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POLE POSITION

F1 2014 promises to be a rollercoaster ride

TESTING IS OVER, ENGINE HOMOLOGATIONS HAVE been lodged, and normally you'd be hearing a lot of positive rhetoric heading into the first grand prix of the season. Instead, there's a paddock full of nervous Formula 1 folk right now as the clock counts down to Melbourne – and a voyage into the great unknown.

Let's not underplay the scope of the 2014 regulation changes: this is arguably the biggest across-the-board raft of technical revisions we have ever seen in this sport. We've had turbo engines before and we've had KERS, but this new breed of power unit is far beyond the technology used previously.

It's F1 in its purest form; hardware that pushes the boundaries even before the world's best drivers strap themselves in. In this issue we've left no stone unturned to bring all our expertise to bear in explaining what to expect this year, from those weird-looking noses to the key indicators in form ahead of the real on-track action that will kick off in 10 days' time.

After a pre-season of uncertainty, only one thing is for sure: it will be an utterly fascinating year, and our magazine and website will be there every step of the way. It's going to be fun!



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PRIVATE EAR



THOMPSON/GETTY

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Carlos Reutemann, South African GP, 1974

THE BIG PICTURE

There's been plenty of midnight oil burned in Bahrain over the past fortnight as Red Bull's Sebastian Vettel drives into the dusk in its often-recalcitrant RB10



This week in F1

RED BULL STILL IN THE MIRE

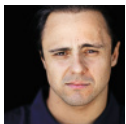
Reigning world champion team Red Bull is unlikely to be a frontrunning contender in the first race of the new season after enduring a difficult final four days of pre-season testing in Bahrain last week.

Electrical issues meant world champion Sebastian Vettel failed to complete a

lap on the penultimate day. Although team-mate Daniel Ricciardo completed 66 laps and went third quickest on day two, the Renault-powered RB10 is still plagued by cooling issues.

The Milton Keynes squad faces a race against time to fix them before the first race in Melbourne next week.

Rival views



Felipe Massa

"It's always nice to say a Red Bull is struggling and maybe it can be fighting with the Caterhams, but forget it. They have a problem to solve, but when it is solved they will be there."



Lewis Hamilton

"They look like they have a stunning car, and usually the more beautiful it is the faster it is. Once they get the engine sorted, they'll be very hard to beat."



Jenson Button

"If they can put a few laps together you can see their pace. It looks like it should work from an aerodynamic point of view and, when they get reliability, they'll be very competitive."

BIG NUMBER

32 Percentage of laps Red Bull has managed this pre-season compared to 2013



P14 FULL ANALYSIS OF FINAL BAHRAIN F1 TEST

HONE/GETTY



Gary Anderson
Technical consultant

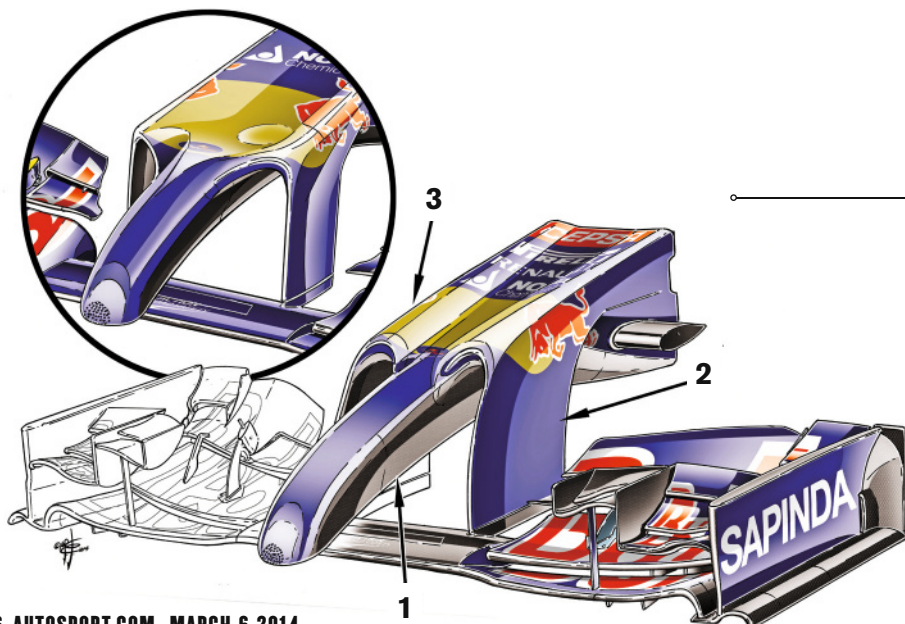
New Toro Rosso nose

➔ In the second Bahrain test last week, Toro Rosso became the first team this year to make a significant modification to its nose.

The nose section itself is now shorter, in effect making it higher at the front (3). This means that the anteatr section looks longer (1). This is all to allow more airflow under the front of the chassis to the underfloor.

The anteatr section and the front-wing mounting pillars intersect (2), meaning that the blockage of all three has to be taken into account.

Some rivals have managed to create less blockage in this area, giving more airflow to the underfloor, which is what this concept is all about.



For all the breaking news, visit **AUTOSPORT.COM**

McLaren slips behind rivals

Jenson Button fears McLaren is “further behind than expected” after struggling for speed during the final pre-season test in Bahrain. “We’ve got a lot of work to do still,” said Button. “I think the basic car is good but we’re still waiting for our upgrades. I’m not worried.”



Lotus admits it's 'not ready'

Romain Grosjean admitted Lotus won't be ready for the start of the season, following a troubled final pre-season test in Bahrain. “It's not going to be perfect for Melbourne, or even Malaysia,” he said, “but we will try our best to improve.” Grosjean managed just 492 laps during testing.



Bahrain names corner after Schumacher

Bahrain Grand Prix organisers are to name the Sakhir track's first corner in honour of Michael Schumacher. Track chairman Zayed Al Zayani said Schumacher's family had given the move their blessing.

“We have done around 4000km, Mercedes close to 5000, Williams more or less close to that number. That means at the end of the day they prepared better for the start of the season”



Ferrari team principal Stefano Domenicali on how the Scuderia stacks up after testing

Renault 'didn't need' extension

Renault claims it did not need an extension to the Formula 1 engine homologation deadline, despite the ongoing struggles with its new power unit in pre-season testing.

The French manufacturer denied asking for an extension, although teams discussed and rejected the possibility of stretching the deadline by three months during an F1 Strategy Group meeting.

The FIA sealed Renault's reference engine last Friday, meeting the stipulated deadline.

Renault has not ruled out seeking permission to modify its engine for reliability reasons once the season starts. It has identified the turbo as the key area to improve.

Qualifying format changes

Formula 1 teams have approved plans to tweak the qualifying format for 2014 in a bid to spice up the spectacle of Q3.

The changes were proposed to prevent drivers sitting out the final session to save tyres for the race.

The revisions include drivers starting races on Q2 tyres rather than Q3 rubber; extra tyres being provided for Q3 only; and reducing Q1 from 20 to 18 minutes and lengthening Q3 to 12 minutes so drivers can complete two runs. The FIA must now ratify the changes in time for next week's Australian GP.

A push by Bernie Ecclestone to expand the controversial double-points rule for the final three races, rather than just the finale, was voted out.



F1 teams body is disbanded

The Formula One Teams' Association (FOTA) has been disbanded, following weeks of speculation over its future.

FOTA secretary general Oliver Weingarten said: “FOTA has been disbanded as a result of its members having re-evaluated their requirements in the face of a changing political and commercial landscape in Formula 1.”

FOTA timeline

2008 Body formed to give teams unity in discussions with the FIA and Bernie Ecclestone over commercial considerations.

2009 Proposes breakaway 'Grand Prix World Championship'. Max Mosley decides not to stand for re-election as FIA president.

2010 Framework laid for current F1 regulations. Resource Restriction Agreement introduced as part of Concorde Agreement.

2011 Fan forums introduced, but FOTA's unity shattered when Red Bull, Ferrari and Sauber quit following disagreements over cost-cutting measures.

2012 McLaren's Martin Whitmarsh takes up chairmanship as body carries on with reduced membership.

2013 F1 Strategy Group is formed as part of plan for new Concorde Agreement.

2014 Body disbanded as Whitmarsh becomes sidelined at McLaren and remaining teams “re-evaluate their requirements”.

Mercedes not free from reliability worry

Mercedes still fears for the reliability of its new W05 after suffering more issues with the car during the final pre-season test in Bahrain.

Nico Rosberg was delayed by a precautionary engine change on day three, while a gearbox problem hampered Lewis Hamilton on day four. “We've had some good tests but reliability is still a concern for us,” said Rosberg.



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Jonathan Noble

F1's newshound

Strange as it may seem, Red Bull's struggles in pre-season testing may provide Vettel with the chance to show just how good he really is

You can never say never in Formula 1, but you would be on pretty safe ground right now to predict that Sebastian Vettel is going to be starting the new season without the kind of dominance with which he finished the last.

When the cars are unleashed from the pits on the opening day of practice in Melbourne next week, 200 days will have passed since the Belgian Grand Prix – where the German's current run of nine consecutive victories began. From what we have seen during pre-season testing, you would be brave to bet on that record going on much further.

But while the likely end to Vettel's winning streak will not be what he nor his team had hoped for after four consecutive world title doubles, the looming difficulties could at least offer us a much better insight into just how good a driver he really is.

For one of the travesties of Vettel's form in recent years has been that many have viewed it wholly as the result of him having by far and away the best car. While it may be true to a certain extent that Adrian Newey's brilliant machinery has been essential for Vettel to triumph, it must not take away from the fact that the young German has had to go out there and deliver some pretty sensational drives along the way too.

When a driver and team hit a sweet spot in F1, their repeated success often looks effortless. It becomes almost



For rewind two years and it was Fernando Alonso who faced similar headaches with the Ferrari F2012 having proven to be a huge disappointment in pre-season testing. Yet he kept his chin up, dug deeper within himself to overcome the car deficiencies, and delivered some sensational performances in the cockpit that gave us all a new-found appreciation of just how mega he is.

From a man who had arrived in Melbourne with the

“One travesty of Vettel's recent form is that it is seen as the result of having the best car”

expected that they will win – and the more they win the more it gives that wrong impression that it is easy. That was the scenario that tainted Vettel's achievements last year; for the manner of his dominance gave the impression that anyone could be winning in an RB9. Yet even the gritty Mark Webber could not quite put together the victory that he and his team would have loved to see in his final season.

An easy time is something Vettel is not facing right now. The pre-season struggles of the RB10 have dismantled the high demands that followed Red Bull in recent years – and it would be a bigger surprise if he won in Australia than if he did not finish in the points.

In sport it is always better to under-promise and over-deliver, and this is now going to be one of the benefits that Vettel is going to have if things are as troubled at the start of the season as many expect. That could provide a fantastic opportunity for him.

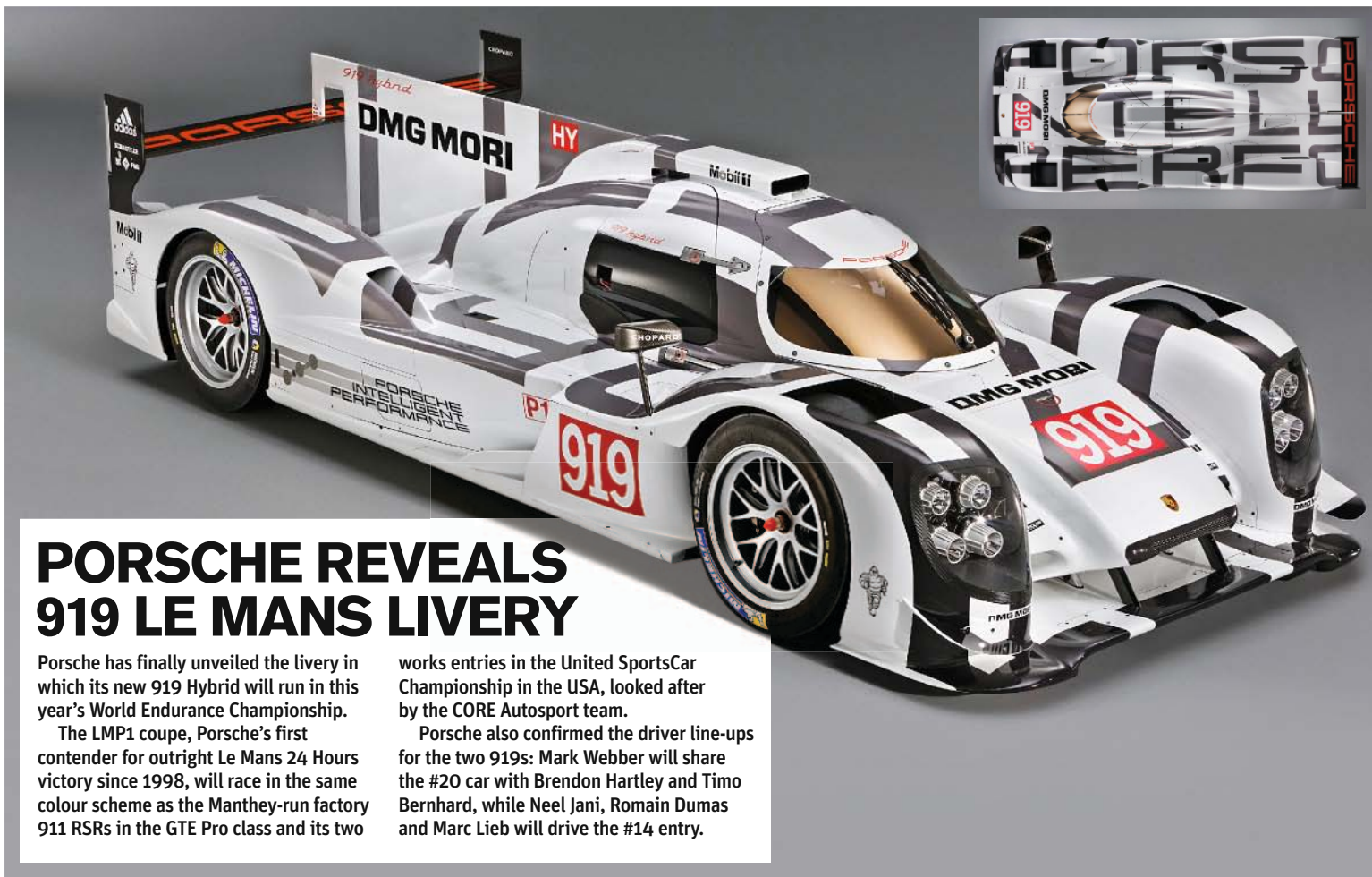
media suggesting he would struggle to make it into Q3, Alonso delivered wins in Malaysia, Valencia and Germany to keep himself in the title hunt in a car that did not deserve to be up there. There were fewer mistakes that season, and fewer times when his performance was anything but stellar, than in his title-winning campaigns.

That is exactly the kind of spirit we need to see from Vettel this year if we are finally going to get a proper insight into just how good he is.

He will arrive in Melbourne with few expectations on his shoulders – but huge opportunities to show us that he can rise above frustration and disappointment to drive like a star. Should he do that, then when he does finally get back on the top step of the podium – as surely he and Red Bull will at some point – then the boos that accompanied last year's victories will be but a distant memory.

There will, instead, be well-earned cheers of respect. ❧

This week in motorsport



PORSCHE REVEALS 919 LE MANS LIVERY

Porsche has finally unveiled the livery in which its new 919 Hybrid will run in this year's World Endurance Championship.

The LMP1 coupe, Porsche's first contender for outright Le Mans 24 Hours victory since 1998, will race in the same colour scheme as the Manthey-run factory 911 RSRs in the GTE Pro class and its two

works entries in the United SportsCar Championship in the USA, looked after by the CORE Autosport team.

Porsche also confirmed the driver line-ups for the two 919s: Mark Webber will share the #20 car with Brendon Hartley and Timo Bernhard, while Neel Jani, Romain Dumas and Marc Lieb will drive the #14 entry.

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Bamboo swaps WTCC for WEC

Bamboo Engineering has pulled out of the WTCC and will instead compete in the WEC this year after forging a relationship with Aston Martin Racing. Former Bamboo WTCC drivers Darryl O'Young and Alex MacDowall will race the second GTE Pro class Vantage GTE in all eight WEC races alongside Brazilian Fernando Rees.

"I realised how amazing it was. That's how racing used to be"



Jacques Villeneuve reveals the motives behind his shock 2014 Indy 500 return

P94 VILLENEUVE RETURNS



Clarke seals switch to the BTCC

Formula 2 racewinner Jack Clarke will move into the BTCC in 2014, partnering returning double champion Fabrizio Giovanardi at Motorbase. The 26-year-old, who has competed in a multitude of series including Blancpain and NASCAR K&N over the past two years, will run under the Crabbie's Racing banner

Tandy in factory Le Mans deal

Porsche factory GT driver Nick Tandy will race one of the works 911 RSRs in this year's Le Mans 24 Hours.

Tandy, along with CORE Autosport USC team-mate Richard Lietz, will join the Manthey-run Porsche GTE Pro squad for Le Mans and the Silverstone WEC round.

Frederic Makowiecki, Marco Holzer, Patrick Pilet and Jorg Bergmeister have been confirmed as the regular WEC drivers by Porsche, although the line-ups have yet to be announced.



LEVITT/LAT

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MG linked with rallying return



RALLYEMOTION.IT

MG has been linked with a return to rallying's top flight with an MG3 World Rally car. MG confirmed to AUTOSPORT that it had been contacted by a private team in an effort to pursue a development programme for the new car. Ukrainian driver Oleksii Tamrazov is working on the deal.

DID YOU KNOW?

MG's last major assault on the WRC came with the Group B MG Metro 6R4. Tony Pond scored a podium on the car's debut – the 1985 Lombard RAC Rally.



Cosworth weighing up IndyCar bid

Cosworth has thrown its hat into the ring as a potential third IndyCar engine manufacturer. Recently-installed CEO Hal Reisiger told AUTOSPORT that he wants to restore motorsport as a central focus of Cosworth's operations.

BMW REVEALS DTM M4 MODEL

BMW has unveiled its new M4 DTM challenger for 2014. The car, which will make its public debut during official testing at the Hungaroring at

the end of March, succeeds the 2012/13 M3, which won back-to-back constructors' titles on BMW's return to the series after a 20-year absence.



Petrov lands Mercedes DTM ride

Ex-Formula 1 driver Vitaly Petrov has secured a DTM seat with Mercedes for the 2014 season. The Russian driver tested one of the team's C-coupees at the Algarve

track in January. Mercedes has previously revealed the return of 2010 DTM champion Paul di Resta, and its retention of both Gary Paffett and Daniel Juncadella.

In brief



DOLE/LAT

ALBUQUERQUE IN ELMS

New Audi Le Mans 24 Hours driver Filipe Albuquerque (above) has been placed with the British Jota Zytek LMP2 team for the European Le Mans Series. The 28-year-old, who will race the third Audi R18 e-tron quattro at Le Mans, will drive the Jota Sport Zytek-Nissan Z11SN together with Harry Tincknell and Simon Dolan.

NASH HEADS FOR GT

WTCC frontrunner James Nash will swap codes and contest the Blancpain Endurance Series with the WRT Audi squad in 2014. Nash, who finished third in the WTCC last year, said he decided to switch because there was no chance to work with a manufacturer in touring cars in 2014.

SENNA'S ASTON DEAL

Bruno Senna will race with Aston Martin only in the Le Mans 24 Hours this season. The Brazilian is unavailable for a full WEC programme and will announce his 2014 plans imminently.

PANTHER LEGAL ROW

Panther Racing has launched a multi-pronged lawsuit related to the loss of its National Guard sponsorship to Rahal Letterman Lanigan. RLL, one of four defendants named in the suit, vowed to "vigorously fight" the charges.

MA GETS CITROEN SEAT

China's Ma Qing Hua, who has driven for both HRT and Caterham on F1 grand prix weekends, will compete in a fourth Citroen at five WTCC events.

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Inc. the 9th Classic 4 Hour Relay Race



Dieter Rencken

F1's political animal

As pre-season testing made all the headlines, important decisions about F1's future were made behind closed doors

While the eyes of Formula 1 fans across the world were on testing in Bahrain, a number of discussions held in Paris and south-east London will undoubtedly impact on F1's short-, medium- and long-term futures. Taken in isolation, none has the power to radically rock the sport; collectively, though, they have the potential to profoundly affect F1 not only for the upcoming season, but well into the future. However, in true F1 fashion, proceedings also included cloak-and-dagger elements; thus caution is due.

In formulating the 2014 technical regulations, the FIA, world motoring's governing body, decreed that engine suppliers lodge 'frozen' reference power units and supporting documents by no later than February 28. Given Renault's well-documented issues, speculation abounded that the French company would canvas for a two-month extension. Indeed, in Bahrain (malicious?) insiders suggested Renault-Nissan Alliance Chairman Carlos Ghosn had personally called FIA president Jean Todt to request precisely that – which drew vehement denials from both parties. Strangely, though, Friday's meeting of F1's Strategy Group allegedly vetoed an alleged extension that had allegedly never been requested, indicating that there are three sides to this story.

At the same meeting at Formula One Management's Biggin Hill base, minor tweaks to 2014's sporting

Also allegedly vetoed was the question of awarding points for qualifying: AUTOSPORT understands a reducing scale was discussed awarding up to eight points for pole (equal to a sixth-place finish). Of greater concern, though, were discussions calling for the concept to be applied to the final six rounds to 'spice' dull seasons. If adopted for 2015, outcries to rival those which followed the FIA's decision to award double points for (of all races) Abu Dhabi's Grand Prix will likely follow – rightly so, for such gimmicks cheapen what is a serious world championship contested across the globe by the world's best drivers representing teams owned or partnered by blue-chip brands.

The foregoing makes abundantly clear that commercial rights holder FOM is prepared to resort to any means to prolong championship battles – TV ratings are, after all, F1's lifeblood – in tandem with the governing body, which benefits through 'taxing' teams and drivers by imposing levies on points scored. Each double-points race is worth around £100,000 to the FIA.

Also discussed were cost-cutting initiatives, including standardisation of non-performance componentry such as steering racks and fuel systems, and the elimination of exotic materials. Alarmingly, little concrete progress was made on cost control, with discussions centring on £225m annual budget caps – double that spent by most teams.

As though these far-reaching discussions were not

“F1's Strategy Group allegedly vetoed an alleged extension allegedly never requested”

regulations were passed, including an additional set of 'option' tyres for Q3 runners to eliminate the eyesore of some of the top-10 fastest cars remaining stationary during the closing stages of Saturday qualifying for strategic reasons. With 2014's unknown formbook, one wonders whether F1 has hit upon a non-issue... Either way, this decision needs to be approved by fax vote (on March 5) by the Formula 1 Commission with a 70 per cent majority before ratification by the FIA's World Motor Sport Council by the same mechanism. Most decision-makers seem in favour; thus it is virtually a done deal.

However, where the Strategy Group – comprising six teams, namely Red Bull Racing, Mercedes, Ferrari, McLaren, Williams and Lotus, plus Todt and FOM CEO Bernie Ecclestone – approved this proposal, it vetoed Ecclestone's suggestion of extending the controversial concept of awarding double points for the season finale to encompass the final trio of races. Small mercies.

sufficient for a Friday, the Formula One Teams' Association announced it was to disband after six tumultuous years marked by, initially, running battles with the FIA and FOM. Once peace was brokered in 2010, FOTA busied itself with Fan Forums, tyre and other contracts, testing and shutdown agreements and administration of F1's contentious Resource Restriction Agreement.

That it was an effective foil was proven by successes in negotiating the 2010-2 Concorde Agreement, which formally provided for a doubling in revenues for teams, simultaneously endowing them with crucial input into F1's governance. However, after Red Bull Racing and Ferrari were 'bought off' by FOM through advantageous commercial terms through to 2020, FOTA was doomed.

Whatever the eventual decisions on costs and other issues, such as applications for vacant grid slots, far-reaching as they may be, they are unlikely to affect F1 as profoundly as the decision to disband FOTA. ❧

Why Merc's biggest rival comes from within

Mercedes has comprehensively won the pre-season testing war, but might its works team come under attack from a leading customer?

EDD STRAW rates the threat from Williams among others



14

When Lewis Hamilton drove his Mercedes out of the garage at Jerez in January and trundled out of the pitlane to herald the start of Formula 1's brave new 1.6-litre turbocharged V6 era, it was a statement of intent. Mercedes was easily the most impressive team during that first test, and through the second batch of running in Bahrain three weeks later.

While Mercedes ended the final pre-season test still as favourite for the Australian Grand Prix on March 16, it is one of its customer teams that has emerged as its closest challenger. Williams has flattered to deceive during winter testing before but, based on the evidence in Bahrain, the FW36 will start 2014 as a serious contender.

Felipe Massa set the fastest time of all eight days of pre-season testing in Bahrain on the penultimate day of running. This

shows that the Williams is at least towards the front on pace. Allied to an impressive race simulation by Valtteri Bottas on day one of last week's final Bahrain test, which showed that Williams could take the fight to Mercedes, this is encouraging for the venerable team. It also suggested that Williams is ahead of McLaren and Ferrari, with fellow Mercedes-powered team Force India also looking strong but not quite showing so well.

The priority during testing has been to ensure reliability, and it was not until the penultimate day of the final test that Williams attempted a qualifying simulation, which stood as the fastest time. Remarkably, Williams completed its entire pre-season testing programme unlike many rivals.

"It has been a very successful pre-season," Williams chief technical officer Pat Symonds told AUTOSPORT. "We have managed

to get most things done that we needed to do. Reliability has been good. We've had two days out of the 12 that have been traumatic, but they weren't down to a myriad of small things; they were a few things that took a bit longer to sort than we expected. And they are now fully sorted. We have an enormous new-car sign-off procedure, and we got through it."

While historically it has been possible for teams to put in eye-catching testing laps without necessarily having made serious progress, Williams has probably had as clean a run during pre-season testing as anyone, despite missing the first day at Jerez and losing a day in the first Bahrain test with a wiring-loom problem.

It logged a remarkable 4100km with one of its Mercedes power units, without having to change any of the internal-combustion-engine/turbo or ERS components, suggesting reliability could

potentially be Williams's trump card. It caused just one red flag during the 12 days of pre-season testing, fewer than any other squad. Inevitably, the team is being cautious and not making any bold predictions, but Symonds is upbeat about progress.

"I can't underplay the role Mercedes has had in achieving what we have achieved pre-season," said Symonds. "The reliability of the most complex part of the new car has just been exceptional."

While the suspicion in the paddock is that the Mercedes will prove to be the quickest car in Australia, the German team has triggered six red flags. It completed only the fourth-highest mileage in the second Bahrain test, although by hitting trouble it has worked through a significant number of fixes for problems.

"My car is not 100 per cent ready yet," admitted Nico Rosberg during the test. "We still have a few

STATISTICS FORMULA 1 2014 PRE-SEASON DATA

DISTANCE BY DRIVER (MILES)

Rosberg	554
Alonso	530
Magnussen	486
Bottas	449
Hamilton	421
Gutierrez	403
Massa	400
Sutil	373
Raikkonen	345
Hulkenberg	343
Perez	337
Button	326
Ericsson	286
Kobayashi	262
Vergne	257
Kvyat	207
Bianchi	186
Vettel	162
Ricciardo	158
Maldonado	147
Chilton	131
Grosjean	91
Nasr	87
Juncadella	81
Frijns	78

DISTANCE BY TEAM (MILES)

Mercedes	3090
Williams	3040
Ferrari	2789
McLaren	2580
Sauber	2509
Force India	2469
Caterham	2058
Toro Rosso	1527
Red Bull	1063
Marussia	1047
Lotus	800

DISTANCE BY ENGINE (MILES)

Mercedes	11,180
Ferrari	6346
Renault	5449

418

SETS OF TYRES USED

F1 TEST TIMES

BAHRAIN, FEBRUARY 27-MARCH 2

POS	DRIVER	CAR	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1	Felipe Massa (BR)	Williams-Mercedes FW36	-	1m36.507s	1m33.258s	-
2	Lewis Hamilton (GB)	Mercedes F1 W05	-	1m39.041s	-	1m33.278s
3	Nico Rosberg (D)	Mercedes F1 W05	1m36.624s	-	1m33.484s	-
4	Valtteri Bottas (FIN)	Williams-Mercedes FW36	1m36.184s	-	-	1m33.987s
5	Fernando Alonso (E)	Ferrari F14 T	-	1m35.634s	-	1m34.280s
6	Sergio Perez (MEX)	Force India-Mercedes VJM07	1m35.290s	1m35.570s	-	-
7	Kimi Raikkonen (FIN)	Ferrari F14 T	1m36.432s	-	1m35.426s	-
8	Nico Hulkenberg (D)	Force India-Mercedes VJM07	-	-	1m36.205s	1m35.577s
9	Jean-Eric Vergne (F)	Toro Rosso-Renault STR9	-	1m39.636s	-	1m35.701s
10	Daniel Ricciardo (AUS)	Red Bull-Renault RB10	1m37.908s	1m35.743s	-	-
11	Kevin Magnussen (DK)	McLaren-Mercedes MP4-29	1m37.825s	-	1m35.894s	-
12	Daniil Kvyat (RUS)	Toro Rosso-Renault STR9	1m39.242s	-	1m36.113s	-
13	Adrian Sutil (D)	Sauber-Ferrari C33	1m37.700s	-	no time	1m36.467s
14	Max Chilton (GB)	Marussia-Ferrari MR03	1m38.610s	-	-	1m36.835s
15	Jenson Button (GB)	McLaren-Mercedes MP4-29	-	1m36.901s	-	1m38.111s
16	Jules Bianchi (F)	Marussia-Ferrari MR03	-	1m38.092s	1m37.087s	-
17	Esteban Gutierrez (MEX)	Sauber-Ferrari C33	-	1m39.976s	-	1m37.303s
18	Sebastian Vettel (D)	Red Bull-Renault RB10	-	-	no time	1m37.468s
19	Marcus Ericsson (S)	Caterham-Renault CT05	-	1m42.516s	1m38.083s	-
20	Kamui Kobayashi (J)	Caterham-Renault CT05	1m42.285s	-	-	1m38.391s
21	Romain Grosjean (F)	Lotus-Renault E22	-	-	1m42.166s	1m39.302s
22	Pastor Maldonado (VV)	Lotus-Renault E22	1m40.599s	1m41.613s	-	-

RED FLAGS CAUSED BY TEAM

Lotus	7
Sauber	7
Mercedes	6
Ferrari	6
Toro Rosso	6
Red Bull	4
McLaren	4
Force India	3
Caterham	3
Marussia	2
Williams	1

31,032

2013 TOTAL MILEAGE

22,975

2014 TOTAL MILEAGE

days because reliability is not 100 per cent. We might be in a better position than some other teams, but we need to get to the end of the race so that's a big challenge."

THE FERRARI THREAT

Of the non-Mercedes teams, Ferrari looks strongest. The team is more confident about its race pace than its qualifying speed, although team principal Stefano Domenicali admitted that it is lagging behind Mercedes and Williams.

"We have done around 4000km, Mercedes close to 5000, Williams more or less close to that number," said Domenicali. "That means, at the end of the day, they have prepared better for the start of the season. Williams and Mercedes seem to be in very good shape, but that's what we have seen so far. I think we have a good base and we need to develop it."

The Renault-powered teams continued to struggle, notably Red

Bull, which goes into the first race of the season with a car that has yet to complete a full race distance. Sebastian Vettel attempted this during a final day on which Red Bull concentrated on detuned reliability running, but failed.

Overheating problems continue to plague the team, particularly when the car is setting fast times. On top of that, it has been held back by struggles with the Renault engine and operational issues, such as a problem when the car was fired up on the penultimate day of the test – this is believed to be related to the external starter motor that appeared to lead to battery damage.

Renault did make progress in Bahrain, but it is comfortably the worst-prepared of all the engine manufacturers. This means that, for the first time in half a decade, Red Bull and Vettel go into the opening race of the season without a realistic shot of victory.



Ferrari: better on race pace than qualifying

Who really won the testing war?

It's a dangerous game to read too much into the headline test times, but **GARY ANDERSON** has put his expertise into analysing the numbers



16

This has been the strangest pre-season testing build-up I have ever seen, so it's difficult to know for sure where any team sits as there have been so many variables affecting laptime.

But looking at the laptimes over the eight days of testing in Bahrain, it is possible to get some idea of how the 11 teams stand on raw pace heading into the 2014 season.

Everyone considered the Sakhir circuit to be slower in the final pre-season test than it had been a week earlier, perhaps by as much as two seconds. But this sounds too much. To create a mathematical figure, I have used Nico Rosberg's fastest lap from the previous test in comparison to this test and

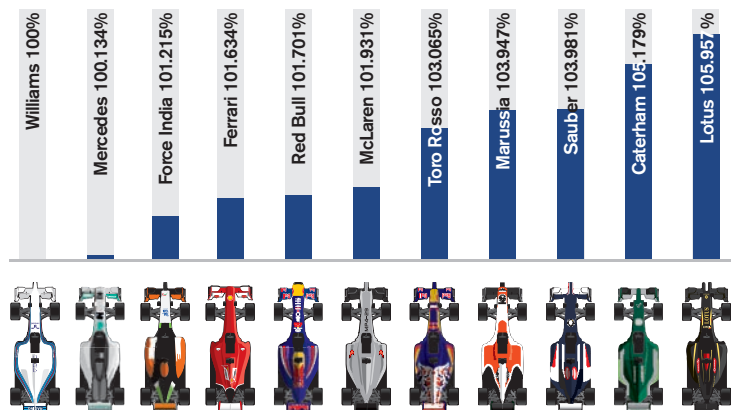
modified it to equalise for tyres, which shows he was 0.621 seconds slower. To equalise the times, I have decided to reduce the laptime by one second for anyone who set a time on Thursday or Friday, when the track was slowest, 0.5s for those setting a time on Saturday and by nothing for the final day.

I have equalised the tyre compounds at 0.4 seconds per compound. This is based on the average differences from over 2013 rather than the Bahrain test itself. If used tyres were on the car, I have taken 0.2 seconds off a driver's time.

It suggests that Williams really does have the car to take it back to where it should be, fighting at the front of the field.

TEAM RELATIVE PERFORMANCE

State of play based on the two four-day tests in Bahrain (100% is the ultimate pace)



Felipe Massa and Williams
could be looking good
for Australian GP pole



ADJUSTED BAHRAIN TEST LAPTIMES

Massa	1:33.158
Rosberg	1:33.283
Hamilton	1:33.678
Bottas	1:33.987
Perez	1:34.290
Alonso	1:34.680
Ricciardo	1:34.743
Button	1:34.957
Magnussen	1:35.310
Raikkonen	1:35.326
Hulkenberg	1:35.977
Kvyat	1:36.013
Vergne	1:36.101
Chiton	1:36.835
Sutil	1:36.867
Bianchi	1:36.987
Gutierrez	1:37.180
Vettel	1:37.268
Ericsson	1:37.983
Kobayashi	1:38.391
Maldonado	1:38.707
Grosjean	1:39.302

MERCEDES LOOKS THE PART ON TRACK

The contrast between watching trackside on the final day of the Bahrain test on Sunday and what was on show at Jerez five weeks earlier could not have been starker. It seemed impossible that the hesitant, rarely glimpsed machines lapping the Spanish circuit on January 28 could be ready to go into a grand prix weekend after just 12 days of running. But by Sunday afternoon in Bahrain, most had been transformed into cars that responded sharply to a driver's input, their characteristics and traits laid bare.

The uphill left-hander at the end of the back straight offers a high-speed approach and relatively rapid turn-in. But the length of the corner means that any small struggles under braking cost serious time. And as many drivers found out during the test, overcommitting meant a trip to the run-off area.

The Mercedes, unsurprisingly, looked the most under-control. At the turn-in and the mid-corner phase, it looked beautifully balanced, although it shares the trait with all of 2014's machines that squeezing in the power unsettles the rear end. Every lap, the back of the car would break traction to at least some extent, although Lewis Hamilton had little trouble bringing it under control.

At the other end of the spectrum was the Caterham. Each lap, Kamui Kobayashi took several bites at the turn-in as the car attempted to swap ends, this instability lasting throughout the corner and making for a very imprecise line. Often, the car would

get close to the apex under-rotated, elongating the corner and delaying getting on the power. How much of this is down to the aerodynamic characteristics of the CT05, how much down to a Renault engine that is audibly rawer than the Ferrari and Mercedes, and how much to struggles with the rear braking-by-wire system, the next few months will lay bare.

The Williams, as it has throughout testing, looked beautiful from turn-in to apex, although the rear did often start to wobble on approach to the apex. Valtteri Bottas found it easily controllable, but it inevitably bred a slight hesitancy absent in the Mercedes.

Nico Hulkenberg, out on a long run in the Force India, showed just how

significant the thermal degradation of the tyres will be. The longer he continued, the harder it was to keep the rear end under control, and on a couple of occasions the grip was no longer there to justify the commitment under braking and on turn-in.

Most eye-catching, not for dynamic reasons but for audible ones, was the Ferrari. Unlike the Renault and Mercedes-engined cars, you could barely hear the sound of the downshifts. Instead, you had to detect the car going down a gear, making the car sound beautifully smooth. As throughout testing, Ferrari's rear grip didn't appear as strong as for some other cars.

Of the Renault-engined cars, arguably it was the Lotus that looked most convincing on the occasions it ran, and the strong front-end downforce levels that characterised its 2012 and '13 machines appear to have carried over. But if you can't complete more than 33 laps a day, it's impossible to exploit that grip.

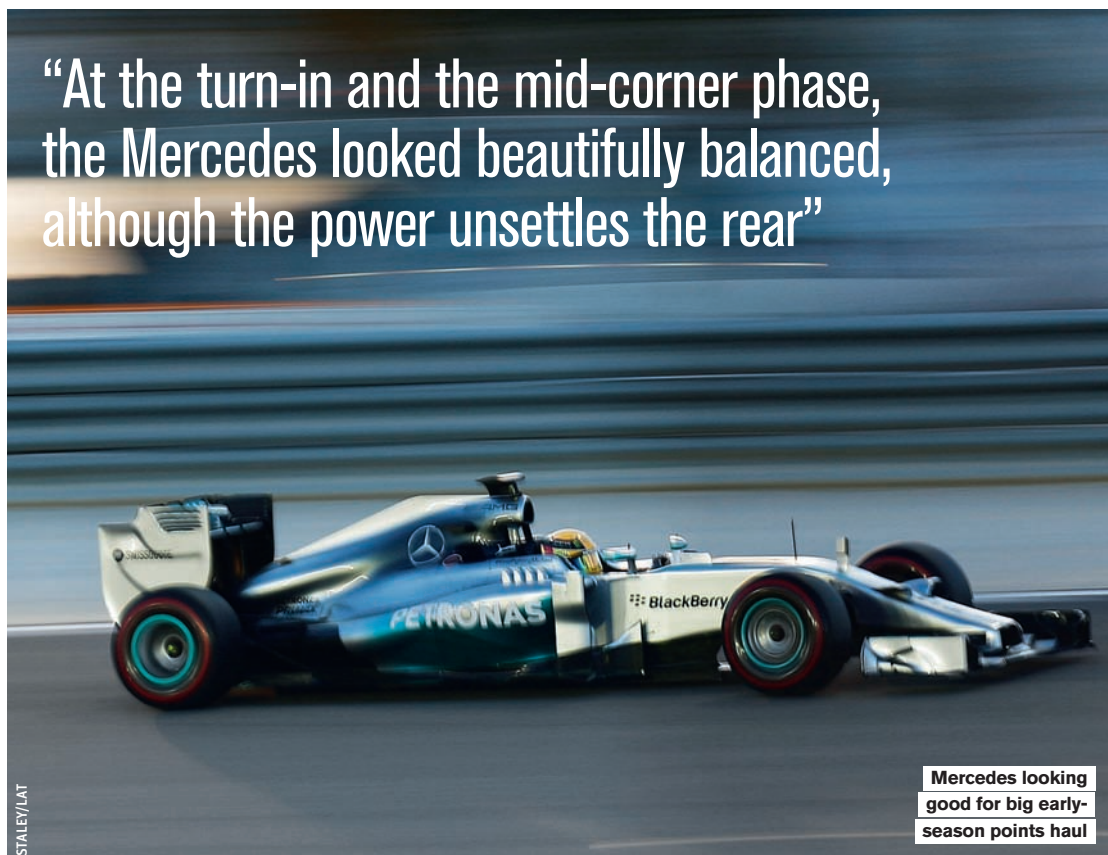
Then there was the Red Bull, its Renault engine burbling and thrashing its way into the corner with a pleasing turbo whirr. But it was clear that Sebastian Vettel could not commit under braking as he logged laps in what's best described as 'safe mode'. The car looked good dynamically but, when you are lapping six or more seconds off the pace in what is reckoned to be the car with potentially market-leading downforce, it's easy to look stable and under control.

Edd Straw



Hamilton: no trouble with torque 'squirms'

"At the turn-in and the mid-corner phase, the Mercedes looked beautifully balanced, although the power unsettles the rear"



Mercedes looking good for big early-season points haul

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F1 2014

THE
SHOCK

— OF THE —

NEW

Formula 1 has a new look, a new sound and a new style of racing this year.
But what can we really expect from the coming season? By **EDD STRAW**

For a species that has, for better or worse, shaped and scarred the planet, bending it to its will, and relentlessly pursued life-changing technological marvels that outstrip the imaginations even of those one generation older, human beings have a curious distrust of change. The desire to preserve the status quo, or better still hark back to a halcyon, usually fictional, past is hardwired into homo sapiens. No matter how much we like to believe we are immune to it, all of us have at times drifted into the mob mentality and Luddite outlook.

What has this got to do with Formula 1? Everything, it seems, judging by the past couple of months of howling derision about the direction of grand prix racing. The baying, naysaying mob has bellowed relentlessly about everything from the look of the cars to the noise of the engines and the supposed dullness of the racing. Yes, that would be the racing that hasn't even started yet, and for which even the teams feel desperately underprepared to predict.

Some changes, such as the catastrophically short-sighted move to award double points for the season final in Abu Dhabi, are idiotic. Others, like the nose regulations — understandable in isolation but which have resulted in some monstrously ugly creations — are the result of a poor rules-writing process. But these are snapshots of a wider shift in the sport that merits far closer scrutiny than kneejerk reactions to the worst Doomsday scenarios.

Already during pre-season testing, the whining about the cars being too slow has been silenced, with predictions of GP2-level pace blown out of the water, and reliability has been better than many predicted (albeit far from good). What's more, the cars are visually more spectacular on track, as drivers struggle to keep the rear end under control and manage more aggressive power delivery with the right foot.

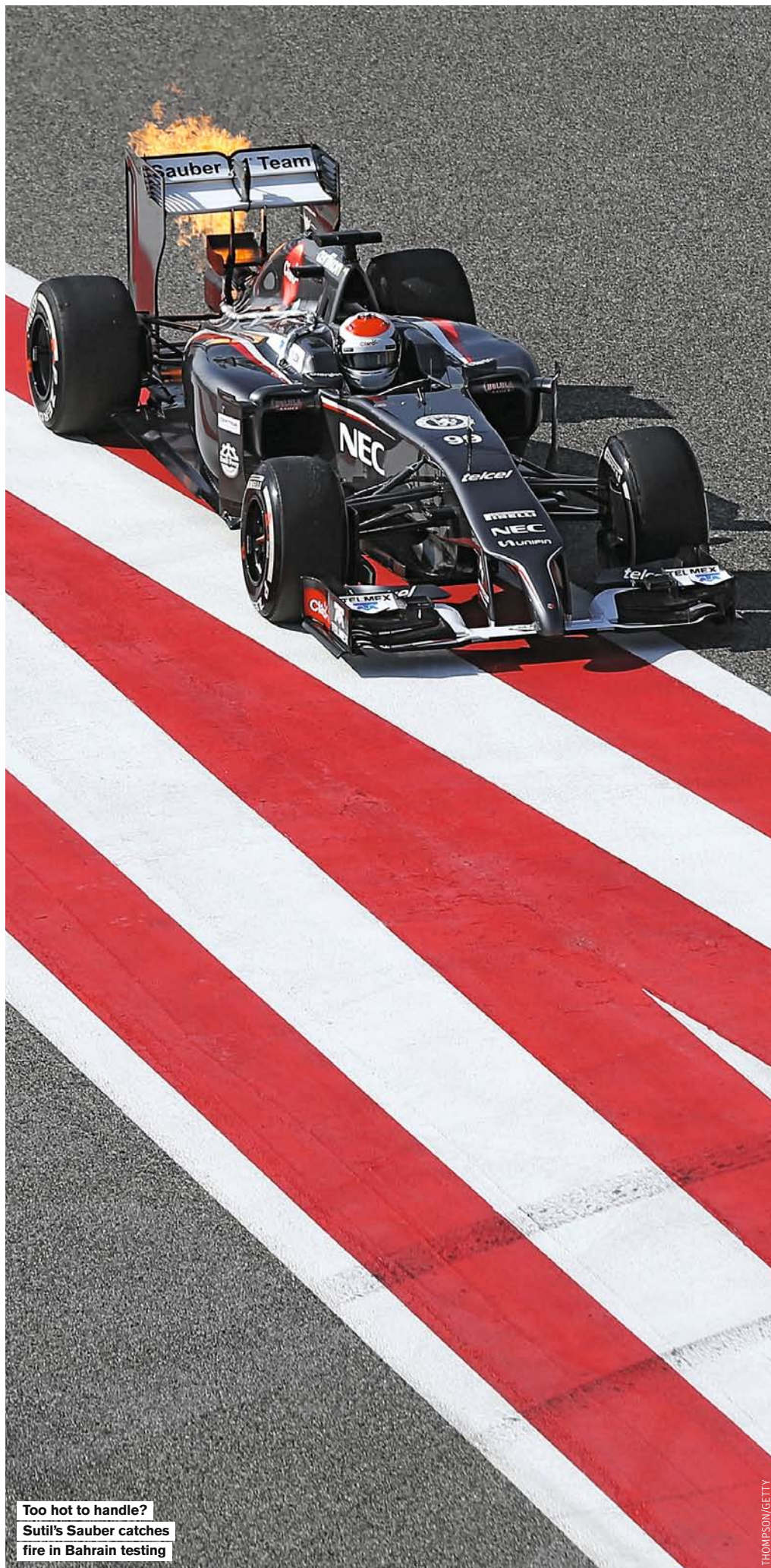
After five relatively stagnant years of engine freezes, restrictive aerodynamic regulations and domination by Red Bull and Sebastian Vettel, a change, almost any change, was desperately needed. For better or worse, what we are faced with is the shape of F1 for the best part of the next decade. Things will never be the same again.

EFFICIENCY: A DIRTY WORD?

The adoption of 1.6-litre turbocharged V6 engines, which kick out almost 800bhp with maximum energy recovery systems (ERS) output, is key to the new F1.

This year's ERS is a huge stride forward from the previous-generation KERS. No longer simply a bolt-on component, it is now an integral part of what is a genuinely greener racing engine. Last year, KERS could produce around 80bhp for 6.7s per lap. This year, thanks to an increase in electric-motor size from 60kW to 120kW, this has doubled. The amount that can be used on a single lap has been increased tenfold, from 400kJ to 4mJ, meaning that if it were used at full blast it could offer its energy boost for over 30 seconds per lap.

The energy is harvested by the MGU-K (motor generator unit-kinetic) under braking at the rear axle, in addition to the MGU-H (for heat), which is a motor attached to the rotating shaft of the turbocharger. The MGU-H energy can also be deployed outside the per-lap power-boost limit, meaning this is a key area for efficiency. ▶



Too hot to handle?
Sutil's Sauber catches
fire in Bahrain testing

THOMPSON/GETTY

Merc (here followed by customer Force India) looks strongest



FERRAROLI/LAT

22

'After years of frozen-spec V8s of unvarying performance, engines are a key differentiator'

► This energy is no longer deployed by a simple push of a button by the driver. It will be less of a push-to-pass and more a bank of energy to be used and managed on a second-by-second basis, with the potential for electrical energy to iron out torque curves. Asking the driver to manage this would be the equivalent of devolving control of valve timing from the ECU to the man in the cockpit. Out of the question. That said, most teams will give their drivers a 'maximum-attack' override available on the steering wheel for judicious use in wheel-to-wheel situations.

Harnessed to a 100kg fuel limit per race for each driver, the priority for these new engines is to maximise efficiency. In the crudest sense, F1 races in 2014 will be an economy run.

That probably produces a mental image of

crawling down the motorway at 56mph parked in the slipstream of a truck, trying to make it to the next service station after driving for 40 minutes with the fuel warning light on. But F1 will be nothing of the sort. Take whichever all-time great you rate most – Tazio Nuvolari, Juan Manuel Fangio, Jackie Stewart, Ayrton Senna, Michael Schumacher, whoever – and even those from a long-bygone age will understand the formula of grand prix racing 2014-style. It remains 'get to the finish as fast as you can and make damned sure you are the first to take the chequered flag'.

How the races will pan out in the early stages of the season is difficult to predict. Some have not been able to complete race simulations during testing, so teams are all operating on limited data. While it should be easy enough to work out a

straight fuel-mileage figure, even with the added complication of using the available electrical energy, races are never that simple.

How will track and grid position dovetail with that? How do you account for safety cars? What's the fuel-saving advantage from running second behind another car, and could that give you the extra performance you need to pass the leader late in the race? Will pitstop undercuts still be *de rigueur*? These are all questions that you can have a punt at answering, but not decisively, because what teams don't know is what ideas its rivals are concocting.

As Williams test team chief Rod Nelson recalls, when he was at Renault in 2003 and drivers had to qualify on their race-fuel loads, few foresaw what became the standard



Influence of driver, such as 2007 champ Raikkonen, will still be heavy in new era

DUNBAR/LAT

strategy before one team had tried it.

“We were about sixth quickest in Malaysia and they had just changed the qualifying regulations so you had your race-starting fuel on board,” says Nelson. “So we went massively light with Fernando [Alonso], and Ron Dennis was so angry because he didn’t understand [how the McLarens had been beaten to pole]. That was a surprise then. But by the third race everyone was doing the same thing.”

The point is that while splitting the race into two, three or four chunks of equal distance in 2003 made sense in isolation, the laptime gain from qualifying on a lighter fuel load skewed that equation. So first stints tended to become shorter in pursuit of track position and soon a ‘standard’ race strategy evolved. It might take half a season for that to happen this year, and with the 100kg fuel limit (approximately 135 litres, depending on your fuel) playing a similar role in 2014, there is scope for some real surprises early on.

With the need to preserve fuel likely to maximise the difference between a car’s fastest and slowest pace (based on fuel alone, this spread should only be around three seconds, but it will be bigger than that), it means that on-track battles will ebb and flow more than ever. It

will be down to teams and drivers to manage that while dealing with other cars that will often intersect with their own strategies along the way. This is tough stuff and some teams will be embarrassed early in the year.

ENGINES KEY TO PERFORMANCE

It’s not just fuel efficiency that matters when it comes to the new engines. After years of frozen-specification 2.4-litre V8s that offered pretty similar and largely unvarying levels of performance, the engine is once again a key differentiator. While the engine design for the three suppliers – Ferrari, Renault and Mercedes – was frozen for 2014 on February 28, there will be a development battle through the season in terms of the software used to manage those powerplants.

Pre-season testing emphatically suggests the Mercedes is the most-advanced engine at this stage, with Ferrari not too far behind and Renault quite a long way off. But these are still immature projects, so there is scope for Mercedes to be caught rapidly as the season goes on. Renault is adamant it is making significant progress and will be ready for the Australian GP, but realistically that means ready to finish, not ready to lead the way. If it pulls off a miracle and is able to put one

or more of its teams at the front, it will be a true *chapeau bas* moment in grand prix history.

After years of aerodynamic design being the only show in town as far as performance is concerned, this change makes things much more even in 2014. Traditionally, grand prix racing has been about the fusion of car and engine, and this will offer a fascinating technical storyline to follow even though the regulations dictating engine architecture are very tight and the hardware is locked in for the year, save for changes approved by the FIA on the grounds of reliability, safety or cost-saving.

RESHUFFLING THE ORDER

Major rule changes usually have a big effect on the competitive order. The big teams remain the big teams, the have-nots do not suddenly become the haves, but with Renault struggling the chances of Red Bull being in the mix for early victories look slim.

Renault is making progress with its engine and will continue to do so, meaning that there is scope for Red Bull to climb the grid as the season progresses. But the Renault-engined teams fell dramatically behind in testing, not just on pace, but in terms of work done. Engine problems ▶



Rosberg is looking good as he enters fifth year at Mercedes

► create a compound penalty. Not only is it not working well, but while you troubleshoot there is little chance to work on understanding the car itself, and the simple grind of working out how best to use the available engine power.

It could be that the Red Bull is fundamentally the best chassis and the Renault is potentially the best engine hardware-wise once it's running properly, but there has been no opportunity to show that. The idea of Sebastian Vettel challenging for victory in Melbourne is risible, based on winter testing. Now, the real question is 'how long will he take to catch up?'

Mercedes appears to be starting the season in the best shape. Thanks to prodigious investment, admirable commitment and an early start on its engine project, its 1.6-litre V6 turbo has been comfortably the most convincing power unit pre-season. Nico Rosberg was the first driver to manage a proper race distance in the first test at Jerez and the first to complete a full-blown qualifying simulation in the first Bahrain test. With the car looking at least pretty good aerodynamically, this makes Mercedes comfortably the favourite for the early-season races. While reliability is far from perfect, the car looks as good as any in terms of its chances of making the finish, and with Williams seemingly its closest challenger, the advantage of having German metal bolted into the back of your car is underlined.

Whether its early-season advantage will hold throughout is doubtful. Surely the others will close the gap. But what cannot be foreseen is by how much. So the smart money is on Mercedes.

A DIFFERENT DRIVING CHALLENGE

In simple terms, this new generation of F1 car is faster on the straights but, thanks to cuts in downforce, notably the effective outlawing of exhaust-blown downforce (yes, you've heard that one before but, save for using exhaust gases to help pull air over a small monkey-seat wing, it's actually been done properly this time), the cars are slower and trickier in the corners. To widespread surprise, the lap times of the cars are not dramatically different overall, and it's likely that the difference between 2013 pole position times and this year's marks won't be that significant. It's even possible that at some tracks the cars will be faster.

So what does this mean for the drivers? Well, watching trackside during pre-season testing it's clear that the rear end of the car is less emphatically planted. With significantly more torque available, wheelspin is more of a challenge to control, as Kimi Raikkonen discovered on the final day of the first Bahrain test when he lost it on the power and nosed his Ferrari into the wall. And he wasn't the only one to have moments.

Things will get more refined as teams understand their cars and, more importantly, engines improve. This year, engine mapping will have a bigger impact on car balance than ever before, while the new beefed-up ERS has such a profound effect on the behaviour of the rear brakes that braking-by-wire has been brought in. This can make thousands of adjustments to the braking pressure to ameliorate the impact of harvesting and ensure the brake balance remains consistent. Without this system, it would not just be difficult to drive the cars, it would be categorically impossible. As pre-season testing showed, some have mastered this technology better than others and it's likely to remain a talking point for many months.

In a race situation, drivers are going to have to deal with all of these things on a lap-by-lap basis while still driving the car to its maximum

Torque means trickier handling. Here Perez loses his Force India



BOTTERILL/GETTY

‘Even when in full-blown fuel-saving mode, driving style can extract a better laptime’

potential. And tyre management will still be important, even though the 2014 Pirellis are more durable. Thermal degradation will be significant, but during Bahrain testing there were concerns over maintaining temperature in the front tyres.

So which drivers does this favour? To put it simply, the best ones. By best, this means not just the fastest, but those who can balance the demands of fuel saving, tyre management and racecraft all within the context of going as quickly as possible. Even when in full-blown fuel-saving mode, driving style can extract a better laptime, so this arguably favours the more cerebral drivers. And these are usually the best all-round drivers anyway, so don't fall into the trap of thinking that winning races in 2014 will be all down to boffins on the pitwall controlling the men in the cockpit. As always, it will be a true team effort.

Love or loathe this new F1, one thing is beyond doubt: the best drivers and best teams with the best personnel and best ideas will prevail. No matter how the emphasis shifts towards fuel efficiency and complicated electronic systems, this is the fundamental characteristic that defines F1.

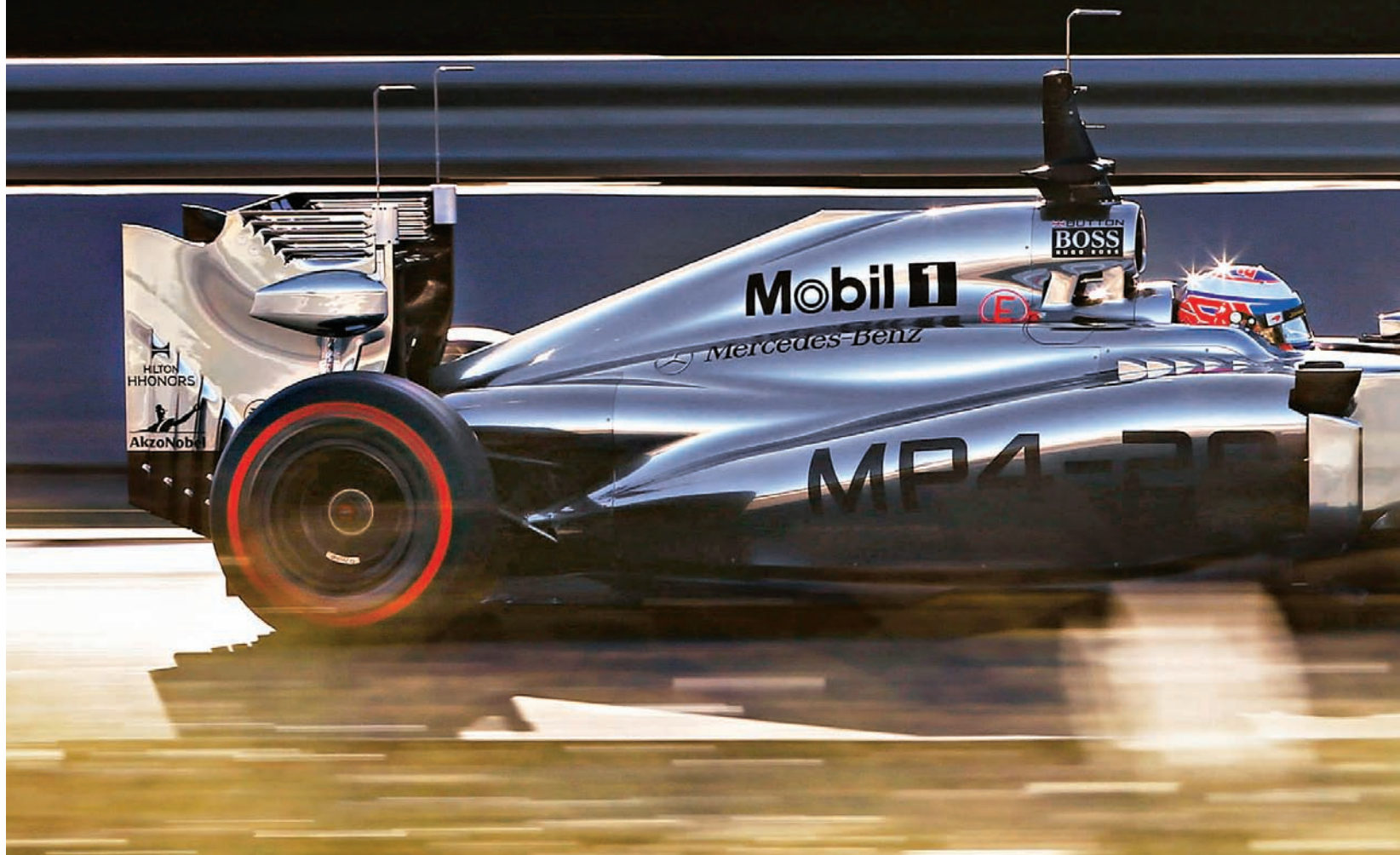
Let's give it a chance. After all, whatever happens it's going to be very different to the past few seasons. ❧



Vettel's pre-season dramas mean he is not the favourite

BATCHELOR/XPB

A new chance for Button to shine?



The last time F1 experienced major rule changes, Jenson Button took the title. After a difficult 2013, the McLaren star looks to be in a strong position once again. By JONATHAN NOBLE

Hard though it is to believe, Jenson Button, once Britain's baby-faced youngest ever grand prix driver, is now Formula 1's veteran. Grand prix racing may be measured in thousandths of a second, but even its biggest stars cannot escape the fact that time and tide wait for no man. As Button heads towards a season that should allow him to move in to third place in the rankings for the highest number of grand prix starts, there is little evidence that the 2009 world champion is plotting his F1 exit plan just yet.

Instead, while even he will concede that he is nearer the end of his career than the beginning, he has about him the aura of a man determined to not only keep going but show that he is still good enough and motivated enough to fight at the very front.

Were it any other way, and had Button been looking for the easy way to wind down his career, then he could so easily have hammered out a

multi-year contract with McLaren at the end of last year. It would have been F1's way of cashing in his pension.

Instead, Button and his manager Richard Goddard were determined that his options be kept open heading in to 2015 – as there could well be several teams knocking on their door if Button can indeed keep up his form. Of course, being a free agent carries with it a certain element of risk – because a poor season caused by bad machinery can wreck your stock market value. But no risk, no reward, as they say.

On the eve of the campaign, Button's decision to keep faith that McLaren's woeful 2013 campaign was a one-off certainly appears to have paid off, with the new MP4-29 having shown a fair degree of promise during pre-season testing.

"We know we are not the quickest, but we know we are not slow either," says the 34-year-old. "But the great thing is that we can put a lot of laps under our belt.

"It's not coming in the pits, doing something and going back out – we can do a race distance. That is promising and I think it just shows how

tough last year was for us. The guys have done a fantastic job.

"I remember coming back to the factory after the first test, speaking to them and saying: 'Guys, I know that I'm supposed to stand here and say this is just the start and you have got to work even harder, I'm going to say that, but I first of all want to say how great you have done. You have done such a great job on developing this car.' Now it has given them a lot of confidence to move forward.

"It's those guys that have made it go around and around, the night shift, the day shift and all the guys back at the factory. The guys are so pumped for 2014, after such a bad year.

"These guys don't just have a job at McLaren, they are here to win, here to race and they will do anything to win grands prix. It's good to see the buzz is back at McLaren."

That buzz is a far cry from the disasters of 12 months ago when McLaren found itself in heaps of trouble with its new car. The errors that put McLaren on the wrong path with the MP4-28 have been well documented, but what we did not



FERRARI/LAT

know at the time was that they would set off a sequence of events that would lead to revolution from on-high at its Woking base over the winter.

Amid mounting frustrations at the direction in which McLaren was heading, its former team principal Ron Dennis staged a boardroom coup to return himself to a position of power on the F1 team. Martin Whitmarsh was effectively sidelined as Dennis began a thorough review of the racing operations.

A new structure was put in place with Lotus boss Eric Boullier drafted in as racing director – with a yet-to-be-defined position of McLaren Racing CEO to be permanently filled at some ▶

“These guys are here to win and they will do anything to win... It’s good to see the buzz is back at McLaren”



THOMPSON/GETTY

Button is upbeat about 2014 chances

COATES/LAT



Button often struggled mid-pack in 2013

GRAND PRIX RACING'S MOST EXPERIENCED

Jenson Button is already Britain's most experienced Formula 1 driver – having overtaken David Coulthard's previous benchmark at last year's Brazilian Grand Prix.

After racing past what should be his 250th grand prix start in Bahrain, Button will be able to move further up the leaderboard of most experienced drivers this year. Jarno Trulli and Riccardo Patrese's tallies will be overtaken in the first half of this year, but it is going to take another three seasons at least if he is going to beat the all-time 322 record of his former team-mate Rubens Barrichello.

1	Rubens Barrichello	322
2	Michael Schumacher	306
3	Riccardo Patrese (below)	256
4	Jarno Trulli	252
5	Jenson Button	247
6	David Coulthard	246
7	Giancarlo Fisichella	229
=8	Mark Webber	215
=8	Fernando Alonso	215
10	Gerhard Berger	210



LAT

► point. It is early days yet in terms of seeing how these changes will impact on form, but Button has welcomed Boullier's arrival.

"I think it's good to have fresh ideas, and I think he does add to the team," says Button. "The team will never be changed by one individual, but I think he does add something. And when the management structure is complete we'll be in good shape."

But what about missing Whitmarsh, the man who set the ball rolling in getting Button to McLaren in the first place?

"Well, put it another way, as a team we are very excited about Ron's role being CEO again," responds Button. "This team was built by Ron in the early days and won multiple world championships. For me, that is the exciting thing for this year."

"Last year was a tough year and sometimes you need to see a little bit of change. Ron has that fighting spirit and it is exciting for everyone here knowing that he is in charge."

Despite Dennis making moves to ensure there is no repeat of the mistakes that left McLaren out of the picture in 2013, last season was not a complete waste of time. It did at least provide some opportunity for the team to experiment with car set-ups and processes, as there was little to lose by trying new things.

"You definitely go places with the car that you would not normally do because you would be worried about giving points away if the weekend went wrong," said Button last year. "You also learn where you cannot put things in terms of front angles and how the airflow is over the car, and that will really help us for next year's car."

"To have a bad year last season was probably the best year to have it because you learn a lot for the new package of 2014."

Indeed, 2014 marks a reset in more ways than one – and not just for the teams. Because for the drivers it is delivering fresh challenges too.

There remain two schools of thought about whether or not the radical regulations overhaul favour or disadvantage the more experienced drivers though. On one side there is the view that the new turbo/fuel economy rules are so different

to anything that has gone on before that 2014 marks a total blank slate for everybody – so a rookie will have as good a starting point as the sport's stalwarts.

The other view, however, is that because the new way of racing is going to put particular demands on clever strategic thinking, and long-game considerations, the men who have seen it all before could have the edge.

We do not have the answer yet as to which way it will go, but perhaps what we can say is, given how the cars have behaved over long runs in testing, there is going to be a premium on drivers who are more flexible in their approach, and can feel and respond to fast-changing characteristics.

We know that Button has a deft touch behind the wheel, and is one of the very best at dealing with rapidly changing dry/wet track conditions when the grip is changing all the time. This could bode well for what he has found so far.

"The car is doing so many different things, and it's doing something different every single lap of the race," he says of the 2014 characteristics. "That's the most difficult thing for a driver to get his head around, because what you found on the previous lap under braking is completely changed on the next lap. The braking points are so tricky and that'll probably be the weirdest thing in the race."

While it is easy to portray everything as being positive for Button in 2014, there are some big challenges he will face too, both within the car and within his team.

A quirk of the 2014 regulations, where the minimum driver and car weight has not increased completely in line with the heavier turbo power units, means teams have struggled to hit their targets this year. This means that taller drivers are at risk of tipping the scales slightly – and extra kilos do cost valuable lap time. For Button, one of F1's taller men, that has meant doing all he can to trim off any excess weight – something that was not helped over the winter when he picked up a knee infection that stopped him training for a while. He is adamant he will be fine in time for Melbourne.

The Australian GP will also mark the first of many emotional hurdles that Button will have to



Dennis is back at team's helm



Boullier is new racing director

New boy Magnussen has impressed with his speed and feedback

get over in 2014 when, for the first time, he starts an F1 season without his father John alongside him. In John, Jenson not only had his biggest fan but someone he had complete trust, faith and support from. He provided a rock for the driver and, just as the paddock will miss one of its most popular figures, so his son will miss his support – and that will take some getting used to.

Perhaps the biggest factor that will define Button's season, though, will be how he compares to new team-mate Kevin Magnussen. Having done better than many people had expected against Lewis Hamilton when they were partnered from 2010 until the end of 2012, Button then successfully saw off Sergio Perez last year.

McLaren was pretty open that one of the reasons Perez was not kept on was because he had not beaten Button consistently enough. Team insiders say there is a realism at Woking in understanding exactly what Button's strengths and weaknesses are. And, however much he is sensational in those changeable conditions, or brilliant at using his experience to push through a weekend, he still has areas where he is not the best – such as qualifying. As the stats show (see panel, right), Button only started ahead of Hamilton on the grid 18 times in their 58 races together – and some of those were thanks to grid penalties shuffling his team-mate down the order.

That honours were pretty evenly split between Button and Perez last year highlighted exactly why the team felt that there was something

lacking from the Mexican. Put simply, Perez had been expected to carry on Hamilton's record and overcome Button in qualifying. That he didn't perhaps allowed Button to feel that he had the Mexican under control. And when F1 drivers get in the comfort zone, they perhaps do not take things to the edge as much as they need to.

In Magnussen, McLaren knows it has someone who will need time to build up to fully understand the art of F1 racing, but the undoubted speed he has shown during his junior career and first test outings show he should put Button under immediate pressure on Saturdays.

If Button is beaten completely by Magnussen that will of course be disastrous for his future ambitions, but having someone as quick alongside him as the young Dane could actually be more positive than negative. For it will force Button to dig deep, demand that he extracts everything from himself, and perhaps means the pair will feed off each other to drive the whole team forward. Button has already admitted he has been impressed with both the speed and attitude that Magnussen has shown during their few weeks of working together.

"His F1 experience is limited, but the running that he has done he has been very quick," he says. "The team have been very impressed with his speed and feedback, and for me that is the exciting bit. He seems like an intelligent guy.

"He will learn quickly and with the cars being so different maybe it is nice to have a fresh view and the experience that I have. I won't be nurturing him but listening to everything he has to say."

Yet it is not beating Magnussen, winning a set number of races or achieving a certain position in the championship standings that top Button's target list for 2014. He has been around too long now to know that bold pre-season predictions only bring about the guarantee of coming back to bite you further down the road.

Instead, Button is looking more to himself to be the judge of whether he has or has not done what he hoped for. "I am going to put everything into this sport, and leave nothing on the table," he says, knowing full well that if he does that then his future will take care of itself. ❧

BUTTON v TEAM-MATES IN HIS McLAREN YEARS

Jenson Button had been warned he risked career suicide when he elected to join McLaren as Lewis Hamilton's team-mate after his 2009 title success. But come the end of their three years together, it was Button who had the last word – having ended their spell with the most points under his belt – 672 to Hamilton's 657.

It proved Button's strengths on Sundays – even though the story from their qualifying match-ups was very different.

Hamilton was clearly the faster man over a single lap – and it was quite telling that while he took nine pole positions during their time as team-mate, Button would have but a solitary top spot to his name.

It was that qualifying form that brought Perez's performances in to stark contrast, for McLaren knows where the benchmark is against Button on Saturday afternoons.

2010

BUTTON AVERAGE GRID POSITION	6.8
HAMILTON AVERAGE GRID POSITION	5.2
HEAD TO HEAD	6 v 13

2011

BUTTON AVERAGE GRID POSITION	4.5
HAMILTON AVERAGE GRID POSITION	3.6
HEAD TO HEAD	7 v 12

2012

BUTTON AVERAGE GRID POSITION	6.5
HAMILTON AVERAGE GRID POSITION	4.3
HEAD TO HEAD	5 v 15

2013

BUTTON AVERAGE GRID POSITION	10.5
PEREZ AVERAGE GRID POSITION	11
HEAD TO HEAD	10 v 9



"The car is doing so many different things, and it's doing something different every single lap"

Favourites*

Mercedes came back to Formula 1 to win. Titles have eluded it so far but this season represents the best chance yet for the German marque to put that right.

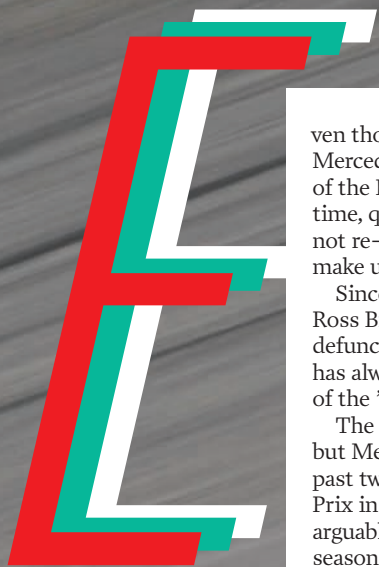
By **BEN ANDERSON**



*whether they like it or not



Mercedes W05 has impressed in testing



ven though it is reluctant to acknowledge the fact, Mercedes is a strong favourite to climb to the top of the Formula 1 tree this season. And it's about time, quite frankly. For the three-pointed star did not re-enter the top tier of our sport simply to make up the numbers.

Since the German manufacturer bought out Ross Brawn's title-winning resurrection of the defunct Honda team at the end of 2009, the plan has always been to return to Mercedes' glory days of the '30s and mid-'50s.

The first two seasons were a disappointment, but Mercedes has gathered momentum over the past two campaigns – winning the Chinese Grand Prix in 2012 (thanks to Nico Rosberg) and building arguably F1's fastest car in the first half of last season, which scored three wins, eight poles and leapfrogged Mercedes over Ferrari into second place in the constructors' championship.

As F1 enters a brave new lower-downforce, energy-efficient, turbocharged V6-engined era, this season represents the greatest opportunity yet for Mercedes to go one better. It has played

down its chances through pre-season, a natural strategy for the team that looks in the best shape heading towards the first race of 2014.

But Mercedes is most certainly a team on the up, and its strong showing in testing suggests the recent technical overhaul undertaken by Brawn, before he stepped down to embrace the peace and quiet (and fishing) of (supposed) retirement, is starting to pay dividends.

"We ran out of steam last year in terms of ideas and capacity," Brawn told AUTOSPORT at the end of last year. "We had to start the new car, so we increased the capacity of the team, we increased the budget, we persuaded our board that we needed to be more committed.

"We had fallen into thinking that the Resource Restriction Agreement was going to solve all the problems and everybody was going to come down to a certain level, and we planned around that. It wasn't the correct plan because it just didn't happen. So once we woke up to that, we put the resources in that we need to have a chance of competing." ▶

► The staff roster is thus now impressive. Former McLaren technical director Paddy Lowe has taken up an executive role at Mercedes, effectively replacing Brawn as team principal on the racing side (with Toto Wolff his opposite number on the business side). This puts him at the top of a structure that includes ex-Lotus man Bob Bell as technical director, former Ferrari engineer Aldo Costa as engineering director, and ex-Red Bull tech wiz Geoff Willis as technology director.

Brawn oversaw the implementation of this structure, and also a strengthening of Mercedes' financial firepower, to manage the vast expense of entering a brand new engine formula, and trying to topple Red Bull, consistently F1's dominant team since Mercedes' return as a factory entity.

"In 2012 we had the fourth or fifth biggest budget in F1 and we finished fifth so it's no big surprise," he added. "It's fair to say in F1 that there are teams that have wasted significant budgets, but there are very few occasions in normal circumstances when a team with a low budget has beaten a team with a high budget when the team with the high budget is doing a good job.

"When you have someone of the strength of Red Bull technically, with one of the best budgets

if not the best budget in F1, how can you beat them? If that's the team with the highest budget in F1 with great engineers, why should you beat them with less commitment? Those things everyone became aware of, and we are stepping up to the plate now."

Knowing this year's new regulations would place a premium on engine performance and effective cooling, Brawn signed off a significant spend on a brand new dyno rig designed to run Mercedes' new power unit in as close to real-world conditions as possible. There is a feeling this sort of extra investment has allowed the team to steal a march on its main rivals, though Lowe plays down the extent to which Mercedes has reached for the big bucks in pursuit of the ultimate prize.

"We've thrown a bit more resource than normal at this car, but in the aerodynamic domain not dramatically more," he says. "When we look back at the 2009 regulation change, which was probably a similar magnitude of change aerodynamically, in those days there were not the constraints there are today on windtunnels and CFD resources.

"There was an ability then for a lot more effort to be put on the new package. In the last 18 months, when we started to look at this project

Low (right) takes over from departing Brawn



"Expectations are high... Certainly, our ambition is for the top step of the podium"

2013 VERSUS 2014: Rosberg's race runs analysed

KEY

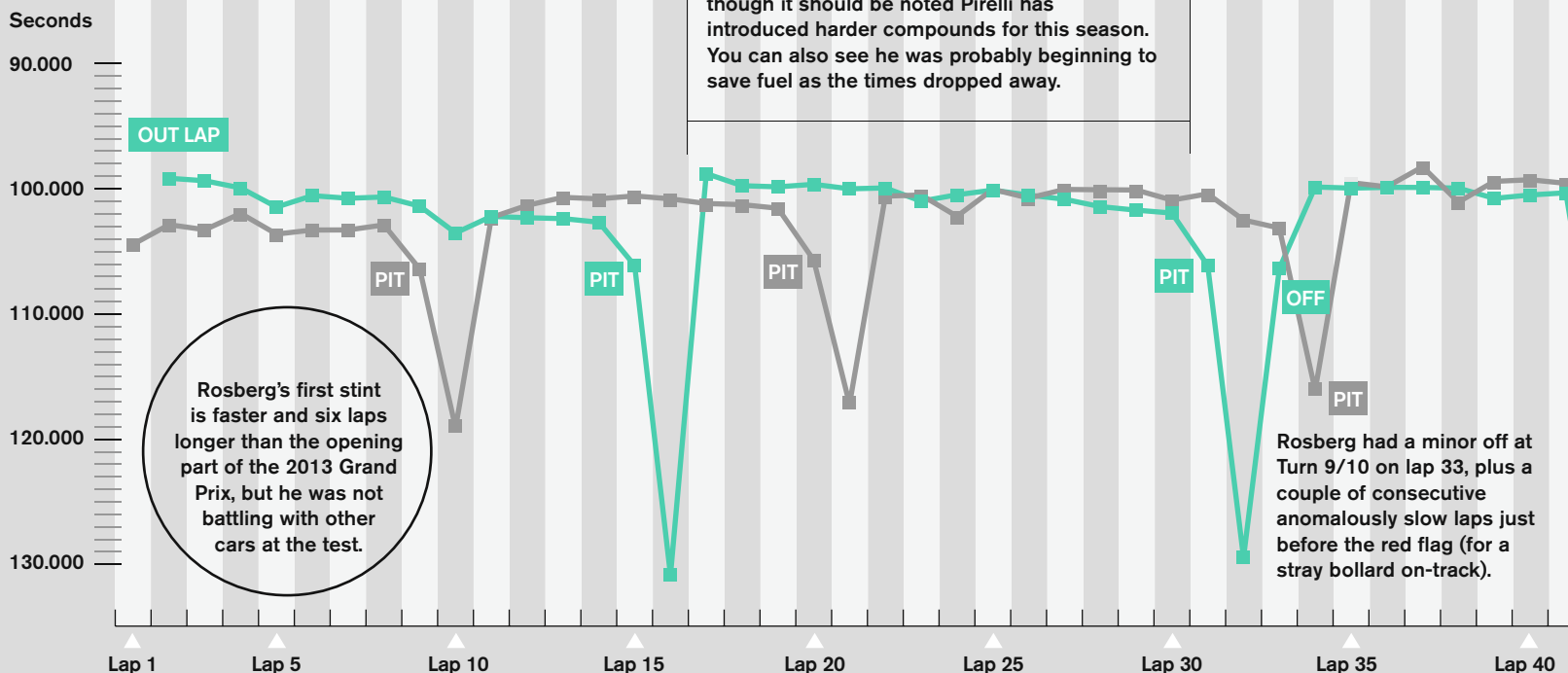
2014

Mercedes produced a fast car last season, but often struggled to keep pace in the races. Often its drivers would drop down the order as the delicate rear Pirelli tyres gave up the ghost.

2013

The team completed a couple of serious race runs during pre-season testing, the second of which came in the middle test in Bahrain, a venue at which Rosberg started from pole in the 2013 GP. Here we compare his 2014 race simulation with his real drive to ninth in last year's race:

The middle portion of Rosberg's run (lap 16 to lap 31) was consistent and generally faster than both his second and third stints in the 2013 GP. This suggests Mercedes has improved its ability to look after the tyres, though it should be noted Pirelli has introduced harder compounds for this season. You can also see he was probably beginning to save fuel as the times dropped away.



seriously, we had to balance resource against the [then] current campaign, so it's gradually been ramping up. A fairly normal game, but with a bit more bias than usual towards the new regulations."

The radical rules overhaul for this season plays to the strengths of factory teams like Mercedes and Ferrari, which are able to bring chassis and engine projects 'in-house' and make sure they dovetail harmoniously. Mercedes certainly seems to have enjoyed a smoother pre-season than rival manufacturers Ferrari and Renault (for whom Red Bull is the works outfit).

Both seem to have suffered more difficulty taming the brutal torque output of the new generation of engines. Ferrari-engined cars have suffered many spins (including a crash for Kimi Raikkonen during the middle test in Bahrain), while Renault teams have struggled to turn their units up to full power without breaking their cars.

Once they (and Renault in particular) get their acts together, the race will no doubt boil down to the usual aerodynamic calculation game. This is an area in which Red Bull excels and Mercedes... Well, the jury is still out. Brawn was pleased with how his squad kept pace with everyone bar Red Bull in this regard last season, but they could be in danger of slipping behind if Adrian Newey's crew can mate his radical aero packaging to a reliable and powerful engine/drivetrain combination.

"Expectations are high and we are building on a great season in 2013," Lowe told AUTOSPORT. "Certainly, our ambition is to get to the top step rather than the second step in the championship, so the momentum is in that direction.

"There are a number of factors that are arguably swinging in our favour. But at the same time we



Mercedes finished behind Red Bull in 2013 points table

have huge respect for our competitors and I'm pretty wary of this notion of being considered favourites. F1 has a habit of throwing in lots of curveballs. Who knows what will happen and how things shape up?

"With all the analysis that you can do these days there are still factors around car performance that are not that well understood. Things can fall in and out of your lap in terms of underlying performance so I don't want to predict where we will be. We are working hard and diligently, we have done the best job we can and we will see where that takes us.

"Ferrari always produces a strong package and Red Bull definitely should never be underestimated in our recent experience. They have won four championships in a row and that means they have an underlying ability to produce great cars, and they work very closely with Renault, so there is no reason at all to write anybody off."

So perhaps the key for Mercedes is to make hay while the sun shines and score as many points as possible during the early part of the season, much like Brawn did in 2009. It's certainly well-placed in the driver department, possessing a line-up in Lewis Hamilton and Nico Rosberg that Brawn described last year as "the strongest on the grid".

By all accounts, three-time GP winner Rosberg is the more cerebral and hard working of the two, showing over the past two seasons that he has matured into a driver capable of cutting it among the elite on the grid. Hamilton is a more reactive and instinctive performer. The 2008 world champion does not appear as relaxed in the kind of formula that demands careful management of pace and strategy, but he has a swashbuckling style and is capable of heroics behind the wheel when motivated and happy, particularly in qualifying, which still demands the sort of 'pedal to the metal' thrills on which he thrives.

Both will have been buoyed by Mercedes' excellent form in pre-season testing, generally leading the way in terms of mileage and lap times. Nico Rosberg was the first driver to clock a race distance (at the first pre-season test in Jerez) and he completed another during the second test in Bahrain, which compared favourably to his disappointing 2013 race at the same venue.

Mercedes has looked strongest of all pre-season and the mood has to be one of quiet confidence among a team that has been under increasing pressure to deliver. Brawn is no longer there, but if the world championship trophies are returned to Brackley this season, it will owe much to him.

MERCEDES IN MODERN-DAY F1



Mercedes took over Brawn GP in 2009

2009

Takes over title-winning Brawn GP outfit, which Ross Brawn carried to drivers' and constructors' championship double after rescuing the outfit following Honda's recession-induced withdrawal.

2010

Re-enters Formula 1 as a works team for the first time since 1955. Brings seven-time world champion Michael Schumacher out of retirement to partner Nico Rosberg in an all-German superteam.

2011

Finishes fourth in the constructor's title race for the second season in succession, but winds up nearly 180 points adrift of third-placed Ferrari and fails to add to its tally of three podiums from 2010.

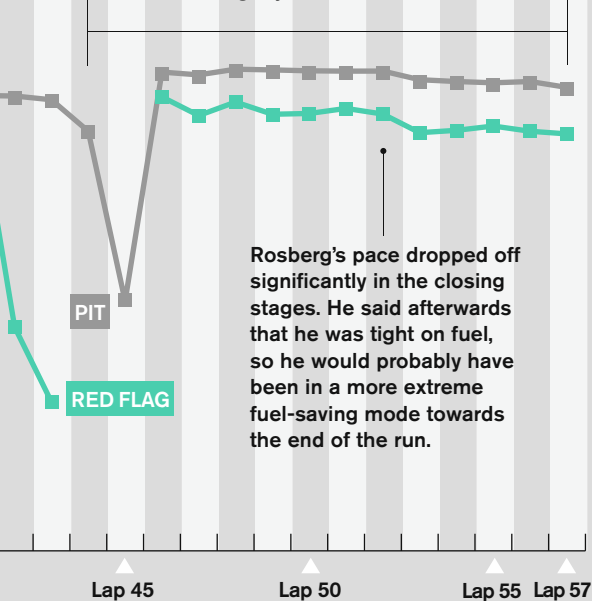
2012

Nico Rosberg scores breakthrough win in China from the team's first front-row lockout, but Mercedes slumps to fifth behind Lotus in the constructors' title race thanks to poor tyre use and weak development.

2013

Improves to second in the constructors' race as Lewis Hamilton joins from McLaren. The F1 W04 is the fastest car on the grid early on and scores eight poles, but more tyre issues limit it to just three wins.

It appears Rosberg completed his practice race-run with two fewer tyre stops than he made in last year's grand prix. He made three stops in total, but the last of those was for a red flag and the lap times immediately afterwards suggest Mercedes did not change tyres.







Grosjean: F1's dark knight rises

Having emerged from his troubled start in F1, Romain Grosjean was a thorn in Red Bull's side at the end of last year. He talks to **GLENN FREEMAN** about the journey to becoming one of the best

Romain Grosjean has been through the wringer in Formula 1. The sport chewed him up and spat him out after a part season with the imploding Renault works outfit in 2009, and when he finally clawed his way back in for 2012 he ended that season with some of his fellow drivers baying for his blood.

Yet, by the end of 2013, with Kimi Raikkonen in the process of checking out of Lotus slightly ahead of schedule, Grosjean proved capable of fighting the dominant Sebastian Vettel-Red Bull RB9 juggernaut for victory.

It was a remarkable turnaround given the low points that had come before it. Barely a year on from becoming the first driver in 18 years to suffer a race ban for causing a collision, and just a few months after a crash-filled Monaco weekend that planted doubts in even his staunchest supporters, Grosjean ended last year making a serious case for entry into F1's elite.

"It wasn't an easy journey," is the opening line on his turnaround, delivered with that almost ever-present beaming smile. "In 2012 it was

hard to come to the grid without being punched in the face. I'm proud of what I've done and the work I put in, and I'm proud to have been one of the best at the end of last year. There were a few races where I think I was even the best on the day, but we couldn't win due to Red Bull being too strong."

The idea of Grosjean "being punched in the face" in 2012 is probably a little extreme, but those who witnessed Mark Webber's tirade in the Lotus team offices at Suzuka that year know exactly where the former GP2 champion is coming from with that comment. The first-corner clash with Webber in Japan seemed to be the actions of a man trying so hard not to collide with the car alongside him that he almost forgot about the Red Bull in front that he was about to run into.

After the way so many in the sport had railed against him following the Belgian Grand Prix crash that triggered his ban, once the season was over Grosjean embarked on an exhausting process to restore his reputation.

"If you lose self-confidence then you are dead," he says. "So I never lost it, but yeah, it was hard.

I would never say that it wasn't. I started 2013 almost tired already from all the work, and then things weren't as good as I was expecting, which made me even more tired. So yeah, there were times when I had doubts, but I knew that somewhere I had the right thing. I had won championships before and I wasn't crazy, and I hadn't lost my driving skill."

During the early races of 2013, it was clear something still wasn't right. While Raikkonen got Lotus off to the best possible start by winning the Australian Grand Prix, and remained Vettel's closest championship challenger for the first six races, Grosjean was plagued by problems. He was unhappy with his chassis during the first few races, and just as he seemed to click with the E21 – at Monaco – he shunted twice in practice and again in the race. It's debatable whether that weekend or the Spa 2012 fallout was the lowest point of his career, but as the F1 circus left the bright lights of Monte Carlo, even Lotus team boss Eric Boullier was privately starting to have doubts. Could it be that the protege he had gone to painstaking lengths to bring back to F1 after ▶

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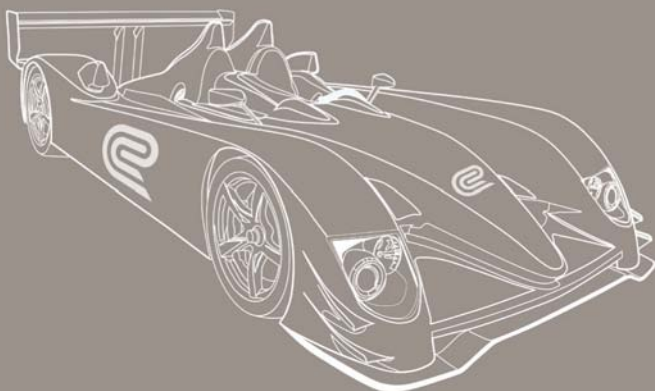
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LEARNING FROM A QUIET CHAMPION

Ask Romain Grosjean how many times he spoke to Kimi Raikkonen during their time as team-mates during 2012-13 and he's not sure. Eventually, he settles on an answer.

"I never really spoke to him. Maybe twice," he says. Although new team-mate Pastor Maldonado is "more human" and "speaks much more", and Grosjean describes the first GP weekend after Raikkonen left last season as "fantastic", that's not to say he didn't get a lot out of his two seasons alongside the 2007 world champion.

"It's hard to get a perfect working connection with another driver," he adds. "The best you can do is share the data, see what the other one is doing and have another driver that gives good feedback. With Kimi, in a way we made a good team because we were very precise in different areas."

Grosjean reckons he made the best of sharing a garage with the Finn, even if there wasn't much conversation to be had. "It was good for me," he says. "Everyone considers Kimi as one of the top drivers in Formula 1, and he's a world champion, so to be alongside him was not easy.

"He was more experienced than me, he was a champion, so naturally he was the leader. Then when I messed things up it was not easy, but I came back and took everything I could from him. So being able to match him and sometimes be in front was very good."

Raikkonen was hardly the only high-profile departure towards the end of 2013 amid Lotus's financial uncertainty, but Grosjean is satisfied that the core of the team has not been too disturbed.

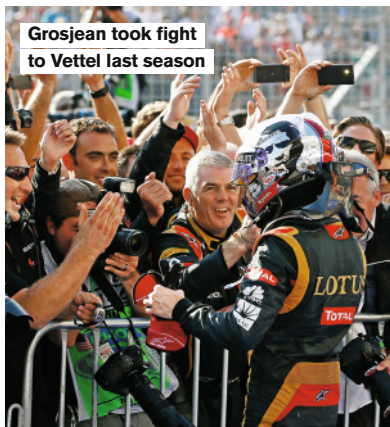
"We have lost some people, but the DNA is the same. It's pretty straightforward – we have a new show. We know what we have, and we know what we can do."



Kimi said very little, but was a great benchmark



Race ban followed disastrous Spa '12



Grosjean took fight to Vettel last season



GP2 crown in 2011 revitalised career

► the debacle of 2009 wasn't up to it after all?

However, the man in the cockpit knew that beyond all of Monaco's accidents, he had found that special something that had been missing since the disarray that had dominated the end of his 2012 campaign.

"After that weekend I was really down," says Grosjean. "I completely 'missed' Monaco, it was a disaster. But I got the feeling back in the car, and I was super-quick and confident. I messed up the weekend because I went a step too far, and when you do that at Monaco you are in the wall. There was no big jump, but I knew that somehow things were starting to go in the right direction."

It took a little while for that right direction to show itself in terms of results. Next time out in Canada, Grosjean's weekend was hindered from the off by a grid penalty he was carrying thanks to driving into Daniel Ricciardo in Monaco. A first-lap clash – one that would be hard to blame him for – derailed his British Grand Prix, so with eight races in the books he trailed Raikkonen by 98 points to 26.

Then came the German GP at the Nurburgring, a race in which Grosjean joined Raikkonen in scrapping with Vettel for victory. It was the beginning of a special run, and the first of 88 points he would score (to Raikkonen's 85) during the rest of their time together as team-mates. Grosjean's renaissance dampened the blow of Raikkonen signing for Ferrari for 2014, as Lotus knew its rough diamond was coming good.

"I think it was just fine-tuning rather than changing everything about me," he says. "I knew what I was doing was working, but unfortunately it wasn't showing in the results. It's always nice to read a few good comments about myself, but that was not the most important thing. The main thing was I was happy and proud, and every time I could get better and better. The feeling was joy and satisfaction."

Grosjean is no stranger to rebuilding himself.

After his 2009 dabble with F1, his career was on the rocks. Following a brief spell in GT racing he was handed a single-seater lifeline courtesy of the Gravity Sport management scheme run by then Renault/Lotus team boss Boullier. An eight-race (out of 12) programme in Auto GP was enough to land the title, and there were four late-season weekends in GP2 with DAMS.

Grosjean's attitude – something that let him down in 2009 – was rejuvenated, and Boullier tasked him with leading DAMS to the summit in GP2 in 2011. Grosjean changed his racing style (note, not driving style) in 2011 to master the F1-like Pirelli tyre formula, and nearly took DAMS to teams' championship glory single-handedly as he romped to the drivers' title. It earned him a second shot at F1 with the same team as before (now called Lotus), and was the first example of his ability to reinvent himself. Not that he sees many comparisons between that and his 2013 turnaround.

"It was a different experience," he says. "GP2 was more about trying to be a team leader and showing that I was capable of putting DAMS back on top. And they are still a top team so it looks like it worked!"

"But in F1 it is hard. You can step up as a champion in other categories, but now you are alongside big names and it's hard to find your spot, and be able to prove you deserve to be part of the group of top drivers."

Performances such as those he showed at the Nurburgring, Suzuka and Austin last year all point towards a growing body of evidence that he's making a very strong case to join that elite group. Now, with Raikkonen out of the way, the path is clear for Grosjean to lead Lotus into its new era, much like he did with DAMS in GP2.

It's a much bigger challenge this time – and the early form of the E22 and its Renault engine have not helped matters – but it's hard to argue that he's not ready for the task. ❧

THOMPSON/GETTY

PENNINGTON/GETTY

THOMPSON/GETTY

SHAKING UP

Much has been made of the new balance of power we could see in 2014, but how often have major



Ascari and Ferrari dominated in 1952

BACKWARDS TO GO FORWARDS

Alfa Romeo had dominated the first Formula 1 regulations – for 1500cc supercharged and 4.5-litre unsupercharged engines – with its powerful 158/159. That was until Ferrari's less thirsty 375 model started matching it in 1951. With Alfa then announcing its withdrawal and BRM still struggling with its V16,

there was a chance F1 would become all about Ferrari, so the world championship was changed to F2 regulations for 1952-53. The result? Thanks to the 500 model, it was all about Ferrari...

VERDICT: **NO CHANGE**

THE RETURN TO POWER

Coventry-Climax, which supplied the engines for most of the British F1 squads, announced it was pulling out of the sport for 1966. That left many teams searching for suitable suppliers as the new three-litre regulations arrived. Ferrari produced arguably the fastest car in the 312, and John Surtees would probably have taken the title had he not fallen out with team manager Eugenio Dragoni. Jack Brabham picked up the pieces with his eponymous Repco-powered squad.

1965	1966
1st Lotus	1st Brabham
3rd Brabham	5th Lotus

VERDICT: **CHANGE**

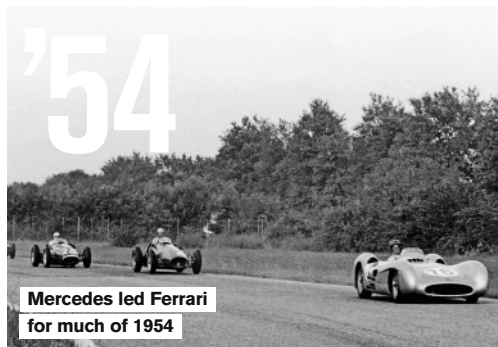


Brabham beat Ferrari to '66 titles

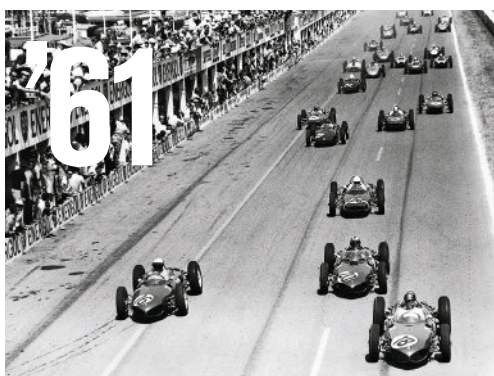
GRAND PRIX RACING RETURNS TO F1

New F1 engine regulations came into force for 1954, with 2.5-litre normally aspirated cars becoming the norm. Ferrari completely lost its advantage, struggling to keep up with Maserati's new 250F, and being blitzed by both the Mercedes-Benz W196 and Lancia D50, when it finally appeared. Indeed, Ferrari wouldn't take the title again until it had inherited the D50 from a financially failing Lancia and Mercedes had withdrawn from the sport.

VERDICT: **CHANGE**



Mercedes led Ferrari for much of 1954



F1's SMALLEST ENGINES

Not for the first time, concern over increasing speed led to rule changes and F1 became a 1500cc unsupercharged formula for 1961. The British-based teams, which had finally moved to the forefront during the rear-engined revolution, didn't want the change and railed against it. In the meantime, Ferrari produced the fine 156 'Sharknose' and dominated 1961.

1960	1961
1st Cooper	1st Ferrari
3rd Ferrari	4th Cooper

VERDICT: **CHANGE**

BOTTOMS GO FLAT

Amid the FOCA-FISA war and after the serious accidents suffered by Gilles Villeneuve, Riccardo Paletti and Didier Pironi, F1 experienced arguably its first major set of aerodynamic rule changes for 1983. Late in the day, flat bottoms were mandated and skirts banned, along with various other chassis changes. Nevertheless, Ferrari retained its constructors' crown and Brabham's Nelson Piquet, the 1981 world champion who would have been higher up in 1982 had he not been pushing BMW's turbo engine programme forward, took his second crown.

VERDICT: **NO CHANGE**



Despite changes, Ferrari won again

THE F1 GRID

rule shifts mixed up the pecking order in F1? **KEVIN TURNER** looks at some of the bigger changes



McLaren dominance into 1989

END OF F1'S FIRST TURBO ERA

Turbocharged engines were outlawed for 1989, replaced instead by 3.5-litre normally aspirated units. McLaren-Honda had dominated in 1988 and did so in 1989, albeit in a slightly less emphatic fashion, winning 'only' 10 races instead of 15. Ferrari soon challenged and Williams-Renault would finally topple the McLaren steamroller, but the engine change hardly knocked the Anglo-Japanese operation off its stride.

VERDICT: **NO CHANGE**

NARROW CARS AND GROOVED TYRES

In another bid to slow things down, grooved tyres and narrower cars were mandated for 1998. Along with other developments, including 1997 pacesetter Williams losing its works Renault engine deal, this helped change the competitive order. Ferrari narrowly missed out on both titles again, but this time it was to a rejuvenated McLaren-Mercedes rather than Williams.

1997

1st Williams
4th McLaren

1998

1st McLaren
3rd Williams

VERDICT: **CHANGE**



McLaren lapped the field in 1998 season opener



Benetton jumped Williams in 1994

BANNING OF THE GIZMOS

Williams had led the way on the development of traction control and active suspension, so it made sense the double title-winning squad of 1993 would be most affected when many of the electronic gizmos were banned for 1994. Not only did Williams lose an area of its advantage, the FW16 proved tricky to drive and set up as a passive car. Benetton's Michael Schumacher stepped up to win his first championship, albeit surrounded by controversy concerning the alleged use of traction control, though Williams narrowly held on to the constructors' crown.

VERDICT: **CHANGE**

TWO CYLINDERS GO AWOL

With the three-litre V10s heading ever closer to the 1000bhp mark, it was perhaps inevitable something would be done. The loss of two cylinders and 600cc was F1's answer, and tyre stops were reintroduced after being banned in 2005. Renault and Fernando Alonso successfully defended their titles, though McLaren – arguably producer of the quickest car of 2005 – slipped behind Ferrari and failed to win a race.

VERDICT: **NO CHANGE**



Alonso held off Ferrari to do the double

WEIRD-LOOKING WINGS

In one of the more dramatic visual changes in F1, wider front wings, narrower rear wings and a return to slick tyres arrived in 2009. There was also a big reduction in the small and numerous aerodynamic flicks and appendages that had spread during the preceding decade. Ferrari and McLaren, which had dominated 2008, were jumped by both Red Bull and Brawn (formerly Honda), the latter mainly thanks to the controversial double diffuser.

2008

1st Ferrari
2nd McLaren
7th Red Bull
9th Honda

2009

1st Brawn
2nd Red Bull
3rd McLaren
4th Ferrari

VERDICT: **CHANGE**



Brawn and Red Bull led the way in new era

What's new in 2014



TURBO ENGINES

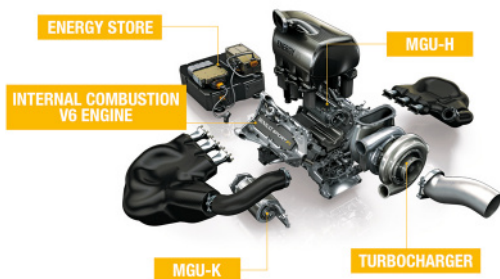
Turbocharged engines return for the first time since 1988, with new regulations mandating a 1.6-litre V6 engine with added energy recovery systems. The peak output of what is now officially dubbed the power unit is around the 750bhp mark. The turbocharger is a single-stage compressor with no limit to boost pressure, although the 100kg/hour peak fuel flow limit will keep this under control. The rev limit has been cut from 18,000rpm in 2013 to 15,000rpm.

F1 faces one of the most comprehensive rule changes in its history this year. **EDD STRAW** offers the lowdown on the modifications for the new season and what to look out for

REAR WING CHANGES

The DRS opening has been increased from 50mm to 65mm. This is because the overall downforce on the car has reduced and to get the same drag reduction effect the slot gap needed to open wider. The rear wing main plane is now shallower, while the lower beam wing has been outlawed entirely.

40



MINIMUM WEIGHT

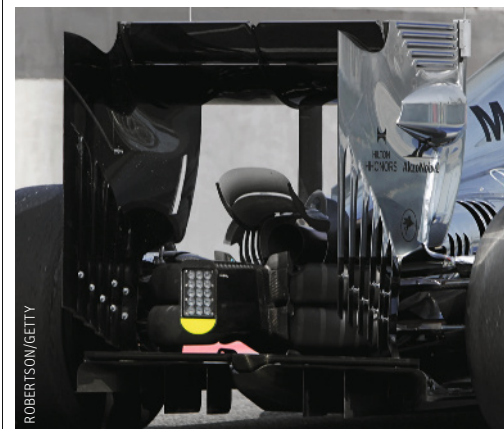
The minimum weight has increased from 642kg to 691 kg this year. This is primarily because of the weight of the new engines. The power unit itself has a minimum weight of 145kg.

ENERGY RECOVERY SYSTEMS (ERS)

In addition to the turbocharged internal combustion engine itself, more powerful energy recovery systems form an integral part of the new power units. Last year, KERS could produce an extra 80bhp for 6.7s per lap but, in 2014, the motor generator unit (MGU-K) offers twice the power (120kW). Ten times the energy (2MJ compared to 400kJ last year) can be deployed on a lap, which is just over 30 seconds on full power. The energy is harvested from the rear brakes by the MGU-K, with the MGU-H attached to the turbocharger that can also feed the battery.

LICENCE POINTS

Drivers face a one-race ban if they accumulate 12 penalty points on their Superlicences during a 12-month period. Stewards can also impose five-second in-race penalties on drivers for infringements as a milder alternative to a drivethrough penalty.



CENTRAL EXHAUSTS

To prevent high-speed exhaust gases being used to produce downforce via the diffuser, a single central exhaust has been mandated. This must be located behind the rear axle line.



NARROW FRONT WING

The front wing is no longer as wide as the car. The wing width has been reduced from 1800mm to 1650mm. The maximum nose height has dropped from 550mm to 185mm, but teams are still keen to keep the chassis as high as possible for aerodynamic gain, so some teams have adopted 'anteater' noses that drop dramatically to meet the rules. For safety reasons, attempts have been made to abolish high noses, which are deemed less safe in the case of an impact and increase the chances of a car being launched into the air.



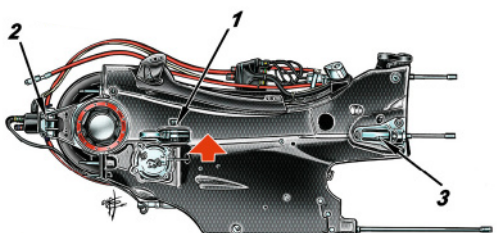
BRAKE-BY-WIRE

Because of the impact the beefed-up energy recovery systems will have on braking, teams now run brake-by-wire on the rear. This system is designed to ensure the braking is consistent when the driver hits the pedal, with the potential to make thousands of adjustments per second to the braking performance, without which the car would be undrivable when energy is being harvested. In testing we've seen plenty of lock-ups, however.



EIGHT-SPEED GEARBOXES

F1 cars will have eight forward gears for the first time. The eight gear ratio sizes are selected pre-season and must be used for the whole campaign. However, as this is the first year of the new rules, teams are allowed to make one 'joker' change to their selected ratios during the season.



IN-SEASON TESTS

Four two-day in-season tests will be held this year, the first after the Bahrain GP. The young driver test has been abolished.



DOUBLE POINTS

In what must rank as one of the most universally unpopular rule changes in F1 history, the season-ending Abu Dhabi Grand Prix on November 23 will offer double points for the top 10. The rationale behind this is that it will increase the chances of the fight for the world championship going down to the wire, although Sebastian Vettel would not have clinched the 2013 title any later had the rule been in force last season.

ENGINE PENALTIES

Drivers can only use five engines per season, but these five engines have been divided into six separate elements that can be mixed and matched – the internal combustion engine, the MGU-K, the MGU-H, the energy store, the turbo and the control electronics. Grid penalties will be served once a driver starts using a sixth of any component.



100KG FUEL LIMIT

Arguably the most significant rule change in 2014 is the introduction of a fuel limit, with each car allowed to use a maximum of 100kg (approximately 135 litres depending on what fuel you are using) from the moment the red lights go out to signal the start of the race until the chequered flag. This is around two-thirds of the maximum fuel loads carried previously.



POLE TROPHY

The FIA will award a trophy to the driver who claims the most pole positions in 2014. If two or more drivers are level, the trophy will be awarded on countback to next best position until the tie is broken.

CAREER NUMBERS

For the first time, F1 drivers can now select permanent numbers to be used throughout their F1 careers. Sebastian Vettel, for example, chose number five but carries number one this year as he is reigning champion, while Pastor Maldonado brings back #13 for the first time since 1976.



FRIDAY DRIVERS

Teams can now split Friday morning practice between different drivers. A reserve driver could run early in the 90-minute session before handing over to the regular pilot to complete it.



Which new aerodynamic concept will win by a nose?

AUTOSPORT technical expert **GARY ANDERSON** runs the rule over F1's varied 2014 noses and offers his verdict on who has got it right – and whose concept is likely to cause issues

The most obvious consequence of the major regulation changes this year are the weird and wonderful nose designs. This is as a result of a push for lower noses for safety reasons. Like last year, the regulations demand the nose has a minimum area of 9000 sq/mm no more than 50mm rearward of the nose tip. New for 2014 is a rule requiring the

centre of this area to be no more than 185mm above the reference plane (effectively the undersurface of the car) with its lowest part no less than 135mm from the reference plane.

The nose must also be at least 750mm forward of the front axle line, and again no more than 50mm behind the front of its nose tip. The maximum height of any bodywork in this

area is 300mm above the reference plane.

The objective of the previous high noses was to minimise the blockage behind the wing and to maximise the mass airflow under the chassis and between the front wheels. There is still an incentive to keep the nose as high as possible for the same reasons, leading to some awkward-looking designs.

Twin-tusk concept
raises blockage issues



Lotus 5/10

Lotus has gone in a completely different direction from the rest with its twin-tusk design. It has widened one of its wing-mounting structures to comply with the rules, with the tip of the right one (as you look at it) over 50mm rearward of the left. This means that it does not come into play for the surface area regs, which demand a single surface, but can contribute to the strength needed to pass the crash tests. Getting a single tusk to resist the impact would be more or less impossible, hence the two. The aim is to get as much airflow through the middle section of the nose as possible. But with the twin tusks the overall blockage is more than any other concept except Ferrari's. There is no scope to use the front wing-mounting pillars as turning vanes.

Simple approach
looks a winner



Mercedes 7/10

Merc's interpretation is more or less as set down by the regulations. Visually, the centre of the nose is at the maximum height of 185mm and wide to meet the surface area requirement. This allows Mercedes to use the wing-mounting pillars to influence the direction of airflow as required. With this concept, it has perhaps the most efficient nose in terms of weight and aerodynamics.

Strong detail work
around wing pillars



Williams 7/10

It is one of the teams running the anteater design, but features much more detail work around the front wing support pillars. Keeping these pillars as long as they are ensures the airflow from the front wing's upper surface and the airflow from the nose's lower surface stay separated, creating more downforce. The pillars and anteater section of the nose do not cross, resulting in less air blockage to disrupt the airflow.

Gaping anteater on
distinctive MP4-29



McLaren 8/10

This was the first of the anteater cars to break cover. It stops the nose proper short, with a central section protruding forward and down to comply with the regulations. The forward-most point of the nose itself sweeps out and blends neatly into the front wing pillars. The trailing edge of these pillars is narrower than the leading edge, which helps the airflow to come in towards the centre of the car.

Pod design will aid underbody airflow



Red Bull 9/10

The reigning world champion team has kept the nose as permitted to maximise the airflow underneath. To comply with the regulations, a tastefully-painted black aerodynamic pod is hung underneath the yellow-hued nose section. The blockage created by this is as far forward as possible. It ends before the wing-mounting pillars so the blockage is minimised. The wing-mounting pillars act as turning vanes to help turn the airflow towards the centreline of the car as it passes between the front wheels.

GA is not a fan of Ferrari design



Ferrari 4/10

This is confusing. The Ferrari has the nose as low as possible, with its lower surface at around 135mm. The nose profile, where it blends into the chassis, is also as low as the regs allow. The objective is to allow the airflow on top of the nose to spill off the sides and go under the chassis. But the speed of the airflow on top of the nose will increase as it is pulled around the sides of the nose by the low pressure underneath. This will create lift on the top surface and potentially reduce downforce. The front wing-mounting pillars are very short, so they will not have as much influence on the airflow as longer ones.

CT05 is arguably most outrageous design



Caterham 3/10

Like Lotus, Caterham has gone out on a limb, but its concept is diametrically opposite. Lotus wants the maximum airflow between its tusks, but Caterham has a single central section moving airflow around the sides. Only one can be right! On this solution, there is then fairing, or what

might be considered a luggage rack off the rear of an old Caterham 7, to fair it into the chassis front bulkhead. It's ugly, but that doesn't mean it doesn't work. But if it's ugly, it has to be quick to make it worth doing. This design would therefore have to be very quick!

Force India...



Force India, Sauber & Toro Rosso 6/10

All three run the anteater concept. The nose stops a little earlier than the McLaren, meaning that it is higher. This means the wing pillars have to sweep forward to join up with the front wing. The downside is that the anteater section and the wing pillars cross each other, leading to a greater total blockage in this area.

...Sauber...



...and Toro Rosso have 'anteaters'



Apeing Red Bull aero can't be bad

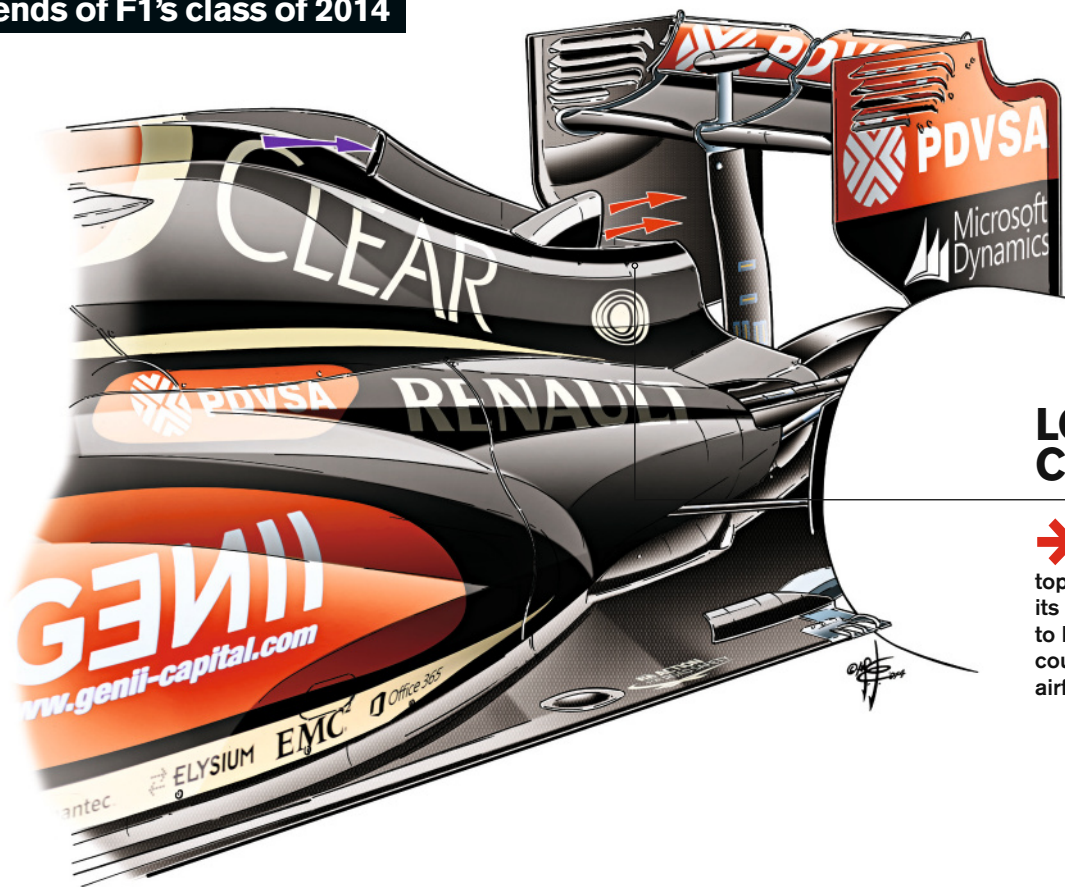


Marussia 7/10

This is a neat version of the anteater concept. The high undersurface of the nose is similar to that on the Red Bull and the anteater section does not cross the wing pillars. These pillars could be a little more exciting and do more to re-align the airflow, but for a small team it is a neat, simple solution to the problem.

The latest technical trends

AUTOSPORT's technical guru **GARY ANDERSON** analyses some of the most innovative design trends of F1's class of 2014



LOTUS ENGINE COVER COOLING

➔ Lotus has adopted a small inlet duct (blue arrow) on the top of the engine cover as part of its cooling package. It's difficult to be sure what it cools, but it could be to allow some cool airflow to pass the turbo.

McLAREN SUSPENSION BLOCKERS

➔ The new McLaren-Mercedes MP4-29 appeared for the opening test running 'blockers' attached to its rear suspension. While initially some questioned its legality, it appears the design does comply with the regulations.

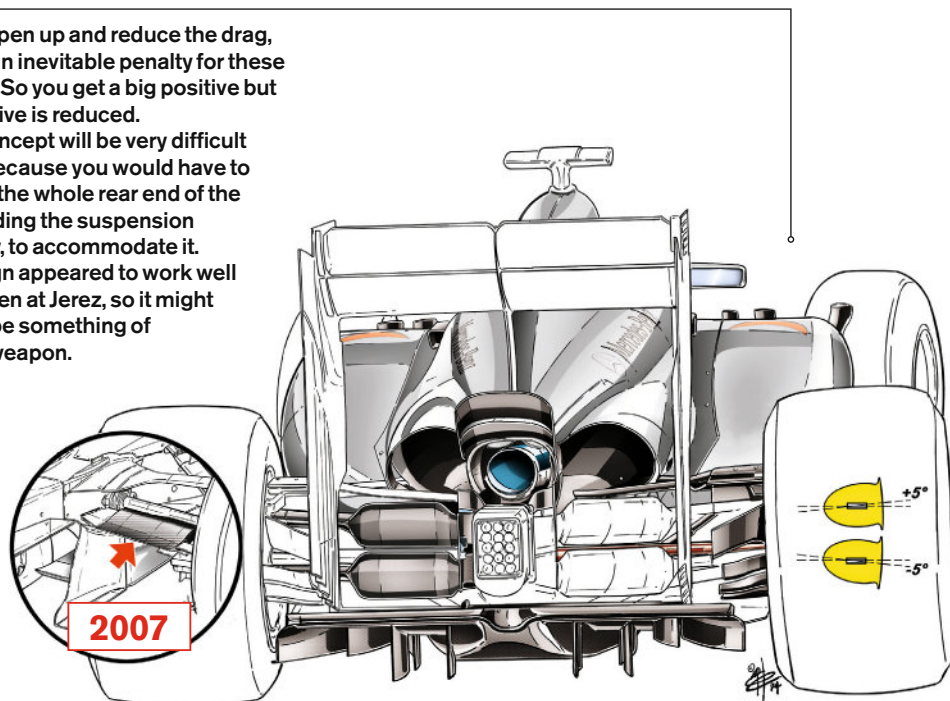
The 2014 regulations ban the rear beam wing, so teams have been looking for ways to reclaim the lost rear downforce. Four of these aerodynamically-profiled blockers are incorporated into the rearmost suspension links. This allows them to be regarded as part of the suspension rather than independent shrouds, which would be illegal.

They are designed to block the airflow emerging from the Coke bottle area when it gets to the back of the diffuser. This creates an area of low pressure behind the blockers that pulls more air through the diffuser and allows it to generate more downforce.

At higher rideheights, these blockers will almost completely close the gap to the top of the diffuser, meaning it is particularly effective at low speed. But at higher speed, because of the suspension deflection, this

gap will open up and reduce the drag, which is an inevitable penalty for these blockers. So you get a big positive but the negative is reduced.

This concept will be very difficult to copy because you would have to redesign the whole rear end of the car, including the suspension geometry, to accommodate it. The design appeared to work well for McLaren at Jerez, so it might prove to be something of a secret weapon.



FERRARI FRONT WING

➔ Ferrari introduced a new front wing in the most recent Bahrain test that is more complicated than its previous specification.

1 The endplate is more of a single turning vane with less of an opening through it.

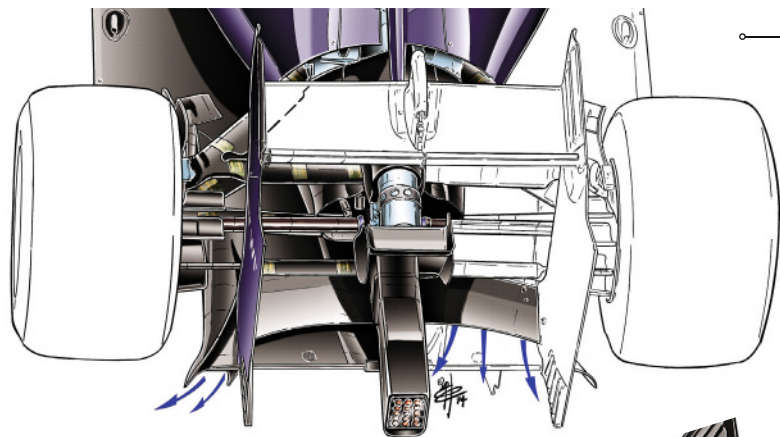
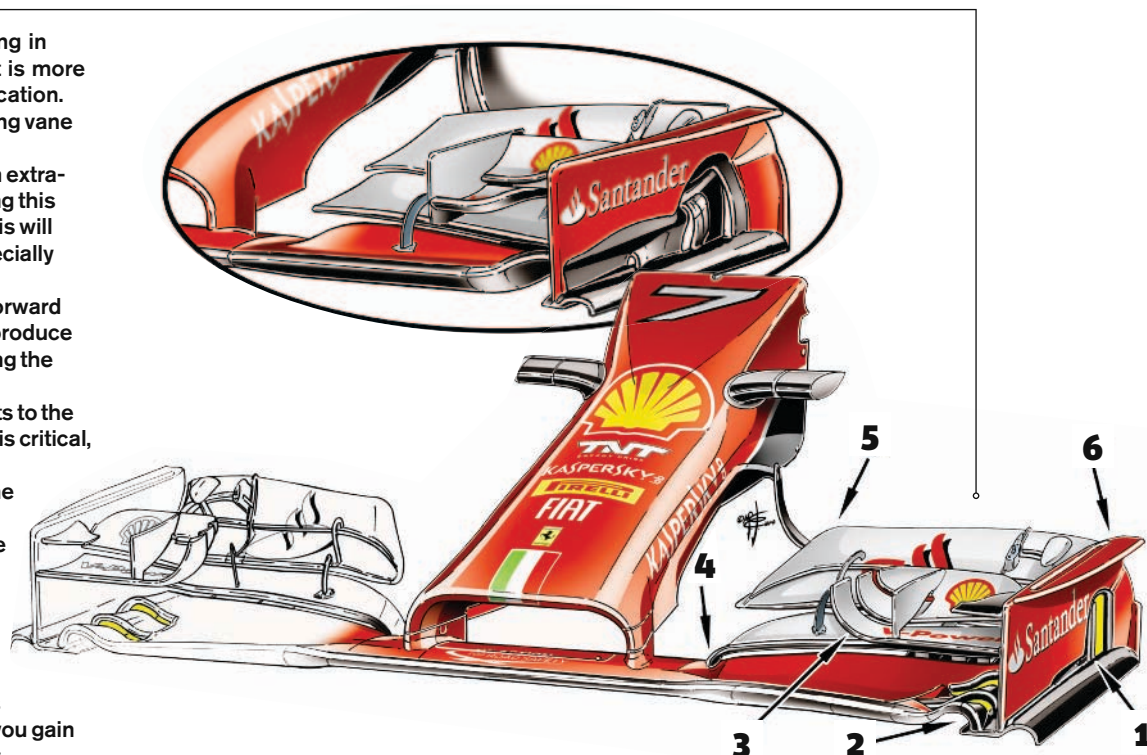
2 The front wing main plane now has an extra-short slot gap in the outer section, giving this section of the wing seven elements. This will provide a more consistent airflow, especially when the front wheels have lock on.

3 The curvature and size of the upper forward wing element have been increased to produce more front downforce without disturbing the airflow to the rear of the car.

4 The point at which the first flap mounts to the main plane has been altered. This area is critical, as a vortex is set up at this intersection between the flap, the main plane and the FIA-mandated central section – the more powerful the vortex, the better the performance of the underfloor.

5 The detail of the inboard end of the trailing edge of the flap has also been changed. This increases the power of the vortex and is a critical area as far as overall aerodynamic performance is concerned. It's easy to lose more than you gain when circuit sensitivity comes into play.

6 This horizontal fin on top of the endplate is to reduce the airflow that tends to want to spill over the top of it from outside to inside.



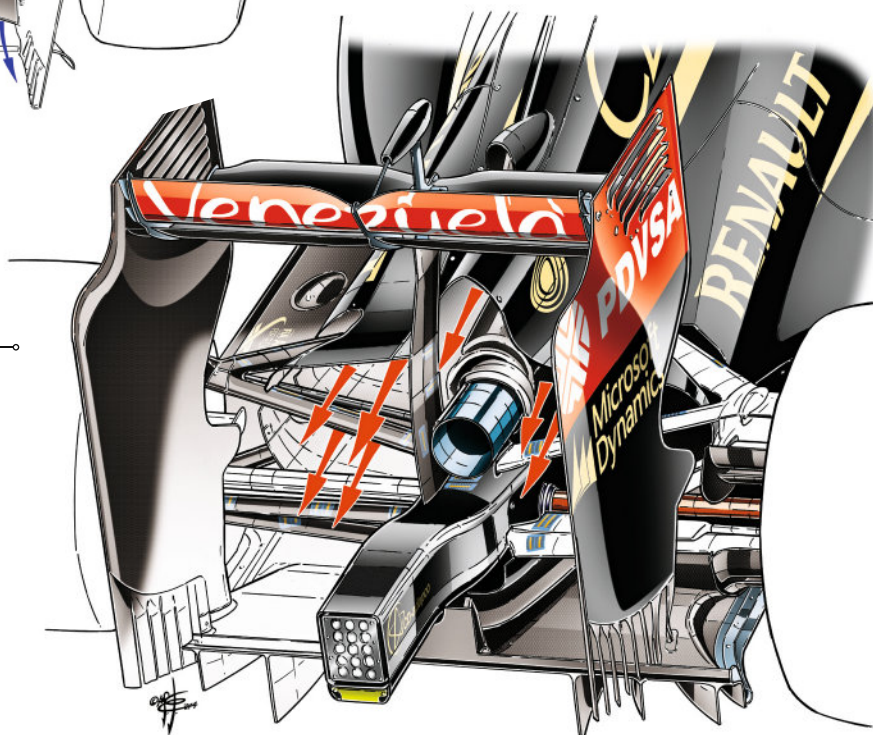
WILLIAMS REAR WING

➔ The rear of the Williams shows the significance of the regulation changes at the rear of the car. With the abolition of the beam wing, the team has decided to commit to mounting the wing directly onto the floor via the endplates. This means there is no central support pillar.

ASYMMETRIC LOTUS EXHAUST

➔ Lotus is the only team that has offset the exhaust outlet in order to allow the hot exhaust gases to miss the single, centrally-mounted rear wing pillar. This allows for a larger radiator exit on the left-hand side of the engine cover, as well as bigger exits out of the rear of the sidepods.

The radiator exits have been growing quite dramatically on all cars, but this is particularly the case on those with the Renault engine. This shows that it has underestimated the cooling requirements of the new power units.



“People say I am stupid, that I’m thinking like a child. But I need to be in Formula 1. This is my dream”

Kamui Kobayashi turned his back on a factory GT drive with Ferrari to pay Caterham for a race seat in F1. He tells **BEN ANDERSON why he did it**

Not many people would turn their back on Ferrari to drive Caterham’s Formula 1 car, but Kamui Kobayashi has been anything but conventional since he burst onto the F1 scene in 2009. He spent three-and-a-bit seasons building a reputation as a demon late braker and master overtaker. Recall his decisive moves on Sebastien Buemi and Fernando Alonso to finish seventh in the 2010 European Grand Prix at Valencia, or passing a sequence of rivals including Sauber team-mate Nick Heidfeld, Buemi, Jaime Alguersuari (twice!), Adrian Sutil and Rubens Barrichello to finish seventh again in front of his home fans in Japan.

Fitting, because that’s where Kobayashi’s F1 story began in earnest. In truth, he looked headed for the single-seater scrapheap until Toyota’s Timo Glock injured his leg during practice for the 2009 Suzuka race. Kobayashi grabbed the opportunity to prove himself with both hands. He finished just outside the points on his race debut in Brazil (ending up ninth), but beat experienced team-mate Jarno Trulli to a top-six finish in the Abu Dhabi finale.

That was Toyota’s final race in F1, leaving Kobayashi without a drive for the following season, but Peter Sauber’s team (now firmly back in the hands of the Swiss following BMW’s withdrawal) picked him up to be the young charger to Spanish veteran Pedro de la Rosa’s experienced old-hand.

He undoubtedly made his mark, but progress over the next two seasons was disappointing, as Kobayashi struggled to assert himself over rookie team-mate Sergio Perez. The Japanese

scored a podium (again in Japan) and a front-row start at Spa (scene of Romain Grosjean’s crashtastic nadir) in 2012, but was dropped by Sauber at the end of the year, partly because the team signed superstar-in-the-making Nico Hulkenberg, and also because the Japanese needed to find €15 million to keep Telmex favourite Esteban Gutierrez out of the other seat in the wake of Sergio Perez’s departure to McLaren.

Efforts to secure funding through a fan-based initiative fell well short, so Kobayashi found himself washed up on the shore by F1’s prevailing tide of ‘pay drivers’. But along came Ferrari with a career lifeline to throw his way. Having secured



THOMPSON/GETTY



Fans' money helped finance 'last chance' Caterham deal



Three seasons with Sauber netted just one podium



Kobayashi walked away from potentially successful and lucrative Ferrari career



Kobayashi is hungry, reckons Fernandes

a paid GT drive in the World Endurance Championship, it seemed as though Kobayashi was set to establish himself among the litany of F1 drivers turning to sportscars to save careers that would otherwise end too soon.

But not Kamui. He's not done with F1 yet, so he's traded in a deal with one of the world's most famous manufacturers in order to spend money (to the tune of a few million dollars) on racing for one of F1's smallest teams.

"It's a Formula 1 drive, you know – if I get a chance I need to try," he explains. "I think what this decision is... if I stayed at Ferrari I could be longer there, I could easily make money, it's not really hard driver-wise, I can see a lot of reasons, but I want to be challenging myself. People say I'm stupid. I'm 27 years old – 28 this year – and I'm thinking like a child."

So how did you break the news to Ferrari, Kamui? "I said, 'I'm sorry'. That's the only thing I had to say. The Ferrari guys said, 'You're stupid'. I know I'm stupid, but I have to do it. It's a very nice offer, and I enjoyed racing with Ferrari of course, but I need to race in F1. This is my dream, and this may be my last chance to get back, so this is my decision."

Mika Salo once said that giving up victory to Eddie Irvine in the 1999 German Grand Prix ultimately saved his career, because although he finished his time in F1 without winning a race, the GT opportunities this sacrifice led to with Ferrari more than made up for it. But settling for less is not the Kobayashi way – he'd rather take the risk, chase the dream and see where it leads...

"It's my dream and I'm very lucky. I have a lot of fans and I have a lot of money from the fans, and finally I get this seat with fan money, which

is a new story," he says. "The story is like a movie, but it actually gets to happen for me! That's why I try more to communicate with the fans. Maybe this can be a new style of how to be in Formula 1? Everyone is struggling to get sponsors, many cars are without sponsor logos – McLaren even – but still they're spending so much money.

"I thought, 'Maybe I need to find a different way?' We have the YouTube channel 'Kamui TV'. Usually we only did race reports on that, but now we are doing factory tours, behind the scenes, Q&As, maybe we invite some guests and talk. I do it myself, which is funny. This is a different way, for me, to promote motorsport."

Although Kobayashi describes the Caterham drive as "the only chance I could get", he is determined to use his experience to help move the team up the grid. "I'm really happy, more than I expected than when I came to the factory," he adds. "I know the guys because many were Toyota guys. They can make progress and one day they can be a top team.

"It's the same as Red Bull. At the beginning, when they bought Jaguar, they were nowhere, but now they win championship after championship. You never know..."

Well, we know Caterham will not be challenging for the world championship anytime soon, so what are Kobayashi's short-term ambitions? "I need to win a race," he says bluntly. With Caterham? "I don't know, but it's very important for me to get something this year. 'He did a mega job' – someone has to say that. Without success I will have to leave F1. This is very simple. I know why I'm here and I know what I have to do." ❧

BOSS WON OVER BY KOBAYASHI'S 'SPARK'

Tony Fernandes has significantly overhauled the driving line-up at his Caterham team over the winter. Out have gone Charles Pic, Giedo van der Garde and Heikki Kovalainen, and in have come Kobayashi, GP2 race winner Marcus Ericsson and junior single-seater winning machine Robin Frijns (as reserve).

Fernandes hopes the Japanese will give his team a cutting edge as it fights to break away from the battle at the back, and challenge for a place in Formula 1's midfield.

"We thought Kamui would bring a little bit of a spark, that something you can't really quantify," says Fernandes. "Something that motivates 250 people to say, 'We've a chance now, we've a warrior who is going to go in there and do whatever to move this team up'.

"That drives people. Kamui was not really a financial consideration, although of course there were benefits – he's from Japan. But that wasn't the prime reason. The prime reason was we liked his warrior-like attitude.

"I finally made the decision when I saw him at [football club] QPR, of all places, and thought, 'There's something in his eyes'. He was hungry. I want everyone in this team to be hungry.

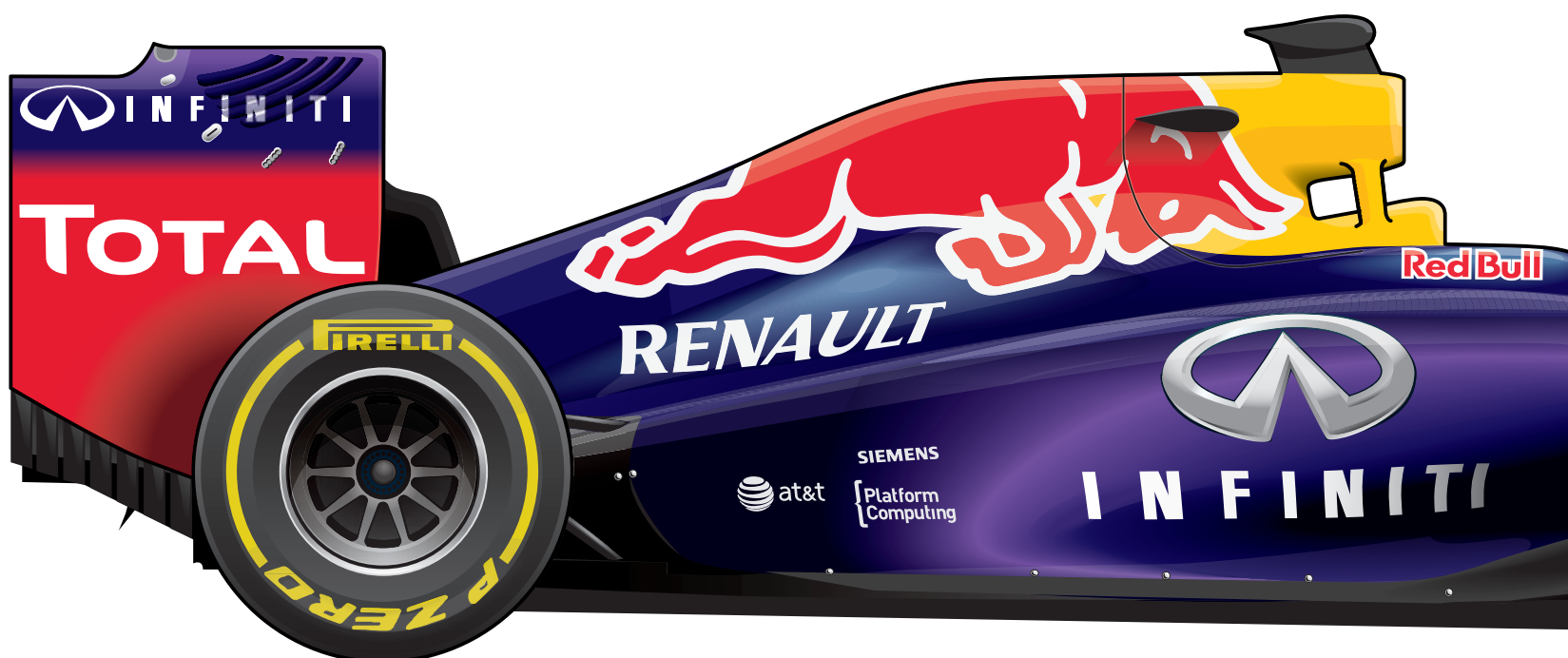
"I sit on the pitwall and I get bored seeing that we have to be conservative with no 'Let's go for it!' I feel Kamui brings that. It might be a disaster in some races, but I'd rather die trying than not try."

Red Bull

AUTOSPORT RATING

2nd =	Drivers	●●●●●
	Engine	●●●●●
	Aero	●●●●●
	Budget	●●●●●
	Strategy	●●●●●

By its quadruple-title-winning standards, Red Bull had a shocking pre-season. Only when the racing gets underway will we see if it can be a contender in 2014. By **EDD STRAW**



Red Bull-Renault RB10

The time always comes when dominant forces in grand prix racing are toppled. After steamrolling the opposition over the past four years, Red Bull goes into a season in the most uncertain shape since it emerged as a race-winning force in 2009. On pre-season testing form, retaining the world championship is inconceivable. But this is Red Bull and it has set new standards in recent years. Write off Adrian Newey's squad at your peril.

As Sebastian Vettel has pointed out during pre-season testing, the unnerving thing about this situation is that he has no idea how good the car really is. Newey has created a technical team with formidable aerodynamic understanding, surely the deepest of all teams, and while the regulations have changed for 2014 this won't have altered, even though the loss of exhaust-blown

downforce has wiped out an area in which Red Bull was ahead.

While Newey has admitted that aggressive packaging played a part in the team's struggles early on in testing, the primary problem is Renault's 1.6-litre turbocharged V6 engine which, according to Newey, is probably the weakest of the three power units in terms of cooling demands.

This is a stern test of Red Bull's status as the Renault works team. It became a Renault team in 2007 using a 2.4-litre V8 that had long since been designed in collaboration with the marque's factory team (which has since morphed into Lotus) so this is the first time it has worked to produce an engine/car package from scratch. Of the three factory teams, it is the one in the weakest position.

"Mercedes and Ferrari have an advantage in that their engine facilities are fully integrated into their chassis whether it be on-site

or through ownership," says team principal Christian Horner. "We have a position as the works team of Renault, but they are still mindful of the other customers that they have. So it's a slightly different relationship. But it's one of very close collaboration and that only gets closer the more that we do."

"There are logistical challenges

sometimes with it. But we have been fully involved in the implementation of the engine into the car, we have set some aggressive targets that Renault has worked very hard to and meet and we have been involved heavily in the installation obviously. But there are areas that fall outside of our expertise."

This puts much of the onus on

Ricciardo joins from sister squad Toro Rosso



KEY STAT

7th

New signing Daniel Ricciardo has never finished higher than seventh in a grand prix



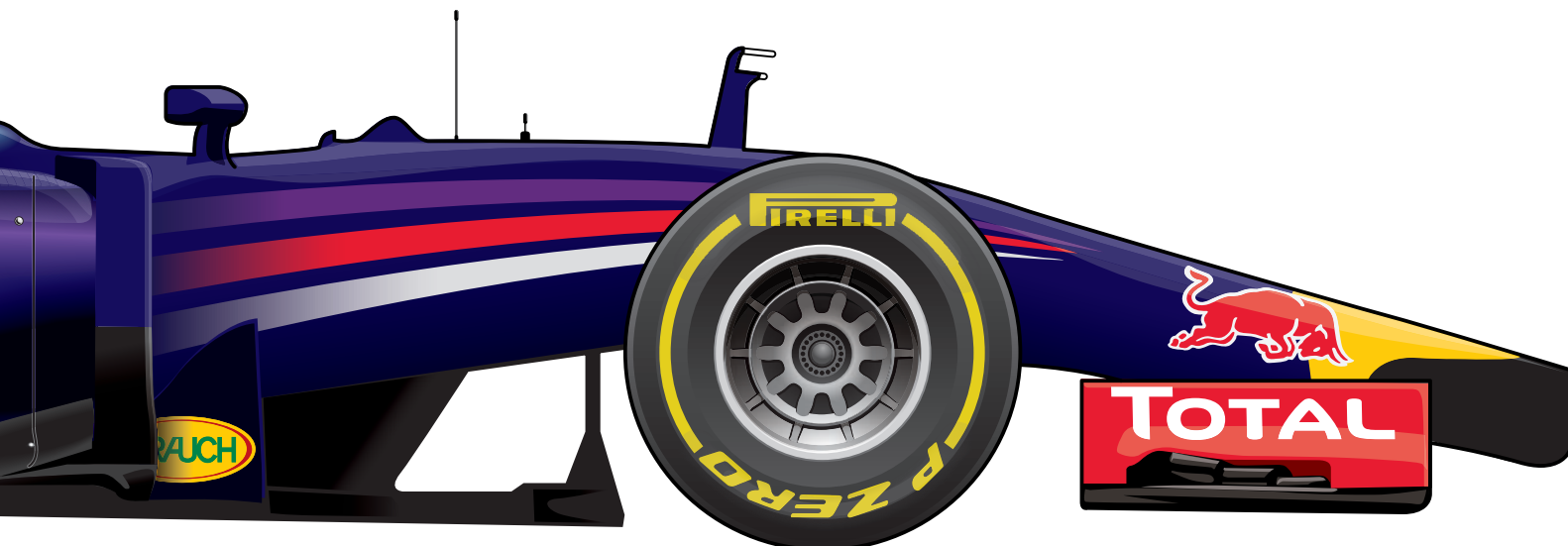
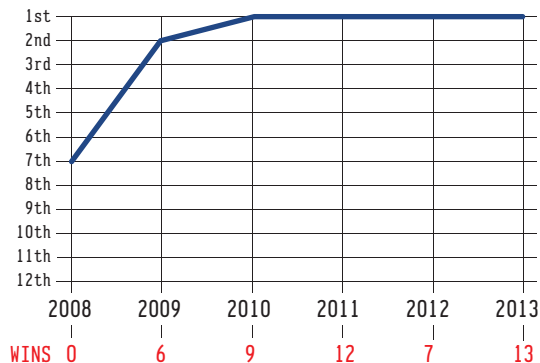
COATES/LAT

RED BULL'S CHAMPIONSHIP PERFORMANCE



MASON/GETTY

Starts 165
 First GP Australia 2005
 Wins 47
 Poles 57
 Fastest laps 41
 2013 position 1st



Renault to troubleshoot its engine.

In public, Renault is adamant that the hardware of the engine is fundamentally good, but it's clear that the energy-recovery systems are not functioning as they should be. There have also been question marks over turbo performance and, frankly, every aspect of the engine. Some progress has been made, but it has been slow and Red Bull will pay the price of that early in the season, not least because its performance work with the car has been heavily restricted.

It is already obvious that Red Bull will start the season on the back foot. But what remains to be seen is how quickly Renault can catch up. If the engine does start working, even if its performance is capped, that will at least allow Red Bull the mileage to get its car working well. This should allow it to be in good shape if the power and performance is found in the Renault. If not, Red Bull could be about to put together



Vettel achieved very little meaningful test mileage

STALEY/LAT

one of the most desultory world championship defences in F1 history.

Behind the scenes, there have been a few changes. Unsurprisingly, rival teams have started poaching some of the key technical brains working under Newey. McLaren's deal with Peter Prodromou, long-time head of aero, has knocked him out of the equation while there have been some other senior departures. But all of the qualities that made Red Bull so strong remain in place; it might just take a while to climb back up the order.

From where Red Bull is now, a good season would be one of steady improvement with it perhaps fighting for wins in the second half of the campaign. Whether that is possible depends on the engine and how a team that has become accustomed to winning can adapt to life lower down the order.

As McLaren, Williams and Ferrari know, it's easy for F1 powerhouses to slip down the order. The way Red Bull and Renault react now will have serious repercussions for what happens in the next few years.

KEY STAFF



CHRISTIAN HORNER
 Team principal



ADRIAN NEWAY
 Chief technical officer



ROB MARSHALL
 Chief designer

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“Mercedes and Ferrari have an advantage in that their engine facilities are fully integrated into their chassis whether it be on-site or through ownership” **Christian Horner**



Gary Anderson
Technical consultant

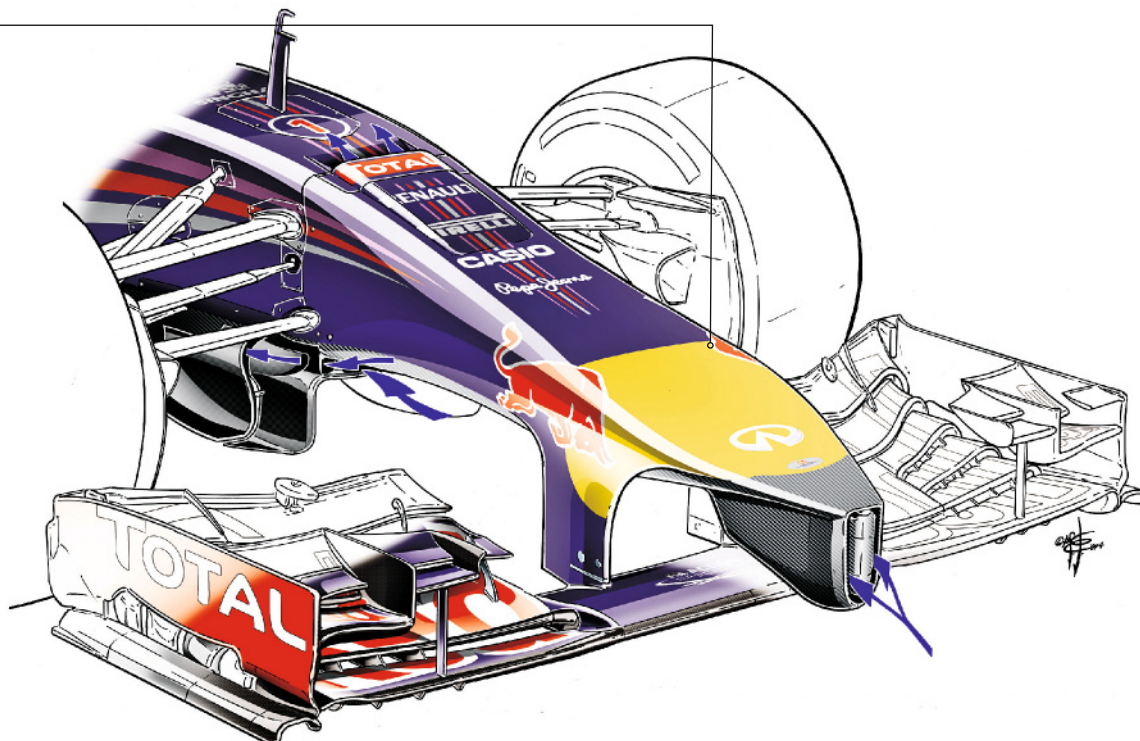
Pod nose design

➔ This year's aerodynamic regulations have led to the creation of some weird and wonderful nose designs. The new rules dictate that the maximum height of the nose is 185mm this year, compared with 550mm in 2013. The reason for this is safety, with detailed research suggesting that the chances of a car being launched when it rear-ends another – as Mark Webber did to Heikki Kovalainen's Lotus in the 2010 European GP – is dramatically reduced.

But teams still want to keep the nose as high as possible. Red Bull has achieved this by having the top of the nose and the start of the crash structure as high as possible. This is 250mm above the reference plane.

To meet the regulations a black aerodynamic 'pod' hangs down in order to comply with the rules. It will not be significant in passing the crash test and is effectively cosmetic.

Red Bull has made its nose very narrow to try to ease the path for the airflow as it turns around the corner of the nose. You want this to be as smooth as possible to avoid airflow separation.



Battery packaging

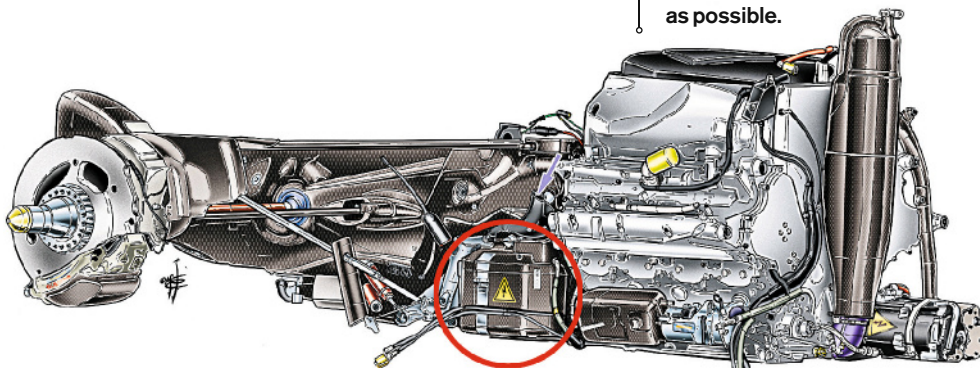
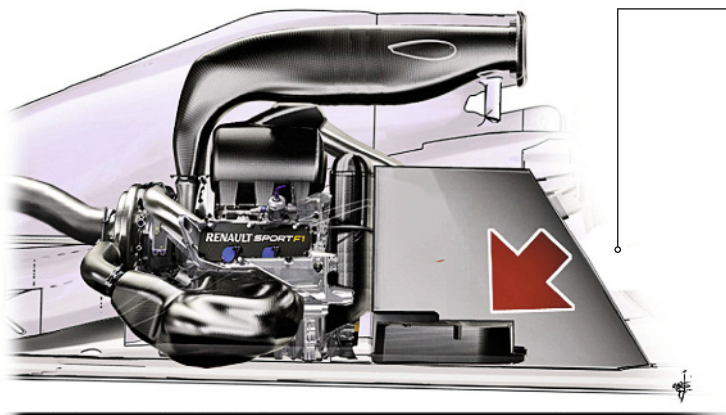
➔ Packing of the new 1.6-litre turbocharged V6 Renault engine with all its related ancillaries (left) has proved a big problem for Red Bull during the pre-season test sessions at Jerez and in Bahrain. The challenge is very different to packaging the previous-generation KERS.

In 2012/13, Red Bull packaged its KERS battery pack in and around the front of the gearbox (below). This moved the centre of gravity rearward and ensured that the battery pack and fuel load was as low in the chassis as possible.

Red Bull did occasionally suffer from overheating problems last year and it often compromised Mark Webber's performance more than Sebastian Vettel's. This can be attributable to how the driver uses the car as by using maximum revs before changing gear induces more heat in the radiator package, so there is more heat to dissipate. This could lead to the complete cooling system running that little bit warmer and into a critical area.

For 2014, the location of the new battery pack, which is significantly larger, is dictated by the regulations. Red Bull Technical chief Adrian Newey complained at the first pre-season test at Jerez about the fact it must weigh 20-25kg and be mounted under the fuel cell.

The battery units are fluid-cooled, but having them cocooned in the base of the chassis means they can suffer from heat soak because there is very little airflow to cool the surfaces. But the reality is that all teams face this trouble.





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KEY YEAR

1980

Adrian Newey's first role in Formula 1 was as an aerodynamicist for the Fittipaldi team in 1980

KEY STAT

32.5

Sebastian Vettel has won 32.5 per cent of the GPs he has started. Only Juan Manuel Fangio, Alberto Ascari and Jim Clark have a better strike rate



1

SEBASTIAN VETTEL



Age	26
Starts	120
First GP	USA 2007
Wins	39
Poles	45
Fastest laps	22
2013 position	1st



AFTER LANDING FOUR consecutive drivers' titles and 34 victories during the past four years, Vettel is facing up to the possibility of heading into a new season well and truly on the back foot. The question is, how will he respond?

Most likely, very well. The German has excelled in the best car but, given Red Bull's and Renault's pre-season struggles,

"Vettel will likely be racing down the order. And he will excel. Don't count against him pulling out impressive results"

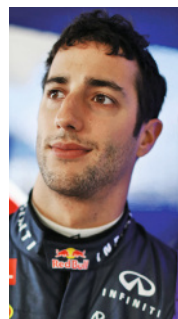
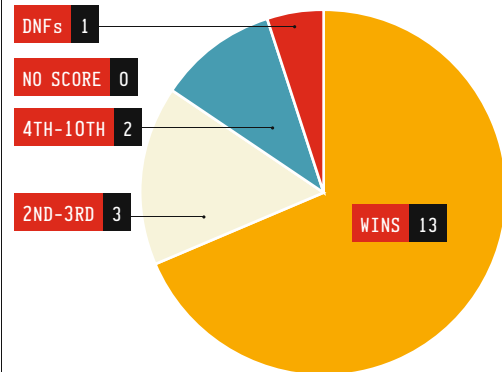
the idea that the RB10 will even be able to finish races at the start of the season, let alone do so quickly, is laughable. Even if Red Bull-Renault does spontaneously turn things around, it's almost impossible that the car will be at anything like its full potential early on.

This means Vettel will likely be doing his racing down the order. And he will excel. After

all, he has been there before and, aside from a few rookie moments, acquitted himself well.

He has proved beyond doubt his ability to thrive in all conditions. He's stunningly fast, arguably the best qualifier in the business and can control races brilliantly. Overtaking, once cited as a weakness, is not a problem for him and for all the complaints about him only winning in the best car, he also won the 2008 Italian GP in a Toro Rosso. If Red Bull is struggling, don't count against him pulling out some impressive results.

2013 FORM GUIDE



3

DANIEL RICCIARDO



Age	24
Starts	50
First GP	Great Britain 2011
Best finish	7th
Best grid slot	5th
Fastest laps	0
2013 position	14th



THE AUSTRALIAN IS fast. *Seriously* fast, as he has sporadically shown during qualifying sessions over the past few years. After two years at Toro Rosso, plus a half-season before that at HRT, Ricciardo has matured as a driver and did enough to show he was as ready as he is ever going to be for a spot alongside Vettel.

It's difficult to predict

"It's difficult to predict how he will do. The feeling is one of uncertainty, not helped by pre-season problems with the car"

how he will do. In addition to his impressive qualifying performances, Ricciardo has had some convincing results. While he has a reputation for going backwards in races, this is regressing to the mean after exceptional Saturday laps rather than any particular malaise on.

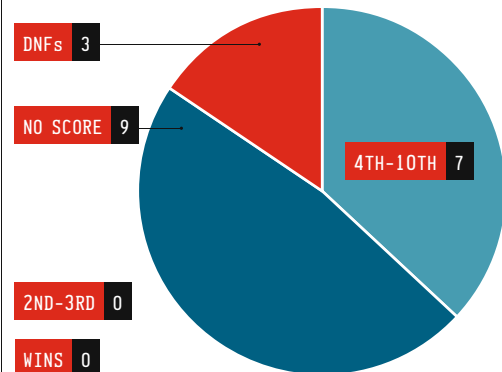
But how he will fare against Vettel? He certainly merits his shot, but the history of F1 is

littered with good drivers made to look poor by greats like Vettel.

The feeling in the team is of uncertainty, something not helped by pre-season problems with the car that has made it impossible for Vettel or Ricciardo to do a great deal of serious driving. There is confidence he will deliver, but he can't prove that until he gets on the grid with a top team.

The first challenge will be of mental strength if the Red Bull isn't up to the standards of recent seasons after working so hard to gain promotion.

2013 FORM GUIDE

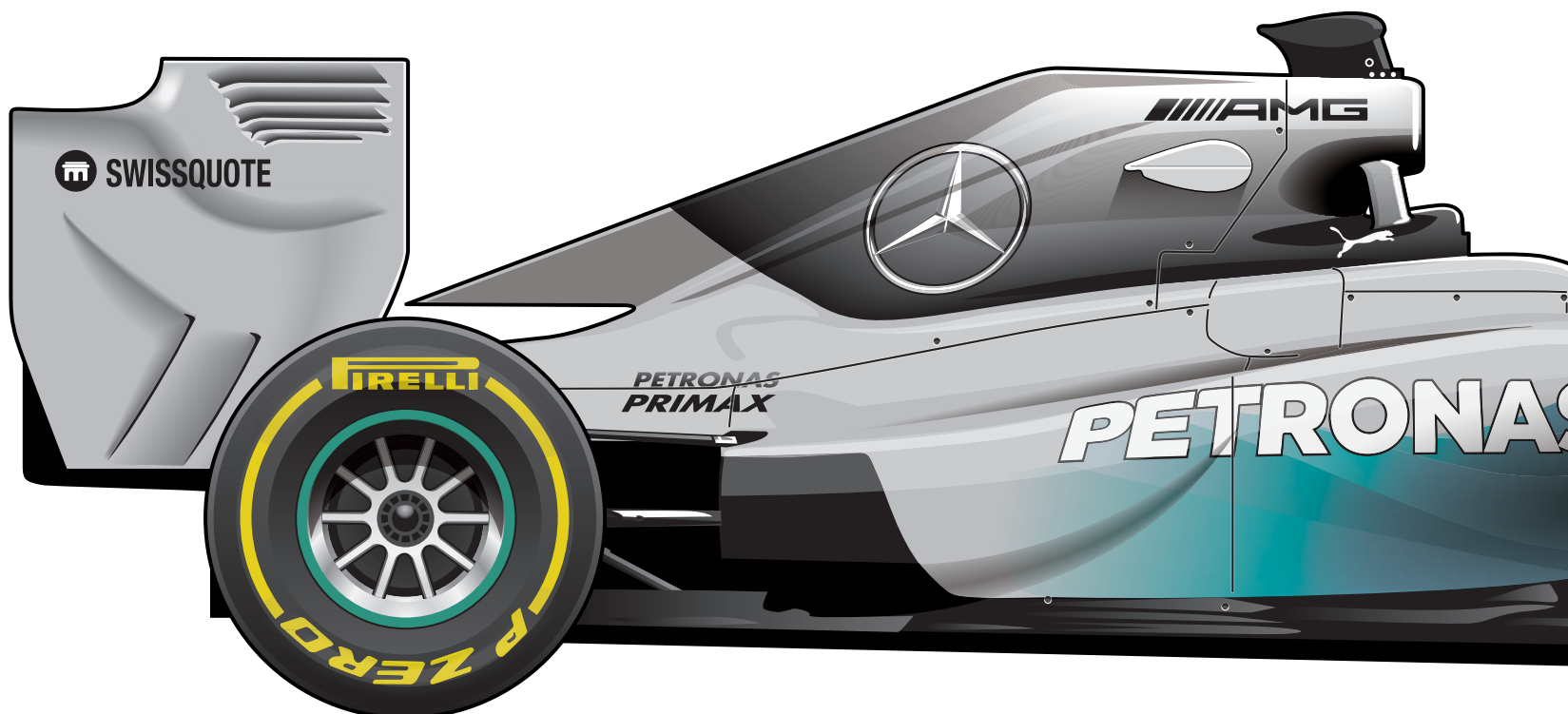


Mercedes

AUTOSPORT RATING

1st	Drivers	●●●●●
	Engine	●●●●●
	Aero	●●●●●
	Budget	●●●●●
	Strategy	●●●●●

Plenty of mileage and headline-grabbing pace in testing mean Mercedes is the favourite heading to Australia, even if the team is wary to admit it. By BEN ANDERSON



Mercedes W05

The unprecedented overhaul in regulations for this season represents Mercedes' best chance of becoming world champion since it returned to Formula 1 in 2010.

Mercedes has generally underachieved since buying out Ross Brawn's title-winning ex-Honda outfit at the end of 2009. But there is a sense the squad built some real momentum last season, winning three races and keeping pace in the development war with all bar Red Bull's energy-drink-fuelled juggernaut.

In 2008 world champion Lewis Hamilton (capable of superb drives when he's motivated and happy) and three-time grand prix winner Nico Rosberg (a highly intelligent operator who silenced critics with his impressive performances against Hamilton in 2013), Mercedes has what Brawn describes as "two of the

top drivers in F1" to once again lead its charge.

Brawn is no longer at the helm ('gone fishing'), but the technical tree he (re-)grew during his tenure should begin to bear fruit this season, leaving former McLaren technical director Paddy Lowe (now effectively Mercedes' team principal) in a strong position to guide the Silver Arrows to the top seat at Formula 1's dinner table.

Lowe, whose relationship with Mercedes stretches back to 1995 when McLaren began using the German marque's engines, has taken control of a three-strong technical team recruited by Brawn in 2011, comprising technical director Bob Bell (ex-Renault), engineering director Aldo Costa (ex-Ferrari) and technology director Geoff Willis (ex-Williams and Red Bull).

Brawn oversaw a necessary expansion of his old team under new ownership, in order to take on the financial might of Red Bull, Ferrari

and McLaren. It seems Lowe's job now will be to maintain the momentum building in the team and not implement too much change for change's sake. Or, in Lowe's own words, "pick up where Ross left off". But that doesn't mean there won't be plenty of work to do during what is likely to be the most

unpredictable season in years.

"One thing we will see this season, more than ever, is that there's no room for complacency," warns Lowe. "If we happen to look good in Australia, that doesn't mean much because it will be a very dynamic season in terms of people's progress. If somebody is in a lot of



Hamilton racked up plenty of mileage, at a good pace

KEY NUMBER

6 Nico Rosberg has selected #6 as his number for the rest of his F1 career. Father Keke carried it to the 1982 drivers' world championship

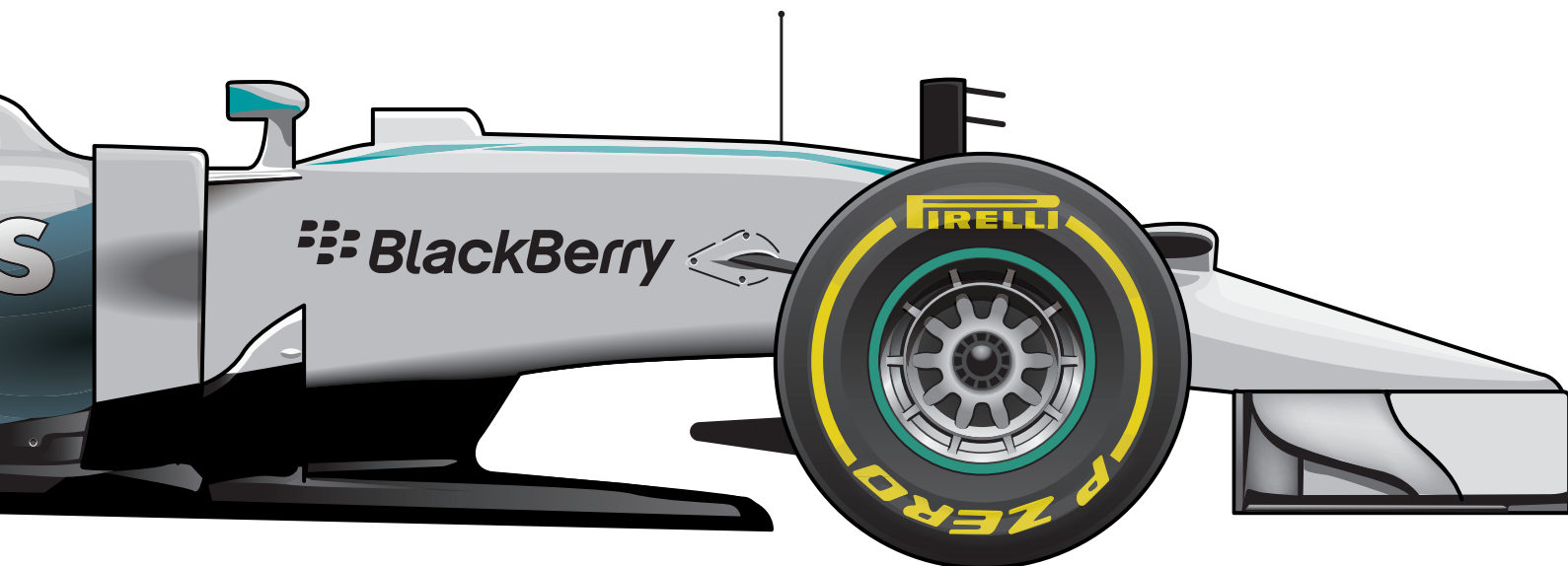
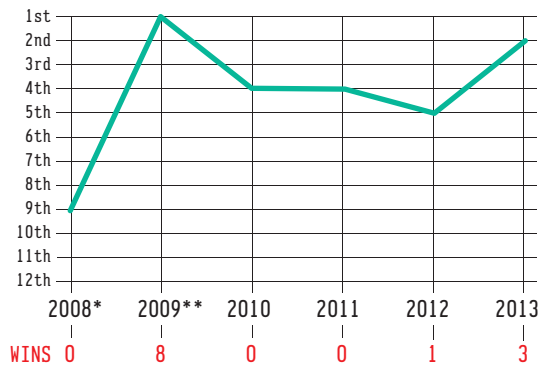


MERCEDES' CHAMPIONSHIP PERFORMANCE



Starts **89**
 First GP **France 1954**
 Wins **13**
 Poles **17**
 Fastest laps **13**
 2013 position **2nd**

*As Honda; **As Brawn



55

trouble they should recover and come back again and vice versa.

"[This season] is one in which you will have to push and fight through to the end."

Whether the team can take the next leap and match the aerodynamic might of Adrian Newey's Red Bull wizardry (under a new set of demands created by narrower front wings and reduced 'exhaust-blowing' capabilities) is unknown, but the massive overhaul in engine regulations creates potential for something other than aerodynamics and tyres – something Mercedes struggled with last season – to be the determining factor of the 2014 competitive order.

In a season in which engines should be thrust back to the forefront of teams' competitive thinking, the fact Mercedes is a factory outfit (and the one that seems to have made the best fist of the job over the winter) should be of enormous benefit.

"All three of the power unit manufacturers have been ambitious in terms of the technologies they are introducing to get good conversion efficiency from the 100kg of fuel to the rear axle when we are accelerating the cars out of the corner," says Andy Cowell, managing director of Mercedes High Performance Powertrains – the squad's Brixworth engine department (based 30 miles from the F1 team's Brackley base). "F1 cars punish you if you are overweight, punish you if the bodywork needs to be larger for cooling, or because of the size of the power unit. Perhaps even more so this year with the aerodynamic changes and less surface area to generate downforce. It will be interesting."

Lowe is wary of the 'favourites' tag being tied to his team, but the early signs from pre-season testing at Jerez and in Bahrain indicated Mercedes has perhaps the strongest and most reliable package. It was the



Rosberg adds nous to race-winning pace

ETHERINGTON/LAT

first team to complete a full race distance in the first test at Jerez and it comfortably set the pace during the second pre-season test in Bahrain, as it clocked the second-highest lap count behind Williams.

This bodes well when the engine regulations have changed so dramatically, creating the potential for a return to bygone days of cars breaking down left, right and centre.

With an excellent driver line-up, strong technical leadership, and mighty resources at its disposal, Mercedes has put itself firmly in pole position heading to the season opener in Melbourne.

KEY STAFF



PADDY LOWE
 Executive director (technical)



TOTO WOLFF
 Executive director (business)



BOB BELL
 Technical director

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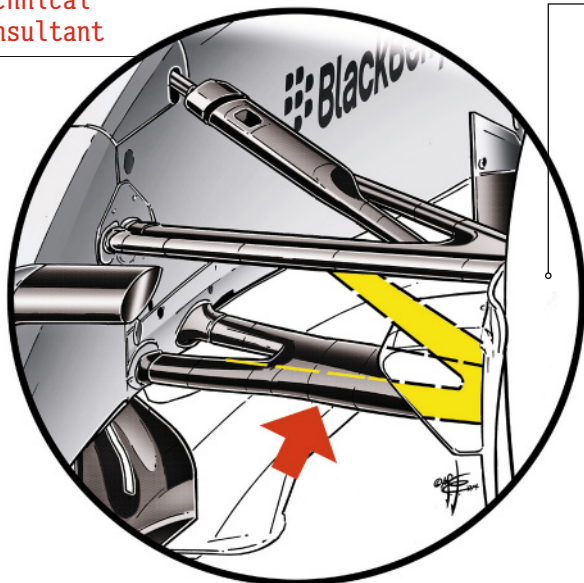
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“If we happen to look good in Australia, that doesn’t mean much because it will be a very dynamic season in terms of people’s progress” Paddy Lowe



Gary Anderson
Technical consultant



Narrow-angled wishbone

➔ The Mercedes features a unique lower front wishbone design with a very narrow angle between the two legs. This is to minimise the airflow blockage created by the lower wishbone.

The yellow outline shows the shape of a conventional rear lower leg, but Mercedes has created the narrow angle by moving this backwards so it is close to the forward leg.

It is a very difficult design to

execute as under braking the loads in the wishbone legs and the chassis mounts increase dramatically as they get nearer to each other. To combat this, the lower wishbone will have to be stronger and, as a result, heavier than a conventional design.

But Mercedes will have found a net aerodynamic gain from moving the rear leg forwards, which should allow better airflow to the leading edge of the sidepod.

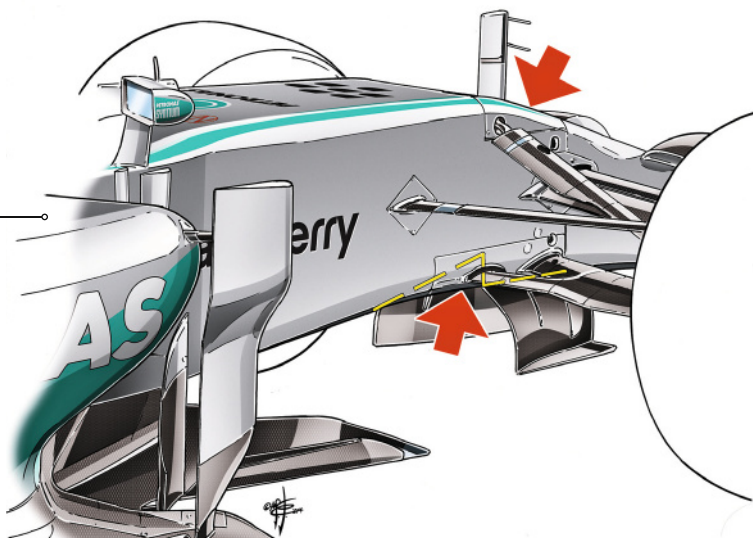
Lower chassis

➔ While the Mercedes power unit has proved the strongest during pre-season testing, there are also some interesting design details in the car. The front of the chassis is one example of this.

The forward arrow indicates that Mercedes meets the 525mm maximum height for the forward chassis bulkhead. But instead of sweeping up the bottom of the

chassis to match the upper surface, which other teams have done, Mercedes has decided to keep this area lower than necessary. This is indicated by the other arrow.

The reason will be to better manage the airflow under the chassis. Consistency of airflow is vital and this should ensure it is more stable when it gets to the leading edge of the sidepods.



Rear-end treatment

➔ Mercedes experimented with various bodywork specifications to cover the increased temperature in testing in Bahrain.

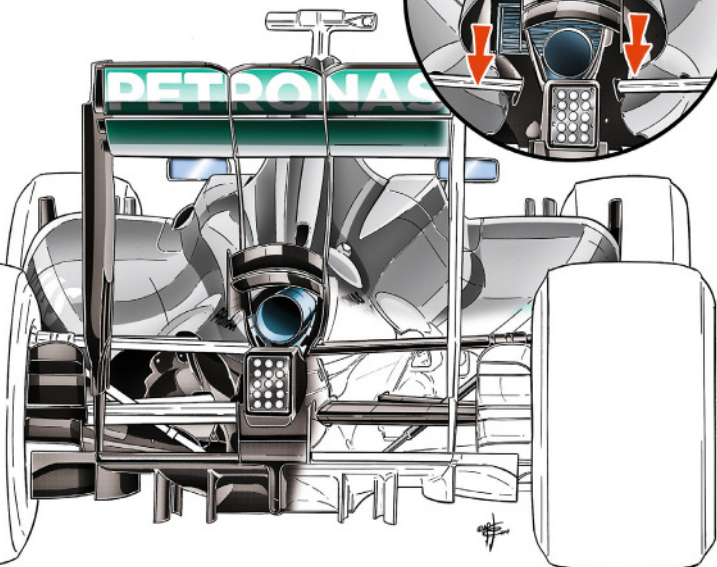
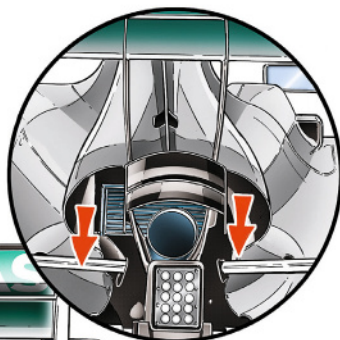
The exit ducts (1) on the side of the exhaust outlet are increased in width. This area is the least detrimental to the performance of the overall aerodynamic package of the car and the high-speed exhaust gases also help scavenge the airflow from under the bodywork.

The small ducts (2) can also be altered. The left-hand one is smaller than the right-hand one. This duct is just beside the driver’s head, located at the top inner corner of the radiator. That is an area of the radiator that,

because of packaging, is quite difficult to make work efficiently.

Through the exits beside the exhaust outlet there is a radiator (3). This is probably for cooling the gearbox and/or hydraulics. Most of these two systems are in this area so it is logical to have the cooling device in this position.

At the rear end of the diffuser (4) there is a slot to allow a remote starter shaft to be inserted. The size of the starter holes we saw previously have now been fixed by regulation and because this slot is at the back of the diffuser, it does not come under this regulation so can be as big as the team wants.





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MERCEDES-AMG
PETRONAS FORMULA ONE™ TEAM

KEY YEAR
1987

Paddy Lowe, now executive director (technical) of Mercedes, arrived in F1 with Williams as an electronics specialist in 1987

KEY STAT
33

Lewis Hamilton needs only two more pole positions to equal Jim Clark's British record for career poles in F1



COATES/LAT

THOMPSON/GETTY



6



NICO ROSBERG



Age	28
Starts	147
First GP	Bahrain 2006
Wins	3
Poles	4
Fastest laps	4
2013 position	6th

ETHERINGTON/GETTY



REGARDED BY MANY as a second-rate driver during the early stages of his career at Williams, Rosberg confounded the critics (and proved that getting the better of Michael Schumacher 2.0 was no mean feat) by matching Lewis Hamilton in their first season as teammates since their karting days. He finished 18 points behind

Hamilton in last year's title race, and was narrowly outqualified 11-8 across the season, but the German won two GPs to Hamilton's one, including an expertly judged, if unpopular, tyre-management race in Monaco.

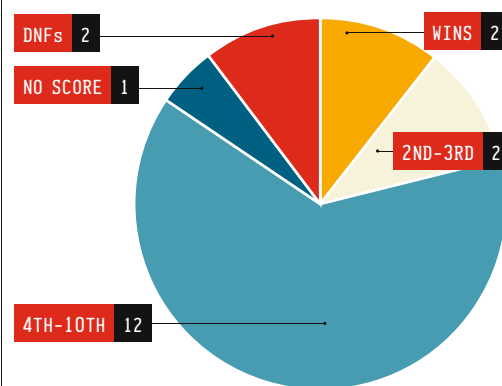
Rosberg has impressively continued to improve as a driver during his time in F1, and his cerebral approach and strong

work ethic endear him to a team in which he is already well ingratiated after four seasons.

F1 2014's intense technical challenges, which will require careful discipline to control tyre wear, fuel consumption and energy recovery, as well as using speed and racecraft, should suit Rosberg's strategic style. If Mercedes is indeed the frontrunner of the brave new world order, Rosberg could be a real contender to emulate father Keke (world champion in 1982) and claim a maiden crown.

"Rosberg has continued to improve and his cerebral approach and strong work ethic endear him to the team"

2013 FORM GUIDE



THOMPSON/GETTY



44



LEWIS HAMILTON



Age	29
Starts	129
First GP	Australia 2007
Wins	22
Poles	31
Fastest laps	13
2013 position	4th

ROBERTSON/GETTY



HAMILTON LEFT McLaren after six seasons because he needed a clean break – to leave 'home' and try to make his own way in life. The big rule changes for this season (and Mercedes's advantage as a 'works' outfit in this regard) were key to Hamilton's decision to move from Woking to Brackley. In other words, Hamilton's big move was all about this year.

He showed buckets of the speed we've come to expect (as five poles in 2013 proved), but things didn't quite come together in his first season at Merc. He won the Hungarian GP (his fourth success in seven attempts at the Hungaroring – the sort of technical track that rewards his skills), but inevitably there were teething troubles.

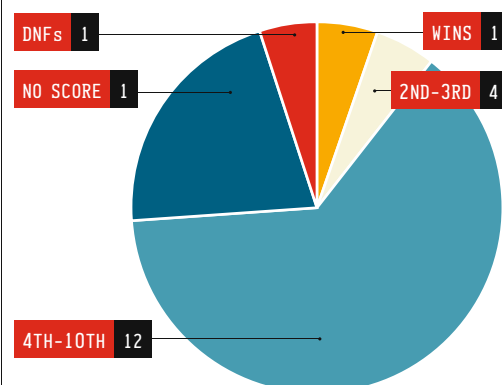
High-profile public spat

with the team over the radio in Austin, parking his new car in McLaren's pit box in Malaysia, and Hamilton's difficulty gaining the feel he requires from the brakes across the season, were all a part of this. Another winter has passed and this relationship should move up a level in 2014.

Hamilton is no fan of an era that demands pure speed be tempered with tyre conservation and fuel management, but the W05 looked to be the strongest package in pre-season testing, which should help him challenge for the second title he craves.

"The big rule changes for 2014 and Merc's advantage as a 'works' outfit were key to Hamilton's decision to move to Brackley"

2013 FORM GUIDE



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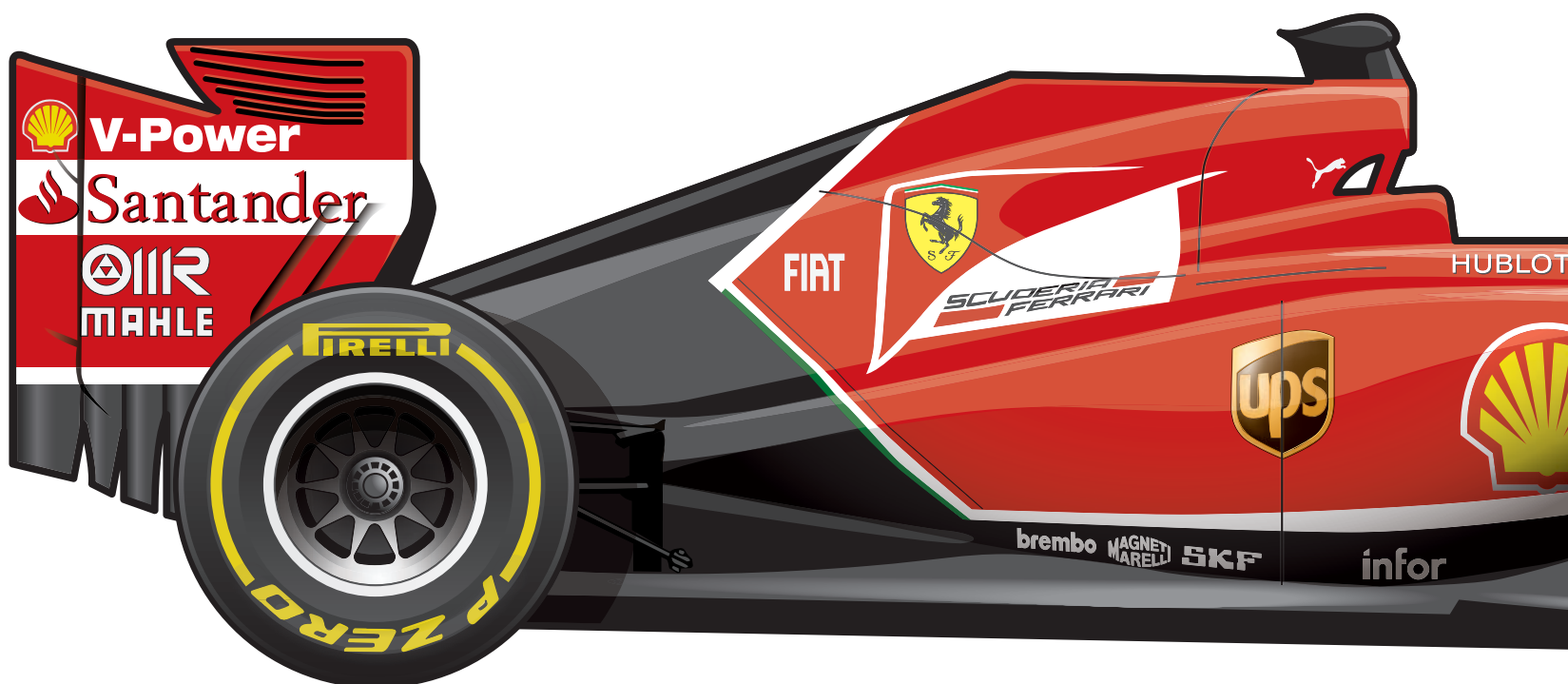


Ferrari

AUTOSPORT RATING

2nd=	Drivers	●●●●●
	Engine	●●●●●
	Aero	●●●●●
	Budget	●●●●●
	Strategy	●●●●●

President di Montezemolo is tired of waiting for a title for the Scuderia. With two world champion drivers, new rules and struggling rivals, could this be its year? By JONATHAN NOBLE



62

Ferrari F14 T

With Ferrari president Luca di Montezemolo admitting over the winter that he was 'tired' of his team's failure to win a world title in recent years, there is an added pressure on Maranello to deliver in 2014.

After the finale frustrations of 2010 and 2012, Ferrari faced much bigger issues last year when a lack of in-season development progress stalled its title campaign over the second half of the year. That prompted some fairly public frustrations from star driver Fernando Alonso, which in turn earned a rebuke from di Montezemolo as relations between the driver and team got pretty strained in the second half of 2013.

But with both driver and team ultimately condemned to win or lose together – and both want nothing more than a partnership that

succeeds – there is no more dwelling on what went wrong last year. Instead, the focus has already shifted in to making sure 2014 is the year Ferrari finally delivers.

Although the belief Ferrari will fight for the world title is no different this year than any other, there is actually reason for the team to believe that its house is in better order.

One of the team's biggest weaknesses over the past few seasons has been its inability to develop quickly enough during the campaign. The cause of this can be traced back to windtunnel-calibration issues, which left Ferrari's efforts at the track frustrated when new parts that showed improvements back at base did not deliver in the real world.

It was against that background that Ferrari team principal Stefano Domenicali took the decision to shut down the Maranello windtunnel at the end of 2012

for an upgrade. That meant a 2013 season that was slightly compromised because all its tunnel work was being done at Toyota's Cologne facility. But it has at least ensured that, with Maranello now back up and running, the team is in much better shape than it was two years ago.

In fact, there was a sense of major relief from the team when early aerodynamic evaluation of parts in pre-season testing showed that the correlation between track and tunnel was as hoped, giving the team some confidence about the tools it has at its disposal.

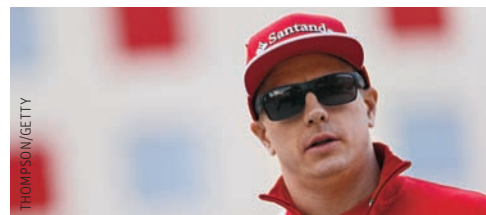
But it's not just in the windtunnel



Alonso gets to grips with F14 T during winter tests

BIG NUMBER

200 Kimi Raikkonen is scheduled to start his 200th Formula 1 race at this year's Austrian GP

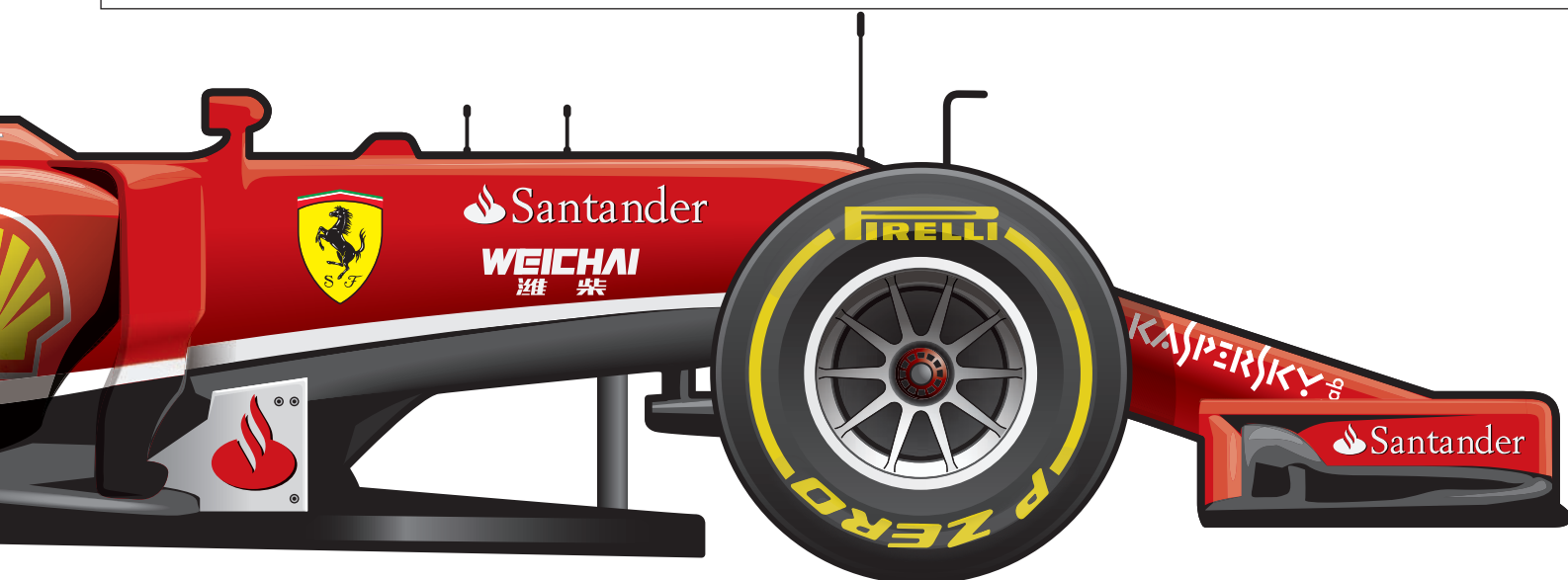
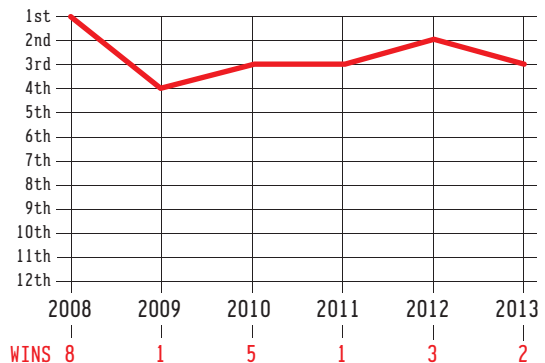


THOMPSON/GETTY

FERRARI'S CHAMPIONSHIP PERFORMANCE



Starts **870**
 First GP **Monaco 1950**
 Wins **221**
 Poles **207**
 Fastest laps **229**
 2013 position **3rd**



where things have improved. A lot of work has gone on recently in terms of ramping up Ferrari's simulation and simulator facilities, with the team having previously fallen behind its rivals in these areas.

It's also much stronger on the infrastructure side too. The arrival of James Allison as technical director last year helped to free up Pat Fry to focus on his engineering strengths as the pair pushes on with the rebuilding process.

That stronger structure and the improved facilities back at base come against the backdrop of a major change in regulations that should, for now at least, play to the strengths of the full 'works' teams. For in a year when it is more important than ever that power unit and car are optimised together, Ferrari joins Mercedes in having the advantage of chassis and engine design teams working in unison to come up with the best overall package.



Raikkonen returns after four years away

While the situation looks optimistic, and the pre-season testing programme was solid, the progress of the team will not become clear until a few races in to the campaign – such is the uncertainty about just how the competitive order looks right now.

Even though Mercedes may be heading to Melbourne for the season-opening GP as favourites after its encouraging pre-season build-up, we still are unclear about how race strategies will pan out,

and it could be that the best car is not necessarily the fastest.

But with all that has happened in the background, and Alonso and Kimi Raikkonen in the cockpits, Ferrari has very few excuses if it's not fighting up at the front this time around.

With its facilities ready, rival squad Red Bull appearing hobbled for now, and new regulations working in its favour, Ferrari has one of its best opportunities to deliver exactly what its president expects.

KEY STAFF



STEFANO DOMENICALI
 Team principal



JAMES ALLISON
 Technical director



PAT FRY
 Engineering director

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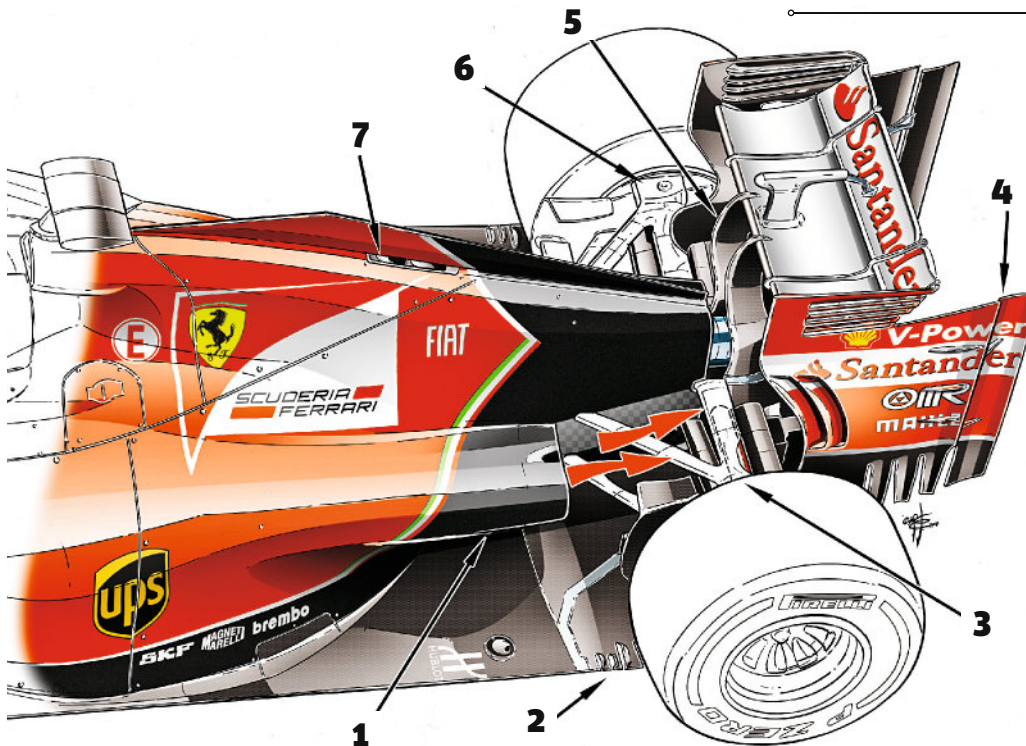
ASTON MARTIN
AUDI | FERRARI
PORSCHE | TOYOTA



“That stronger structure and the improved facilities back at base come against the backdrop of major regulation changes that should, for now at least, play to the strengths of the full ‘works’ teams”



Gary Anderson
Technical
consultant

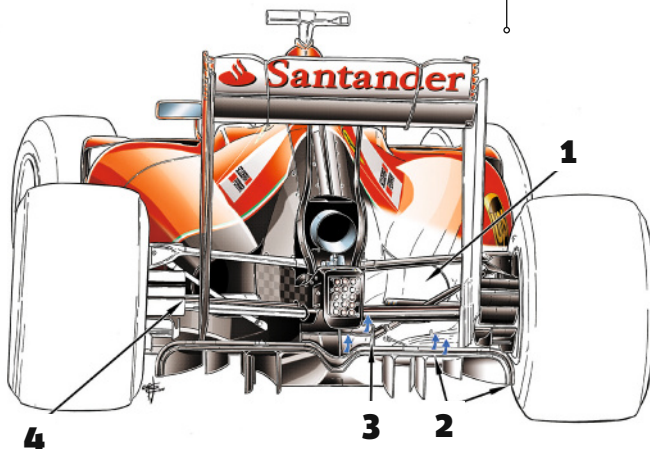


Rear wing and suspension focus

- ➔ **1** The radiator outlets are as far forward on the car as the regulations allow. Ferrari's are a little larger than on other cars.
- 2** The regulations don't allow a hole in the floor, but these aerodynamic louvres are slots as they reach the edge of the floor. They work with the airflow displaced by the rear-tyre contact patch, improving floor performance.
- 3** Ferrari continues to run pullrod rear suspension in 2014.
- 4** There is vertical slotted flap on the trailing edge of the rear-wing endplate. Most teams have a gurney flap, but the Ferrari solution should be more efficient, drag-wise, at high-speed. A gurney would be better at a lower speed.
- 5** Ferrari has a twin central rear-wing pillar mount. One pillar, as several other teams including Red Bull have chosen, creates less airflow blockage.
- 6** This is where the upper rear wishbone connects to the rear upright with what is called a camber block. There will be shims between it and the upright for camber adjustments, which can be altered in conjunction with the rear top wishbone to increase or decrease dynamic rear camber change.

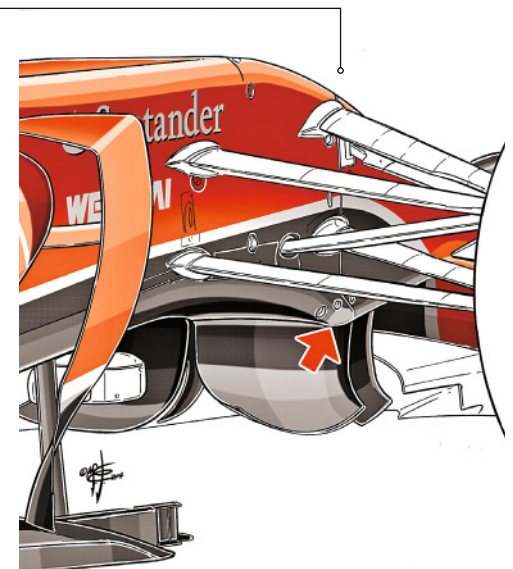
Rear-end treatment

➔ There have been significant changes made to the rear end of all of F1's 2014 challengers. This is thanks to a combination of the effective outlawing of using the exhaust gasflow to generate downforce, by placing the tailpipe rear-facing and behind the rear axle centreline, and the differing packaging requirements of the new power units.



Low-nose approach

➔ Ferrari is the only team that has gone for a really low nose. The sides of the nose are very rounded – the aim of this is to get the airflow to come over the top surface, around the sides and then under the chassis as it slopes upwards to the maximum height just after the nose/chassis interface. Under the chassis are two three-dimensional turning vanes to help to control this flow and re-align it to improve the performance of the underfloor. My worry with this solution would be that with the air accelerating over the top surface of the nose it will be creating lift that will reduce the potential overall downforce. The red arrow shows the shape of the step in the bottom of the chassis.



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BIG NUMBER

1843

Raikkonen will start his first F1 race in Ferrari machinery after a gap of 1843 days in Melbourne. His last outing was in the '09 Abu Dhabi GP

KEY STAT

7

Fernando Alonso has not won the world title in the past seven seasons. If he wins it this year, it will be the biggest gap between titles



7



KIMI RAIKKONEN



Age	34
Starts	192
First GP	Australia 2001
Wins	20
Poles	16
Fastest laps	39
2013 position	5th



RAIKKONEN HAS EARNED

the tag as Formula 1's Mr Consistency since returning to the sport from his rallying sojourn. He has become such hot property again not because his personality makes him a darling of the fans, but because he is a man who can be relied upon to deliver the points on a Sunday afternoon.

His amazing run of finishes in 2012, allied to his ability to pick

through the pack to produce podium finishes, showed that Kimi is just the man you need if you want to pick up points.

It's that latter quality that was so lacking with Felipe Massa, who on his day was blisteringly quick but could not be relied upon to produce the goods every time.

But being so reliable doesn't mean that Raikkonen is not quick either. There's no doubt that

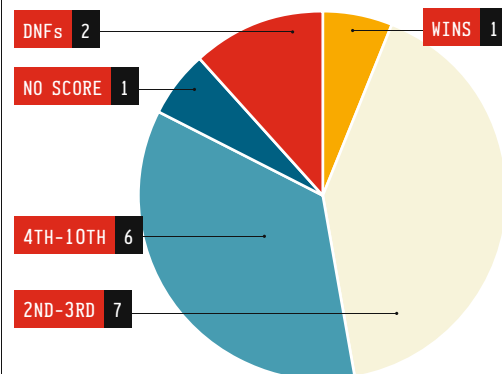
the 'Iceman' is going to keep team-mate Fernando Alonso on his toes this year amid Ferrari's regrouping to try to win the title.

Raikkonen may still have his doubters in terms of his overall work ethic – and whether he will ever go the extra mile that some other drivers do in the quest for better form is open to debate – but his wealth of experience and canny racecraft are invaluable.

It's too early to judge whether Raikkonen will emerge as Ferrari's main man or become Alonso's loyal lieutenant, but he will play a key part in the 2014 title battle.

“There's no doubt the 'Iceman' is going to keep team-mate Fernando Alonso on his toes amid Ferrari's regrouping to win the title”

2013 FORM GUIDE



14



FERNANDO ALONSO



Age	32
Starts	215
First GP	Australia 2001
Wins	32
Poles	22
Fastest laps	21
2013 position	2nd



FOR A MAN AS DRIVEN

to succeed as Alonso, it was clear last year that a fourth successive campaign of witnessing Sebastian Vettel roaring to the world title was not going to go down well.

His frustrations at seeing Ferrari's title challenge stumble in the second half of last year, after such a promising start, were blatantly clear; and helped fuel months of speculation about

whether or not he would actually see out his career at Maranello.

But the frustrations were not unique to Alonso, for his team shared too in the disappointment about what had gone wrong.

The winter has served as a bit of a reset though – both in terms of knuckling down to do what is necessary to win this year, but also with Red Bull's plight in pre-season testing showing that

the grass is not always greener.

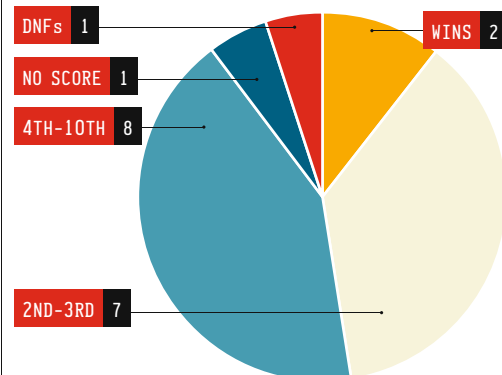
If Ferrari has done its part – and improvements at Maranello should deliver a better situation – then Alonso is still well capable of doing what is necessary on track.

The 2013 situation may not have inspired him to deliver to his best, but when the Spaniard senses opportunity there's no one more capable of seizing it.

And with a high-profile team-mate ready to put him under pressure, Alonso has every motivation he needs to prove to his team exactly why they signed him in the first place.

“If Ferrari has done its part, then Fernando Alonso is still well capable of doing what is necessary on track”

2013 FORM GUIDE

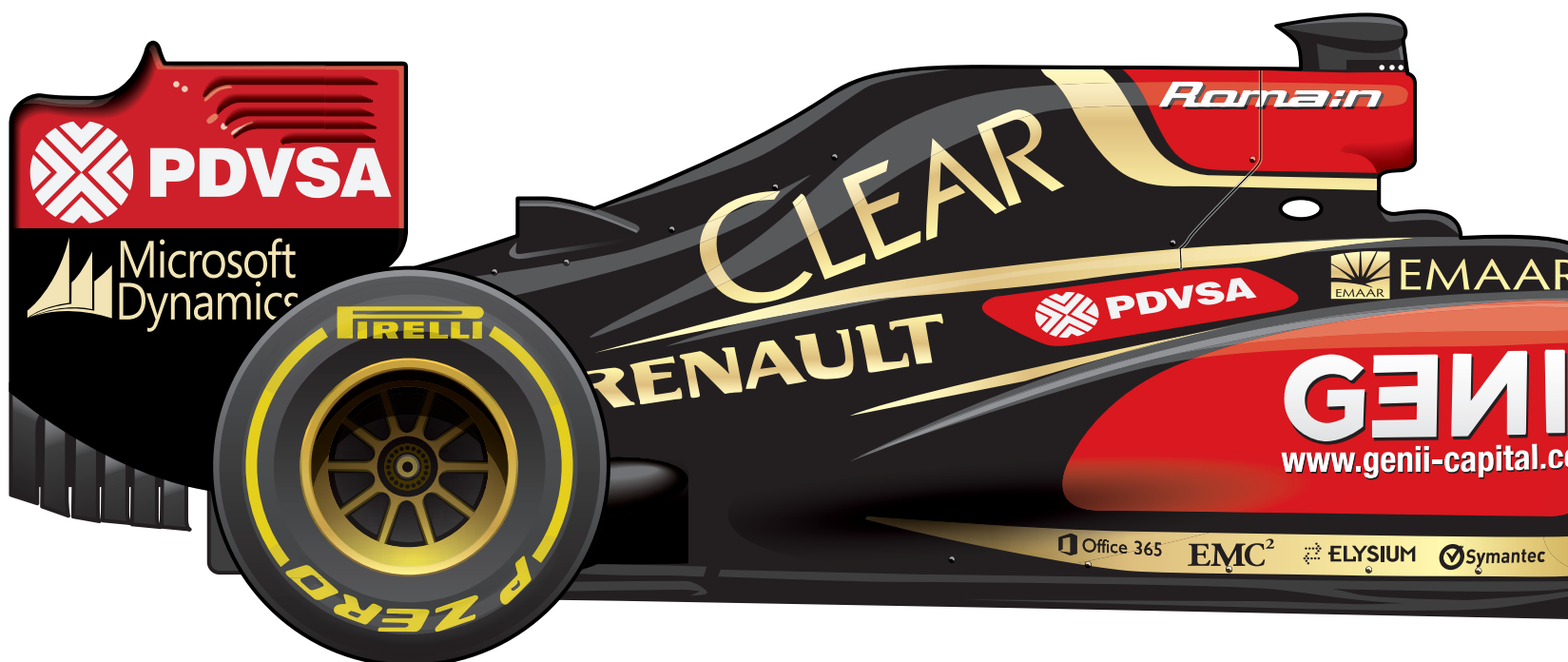


Lotus

AUTOSPORT RATING

7th =	Drivers	●●●●●
	Engine	●●●●●
	Aero	●●●●●
	Budget	●●●●●
	Strategy	●●●●●

The team that pushed Red Bull in late-2013 has lost a star driver and its team principal, and its 2014 car was late, but that won't necessarily hold it back. By **JONATHAN NOBLE**



Lotus-Renault E22

Lotus heads into 2014 on the back of both the best and worst of times. On the plus side, it ended last season as Red Bull's closest challenger, regularly battling for podium finishes and proving to be the world champion team's main threat for victory on several occasions.

But against those highlights were some pretty tough times, too, as financial uncertainties and the loss of key staff – including technical boss James Allison and team principal Eric Boullier – left it on the back foot. Boullier's departure to McLaren in particular may be a big blow, for he helped keep things moving on so well during the most difficult days last year, but Lotus is not a team that simply rolls over and accepts its fate.

For however much the background issues are talked about in the paddock, there's a fighting

spirit at Enstone that has helped it come through such troubles in the past and will no doubt be of assistance this time around.

The winter just gone has been about regrouping and, in spite of its difficulties, Lotus again appears to have produced a solid package that could yet help it continue to deliver surprises in 2014.

Its financial issues last year manifested themselves in the delay in getting its E22 out on track for the first time, so team owner Gerard Lopez has worked with shareholder Andrew Ruhan to try to get a better grip on the team's money situation. And while it may not be flush with cash, and could yet face further challenges, it should at least allow it to continue its efforts to move forwards rather than slip backwards.

Yet the team's ultimate 2014 hopes rest on the job that engine partner Renault manages to do, for the French manufacturer is heading



into the year needing to play catch up. Pre-season testing has not gone to plan and although there has been progress since that very troubled opening week of testing at Jerez, the situation is still not ideal. It's unlikely Renault will be on top of things at the start of the season.

There remains a strength in depth at Enstone that should help it make the most of the situation it is in. And even if it's not fighting

right at the front from the off in Melbourne on March 16, there will be a steely determination to prevent a fifth consecutive Red Bull title and emerge as Renault's lead team.

Again, it's that racing-spirit factor that comes to the front – which is why the team has not only weathered its many incarnations but why it's also delivered the sort of success that it has.

SMALL NUMBER

0 The team carries the Lotus name, but the British sportscar brand does not hold a stake in the team

KEY STAT

53 Pastor Maldonado has scored over half of his career F1 points (53 per cent) in one hit with victory in the 2012 Spanish GP

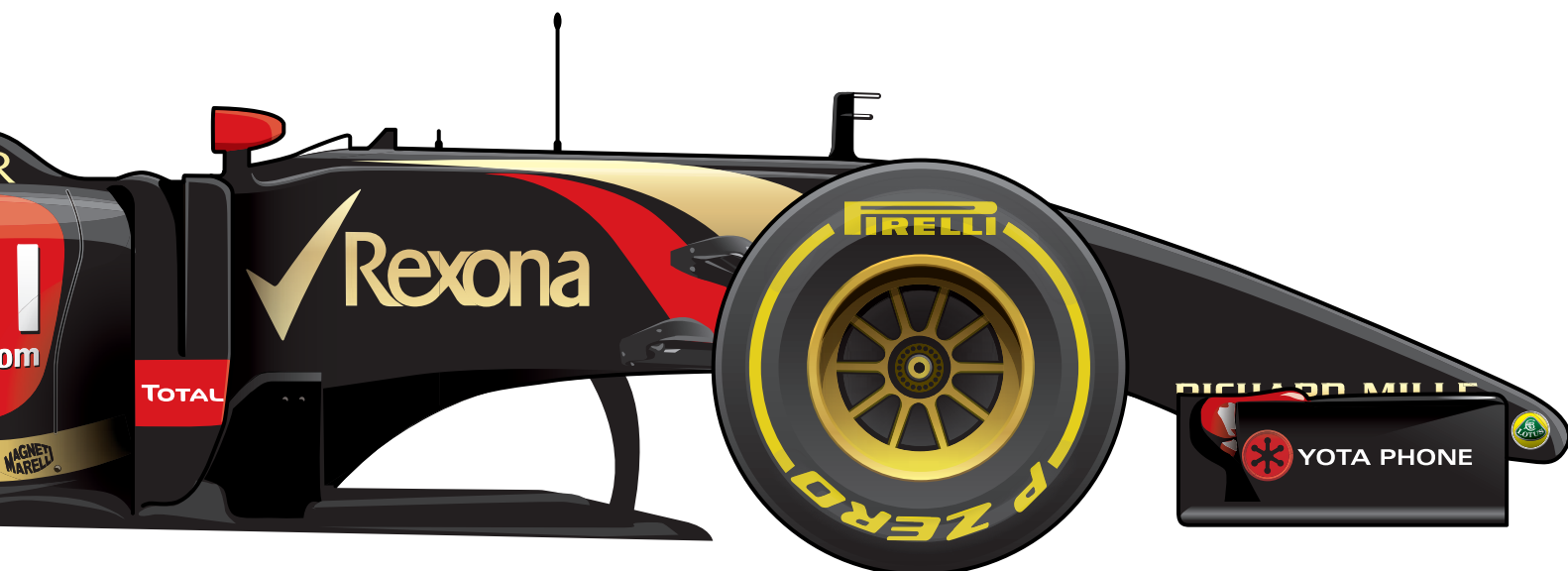
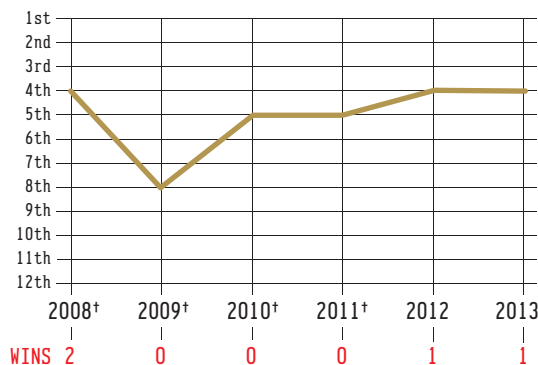


LOTUS'S CHAMPIONSHIP PERFORMANCE



Starts **39***
 First GP **Australia 2012***
 Wins **2***
 Poles **0***
 Fastest laps **5***
 2013 position **4th**

*Statistics taken from the rebranding of Renault as Lotus only
 † Renault



69



8 ROMAIN GROSJEAN



Age **27**
 Starts **45**
 First GP **Europe 2009**
 Best finish **2nd**
 Best grid slot **2nd**
 Fastest laps **1**
 2013 position **7th**

GROSJEAN PRODUCED ONE of the best turnaround performances on the grid last year when he went from nearly being dropped by Lotus to proving himself to be one of the best drivers in F1. A shaky start to the season and a heap of trouble in Monaco left his F1 future in doubt.

But he got himself in order and in the closing stages of the campaign he was the man who looked most likely to knock Red Bull's Sebastian

Vettel off the top step of the podium.

That the elusive maiden victory never came did not ultimately matter, for that increase form delivered a much-needed confidence boost that the Frenchman will carry into 2014.

He will now feel that he is the de facto team leader against the incoming Pastor Maldonado, and that could help him step up another level to further cement his reputation as one of F1's brightest young talents.



13 PASTOR MALDONADO



Age **28**
 Starts **58**
 First GP **Australia 2011**
 Wins **1**
 Poles **1**
 Fastest laps **0**
 2013 position **18th**

MALDONADO MIGHT HAVE earned his drive at Lotus for financial reasons rather than anything he did on track, but he is out to prove in 2014 that he deserves his place at a top team.

The Venezuelan remains something of an enigma; for on the one side he is the fast and brilliant driver who dominated that Spanish Grand Prix for Williams in 2012, while on the other he is the incident-prone wildman who can overstep the mark.

Lotus is confident it can tame him though, just as it did with his teammate Grosjean, who turned from the 'first-lap nutcase' in to the all-rounder who could take on and beat the mighty Kimi Raikkonen.

This year should give us some answers about Maldonado and whether he really can be a top-liner (who comes with the added bonus of backing) or whether it's the finances that precede his driving reputation.

KEY STAFF



GERARD LOPEZ
 Team principal



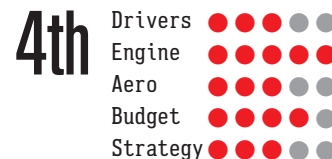
NICK CHESTER
 Technical director



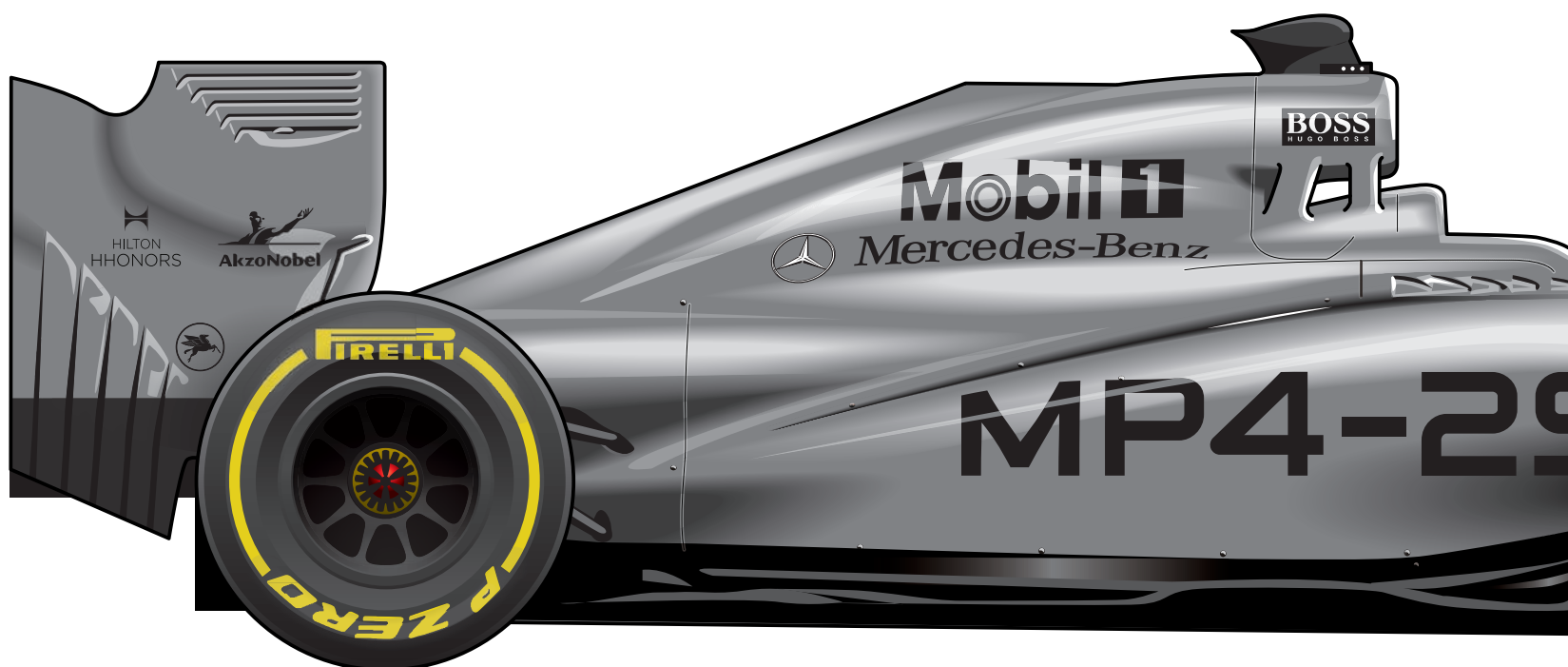
ALAN PERMANE
 Trackside operations director

McLaren

AUTOSPORT RATING



The British team heads into 2014 with new management, a star rookie and a strong new Mercedes engine, which should help erase memories of a grim 2013. By **JONATHAN NOBLE**



McLaren-Mercedes MP4-29

After its annus horribilis of 2013, McLaren is heading into the 2014 campaign in a totally different shape. Out on track, the head start that engine partner Mercedes-Benz appears to have got with the new 1.6-litre turbo engines has left it in a good place, with the MP4-29 having capitalised to show strong performances in pre-season testing.

That it appears to be in the ballpark is a huge step forward from the troubles it faced last year when the 2013 car fell far short of expectations. But while the form of the team looks set to be different this year, it's off track where perhaps the biggest shifts have taken place.

Amid the troubles of 2013, which included the underperforming car and the realisation that Sergio Perez wasn't performing as hoped,

McLaren has undergone a winter of change on the management front with former team boss Ron Dennis staging a boardroom coup.

Dennis got the backing to become the McLaren's Group CEO and conduct a wholesale review of the Woking operation worked – which effectively served to sideline team principal Martin Whitmarsh.

While Whitmarsh's future within the McLaren organisation remains uncertain, Dennis successfully persuaded former Lotus boss Eric Boullier to make the move to Woking and become its de facto leader at race weekends. That swift appointment showed Dennis means business, and his return to action (albeit one in which he will not actually be a key player on the pitwall) has instilled a fresh impetus at the team ahead of a new chapter in its history with Honda.

But this is not to say that everything is totally rosy in McLaren's garden, for it's that

switch of engine partners for 2015 that could prove to be a dominant factor in its fortunes.

Mercedes-Benz unsurprisingly doesn't want any knowledge of its turbo power unit to find its way to a manufacturer rival – and is openly treating McLaren to the letter of its contract. It means the Woking operation is as much a competitor as a partner for 2014.

There has already been evidence of a change in the way things will be done this year – with McLaren personnel being asked to stay away when sensitive engine work is being undertaken in the garage. Such behaviour may not hamper speed on track on any given day, but equally it is a situation that's not going to help matters either.

If the Mercedes proves to be the engine to have this year, though, then McLaren could well have the last laugh and turn into the main challengers for the title of official Silver Arrows.



BIG NUMBER

250

Jenson Button is on course to start his 250th grand prix this year. He should become the first British driver to hit the milestone in Bahrain

KEY STAT

1

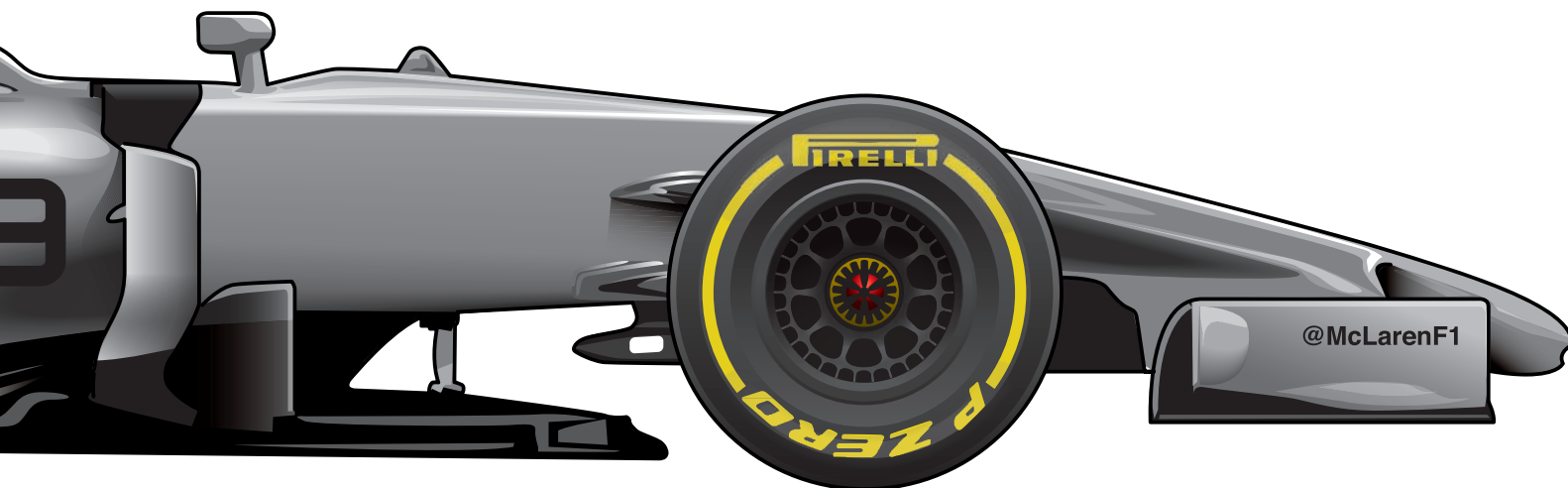
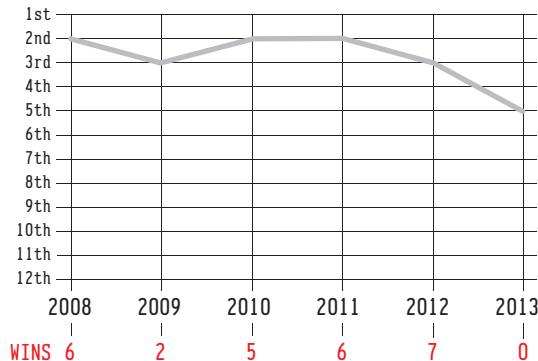
Jan Magnussen, father of McLaren rookie driver Kevin, started one grand prix for McLaren. He finished 10th in the 1995 Pacific GP



McLAREN'S CHAMPIONSHIP PERFORMANCE



Starts **742**
 First GP **Monaco 1966**
 Wins **182**
 Poles **155**
 Fastest laps **152**
 2013 position **5th**



71



20 KEVIN MAGNUSSEN



Age **21**
 Starts **0**
 First GP **N/A**
 Wins **N/A**
 Poles **N/A**
 Fastest laps **N/A**
 2013 position **Formula Renault 3.5 champion**

McLAREN MIGHT HAVE left it late last season to decide that Kevin Magnussen was a better bet for 2014 than Sergio Perez, but it has not taken long for it to feel confident that it's made the right call. The young Dane's speed in testing has impressed – and his off-track attitude and willingness to learn have gone down well in the corridors of Woking.

Magnussen is the first rookie that McLaren has taken on since Lewis

Hamilton in 2007, and there will be tremendous pressure on the Formula Renault 3.5 champion to deliver consistently. But he wouldn't have it any other way.

With Button as team-mate, he has a tremendous databank of knowledge to draw upon, while McLaren will do all it can to help someone so new to F1.

Expect excitement, and perhaps the odd spill, but the early signs are that he'll will make a swift impression.

KEY STAFF



RON DENNIS
 Group CEO



ERIC BOULLIER
 Racing director



SAM MICHAEL
 Sporting director



22 JENSON BUTTON



Age **34**
 Starts **247**
 First GP **Australia 2000**
 Wins **15**
 Poles **8**
 Fastest laps **8**
 2013 position **9th**

JENSON BUTTON MAY be F1's most experienced man this year, but there is little evidence to suggest he is a man preparing for the end of his career. Instead, Button is heading in to a campaign ready to prove he still has what it takes to beat one of the sport's newest stars in team-mate Magnussen.

Button has very much made McLaren his home since signing up at the end of his title-winning 2009 campaign, a move many questioned

because of Lewis Hamilton's presence.

He proved a match for Hamilton though and, despite the troubles of last year, Button then saw off Sergio Perez to set himself up for a fresh challenge from the Danish rookie alongside him.

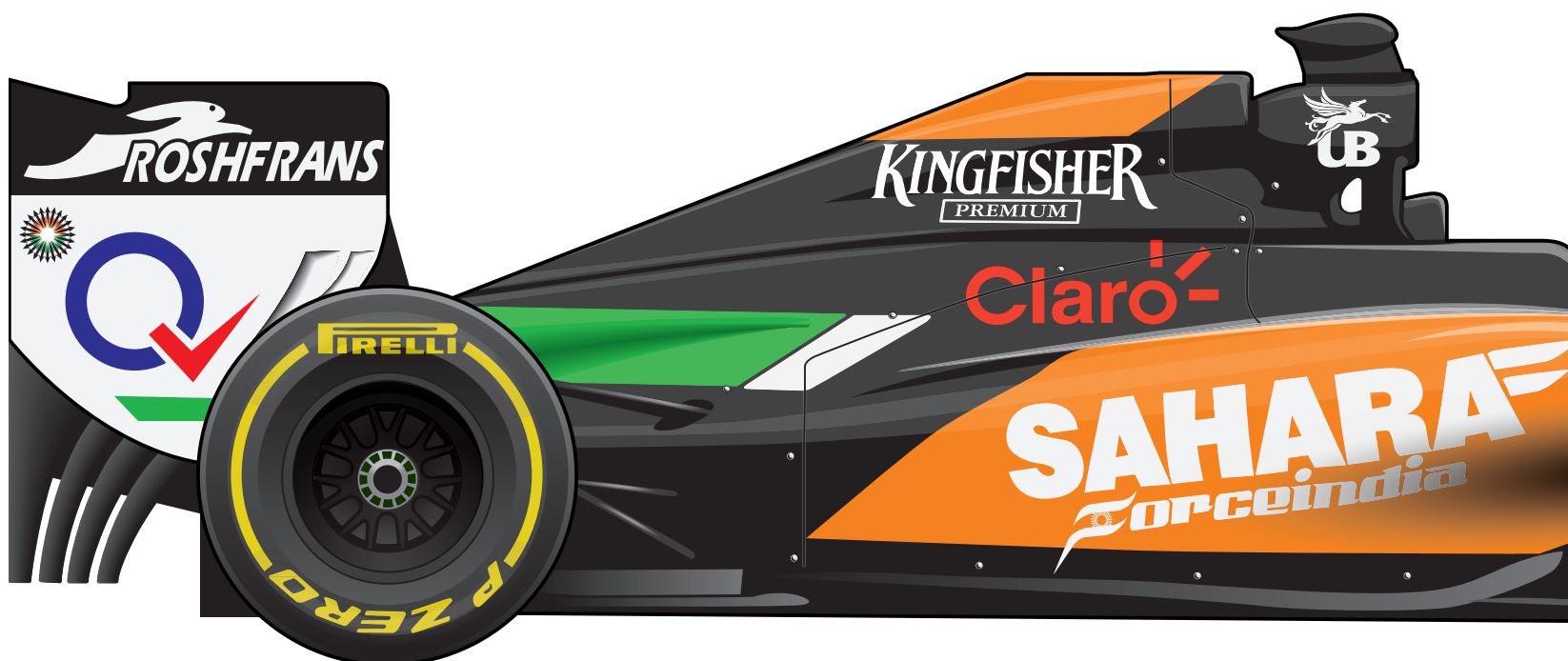
With experience likely to be valuable this year, as race strategies will call for some clever thinking, there's no doubt Button is up for the fight. And ready to show McLaren and the rest of F1 that he's still performing at his best.

Force India

AUTOSPORT RATING

5th =	Drivers	●●●●●
	Engine	●●●●●
	Aero	●●●●●
	Budget	●●●●●
	Strategy	●●●●●

This is a big season for the Silverstone-based team, with the return of highly rated Nico Hulkenberg and the advantage perceived in the Mercedes engine. By **BEN ANDERSON**



Force India-Mercedes VJM07

Force India team owner Vijay Mallya and long-time right-hand man Bob Fernley talk of the squad operating under 'five-year plans', and 2014 represents the start of the second plan, as it were.

The first (which began in 2009 after a season of transition) was about raising the team formerly known as Spyker from back-of-the-grid bottom feeder into midfield regular. That's been achieved. Now the focus is on trying to lift it to the next level, from what deputy team principal Fernley describes as "a team of podium potential" to a regular podium finisher.

Force India's engine deal with Mercedes, which stretches back to 2009 and is now a full-blown technical partnership, could be about to bear serious fruit as F1 enters its complex new turbocharged era.

The new Mercedes power unit is thought to be ahead of rival efforts from Ferrari (a former engine partner

of Force India) and Renault, so Mallya's team looks in good shape to be in the fight for 'best-of-the-rest' status behind the factory Mercedes outfit, certainly in the early races.

The team has been quietly climbing the grid since Mallya took control in 2007. Fernley feels it was in good shape for regular podiums last year with Paul di Resta and Adrian Sutil driving, but got derailed by Pirelli's tyre-specification change

in the middle of the season. A glance at the standings confirms this logic: Force India scored 59 points across the first eight races of the season, then Pirelli changed its tyres in two stages (for the German and Hungarian GPs). Over the final 10 races (Hungary to Brazil), the team scored just 18 points...

Both di Resta and Sutil have departed – di Resta back to the DTM with Mercedes and Sutil to

rival squad Sauber – but Force India has recaptured a star driver to lead the charge in the form of Nico Hulkenberg. F1's big teams have consistently overlooked the German, despite his star turns for Force India in 2012 and Sauber in the second half of last season. The team knows it has a driver who arguably operates above its own level, and if the car is strong enough you can count on him to deliver the maximum possible.

Hulkenberg's new team-mate Sergio Perez didn't make the most of his McLaren opportunity last season, but has proved capable and should be a better driver for the experience. Given that he showed he was able to score some impressive results for Sauber in 2012, the Mexican will be counted on to do it for his new team.

There are small question marks surrounding the VJM07's reliability compared with other Merc-engined teams, but if these bugs can be ironed out there's every chance Force India could deliver on its promise.



The Hulk returns after a year with Sauber

DUNBAR/LAT

KEY YEARS

1982
1983

Force India team principal Vijay Mallya is a racewinner in an F1 car. He won the 1982 and '83 Madras GPs driving Ensign machinery

BIG NUMBER

400

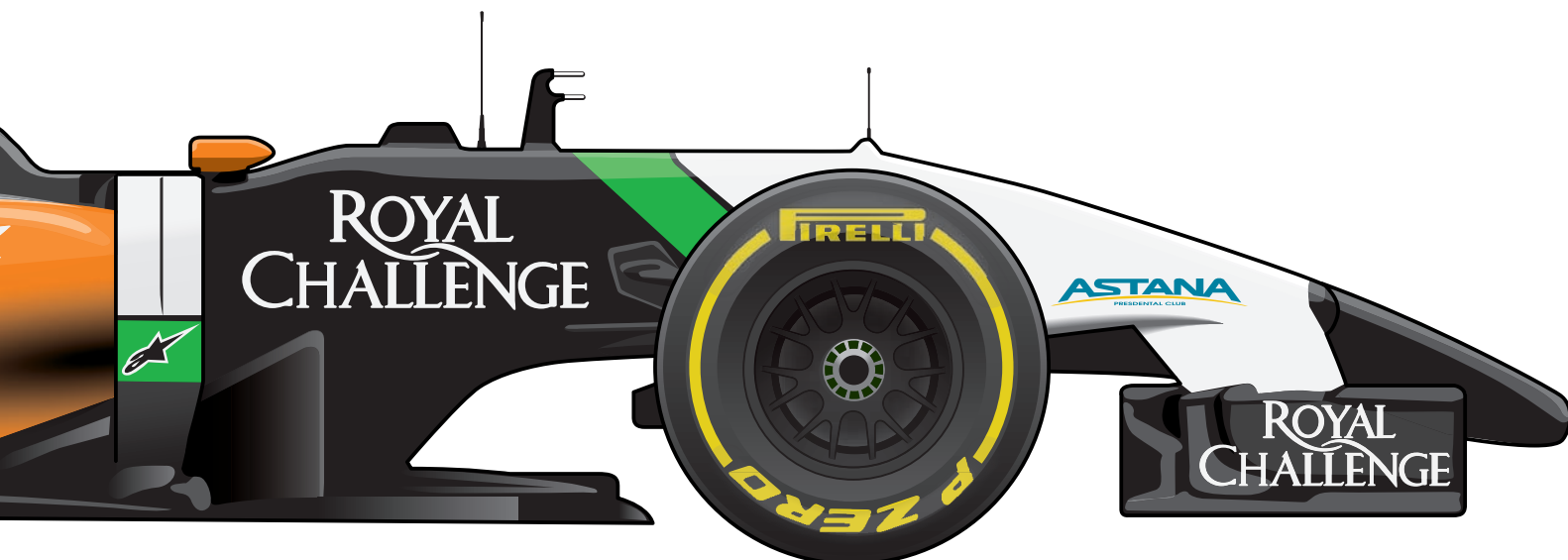
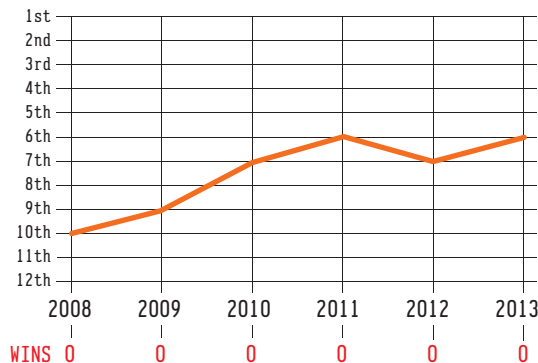
The Bahrain GP will be the Silverstone-based outfit's 400th F1 start in total. It came into F1 as Jordan in F1 and has also competed as Midland and Spyker



FORCE INDIA'S CHAMPIONSHIP PERFORMANCE



Starts **112**
First GP **Australia 2008**
Wins **0**
Poles **1**
Fastest laps **2**
2013 position **6th**



73



11 SERGIO PEREZ



Age **24**
Starts **56**
First GP **Australia 2011**
Best finish **2nd**
Best grid slot **4th**
Fastest laps **2**
2013 position **11th**

PERHAPS LAST SEASON was too soon for 'Checo' to land a drive with a top team like McLaren. He actually fared pretty well against a world champion team-mate in Jenson Button, in arguably one of the worst McLarens in the team's illustrious history. But ultimately his qualifying performances (despite out-doing Button 10-9 in the intra-team head-to-head) and general attitude did not convince McLaren he could cut it as a top-liner.

Those impressive podiums for Sauber in 2012 do not count for nothing, though. The Mexican has shown already that on his day he is a very capable driver, and he will need to be as he is pitched against Hulkenberg. Force India reckons Perez has benefited from his time with the Woking squad, and could provide a platform for the Mexican to mature into the driver McLaren wanted him to be in the first place.



27 NICO HULKENBERG



Age **26**
Starts **57**
First GP **Bahrain 2010**
Best finish **4th**
Poles **1**
Fastest laps **1**
2013 position **10th**

HULKENBERG IS A SUPERSTAR driver in the making, possessing a record in the junior ranks that would make all bar Robin Frijns envious. He's performed superbly since he made the grade in F1 too (pole in Brazil 2010 for Williams, leading at the same venue two years later for Force India, putting last year's Sauber up among the big-hitters during the championship run-in), but is regularly overlooked by F1's bafflingly conservative top teams.

Their loss is the midfield's gain, and recapturing 'Hulk' after a season's sabbatical at Sauber is a real coup for Force India. He has a reputation for being pushy and demanding of his team (qualities associated positively with drivers like Fernando Alonso), but Force India knows what it's getting (thanks to the German's first stint with the squad in 2011-'12), and it can count on him to get the absolute most out of what they give him.

KEY STAFF



VIJAY MALLYA
Team principal



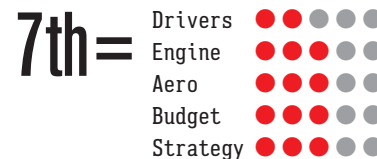
BOB FERNLEY
Deputy team principal



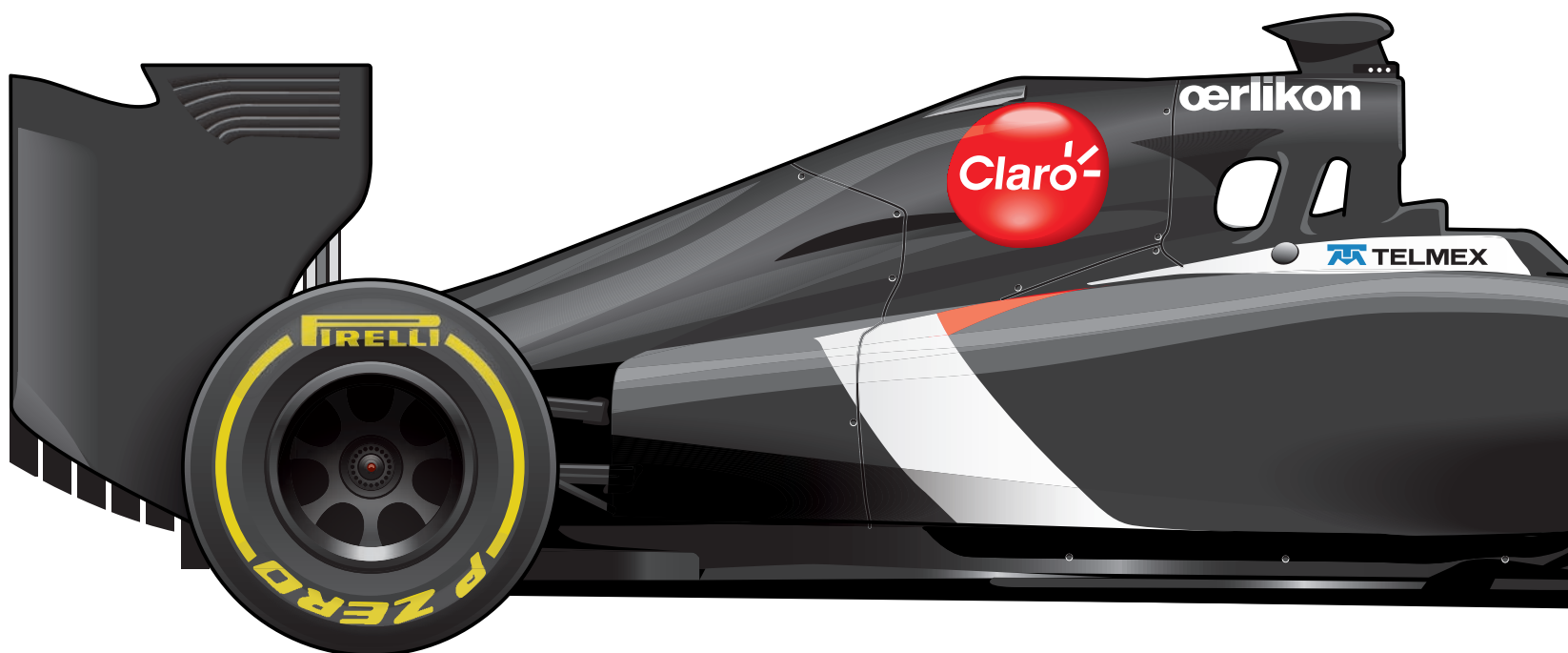
ANDREW GREEN
Technical director

Sauber

AUTOSPORT RATING



There's nothing to suggest this perennial midfield team will not remain there in 2014, particularly with the loss of Nico Hulkenberg to rival squad Force India. By EDD STRAW



74

Sauber-Ferrari C33

Sauber has a mid-grid budget, mid-grid technical resources and mid-grid drivers, so no prizes for guessing where the Swiss squad is likely to do most of its racing in 2014.

That sounds like damning with faint praise, but Sauber's longevity is rooted in its conservatism. Since BMW pulled out at the end of 2009, Sauber has kept its head above water under the accomplished leadership of team principal Monisha Kaltenborn. Given the choppy seas faced by all F1 teams, that's no mean feat.

After a dire first half of 2013, Sauber claimed some startling results with Nico Hulkenberg after the August break. That is testament to a sound aerodynamic design and development team, which is able to make the most of its high-quality windtunnel facility, even if the megabucks budget isn't there to back them up. Harnessed to

customer Ferrari engines and gearboxes, a relationship that stretches back to 2010 and back even further to the pre-BMW days, this ensures Sauber has the two key areas of performance covered, even though its Ferrari engine may leave it lagging behind the Mercedes-propelled teams, most relevantly regular rival Force India.

Sauber also perseveres with a structure built around a consensus-driven alliance of department heads. This has worked satisfactorily in recent years, and while chief designer Eric Gandelin is set to be the voice of the technical team in 2014 he is just one of those department heads. It's a model that suits Sauber, and the narrow sidepods developed last year certainly prove that there is not an in-built resistance to innovation, even though it's moot as to how beneficial, if at all, that very neat design really was.

That's not so say it will have an

easy run to mid-table mediocrity. At the start of testing, the Sauber was a serious handful to drive, making aerodynamic upgrades that were introduced in the Bahrain tests key to it consolidating its place in the pack. Things certainly improved, although question marks remain over its braking-by-wire system, but it may not be the sweetest-handling car come Melbourne.

The biggest concern is the driver

line-up. Hulkenberg was not universally loved inside the team, with some seeing him as too big for his boots, but nobody can argue with the quality of his performances. By replacing him with the solid, but unspectacular, Adrian Sutil alongside Esteban Gutierrez, there is no doubt that Sauber has made a net loss even though it would be wrong to argue it had a poor driver pairing.



BIG NUMBER

120

If Adrian Sutil starts 11 more races this year without a top-three finish, he'll break Pierluigi Martini's record for F1 starts without a podium

KEY STAT

14

This year will be Sauber's 14th with Ferrari engines in F1. It used Ferrari powerplants badged as Petronas from 1997-2005 and then without badging from 2010-date



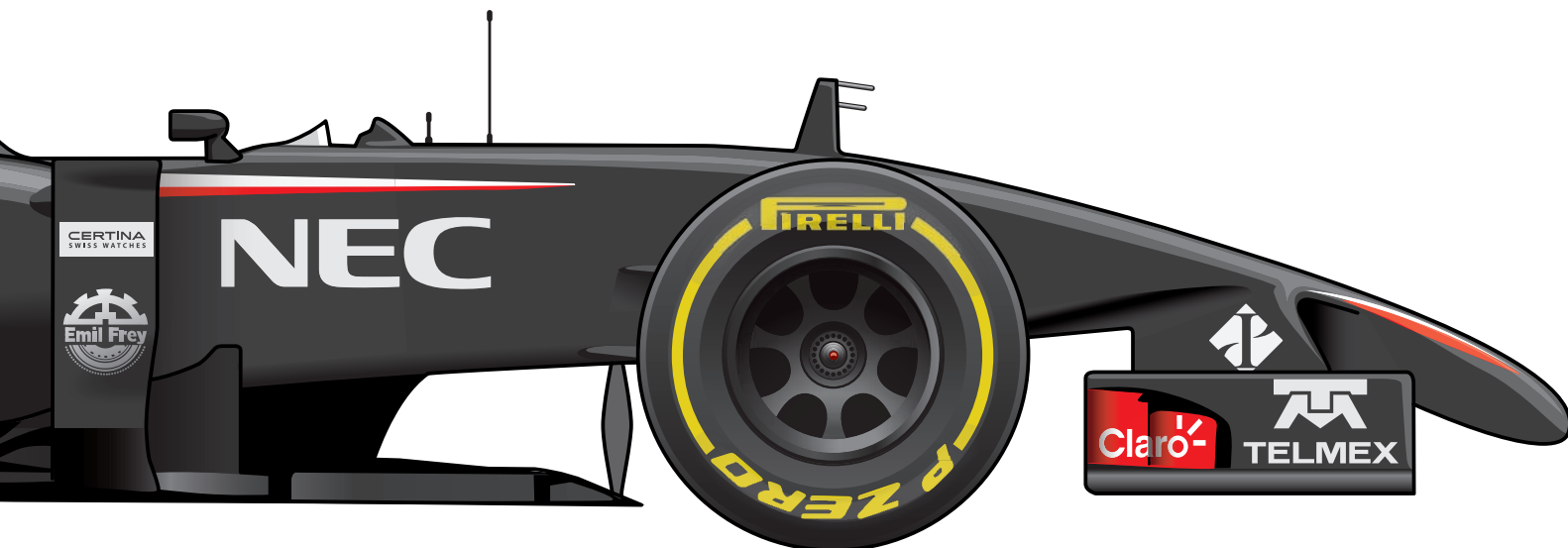
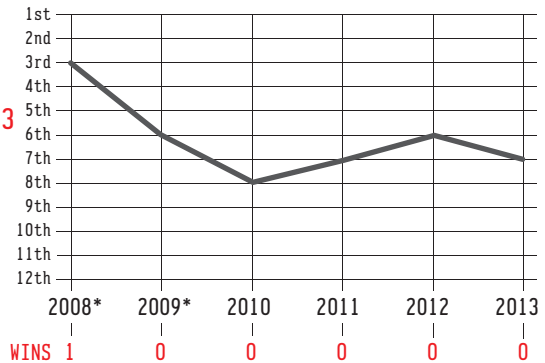
SAUBER'S CHAMPIONSHIP PERFORMANCE



ETHERINGTON/LAT

Starts 362
 First GP South Africa 1993
 Wins 1 (as BMW)
 Poles 1 (as BMW)
 Fastest laps 5 (2 as BMW)
 2013 position 7th

*BMW



75



21 ESTEBAN GUTIERREZ



Age 22
 Starts 19
 First GP Australia 2013
 Best finish 7th
 Best grid slot 8th
 Fastest laps 1
 2013 position 16th

STATISTICALLY, GUTIERREZ'S rookie campaign in 2013 did not merit a return. His tally of a sole points finish (a classy and combative drive to P7 in the Japanese GP) didn't stand comparison with the standards set by team-mate Nico Hulkenberg. But he did lay down foundations to build on this year and did better than the numbers suggest.

After a steep learning curve in the first half of the year, he improved after

the August break to the point where he was a credible top-10 contender. In the late-season races he tended to find ways to undermine his weekend, particularly in qualifying.

This is what he needs to focus on in 2014. The speed is there for solid points scoring. Unlike Hulkenberg, new team-mate Adrian Sutil is beatable and the challenge for the Mexican, who is well-liked within the team, is to assert himself as team leader.



99 ADRIAN SUTIL



Age 31
 Starts 109
 First GP Australia 2007
 Best finish 4th
 Best grid slot 2nd
 Fastest laps 1
 2013 position 13th

THE GERMAN ESTABLISHED himself as reliable and effective during his time with Force India/Spyker. He finally has a new home at Sauber and moves to Switzerland very much as a known quantity and with the experience to deliver consistent points.

There is little extraordinary about Sutil. He's quick enough, but only startlingly so in low-grip damp conditions where his traction-sensing ability is second-to-none. He's a

reliable qualifier and the tendency to get involved in stupid incidents has been engineered out of his game. At 31, most of his potential has been realised and he is probably the ideal anchor man for a mid-grid squad. If the car's decent, he'll score consistently.

Don't expect fireworks, but do expect professionalism, consistency and a good technical contribution to the team, which is only about an hour's drive from his home.

KEY STAFF



MONISHA KALTENBORN
 Team principal



GIAN PAOLO DALL'ARA
 Head of track engineering



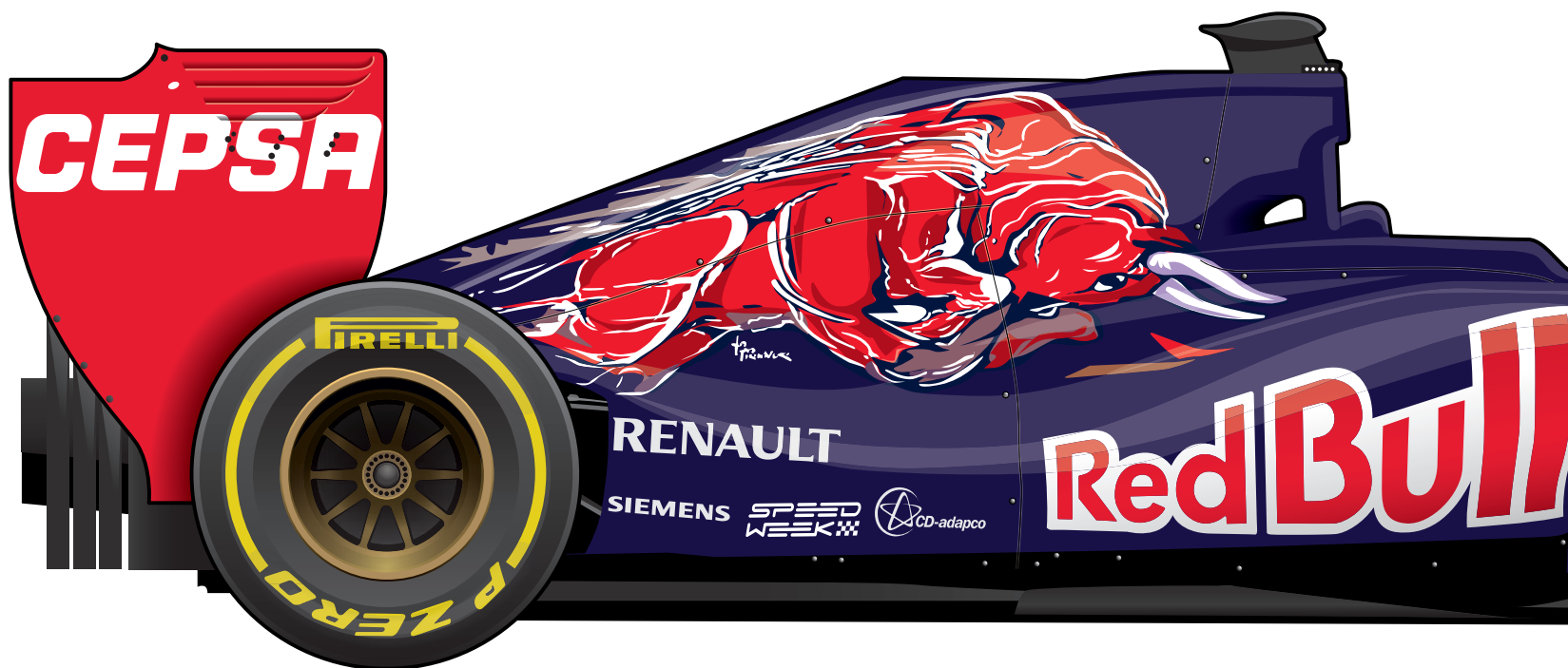
BEAT ZEHNDER
 Team manager

Toro Rosso

AUTOSPORT RATING

9th =	Drivers	●●●●●●●●
	Engine	●●●●●●●●
	Aero	●●●●●●●●
	Budget	●●●●●●●●
	Strategy	●●●●●●●●

Will the 'Red Bull prep-school' team forging closer links with the world champion by switching to Renault power and hiring a 19-year-old rookie pay dividends? By EDD STRAW



Toro Rosso-Renault STR9

Suderia Toro Rosso is in the difficult position of being very clearly Red Bull's second-string team. Its mandate is to run the energy drinks giant's junior drivers, but there has been investment in its facilities in recent years and the ex-Minardi squad is ambitious enough to fight at the front of the midfield battle with rivals such as Force India and Sauber.

Under technical director James Key, now relatively experienced in that role and with a good record at both Force India and Sauber, the team did make progress in 2013 although it was probably the most inconsistent car in the field. On occasions, it was impressively fast and able to qualify well inside the top 10. Other times, it was found in the mid-teens and these fluctuations of form did not always match up with track characteristics.

Partly, that will be a problem Toro

Rosso always has because it runs less-experienced drivers, but it would be unfair to blame that only on those in the cockpit.

With further bolstering of technical facilities, things did look good on paper for Toro Rosso. But the switch to Renault engines, which made perfect sense given Red Bull also uses them, has proved ill-timed. The Toro Rosso sounded like a bag of nails when it first hit the track

and while things did improve, like all Renault teams, simply finishing in Australia would be an achievement right now. It's safe to assume that 2014 will be a slow-burner for Toro Rosso.

Aside from the Renault engine issue and the need to achieve better consistency, the big question mark is over the aerodynamic development side of the team. When previous technical director,

the wily Giorgio Ascanelli, was ousted it was partly because the team owners felt he was not extracting the maximum potential out of the aero department. Key has taken some steps to rectify this, but while there were occasions when the car was excellent last year, there were times when it wasn't, suggesting that the understanding isn't yet there to be on the money week in, week out.

Given Renault's struggles, expectations are relatively low for Toro Rosso. All it can do is get the best out of a chassis that, according to lead driver Jean-Eric Vergne, felt very good in testing, so that if and when the Renault engine does close the gap it can make hay.

The season will likely start off with an anonymous slog towards the back of the midfield. If things do improve, much will depend on Vergne's ability to deliver on his potential and start to achieve the consistent results he's capable of.



Vergne must assume the role of STR team #1

KEY AGE

19 YEARS 325 DAYS

Daniil Kvyat will become only the eighth teenager to start a grand prix - the seventh youngest in history

BIG NUMBER

500

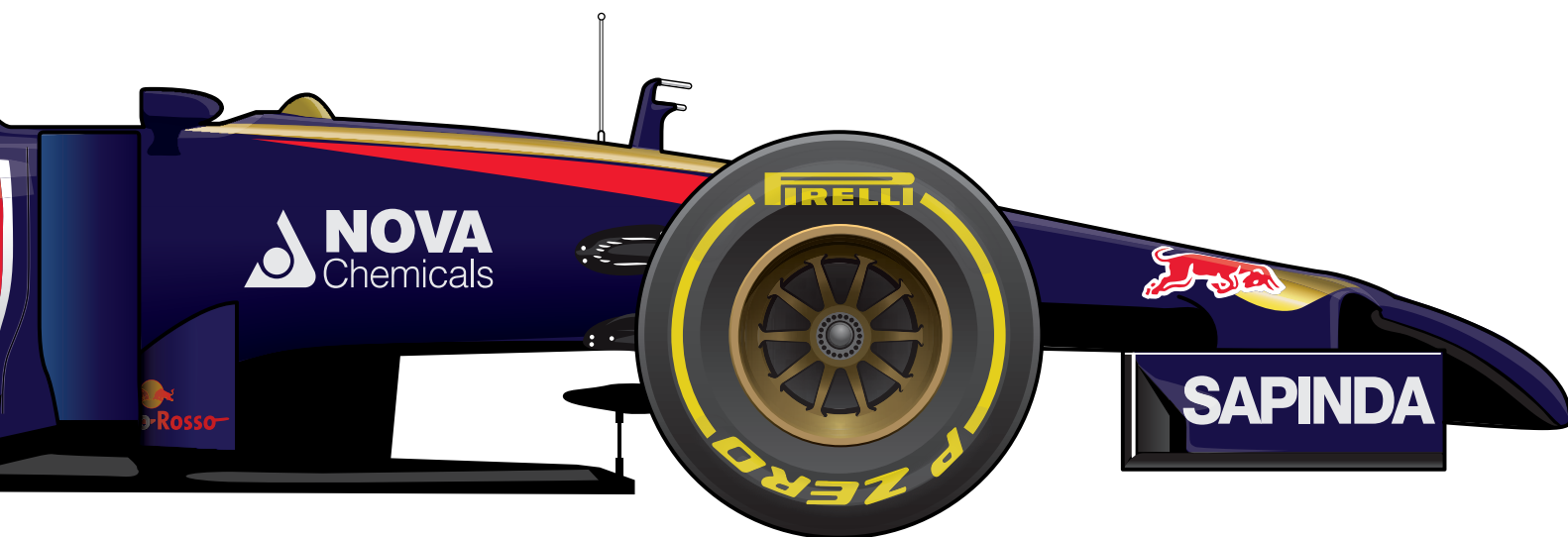
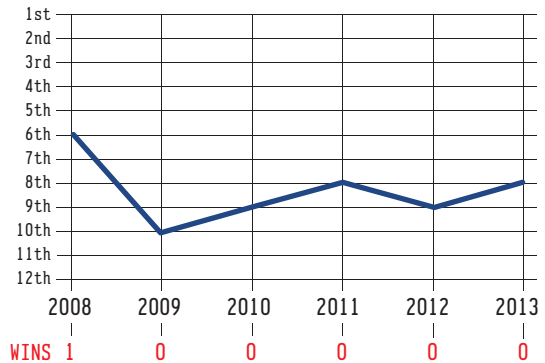
At this year's Italian GP, the team now called Toro Rosso will start its 500th F1 race. It competed as Minardi from 1985-2005



TORO ROSSO'S CHAMPIONSHIP PERFORMANCE



Starts **147**
 First GP **Bahrain 2006**
 Wins **1**
 Poles **1**
 Fastest laps **0**
 2013 position **8th**



77



25 JEAN-ERIC VERGNE



Age **23**
 Starts **39**
 First GP **Australia 2012**
 Best finish **6th**
 Best grid slot **7th**
 Fastest laps **0**
 2013 position **15th**

THE FRENCHMAN HEADS into his third season in F1 knowing he needs to up his game. The raw material is there, to the point where Red Bull once reckoned he was a better prospect than Daniel Ricciardo, who has since been promoted to its A-team.

Vergne has admitted he was weak, in terms of his mental approach, something that his failure to score a point once it became clear that a Red Bull seat was up for grabs serves to

underline. While he did also suffer arguably the worst luck of any driver on the grid, there were too many times when he made life more difficult for himself by overdriving.

While the Toro Rosso might not be the car of choice, he still has the chance to turn things around. There's ability there, but it will be Vergne's mental strength, or lack thereof, that defines whether he can realise his potential and court a bigger team.

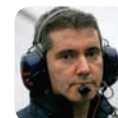
KEY STAFF



FRANZ TOST
 Team principal



JAMES KEY
 Technical director



KEVI PUJOLAR
 Senior race engineer



26 DANIL KVIAT



Age **19**
 Starts **0**
 First GP **N/A**
 Wins **N/A**
 Poles **N/A**
 Fastest laps **N/A**
 2013 position **GP3 champion**

WHEN THE 19-YEAR-OLD was announced as a Toro Rosso driver last October, it was to widespread shock. But the Russian is a serious prospect who won the GP3 title last season and also starred during a partial season in European Formula 3. His promotion is early, certainly, but he shouldn't be out of his depth.

What stands out about Kvyat is that he doesn't appear to be over-awed by the experience. In free practice in Brazil

last year, he excelled in wet conditions on Friday morning, while his approach has made a good impression on the team. None of that means he will star, but it proves that the big step up is not beyond him.

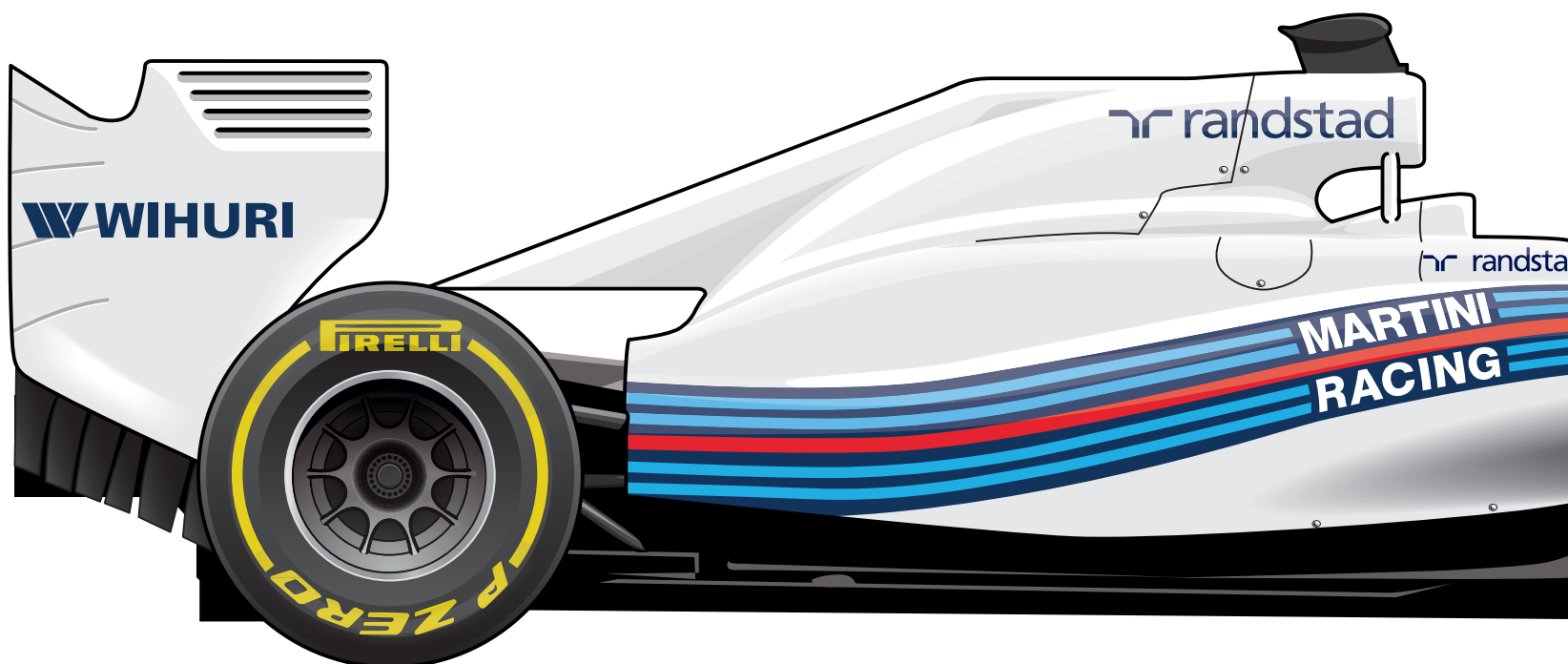
Kvyat will have at least two seasons, maybe more, at STR to develop so this is only the start. But with massive rule changes and a troubled pre-season, if he can do a solid early job he will have made a big impression immediately.

Williams

AUTOSPORT RATING

5th	Drivers	●●●●●
	Engine	●●●●●
	Aero	●●●●●
	Budget	●●●●●
	Strategy	●●●●●

Things are looking up for F1's sleeping giant, with its Merc engine deal and the arrival of Felipe Massa and tech chief Pat Symonds. Not to mention those Martini stripes! By **EDD STRAW**



Williams-Mercedes FW36

Williams has been the sleeping giant of F1 for too long. Occasionally over the past decade it has stirred, notably by winning the 2012 Spanish Grand Prix.

But by and large, Williams has flattered to deceive, producing more false dawns than tangible results. So while there are plenty of positive signs for 2014, tipping the squad to make a dramatic improvement is fraught with danger.

The arrival of the vastly experienced Pat Symonds, formerly of Marussia and Benetton/Renault, has led to some significant changes in the way the team operates in a bid to realise its potential. It has a seven-year Mercedes engine deal, some major new technical recruits including head of vehicle performance Rob Smedley (from Ferrari), test team boss Rod Nelson (from Lotus) and Jakob Andreasen

(from Force India), and with the vast experience of Felipe Massa alongside Valtteri Bottas, who is a serious prospect, it has drivers capable of delivering results.

Key to the improvement in working practices is ensuring that the focus remains on the track. Williams has had a tendency to put the cart before the horse in terms of developments, with the race team dancing to the tune of the factory. This was a trait in the Sam Michael era and appeared to be a problem last year after a spell in 2012 when things had improved dramatically in this area under technical director Mike Coughlan and chief operations engineer Mark Gillan.

Gillan left at the end of 2012 for reasons unrelated to his job performance, which left a lack of a strong voice on the team side and played a part in Coughlan being ousted during the dire '13 campaign. Now, with Symonds and Smedley recreating a similar axis, the

structure is there to get things back on track.

Commercially, things are looking good too. In the mid-2000s, following the end of the BMW partnership, Williams was in a financial hole but worked its way out of it. With PDVSA leaving for Lotus (with a substantial pay-off), Williams has landed Martini as title sponsor. On top of a series of other deals, including one with Brazilian

oil giant Petrobras, it now has a solid portfolio. Frank Williams is still at the helm as team principal and daughter Claire is growing into her role as his deputy very effectively, so things are more stable at Williams than they have been for some time.

Williams appears to have made all the right moves. The question is, can it deliver? Pre-season testing was encouraging and represents a good foundation on which to build.



Third driver Felipe Nasr tried FW36 in Bahrain

BIG NUMBER

192

The Australian GP will be the first time Felipe Massa has started an F1 race with non-Ferrari power. It will be his 192nd grand prix start

KEY STAT

2

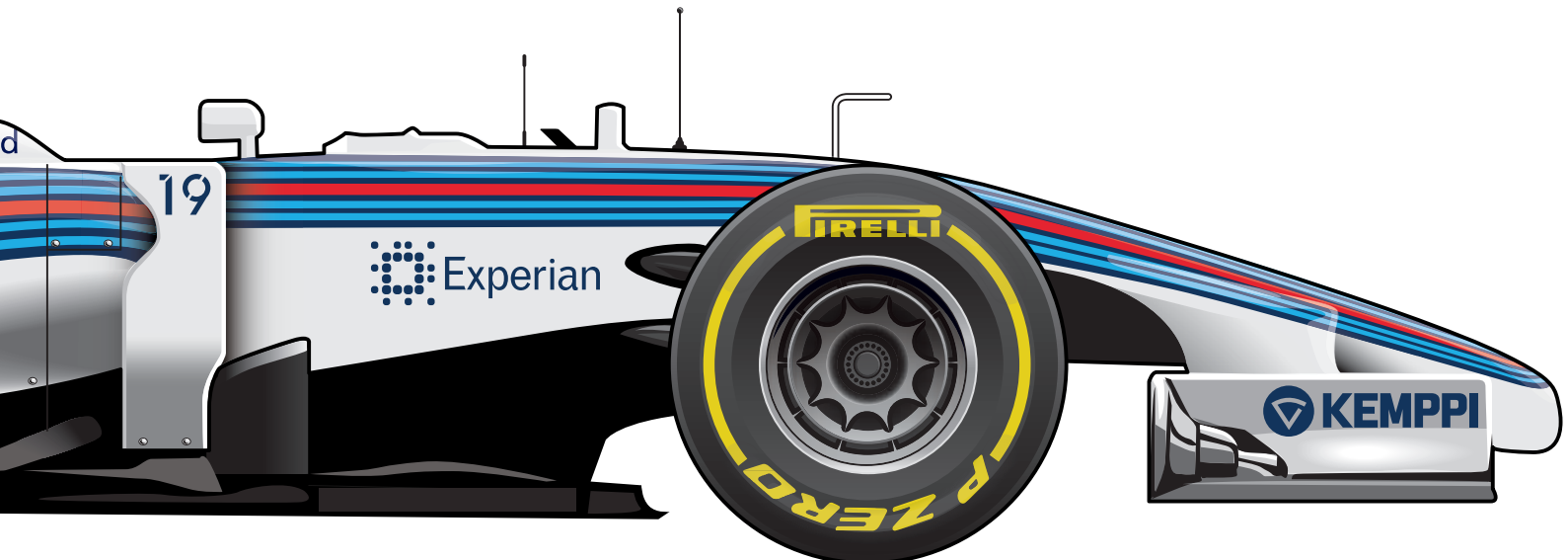
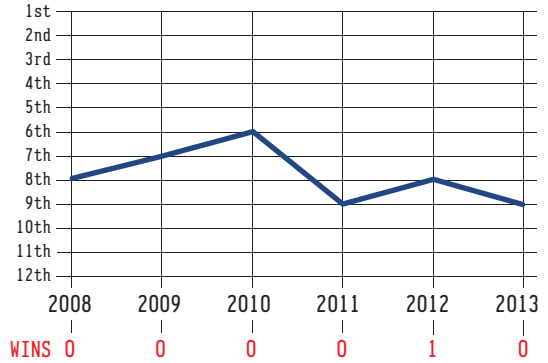
Number of world championships new Williams chief technical officer Pat Symonds won as race engineer for Michael Schumacher at Benetton



WILLIAMS'S CHAMPIONSHIP PERFORMANCE



Starts 611
 First GP Spain 1977
 (with a March)
 Wins 114
 Poles 127
 Fastest laps 131
 2013 position 9th



62



19 FELIPE MASSA



Age 32
 Starts 191
 First GP Australia 2002
 Wins 11
 Poles 15
 Fastest laps 14
 2013 position 8th

THE BRAZILIAN'S SWITCH to Williams is a marriage of convenience. Realistically, it was the best team he could land a seat at without megabucks, and he was the closest approximation of a proven topline last year's ninth-best team could land. But that doesn't mean it's going to be a failed marriage. Massa has been revitalised by moving out Fernando Alonso's shadow and everybody at Williams

is impressed with the contribution he has made so far. But the big question is, how good will he be?

Massa never recaptured his top Ferrari form after his 2009 qualifying accident in Hungary. Serious speed has been there in fits and starts, but there have been too many times when he's made errors or been anonymous.

How he fares will tell us how much was down to him and how much was down to his environment at Ferrari.



77 VALTTERI BOTTAS



Age 24
 Starts 19
 First GP Australia 2013
 Best finish 8th
 Best grid slot 3rd
 Fastest laps 0
 2013 position 17th

THE FINN MADE his F1 debut last season on the crest of a wave of very well-deserved hype. The Williams was dreadful and Bottas was largely anonymous, leading some to write him off.

But his campaign was far better than many recognised. His P3 in wet qualifying in Canada was stunning, while in the US GP he bagged an eighth place on merit. Aside from that, he outqualified the rapid Pastor

Maldonado more often than not and impressed the team with his calm and collected attitude.

There is still room for improvement and Bottas has the chance to learn from vastly experienced team-mate Massa. His aim is to emerge as team leader and he has the ability to beat the Brazilian. After the glimpses he showed last year, he should also have the machinery to show he can cut it regularly in the top 10.

KEY STAFF



FRANK WILLIAMS
Team principal



CLAIRE WILLIAMS
Deputy team principal



PAT SYMONDS
Chief technical officer



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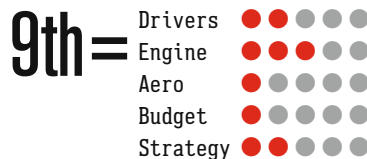
info@m2d.biz

racing4mnd.org

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Marussia

AUTOSPORT RATING



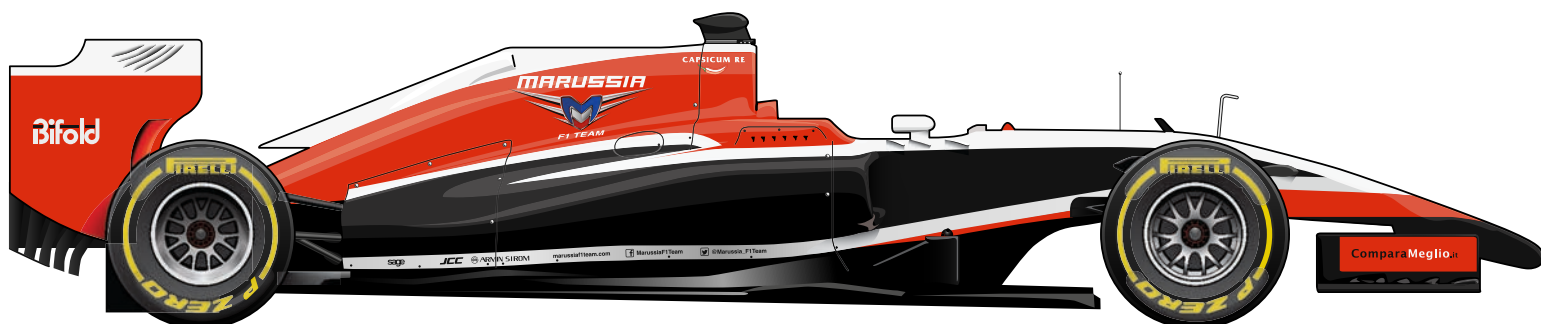
KEY YEAR

1989

Team chief John Booth was a driver himself before retiring in 1989. He crossed swords with Ayrton Senna in FF1600

Now with Ferrari motivation, Marussia is aiming to move closer to the back of the midfield. Testing has proved that may still be tricky. By **BEN ANDERSON**

Starts 77
 First GP Bahrain 2010 (as Virgin)
 Wins 0
 Poles 0
 Fastest laps 0
 2013 position 10th



Marussia-Ferrari MR03

This season perhaps represents the best chance for Marussia to make the leap it craves and become a regular fly in the ointment of F1's midfield teams.

It's an ambition that's so far proved beyond the reach of F1's minnows, since they were hooked by the bait of Max Mosley's cost-capped category that never was.

But to realise that (necessary) ambition, it will need a tidy and reliable car, and the signs so far in that regard do not look positive. Marussia has suffered chronic unreliability with the MR03 during pre-season testing, and that's a bad omen in a year when many are expecting an ability to simply make the finish to be key to a good result for F1's less-fancied teams.

Ferrari's new V6 turbo engine looks to be behind Mercedes, but maybe ahead of Renault (certainly ahead of the teams taking drivetrain supply from Red Bull) in the pre-season power unit stakes, so there's still a real opportunity for Marussia to stay ahead of Caterham, and maybe get the better of Toro Rosso in the early races.

But to do that it will need the car to get to the finish. In John Booth it has a shrewd operator at the helm, and early-season unpredictability should give F1's smallest team more scope to surprise – like qualifying at Spa last year, where clever strategy allowed the team to get both its cars through to Q2 for the first time.



Chilton finished every race last season



Bianchi is highly rated by Ferrari



4 MAX CHILTON



Age	22
Starts	19
First GP	Australia 2013
Best finish	14th
Best grid slot	16th
Fastest laps	0
2013 position	23rd

CHILTON HAD A sound rookie year in 2013. He made few mistakes (bar putting Pastor Maldonado in the wall at Monaco) and could usually lap within a few tenths of Jules Bianchi in qualifying when things were going right. He generally performed better in the races, but only beat Bianchi twice in GPs they both finished (Singapore and India). Getting the better of his team-mate more often this year will represent good progress for the Brit.



17 JULES BIANCHI



Age	24
Starts	19
First GP	Australia 2013
Best finish	13th
Best grid slot	15th
Fastest laps	0
2013 position	19th

THE 2009 F3 Euro Series champion is super-fast and highly rated by Ferrari, which nurtures his career through its driver academy. He's a prodigious talent, but there's a feeling he's prone to mental stress when team-mates give him trouble. On those occasions, he needs greater faith in his own ability to turn things around. This will be his third season in F1 (he was Force India's test driver in 2012), so time to prove he deserves a place further up the grid.

KEY STAFF



JOHN BOOTH
Team principal



GRAEME LOWDON
Sporting director/
president



ANDY WEBB
CEO



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Caterham

AUTOSPORT RATING

11th



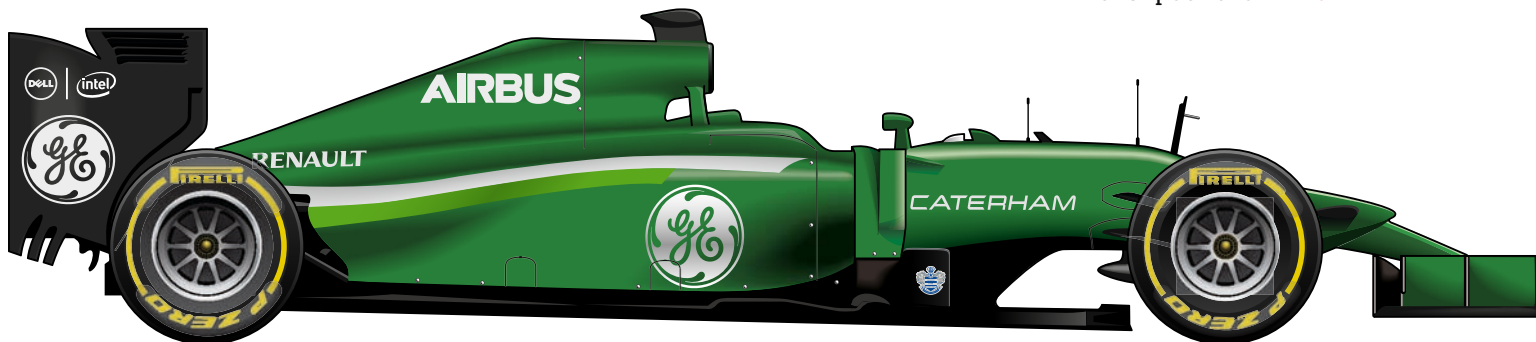
BIG NUMBER

77

Since coming into F1 as Lotus Racing in 2010, Caterham has started 77 races without scoring a point. This record is shared with Virgin/Marussia

After four seasons failing to score a point, Caterham must improve this season, otherwise team owner Tony Fernandes may pull out. By JONATHAN NOBLE

Starts **77**
 First GP **Bahrain 2010 (as Lotus)**
 Wins **0**
 Poles **0**
 Fastest laps **0**
 2013 position **11th**



Caterham-Renault CT05

That Caterham and Marussia are still regularly referred to as F1's 'new' teams says much about the struggle they've had to establish themselves. After four full seasons in the sport, and neither having scored a point since they entered, the pressure is really on now for them to join the grand prix establishment.

In fact, as far as Caterham is concerned, it's not just a pressure to perform in 2014, it's a demand.

Team owner Tony Fernandes made it clear before pre-season testing that he wanted to see Caterham regularly fighting with the other teams, or it would be time for him to turn his back on F1.

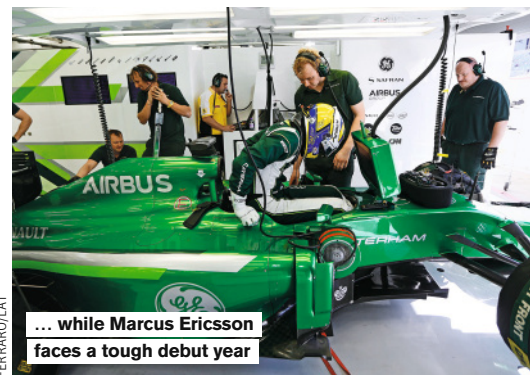
His comments may be conviction on his part that Caterham will make the progress he's been after, rather than an out-and-out threat, but it's abundantly clear how imperative it is that the Leaffield-based outfit steps up this year.

Its plight has certainly not been helped by the difficulties engine partner Renault has had, but it's at least in the same camp as Red Bull, which means that progress will be accelerated due to the demands being made in Milton Keynes.

Considering the difficulties Caterham has faced though, the pre-season has at least delivered some encouraging signs of progress. But it will need a fully performing engine to show what it's capable of if it's to keep Fernandes happy.



Kobayashi returns to F1 after a season in GTs...



... while Marcus Ericsson faces a tough debut year



9 MARCUS ERICSSON



Age	23
Starts	0
First GP	N/A
Wins	N/A
Poles	N/A
Fastest laps	N/A
2013 position	Sixth in GP2

STEPPING UP TO F1 for the first time, Ericsson will face a pretty hefty challenge if he is to deliver to his best.

The all-new regulations allied to a pretty difficult pre-season build-up for the Renault-powered teams means the winter with Caterham has not been as smooth as he would have hoped.

Against a proven team-mate, there will be opportunities for him to show the flashes of speed that was on display in the junior categories.



10 KAMUI KOBAYASHI



Age	27
Starts	60
First GP	Brazil 2009
Best finish	3rd
Best grid slot	2nd
Fastest laps	1
2013 position	7th in WEC LMGTE-Pro

KAMUI KOBAYASHI IS a man who simply loves racing in F1. That's why he turned down a Ferrari contract to race in sportscars and opted to make a grand prix comeback with Caterham.

The Japanese knows that life will not be easy, but that challenge is what inspired him to return because nothing is ever gifted in grand prix racing.

Caterham knows it has an exciting driver, which means there will be plenty of thrills – and a few spills – to come.

KEY STAFF



CYRIL ABITEBOUL
Team principal



MARK SMITH
Technical director



JOHN ILEY
Performance director

F1's new circuits

Two tracks join the calendar, one familiar to fans with memories stretching back to the start of the century and one all-new. **GLENN FREEMAN** and **EDD STRAW** run the rule over Austria and Russia



Energy drinks giant revived Austrian venue

SPIELBERG

Formula 1 doesn't make a habit of reinstating old European races to its schedule. For most of the 21st century the sport has moved away from its traditional base, usually chasing a quick buck from 'emerging markets' that see a grand prix as a good way to boost their area's profile.

This year's Russian Grand Prix (see right) is a perfect example of that, but 2014's other 'new' race raises a few more eyebrows, as after over a decade away the Austrian Grand Prix is back.

The Spielberg circuit formerly known as the A1-Ring (now officially called the Red Bull Ring) has been through the mire since losing its spot for 2004, when Bernie Ecclestone seized on a change of ownership as a reason to cancel the track's contract with F1.

The new owner was none other than Red Bull chief Dietrich Mateschitz, who two years later would own two F1 teams, and he had extravagant

plans to redevelop the facility and extend the circuit. Unfortunately, that was blocked on environmental grounds, and Mateschitz was initially reluctant to restore the track to its previous guise. By 2008 he had relented, and the dormant, mostly-demolished track was back in business — hosting series including the DTM — for 2011.

Officially, F1 was still not on the radar, but by late-2012 that had changed and in 2013 Mateschitz struck a deal with Ecclestone. The Austrian admits that he is putting his hand in his own considerable pockets to help fund the race, claiming that the promoter's fee is "my expense".

Mateschitz believes the race "can offer a charming GP that is a little different to others", and last summer he admitted that — contrary to many statements over the last decade — "we have never given up on an F1 comeback".

Before F1's return, the reopened venue was modern but basic in terms of facilities and spectator areas, but additional work has taken place to bring the place up to spec.

The relatively short 2.68-mile layout (lap record: 1m08.3s), which ex-F1 racer Alex Wurz had a hand in coming up with during the 1990s, was always going to be considered a poor relation to its predecessor the Osterreichring, which it is loosely a truncated version of. But its races between 1997 and 2003 were often entertaining, and F1 circuit guru Hermann Tilke believes the track won over its doubters first time around.

"It was always spectacular for racing," he told AUTOSPORT in 2010. "But at the beginning, when we built it, everyone was saying, 'What have you done? It is a terrible track'. But then after a while everyone changed their opinion and even the drivers quite liked it."

AUSTRIA'S BIGGEST HITS

Memorable moments from the new Spielberg's first stint in F1



1997
Jacques Villeneuve wins the first Austrian GP for a decade, while back in the field Jean Alesi is launched into the air (above) after a collision with Eddie Irvine.

1998
Benetton and Sauber share the front row for the only time in F1 history, as Giancarlo Fisichella beats Alesi to pole in a wet qualifying session.

1999
Mika Hakkinen's world championship hopes are dealt a serious blow when McLaren team-mate David Coulthard spins him around on the first lap.

2001 & 2002
Ferrari causes a team orders storm two years in a row, as Rubens Barrichello twice moves over for Michael Schumacher on the run to the chequered flag.

2002
Nick Heidfeld spins on the approach to Turn 2, sliding backwards across the grass and slamming into the Jordan of Takuma Sato.



Basing the circuit on Winter Olympics site...

GILHAM/GETTY



...means construction work is well advanced

GILHAM/GETTY

SOCHI

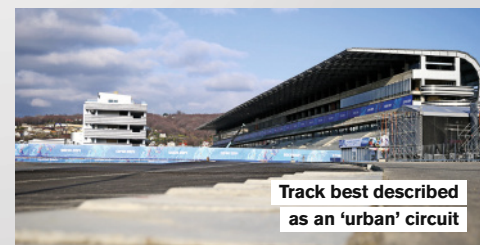
With the dust settling on the 2014 Winter Olympics, most will expect that to be the last anyone hears of Sochi in a sporting context. But in the second week of October the world's attention will again be on the small city on the Black Sea when F1 makes its debut in Russia.

It's not strictly accurate to describe this year's race as the first Russian GP, as a race carrying that name was held in 1913 and '14. There were also attempts to bring F1 to Russia in the 1980s, with a Soviet Union GP occasionally cropping up on draft calendars.

The Sochi race has its roots in 2009, with local entrepreneur Andrey Kraynik putting money into the Renault team through Russian telecoms firm Megafon. The initial vision was for a full-blown street track, but with Sochi hosting the Winter Olympics, once the Russian government became

involved it was logical to build the new track around the Olympic Park. The track is perhaps best described as an 'urban' circuit as it loops around the park, jinking around the ice dome.

Because it is building on the foundations laid by the Olympics, a significant chunk of the infrastructure is in place, so there's no reason why the circuit should not be ready in time.




Track best described as an 'urban' circuit

Get on the right track

It's a monster of a 19-race F1 calendar once more. From Melbourne to Abu Dhabi, ex-HRT and Lotus racer **KARUN CHANDHOK** is your guide



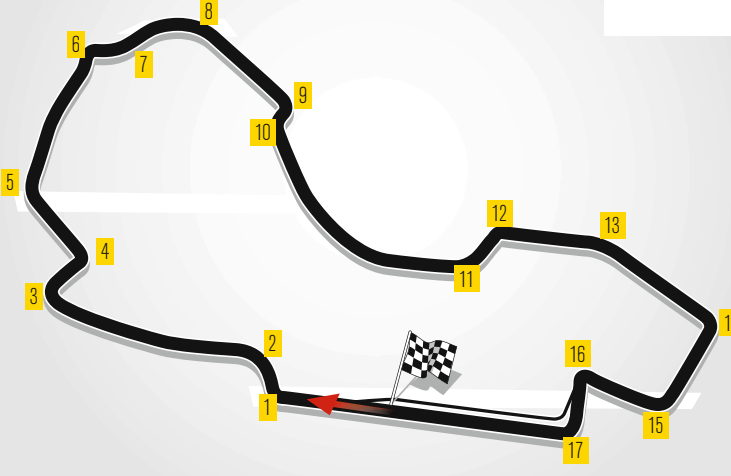
KC crests the top of the Suzuka Esses in his Lotus T128



AUSTRALIA

Melbourne

MARCH 16



2013 winner
Kimi Raikkonen

2013 polesitter
Sebastian Vettel
1m27.407s

Lap record
Michael Schumacher
1m24.125s (2004)

UK start time
0600

Live TV
Sky Sports

THERE'S A GREAT atmosphere, but it's never really an indicator for the rest of the season. The circuit has pretty low grip and is bumpy in parts, and it's got a good flow for a street circuit. Turn 11 is a proper sixth-gear corner, and the last sector is really interesting. In the last four corners you've got two quick right-handers, 4th or 5th gear in qualifying, and then you've got a bog-slow left and a big-traction corner coming out of it. There's a high risk of safety cars, a risk of unpredictable weather as well – you can get four seasons in one day there. I think it's a chance for the small teams to gain a good result, especially this year.



MALAYSIA

Sepang

MARCH 30



2013 winner
Sebastian Vettel

2013 polesitter
Sebastian Vettel
1m49.674s

Lap record
Juan Pablo Montoya
1m34.223s (2004)

UK start time
0900

Live TV
BBC & Sky Sports

THIS IS PROBABLY one of Hermann Tilke's best new circuits, although it's been around for a few years now. With a great layout, it's the first true indicator of form for everybody; it's a proper aero track. You've got high speed, low speed, medium stuff, and it's great for overtaking. It's one of the few circuits that without DRS you'd get great racing anyway – Turn 1, Turn 4 and the last corner are all good for overtaking. The heat is very hard for the tyres, lots of lateral long corners as well, which put a load on the rubber. The drivers have to deal with the heat and humidity, but I think it's a really nice circuit to drive.



BAHRAIN

Sakhir

APRIL 06



2013 winner
Sebastian Vettel


2013 polesitter
Nico Rosberg
1m32.330s

Lap record
Pedro de la Rosa
1m31.447s (2005)

UK start time
1600

Live TV
Sky Sports


IT'S GOING TO BE interesting this year, because everyone will have tested there for eight days. Teams always carry a bunch of upgrades because of the heat. It's a big circuit for brakes, and with all the torque and the turbo, to get good drivability and traction would be a huge benefit. It's all about braking stability at slow speeds, and traction is massive here. There are passing chances into Turn 1, Turn 4 and the downhill hairpin. After that it's tough, even with the second DRS zone I've never seen anyone make a move into that next left-hander unless someone is on really used tyres.



CHINA

Shanghai

APRIL 20



2013 winner
Fernando Alonso

2013 polesitter
Lewis Hamilton
1m34.484s

Lap record
Michael Schumacher
1m32.238s (2004)

UK start time
0800

Live TV
Sky Sports

IT ISN'T THE OLDEST racetrack, yet because it's built on a swamp it seems to get bumpier every time we go back. I'd say it's the first of the really front-tyre-limited circuits, and we saw certain teams benefiting more on circuits like that, such as Mercedes, so you might see an odd result. You always get a lot of understeer, there's such long corners, where you're just loading up the front left, which takes so much abuse. It's quite a unique circuit in that respect. We've seen plenty of overtaking into Turn 1, and it can get exciting because of the pitlane exit – it can get a bit tight. Pitlane entry can be quite tricky too!



SPAIN Barcelona

MAY

11



2013 winner
Fernando Alonso

2013 polesitter
Nico Rosberg
1m20.718s

Lap record
Kimi Raikkonen
1m21.670s (2008)

UK start time
1300

Live TV
BBC & Sky Sports

IN THE OLD DAYS

people used to say if you were quick at Barcelona you were quick everywhere, but on that basis Fernando Alonso should have won the title last year! I think the speed of development in F1 is so high now that isn't the case anymore. But I still think Barca is one of the ultimate tests. It's

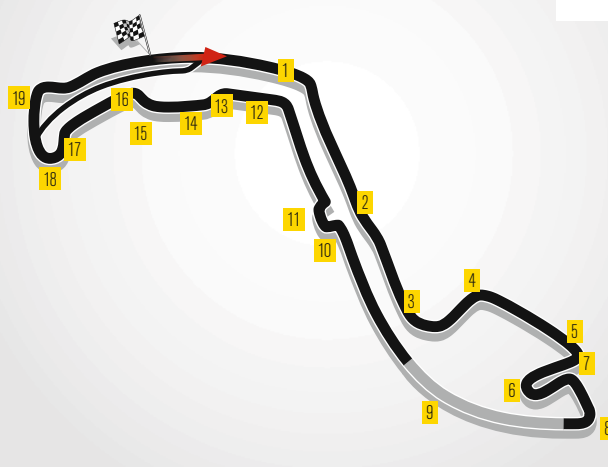
such an aero-dependant circuit, it's got everything: high and slow speed, big stops, change of direction, chicanes, long corners, short corners. It's front-limited, but not to the same degree China is. Teams bring a lot of updates to this race, so we'll see a lot in terms of optimising fuel and energy-package usage.



MONACO Monte Carlo

MAY

25



2013 winner
Nico Rosberg
2013 polesitter
Nico Rosberg
1m13.876s

Lap record
Michael Schumacher
1m14.439s (2004)

UK start time
1300

Live TV
Sky Sports

IT'S JUST A MAGIC

place – for me it's my favourite circuit. I love it, but I'm old-school and I don't like the way circuits have been sanitised – if you make a mistake you should get penalised. I love Monaco because it's one of the last few great challenges in our sport. You get punished for your mistakes, but the

flipside is when you do a good lap you get a great sense of satisfaction. The buzz you get out of driving here, there's nothing like it. Take the left-hander around the Hotel de Paris, the right through Casino Square, Tabac and the Swimming Pool chicane – you'd put those four corners on any dream racetrack.



CANADA Montreal

JUNE

08



2013 winner
Sebastian Vettel

2013 polesitter
Sebastian Vettel
1m25.425s

Lap record
Rubens Barrichello
1m13.622s (2004)

UK start time
1900

Live TV
BBC & Sky Sports

THIS TRACK IS ALL

about brakes – having confidence in them and no fade. You need a car stable enough that you can commit to the chicanes and kerbs, having the rear stable while knowing the front is going to respond to being aggressive on the steering wheel. You also need good damping so

when it lands off the kerbs, especially at the last chicane, you can be comfortable to get close to the wall without ever hitting it. It's a big traction circuit, and the surface is really odd – it must be something to do with the harsh winters and hot summers. It's always a very entertaining race, and a fun city too.



AUSTRIA Spielberg

JUNE

22



2003 winner
Michael Schumacher
2003 polesitter
Michael Schumacher
1m09.150s

Lap record
Michael Schumacher
1m08.337s (2003)

UK start time
1300

Live TV
Sky Sports

IT LOOKS LIKE AN

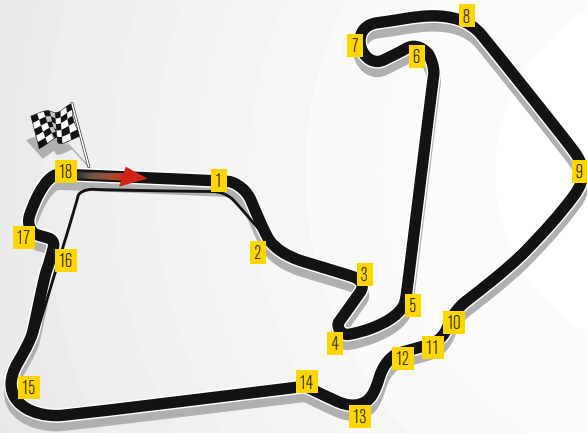
interesting circuit, with great elevation changes. If you think back to 1997 when Jarno Trulli could have won it, and 1999 when DC took out Mika Hakkinen and Eddie Irvine came through to win... there's been some good races, some big shunts too. I think it's a great track

for racing – it's fast, it's nice to go to, with an amazing backdrop of the mountains, there's lots of history with the old track. It will be a big race for Red Bull, who are F1's biggest spenders today, so it makes sense to go there. They'll put on a good show, I'm sure. It's another big braking track, which makes it tough.



BRITAIN

Silverstone



2013 winner
Nico Rosberg
2013 polesitter
Lewis Hamilton
1m29.607s
Lap record
Fernando Alonso
1m30.874s (2010)
UK start time
1300
Live TV
BBC & Sky Sports

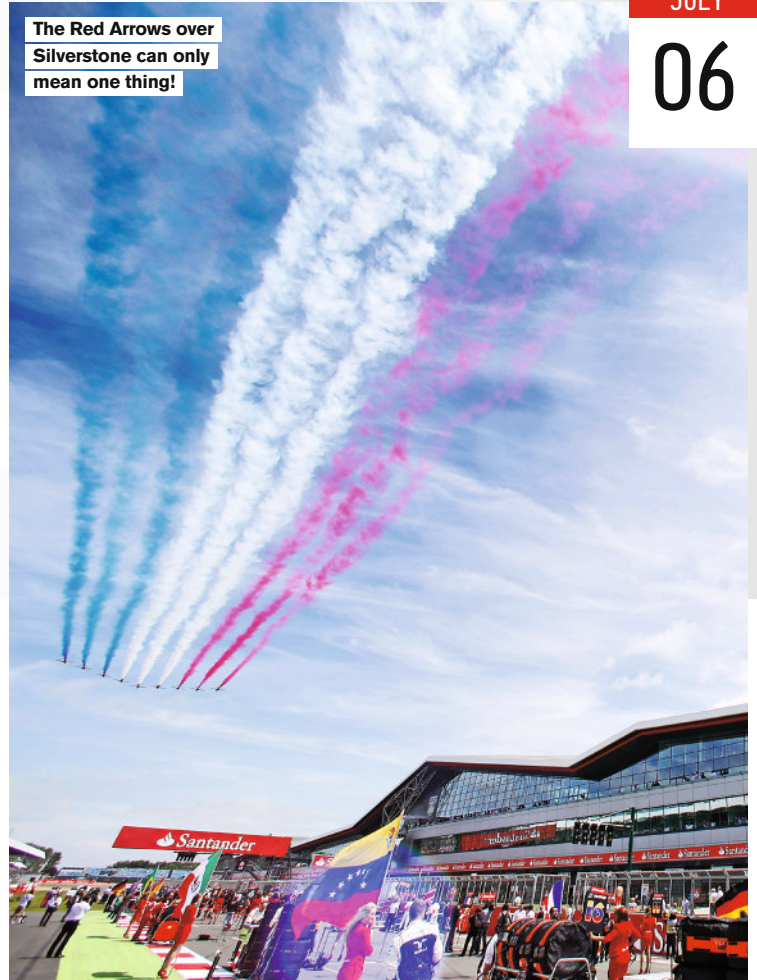
IT'S A BRILLIANT circuit. It's very bumpy, but just a fantastic track to drive. People really appreciate the mega atmosphere – even when it rains people turn up! It always produces good racing. It's very hard on tyres, with very high lateral loads as we saw last year with all the blowouts. I think the new

part of the circuit has created good spectator areas. I don't think it's taken away the charm of Silverstone, because the first two corners are still high speed and flowing, and the next two slow-speed corners are quite technical. The grip level is good, and Copse, Maggots and Becketts are just mega.

JULY

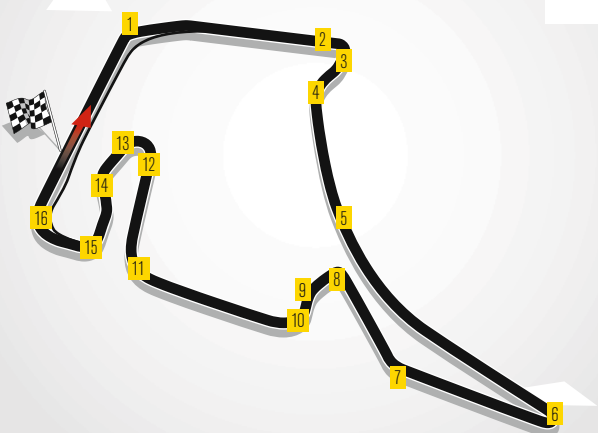
06

The Red Arrows over Silverstone can only mean one thing!



GERMANY

Hockenheim



JULY

20

2013 winner (*N'ring)
Sebastian Vettel
2013 polesitter*
Lewis Hamilton
1m29.398s
Lap record
Kimi Raikkonen
1m13.780s (2004)
UK start time
1300
Live TV
Sky Sports

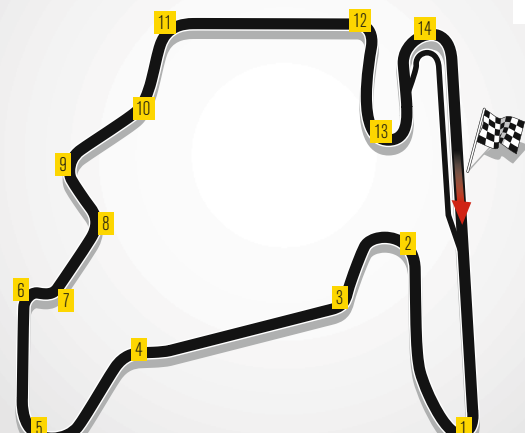
IT'S GOT AN OLD-school atmosphere, but it's not an old-school track anymore. It's an odd circuit: the first two-thirds is pretty conventional, not very challenging apart from the hairpin that allows all the overtaking. But then you come into the stadium and it's amazing how much time can be won or lost in that section. As soon as

you come onto the old track, via the quick right-hander, it's such a tricky section. It's all about the driver because the line is so tricky. It was only in my first GP2 race there that I got my head around it, and then I won the Sunday race! Guys who've competed here a lot often find a tenth or two there.



HUNGARY

Hungaroring



JULY

27

2013 winner
Lewis Hamilton
2013 polesitter
Lewis Hamilton
1m19.388s
Lap record
Michael Schumacher
1m19.071s (2004)
UK start time
1300
Live TV
Sky Sports

I'VE ALWAYS LOVED Hungary. I think it's one of the best circuits I've driven. In a way it's like a kart track, but for big cars! You've got no time to relax. The change of direction is really important – you need a car with a really good front end and aero for the change of direction. The heat can be a big

problem for the tyres – we've seen blistering and deterioration. I know some drivers hate it and others love it. Sure, there have been some dull races, but it's produced some unpredictable results, like Jenson's first win. And you can't forget Michael Schumacher in '98, when he stormed the middle stint with qualifying laps...

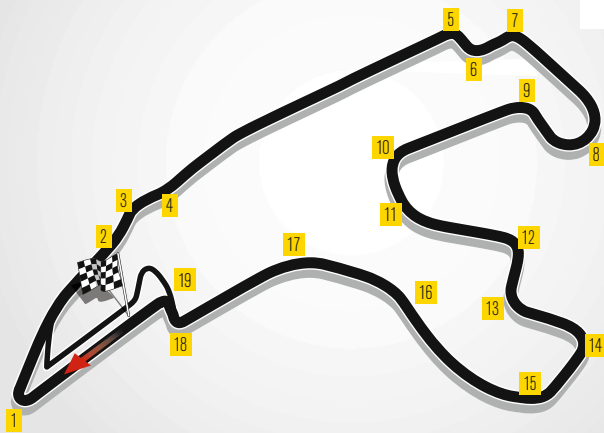


BELGIUM

Spa

AUGUST

24



2013 winner
Sebastian Vettel
2013 polesitter
Lewis Hamilton
2m.01.012s
Lap record
Sebastian Vettel
1m47.263s (2009)
UK start time
1300
Live TV
BBC & Sky Sports

SPA IS A GREAT circuit, with a superb flow to it – uphill, downhill – but I think it's lost some of its challenge. At Eau Rouge today, everybody is flat because you have the big asphalt run-off on the left. When I first raced there it was gravel and a tyrewall! Now if the car gets even a bit sideways you straighten

the steering wheel and go straight over the top. I still think Pouhon is a real challenge, but again if you make a mistake you can run wide. And the corner that's called Paul Frere now – I still call it Stavelot – used to be such a challenge, now everyone just runs wide off the circuit. It's still a pleasure to drive though.



ITALY

Monza

SEPTEMBER

07



2013 winner
Sebastian Vettel
2013 polesitter
Sebastian Vettel
1m23.755s
Lap record
Rubens Barrichello
1m21.046s (2004)
UK start time
1300
Live TV
BBC & Sky Sports

THE ONLY TRACK I've raced at where you can smell hotdogs and burgers [from the Ferrari campsite] as you brake into the first chicane! It's fevered up like you wouldn't believe. The Ascari chicane, I'd put it on my list of dream corners – there's a real technique to it, and the second chicane too. The

black art is to get it spot on after bouncing over the kerbs. You have to be mega-aggressive on the way in, and then you have to switch your brain to being silky smooth with super-soft hands. Then you've got the Lesmos, Parabolica – it's such a great challenge. The speed is so high and you really do feel it here.



SINGAPORE

Marina Bay

SEPTEMBER

21



2013 winner
Sebastian Vettel
2013 polesitter
Sebastian Vettel
1m42.841s
Lap record
Sebastian Vettel
1m48.574s (2013)
UK start time
1300
Live TV
Sky Sports

I THINK IT'S A GREAT event, an unpredictable race, very tough on the cars and drivers with the heat and humidity. The air is so stuffy, making it difficult for everybody. It's actually a good track. It's a really long lap – I think it's really hard to put it all together in qualifying. Only the really, really good qualifiers put the

whole lap together. Tyre management, even in qualifying, is tricky and last year we saw people doing such slow outlaps all the way until they came into the last two or three corners, when they got on it. There's a great atmosphere, it looks fantastic on TV, and as a business model I think it's one of the best races.

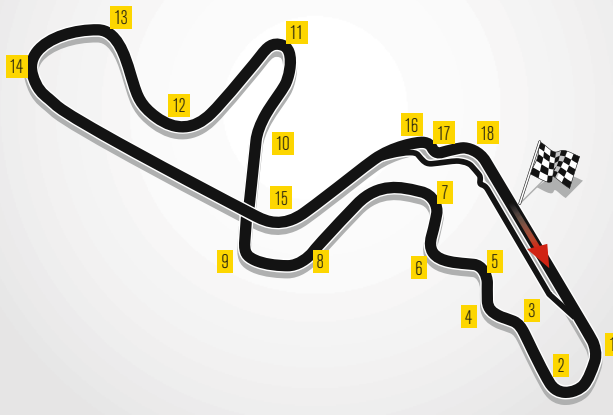


JAPAN

Suzuka

OCTOBER

05



2013 winner
Sebastian Vettel
2013 polesitter
Mark Webber
1m30.915s
Lap record
Kimi Raikkonen
1m31.540s (2005)
UK start time
0700
Live TV
BBC & Sky Sports

SUZUKA HAS NOW surpassed Spa as the best driver's circuit on the calendar. What amazes me is how much grip is in the asphalt and how quick the layout is, but it's so narrow. I'd been on the simulator, and watched the videos, but when I raced there it shocked me. There's no real bumps apart from

the entry to Spoon, and obviously 130R, but the surface is just amazing – it really should be the template for how all circuits are made. We've seen some amazing races, like 2005. That first sector, snaking up the hill, is rivalled only by Copse-Maggots-Becketts at Silverstone. And the fans are nuts!



RUSSIA

Sochi

OCTOBER 12



2013 winner
N/A

2013 polesitter
N/A


Lap record
N/A

UK start time
1200

Live TV
BBC & Sky Sports

A NEW COUNTRY AND a new racetrack. Sochi is going to be very much a Valencia or Adelaide sort of way, and not quite the flowing nature of Monaco or Melbourne. There are lots of right-angled corners around the buildings of the Winter Olympic Park, and 60 per cent of the track


will be public roads for the rest of the year, the rest being permanent closed circuit. The long left-hander at Turn 3 will really stress the car and tyres out as it's a 530-metre-long corner – probably the longest in F1 history! Hopefully the track will be wide enough to promote overtaking, like we saw in Valencia.



USA

Austin

NOVEMBER 02



2013 winner
Sebastian Vettel

2013 polesitter
Sebastian Vettel
1m36.338s

Lap record
Sebastian Vettel
1m39.347s (2012)

UK start time
2000

Live TV
Sky Sports

IT'S A MEGA TRACK and has very quickly become a popular event: great spectators, big crowd, especially with all the Mexicans there. It's a great circuit to drive, looks good on TV, and they've kept it quite compact for the spectators – you can sit in one place and see a lot of the track. Drivers really enjoy the first sector,

and it's tricky because there's some off-camber corners. In the middle part of the lap you have two corners where you're braking and turning at the same time, so it's all about having compliance in the front so you don't lock up the inside tyre, and also stability in the rear so it doesn't come around on you. Quite a challenge.



BRAZIL

Interlagos

NOVEMBER 09



2013 winner
Sebastian Vettel

2013 polesitter
Sebastian Vettel
1m26.479s

Lap record
Juan Pablo Montoya
1m11.473s (2004)

UK start time
1600

Live TV
Sky Sports

PROPER. FEVER. I just didn't appreciate it until I went there, but the undulation changes are just staggering – you get little sense of that on TV. I love it, it's how a circuit should be: grass run-offs and close walls, bumps and camber changes. There's a lot of time to be won or lost in the three hairpins in

the middle of the lap, and also the last corner, Juncao, is critical to get right. The outside kerb is actually negative, so you are tempted to use it but it's so easy to lose traction – then you're screwed all the way up that hill! You get great slipstreaming into Turn 1, and see genuine racing.



ABU DHABI

Yas Marina

NOVEMBER 23



2013 winner
Sebastian Vettel

2013 polesitter
Mark Webber
1m39.957s

Lap record
Sebastian Vettel
1m40.279s (2009)

UK start time
1300

Live TV
BBC & Sky Sports

ASK ANY DRIVER about Abu Dhabi and the first thing they'll say is 'great facilities' – so clearly the pits are fantastic, the hospitality is great... and the circuit is not. I can't understand why they haven't made a more challenging track. The first part is quite interesting, down to the hairpin, but after that it's

just stop-go, stop-go. The bit around the hotel is OK, with off-camber corners to hustle the car around, but it's not exactly a great challenge for drivers. Having said that, it's not terrible and the racing is pretty good with the double DRS zone, but with a blank canvas why didn't they build something better?

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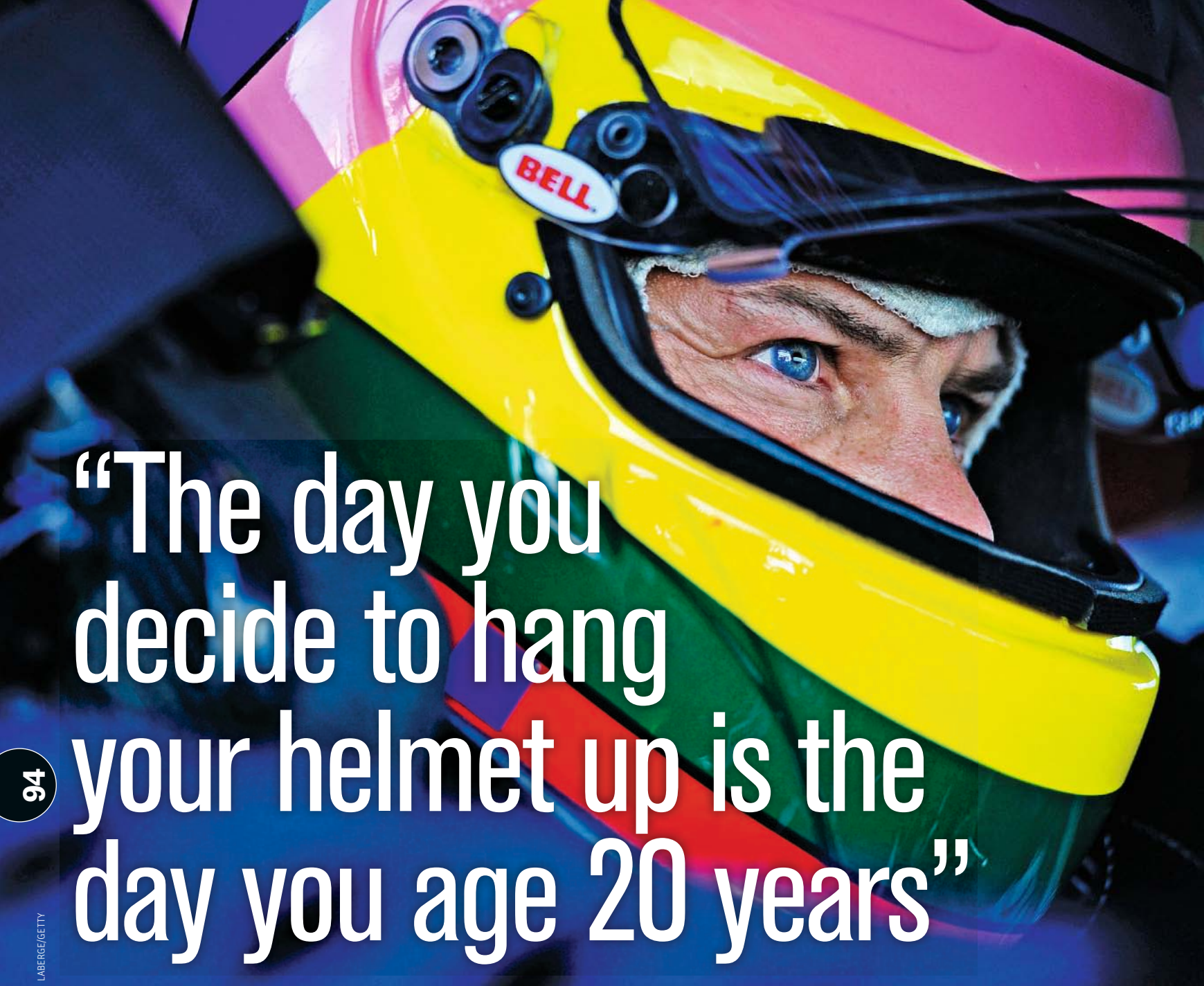


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“The day you decide to hang your helmet up is the day you age 20 years”

Jacques Villeneuve hasn't raced full-time since 2005, but he's not giving up any time soon.

He tells **GLENN FREEMAN why he has no interest in calling time on his highly varied career**

Nineteen years on from the Indianapolis 500 victory that propelled him to IndyCar championship glory and the switch to Formula 1, Jacques Villeneuve is returning to the greatest event in US single-seater racing. Last week's announcement that the 1997 F1 world champion will enter the Indy 500 with Schmidt Peterson Motorsport at the age of 43 came hot on the heels of Villeneuve signing a deal to compete in the new World Rallycross Championship this year.

Those are not the actions of a man looking to wind down after nearly 30 years of racing. Suggest to Villeneuve that he still has many years to give behind the wheel, and he doesn't even need to hear the end of the question before enthusiastically chiming in.

“Oh definitely, I can't imagine myself not being a racecar driver,” he says. “Even if I'm getting older, we live in an age where you can stay

younger for longer, physically and mentally.”

As highlighted by his recent forthright views (some may go as far as calling it a rant) on F1 sacrificing its purity because it is “trying to cater for the wrong people”, Villeneuve is an admirer of the sport's history.

He admits that his favourite era of F1 was the 1960s and '70s, but he believes the way the sport has moved on – in terms of fitness and safety – plays a significant role in enabling drivers like him to extend their careers way beyond what the heroes of yesteryear would have considered.

“The drivers in the '60s didn't train,” he says. “Then at some point they got a bit older and they were happy that they survived because it was a much more dangerous era.

“Today we've all stayed quite fit because of F1, and then there's the way we eat. Health-wise, we know so much more. We know so many things that can help give us a longer career, which is great.” These are the points that bring Villeneuve to the crux of his argument in

response to those who wonder why he continues to jump in a variety of machinery every year.

Since F1, his career has forged a path all over the world, taking in topline prototype sportscar racing, NASCAR, V8 Supercars, GTs, ice racing, various South American tin-top events, and now rallycross and a return to Indianapolis. Many question why he continues to persist, given that every programme has involved only a handful of starts in a category at best, but it's not a subject that he bristles at.

“The day you decide that you want to hang your helmet up – the day you really make the decision that you don't want to race anymore – that's the day you age 20 years,” he says. “I'm a racer at heart. That's what keeps me going, what keeps me alive.

“To my kids I don't want to just be the guy that used to race that they can see in books. I want them to see and live what I've already lived, to see it through my doing it.” It's for that reason that Villeneuve believes it should never come as a

THE 'INDY 505' – 19 YEARS ON

For Jacques Villeneuve and his Team Green crew, the 1995 Indianapolis 500 will always be known as 'The 505'.

The #27 Reynard-Ford was forced to battle back from a two-lap penalty, incurred after Villeneuve twice overtook the pace car during a confusing full-course caution period early on.

"Everyone was panicking about how much fuel we had because the pits were closed, and none of us realised I was leading," says Villeneuve today. "The pace car is supposed to pick up the leader, so every time I caught up to it I overtook it."

From that moment, Villeneuve utilised a new specification of Goodyear tyre – introduced on raceday – to drive hard throughout the race, making one lap up during a pitstop cycle, and another on track. By the closing stages

he was second behind dominant leader Scott Goodyear, who he knew he couldn't beat in a straight fight, so he played some mind games before a restart.

"I kept putting pressure on him, accelerating, pulling alongside, braking, dropping back, trying to get into his head," he says. "And it worked."

Goodyear famously jumped the restart by a mile, overtaking the pace car in Turn 4 as Villeneuve and the rest of the field backed off. The leader was disqualified before the chequered flag as he refused to serve a penalty, leaving Villeneuve to take the spoils.

"At the time I didn't really understand anything about history," he says of the victory. "My Dad didn't care about history, he was just passionate about racing, so that's how I grew up. Now, with time to look back at everything, to have been part of that history is amazing."



Villeneuve will compete in rallycross this year...

JAKOB EBREY



...a far cry from his F1 glory days

LAT



JV fought back from two laps down to win Indy 500

PENSINGER/GETTY



JV's commitments outside racing have included F1 commentary

TEELAT



Villeneuve finished third in 2012 NASCAR Nationwide at Montreal

LAT

surprise to anyone when news breaks that he is jumping in yet another car. That comment was fair enough until last week, when he performed a pretty spectacular U-turn regarding Indy.

Villeneuve has always been adamant that he had no interest in going back to Indycar racing. It was effectively a case of 'been there, done that'. He toyed with the idea of joining the 2011 Las Vegas finale when the series was pushing to get a group of guest drivers to race for a \$5,000,000 prize fund, but in the end he decided against it, citing safety and a lack of depth in the quality of the field.

Less than three years on, the style of racing created by the Dallara DW12 chassis package and the ever-increasing pool of talent has changed his mind.

"I'd been watching IndyCar last year, and it looked extremely exciting with the new cars, to the point where I was angry and jealous that I wasn't racing," he said at the announcement of his Indy 500 deal. "I wasn't considering going

back to something I'd already done because there's been a few dark years for IndyCar, but it's getting back to the glory days with exciting racing and the field of drivers is becoming more and more impressive every year again."

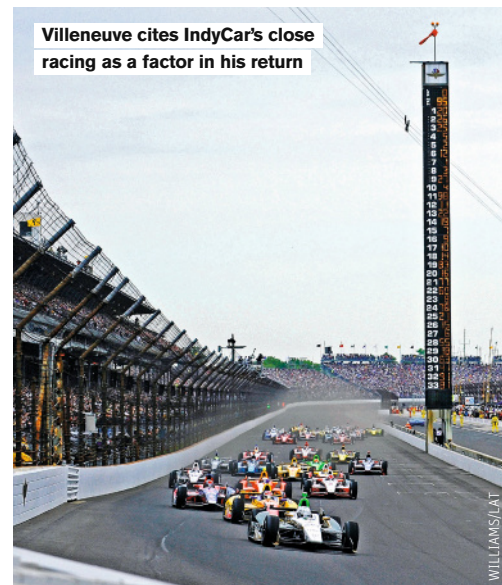
While his Indy deal is very much a one-off, Villeneuve admits that it's not only the big race that appeals to him. A road course one-off is less likely given the lack of practice time compared to Indy, but he says he "would have loved to do the whole season". Unfortunately, his rallycross and F1 TV commentary commitments mean his year is fully booked.

Villeneuve believes the product is "going back to the Indycar that I knew", and throughout his media commitments he took several opportunities to hint that – beyond 2014 – he is open to the idea of a full-time return.

Ask if the day he makes the decision that will age him 20 years is going to come anytime soon and the response is simple.

"Nope. No it's not." ❧

Villeneuve cites IndyCar's close racing as a factor in his return



WILLIAMS/LAT

V8 SUPERCARS ADELAIDE (AUS), MARCH 1-2, RD 1/14

Holden takes hat-trick as Volvo stars



Whincup won opening race of V8 season

HOLDEN DRIVERS JAMIE WHINCUP, Craig Lowndes and James Courtney took the wins at the opening round of the 2014 V8 Supercars series in Adelaide, but the talk of the weekend was as much about what happened behind them as it was about who won the races and who lost them.

Whincup started his quest for a sixth title with a win in the first 125km race, while team-mate Lowndes took the second. Courtney bounced back from a Saturday disaster – at one stage one of his doors was torn off! – to win from Lowndes on Sunday.

In that dramatic race, pitlane penalties took first Rick Kelly and then Shane van Gisbergen out of contention for the win, in both cases for incorrect restart procedures. Then, almost unbelievably, Whincup scored a penalty as well, when his car controller inadvertently touched his

Holden during a pitstop, in a breach of the rules. The subsequent penalty put him back in the pack, from where he tangled with Nissan driver Michael Caruso. It was a rare DNF for the champion, and the results (and a 25-point post-race penalty for the Caruso incident) puts him into catch-up mode for the coming rounds of the series.

That left Courtney fighting off Lowndes for the win, and as if to underline the performance of the Walkinshaw Holdens, Nick Percat was in contention to take his to a podium finish until he hit the wall almost within sight of the flag.

Another talking point of Sunday's race was a huge shunt involving Jason Bright. The veteran's Holden was tagged by Garth Tander and sent barrel rolling into the air, landing partially on top of a concrete wall. The Brad Jones Racing crew looks

like rushing to finish a new car in time for the non-championship events at Albert Park next week.

But even that was not *the* talking point of the weekend. It was the extraordinary debut, and race-two podium result, for Garry Rogers's new Volvo team that had the track buzzing. Having parked its race-winning Holdens at the end of 2013 to develop a V8 Supercar version of Volvo's S60 Polestar, the team arrived in Adelaide with conservative expectations. But sophomore driver Scott McLaughlin showed speed all weekend and was in contention to score a podium in the second race.

When Whincup passed him for second with a thrilling move on the final lap, lesser drivers may have surrendered. But the New Zealander watched Whincup run wide on the final corner and pounced, scoring an amazing runner-up result. The crowd went crazy, as it was suggested that Volvo executives, including some visiting all the way from Sweden, celebrated their amazing debut result long into the night...

The S60 looked fleet, and its engine, developed in Sweden by Polestar, appears to lack little compared with V8 Supercars' more established marques.

It was a tough weekend for some of the other teams. Mark Winterbottom, Chaz Mostert and Scott Pye showed form for Ford, but their efforts were thwarted by skirmishes with other drivers and, in Mostert's case, an engine problem.

Likewise Nissan was swift on occasion, but luck deserted it, while Will Davison's debut in a heavily-revised Erebus Mercedes-Benz went badly. He salvaged a 10th in one of the races but was outpaced by team-mate Lee Holdsworth. Clearly, there's much work to be done before the E-classes challenge the established teams.

As the teams left Adelaide Lowndes led the points, but Courtney's win showed that there could be a stellar intra-brand fight for Holden honours. The Holden Racing Team is now managed by Adrian Burgess, who left Red Bull last season to reunite with the driver with whom he won the 2010 title with Dick Johnson's Ford team.

Bad blood would not be too strong an expression to describe the feeling between the two teams...

● Phil Branagan

RESULTS

Race 1 1 Jamie Whincup (Holden Commodore VF) 39 laps in 53m57.51s; 2 Craig Lowndes (Holden) +2.77s; 3 Shane van Gisbergen (Holden); 4 Mark Winterbottom (Ford Falcon FG); 5 Fabian Coulthard (Holden); 6 Rick Kelly (Nissan Altima). **Race 2** 1 Lowndes 39 laps in 56m12.92s; 2 Scott McLaughlin (Volvo S60 Polestar) +4.73s; 3 Whincup; 4 Winterbottom; 5 Coulthard; 6 Chaz Mostert (Ford). **Race 3** 1 James Courtney (Holden) 78 laps in 1h57m52.93s; 2 Lowndes +0.67s; 3 van Gisbergen; 4 Coulthard; 5 R Kelly; 6 Tim Slade (Holden). **POINTS** 1 Lowndes, 282; 2 Coulthard, 230; 3 van Gisbergen, 221; 4 R Kelly, 198; 5 Courtney, 192; 6 Winterbottom, 189.



Race-two hero McLaughlin passes somersaulting Bright



Harvick scored his first victory for Stewart-Haas

NASCAR SPRINT CUP PHOENIX (USA), MARCH 2, RD 2/36

Harvick keeps streak going

THERE WAS NO STOPPING KEVIN

Harvick in round two of the 2014 NASCAR Sprint Cup at Phoenix. It may have been only his second event with Stewart-Haas Racing after 14 seasons of racing for Richard Childress, but the change of scenery made no difference to his prowess at the Arizona oval, where he had already won four times previously, including two of the past three Phoenix Cup races.

The sole complication in his weekend was the new knockout qualifying system. Harvick missed out on a place in the pole-deciding 12-car 'Q2' by just 0.001 seconds, leaving him 13th on the grid.

But the pace he showed in both Saturday's practice sessions left Harvick's rivals certain he would be hard to beat on race day, and so it proved. Up to sixth by the end of lap one, he was able to hurl his Chevrolet across the apron with abandon when passing people and still maintain stability and momentum.

Harvick reached the lead on lap 74 and topped the field for a commanding 224 of the subsequent

238 laps, only losing first place during pit sequences. Though his lead never rose above two seconds, neither did it ever drop under half a second in green-flag conditions, Harvick shrugging off eight cautions (three of them for some hard-sought debris) to maintain superiority at every restart, despite a few green-flag shoves from Joey Logano.

While satisfying for Harvick to prove his class in his new colours so soon, the win was greeted as a vindication by the whole Stewart-Haas team, after a fraught winter in which it expanded from three to four cars to accommodate Kurt Busch as well as replacing Ryan Newman with Harvick. That all came against the backdrop of a severe leg break for owner/driver Tony Stewart and his co-owner Gene Haas making a unilateral decision to hire Busch while simultaneously deciding to try to enter Formula 1.

With Stewart a quiet 16th, Busch blowing an engine and Danica Patrick tangling with Justin Allgaier, it was another tough day for the rest of SHR, and its race winner's main

opposition was Penske and Hendrick.

Brad Keselowski revelled in the new qualifying system to beat Penske team-mate Logano to pole, appreciating the opportunity to "learn and apply" then have another crack at the top spot. Logano grabbed the lead on the opening lap and stayed there until the arrival of the irresistible Harvick, then took turns with Keselowski and Hendrick's Daytona 500 winner Dale Earnhardt Jr to try to attack the leader.

Though Earnhardt looked like he might have something for Harvick, in general the trio was fighting for 'best of the rest' honours, something they did in an increasingly hard-fought way in the closing stages, particularly on restarts, as the new 'winning is all that matters' credo of the revised championship system played into their thinking.

Ultimately Earnhardt finished half a second adrift of Harvick, while Keselowski pipped Logano for third and Jeff Gordon capitalised on a brush between Ryan Newman and Jimmie Johnson to beat them to fifth.

● Connell Sanders Jr

RESULTS

1 Kevin Harvick (Chevrolet SS), 312 laps in 2h51m23s; 2 Dale Earnhardt Jr (Chevy), +0.489s; 3 Brad Keselowski (Ford Fusion); 4 Joey Logano (Ford); 5 Jeff Gordon (Chevy); 6 Jimmie Johnson (Chevy); 7 Ryan Newman (Chevy); 8 Carl Edwards (Ford); 9 Kyle Busch (Toyota Camry); 10 Jamie McMurray (Chevy). **POINTS 1 Earnhardt, 90;** 2 Keselowski, 84; 3 Gordon, 80; 4 Harvick, 79; 5 Johnson, 78; 6 Logano, 75.



NASCAR NATIONWIDE

Kyle Busch (above, left) won his third straight series victory at Phoenix in a Joe Gibbs-run Toyota by dominating a rain-shortened event on Saturday. Busch had completed 168 miles of the planned 200 when Ryan Reed crashed as rain began to fall. Polesitter Brad Keselowski damaged his Ford in a clash with a backmarker, but recovered to third, from 27th, behind the Chevy of Kevin Harvick.

PRO MAZDA WINTERFEST

Spencer Pigot wrapped up the mini-series at Barber Motorsports Park. He led the first race from start to finish from Scott Hargrove, who in turn held off Pigot in the second. Pipo Derani scored a third, but was denied repeating the result by a drive-through penalty for track etiquette.

USF2000 WINTERFEST

Britain's Michael Epps took two breakthrough wins at Barber Motorsports Park, passing Florian Latorre to take the first, then leading RC Enerson home in the second. Enerson won the final race to beat Epps not only on track, but for the title.

V8 DEVELOPMENT

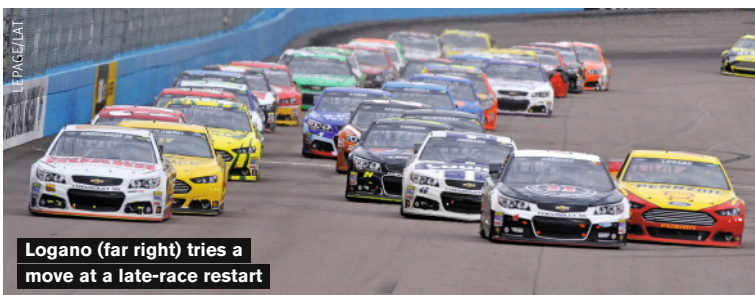
Paul Dumbrell's return to V8 Supercars' Development Series bore immediate fruit in Adelaide. After following Ford drivers Ash Walsh and Cameron Waters home in the first race, the Bathurst winner watched them tangle in race two to collect the spoils.

AUSTRALIAN FORMULA 3

Local driver Simon Hodge gave Mygale top honours in Adelaide's Formula 3 events. Hodge swept all three races, ahead of the Mercedes-powered Dallaras of Ben Gersekowski and Chris Anthony. F3 debutant Chelsea Angelo, 17, won the National Class honours.

GT OPEN WINTER SERIES

The SMP Russian Bears Ferrari squad (below) dominated race one at Paul Ricard, with the 458 Italia of Roman Mavlanov/Daniel Zampieri heading home the sister car of Jose Perez-Aicart/Vyacheslav Maleev. In race two, it was the AF Corse squad of Belarusian father-and-son duo Aleksander Talkanitsa Sr/Jr that scored a narrow victory over the Ombra-run 458 of Mario Cordonni/Stefano Gattuso.



Logano (far right) tries a move at a late-race restart

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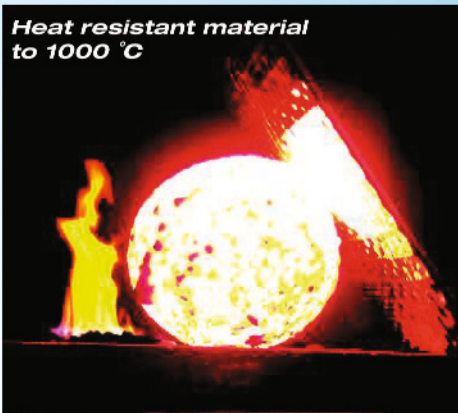
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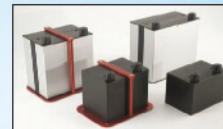


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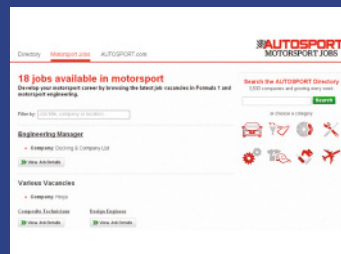
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Lecturer: Ref: CAPE-002/A

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Technician/Demonstrator: Ref: CAPE-003/P

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Aerodynamicists Ref: LF1_AER15

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Porsche hopes its new car will reverse UK grid decline



SCOTT MITCHELL
EDITORIAL ASSISTANT

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THE RACING WAS OFTEN NOT

the problem in the Porsche Carrera Cup GB last season. Yes, it was guilty of contributing a fair few processions, but it also offered some of the TOCA package's best battles, so to suggest low grids made it a pointless part of the British Touring Car paddock is unfair.

At Rockingham, the media centre was an uncomfortable place to be. It's always tough to witness a struggling championship, especially when the series in question benefits from huge investment from one of motorsport's global behemoths. So a seven-car qualifying session – and the barbed comments that accompanied it – was tough to take.

The easy way out for Porsche would have been to join the GT3 Challenge and Carrera Cup grids – as happened at Silverstone and resulted in the welcome sight of a grid of Porsches in the high teens – if not the pull the plug altogether. The former would not work because there would be little reason for smaller teams, privateers or cash-strapped drivers to buy a new car when the status quo could be retained for no added cost. And no matter what the cynics say, the latter would have hit the TOCA package very hard – the bottom line is it would be much poorer if it lost a global racing brand.

That said, the grids have to improve. While detractors will dismiss talk of an 18-car grid as little more than hot air, it is worth remembering that Porsche GB needs this to work as much as anyone else. Twenty-two cars are available and the majority – if not all – must be sold. That might require patience, but as long as no trigger-fingers get itchy, this year could lay a solid foundation for coming campaigns. After such uncertainty, that's good news for all parties.

New Porsche 'to double grids'

Carrera Cup set for revival as tin-top BTCC supports enter new era

PORSCHE IS HOPEFUL THE introduction of the new 911 will revive the Carrera Cup GB's ailing grids.

One of the British Touring Car Championship support package's biggest talking points in 2013 was the Porsche grid, which struggled all year and had a season-low seven cars at Rockingham, sparking fears over the category's future.

But after confirming it would still introduce the new 991-model Carrera Cup car, Porsche GB announced it was axing its GT3 Challenge category to focus on the premier series. It will also adopt a mixed starting procedure for 2014, with one race beginning from a traditional standing start and the other being a rolling grid.

Despite teams having little time to prepare with the new cars before the first round at Brands Hatch at the end of the month, a grid of 18 is still expected for the opener.

Porsche GB held two dedicated workshops this week to accelerate teams' understanding of the new car,

and motorsport manager Marion Barnaby told AUTOSPORT it was key the marque moved the series forward.

"It's sort of a risk that we took but it's what we've done historically," she said of the marque's decision to push on with the new car despite poor grids.

"We're pushing constantly to keep it fresh and look at the bigger picture of [drivers] moving to GT racing. We've still got a couple of cars to sell but I think we're going to be at 18."

While the Porsche grids suffered last season, the Renault Clio Cup UK – which will also adopt a new car this year – was the package's most popular category with 20-25 cars at each round.

However, it is likely to struggle to reach even the lower end of that range this year with its new turbocharged model, despite quickly selling the first batch of 16. AUTOSPORT understands that the creation of the club-level, BARC-run Clio Cup Series has reduced interest in the main championship, with leading outfit Total Control Racing pulling out because of a lack of interest.

Yorkshire manufacturer Ginetta will offer the TOCA paddock more stability, though its rebranded Ginetta GT4 Supercup has still been tweaked.

After a disappointing season for its G50 sub-class – effectively axed by the end of the year – the series has now become exclusive to the new GT4-spec G55, which can also be used in British GT.

Chairman Lawrence Tomlinson expects 16-18 cars (around the same as 2013) but is much more optimistic about the Ginetta Junior field – which he believes will exceed 20.

The junior tin-top series for 14-to-17 year-olds has had mixed fortunes in previous seasons, but has enjoyed a rush of entries ahead of this campaign, with highly-rated karter Lando Norris among drivers expected to join later in the year.

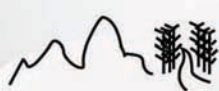
"We're delighted," said Tomlinson. "It's one of the toughest parts of the sport to promote but is rewarding.

"I think it's the premium junior motorsport in the world."

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Menu's race-winning BTCC Ford will return

LATA ARCHIVE

Super Touring Trophy

Mondeos bolster Super Touring grid

THREE EX-FACTORY FORD Mondeos raced in the British Touring Car Championship will contest the Historic Sports Car Club's Super Touring Trophy this season.

A 2000-spec, ex-Rickard Rydell car, with which the Swede won three races and finished third in the points that season, was sold by Silverstone Auctions at last month's Race Retro show to versatile historic racer Richard Meins, who is working on

the car with Mandarin Motorsport.

Meanwhile, Swiss-based Briton Mike Humphreys – an experienced Ferrari racer – has bought two '99 Mondeos with a huge spares cache, including parts to build four engines.

"They are brilliant bits of kit," said Humphreys. "I was looking for one and found an old advert for some spares. The car was sold, but the chap's mate still had the other two. "Unbelievably, they were just up

the road from me with a hillclimb champion [Gerard Nicolas] who has a small Ford garage in Lausanne!"

The '99 model was not as successful as its successor, with Menu and Reid finishing 11th and 12th in the title race – though the Swiss driver scored one win that year, at Knockhill.

Humphreys has purchased chassis #2, Reid's early-season mount driven by Menu at the end before it became the 2000 development car, and #3,

Menu's until the final two rounds.

They are back in the UK with Simon Hadfield's team, which has already consulted ex-March engineer Dave Benbow, the period team boss.

"They were incredible feats of engineering, but they required precise set-ups," said Reid. "They reacted the opposite way to convention, so you had to go against intuition.

"I'd love to drive one again, so I'd be happy for them to tap my experience."

British Formula Ford

Brabham eyes British FFord title attack with JTR return confirmed

SAM BRABHAM WILL RENEW HIS partnership with British Formula Ford champion team JTR for a title assault this season.

The 19-year-old, who has spent the winter contesting the India-based MRF Challenge, finished fourth in the championship in 2013, his first year in car racing.

The son of former Le Mans 24 Hours winner David and grandson of triple Formula 1 world champion Sir Jack is now targeting the title.

"It feels really good to be back with JTR this season," said the BRDC Rising Star. "We had a brilliant first year and together achieved results I didn't think would be possible in my rookie season." JTR team boss Nick Tandy said



Brabham impressed in debut season

working with Brabham again was key to the team returning to the championship.

"When we were deciding our plans one of the biggest draws was if we could go with Sam again and build on the progress we made last year," said Tandy.

"We expect him to be at the front fighting for race wins and the title."

Ginetta Junior

British Touring Car squad AmD to expand into Ginetta Junior

BRITISH TOURING CAR SQUAD AmD will expand into the Ginetta Junior championship this year.

Shaun Hollamby's team, which will run Dave Newsham in a Ford Focus in the BTCC this year, is planning to run a G40 in the support series for 14 to 17-year-olds.

It tested karter Esmee Hawkey at Brands Hatch last week and Hollamby has not ruled out running cars in other TOCA categories.

"There are three reasons for doing it," he said. "It's on the package so works logistically; I enjoy helping people get involved in motorsport; and Esmee and her family are local to me.

"The focus is on the BTCC, but there's no reason we can't do a good job. Some of the BTCC guys will get to work on it and become more self-sufficient, so it's learning for them too.

"We're doing it with a view to doing more in the support series in future."



AmD ran G40 at Brands

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Goodwood Members' Meeting

Aston ace Turner and TV's Needell join Goodwood Group 1 entry

FACTORY ASTON MARTIN DRIVER Darren Turner will race a Group 1 Touring Car at the 72nd Goodwood Members' Meeting, while Jackie Oliver and Tiff Needell have joined the event's entry list.

Turner had previously confirmed he would contest the Tony Gaze Trophy, for Pre-'59 sports and GT cars, in the Turner Mk2 he co-owns with James Turner.

He will share a 1979 Capri 3.0S with Duncan McKay and will be joined in the touring car race by ex-Formula 1 driver and British Touring Car race winner Needell who will drive a Daily Express-liveried, Peter Mallett-owned Rover SD1.



Needell will race SD1

LAT ARCHIVE

Oliver will contest the Moss Trophy for GT cars from 1958-'62, partnering Gary Pearson in the latter's Ferrari 250GT.

Meanwhile, Corvette's international GT ace Oliver Gavin will join Turner and Needell in the Group 1 Touring Car race, replacing the now unavailable Rob Huff in Tim Scott Andrews' SD1.

Damley House captain Jochen Mass will combine his Gerry Marshall driving duties with a Mercedes 300SL Gull Wing appearance in the Peter Collins Trophy, while a host of other drivers have joined the booming entry list.

GP2 runner-up Sam Bird, Goodwood favourite Kenny Brack and McLaren's Phil Quaife will all be part of the turbo F1 demonstration in 1986 machinery. Bird will drive a Beatrice-Lola, Brack a Lotus 98T and Quaife an Arrows A9.

Marino Franchitti (Maserati Birdcage), Rupert Keegan (Alfa GTV6), ex-British GT champion Calum Lockie (Mazda RX7), Oliver Bryant (Lotus 11GT) and Barrie 'Whizzo' Williams (Volkswagen Golf) will also race at the meeting.

Historics

Former touring car star Soper to contest FIA Masters in Ford GT40

TOURING CAR LEGEND STEVE

Soper is planning to contest a minimum of four rounds of the FIA Masters Historic Sports Car Championship in a Ford GT40.

The 62-year-old, who returned to racing last year after an absence of more than a decade, will drive the same GT40 owned by David Cuff in which he made his comeback appearances at the Silverstone Classic and Goodwood Revival.

Soper and Cuff plan to undertake the Donington Park, Silverstone, Spa and Zandvoort Masters rounds.

Soper said: "At the moment it is four races, but we will see how it goes. If we are doing well and we are enjoying it, we could be sucked into doing more."

The GT40 will be run by Brackley-based Amspeed, which is best known for its preparation of E30-shape BMW M3 touring cars, and also looked after Cuffs GT Cup Porsche last season.

Soper also expects to contest the St Mary's Trophy touring car race at the Goodwood Revival this year.



Soper will rejoin Cuff in GT40

EBREY

BRDC F4

Formula Masters race winner Beer joins SWR for BRDC F4 campaign

ADAC FORMULA MASTERS RACE winner Nicolas Beer will make his UK race debut in BRDC Formula 4 this season.

The 17-year-old won twice on his way to fourth overall in the German series



Beer won races in Germany

in 2013, and will partner Venezuelan Diego Borrelli at Sean Walkinshaw Racing.

"I'm really happy to be joining SWR for my first season in BRDC Formula 4, I can't wait for the season to start," said Beer, who won at the Nurburgring and Hockenheim last year. "The guys at SWR run a fantastic team and I know they're going to give me a great car."

"Even though I don't know the UK circuits, I'm confident we'll do well."

Team owner Walkinshaw believes Beer will adapt quickly to British racing.

"He's proven himself as a race winner and we're sure he's going to be a very competitive driver in Formula 4," he said.

HUMBLE PYE

The voice of club racing



Roberts (left) and Hicken are working tirelessly at Mallory

Mallory's reopening showed just why it was worth saving

The dawning of a new era for Mallory Park on Saturday could not have been brighter or more packed with optimism. Crowds have always flocked to Mallory to watch motorcycle races, but I don't remember as many people at a car meeting there since the 1970s – despite nothing running on track! Several thousand folk attended the free-for-all, demonstrating overwhelming support for new leaseholder Real Motorsport Limited's rescue initiative.

Former GP and TT motorcycle racer Eddie Roberts, half of the duo that has succeeded the BARC at the helm, enthused: "We hadn't a clue how many to expect, but are delighted to have them back. To everybody who gave up their time to bring cars and motorbikes, thank you. From grand prix bikes to scooters, karts to Historic Formula 1 and rally cars to Supercars, the entire spectrum is here."

Many of the previous regime's staff have been re-employed, and the venue has been spruced-up. The weather was as warm as the welcome, smiles abounding as enthusiasts mingled among displays. "Eddie and I prayed for sunshine, and mobile caterer Adil, who is Turkish, got his prayer mat out, so we've had two Gods working on it," grinned co-operator Stuart Hicken, circuit manager for the Overend family from 1995-2005.

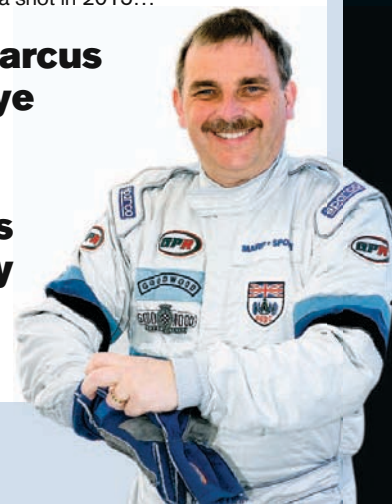
Now owner of the Buildbase BMW British Superbike team, Hicken cycled to the fledgling Leicestershire track in the '50s, and raced bikes there from '65.

"We're not millionaires, we're local businessmen passionate about Mallory Park. It is more than just a business. We like to think that is why [long-time landowner] Chris Meek granted us the operating lease."

Making the Friendly Circuit viable again and improving its facilities is RML's aim, and racers' favourite Val Parkinson is back running the paddock's Lakeside Diner. Hicken and Roberts have shown boundless energy to get this far, inspiring the parish council, rallying Kirkby Mallory residents and throwing a lifeline to businesses depending on it creating footfall. "Keeping our neighbours engaged is vital," they assert.

Their deal was inked in December, too late to court car meetings for this season, but when July 20 became available the Classic and Sports Car Club snapped it up. Having gauged public reaction at the reopening, saving Mallory is the most positive vibe I've felt for club racing in years, so join the supporters' club! The 750MC and VSCC will be back like a shot in 2015...

Marcus Pye



"Hicken and Roberts have shown boundless energy. Saving Mallory is the most positive vibe I've felt in years"



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WALDER

British Hillclimb event at Craigtlet runs on closed roads outside Belfast

In brief



Fords dominate rally

Nick Elliott and David Price made it four wins in five years on the classic special stages of Pikes Peak last Sunday. Driving their spare Mk2 Escort (pictured above) with the other in for repairs, they beat Matthew Robinson and Sam Collis by 17 seconds. Meirion Evans and Iwan Jones made it a Mk2 clean-sweep.

Chadwick's challenge

Ginetta Junior race winner will step up to the marque's GT5 Challenge in 2014 driving a Xentek Motorsport-run G40. Chadwick had tested a G55 over the winter but opted to move into the British GT support series with the new team, which is a division of multiple title-winning squad JHR Developments.

Rosso to Radical FFord

British Formula Ford race-winner Juan Rosso will switch from Jamun Racing to the Radical team for this season. The Argentine, who dominated the finale at Brands Hatch in 2013, will partner returning Radical driver James Abbott. "For me this is a great opportunity to come back to England to race again and to do so as part of the Radical Motorsport team, who are more like a family," Rosso said.

Johnston back to 750

Seven years after he last raced his self-modified Centaur Mk16 in the 750 Formula, Will Johnston will return to the category this season. The Dorset man – whose late son Will Jr scored a brilliant win in the car at Brands Hatch in April 2009 – tested again at Donington Park on Sunday.

Festival of Porsche

Brands Hatch will host a special Porsche celebration in September. The programme for the event (to be held on September 21) includes Porsche Club, Porsche Club Speed and BRSCC Porsche races, an on-track display of the German marque's historic racers, as well as trade stands, a fun fair and live music.

Sprints/Hillclimb

New push for UK closed-road motorsport

THE BRITISH GOVERNMENT HAS launched a consultation that could allow grassroots events to be held on closed public roads in the country.

UK motorsport's governing body, the Motor Sports Association, has been pushing for a proposed change in the law that currently stops the majority of such events taking place. Backers of the proposal include three-time Formula 1

world champion Sir Jackie Stewart.

The focus of the consultation is primarily on allowing rally stages, sprints and hillclimb events to be run on public roads, though it would also remove an obstacle to a potential London grand prix if local authorities were able to suspend the Road Traffic Act without having to resort to an Act of Parliament.

The Jim Clark Rally is one of just three

competitive events currently staged on closed roads. Currently cars must be road legal and obey traffic regulations and speed limits.

Members of the public have until April 10 to respond to the consultation, and can do so via the MSA website.

Acting MSA chief executive Rob Jones said: "It is a once-in-a-lifetime opportunity to change the landscape of our sport."

Special Saloons

Ex-Marshall Aston back

AN EX-GERRY MARSHALL ASTON Martin V8 will return to racing this season.

Marshall successfully raced Marsh Plant-prepared Astons V8R EVO4 and V8R02 in the 1980s and '90s, the latter now bought by David Beatty, who plans to campaign it in Classic and Sports Car Club Special Saloons and Modsports events this year. The 500+hp machine's first appearance is scheduled to be at the season opener at Silverstone in May. With Joe Ward also expected in the Vauxhall Firenza 'Baby Bertha', two ex-Marshall cars will be on the grid this season.



V8R02 will run in CSCC series



EBREVILAT

Meadows is eyeing hat-trick

Porsche Carrera Cup GB

Meadows in Redline return

DOUBLE PORSCHE CARRERA Cup GB champion Michael Meadows will return to Redline Racing this season as he bids to claim an unprecedented third title in a row.

The double champion, backed by tech giant Samsung's UK arm, switched from Redline to GT Marques last season.

As predicted by AUTOSPORT last month (February 20), he will stick with the series as it adopts the new 991 model.

"It's back to where I was before, which will make it interesting," he said. "I will have worked with everyone before."

"The aim's got to be the championship. I don't see why it can't happen."

Sports Specials

Series eyed for new kit car

THE CREATOR OF A NEW KIT CAR built to race in the 750MC Sports Specials believes it can grow into a one-make series.

The 1600cc FRS Arrow, which has a transverse Ford Zetec engine and gearbox, is the brainchild of veteran Sports Specials racer John Moore and fabricator Alan Coller. It ran competitively at the 750MC's test day at Donington Park last weekend.

The £12,000 (including VAT)

do-it-yourself kit is extensive, but the drivetrain, Fiesta rear uprights and safety equipment are among the parts required.

"A lot of existing one-make series use old designs for which parts are getting difficult to source," said Moore. "Ours is modern, using components which are cheap and plentiful."

"We're targeting relative novice drivers and aiming to build interest this year."



Arrow ran for first time

JONES



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THIS WEEK

LETTERS • BEST PICS • LATEST GEAR • ON TRACK & SCREEN • ONLINE

What you think of the motorsport news of the past week



Forums gave an opportunity for F1 to engage with its fans

Fans' voices need to be heard

Having been one of the lucky F1 fans to have benefited from the FOTA Fans' Forum, I am devastated by the demise of FOTA.

The forums were a crucial link for F1 fans, especially those unable to attend races due to financial constraints. It gave them a chance to engage personally with the sport they love.

F1 has always been distant from its supporters, but the forums were fantastic

at breaking down the barriers and had the teams conversing in a constructive manner.

Now with the disbandment of FOTA, I fear the teams will go back to the old days of cloak and dagger activities and will not work together for the good of F1.

Yes, the teams need to look after their own interests, but none of them would exist if it wasn't for the fans!

Clive Bariana, Bromsgrove

In considering whether Nico

Rosberg's intelligence will be better than Lewis Hamilton's speed, Jonathan Noble (February 27, p9) overlooks one point which I hope that Rosberg will not: the imposition of team orders.

If, as he suggests, Hamilton qualifies on pole and Rosberg drives the first part of the race conserving the car, it is very likely that, especially in the early races, they will be told to hold position and make sure they finish.

Then if all goes their way, later in the season Hamilton will be ahead in the points so that Rosberg will then be expected to support his bid for the championship.

If there are to be any faults on the Mercedes in Australia, I hope they are in Rosberg's radio.

EG Makin
By email

Bernie Ecclestone is forever

telling the F1 teams that they must make savings, cut costs etc. Am I the only one who cannot understand why testing sessions are in Jerez and Bahrain? Surely savings could be made if they were closer logistically to all the teams.

Secondly, Sky Sports F1 is hardly giving the viewers a fair idea of the testing: 15 minutes per day plus Ted's 30-minute rambling notebook are hardly the sort of programming that will encourage new viewers to watch F1.

Come on Mr Ecclestone, give something back to the punters whose hard earned money has put you where you are.

Don Witts
Birchington-on-Sea, Kent

A big thank you to Revved Up
last week, as without this I would have missed seeing *Touring Car Legends*.

This was a real walk down memory lane for me – I even saw Jim Clark race a Lotus Cortina at Snetterton. While I enjoy all forms of motorsport, I always had a soft spot for touring cars and this three-part series on ITV4 rekindled my passion.

Some of the rivalry between drivers leaves Sebastian Vettel v Mark Webber in the shade. The action was fast and furious and there were seasons when there were more manufacturers involved in this than in other forms of the sport. It was also seen as a dignified place for former F1 drivers to continue plying their trade.

I'd urge any motorsport fan who missed it to head to ITV Player before it's too late. Those of you too young to remember them may find new heroes in the likes of Jack Sears, Gordon Spice, Steve Soper and Win Percy, to name just a few.

Ann Bradshaw
Wansford, Peterborough

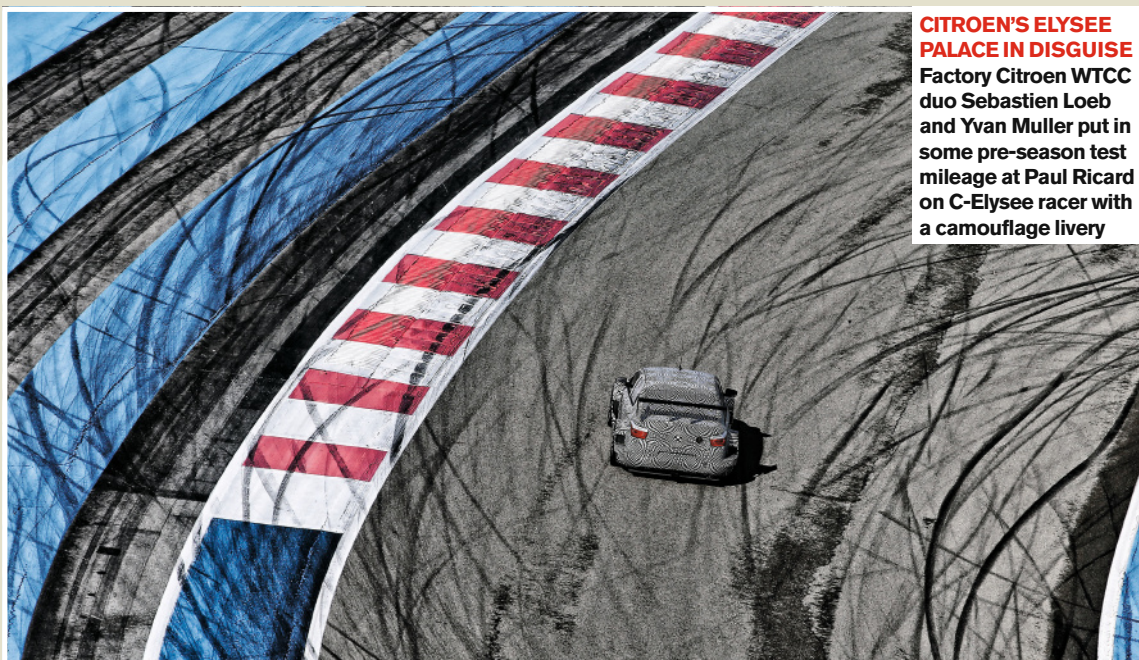
In pictures

Images around the globe, from Adelaide to Bahrain, via Phoenix and France



SKY'S THE LIMIT FOR WILLIAMS
Felipe Massa set the fastest time of the eight-days of Bahrain testing in the Williams-Mercedes FW36 prompting hope for a revival for this famous and well-loved British team

BOTTERRILL/GETTY



CITROEN'S ELYSEE PALACE IN DISGUISE
Factory Citroen WTCC duo Sebastien Loeb and Yvan Muller put in some pre-season test mileage at Paul Ricard on C-Elysee racer with a camouflage livery

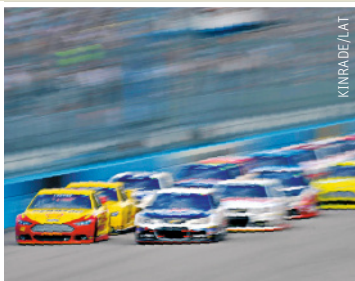
E MEUR/DPPI

JASON CAN'T KEEP IT BRIGHT SIDE UP
Brad Jones Holden Commodore driver Jason Bright was nerfed into a barrel roll in the third V8 Supercar race in Adelaide but he emerged from it all unscathed



KLYNSMITH/GETTY

PHOENIX RISES FOR HARVICK
Kevin Harvick (right), in just his second outing for Stewart-Haas, won a toe-to-toe battle with Penske Ford rival Joey Logano in the Arizona Sprint Cup race



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From £575 – twsteel.com

To mark the 20th anniversary of David Coulthard's F1 debut, TW Steel has produced an all-new CEO Tech watch, available in 44mm and 48mm. It sports a powerful, state-of-the-art Miyota 6S20 chronograph movement, sapphire crystal, a black silicon strap, is water-resistant, and has DC's name on the back of its stainless steel brushed case.



FERRARI 2014 F1 APPAREL

From £34.99 – autosport.com/shop

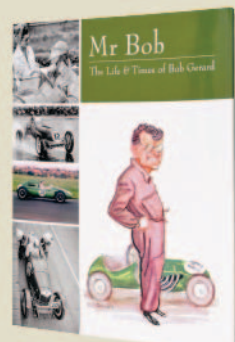
The official range of Ferrari F1 merchandise is now available and includes, once again, the four best-sellers: the baseball cap (£34.99), the Team T-shirt (£49.99), the Team poloshirt (£69.99) and the Team zip sweatshirt (below, £99.99). Check online for full product availability.



BOB GERARD BIOGRAPHY

£40 – porterpress.co.uk

Painstakingly researched and featuring a wealth of photos to complement the effort, *Mr Bob, The Life & Times of Bob Gerard* tells the story of this hardy post-war racing privateer who scored numerous victories for British marques, including Riley, ERA and Cooper. Above all, it's a feel-good story from a bygone era.



WHAT'S ON

ON TRACK AROUND THE WORLD

RALLY MEXICO

World Rally Championship
Rd 3/14
Guanajuato, Mexico
March 6-9
wrc.com

NASCAR SPRINT CUP

Round 3/36
Las Vegas, Nevada, USA
March 9
nascar.com

NASCAR NATIONWIDE

Rd 3/33
Las Vegas, Nevada, USA
March 8
nascar.com



After Sweden, WRC goes to opposite extreme: Mexico

AUTOSPORT SOAPBOX



Is poor reliability bad for Formula 1? EDD STRAW says bring it on

It's human nature to grasp for the worst-case scenario. By Formula 1 standards, Red Bull team principal Christian Horner's assertion at the start of the year that half the field might not make the finish of the Australian Grand Prix is a conservative one.

With uncertainty surrounding the performance and reliability of the new 1.6-litre turbocharged engines, there are plenty willing to make far more dramatic predictions. Some anticipate that the 22-car grid could make the early Renault turbos of 1977-78 (four finishes in 18 starts) seem dependable by comparison.

But is unreliability a bad thing? Frankly, no.

Clearly, if most of the field disappears in the early laps, that doesn't make for much of a race, as the six-car 2005 United States Grand Prix proved. But there was once a time when even the most uneventful race

was charged with a nervous energy.

Your favourite driver might have been leading by a country mile, but there was always the knowledge that the television pictures would cut to an image of their car billowing smoke. There were also days when the reverse might happen and your hero would inherit victory from a retirement. And even if this didn't happen, there was always the strong possibility that it might.

Predictability is a killer for interest in any sport. If you know the overwhelmingly likely winner before the big event even starts, it can only harm interest for all but the most committed, hardcore fan. As Sebastian Vettel's nine-race winning streak at the back end of last season went on, the knowledge that his car was pretty damned reliable led to an air of inevitability rather than excitement.

In 2013, a car started a grand prix on 417 occasions. They were classified as finishers

366 times (87.8 per cent) and running at the finish on 351 occasions (84.2 per cent). Both are records.

For much of the history of the world championship, finishing rates have floated in the 40-60 per cent range. Using the runners-at-the-finish figures (cars that actually take the chequered flag, regardless of how many laps they are behind, but disregarding retirements who have completed enough laps to be classified), the least-reliable season in F1 history was 1984. Then, just 39.8 per cent made the chequered flag.

From 1950 (finishing rate 47.4 per cent) to 2002 (finishing rate 56.9 per cent), the average figure was 51.5 per cent. In 2003, the figure broke through the 60 per cent barrier for the first time, with 64.4 per cent making the end, and the general trend since then has been for this figure to rise.

The reasons for this increase are clear. While there has been a general

improvement in the quality-control procedures and thoroughness of teams, a major rule change for the 2003 season is key. Namely, the placing of cars into parc ferme after qualifying.

Another rule that many criticised as guaranteed to increase the number of retirements was the restriction of engines that could be used. In 2004, a rule requiring a single engine to be used for an entire race meeting was introduced, yet the finishing rate increased to 72.2 per cent.

With the new-for-2014 engines not having run in a real-world situation as yet, it is surely inevitable that reliability will drop. It's also important to remember that this is not dependent solely on the engines, but also the new cars and the effectiveness of the engine packaging.

As per Horner's scenario, let's say only 11 cars make the finish in Melbourne, which will inevitably lead to plenty of complaints. That 50 per cent rate would be pretty close to the pre-2003 finishing average of 51.5 per cent and not far short of the overall average of 55.6 per cent for the 64 seasons of the world championship. Perfectly acceptable.

Arguably, the most serious concern about engine unreliability in 2014 is the potential for chaotic grids as various 10- and five-place penalties strike in the closing stages of the season as teams bust their limits on replacement engine elements. But in the races themselves, where even a dominant car on pace could have a 50 per cent chance of failing, such unpredictability can only add to the drama of the season.

Knowing that, even on the final lap, the leader could hit trouble is guaranteed to keep a few more television viewers watching until the end.

And that's no bad thing.



"And Alonso stops!"
 Will this be repeated during races in 2014?

Your guide to the best events taking place in the UK and around the world – plus TV and online

ON TELEVISION

THURSDAY MARCH 6

1330-1645 Sky Sports F1
 F1 testing: Jerez round-up
1430-1500, 2200-2330 BT Sport 2
 WRC Magazine: Rally Mexico preview
1445-1750 Motors TV
 V8 Supercars: Adelaide highlights
1700-2000 Sky Sports F1
 F1 testing: Bahrain (test one) round-up
2000-2300 Sky Sports F1
 F1 testing: Bahrain (test two) round-up

FRIDAY MARCH 7

0845-0915, 1315-1345 ESPN
 NASCAR Now
1530-1600 BT Sport
 WRC Magazine: Rally Mexico preview
1600-1700 BT Sport LIVE
 WRC Rally Mexico: day two
2000-2100 Sky Sports F1 LIVE
 F1 Show
2100-2300 Sky Sports F1
 F1 Race of the Century: the winner

SATURDAY MARCH 8

0600-0700 Sky Sports 3
 Max Power
0715-0815, 1215-1245 BT Sport 2
 WRC Rally Mexico: day-one highlights
0900-0935, 1105-1135, 1620-1650, 2000-2030 Motors TV
 WRC Rally Mexico: day-one highlights
1100-1345 Sky Sports F1
 F1 testing: Jerez round-up
1530-1830 Sky Sports F1
 F1 testing: Bahrain (test one) round-up
2100-0005 Motors TV LIVE
 NASCAR Nationwide: Las Vegas
2100-2300 Sky Sports F1
 F1 Race of the Century: second place



NASCAR Nationwide is live on Motors TV

2300-0000 BT Sport LIVE
 WRC Rally Mexico: day two

SUNDAY MARCH 9

0630-0730, 1045-1115 BT Sport 2
 WRC Rally Mexico: day-three highlights
0830-0900, 1105-1135, 1445-1515, 1750-1825 Motors TV
 WRC Rally Mexico: day-two highlights
1400-1700 Sky Sports F1
 F1 testing: Bahrain (test two) round-up
1800-1900 ESPN LIVE
 WRC Rally Mexico: Powerstage
1845-2300 Premier Sports LIVE
 NASCAR Sprint Cup: Las Vegas
2100-2300 Sky Sports F1
 F1 Race of the Century: third place
2230-2330 BT Sport
 WRC Rally Mexico: day-three highlights

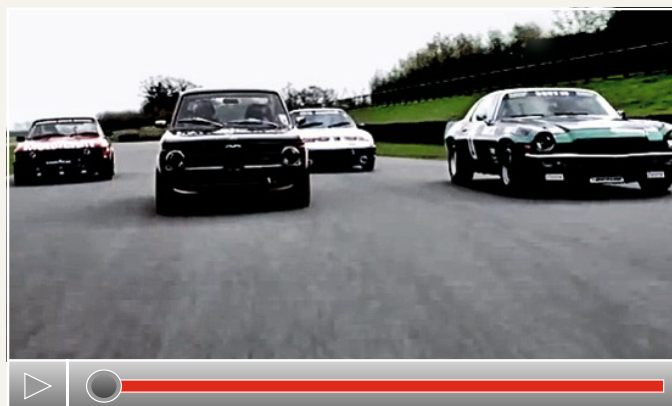
MONDAY MARCH 10

0745-0845, 2200-2300 ESPN
 NASCAR Sprint Cup: Phoenix highlights
0900-0930, 1105-1135, 1620-1650, 2000-2030 Motors TV
 WRC Rally Mexico: day-three highlights
0930-1030 BT Sport
 WRC Rally Mexico: review
2100-2200 Sky Sports F1
 F1 classics: Australian GP 1985

ONLINE

HOT ON THE WEB THIS WEEK

YouTube **GOODWOOD 72MM HOUSE CAPTAINS' TEST SESSION**



SEARCH FOR: Racing legends, Group 1 Saloons on track at Goodwood (4:01)
 The four house captains for the forthcoming 72nd Members' Meeting – Jochen Mass, Nicolas Minassian, Emanuele Pirro and Anthony Reid – take to the Goodwood Motor Circuit in their Group 1 touring car steeds and indulge in a bit of pre-event banter.

AUTOSPORT+

Exclusive content coming up in our premium website this week

With just over one week until the F1 season kicks off, our team has trawled through the testing data to contribute to AUTOSPORT's championship prediction – just part of a plethora of preview features. On top of that, Rally Mexico Live will be running throughout the weekend.

GET AUTOSPORT ON THE MOVE

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Revved up over what's on the box

Kylie and Jason. Castlemaine XXXX.

Harry Kewell. The boomerang. *Home & Away*. Rolf Harris and his wobble board... There have been plenty of famous Australian exports, but on Saturday it was a down under import from Europe that was making all the headlines.

Swedish marque Volvo's arrival in V8 Supercars coincided with the splendid news that Motors TV – home of tractor pulling, Best of Crash (or as I like to think of it 'Worst of Muzak') and remote-control car racing – has arrived on Freeview (channel 240). V8 Supercars is Motors' flagship series, coupled with live World Endurance Championship, United Sportscars and NASCAR Nationwide. And while the casual motorsport fan might

consider those series relatively niche, there's some darned good racing on offer.

Take the Aussie tin-tops. Saturday morning's live coverage of race two at the Clipsal 500, around a shortened version of



McLaughlin made hay as Aussie sun shone

the mega former Australian GP track in Adelaide, provided perfect hangover-recovery TV. Straight from the warm-up lap (thermal camera showing cars burning-out off the grid was a smart idea) we were treated to some thrilling side-by-side racing from Volvo's Scott McLaughlin and Holden's Jamie Whincup, which culminated in an amazing last lap.

Champ Whincup grabbed the place with an epic around-the-outside move, only to run wide at the final corner and McLaughlin got him back at the finish line. "80,000 folks have just seen a classic – he's no Sunday Volvo driver, he's a Saturday Volvo racer!" crowed the lead commentator. It was a blinding spectacle – with great production values.

And just when you thought the racing was un-toppleable, the post-race interviews were pretty spicy too. "Holy cow!" cried ecstatic youngster McLaughlin as the locals went wild in the grandstands. "I guess the Volvo jokes have gone now. I was an idiot and let him catch up too much – at the end, I just plucked it in first, gave it some jandal and... fuckyeah!"

Obviously this kind of language is unacceptable as it was being broadcast at 9am. So enraged was I that I immediately powered up my laptop and Googled what the heck a 'jandal' was. Turns out it's Antipodean slang for flip-flops.

Stick to the swearing, Scott, you flamin' galah – we all know what that means. **Revved Up**

Carlos Reutemann

“Mr Ecclestone gave me a nice surprise: a brand-new Cosworth DFV”

■ South African GP, Kyalami ■ March 30, 1974 ■ Brabham BT44 ■ First world championship F1 win



Reutemann celebrates his first F1 win aboard Ecclestone's Brabham

AFTER THE 1974 ARGENTINIAN and Brazilian Grands Prix, some of us went to South Africa to test – there was a non-points race at Brands Hatch in between, with temperatures 30C less than in South America – prior to the GP there.

It was a very picturesque venue, the place where some of the teams stayed was Kyalami Ranch, near the circuit, and it had tennis courts and a swimming pool, which was terrific for the summer season.

During practice we were shocked by Peter Revson's tragic accident, he practically went straight off the track aboard his Shadow at Barbecue Bend, most probably due to a technical problem. To think that some moments before we had been sharing the pool and playing tennis.

That week's testing showed that the BT44 designed by Gordon Murray was very agile in the opposite sector of the track, and very fast down the main straight.

Niki Lauda was fastest in qualifying, and I was fourth. After

qualifying, Mr Ecclestone gave me a nice surprise: I was going to use a brand-new Cosworth DFV (number 150), just received from Northampton, for the race. For a driver, nothing compared with the fact of seeing a new DFV just arrived from Cosworth; there was something about them. I had used a new one also in Argentina that year, #154.

On the mornings of the races there

were always some doubts regarding which tyre compound to use. Bert Baldwin, from Goodyear, already accustomed to being asked this question, used to place a smiling puppet on the right-hand side of his shirt with the numbers of the recommended compounds written on it. That morning the numbers were: 07/00 86/87-07/35.

Lauda grabbed the lead at the start

and I tucked in close behind. My car was very fast from Barbecue Bend to ('flat-flat') Jukskei until Sunset, prior to Club House, and also very fast after Leeukop, which preceded the main straight, down which the BT44 was literally flying.

I got past Lauda on lap nine, and I edged away to take my first world championship win. About 10 laps from the end I had a lot of front-end vibration, which had worried me.

The next morning, the race organisers gave out the awards in a house on the outskirts of Johannesburg, with delicious, barbecued meat being served. They handed me a trophy in the shape of a woman carved from a light-green rock, with a golden chain hanging around her neck. I shared the table with Ed Alexander, of Goodyear – he was very happy that the 07/00 tyres had worked out so well.

I had taken my first F1 win, and it is the one that I most remember. ✖ Carlos Reutemann was talking to Tony Watson

PROFILE



CARLOS REUTEMANN BEGAN

his career in Argentina's touring car divisions. He graduated to single-seaters, soon winning in local and European F2 events. He made his F1 debut in '72 and won 12 GPs for Brabham, Ferrari and Williams. He also raced in sportscars for Ferrari and Alfa Romeo and took two WRC podiums for Fiat and Peugeot. Now 71, he's been active in Argentinian politics since the start of the '90s.

NEXT WEEK MERC'S DYNAMIC DUO
Exclusive: Hamilton & Rosberg go head-to-head



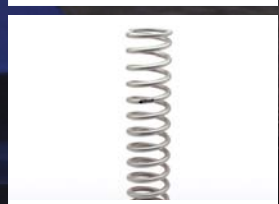
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