. A win last time out in Andorra means four-time F1 world champion Alain Prost moves up to second in the provisional standings, one point behind Jean-Philippe Dayraut. F1 race winner Olivier Panis lies third, a further three points back.

## SUD-AM F3

Rd 9/9

Campo Grande, Brazil

December 17

[f3sudam.com.br](http://f3sudam.com.br)

This year's Sud-Am F3 championship concludes at Campo Grande. Fabiano Machado is assured of this year's crown, but the battle for second will go down to the wire between Guilherme Silva, Ronaldo Freitas and Bruno Bonifacio.

# ACCESS ALL AREAS

Our guide on how to keep the motorsport flame burning through the cold winter months

## MSV DRIVING GIFTS

With 10 days remaining until Christmas Day, there's still time to find that gift to make your loved one's year. And for children with a passion for cars, nothing comes close to driving for the very first time – and on a famous race track.

Open to children aged 11-17, and at least 4'8" tall, MotorSport Vision's YoungDrive! experience is a driving school with a difference, giving them their first taste of motoring by handing them a brand new Mini One at either Brands Hatch, Oulton Park or Bedford Autodrome.

Behind the wheel of the

dual-controlled Mini, a DSA-approved instructor will teach them the essential skills of driving in a traffic-free environment before they are old enough to hit the road for real. Each child receives 40 minutes' driving time, and YoungDrive! vouchers are available for £79 and remain valid for 12 months.

MSV is also offering a festive deal with its Christmas 'Adrenaline' voucher priced at £149, a £36 saving. Those who already hold a driving licence can take their motoring to the next level

We'll go for the single-seater, thanks!



by driving on one of the organisation's circuits.

Get strapped into a single-seater, experience a BMW M3, go off-roading in a rally car, or tackle an extreme off-road course in a Land Rover Defender. High-speed passenger laps in a sports-racer are also available for £39.

Christmas Adrenaline vouchers have a validity of three months; with 12

months available on the standard Adrenaline voucher, priced at £185.

For the real hardcore wannabe racer, vouchers are also available for the PalmerSport activity at Bedford Autodrome, where recipients can manhandle six of the best high-performance and track-prepared machines.

For further information, call 0843 453 1000 or visit [www.msvdrivinggifts.com](http://www.msvdrivinggifts.com).



## Television

### THURSDAY DECEMBER 15

0900-1000 [Eurosport 2](#)  
WTCC: Season Review  
2000-2100 [Motors TV](#)  
Formula 3: Macau Grand Prix

### FRIDAY DECEMBER 16

0000-0100, 1500-1600 [Sky Sports 4](#)  
Racemax  
1830-1900 [ESPN Classic](#)  
F1 British GP 1973  
1900-1930 [ESPN Classic](#)  
F1 British GP 1974

### SATURDAY DECEMBER 17

0405-0430 [Channel 5](#)  
Motorsport Mundial  
0755-0855 [ITV 4](#)  
Motorsport UK  
2030-2130 [Motors TV](#)  
Andros Trophy

### SUNDAY DECEMBER 18

0900-1105 [Motors TV](#)  
European F3 Open: Season Highlights  
1105-1515 [Motors TV](#)  
International GT Open: Season Highlights  
2100-2130 [Motors TV](#)  
Mobil 1 The Grid: 2011 Highlights

### MONDAY DECEMBER 19

0205-0305 [ITV 1](#)  
Motorsport UK

### TUESDAY DECEMBER 20

1930-2035 [Eurosport](#)  
WTCC: Season Review

### WEDNESDAY DECEMBER 21

1000-1030, 2030-2100 [ESPN Classic](#)  
F1 British GP 1977  
1530-1600, 2000-2030 [ESPN Classic](#)  
F1 British GP 1975

### THURSDAY DECEMBER 22

0410-0600 [Motors TV](#)  
V8 Supercars: Sydney Highlights  
1530-1600, 2000-2030 [ESPN Classic](#)  
F1 British GP 1978  
1000-1030, 2030-2100 [ESPN Classic](#)  
F1 British GP 1979

### FRIDAY DECEMBER 23

1000-1100 [Sky Sports 3](#)  
Racemax  
1530-1600, 2000-2030 [ESPN Classic](#)  
F1 British GP 1980

### SATURDAY DECEMBER 24

0405-0430 [Channel 5](#)  
Motorsport Mundial  
2100-2205 [Motors TV](#)  
V8 Supercars: Season Review

### SUNDAY DECEMBER 25

0930-1035, 1545-1650 [Motors TV](#)  
V8 Supercars: Season Review  
1650-2000 [Motors TV](#)  
Race of Champions Replay  
2000-2100 [Motors TV](#)  
ILMC: Season Review

### MONDAY DECEMBER 26

1515-1620 [Motors TV](#)  
Andros Trophy

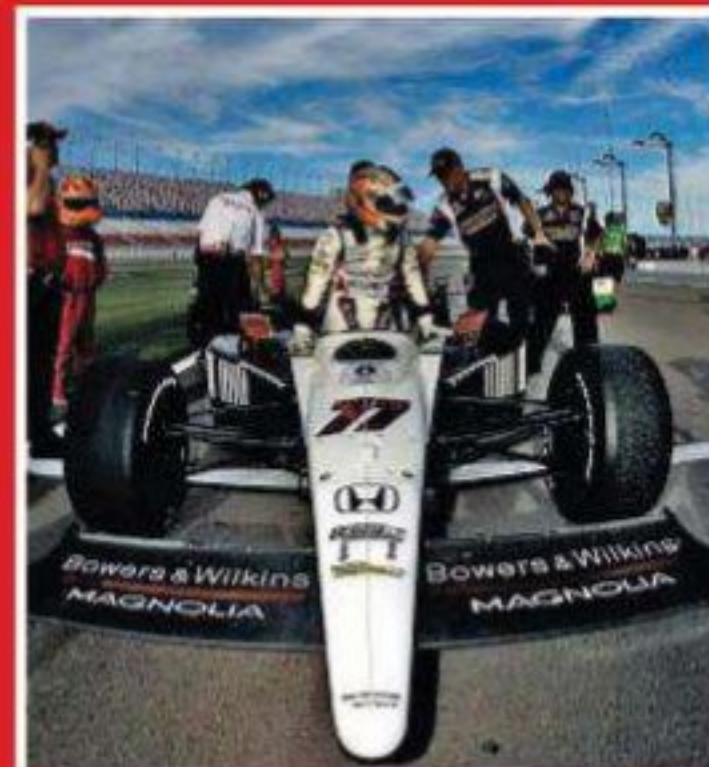
## Online

## AUTOSPORT.COM

Coming up on the web this week

### REMEMBERING DAN WHELDON

Two months have passed since Dan Wheldon's death at the Las Vegas IndyCar Series finale, and AUTOSPORT.com has spent the intervening period devising a fitting tribute to the former champ by speaking to those who knew him best. Read what they said this week. Also find out what stood out for the AUTOSPORT crew in our Memories of the Year series, plus in-depth reviews of the IndyCar, World GT1 and GP3 seasons.



Read AUTOSPORT.com on your phone to keep up to date

### AUTOSPORT.COM ANDROID APP OUT NOW

The AUTOSPORT app is now available for Android. Dial up AUTOSPORT.com on your smart phone for instant access to news, feature articles, image galleries and live text race commentary for a one-off fee of only £2.99 (there is no renewal cost). For more info, visit [www.autosport.com/app](http://www.autosport.com/app)

## REVVED UP OVER WHAT'S ON THE BOX

We hand out our awards to the best and worst of this year's TV

EJ: "You! You work for Red Bull, Max, how does it feel?"

THE AWARDS season is in full flow. And while they're no MOBO or FFA, the Revvies are the most esteemed honour this column can be bothered to grant. As ever, they celebrate a mixture of the brilliant, the baffling and the Carlton Kirby. **Channel of the Year** [ITV4](#). Honourable mention to [ESPN Classic](#), but if you're down with man-flu there's only one place to go. *Minder*. *The Saint*. *The Professionals*. Plus every TOCA package race. All done with professionalism and expertise. Steve Rider and Ben Edwards, you will be much missed. **Event of the Year** [Eurosport's Le Mans 24](#)

Hours coverage. Its schedule may be more lucky dip than a guide, but there are some things it just does right. Twice-round-the-clock action of what turned out to be a truly thrilling event. **Total Confusion of the Year**: "And the yellow flags are fluttering like canaries at a wedding." If anyone knows what Kirby means by this, please let me know. **Interview of the Year**: "You! You've been around F1 a long time. How does it feel winning this year compared to last?" Eddie Jordan speaks to someone at Red Bull in Japan. I still don't know who it was. **Celebrity Cock-Up of**

**the Year**: "George" McCartney. Closely followed by "Can we go now?" son of fat Ronaldo. **The 'Get Things in Perspective' Award pt1** Anyone who signed a petition to have the BBC/Sky deal debated in Parliament. Seriously, at a time of global financial chaos (or any time, come to think of it), is this really a matter of national importance? No. **The 'Get Things in Perspective' Award pt2** Anyone who says "I

refuse to give money to Murdoch" while watching a sport that almost raced in Bahrain at the same time as doctors were being imprisoned for helping dying people. I think your moral compass is broken. **The 'Don't Kid Me, But Above All Stop Kidding Yourself' Award** Anyone who has stated publicly that they will stop watching F1 next year now that all races are still being covered by the BBC. Get a grip/life. *Revved Up*

"Eurosport's schedule may be more lucky dip than a guide, but its Le Mans 24 Hours coverage it got just right"



# THE WEEK IN PICTURES

Our lensmen pounding the beat from Paris to Bologna

## NO MERCY (OR MERCI!) IN PARIS-BERCY

Jean-Eric Vergne (19), Romain Grosjean (2) and Julien Jousse (11) duel in Sunday's epic final in the Paris-Bercy electric kart event. Vergne won it



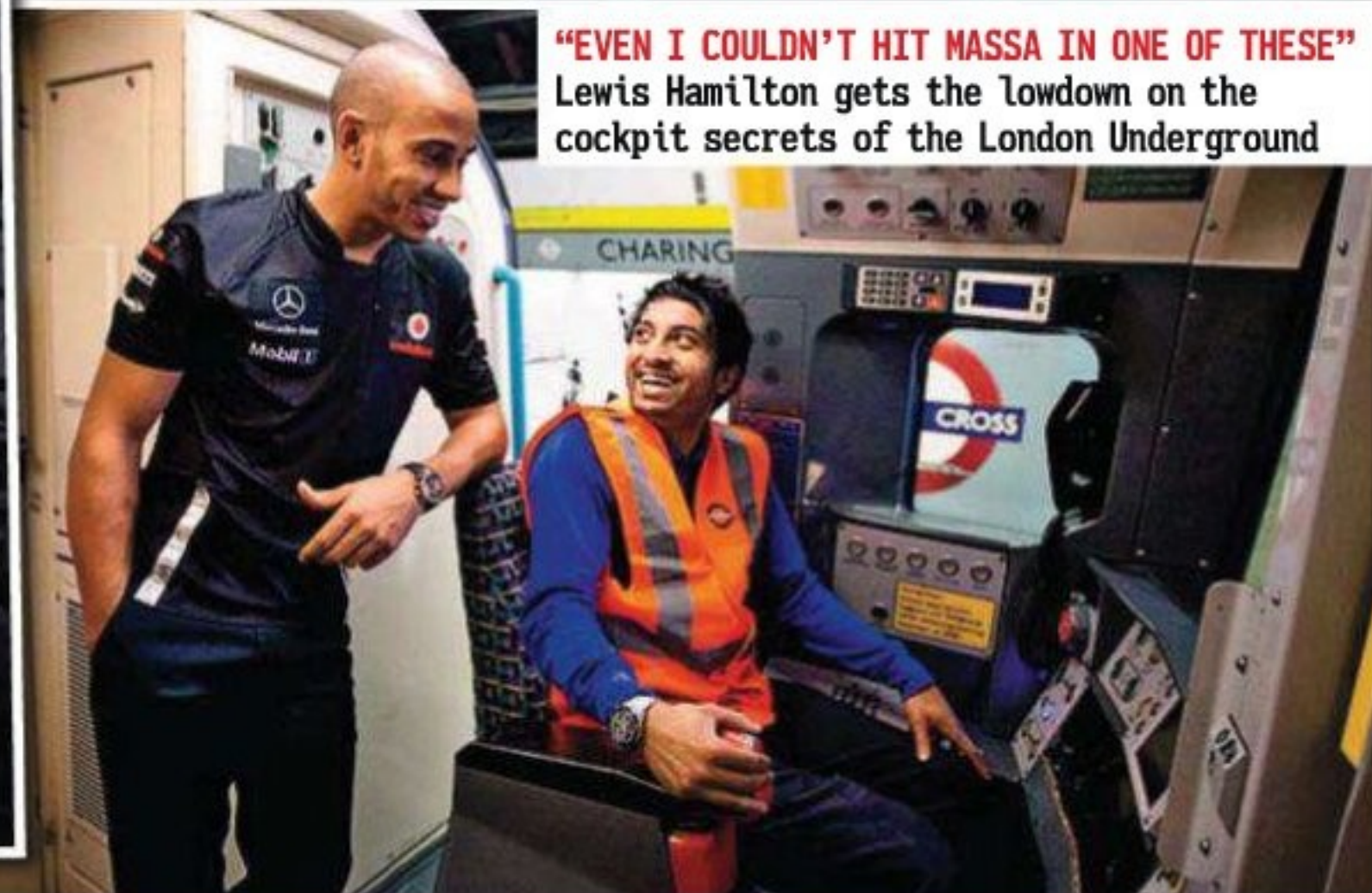
## GETTIN' DIZZY WITH THE FISI

Giancarlo Fisichella made his return to the cockpit of a Ferrari F1 car at the Bologna Motor Show to entertain the local tifosi



**NO COLD SHOULDER FOR THE ICEMAN ON THE SNOW - JUST A SORE WRIST**  
Kimi Raikkonen was in great spirits ahead of the snowmobile race in Austria, during which he fell off and hurt his wrist

**"EVEN I COULDN'T HIT MASSA IN ONE OF THESE"**  
Lewis Hamilton gets the lowdown on the cockpit secrets of the London Underground





# FROM THE ARCHIVE

Bruce McLaren becomes youngest GP winner at Sebring in 1959

"The Kiwi's record would not be broken for 44 years when Fernando Alonso won in Hungary in 2003"



McLaren, aged just 22, won at Sebring

**ON DECEMBER 12, 1959 BRUCE McLAREN BECAME** the youngest driver to win a Formula 1 world championship grand prix when he triumphed in the season-closing US GP at Sebring. The Kiwi's record would not be broken for 44 years until Fernando Alonso won in Hungary in 2003.

McLaren's Sebring victory came courtesy of a dramatic finish to the season's decisive race, as Stirling Moss, Tony Brooks and Jack Brabham vied for the right to be named world champion.

Moss led in the early stages in his Cooper T51 but retired after five laps with suspected broken transmission, handing fellow Cooper driver Brabham a lead he would hold until the final lap.

McLaren had guided his T51 into second, but was hounded down by Ferrari's Cliff Allison – whose challenge ended on lap 23 – and then by Maurice Trintignant, who closed rapidly in the final stages.

Come the final lap, Brabham led McLaren and Trintignant, but the picture changed as the Australian ran out of fuel. McLaren assumed the lead and, resisting Trintignant's charge, took the chequered flag by 0.9s. Brabham meanwhile pushed his car to the finish, collapsing with exhaustion as he crossed

the line. Despite being passed by Brooks' Ferrari for third, he was able to claim the 1959 crown.

McLaren stayed at Cooper for six further seasons in F1, but grew frustrated with a lack of input in the design process and in 1963 established Bruce McLaren Motor Racing, initially to contest the Tasman Series.

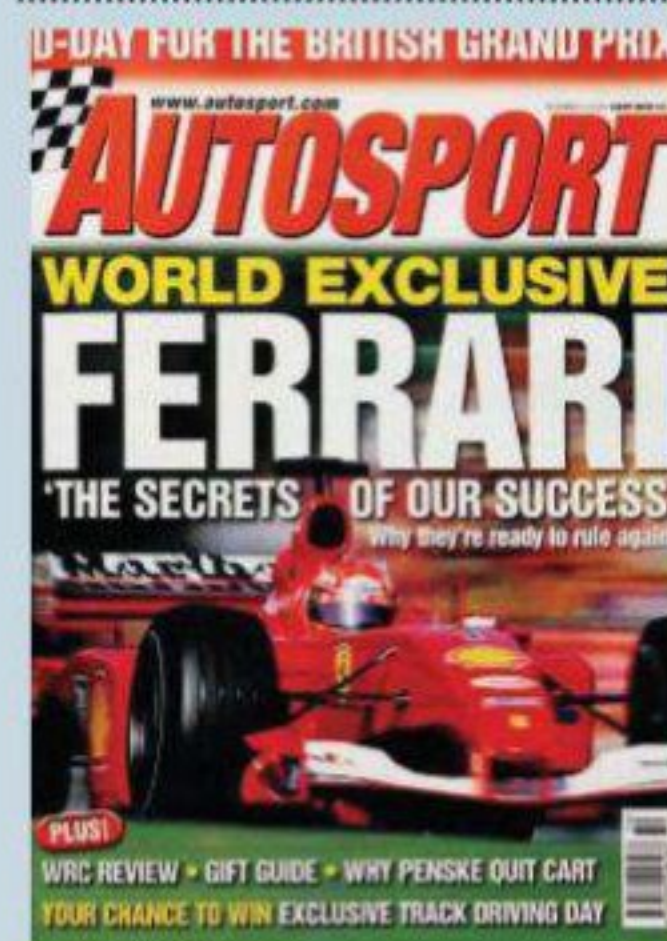
After hiring designer Robin Herd in 1965, McLaren entered his first F1 car in 1966, although it was not an immediate success. The arrival of the Cosworth DFV allowed a new design and in 1968 McLaren took its first win, at the Belgian GP, fittingly with Bruce driving.

As was the case in 1959, fortune played its part. John Surtees moved into the lead on the second lap, only for his Honda to suffer a broken wishbone.

McLaren's stable-mate Denny Hulme took over the lead, battling with Jackie Stewart, and when Hulme retired with 10 laps to go the path was cleared for Stewart to win – only for the Scot to run out of fuel on the penultimate lap, allowing McLaren to slip by.

Hulme gave McLaren two more wins in '68, helping to lay the foundations for one of F1's most decorated teams. Forty three years after Bruce's victory, McLaren's win count stands at 175, with 470 podium finishes. Few could have predicted such success.

## THIS WEEK IN...



**DECEMBER 13 2001**

### THIS WEEK IN 2001, AUTOSPORT

carried an exclusive and world-first interview with Ferrari's ace design team, as the legendary marque celebrated back-to-back drivers' and constructors' titles.

The words of the 'goodfellas' – Rory Byrne, Ross Brawn, Paolo Martinelli and Gilles Simon – would prove prophetic as Ferrari, spearheaded by Michael Schumacher, embarked upon a period of unrivalled domination in the sport, their run of titles only coming to an end when Fernando Alonso triumphed for Renault in 2005.

Over in the US, CART lost Penske to the rival Indy Racing League. The loss of the squad, a founding member of CART in 1979 and one of its most successful teams, would prove a body blow for CART, which would suffer further setbacks before eventually unifying with the IRL in early 2008.



PIC: LAT



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# PETER GETHIN

■ Italian Grand Prix, Monza ■ September 5, 1971 ■ Yardley BRM P160 ■ Winning *that* race... by 0.01s



Gethin's white BRM pips Peterson's March to win

**BRM HAD ASKED ME IF WAS** interested in driving for them in 1972, so I went to them and said, 'Look, rather than wait for next year, do you want to do something this year?'

The first race I did for BRM was Austria, and the second was Italy. I remember I was staying in the most expensive hotel in the world – the one on Lake Como – which I could ill afford. I remember thinking to myself, 'I'm going to have to do pretty well in this race to be able to pay the hotel bill!' It did give me a bit of help in doing well...

The car and engine were well suited to the circuit. I thought the 12-cylinder, with all the slipstreaming, was going to be very competitive round there.

I made a reasonable start and I was probably in the first 10 or so cars. Then lapping some backmarkers early on I got a fair way behind the leading six or seven. The reason why I think the race was a good one for me is because from about half distance, when I lost contact, I had to drive every fraction of every lap absolutely flat-out.

I was using 500rpm more than the recommended maximum and it held together. I didn't make any mistake and with six or seven

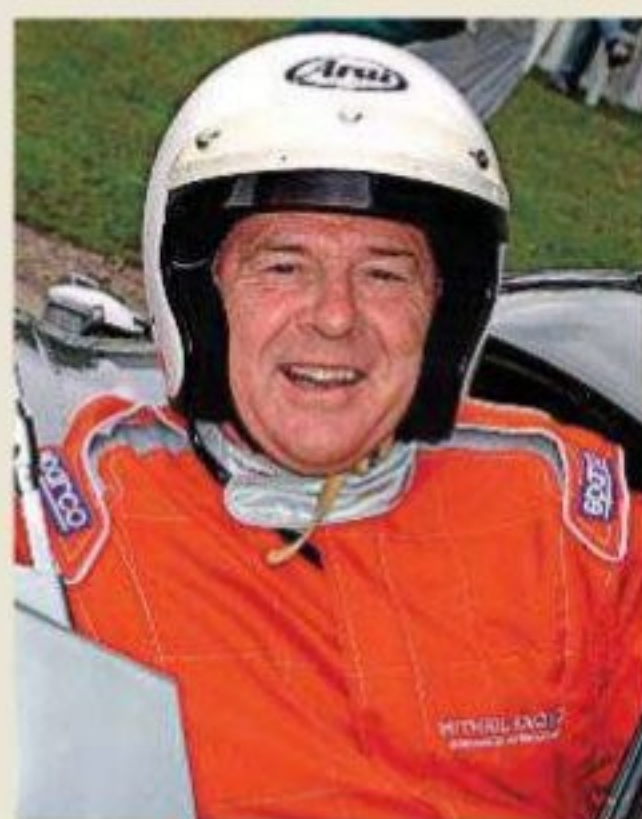
**"To try to convince the Italians that I was the winner I put my hand up on the line, so they would think I'd won. It was the smallest winning margin ever!"**

laps to go I caught them.

I felt I needed to be in the first two coming out of Parabolica, and then I reckoned I could get to the line and win it. As it happened, I went into the Parabolica in third or fourth on the last lap. Cevert was outbraked by Peterson, and Ronnie slid a bit wide. I got inside him. I was a bit locked up, but felt I was under control.

I was sideways, but I got the power on early, and it was a race between me and Ronnie. We got to the line and he was very close to me, and we were alongside each other. I remember thinking, 'I'm in Italy, there are a lot of excitable Italians, they don't have photographic equipment. They are likely to make their mind up in the spur of the moment.'

## IN PROFILE



**PETER GETHIN BEGAN RACING IN** Lotus sportscars in 1963, moving up to F3 in 1965, then F2 for '68. He won the inaugural F5000 title in '69 and retained it in '70, while also getting the F1 call-up from McLaren. He left for BRM in '71, winning at Monza and in the Victory Race at Brands. A Race of Champions win for Chevron came in '73, before he moved to other arenas, finally retiring in '77. He then tried team management and started a race school. He died last week after a long illness, aged 71.

Therefore to try to convince them that I was the winner I put my hand up on the line, so they would think I'd won.

It was the smallest winning margin ever; there was a foot or two in it, and Ronnie passed me about 30 yards over the line.

I think most people were pleased for me. Louis Stanley was, of course, absolutely over the moon. I was in pole position for dinner that night! After dinner I was being driven back to my hotel by the Stanleys in their chauffeur-driven limousine. About 50 yards from the restaurant it had a flat tyre. And I was the one changing the wheel on the side of the road in Milan.

I thought, 'Is this right, for the winner of the Italian GP to be on his hands and knees changing the wheel on this bloody limousine?'  
*Originally published on February 1 1990*

**NEXT  
WEEK**

**John  
DAVENPORT**





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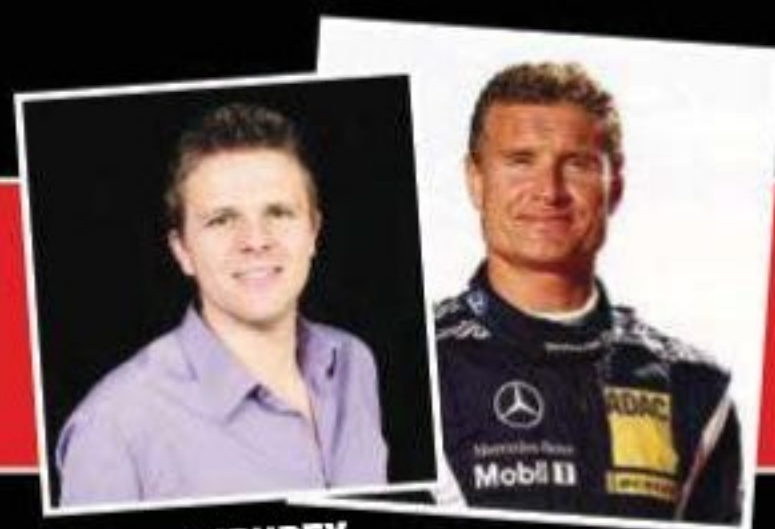


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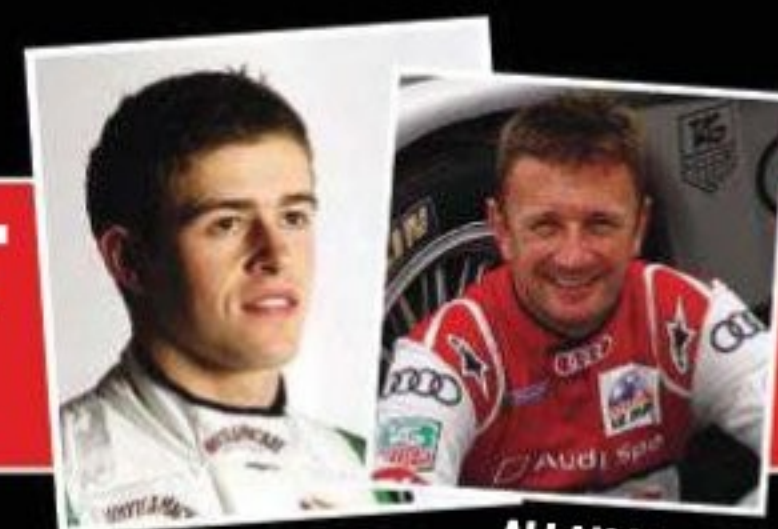
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