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F1 2013

GUIDE



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Pole Position

Your new-look guide to F1 2013 starts here

WELCOME TO OUR 2013 FORMULA 1 SEASON GUIDE, the first issue of the new-look AUTOSPORT. This magazine is literally bigger than before and, we hope, better than ever, too.

Our team of experts has been pounding the pitlane and paddock during testing at Barcelona to give you the inside line on every team and each driver (and yes, Sutil and Bianchi are in the correct places!) ahead of the opening grand prix of the season in Melbourne in just 10 days' time.

We've gathered the expertise of Damon Hill and Anthony Davidson for our in-depth F1 preview, as well as the thoughts of Sir Stirling Moss about life as a Mercedes superstar and how he thinks Lewis Hamilton will fare. Over the coming weeks you'll see our new style of race reportage, detailing far more of the 'why' rather than the 'what'. With news dating so quickly in this internet age, we've bite-sized many stories to free-up space to develop deeper-read analysis of the topics that really matter.

Our aim is to deliver a weekly compendium of the week's essential events and agenda-setting scrutiny of the hottest topics, and to keep making the best motor racing weekly in the world.

Charles Bradley

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Bamber's week



Find us on



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We look behind the times, page 14

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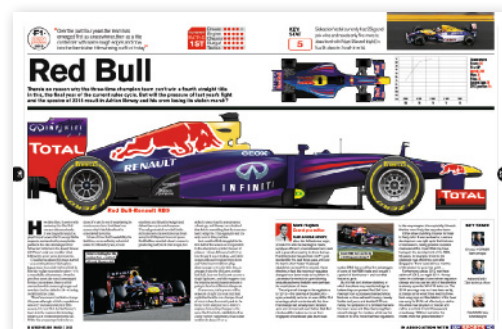
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Jan Magnussen, Macau F3 GP 1994

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THE BIG PICTURE

Even three-time world champions aren't always perfect! Sebastian Vettel experiences gravel rash in testing at Barcelona's Turn 5 last week in his new Red Bull RB9





The key stories from the past seven days

This week in F1

SUTIL MAKES COMEBACK

Adrian Sutil returns to F1 with Force India this season after beating Jules Bianchi to the second seat alongside Paul di Resta. Force India had attempted to build a deal for Bianchi around a Ferrari engine supply contract for 2014, but this did not come off.

Sutil, a veteran of 90 grands prix for Spyker/Force India from 2007-2011, insists that he deserves a second chance despite last year's conviction for causing grievous bodily harm to Lotus team co-owner Eric Lux.

Sutil said of the incident: "Everyone can make mistakes in life. If you never make mistakes you will never grow."



8

PICS: THOMPSON/GETTY; DUNBAR, EBREY, GRIFFITHS/LAT; ILLUSTRATION: PIOLA

A while ago when I heard there was potential that he would get the seat, I said I would pray for him, that I really hoped he gets it, that he deserves it



Lewis Hamilton on what he told old friend Adrian Sutil via email

Bianchi takes Razia's place at Marussia

After missing out on the Force India drive, Jules Bianchi sealed an 11th-hour deal to race for Marussia this season. This followed the team's decision to terminate Luiz Razia's contract.

Razia had been signed on the basis of significant backing, and after a seven-figure sum was paid ahead of the first test at Jerez, a subsequent payment was missed. The team allowed an extension but when the final deadline passed last Friday afternoon, the deal with Bianchi was completed.





JAAFAR GETS MERC RUN

Malaysian Jazeman Jaafar will drive a Mercedes F1 car in a demo around the Petronas Twin Towers in Kuala Lumpur on March 17. The 2012 British F3 runner-up will share the driving with Sam Bird.



Razia had two F1 test days

Razia not giving up

Luiz Razia is determined to recover from losing his Marussia drive after being let down by his sponsor. "I did everything right, but it was just a circumstantial thing that happened," he said. "But I'm still here."

12

Out of the 22 drivers who will start the season-opening Australian Grand Prix, a remarkable 12 of them – over half – came through the ASM/ART Grand Prix team. They are: Sebastian Vettel, Romain Grosjean, Lewis Hamilton, Nico Rosberg, Nico Hulkenberg, Esteban Gutierrez, Paul di Resta, Adrian Sutil, Pastor Maldonado, Valtteri Bottas, Giedo van der Garde and Jules Bianchi.

CATERHAM REVEALS RESERVES

Alexander Rossi and former HRT Friday driver Ma Qing Hua will be Caterham's reserves in 2013. Ma will dovetail this role with racing for the Caterham GP2 team.



Chinese racer Ma in GP2 testing

TOP 3... Near-miss F1 careers

Luiz Razia isn't the first driver to have his F1 debut snatched from him.

Jose Maria Lopez

Brought substantial sponsorship to race for the new USF1 outfit for 2010, only for the team to collapse before the season started.



Oliver Gavin

Was due to race for Pacific in the 1995 Australian GP but was informed after his seat-fitting that he wouldn't be driving. The official reason was a Superlicence glitch.



Christophe Bouchut

Was set to race for Larrousse in 1995, but the French outfit was disbanded, leaving him in F3000.



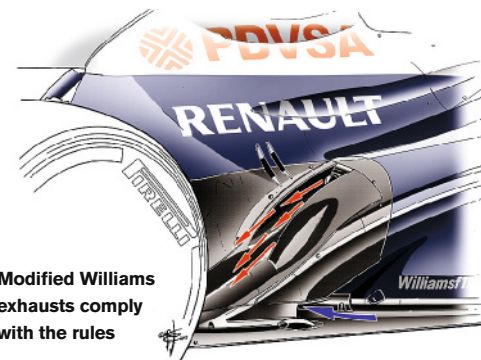
FIA BLOCKS RENAULT ENGINE MAP CHANGE

Renault has been prevented from making changes to its baseline engine map this year. The FIA has informed the French manufacturer that the baseline engine maps, from which it is not allowed to diverge by more than two per cent, must remain unchanged for 2013.



VALSECCHI'S OUTING

Davide Valsecchi had a surprise call-up to drive for Lotus in place of an ill Kimi Raikkonen on the third day of last week's Barcelona test. The GP2 champion completed 16 laps before Romain Grosjean took over.



Modified Williams exhausts comply with the rules

Controversial exhaust vanes are dropped

Both Williams and Caterham dropped the vanes located in the Coanda channel of their cars at the final Barcelona test. This followed the FIA informing both teams that it considered their designs to be illegal because the sides of the channel were no longer vertical or sloping outwards.

Goss becomes McLaren's new technical director

Tim Goss has been promoted to technical director at McLaren after Paddy Lowe committed to joining Mercedes from 2014. McLaren managing director Jonathan Neale denied that

losing Lowe had been a "management slip-up" and said: "Slavery was abolished a long period of time ago. It's really difficult to indenture someone."



The 2013 Castrol EDGE Grand Prix Predictor is open for entries. Test your F1 knowledge against an expert panel comprising Karun Chandhok, Timo Glock and triple WTCC champion Andy Priaulx by predicting the top 10 in each GP. Players who sign-up by March 11 will also be entered into a prize draw to win a 10" Samsung Tab 2 tablet device. Visit predictor.autosport.com to play.

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Mark Hughes

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We could be facing a season of top teams sacrificing Q3 for tyre strategy. Which means jumbled grids and great racing

The final Barcelona test appeared to suggest that the top five Formula 1 teams may be separated by only a couple of tenths in qualifying (see p17). If this proves to be the case, that's effectively the whole Q3 part of the grid.

We shouldn't be too confident in predicting actual form, based as it is on so many assumptions, but if that turns out to be accurate it has some intriguing implications. If Red Bull, Lotus, Mercedes, Ferrari and McLaren really are all of a group, and if they are only a few tenths clear of Williams (and maybe Force India and Sauber too), then it would probably be necessary even for potential pole contenders to make two option-tyre runs in Q2 in order to graduate to Q3.

Pirelli reckons it has increased the performance gap between the compounds as part of its new range of tyres, so that the option is expected to be worth at least 0.5-0.6s over the prime. Therefore two good, option-tyred runs in Q2 from a lower-order team would likely knock out any top car trying to get by on just a single Q2 run, thereby compounding the dilemma created by having an extra two genuinely fast cars in the mix compared to last year, when only four of those big five had genuinely competitive machines at any one time – and when the spread among them was much bigger than 0.2s. If our 2013 testing



“We may get middle-order teams filling the top of the grid but racing on knackered tyres”

analysis turns out to be accurate, there would no longer be a couple of ‘soft’ Q3 places available that allowed you to save tyres in Q2. Furthermore, the pressure to use up a set of options even in Q1 is increased by the fact that HRT has gone, so there will be two scalps stuck there in addition to the cars of Marussia and Caterham.

But though the pressure to use up your tyres on Saturday has increased, the penalty for that becomes harsher on Sunday. Bring into the mix that the tyres have deliberately been made to degrade faster to ensure more pitstops, and suddenly there are yet more Sunday upsides of saving tyres on Saturday. With shorter stint lengths, each extra lap you can avoid putting on your tyres in qualifying is extra valuable. At circuits where overtaking is possible, where starting position is not necessarily king, there may be real benefits in not even making Q3. Or at least in not sacrificing new tyres if you get there.

Think back to Kimi Raikkonen almost winning from 11th on the Bahrain grid last year, or Sergio Perez taking sparkling podiums from unpromising slots of 15th and 13th respectively in Canada and Italy. These results were

based largely on the big tyre-strategy advantage that resulted from not making Q3. In the case of Lotus and Raikkonen it was a deliberate decision, surrendering surefire Q3 qualification by spurning a second Q2 run. In the Perez examples it was more of a happy upshot after genuinely failing to make the run-off.

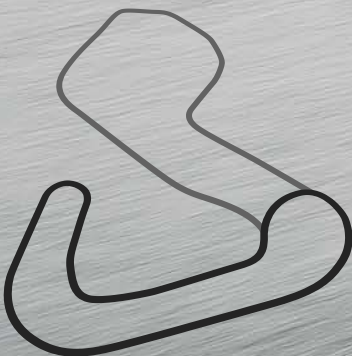
For 2013 there are a lot of factors apparently pushing you further in the direction of just opting out of Q3. Will any of the top teams be brave enough to gamble the way Lotus did with Raikkonen in Bahrain last year? If that should turn out to be the foundation for a victory, could the tactic become more widespread? Taken to its logical conclusion, we may get the fascinating prospect of the middle-order teams filling the top half of the grid but consigned to racing on knackered old tyres, with the truly fast cars in the middle of the grid all on nice new fresh rubber and at a strategic advantage.

Mixing the fast cars up with the slow in order to get overtaking has long been one of the wishes of the regulation makers. Has F1 just stumbled onto the ideal set of circumstances to create exactly that?

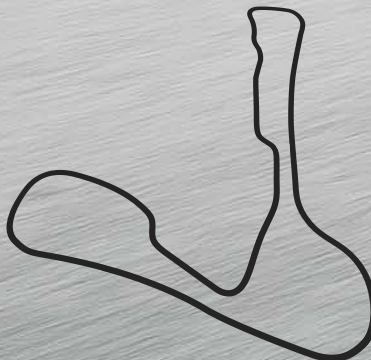
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Red Bull narrowly

As F1 teams get ready to head to Australia, AUTOSPORT picks out the

Red Bull has stayed in the shadows during pre-season

14

A glance at the headline times from last week's final pre-season Formula 1 test at Barcelona shows that Red Bull was 2.384 seconds off the pace. Yet by common consensus, the team that has dominated the sport for the past three years heads into next week's first race of the season in Australia with a slender advantage of perhaps a couple of tenths of a second over the chasing pack. Given the assumptions inherent in estimating performance, two tenths is hardly decisive.

Red Bull keeps its cards very close to its chest in testing and rarely runs with much less than half a tank of fuel on board. It also did relatively little running during the best of the track conditions on the final two days of the test. This makes it very difficult to make a fair comparison.

AUTOSPORT's Mark Hughes explains on page 17 the mesh of assumptions, experience and evidence that leads to the conclusion that Red Bull has the edge. This also suggests that the chasing pack of Ferrari, Lotus, Mercedes and McLaren is jockeying to be the leading challenger. You can even make a strong case for Mercedes to be the best-placed of that quartet.

"One team that have been consistently quick and consistent in their runs are Mercedes, more than anyone else," said Jenson Button on Saturday. His was not a lone voice, with plenty of admiring comments flying around the paddock. Last season



Mercedes also started strongly, with Michael Schumacher qualifying second in Australia, and the early indicators are that tyre degradation should not be as big a problem for the team as it was last year.

Mercedes' Nico Rosberg accepts that the team is in a better position than it was 12 months ago, but remains wary.

"You need to be really careful about

the pace," he said. "I know for a fact that other competitors haven't shown anything near what they're able to do. Red Bull is a big uncertainty."

McLaren has shown regular flashes of pace, but Button has admitted that the team's understanding of the MP4-28 is still not as comprehensive as it should be. This is exacerbated by the length of time it is taking to

make set-up changes to the car.

Despite that, he is confident that, fundamentally, the car is promising.

"It's a nice car to drive and there's nothing that scares me about it, but I still feel that we can do a lot more with it than we are at the moment," he said. "That's the exciting part – there is still room for improvement."

Lotus has also had its problems, completing less mileage than any other team at Barcelona thanks to technical issues that it is confident will not carry over into the season. But the car has been arguably the standout machine on handling. The improved tyre-warm-up characteristics from the 2013 Pirelli rubber should ease the qualifying problems Lotus had last year.

At Ferrari, Fernando Alonso has talked up expectations of gunning for the world championship, although the 2005/06 champion has hinted that there is still ground to be made up. An aggressive series of upgrades is planned for early in the season, starting in Australia, with the F138 still appearing to lack the traction and rear downforce of some of its rivals. But technical director Pat Fry believes that understanding, not raw pace, will be key early on.

"There are still going to be a lot of people learning things in Melbourne," said Fry. "Here [Barcelona], the tyres grain massively so what you see here is not necessarily going to carry over to Melbourne. There will be a few surprised and a few shocked people."

out front

hints from testing about the competitive order

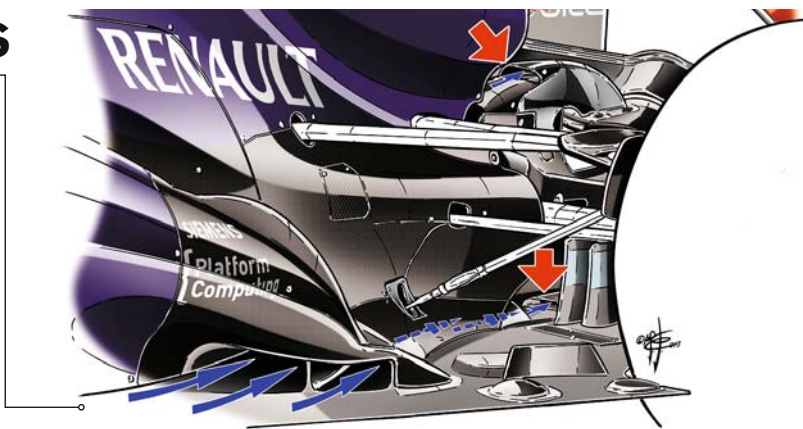


RED BULL BARCELONA UPDATES

PASSIVE DRS

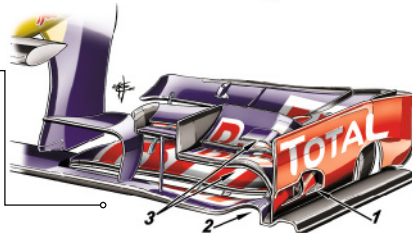
→ The top arrow indicates the inlet duct for the new passive DRS. Unlike designs tried by other teams, this system uses the differing pressure characteristics of the area behind the beam wing itself. The upper-flow route goes through a 'periscope' to partially stall the upper wing surface.

Gary Anderson: "Red Bull has the inlet for the duct just ahead of the beam wing to use the consistent low pressure behind it. As the speed of the car increases, so the negative pressure behind the upper wing will grow faster than that behind the beam wing. At some point the negative pressure of the upper wing will overtake that behind the beam wing and the flow will switch to the upper, reducing the drag. It's probably a better system than the fluidic switch designs we've seen on other cars as the pressure will be more consistent."



FRONT WING

→ Red Bull's new wing features extra ducts (1) in the endplate feeding into the multiple slot gaps situated in the transition between main plane and endplate, which were introduced in the latter part of last year. The attachments of the upper flaps to the endplate (2) are more rounded than before. The vortex generator (3) has also been given enhanced curvature. **Gary Anderson:** "If you have a bigger endplate section, you have a smaller wing section and you're trying to find what gives the most downforce for the least sensitivity. The performance of these slot gaps at the outboard end work hand in



hand with the underside of the wing. As the car rolls under cornering, that outer part of the wing gets very close to the ground and tends to stall. The bump on the underside is there to prevent that. Because it's not as prone to switching off as a flat panel would be, this gives you a bit of an air cushion and keeps the outer part of the wing working."

TRACKSIDE ANALYSIS

Our technical expert Gary Anderson went trackside at Barcelona last week to run the rule over the cars once they had bolted on their Melbourne-specification parts.



RED BULL

The RB9 hasn't done the eye-catching lap times, but on the track the car looks very good. It has grip and a good balance, and drivers can put the power down with confidence and no major dramas. We never saw the car on anything like low fuel, but there's no reason why it won't be very competitive once it is.



FERRARI

We saw the F138 on low fuel, which made it look much livelier than the Red Bull ever did. On fresh rubber it looks pretty good, but the rear end does tend to give up a little. It's not a major problem because it's very progressive and certainly fixable. But the danger is that you compromise other areas by fixing it.



McLAREN

This is a confusing case. At Jerez the car appeared to have fundamental understeer that was there even when going slower in the corners. At Barcelona there were places where it was very obvious that the front end was giving up. Maybe it's because McLaren hasn't got on top of the pullrod front suspension.



LOTUS

Just as last year, the car looks very good. When the drivers brake late, it's always easy to get it into the apex and that suggests a strong front end. It looked good in the damp as well, suggesting traction is good. Hopefully there is a little more downforce than last year's E20 had.



MERCEDES

The F1 W04 has been the surprise package. The drivers can really lean on the car. There's always a touch of understeer or oversteer, but the car is very responsive. Ultimately, how good it is depends on the fuel loads that the team has been running.

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Teams will have a rough idea of how Oz GP grid will look

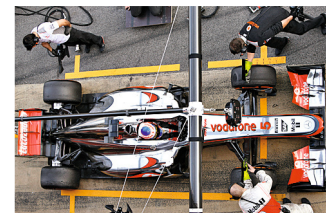
LONG RUNS LOOK GOOD FOR LOTUS

The long runs during Barcelona testing were inconclusive, with insufficiently lengthy stints to make judgements on either Ferrari or Red Bull. But there were indications that Lotus excels when it comes to making the tyres last.



FEBRUARY 21 Romain Grosjean, Lotus

This afternoon run, included in our long-run analysis last week (AUTOSPORT, February 28) included a stint during which Grosjean showed remarkable consistency with by far and away the best degradation we saw from anyone. Taking fuel effect into account, he lost just five-hundredths of a second per lap through degradation.



MARCH 3 Jenson Button, McLaren

The McLaren driver completed a 14-lap run on hard Pirellis on Sunday afternoon. Taking into account the fuel effect, 1.274s for that length of run, he was lapping around 2.4s slower at the end. That equates to a tyre degradation per lap of 0.26s. A second run using the same tyre compound was better, with Button losing around 0.23s per lap. He then completed a 10-lap run on medium-compound rubber, with a fuel effect of 0.91s and degradation figure of 0.21s per lap.



MARCH 3 Nico Rosberg, Mercedes

Rosberg completed a 16-lap run on medium rubber on Sunday afternoon. Taking into account a fuel effect of 1.456s, he was lapping 1.06s slower by the end of it. This equates to deg of 0.157s per lap.

LAPTIME ANALYSIS: QUALIFYING HINTS

MARK HUGHES gives an insight into how things might look in Australia, based on the usual pre-season test behaviour of the top F1 teams

With a vast range of fuel and tyre variables, it's very difficult to judge the relative performance of the 2013 cars. But last week's final pre-season test – with teams having had plenty of time to understand their cars and the Melbourne-specification packages being added – offered the best opportunity to have a stab at calling the competitive order.

Each team has its own baseline fuel weight, which it uses for testing and

practice. They will fuel to this set baseline, plus enough fuel for the number of laps planned for the run. The laptime penalty for the weight will be known, meaning it's simple to calculate how fast the car could go without revealing it to the world.

By analysing the test times from last year, compared with the competitive order revealed at the season-opening Australian GP, we can estimate baseline weights that each team ran pre-season.

ESTIMATED TESTING FUEL LOADS

Red Bull	70kg
McLaren & Lotus	60kg

Apart from Mercedes, which showed an anomalous pattern, the others appear to have run between 10kg and 30kg as a baseline weight.

It's quite normal for teams to use the same baseline fuel weight from one year to the next, as it enables direct comparison with last year's car.

So if we apply these assumed baseline weights to the 2013 test times, we get the following calculated theoretical best laps of Barcelona this year in qualifying trim.

THEORETICAL BEST LAPS

Red Bull	1m19.3s
Ferrari/Mercedes/Lotus/McLaren	1m19.5s
Williams (believed to be on 70kg)	1m19.8s

There are a lot of assumptions in there, but they are logical ones and it's intriguing that they suggest such an incredibly tightly-packed competitive order ahead of the first race.



Car parts and fuel loads are shrouded in secrecy at tests

Testing in numbers

TOTAL 2013 CAR MILEAGE

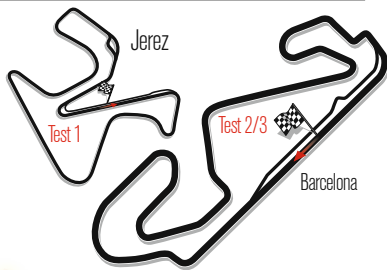
Sauber	3297
Mercedes	3246
Ferrari	3053
McLaren	2976
Red Bull	2863
Caterham	2804
Toro Rosso	2799
Force India	2783
Marussia	2279
Lotus	2192
Williams	1923

TOTAL NUMBER OF MILES COVERED

F1 TEST TIMES, BARCELONA, FEBRUARY 28-MARCH 3

POS	DRIVER	CAR	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1	Nico Rosberg (D)	Mercedes F1 W04	-	1m26.655s	-	1m20.130s
2	Fernando Alonso (E)	Ferrari F138	-	1m27.878s	-	1m20.494s
3	Lewis Hamilton (GB)	Mercedes F1 W04	1m24.348s	-	1m20.558s	-
4	Felipe Massa (BR)	Ferrari F138	1m27.541s	-	1m21.266s	-
5	Jenson Button (GB)	McLaren-Mercedes MP4-28	-	1m23.181s	-	1m21.444s
6	Nico Hulkenberg (D)	Sauber-Ferrari C32	-	1m23.744s	-	1m21.541s
7	Adrian Sutil (D)	Force India-Mercedes VJM06	-	1m24.215s	1m21.627s	-
8	Kimi Raikkonen (FIN)	Lotus-Renault E21	-	-	-	1m21.658s
9	Paul di Resta (GB)	Force India-Mercedes VJM06	1m27.107s	-	-	1m21.664s
10	Pastor Maldonado (YV)	Williams-Renault FW35	-	1m23.628s	1m22.305s	1m22.415s
11	Valtteri Bottas (FIN)	Williams-Renault FW35	1m26.458s	-	1m22.468s	1m22.524s
12	Sebastian Vettel (D)	Red Bull-Renault RB9	-	1m23.743s	-	1m22.514s
13	Esteban Gutierrez (MEX)	Sauber-Ferrari C32	1m26.574s	-	1m22.553s	-
14	Mark Webber (AUS)	Red Bull-Renault RB9	1m22.693s	-	1m22.658s	-
15	Sergio Perez (MEX)	McLaren-Mercedes MP4-28	1m26.538s	-	1m22.694s	-
16	Romain Grosjean (F)	Lotus-Renault E21	1m34.928s	1m22.716s	1m23.380s	-
17	Charles Pic (F)	Caterham-Renault CT03	1m28.645s	-	-	1m23.115s
18	Jules Bianchi (F)	Marussia-Cosworth MR02	-	-	1m24.028s	1m23.167s
19	Jean-Eric Vergne (F)	Toro Rosso-Ferrari STR8	1m25.017s	-	1m23.223s	-
20	Davide Valsecchi (I)	Lotus-Renault E21	-	-	1m23.448s	-
21	Daniel Ricciardo (AUS)	Toro Rosso-Ferrari STR8	-	1m25.483s	-	1m23.628s
22	Max Chilton (GB)	Marussia-Cosworth MR02	1m28.166s	1m25.598s	-	1m24.103s
23	Giedo van der Garde (NL)	Caterham-Renault CT03	-	1m26.316s	1m24.235s	-

Total laps: 10,902
 Test 1: 3531
 Test 2: 3439
 Test 3: 3932



18



NUMBER OF DRIVERS WHO APPEARED...



26

Esteban Gutierrez 607 laps

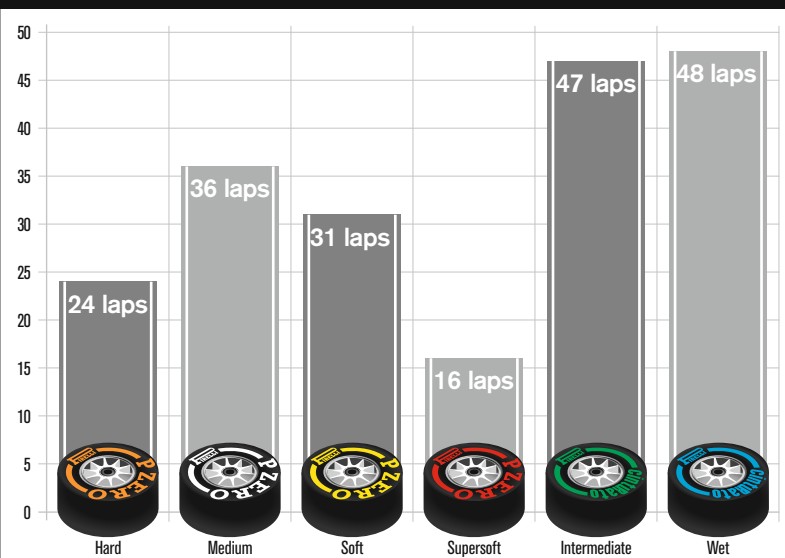


Adrian Sutil 249



Sauber's Gutierrez completed more laps than anyone else during testing. Force India returnee Sutil did the fewest laps by a race driver.

LONGEST RUNS PER TYRE COMPOUND



WINTER TEST CHAMPIONSHIP

What if overall test times counted for points? Using the regular points system, awarded for the top 10 in each of the three four-day tests, it looks good for Ferrari, with Felipe Massa winning on countback.

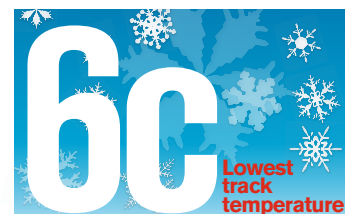
DRIVERS

1	Felipe Massa	37
2	Nico Rosberg	37
3	Fernando Alonso	36
4	Kimi Raikkonen	28
5	Sergio Perez	25
6	Romain Grosjean	24
7	Nico Hulkenberg	23
8	Sebastian Vettel	20
9	Lewis Hamilton	18
10	Jules Bianchi	15



CONSTRUCTORS

1	Ferrari	73
2	Mercedes	55
3	Lotus	52
4	McLaren	37
5	Sauber	31
6	Force India	26
7	Red Bull	20
8	Williams	6
=	Toro Rosso	6
10	Marussia	0
11	Caterham	0



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The key stories from the past seven days

Pit & paddock

DELTAWING'S NEW LINE-UP

Olivier Pla and Andy Meyrick will race the latest version of the DeltaWing experimental racer on its debut at the Sebring 12 Hours on March 16. Team manager Dave Price, who has previously worked with both, said he wanted known quantities to race the car, which now has a Mazda-based Elan engine and will run on Bridgestone tyres.



“I’m really pleased to return to top-level racing. I still have a lot to learn in rallying and to improve. I need to rack up the miles.”



Robert Kubica on what’s shaping up to be a busy year in WRC2 and ERC in his Citroen DS3 RRC.

Chilton gets RML Chevy

RML will compete as an independent outfit in World Touring Cars this year after winning the past three titles as Chevrolet’s factory squad. Three-time world champion Yvan Muller will be joined in the two-car squad of Cruze 1.6Ts by Tom Chilton, who moves over from the Arena Ford team in the wake of Rob Huff’s switch to SEAT squad Munnich Motorsport.



Chilton (r) with boss Ray Mallock

MORE WRC TV UNCERTAINTY

ITV4’s WRC coverage does not currently extend beyond Rally Mexico highlights scheduled for March 12. As AUTOSPORT closed for press, the WRC’s promoter and the broadcaster had not reached an agreement for the rest of 2013.

BRDC NAMES NEW SUPERSTARS

Auto GP champion Adrian Quaife-Hobbs, Jake Dennis, Jack Hawksworth, Sam Tordoff, Tom Sharp, Jack Goff and Jordan King have been added to the BRDC Superstars

programme, joining the eight existing members: Ben Barker, Dean Stoneman, Jack Harvey, Alex Lynn, Jolyon Palmer, Oliver Rowland, Alex Brundle and Alexander Sims.

RML IN THE WTCC

66 WINS

POLES 36

Not including reversed grids

5 WINNING DRIVERS

STARTS 180

65 FASTEST LAPS

TOTAL NUMBER OF TITLES WON 9



BRITS TO RACE FOR OAK

The French OAK Racing squad will have two Brits in its 2013 World Endurance Championship line-up after signing Alex Brundle and Martin Plowman. Brundle, who raced with OAK twice last year, will share one Morgan-Nissan LMP2

with Olivier Pla and David Heinemeier Hansson, while Plowman, the class runner-up in the American Le Mans Series last year, will be joined in the other entry by Bertrand Baguette and Ricardo Gonzalez.

CARROLL JOINS McLAREN ROSTER

Adam Carroll, who took Team Ireland to the final A1GP title in 2008/09, has been named as a factory McLaren GT driver, joining Alexander Sims, Rob Bell and Alvaro Parente. His first confirmed drive will be in a Gulf Racing MP4-12C GT3 alongside Bell and Nico Verdonck in a Pro line-up in the Blancpain Endurance Series. Andy Meyrick and Mike Wainwright will drive the team's Pro-Am car.



HYUNDAI'S PINS HOPES ON HOT NEW i20

Hyundai Motorsport has revealed the second version of its i20 WRC and will begin testing the car out of its recently established German base in July.

The more purposeful-looking car was revealed at the Geneva

Motorshow this week, where team principal Michel Nandan, who ran Peugeot's 206 and 307 WRC effort, told AUTOSPORT about the challenge of preparing for the Korean firm's WRC return in January. "Our target time is very short,"

said Nandan. "We will start testing in July with another evolution of the car. Next year is a training year."

Hyundai's first 1600cc WRC engine has already run in Korea, where much of the engine work will be completed.



RUSSIANS JOIN GP2

Russian Time will race in GP2 this year after taking over the entry previously owned by the British iSport squad. Reigning Formula 2 champion Luciano Bacheta and GP2 racewinner Tom Dillmann tested for the Motopark-run outfit at Barcelona this week. The Frenchman also set the pace at last week's Jerez test, driving for fellow newcomer Hilmer Motorsport.

Auto GP in full flight

Auto GP chief Enzo Coloni believes his series' heavily-revised Lola-Zytek is a big improvement on the machine it replaced after it was shaken down at

Vallelunga last week. New team Ibiza Racing conducted the test with owner/driver Giuseppe Cipriani (below) behind the wheel.



FIVE ASTONS FOR LE MANS

Aston Martin will run a fifth car at the Le Mans 24 Hours after Extreme Speed Motorsports scratched its Ferrari entry.

Aston's additional Vantage GTE will run in the Pro class with a line-up chosen from seven hopefuls. Included on the list are ex-Formula Renault 3.5 racer Richie Stanaway, new Aston juniors Jonny Adam and Daniel McKenzie, and Pedro Lamy.

ESM has withdrawn from Le Mans after switching its American Le Mans Series focus from GTs to LMP2. There is hope that its pair of HPD ARX-03b P2s could face full-season opposition from reigning class champions Level 5 Motorsports.

Level 5 has confirmed its participation in the Sebring 12 Hours series opener with a line-up including Ryan Briscoe and Simon Pagenaud, but has yet to commit to the full season. Issues over tyre supply and the sporting regulations need to be addressed before it firms up its plans.



MOTORBASE'S NEW COLOURS

Motorbase Performance has unveiled the new livery for its trio of Ford Focuses to be raced by Mat Jackson, Aron Smith and Liam Griffin in the BTCC this season.

Hunter-Reay tests for Carpenter

IndyCar champion Ryan Hunter-Reay tested for Ed Carpenter Racing at Sonoma last week as his regular squad Andretti Autosport was not present.

Hunter-Reay said that the outing would help both teams move forward in the development stakes: "We found

an opportunity to work together and develop a few things. It makes sense for all involved, and I get a different perspective on things, and Ed Carpenter Racing being a one-car team gets a different perspective as well. So it was a good opportunity."

In brief

NYE JOINS BTCC GRID

Welch Motorsport will field an S2000 Ford Focus for BTCC rookie David Nye this year, alongside the planned continuation of Dan Welch's programme with its NGTC Proton Persona.

MULLER'S F3 SWITCH

Sven Muller will switch from Prema Powerteam to Ma-con Motorsport for his second year of F3 European Championship competition. Meanwhile, Superstars team Romeo Ferraris will run a pair of Dallara-Mercedes with Michela Cerruti set to drive one of them.

BIRD'S FR3.5 RETURN

Sam Bird will return to Formula Renault 3.5 at this week's Paul Ricard test to act as a benchmark driver for the ISR team with which he raced last year. The 26-year-old Brit will help the team's only signed driver for 2013, Sergey Sirotkin.

AJ BACK IN NASCAR

AJ Allmendinger made a surprise NASCAR Sprint Cup return at Phoenix last weekend. Allmendinger, who is likely to run a partial IndyCar campaign with Penske this year, finished 11th in a Phoenix Racing Chevrolet.

BREEN ADDS CANARIES

Craig Breen has had his European Rally Championship programme increased from eight events to nine by Peugeot Sport. The Irishman will now also contest the Canaries Rally on March 21-23, boosting his title bid.



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Dieter Rencken

F1's political animal



There was disquiet at last week's Barcelona test over the likelihood of hiked-up engine costs when the new V6 turbos are introduced

One thing is certain: during the final Formula 1 test session at Barcelona, the emotive question of projected 2014 V6 engine-pricing levels stirred up paddock sentiment, for it appears they will run at approximately double the current V8 levels. The topic was much discussed after Renault announced its intentions of charging a targeted €20 million (£17m) per annual two-car supply – after deduction of marketing subsidies.

This, despite the trio of current engine suppliers requesting a seven-year stability period over which to amortise research-and-development costs, regulatory requirements that drivers use no more than five engines during 2014 and four thereafter, and the number of 'hard' components – and therefore machining/foundry costs – being reduced by approximately 25 per cent due to fewer numbers of parts in V6s versus V8s.

The new eco-friendly technology is, of course, extremely costly, not only due to its complex nature – ultra-high-pressure direct fuel injection, energy-recovery units delivering a tenfold increase in regenerated output and compound turbocharging – but also through the fact that the five components sets are pioneering in virtually every respect, and developed specifically for these applications.

Although the other suppliers – at this stage Mercedes

independently at Barcelona were adamant that their engine bills are nowhere near Jalinier's figure, with one suggesting he paid a third of that after deductions for the marketing contributions his team negotiated. Another spoke of €8m for a fully-serviced engine supply, with an additional €1.5m for KERS. So, 50 per cent of Renault's 2014 projection...

Those team principals also pointed out that R&D makes up significant proportions of the incremental cost, in turn to be written off over the life of the regulations. Why should the teams, they question, cover such activities when a primary goal behind the new formula is the (increasingly bilateral) link between road and track?

The customer teams believe they are, in effect, bankrolling road-car development programmes, for much of the newfangled technology will ultimately end up in the outer lane of the M25. In an interview Gaspar Gascon, Renault's head of mechanical engineering, provided AUTOSPORT with examples of existing and proposed technology transfer, including downsizing, development of low-friction materials and energy storage batteries (Renault/Nissan is a leader in electric cars), rapid prototyping and staff rotation.

That customer teams are increasingly cash-strapped due to economic problems and F1's inequitable revenue-distribution structure is indisputable, as evidenced by their

“Customers believe they are bankrolling newfangled technology for the M25”

and Ferrari, with Honda strongly rumoured to be joining the fray in 2016 and a Volkswagen brand thereafter – have yet to announce prices, first-stage negotiations between suppliers and teams have commenced, and indications are that Renault's projections are in the ballpark.

Speaking at the first public running of a 2014-specification engine during an exclusive media launch at its expansive facility in Viry-Chatillon, 20 miles south of Paris, Renault Sport F1 president Jean-Michel Jalinier told AUTOSPORT that teams currently pay €10m annually for engines and a further €5m for KERS/technical support.

On that basis a 33 per cent increase is, at first glance, not exorbitant, particularly given the hi-tech nature of the new units, plus the fact that their green credentials should empower teams to procure support from eco-sensitive companies who traditionally slammed doors in their faces.

On the flipside, though, three team principals spoken to

propensity for contracting 'pay drivers', many of whose contributions roughly equal current engine budgets.

In addition, all teams face significantly increased 2014 chassis development costs, for the new season brings with it a raft of aerodynamic changes designed to offset the drop in overall car performance, while accommodating the new engines and their complex ancillaries requires starting with a clean sheet and minimal component carryover.

As always in F1, there exists no easy solution. Engine budgets of €20m could easily tip one or more teams over the edge, while upping pay-driver budgets will reduce their number or result in further decreases in quality. Either way, the show suffers, to the detriment of the engine suppliers.

By the same token, demands that engine makers further subsidise their programmes would likely result in reduction in their numbers, while making it unlikely F1 will attract newcomers. Forget friction circle, this is a vicious circle.



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The Secret Driver

Hidden truths from the paddock

Getting onto the F1 grid for the first time may be everything a driver has ever worked for, but there's so much else to deal with

As a new guy coming into your first Formula 1 season, it's a nervous, tense time. Honestly, you don't know how good you're going to be against the opposition. After the deal is signed you've got the initial euphoria that you've finally made it. Everything that you've been working towards for more than 50 per cent of your life has now come to fruition.

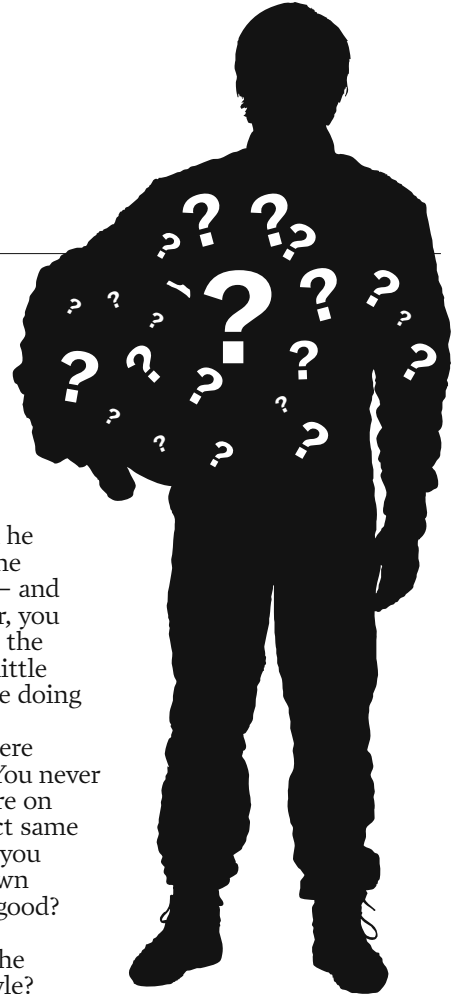
The press has been writing about you, everyone is happy. Your friends are sending you emails and tweets and the excitement is building. There's expectation and there's definitely a slight nervousness about whether it's going to be OK, because even though you've got an ego, even though you've got a confidence, this is Formula 1. This is the big step. This is the big one. This is the point of no return, the point where you have to succeed. And that pressure starts to build.

You go to the factory for your first introduction to your engineers and mechanics and it's all smiles and brightness, but then the real work starts. In your first test you've got to understand the car, you've got to give detailed feedback in a way that you've never had to do before. Your team-mate on the other side of the garage instantly feels more comfortable because it's maybe their second, third or fourth season.

Now you have to manage that expectation and you've got to do it quite cleverly, so it's time to look at some of the other guys on the grid. One of the best is Fernando Alonso. He's always downplaying things when he needs to, but he's always holding up the positive when people don't expect it – and usually he gets it right. If you're clever, you watch the guys who have been around the block a few times. You try to pick up little tips from them, try to see what they're doing right, what they're doing wrong.

In testing you never really know where you are. You get in the car and drive. You never really know whether the opposition are on low fuel loads or if they're on the exact same set-up and car balance as you are. All you can know is how you get on in your own environment. Did you get in and feel good? Did you have a good rapport with the engineer? Are you able to work with the car and tune it to suit your driving style?

As well as that, suddenly you've got big,



“The adrenalin rush you get from your first grand prix is an awesome moment”

The reality is that you do have a lot to learn. But you have to just drive naturally, learn the team, learn the mechanics, learn what works and what doesn't. You have to quickly know what you've got to focus on and what not to because there'll be drags from every corner – from the press department wanting you to do an interview, or the marketing department and the sponsors wanting your time, or even your friends and family asking if they can come to a grand prix.

You never had any of this in GP2 or Formula 3, even when you were winning the championship. Now you have autosport.com following the tests live and they're asking you questions and you don't necessarily know all the answers. And an expectation about you starts to build, and it's not necessarily what you think you can do – it's what they expect you to do.

heavy races coming up. Melbourne is not that hard physically, but then you go to Malaysia and the heat, and the humidity and the intensity – it's tough. There is no time to try to develop extra stamina and strength if it's not already in there. You've got to be in shape and hit that ground running.

The adrenalin rush that you get from sitting on the grid for your first-ever grand prix, it doesn't matter if you're in a car that's on the last row or whether you're in a car that's going to be fighting at the front – it's still an awesome moment. You've got to get on with the job and let it all flow, but the reality is that there is absolutely nothing that can truly prepare you for what is about to come up.

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NASCAR SPRINT CUP PHOENIX (USA), MARCH 3, RD 2/36



Edwards led
Johnson home

Edwards ends 70-race streak

CARL EDWARDS PUT AN END TO A 70-race barren spell in the NASCAR Sprint Cup by triumphing in a tense finish at Phoenix.

Having beaten Dale Earnhardt Jr's Hendrick Chevrolet out of the pits at the final round of stops, the Roush Fenway Ford driver held his nerve, nursing his fuel load through a green-white-chequered finish that increased the race distance by three laps as Jimmie Johnson and Brad Keselowski tried unsuccessfully to track and pass him.

The battle between the Daytona 500 winner's Hendrick Chevy and champion Keselowski's Penske Ford

was an intense one; so much so that Denny Hamlin was able to force his Toyota past both, only to bang doors with Johnson and drop to third in a frantic dash to the finish.

Hamlin had started at the back following a pre-race engine change. His Joe Gibbs Racing team-mate Kyle Busch had the same problem, and finished 23rd after an early spin.

Earnhardt faded to fifth behind Keselowski, but ahead of Clint Bowyer (Waltrip Toyota).

Polesitter Mark Martin led 75 laps, but an extra pitstop for a loose wheel put him out of sync. He finished 21st.

Danica Patrick's race ended

violently – a puncture sent her into the wall and then the path of a flat-out David Ragan. Both were unhurt.

● Dylan Jacobs

RESULTS

- 1 Carl Edwards (Ford Fusion), 316 laps in 3h00m15s; 2 Jimmie Johnson (Chevrolet SS), +1.024s; 3 Denny Hamlin (Toyota Camry); 4 Brad Keselowski (Ford); 5 Dale Earnhardt Jr (Chevy); 6 Clint Bowyer (Toyota); 7 Matt Kenseth (Toyota); 8 Tony Stewart (Chevy); 9 Jeff Gordon (Chevy); 10 Jeff Burton (Chevy). **Points** 1 Johnson, 90; 2 Earnhardt, 82; 3 Keselowski, 82; 4 Hamlin, 72; 5 Bowyer, 72; 6 Greg Biffle, 66; 7 Mark Martin, 65; 8 Gordon, 60; 9 Ricky Stenhouse Jr, 60; 10 Aric Almirola, 60.

GRAND-AM AUSTIN (USA), MARCH 2, RD 2/12

Stallings bump-starts season

JON FOGARTY AND ALEX GURNEY gave local team Bob Stallings Racing a popular, if fortuitous, victory as Grand-Am made its debut at Austin.

Fogarty increased his own series record by taking a 24th pole position, but dropped back at the start. A perfect strategy allied to a variety of incidents and penalties for the other likely title contenders enabled co-driver Alex Gurney to lead the final eight laps.

There was consternation inside the team when Gurney's radio malfunctioned, but an inspired decision to show him a black flag, obliging him to make his



Gurney/Fogarty
took honours

final pitstop on cue, set up the Californian when the caution flags flew a few minutes later.

Starworks driver Brendon Hartley was in control until tangling with a GT car with 10 minutes left, while neither Ryan Dalziel in the sister car

nor Scott Pruett could pass Gurney.

Bill Auberlen and Paul Dalla Lana won GT in a Turner BMW.

● Jeremy Shaw

RESULTS

- 1 Jon Fogarty/Alex Gurney (Riley Corvette DP), 71 laps in 2h45m34.422s; 2 Alex Popow/Ryan Dalziel (Riley-Ford MkXXVI), +0.427s; 3 Scott Pruett/Memo Rojas (Riley-BMW); 4 Enzo Potolicchio/Stephane Sarrazin (Coyote Corvette DP); 5 Brian Frisselle/Christian Fittipaldi (Coyote); 6 Tracy Krohn/Nic Jonsson (Lola-Ford B08/70). **Points** 1 Pruett/Rojas, 65; 2 Fogarty/Gurney, 59; 3 Dalziel/Popow, 57; 4 Max Angelelli/Jordan Taylor, 53; 5 Potolicchio/Sarrazin & Frisselle/Fittipaldi, 49.



Jones leads
Mason at start

F3 OPEN WINTER CUP

Dubai-based Brit Ed Jones dominated at Jerez, taking pole by 0.6s and then beating West-Tec team-mate Nelson Mason by 2.7s. Alexey Chuklin was third with the Emilio de Villota team. Chuklin's team-mate Igor Urien won the Copa class.

GT OPEN WINTER CUP

Irishman Matt Griffin and British co-driver Duncan Cameron won the first race at Jerez, but were denied any hope of a double when their Mtech Ferrari 458 Italia suffered a right-front puncture with two laps to go. Cameron had already lost the lead to the similar AF Corse-run car of Belarussians Alexandr Talkanitsa Jr and Sr, who won race two.

V8 DEVELOPMENT SERIES

Fords ruled at Adelaide, with Ash Walsh and Chaz Mostert taking a win each. Mostert's second place in race one means he gains an early points lead. Debutant Casey Stoner started race two from 28th after crashing out on Saturday, but finished 14th in his Triple 8 Holden.

AUSTRALIAN GT

Craig Baird's first weekend with the Erebus Mercedes team yielded a double win at Adelaide in his SLS AMG GT3. Team-mate Christian Klien lost any hope of a race-one win to a safety car delay, but did finish third in race two behind Klark Quinn's Porsche.

PRO MAZDA SERIES

Andretti Autosport driver Matthew Brabham, grandson of Sir Jack, won on his debut weekend in the series at Austin. He added a third spot in race one, behind Venezuelan winner Diego Ferreira (Juncos Racing) and Spencer Pigot (Pelfrey).



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V8 SUPERCARS ADELAIDE (AUS), MARCH 2-3, RD 1/14

Van Gisbergen stuns on Tekno debut

TRIPLE 8-BUILT HOLDENS DOMINATED as V8 Supercars' new Cars of The Future made their debut on the streets of Adelaide, with veteran Craig Lowndes and winter news-maker Shane van Gisbergen each taking a well-earned win.

Lowndes beat T8 team-mate Jamie Whincup to the 90th victory of his career in race one, tying him for the all-time series wins record with Mark Skaife. But he had to give best to T8 customer Tekno Autosports and new recruit van Gisbergen 24 hours later.

Van Gisbergen, whose departure from Stone Brothers Racing at the end of 2012 and subsequent series return with Tekno may yet result in legal action, took pole for both races.

After attempting to start race one in neutral (a legacy of a gearbox fault that would put him out), the Kiwi won on Sunday, not resisting Whincup's challenge for the lead mid-race in the

knowledge that a better strategy would get him back in front later on.

Will Davison flew the flag for Ford, taking second on Saturday with Ford Performance Racing. The team otherwise had a rash of problems afflicting gearboxes on Saturday, while on Sunday it was jammed wheelnuts that caused delays.

Frenchman Alexandre Premat and Russell Ingall – in his final full-time season – stood tall with strong fourth places, with Premat's rookie Garry Rogers Motorsport team-mate Scott McLaughlin sixth in race one.

The new entrants had a catalogue of teething problems, with the dramas for the Erebus Motorsport Mercedes E63s and the Nissan Altimas ranging from lack of power to overheated cockpits. Nissan driver Todd Kelly probably got the worst of it with a Sunday crash.

● Phil Branagan



Van Gisbergen scored for Tekno

RESULTS

Race 1 1 Craig Lowndes (Holden Commodore VF), 78 laps in 1h49m37.313s; 2 Will Davison (Ford Falcon FG), +20.520s; 3 Jamie Whincup (Holden); 4 Alexandre Premat (Holden); 5 James Courtney (Holden); 6 Scott McLaughlin (Holden).

Race 2 1 Shane van Gisbergen (Holden), 78 laps in 1h51m52.412s; 2 Whincup, +2.219s; 3 Lowndes; 4 Russell Ingall (Holden); 5 Mark Winterbottom (Ford); 6 W Davison. **Points** 1 Lowndes, 279; 2 Whincup, 267; 3 W Davison, 240; 4 Ingall, 198; 5 Courtney, 192; 6 McLaughlin, 186.

NASCAR NATIONWIDE SERIES PHOENIX (USA), MARCH 2, RD 2/33



Busch broke winless run

Busch rises from flames at Phoenix

A PITLANE SPEEDING PENALTY LEFT Kyle Busch 22nd with a quarter of the Phoenix Nationwide Series race gone. But 150 laps later he was celebrating his first victory in the series since September 2011.

Having run his own car in the series last year, Busch has joined forces with his Cup team Joe Gibbs Racing for 2013. He fought his way through the field and took only 45 laps to retake the lead from team-mate Matt Kenseth's Toyota.

Busch fell back again when he opted to stop for fuel and tyres during a late caution period, but was able to use his fresh rubber to ease past a train of cars, led by Brad Keselowski, that were all attempting

to stretch fuel mileage to the finish.

Keselowski was second with Justin Allgaier third. Allgaier took the highest points score from the race to join Sam Hornish Jr as joint series leader. Hornish was involved in an early multi-car shunt and later spun, but still finished seventh.

● Dylan Jacobs

RESULTS

1 Kyle Busch (Toyota Camry), 200 laps in 2h04m45s; 2 Brad Keselowski (Ford Mustang), +1.943s; 3 Justin Allgaier (Chevrolet Camaro); 4 Trevor Bayne (Ford); 5 Elliott Sadler (Toyota); 6 Austin Dillon (Chevy). **Points** 1 Sam Hornish Jr, 79; 2 Allgaier, 79; 3 Brian Scott, 73; 4 Sadler, 69; 5 Parker Kligerman, 65; 6 Regan Smith, 65.

BRAZILIAN V8 STOCK CARS INTERLAGOS (BR), MARCH 3, RD 1/12

Bueno makes a good start in Brazil

CACA BUENO DID NOT HAVE THE fastest car in last weekend's season opener at Interlagos, but a canny strategy and a 'three-into-one' pass for the lead helped him to a 30th V8 Stock Car win.

Bueno had struggled to set his Red Bull Chevrolet up for the series' new Pirelli rubber, but still qualified second behind Julio Campos.

A bad start left him sixth by the exit of the Senna 'S' and prompted the five-time champion to make his fuel stop at the end of the first lap. He lay third once all the stops had been completed and drew up behind Valdeno Brito and Atila Abreu, who had both stopped on lap 11.

As Abreu lined up Brito at the

Bico de Pato, Bueno optimistically stuck his car down the inside of both, taking the lead as the other two banded doors.

Abreu lost a podium on the final lap to falling fuel pressure, meaning Bueno and Brito were chased by Ricardo Mauricio instead. Rubens Barrichello did not make the finish.

● Lito Cavalcanti

RESULTS

1 Caca Bueno (Chevrolet Sonic), 25 laps in 43m21.489s; 2 Valdeno Brito (Peugeot 407), +0.763s; 3 Ricardo Mauricio (Chevy); 4 Daniel Serra (Chevy); 5 Tuka Rocha (Chevy); 6 Max Wilson (Chevy). **Points** 1 Bueno, 24; 2 Brito, 20; 3 Mauricio, 18; 4 Serra, 17; 5 Rocha, 16; 6 Wilson, 15.



Bueno beat Brito to flag



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Red Bull goes into the new season in a strong position, but relies heavily on Adrian Newey's genius

Why F1 2013 will rock the world

In the final year of the current rules set, there are plenty of reasons to suggest that there's a perfect storm brewing which will make this a season to remember. **MARK HUGHES** looks forward to it



Technically, the eighth and final season of the 2.4-litre V8 formula may be just a formality while the big challenge of 2014's turbo V6 formula is prepared for, but competitively it's poised to be very juicy indeed. It's fair to say that, with six titles from six in the past three years, the Red Bull/Sebastian Vettel combination has stamped its position as the

dominant force on this formula. The degree of difficulty in this level of achievement is borne out by the fact that only two other drivers – Fangio and Schumacher – have won three consecutive titles in the 63-year history of the championship. Of the constructors, just Ferrari, McLaren and Williams have ever matched it. It's all the more remarkable given that the team was a minnow as this formula was born, and Vettel had yet to even make his F1 debut.

The level of domination that's followed from a team finally properly harnessing the talents of Adrian Newey – arguably the greatest technical brain that the sport has seen – has created consequences. There is only one Newey, and Red Bull is exploiting him so brilliantly that it's created an imbalance: there has been fall-out among the competition. Lewis Hamilton has despaired of McLaren, heads have rolled at Mercedes and the tension at Ferrari ratchets up with every title that Fernando Alonso fails to win. There have been constant regulatory attempts to rein Red Bull back in; and last year it almost worked, in that it took the team most of the season to recreate what the 2012 regulations had taken away from its car.

This year's no different, really. The ban on double DRS wasn't intended as an anti-Red Bull measure – it was announced before it even had the feature on last year's car – but it may as well have been. A big part of why last year's RB8 responded so well to it was how the car's rear end was configured. With its downforce relatively immune to rear ride-height changes – aided by the unique bodywork tunnels to the diffuser – it could carry more rear wing. Double DRS was therefore able to dump more drag than it would have otherwise. It enabled the car to have its cake and eat it, and the fitment of the feature coincided with the competitive transformation of the car late-season that allowed Vettel to take control of the championship. But now it's gone.

A small rule clarification about engine maps might also impact more upon Red Bull than any other team. The expectation was that you could specify a new baseline engine torque map; in fact it's been decided that teams must continue with the same baseline map they had in the second half of last season. This precludes the re-introduction of the controversial Red Bull Hockenheim map. It allowed the driver to get hard on the throttle earlier in the corner to give more exhaust-enhanced downforce, thereby negating a key disadvantage: a rear bodywork design that compromised the Coke-bottle profile for the sake of enhancing the aero effect of the exhaust. So it's just possible that this year's Red Bull RB9 – which follows the same rear bodywork concept, with a big exhaust ramp partially blocking the Coke-bottle profile of the ▶



Vettel will be focused on a fourth consecutive championship title in the Red Bull RB9



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PIC: THOMPSON/GETTY

**The big gamble of 2013:
Hamilton has given up
his McLaren seat for a
drive with Mercedes**



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◀ lower bodywork – has been configured around a false assumption regarding engine maps. That alone won't render the car uncompetitive, but it's just another obstacle placed in the way. As ever, the team will shake its head in exasperation then hunker down and do it some other way. Flexi-wings, blown diffusers, trick engine maps, air-extractor wheels: each tentacle has been sliced off Red Bull's armoury, and each time it's simply grown another. It'll do so again, and it's inconceivable that it won't be a major contender.

Sebastian Vettel takes a little bit of heat from Lewis Hamilton and Fernando Alonso – and a significant section of the sport's fan base – who suggest that he's merely a good driver in a fantastic car; the inference being that they'd beat him in an equal car. Vettel – who has a remarkable abstract intelligence – simply turns that around. When their reservations were put to him, he effectively said: "Yes, maybe the car is more important. Which is why I will continue to beat you." It wasn't as bald a statement as that, but the implicit message was the same, and became the perfect way of dealing with the question. His incredible record of achievement – triple world champion, 26 grand prix wins and

36 poles – comes at an age when his team-mate, Mark Webber, was only just making his F1 debut, and when Damon Hill was six years away from his. He is absolutely on a mission to break more records – he's a savagely intense competitor with a huge turn of speed, sitting in the cockpit of the product of Newey's best thinking. Yet he is still developing. Perceived injustice can sometimes trigger emotion and the occasional lapse, but this is to nit-pick over a quite remarkable performer.

Mark Webber has the unenviable task of trying to compete with the phenomenon that is Vettel, and sometimes with one hand tied behind his back – as was recently underlined by Helmut Marko's comments about him. He gets material equality with Vettel, but Seb's achievements only reinforce the barrier of emotional support around him, leaving Mark forever looking in. Yet that brings out some of Webber's gritty best. And, if the RB9 drives like a conventional car and not one that demands the Vettel trick of standing on the throttle to tame slow-corner-entry oversteer via exhaust gas – as happened in 2011 and towards the end of last year – then he can compete on level terms. Also the most combative man on the grid, he can never be discounted.

Marko's comments – in Red Bull's own magazine! – that Webber succumbs to pressure had an element of self-fulfilment about them: a lot of the pressure that he faces comes from the feeling of fighting against the will of elements within the team. But he's fully capable of proving Marko wrong regardless, given the right car.

Lewis Hamilton finally accepted last year that Vettel has out-maneuvred him: that he's stolen the records he'd once assumed were his for the taking by plugging himself into better cars. McLaren had produced some great cars for Hamilton, but not great enough. And even last year, when the MP4-27 was often quicker than the Red Bull, the team still couldn't convert that into a title campaign. If it hadn't been for that, and if he'd been winning titles at McLaren, Lewis could probably have made himself live with the constraints that chafed at his collar: the burdened relationship with Ron Dennis, the number of corporate days, and so on. But he wasn't, and so he made not a career choice but a lifestyle one by choosing to get out. His preference was to race alongside Vettel at Red Bull, where he would have relished betting on his talent to prevail. Failing that, he wanted to go Ferrari to do the same there

“Hamilton made not a career choice but a lifestyle one when choosing to get out”

Rosberg will face a tough season this year with his former karting team-mate alongside him



PICTHOMPSON/GETTY

against Alonso – again. But neither option was available. After each of those teams had been approached for a second time during the summer break and had given the same response, Lewis reluctantly took the next best option: Mercedes.

He cheerfully admitted before testing began that he had no idea how quick a car the team might build him. His feeling after the first week of Barcelona was that it wasn't bad, but lacked the downforce he'd been used to. He rejects the notion that he's going to be fighting for the 2013 title; but he's quite at ease with that. What we shouldn't bet against is him being able to bridge the gap if the car is somewhere close to the pace on a few occasions. Testing suggests that it's closer than last year's model was by the end of the season. There have been some big changes here, and they don't seem to have finished yet. Toto Wolff and Niki Lauda buying into the team has provided an aggressive push to get to the bottom of the team's under-achievement, and confirmation that McLaren tech director Paddy Lowe is on gardening leave suggests he is indeed set to join the Brackley team. But in what role? Why would he choose to leave his technical director position at McLaren for the same job at Mercedes? The suggestion is that he might be joining as team principal, which casts doubt upon Ross Brawn's future there.

This isn't the same group of people that Hamilton signed up with, but he's unlikely to let that bother him too much. He's gone in there as a fast gun for hire: one who'll be delighted to pull off the occasional against-the-odds victory or put guys in faster cars under some pressure. If it turns out to be better than that, then great. If it turns out that Mercedes is the place to be for 2014's new formula, fantastic. But even if it continues just as it has been, Lewis will only be 30 by the time his contract ends – and who knows what alternatives might be available by then. This isn't a typical driver career move, but then Lewis isn't a typical driver. In the meantime, he can just relax into his seat, knowing that the pressure is off for perhaps the first time in his F1 career. In that state of mind, he just might be at his explosive best.

Nico Rosberg, meanwhile, faces a tough challenge. He proved last year that when the car's quick he can win; and there might not have been a finer 2012 qualifying lap than the one that he conjured up for pole in Shanghai. The general perception is that of an absolute top-line driver stuck in sub-standard machinery. But is he? He was internally out-manoeuvred by Michael Schumacher, and in the aftermath his previous performance edge over the latter disappeared; in fact there were several races last year where Michael was the faster Mercedes driver. Having his old karting team-mate – the man commonly accepted as the quickest in F1 – alongside leaves him absolutely nowhere to hide. This is going to be an interesting one to monitor.

Lewis's move took McLaren by surprise. He was irritated coming into the Monza weekend when he found that his management team had gone ahead and had Mercedes prepare a draft contract without his say so; and at the point when the Mercedes offer came out into the open, he was feeling inclined to stay at McLaren. Before the Singapore weekend, he was telling people privately that he was going to stay put, and this was the team's understanding at that point. ▶

◀ But something changed during that weekend. He says it wasn't the fact that his car broke down while he was leading; though that can't have helped. The team's relationship with him had been so strained that perhaps it didn't try as hard as it might to keep him, but whatever the reason, after a day of contemplation, he'd made his decision by Tuesday and McLaren had lost 'F1's fastest driver'. He was the guy who could manhandle a car that was a couple of tenths off onto the front row; now the team doesn't have that. In Jenson Button it has a driver who will maximise any car that can be made to behave exactly as he likes, but who struggles with rear instability. In Sergio Perez it has someone with a wider operating window than Button, but whose ultimate pace is as yet unclear. Perez delivered some scintillating drives for Sauber last year, but all had a tyre-related explanation; now we'll find out how much he was adding to the mix. As with Rosberg, he has nowhere to hide.

With this driver pairing, McLaren absolutely needs to have a car that can qualify on the front row on merit, without requiring the driver to transcend its level. Does it have this in the MP4-28? Well, sometimes it's looked like that in testing: such as the first day at Jerez when Button stunned with his instant pace, or the Wednesday at the first Barcelona test, where Perez was mighty quick. But at other times the car has left the team scratching its collective heads, trying to understand why it's graining the Pirellis even faster than the others. This is a time of some tension for McLaren, only underlined by the fact that it's been forced to put Paddy Lowe on gardening leave.



If Ferrari can combat its conservatism, expect resident superstar Alonso to do the business



PICS: DUNBAR/LAT. THOMPSON/GETTY



McLaren is banking on new recruit Perez emulating some of his Sauber drives of 2012



“Ferrari achieved failure by not being adventurous”

The new-for-2013 Pirellis are very different to those that we've seen so far, but in testing their softer range of compounds has been giving teams as big a headache as the old tyres did. Fifteen-lap stints were just about possible at Barcelona – suggesting a three-stop race there – but they were past their best by five. McLaren wasn't the only team struggling to get a handle on them. But one car was noticeably easier on the rubber than the others, just as last year: the Lotus. There's something about the suspension of this lineage of cars that makes them soft-riding and kind to the tyres, albeit perhaps at the expense of the last couple of tenths of single-lap pace.

How quickly the teams progress their understanding of how to get the best from the Pirellis, and how much the graining situation might be eased once we get to the warmer climes of the opening races, is one of the great imponderables. But if the tyres degrade as quickly as they did in the first couple of tests, Lotus is going to be looking very good indeed. Kimi Raikkonen will effortlessly take full advantage of this, being the seasoned pro that he is, still with a good turn of speed to unleash when the mood takes him. Romain Grosjean? It seemed at first last year that to become a major force he just needed to pull back a little. His speed and some of his moves can be breathtaking, but there was a worrying lack of progression to his season.

Also, his qualifying incident at Interlagos with Pedro de la Rosa's HRT at the top of the hill, where he could so easily have been in a sixth-gear interlocking-wheels end-over-end accident, suggested that he simply doesn't recognise the red-alert signals of self-preservation; even afterwards he didn't see it as a big deal. He admits he saw a psychologist last year in an attempt to eliminate the incidents. It would be terrific to see this bear fruit, and it's great that he's been given one more chance by Lotus: he's a very exciting racer and is ultimately a couple of tenths faster than current-spec Kimi. But he has a lot of convincing to do.

Had it not been for Grosjean's misjudgement off the startline at Spa last year, it's a fair bet that Fernando Alonso would now be world champion. But instead he goes into his fourth season at Ferrari with only those titles that he secured at Renault a long time ago. Hamilton considers Alonso his only true rival; a feeling that's mutual. But the heat that they created when forced to share a garage through 2007 led to its own fall-out; one that damaged both their prospects.

The last time that Ferrari won a title was as a result of the radioactive Alonso/Ron Dennis pairing, when McLaren was the Scuderia's only rival. Back then Raikkonen was good enough – and immune to pressure enough – to secure that unlikely triumph. But impressive as Raikkonen was, he couldn't hang on to the drive once Alonso was potentially free. Kimi won for Ferrari at his first attempt, and Alonso has only a couple of lost

showdown finales. But since Kimi's time, Red Bull has moved the game on and the task has become more difficult.

Ferrari hasn't been helping itself, however. After the disastrous showdown strategy-call in Abu Dhabi 2010, and failing the blown-diffuser challenge of 2011, there was a title there for the taking last year, despite the team starting with a disastrously off-the-pace car. But strategic conservatism – a crippling fear that's hung over the team since Abu Dhabi 2010 – cost it dearly. By being so determined not to be wrong by being too adventurous, it achieved failure by not being adventurous enough. Barcelona, Monaco, Canada and Silverstone were all races where vital positions were lost to timid tactical choices. Twenty-eight Alonso points were squandered in those four races. He lost the title by three. So it wasn't really just Grosjean's fault...

But the new car looks incomparably better than the F2012 did this time last year, and the team continues to be absolutely devoted to Alonso. It has conceived the car in the Toyota tunnel rather than the problematic Maranello one, and testing suggests that it is among the fastest; perhaps even the fastest of all. But part of the reason that it was in title contention last year was due to Red Bull and McLaren not getting their acts fully together; it's unlikely that it'll be able to count on both of those again. If it's to be won by Ferrari in 2013, you'd suspect that it has to be done on performance, rather than mere reliability.

However, everything suggests that it's starting from a good place, and with Felipe Massa transformed for the last six races back into the driver that he was before his accident – and before Alonso came and stole his team – Fernando might be able to count on Felipe to take some heavy points off his rivals. It's certainly not beyond imagination that we could see Massa back to the top step of a podium one day; and that looked close to impossible a year ago.

Williams and Sauber took turns at terrorising the top teams last year, and look set to continue to do so. The FW35 is a very neat-looking piece of kit that has been showing almost Lotus-like consistency in testing. Valtteri Bottas joins Pastor Maldonado there for an exciting driver line-up, though the latter's 2013 challenge is similar to Grosjean's. Both Nico Hulkenberg and Esteban Gutierrez have made the narrow-sidepod Sauber go quickly on occasion; if it's as good as last year's car, then Hulkenberg is quite capable of pulling off an outrageous result.

Thus far, Force India doesn't look quite at its level, nor Toro Rosso, but there's plenty of development scope for both. Caterham and Marussia, meanwhile, look likely to continue to fight only each other for another year. The bigger question on their horizons is 2014, and the expense of the change of engine formula. But why worry about the future when there's so much to enjoy in 2013? ❧

Stirling Moss on Hamilton & Mercedes:

“Lewis is one of the best drivers in the world... I think I'd have made the same move”

Lewis Hamilton has a new challenge at Mercedes and he'll be following in the footsteps of a legend. Sir Stirling Moss gives **KEVIN TURNER** his views on the move and recalls his own time





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So, can Lewis Hamilton come out of McLaren's shadow and lead the Mercedes team to grand prix glory? That's one of the big Formula 1 questions of 2013. Hamilton's move away from the Woking squad is more about breaking out of the 'family' he was part of for over a decade than it is about finding a more competitive package. Recent history has shown that McLaren can normally be relied upon to produce a title-contending car, and only bad luck and unreliability kept Hamilton out of the championship fight last year.

But there was always the feeling that he was a little too subservient there, less willing to make critical calls in the way a Fernando Alonso or a Jenson Button would. Now we'll find out whether that was more a product of McLaren's style or Hamilton's own personality.

The 28-year-old's challenge this year will be to mould a new team around him and help give it direction. It would be a surprise if the Mercedes W04 was capable of challenging for the title, so laying foundations for future success, with Ross Brawn and co around him, will be key.

The last Briton to race – and win – for the works Mercedes F1 team believes Hamilton is up to the challenge. Sir Stirling Moss got his big break in 1955 when he signed for Mercedes as understudy to Juan Manuel Fangio, and he is a Hamilton admirer.

"Lewis is one of the best drivers in the world and is a big talent, but a lot will depend on how they develop the car," says Moss.

"I believe he can lead the team. He's exceptionally quick and it will be interesting to see whether his talent – and Ross Brawn – will compare to Red Bull and Sebastian Vettel.

"I think I'd have made the same move."

STIRLING'S MERCEDES MOVE

Moss's own switch to Mercedes was for different reasons, and was an easier decision to make. He'd struggled with uncompetitive British cars before buying a Maserati 250F, essentially to show the Stuttgart marque what he could do in a decent car. It worked and the contract duly arrived at the end of 1954.

"There's a tremendous difference between then and now, but Mercedes is Mercedes," adds the 16-time GP winner.

"I tried to stick with English cars, but it wasn't really on. Mercedes was everyone's dream at that time. They looked after you so well and were miles ahead of every other team."

Hamilton is unlikely to have wondered about the nationality of the squad he was moving to – especially as the staff that builds, prepares and runs his car is largely British. It was a bit different for Moss, however, who was joining a more Germanic team so soon after World War Two.

"When I was going to drive the Maser I got the press together and told them there weren't any British cars good enough and I had to go foreign," says the 83-year-old. "They said I'd be better off winning. There were certainly people who remembered – the war wasn't long over – but sport is great at getting round things."

Moss had to start his Mercedes racing career a lot earlier in the year than Hamilton too, the

Argentinian GP being held on January 16.

The W196s had problems in practice and Froilan Gonzalez qualified on pole for Ferrari, though Fangio soon made his way to the front. In one of the hottest races in world championship history many exhausted drivers stopped to hand over their cars, but Moss, who qualified down in eighth, was running second when a vapour lock stranded him. He took a rest, only to be bundled into an ambulance until he could find an interpreter to explain that he was fine!

Once back at the pits, he took over the Hans Herrmann/Karl Kling car to come home fourth.

After finishing second on aggregate to Fangio in the Formula Libre Buenos Aires City GP, and taking one of his most famous victories in the Mille Miglia sportscar enduro, Moss headed to the Monaco Grand Prix.

This time he qualified within a tenth of Fangio and followed the Argentinian – a sight that was to become familiar – until the lead W196 suffered transmission failure. Moss took over and looked set to win by miles until, with 20 laps to go, an oil union fractured and the engine blew. He showed his commitment by pushing the car home to take the flag ninth, but scored no points.

Nevertheless, after the race he was to get an insight into the professionalism that put Mercedes, then run by legendary team boss Alfred Neubauer, so far ahead of its rivals in the mid-1950s.

"At Monaco one of the cars got paper on the grill and overheated," recalls Moss. "At the next race I could pull a lever and it would flick the paper off."

"At another race I had locking brakes. The next time out there were four buttons, each connected to a corner, that would put oil on whichever brake was locking to stop it."

"Anything I wanted I got. The lengths they would go to for the drivers was amazing – Neubauer would visit hotel rooms before the drivers to make sure they were quiet enough."

The organisation and preparation helped Mercedes to dominate even when rivals such as the Lancia D50 or Maserati 250F might have been able to challenge the W196 on pace.

"The nicest car in the era was the 250F," admits Moss. "It was beautifully balanced. The only problem was that it was made by Maserati, not Ferrari, where the engineering was better."

"The Mercedes engine was fantastic. It had Desmodromic valves, which meant no valve bounce, and the W196 became virtually unbreakable."

"The car wasn't as nice to drive as the Masers and you had to be careful in the wet because of the swing axle, but at the end of a race it was still as good as it was at the beginning."

DEVELOPING DOMINATION

The pattern of the 1955 season fully emerged in the Belgian GP at Spa. Although Eugenio Castellotti put his Lancia D50 on pole, Fangio and Moss both beat him away and headed off into the distance. The gap between them after over two and a half hours was just 8.1s, despite Moss being covered in oil after another leak. The Ferraris in third and fourth were over a minute and a half behind.

At Zandvoort, Moss again ran in Fangio's wheeltracks, finishing just 0.3s adrift. It suggested that Moss could have pushed harder to beat his team leader, as Hamilton did against Fernando ▶

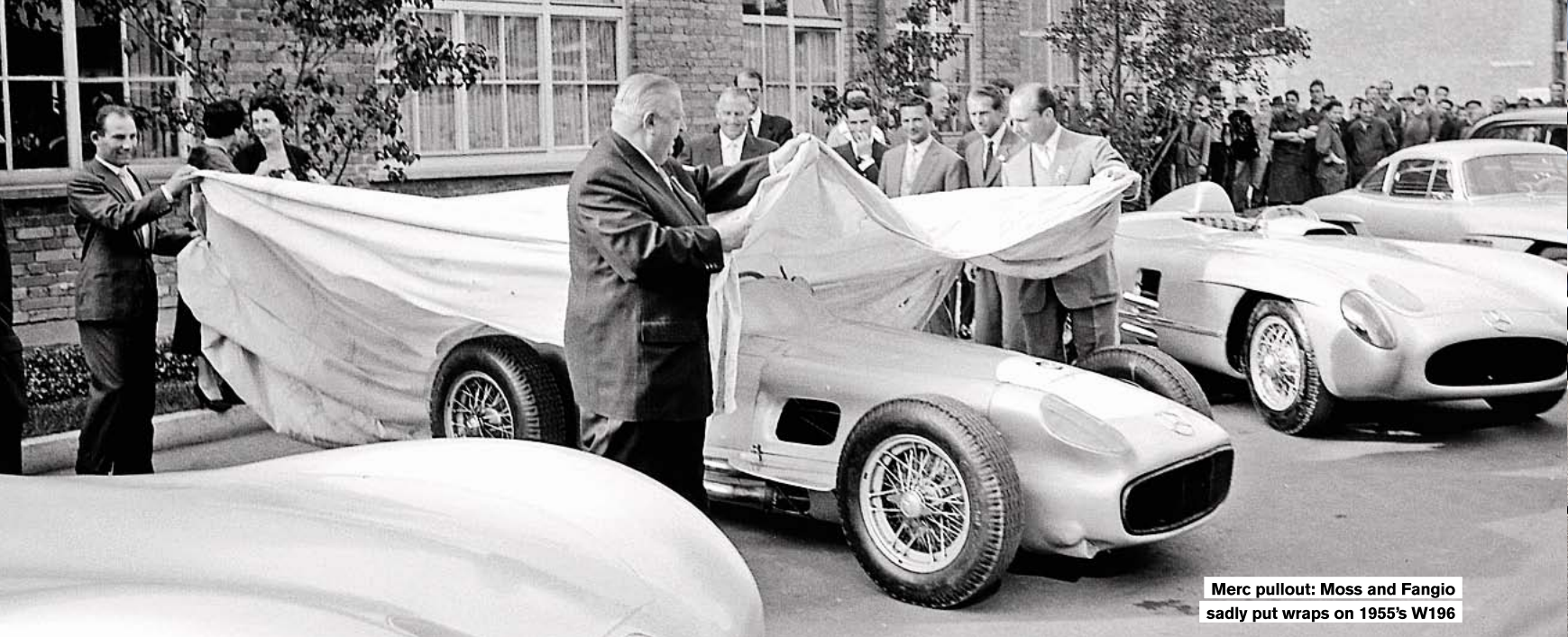


Moss car broke in Argentina, but he took over sister machine

MOSS AT MERCEDES

1955 DRIVER STANDINGS

1. Juan Manuel Fangio (Mercedes)	40 points
2. Stirling Moss (Mercedes)	23 points
3. Eugenio Castellotti (Lancia/Ferrari)	12 points



Merc pullout: Moss and Fangio
sadly put wraps on 1955's W196

“Fangio liked to see the front wheels; I preferred to see 300 yards ahead!”

16

◀ Alonso at McLaren in the controversial 2007 season. But Moss was happy to learn from Fangio, who also trusted the Briton and only felt the need to ‘win at the slowest possible speed:

“I signed as number two and it worked well,” says Moss. “I was completely happy to sit there [behind Fangio]. It was part of my education. Neubauer said, ‘What happens if Fangio goes off?’ and I said, ‘Fangio never goes off.’”

Nevertheless, the two Mercedes stars would have more of a fight at the next GP, the British round at Aintree.

For the first time, Moss beat Fangio to pole (by 0.2s), though he again didn’t make the best of starts. He swept by on lap three, before Fangio repassed on lap 18. Along the way the

duo almost clashed in traffic, but Moss moved back ahead on lap 26 of 90.

He even pulled away for a while before Fangio closed in towards the end. Moss, who to this day remains unsure if Fangio let him win, finally took the flag by just 0.2s to lead home a crushing 1-2-3-4 for Mercedes and score his first world championship victory.

Due to the Le Mans 24 Hours disaster, in which Pierre Levegh’s Mercedes went into the crowd and killed over 80 spectators, the only other world championship GP of 1955 was in Italy, on the high-speed banked Monza layout. Fangio pipped Moss to pole by 0.3s, with Karl Kling third, another 1.5s further back. The fastest non-Mercedes was almost

three seconds off pole position...

In the streamlined versions of the W196, Fangio and Moss took their now customary positions at the head of the field, until the Briton was forced to pit with a smashed windscreen. He returned to break the lap record repeatedly, only to retire as Fangio won again to secure his third world title. Moss was runner-up in the standings, but his Mercedes season was not yet over.

SPORTSCAR SUCCESS

One thing Hamilton won’t get this year is a chance to race seriously for Mercedes outside F1, but driver versatility was *de rigueur* in Moss’s era. The World Sports Car Championship was arguably as important as F1, and Moss got to drive the 300SLR in 1955.

Having beaten Fangio in the Mille Miglia, Moss finished 0.1s and 0.3s behind his friend at the Nurburgring’s Eifelrennen and the Swedish GP respectively. In between times the duo joined forces – creating surely one of the greatest sportscar line-ups of all time – for Le Mans and were leading when Mercedes withdrew after Levegh’s crash.

Thereafter, once the F1 world championship was over, Moss twice beat Fangio into second place. He won the Tourist Trophy on the punishing Dundrod road circuit with John Fitch, and then the Targa Florio with Peter Collins. In sportscars, the balance of power between Fangio and Moss seemed to swing to the younger man, even though the 300SLR was a similar machine to the W196.

“I asked Fangio why he preferred single-seaters and he said he liked to see the front wheels,” recalls Moss. “When I drove I liked to see 300 yards ahead, not three! But that’s what he said.”

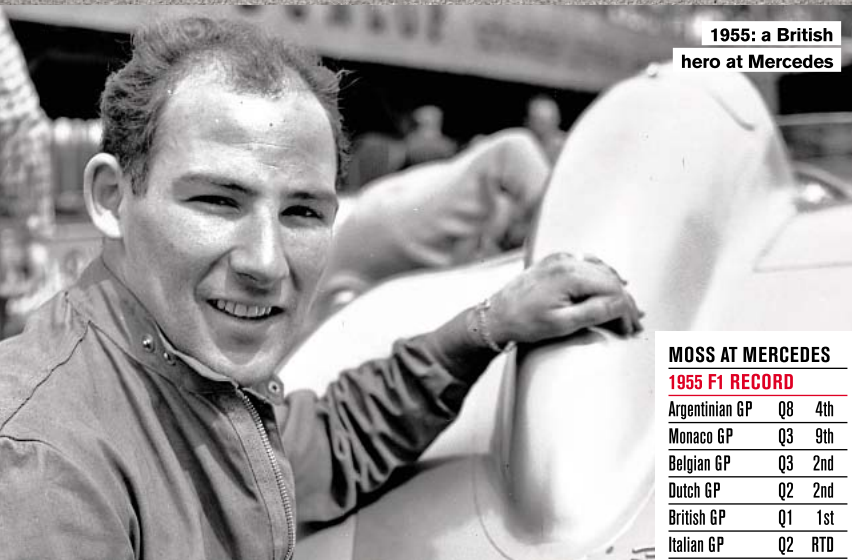
Mercedes left the sport at the end of 1955 and the statistics make for impressive reading even today. The team competed in 12 points-paying F1 events and won nine, along with two drivers’ titles for Fangio (the constructors’ title did not yet exist). In four World Sportscar Championship outings, the 300SLRs took two one-tuos and a



Ross Brawn is ‘Neubauer’
to Hamilton’s ‘Moss’



Hamilton and Rosberg unwrap
2013's F1 W04 challenger



1955: a British
hero at Mercedes

MOSS AT MERCEDES

1955 F1 RECORD

Argentinian GP	Q8	4th
Monaco GP	Q3	9th
Belgian GP	Q3	2nd
Dutch GP	Q2	2nd
British GP	Q1	1st
Italian GP	Q2	RTD



2013: a British hero
at the Merc museum

1-2-3, the only 'defeat' coming after the Le Mans withdrawal, despite the presence of Ferrari and Jaguar's famed D-type.

"If the team had gone on I would have stayed," adds Moss. His F1 record with Mercedes might 'only' have included one victory, but Moss had proved himself alongside the established top driver in the world. Thereafter he became an undisputed team leader, the sport's benchmark after Fangio's retirement, and arguably should have won the world title several times. All things that Hamilton will be aiming for, particularly as Vettel has been racking up title after title with Red Bull.

DIFFERENT TIMES

Moss changed the motorsport world in a very different one now to the era in which he competed, but he still takes a keen interest and believes Hamilton can deliver during his stint at Mercedes.

"We were given a dollar to keep the cars clean and I used to pocket the dollar and clean it myself!" he says. "Today the drivers are paid so much.

"The fact that Mercedes hadn't raced for so long is bad. I do think Ross Brawn is extremely competent, though, and I think I'd have made the same move as Lewis,

if I'd not been tied up with Ferrari!"

Hamilton's new team-mate Nico Rosberg may be more established within the team – and be a German at Mercedes – but Moss, who beat both Kling and Herrmann in 1955, doesn't think that will count for much if Hamilton can deliver on track.

"I think it depends what lap times they return," he says. "I think Lewis will have Nico covered at Mercedes."

Given his status as world champion, Hamilton will be expected to deliver more than that. Moss made the most of his talent at Mercedes, now Lewis needs to do the same. ❧

MERC'S BRITISH STAR BEFORE MOSS: RICHARD SEAMAN

Stirling Moss and Lewis Hamilton aren't the only British stars to have joined the Mercedes Grand Prix team. Before World War Two, Richard Seaman became a major contender as part of the German motorsport steamroller of the 1930s.

Having impressed in lower-level events, Seaman joined Mercedes for the 1937 season to drive the famed W125, which produced over 600bhp.

A clash with Auto Union driver Ernst

von Delius at the 1937 German GP resulted in the death of his rival, but Seaman was a growing force.

His big moment came at the following year's German GP on the 14.2-mile Nurburgring.

Team-mate Manfred von Brauchitsch took pole, with Seaman third. Auto Union ace Tazio Nuvolari went off, and Hermann Lang had car trouble and took over the Mercedes of an

unwell Rudolf Caracciola, leaving Seaman to chase von Brauchitsch.

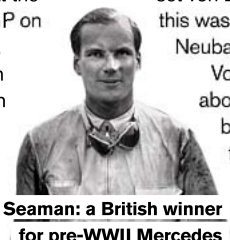
At the second stops, a fuel spillage set von Brauchitsch's W154 on fire. As this was dealt with, team boss Alfred Neubauer waved Seaman out to lead.

Von Brauchitsch climbed back aboard his foam-covered machine, but soon crashed. Seaman was thus left to take victory by over three minutes from Caracciola/Lang, and receive his garland in an uneasy podium

ceremony involving several key Nazis.

Further podiums in the W154 followed in the Swiss GP and at Donington Park. Then came the 1939 Belgian GP at Spa.

In poor weather, even wet-weather master Caracciola went off. Seaman built up a strong lead until he crashed and was knocked unconscious as the car caught fire. Despite being pulled out by a gendarme and Auto Union driver Georg Meier, Seaman died of his injuries and Britain lost its leading GP talent.



Seaman: a British winner
for pre-WWII Mercedes





Button's biggest year yet

Jenson Button has a big chance of winning his second world championship this year.

EDD STRAW asks if he's up to the task

Counter-intuitive it might seem, but world championships are often won on the bad days. While the frequency of good weekends is clearly important, a few points pocketed from a race in which things haven't gone well can be decisive when a championship is decided by a small margin. This is a problem for Jenson Button.

The 33-year-old is a sublime driver when things are going well: fast, super-smooth, clean in battle and utterly in control. This was the Button that won last year's Belgian Grand Prix in untouchable style, that vanquished Sebastian Vettel in a straight fight at Suzuka in 2011, and that dominated the early stages of the 2009 season. His successful world championship campaign with Brawn in that final season is a case in point, because while others also had great days, no-one picked up more points finishes than Button. That's not to say that you can't bludgeon your way to the title through sheer weight of wins, but with a very tight 2013 season anticipated, it's hard to see that happening.

Unfortunately for Button, his bad days have a tendency to be the weakest of all the top guns. The nature of the qualifying system means that it's almost impossible not to miss out on the Q3 top 10 shoot-out every once in a while, but Button does so more than most. It's not always his fault — at Austin last year, for example, the car let him down — but when he and the car aren't on the same page, things can be very difficult. It doesn't happen often, and is rarely for long, but the days that he cannot get adequate temperature into the tyres, or struggles with the handling characteristics of the car, can prove very costly. The same can be said about periods such as those he endured in the first part of last season, when a wrong direction on the set-up designed to make the tyres work better left him floundering. The nadir to this arrived in Canada, where team-mate Lewis Hamilton lapped him.

But there are reasons to be positive. With the way clear for Button to assert himself as team leader at McLaren following the departure of Hamilton, the characteristics of the 2013 Pirelli rubber should help the situation. The tyres are grippier, strong mid-corner — thanks to a more compliant sidewall — and have better warm-up characteristics because of softer compounds (the hard is roughly where last year's medium was) so Button is far more comfortable.

"This year is more difficult in terms of graining than last year, but understanding the tyre is easier," he says. "You can get it in its working range and you know by lap three or four that it's going to start graining. Compared with last season, it's more of a level playing field."

That Button is this positive having sampled the tyre in cold conditions during testing suggests that he will get on far better with this year's rubber. But there is a less tyre-specific problem that's often to blame for his struggles: one thrown into stark light by Button's pairing with Hamilton for the past three years. Inevitably, there are times when a car cannot be relied upon to behave exactly as expected. Button loves to carry a lot of speed into the corner, F3-style, and isn't happy with rotating the rear on turn-in for slow/medium-speed corners. It's no coincidence that two great exponents of that technique, Sebastian Vettel and Hamilton, are probably the best qualifiers in the business.

In an interview with AUTOSPORT's Mark Hughes in 2009, Button spoke remarkably candidly about this characteristic of his driving.

"I hate rear instability on corner entry," he said. "It's not something I can deal with well. If I look at the telemetry and compare what Rubens [Barrichello, his then team-mate] does in those situations, I can't do that. If he has rear instability he just throws on a lot of steering lock very suddenly, making the car understeer, and balancing it just right so that by the time the understeer's reducing you're into the corner and the transient instability is gone, or has been sort of damped out. I've seen it time and time again on the telemetry. When I try to do that, I just lose all feeling for the car; I cannot judge how much to do it by. It just feels so alien." ▶

Working harder than ever: Jenson will be out to make the most of his role as lead McLaren driver



Much rests on how Jenson gets on with new Pirellis

◀ This is partly down to how sensitive a driver Button is. He is able to detect very small changes in the car's behaviour, making him a superb development driver, but this is sometimes responsible for him not pulling it out of the bag in qualifying. Conversely, he excels in mixed conditions – particularly when on slick rubber – and several times has closed rapidly in on Hamilton and overtaken him in such conditions; this occurred most recently in Brazil last year. Button attributes this largely to not being fazed by the conditions and backing off, which would cause loss of tyre temperature, but it suggests that the struggle to improvise is not something innate – and could therefore still be overcome in dry conditions.

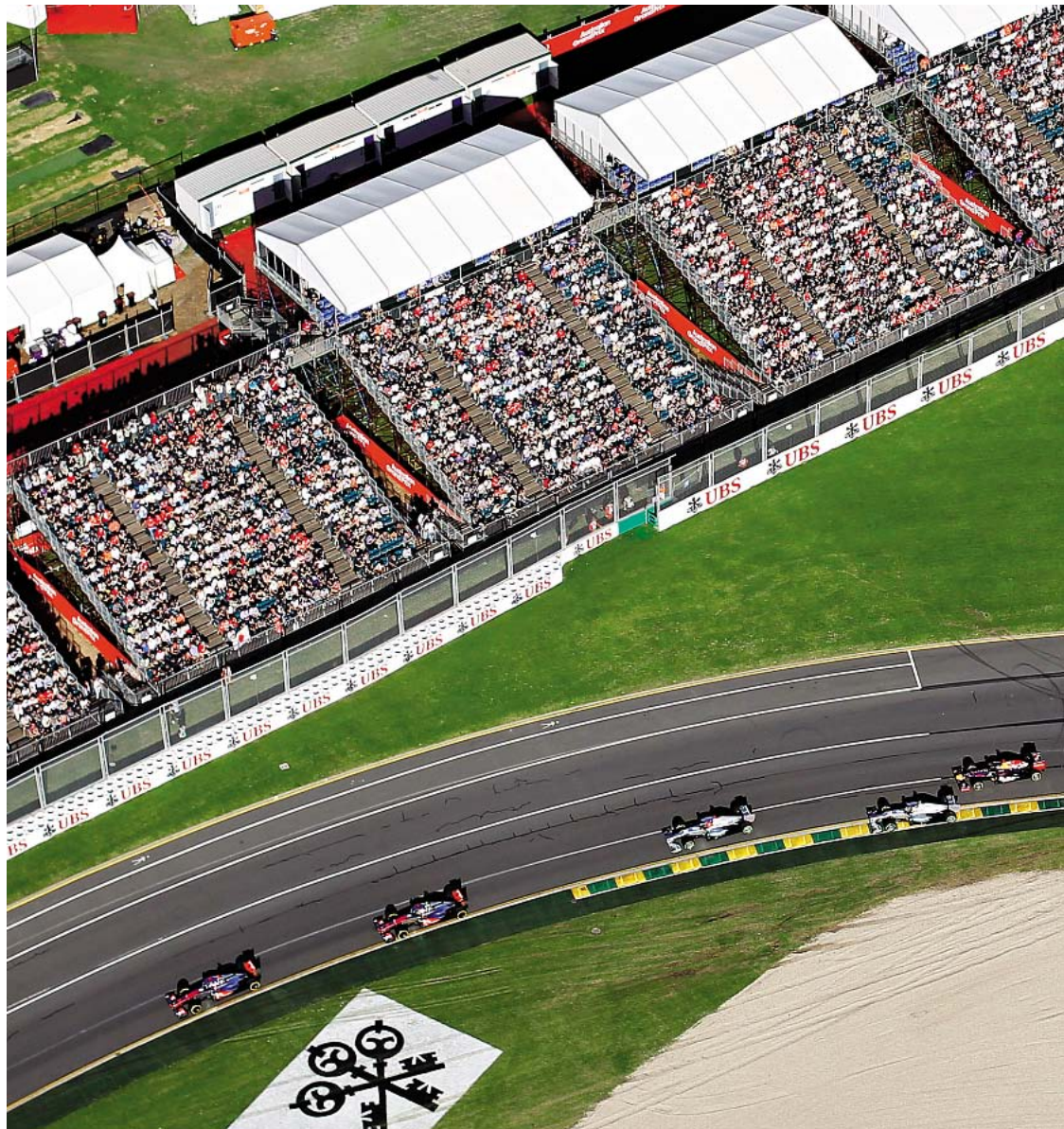
That said, his qualifying is not as big a weakness in his game as his performance relative to Hamilton from 2010–2012 would suggest: for the most part, his Saturday record compared as well as can be expected.

But with Hamilton gone and a relatively inexperienced new team-mate in Sergio Perez, the way is clear for Button to assert himself in the team. The Mexican was only 10 years old when Button made his grand prix debut in 2000, and the senior driver in the team will now sense his opportunity. For all the PR talk about two-car teams and equal opportunity, privately Button will realise that this could just be the biggest season of his career, even with a world championship, 15 wins and 13 seasons on his CV.

Given that Perez's biggest weakness during his career has generally been qualifying – forget the view of him as irredeemably error-prone, which is based purely on the (admittedly worrying) glut of errors in the final stages of last season, as he battled to excel in a decreasingly competitive Sauber – Button has every reason to expect to be the senior partner on Saturdays. Qualifying could well prove to be the decisive battleground between the pair.

“There's no number one in this team,” says Button. “I'll be the more experienced team-mate, but Checo has worked with another team, he comes with a lot of speed and seems an intelligent guy who is willing to learn. It's exciting for the team: a new start. It's the first time for six years that they haven't started a season with Lewis Hamilton in the team. Whether that is a good or a bad thing, no-one knows.”

Button will certainly regard it as a good thing. The only black mark hanging over the team is the loss of well-regarded technical director Paddy Lowe. Button held Lowe – who joined McLaren from Williams, where he was a key player in the development of active suspension – in high esteem. Inevitably, he has downplayed the impact of Lowe's understandable desire to take a big-money offer from Mercedes, but in an interview with AUTOSPORT last year he singled him out as a key cog in how quickly he and the team formed a good relationship.



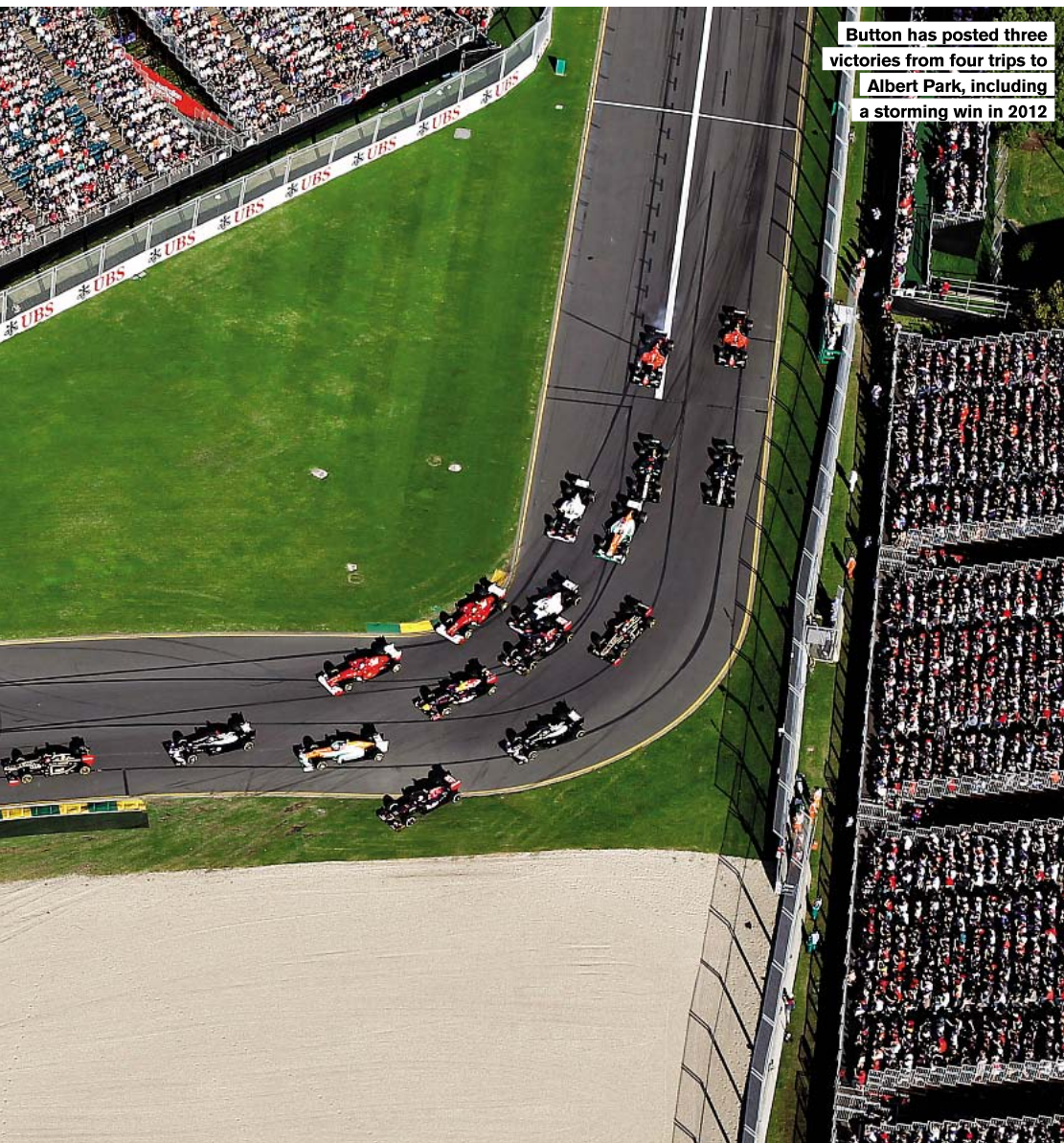
“Button singled out how Paddy Lowe was a key cog in his relationship with the team”

“They listened to my opinions as soon as I arrived,” said Button in India last year. “In my first meeting we sat down at MTC, and immediately I was asked what I liked from my car, and how I felt. They've really listened to what I had to say. I helped in a lot of directions, in terms of brakes and many aspects of the car. There aren't many teams that listen to the driver's opinion; this is definitely one that does.”

That's not to say that Lowe's departure will change this: as Button has pointed out, new technical director Tim Goss was responsible for last year's very effective MP4-27. But it's impossible to know how a team's dynamic will be affected by the loss of so senior a figure, particularly in the longer term.

Despite that, pre-season testing suggests that the McLaren is going to be strong enough to be in the mix for race wins and a title tilt. And it might even be the favourite, which of course raises the stakes still further. Fortunately for Button, the omens for a strong start to the season in Australia are good. With three Melbourne victories in the past four years, he has established himself as one of the most successful drivers in the history of an event that dates back to 1928.

A fourth victory would equal the record for Australian Grand Prix wins that's held by Michael Schumacher and Australian racing legend Lex Davison. It would also underline once and for all that McLaren *is* Button's team. ❧



Button has posted three victories from four trips to Albert Park, including a storming win in 2012



THE McLAREN YEARS

2010

Button makes a surprise switch from the championship-winning Brawn team – which was about to be reborn as Mercedes – in November. Despite many fearing that he'd struggle to establish himself in a team dominated by Lewis Hamilton, Button wins two of his first four races with McLaren, and stays in the hunt for the title until the penultimate race of the year.



Starts: 19
Wins: 2
Australia, China
Poles: 0

2011

Asserts himself over the troubled Hamilton as the season goes on. After his remarkable last-to-first victory in Canada, following a clash with his team-mate, he really comes into his own in the second half of the year. In a season dominated by Sebastian Vettel, Button is the second-best performer.



Starts: 19
Wins: 3
Canada, Hungary, Japan
Poles: 0

2012

A run of poor results in the six races from Bahrain to Silverstone knocks Button out of title contention. A stronger second half of the season, after McLaren addresses his tyre problems, allows him to recover. His dominant victory from pole position in the Belgian Grand Prix is the highlight.



Starts: 20
Wins: 3
Australia, Belgium, Brazil
Poles: 1

PEREZ: THE WILD CARD

Mclaren signed Sergio Perez off the back of some remarkable race performances, not least his charge to second in the Italian Grand Prix.

While he had a tyre advantage in the second half of that race – largely because he could start on the harder compound thanks to a disappointing qualifying – that performance wasn't just down to luck. An excellent first stint meant that he was able to use the pace of the softer compound to close to within 4.5 seconds of winner Hamilton at the chequered flag.

Popular revisionist history now suggests that Perez somehow lucked into his three podiums, and that he'll be a disaster at McLaren. That might prove to be so, and you can certainly make a strong case that McLaren would have been better off signing Nico Hulkenberg. But Perez is a driver



Perez must capitalise on his potential in 2013

of great potential whose career will be defined by how he performs over the next 12-18 months.

The key to whether he can make this opportunity work is likely to be his off-track demeanour as much as anything. Some at Sauber, and in the Ferrari Driver Academy, found Perez a little arrogant and not as hard-working as they'd have liked.

McLaren will be a hard taskmaster, and there are already hints in Perez's conduct at the track that he has adapted well to his new surroundings. He also appears to

have accepted that there will not be much time to play himself in a team where success is expected.

If not, McLaren-reject Heikki Kovalainen knows what awaits the Mexican. "He's clearly a strong driver, so he has all the necessary abilities. It's a question of whether he can make the most of it quickly enough not to fall out of [McLaren]."

Perez certainly has the potential to emerge as a race winner. The question is, does he have the right attitude? If not, then he could struggle in the season ahead.



Getting yourself into a top grand prix car isn't easy. Of the select few who ever start a world championship grand prix, only a small fraction of them ever drive great machinery. But the majority of those who do tend to get there relatively quickly. Perhaps not as rapidly as Lewis Hamilton, who ended up in a car with title-winning potential in his maiden season, but usually after only a few years. In F1, the potential *creme de la creme* usually rises rapidly.

This season it's Sergio Perez who, with just two campaigns for Sauber under his belt, steps into leading machinery with McLaren. Paul di Resta may justifiably eye the Mexican's drive with a little envy, for the Scot is highly regarded by McLaren team principal Martin Whitmarsh and was a contender for that seat. Instead, the

than Force India in the constructors' championship in 2012. But it would be wrong to judge di Resta purely on the final quarter of the season.

WHAT WENT AWRY?

With six races to go, di Resta's record compared well to that of Hulkenberg. He had just pulled off a remarkable fourth place in Singapore, which would have been one place better but for a badly-timed safety car. This great drive, at a venue where he also excelled in 2011, is known to have made Ferrari team boss Stefano Domenicali sit up and take notice at a point when Felipe Massa's future was still undecided. The next time he drove the car, on the Friday of the Japanese Grand Prix, things went badly wrong.

"It was the beginning of FP2," recalls di Resta. "I found myself just slightly offline and on the dirt at the entry to Spoon. The track had been resurfaced and it was quite difficult to see exactly

WILL OPPORTUNITY KNOCK FOR DI RESTA?

After missing out on a McLaren seat, Paul di Resta faces another season of proving himself at Force India, says EDD STRAW

26-year-old heads into his third campaign with Force India knowing that he needs to make sure he's at the front of the queue for promotion when the next opportunity arises. If he misses out next time, chances are that the opportunity will never knock again.

Dreams of racing for Ferrari or McLaren set aside – for now at least – di Resta must focus on re-establishing himself after a disappointing end to the 2012 season. The popular perception is that team-mate Nico Hulkenberg thumped him last season, but that's skewed by what happened in the final six races.

There's little doubt that, taking the whole season into account, Hulkenberg did prevail in the battle of the Force India drivers.

His performances emphatically proved that he deserves to be in a top car, rather than stepping to a Sauber team that finished only one place higher

where the asphalt finished and there was loose dirt at the side of the track before the grass where people had been before."

The result was that di Resta, in pulling the car across from the left side of the circuit to take the line into the Spoon Curve left-hander, overshot by a fraction, hit the grass with his front-right wheel and lost the car. He clattered the barriers in what appeared to be a regulation impact, but the crash had caused some minor damage to the monocoque, detectable only by the car's lack of performance.

The chassis was not changed until the Abu Dhabi Grand Prix, meaning that di Resta was hobbled in Japan, Korea and India, where his trio of 12th places looked poor in comparison to Hulkenberg, who bagged a sixth, seventh and eighth place. "It was subtle," he says of the chassis problem. "We were down on straightline speed for three grands prix and, after changing various ►



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◀ different components on the car, that was the last thing. When we did change, it flicked the switch and we were back.”

Categorically, this does not mean that di Resta is guaranteed to have matched Hulkenberg in those three races. Korea, in particular, was a stunning race by Hulkenberg and di Resta would have been hard pushed to replicate that. But it's important to note that the team didn't change the chassis unwillingly. The next couple of races were also hard going, for the super-smooth di Resta shares with Jenson Button a weakness in working the tyres hard enough to get them up to temperature on the less-abrasive circuits (and that would have counted against him when McLaren chose its second driver for this year).

Come Brazil he was quick and confident, but after an incident-packed race he looked pretty poor relative to Hulkenberg's run at victory after aquaplaning into the wall and ensuring the season finished under the safety car.

“Throughout that weekend, we were very quick and in FP3 we were fifth quickest,” says di Resta. “But it rained just before qualifying and we didn't gamble on a wet set-up. Then the track changed and it rained for the race.

“The last race summed up the end of the season. I picked up front-wing damage from Kobayashi going off the track and coming back on and I got a puncture. I stopped for wets before it dried up, then at the end I was the one who aquaplaned off. It was one of those things.

“At the end of the year I couldn't get myself out of that rut, although we had some great results before that. That's what we need to get back to. The year ended at the right time for me because it just wasn't happening.”

Di Resta's account stands up to scrutiny, albeit with the caveat that his prodigious pace on intermediate rubber later in the race as he chased down Michael Schumacher played a big part in his going off. But all of this did mean that his season was front-loaded in terms of performances, just as it was in 2011.

In people's minds the last few races of the season have a habit of 'counting double', yet even Hulkenberg's year is unfairly maligned for a slow start – he excelled as early as the Malaysian Grand Prix, the second event.

The problem in judging the duo is that Force India had two drivers of great potential last year. Hulkenberg showed more over the year, but to be comparable, if fractionally behind, a driver who



Di Resta must become Force India team leader in VJM06

“2012 ended at the right time. It wasn't happening”

many believe should be in a title-chasing team is no disaster. What di Resta now needs to do is remind everyone why he was highly rated in the first place, turning in the kind of consistently strong performances that allowed him to score points, even in machinery that wasn't strong in the first part of the year.

WHAT HE MUST DO NEXT

Di Resta's objectives for 2013 are simple. Firstly, he has to beat Adrian Sutil. In 2011, when they were paired together at Force India, he showed he had greater potential – bearing in mind his status as a rookie – even though the far more experienced German outscored him. This year there are no such caveats. Sutil is a good mid-grid grand prix driver; di Resta has to beat him to prove himself worthy of a top drive.

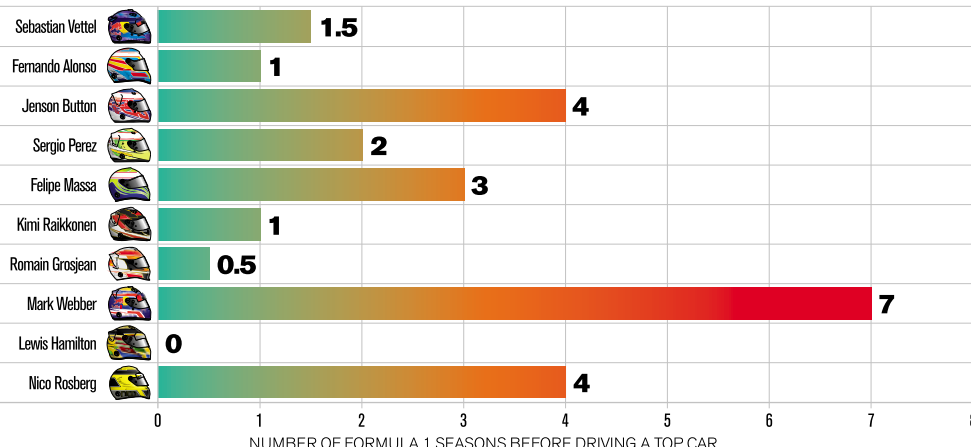
Secondly, he needs a few more flashy results. While it frustrates the Scot that

people tend to overlook his standout moments (“We led the Bahrain Grand Prix but nobody seems to remember that”), he does need to underline his abilities with some strong showings – ideally by getting that podium finish that eluded him last year. That will go a long way to marking him out from the crowd.

Di Resta can still have a future in a top team. He's seriously quick without ever looking like he's flying (another trait he shares with an on-form Button) and has excellent tyre-management skills. This year those qualities will be able to shine through without the problem of having a potential superstar in Hulkenberg alongside him. Such a scenario makes it easy, for those who buy into the false dichotomy that every team must have one winner and one loser in a season, to dismiss him.

Di Resta is a steely character and has upset the odds before. He can do so again. ❧

IT'S (NOT ALWAYS) A LONG WAY TO THE TOP



The best drivers are always in a hurry. With only a relatively small number of exceptions, it doesn't take long for them to force their way into a top team. A glance at the drivers in the top five teams on the 2012 grid proves that, with drivers such as Sebastian Vettel and Fernando Alonso making it into the big leagues in no time.

There are exceptions. It took a while for Mark Webber to make it into a car able to challenge for wins. But for the most part, in recent years it's been a relatively rapid rise to the top, particularly during the manufacturer era when their financial backing – not to mention Red Bull's – helped the cream to rise quickly, particularly given that the depth of talent in F1 a decade ago wasn't as impressive as it has been in the years since.

F1 2013's finest technical artistry

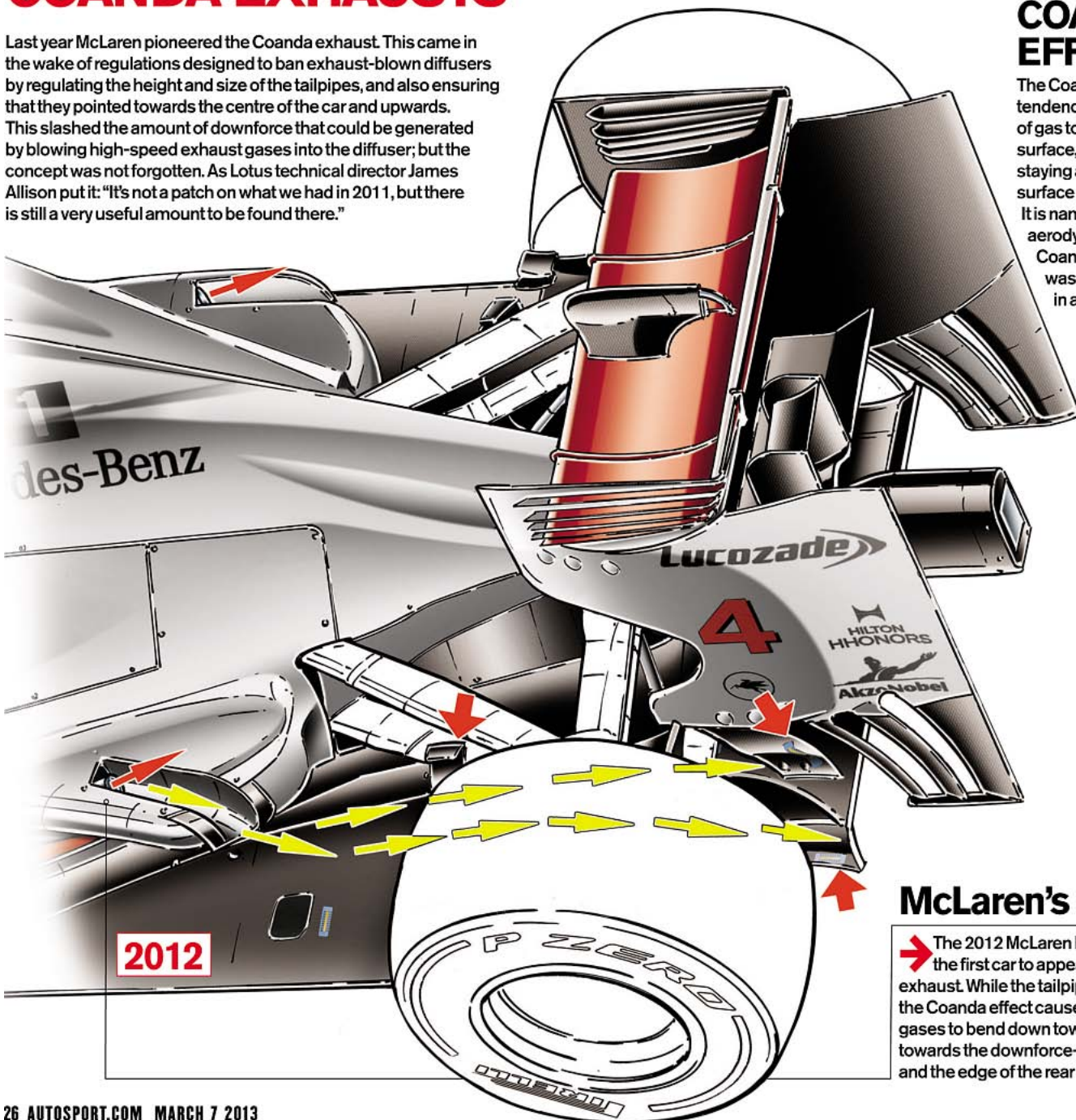
In the arms race that is Formula 1, there's an ever-evolving array of technical themes that are the key between success and failure. **GARY ANDERSON** outlines the coming season's major threads

COANDA EXHAUSTS

Last year McLaren pioneered the Coanda exhaust. This came in the wake of regulations designed to ban exhaust-blown diffusers by regulating the height and size of the tailpipes, and also ensuring that they pointed towards the centre of the car and upwards. This slashed the amount of downforce that could be generated by blowing high-speed exhaust gases into the diffuser; but the concept was not forgotten. As Lotus technical director James Allison put it: "It's not a patch on what we had in 2011, but there is still a very useful amount to be found there."

WHAT'S THE COANDA EFFECT?

The Coanda effect is the tendency of a propelled jet of gas to be attracted to a surface, with the airflow staying attached to that surface even if it's curved. It is named after Romanian aerodynamicist Henri Coanda (1886-1972), and was originally harnessed in aeroplane design.



McLaren's solution

→ The 2012 McLaren MP4-27 was the first car to appear with a Coanda exhaust. While the tailpipe points upwards, the Coanda effect causes the exhaust gases to bend down towards the floor, and on towards the downforce-producing brake ducts and the edge of the rear wing and diffuser.

HISTORY LESSON

The Coanda exhaust quickly became the standard last year, although several teams, including Lotus, weren't able to race their design until late in the season. Even though it wasn't optimised, and the loss in horsepower caused by the configuration of the tailpipes was too big, there was an immediate improvement when Lotus did use it; this switch helped Kimi Raikkonen to his Abu Dhabi victory. This year, the bhp loss has more than halved.

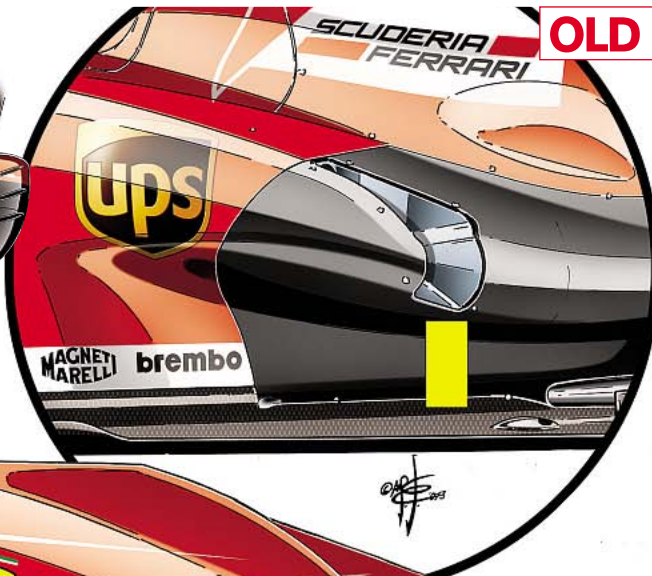
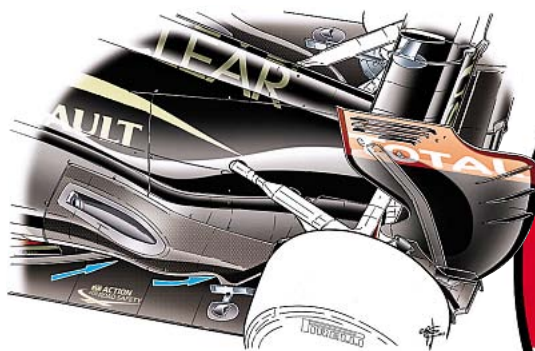
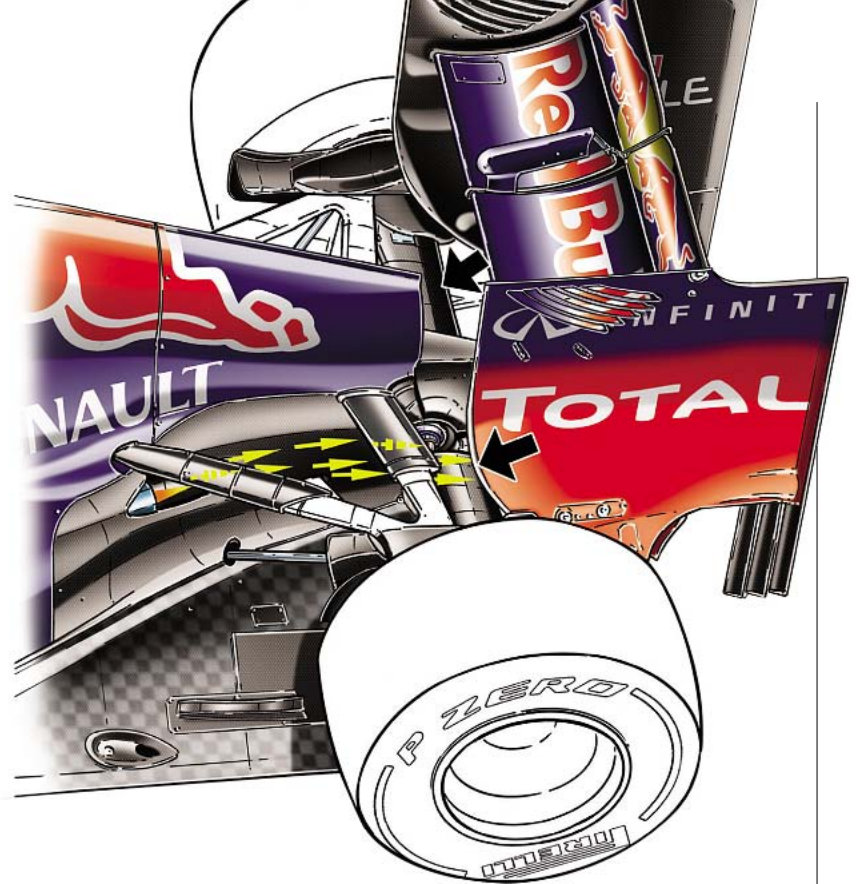
Red Bull's first try

➔ This is the exhaust set-up that Red Bull ran pre-season last year, before its switch to the Coanda concept (latest version below).

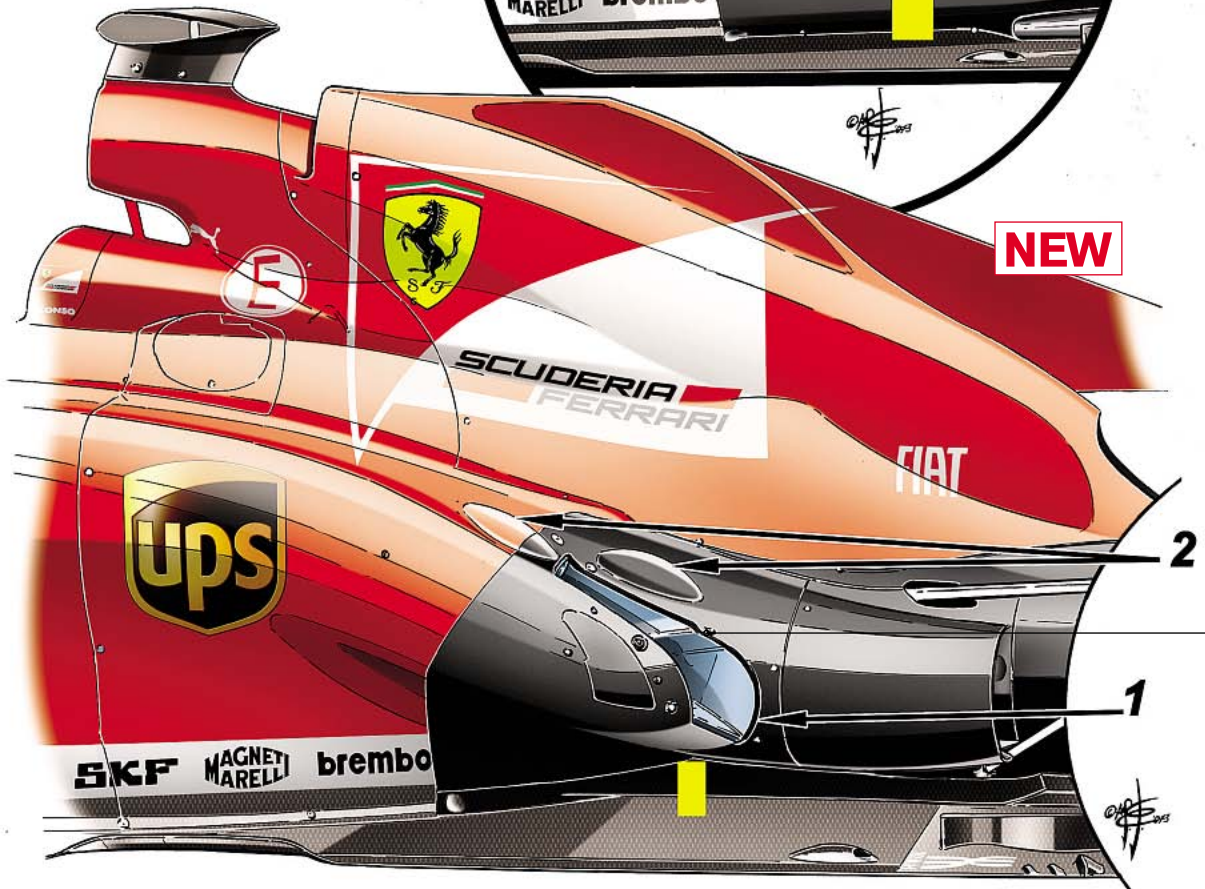


2013

2012



OLD



NEW

Developing the breed

➔ Lotus (far left) adopted the Coanda exhaust at last year's Korean GP and has an evolution of it this year. Ferrari, meanwhile, introduced a new step for its Coanda exhaust at the final Barcelona test.

The exhaust channel (1) reaches lower down – as illustrated by the yellow block showing height from the ground in the old (inset) and new comparison. The sidepod falls more steeply with bonded bubbles (2) now necessary to clear components inside. Both these changes impinge into the Coke bottle section of the lower bodywork. The changes imply greater exhaust-derived downforce but possibly at the expense of the Coke bottle.

Ferrari hasn't yet got the Coke bottle coming down into the floor to create a tunnelled duct. It has a duct on the inboard end of the floor feeding air to the centre of the diffuser. This helps diffuser sensitivity to ride-height changes. It also helps by taking air over the top surface of the floor so there's less spillage around the edge.

The sidepod is lower and longer and has more shape in it – in a bid to get the exhausts to work the brake ducts. You would expect Ferrari to head further down the Red Bull route – to connect it up with a tunnel duct rather than an open duct. This would help the exhaust gases stay on instead of them shooting across the gap.

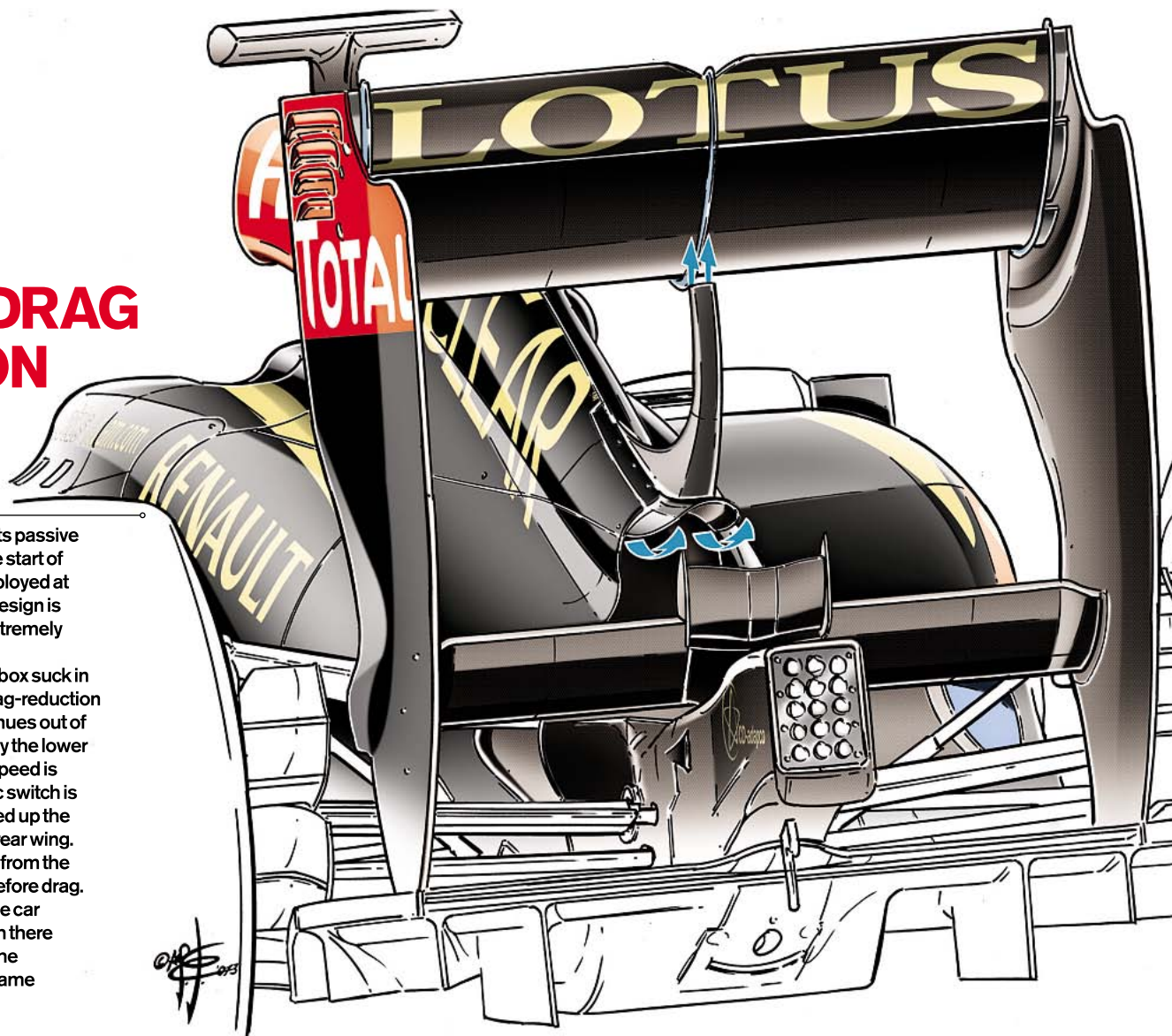
PASSIVE DRAG REDUCTION SYSTEM

Lotus position

→ Lotus has ruled out running its passive drag-reduction system at the start of the season, but expect it to be deployed at some point during the year. The design is simple in its basic concept, but extremely difficult to get to work properly.

Intakes on either side of the airbox suck in the airflow. Before the passive drag-reduction system is 'switched on', this continues out of the back of the car (as indicated by the lower blue arrows). But once a certain speed is reached on the straight, the fluidic switch is activated and the airflow is directed up the vertical duct, and blown onto the rear wing. This helps to separate the airflow from the wing, cutting downforce and therefore drag.

The switch deactivates once the car drops to a certain speed, although there are problems with ensuring that the passive DRS switches off at the same speed that it switches on.

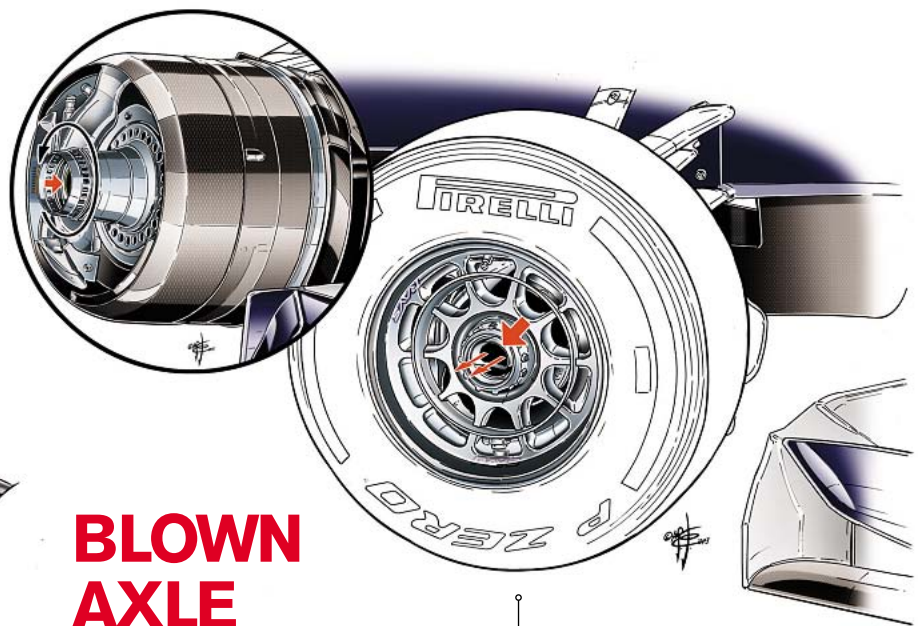
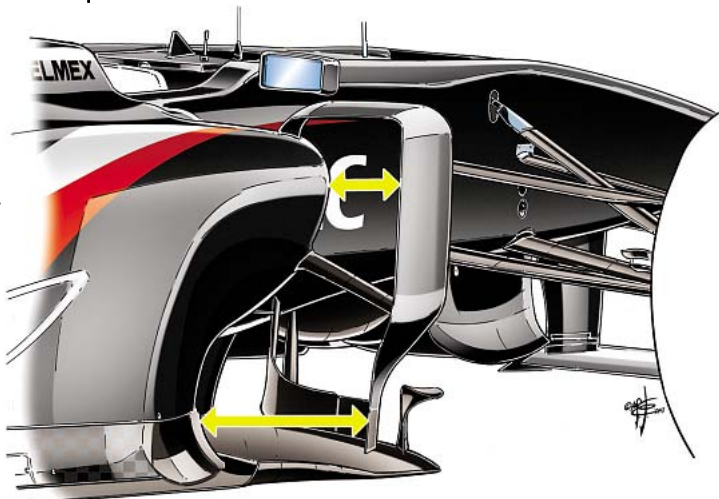


SIDEPOD TREATMENT

Sauber narrows its options

→ The most eye-catching design feature on any of the 2013 challengers are the sidepods of the Sauber C32. Around 120mm narrower than the maximum width permissible in the regulations, these are a masterpiece of packaging, with every square millimetre of space inside allocated to the various components carried within.

The reason that Sauber has put so much effort into this feature is because it minimises the blockage to the airflow, and therefore cuts drag. Those who are sceptical about the concept fear that, while it does make the car more aerodynamically efficient, the lack of shape to the sidepods reduces the potential to accelerate the airflow in order to produce more downforce in the Coke bottle/diffuser area.



BLOWN AXLE

Williams feels holy

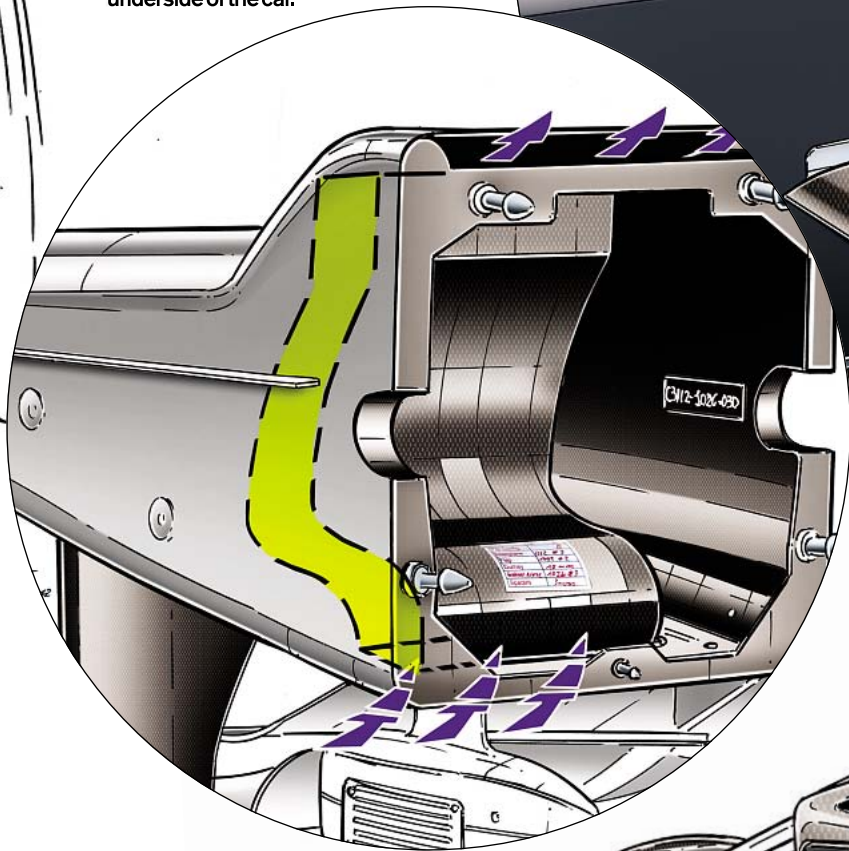
→ The front axles of the Williams feature a hole, which is used to duct air from the inside to the outside of the front wheel; this improves the aerodynamics both immediately inboard of the wheel, and from its wake. Red Bull tried a similar design in 2012, but it was considered illegal because it could be deemed to be a moveable aerodynamic device. The Williams concept is legal because the hole is static.

HOLES IN THE NOSE

Sauber letterbox concept

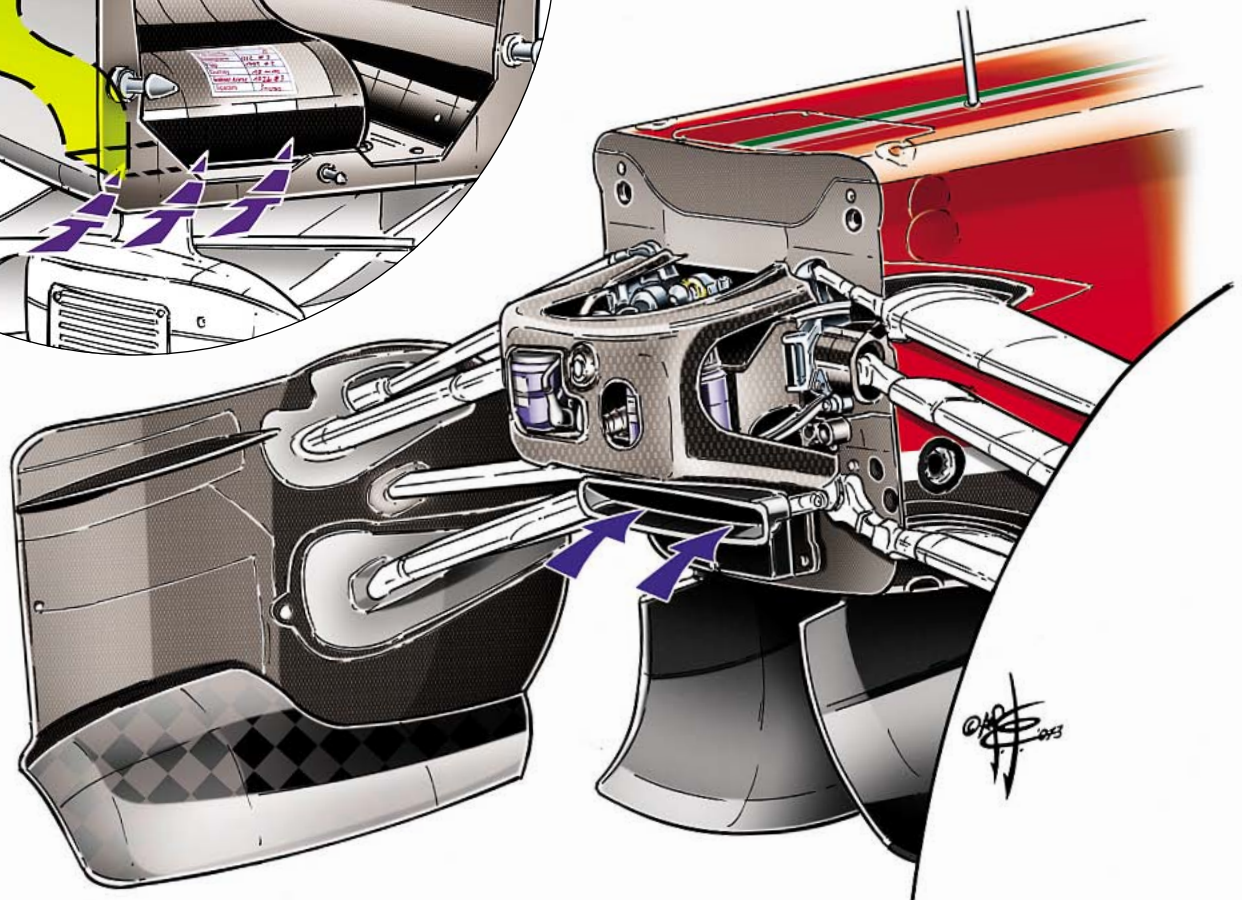
→ Sauber has continued to run the rear-facing letterbox on the top of its nose this year. This concept, which has subsequently been adopted by Red Bull, is designed to suck air from underneath the car via a duct that leads to the underside of the nose. This helps increase the speed of the airflow coming off the front wing, which is then more energetic and able to create downforce around the sidepods, Coke bottle and diffuser.

The second drawing, based on last year's Sauber, shows the path that the ducting takes from the letterbox to the underside of the car.



Ferrari's slot

→ The Ferrari also has a slot in its nose. However, it has no exit on the top surface, and its destination is unclear. It could simply be used for cooling – perhaps of the electronics or KERS – but it could also have an application in Ferrari's mooted passive DRS.



2012



NOSE JOB

Last year, every car except the McLaren, Marussia and HRT featured an ugly step in the nose. This was the consequence of regulations forcing the height of the nose to be reduced, combined with those governing the chassis remaining unchanged. As teams wanted a chassis that was as high as permitted in order to maximise the airflow under the car, most ran with a step.

This year, the nose and chassis-height regulations remain the same, but a vanity panel is permitted. This fits over the top of the step in the nose to create a smooth curve. It makes little difference to the aerodynamics.



What's new

30

There's nothing radical like banning exhaust-blown diffusers or outlawing six-wheeled cars, but

DOUBLE DRS BANNED

The double DRS, as used by Red Bull and Mercedes last season, has been outlawed, but passive drag-reduction systems remain. The difference is that the double DRS augmented the effect of the DRS when it was deployed by stalling either the front or rear wing, thanks to exposing a hole in the rear-wing endplate when the top section of the wing was moved upwards. The passive DRS works automatically when the car hits a certain speed.

WEIGHT INCREASE

The minimum weight (F1 regulations stipulate that this figure is car [including oil and water] plus driver) of a car has been increased by two kilos to 642kg. This is because of the slight increase in weight of the 2013 Pirelli rubber. The weight distribution continues to be regulated as an extension of a rule that was introduced ahead of the 2011 season, with 292kg/343kg minimum front/rear.

DRS ZONES NOW USED IN QUALIFYING



For the first two years of the DRS, its use was unrestricted in qualifying and practice, but restricted to pre-allocated zones in races, only when within one second of the car ahead. This year, the usage zones apply all weekend.

The move was made for safety reasons and it prevents drivers having to press the DRS button on every straight in qualifying. Team simulations suggest that this will only have a significant effect on gearing at around a quarter of the circuits on the calendar.





in 2013

You will have heard an enormous amount about rules stability in the build-up to the 2013 season. While the cars look very similar to last year's and there have been no significant moves – such as the outlawing of the exhaust-blown diffuser and f-duct as in recent years – that's not to say that everything is the same. Here are the major differences.

the devil is in the details. **EDD STRAW** sifts through them



NEW RUBBER

While the Pirelli control tyres are closely related to last year's, there are some key changes. The compounds are a little softer, which should help to improve the warm-up characteristics and ensure there is enough degradation for at least two pitstops in races. The overall grip is reckoned to be about three per cent greater than last year, with more mid-corner grip and allowing sharper turn-in.

Pirelli has aimed to have approximately a half-second performance differential from one compound to another.

FORCE MAJEURE

When Lewis Hamilton ran out of fuel on the slowdown lap after topping qualifying in Spain last year, and when Sebastian Vettel stopped at the same point in the weekend in Abu Dhabi, both McLaren and Red Bull attempted to argue it was *force majeure* – unsuccessfully. Because of the difficulty in defining what is *force majeure*, this get-out has been removed from the regulations.



TORSIONAL FRONT-WING TEST



Amid suspicions that teams were designing front wings that rotated under load for aerodynamic gain, the FIA has changed the way that the 1000N deflection test is administered. Last year it was applied to the centre of the wing, but now it can be applied with an offset.

Q1 CHANGE

The demise of HRT has led to a change to the qualifying system. Last year, seven cars failed to make the cut to run in Q2, which usually led to one of the drivers from the established teams joining the Marussia/HRT/Caterham drivers in dropping out. This year, six are knocked out in Q1 and, with no HRT, it means that two midfield drivers will be stung.

This will leave 16 drivers to participate in Q2, with 10 drivers going through to the final 10-minute shootout as before.





32

Sky Sports: F1 TV without limits

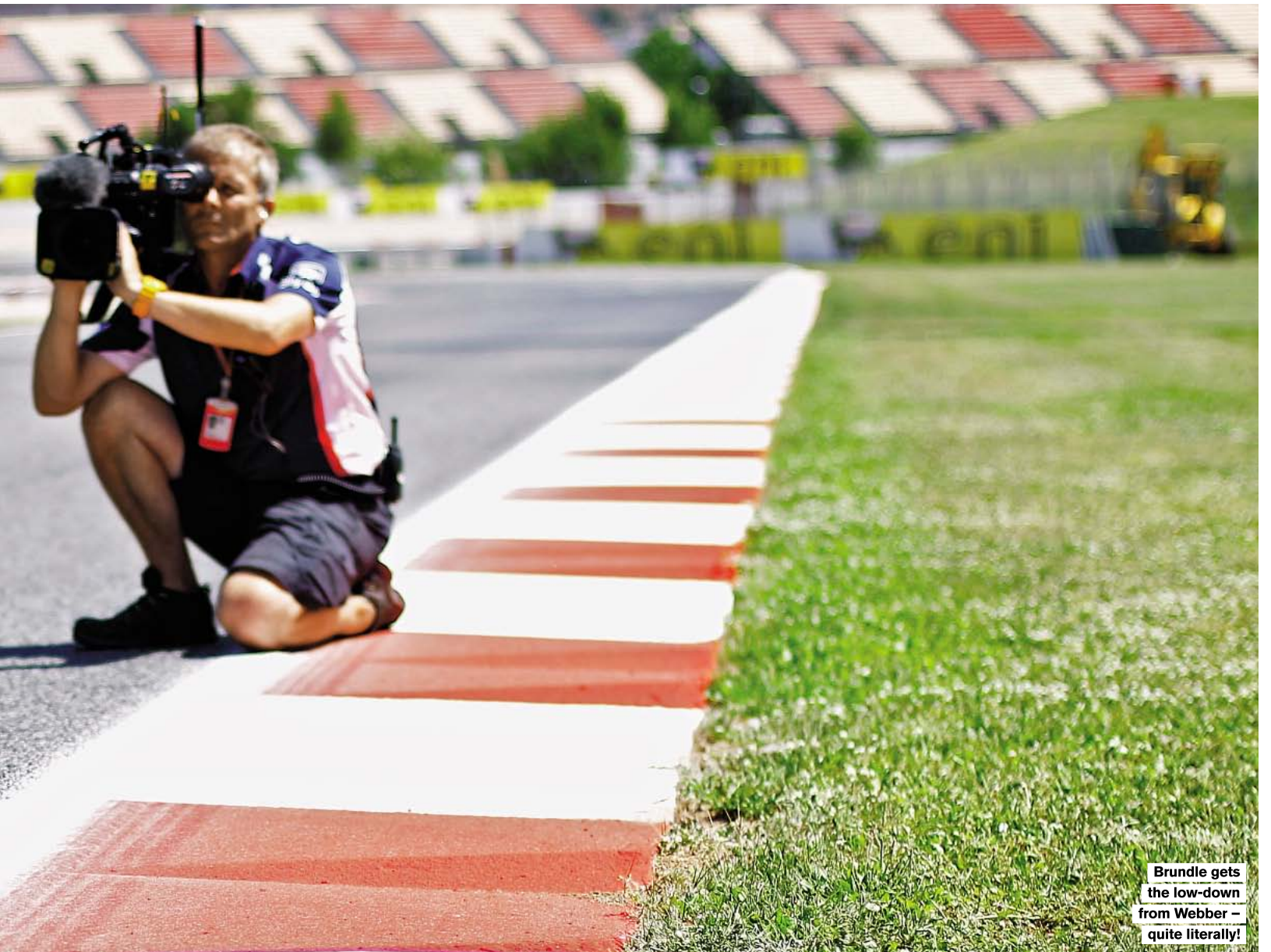
Entering the second season with its Sky Sports F1 HD channel, Sky Sports is promising even more high-octane, full-throttle output for 2013

Formula 1 has been televised live in our front rooms since the mid-1980s, when cars had fat slick tyres and turbos, and Nigel Mansell had a bushy 'tache. Last year was another revolution in British F1 coverage, as Sky Sports began to broadcast its dedicated Formula 1 channel.

With the BBC opting to share the coverage and reduce its commitment by showing only half of the races live, Sky Sports F1 HD became the only place in the UK to watch all the grands prix as they happened. From a standing start when the deal was announced in July 2011, Sky Sports F1 HD went live on March 9 2012. The small matter of covering 20 grands prix – with all the practice and qualifying, plus GP2 and GP3 support races – in their entirety was thrust upon the shoulders of executive producer Martin Turner.

“Every race last year was a new experience for us, because they were all new locations to create an essentially bespoke production from,” says Turner. “We’re doing things which quite literally haven’t been done before, and we have great ambitions and have certainly put the effort in – both in terms of time and resource.

“It’s amazing how different each location is, and how the vagaries of the Chinese paddock compare



Brundle gets the low-down from Webber – quite literally!

with Silverstone or Canada – which is incredibly difficult for us. It changes what you can do, and how you can do it.

“We were well received last year, and it went pretty much according to plan, but it’s always a challenge to be better every year and raise the bar.”

Sky takes a small army of production crew to every event on the grand prix calendar, and is on air from the first moment of free practice on Friday and until every last scrap has been analysed on Sunday evening.

“In terms of the production, we do four live shows before we even get to qualifying on a Saturday. It’s a lot of logistics, a lot of effort. We learnt lessons at every grand prix last year, and it’s given us the basics of how to put together a grand prix weekend, which of course we want to improve on this season.

“Last year was a challenge, but live television is what we live and breathe on at Sky. Just like an AUTOSPORT journalist can get up and can write 2000 words before breakfast, we have that level of expertise in television. We’re very aware that some things remain the same, regardless of the sport we’re covering, and we still encounter the surprises and difficulties you get elsewhere – that goes in every live television production.

“It’s a big operation, right from watching the live presenters in the pitlane, to the guys in VT turning



edits around very quickly, or an interview you’ve just done two minutes ago, or actually playing an interview to air, as live, maybe with a 20s delay. Those are what we do well in every sport, but there are certain specific challenges to motorsport.”

Despite all that expertise, the volatile nature of the F1 paddock always throws up some incredible surprises – such as the Williams pit garage fire at Barcelona last year, when Sky developed this dramatic story as it unfolded before our eyes.

“Like me, my father was in live television and his great quote to explain it was: ‘You can’t shout “cut!” and ask them to rerun the Derby’. In sport, you never know what’s going to happen next, and with F1 being so unpredictable – I think that’s generated so much interest recently. That’s the lifeblood of live sport on TV. We definitely bring something new to the party as an F1 broadcaster, and hopefully that something is what people like.”

Like a graceful swan on the water, paddling furiously beneath the surface, the slick TV product you see on screen is very different to the frenzied work, and attention to detail, going on behind the scenes.

“Firstly, you get the sport’s stars for very short periods of time because of the vast demands on the drivers,” says Turner. “Don’t forget, there ▶

PICTURES: J. L. RYAN/GETTY

◀ are 30 other broadcasters on site at every grand prix, and over a hundred journalists – it's an incredibly competitive environment.

"If you want to make a four-minute Jenson Button feature, you can't afford to edit everything out, because you'll only be getting him for that four minutes. That's a major difference from other sports. For instance, if I was doing a special with [Barcelona footballer] Cesc Fabregas, I'd probably get him for an hour and a half – I'd have him wandering around Barcelona, get all our shots of him at the sights. We'd cut his interview down to three or four minutes, interspersed with all the other stuff we'd done.

"With an F1 driver, you have to make them work, and squeeze the best out of them, for those four minutes. You've got to be ultra-prepared for every morsel that you get! Every bit of access is gold."

While there are more races in the modern era than ever before – 20 last year and 19 this term – the actual live racing action is far less than many other sports. In contrast, an English Premier League season is 20 teams each playing 38 games over 90 minutes, with Sky showing as many as four games per weekend.

"In terms of the racing, this sport is less than 40-hours long," says Turner. "Nineteen races of up to two hours. So that's less than two days of sport, and we've got a year of programming to fill. That's basically a cricket test match worth of live action. And that would be one tiny part of the cricket season, and yet in F1 that's it!



"Sure, you have all of the practice, qualifying and all the other stories, but the actual racing is an incredibly concentrated amount of sport in a small amount of time. The challenge for us is to extend the story, continue the narrative when the daily papers have gone to sleep on it – AUTOSPORT obviously doesn't of course with the website and magazine. Like us, you continue the story, so we keep telling our sport's fans that there's still interesting stuff happening out there."

"By the time we got to Texas and Brazil last year, our turn-around time on virtual analysis was so fast – and we're talking state-of-the-art stuff here. It was so much quicker than the start of the season. We were able to analyse key incidents very, very quickly.

"This is something we'll be developing a great deal in 2013 – I'm very excited about that, and in Anthony Davidson I think we've got our very own Gary Neville [Sky Sports's Monday Night Football

"It was terrific to get Damon Hill back into the paddock – he's so well loved"



Now it has established itself after its debut season, the goal for Sky Sports F1 HD is to increase its depth of coverage.

"We want to be the home of F1, and we'll keep putting in the effort to justify that moniker," says Turner. "And we have to take care not to dilute it, and that's why it's an F1 channel and not a motorsports channel. GP2 and GP3 are part of the F1 world, they're intrinsically linked."

Sky Sports has built its name innovating the way it brings the action to your screen. Its use of technology in analysing the action has brought an extra dimension to its coverage.

"Our reputation in sport has been built on what we've produced from football, cricket, rugby union and golf," says Turner. "Our aim has been to provide the best coverage, and that goes across the board. F1 is all about technology, so it made perfect sense to use our SkyPad, the virtual car and the Race Control options [see panel, opposite].

"Having that option to get your iPad out or press the red button, switch between on-board cameras, following the driver tracker – the viewer can almost feel like they're part of a race team. That has proved incredibly popular with the true F1 nut. Having the touchscreen with experts has transformed how we analyse this sport.

analyst]. Neville has become a superstar with his forensic touchscreen analysis, and Anthony is doing the same. The fact he's a current top-level driver takes us to places we haven't been before; he can not only show you what's happening from their viewpoint, but also tell you what the driver is thinking and feeling."

And it's not just about the technology, it's the human side that also plays a huge part in how the channel has been received.

"In terms of commentary, in football Sky Sports has Martin Tyler, in rugby we have Miles Harrison who, I feel, are the best in the world. And I would put David Croft and Martin Brundle up there; they're doing an amazing job and it feels like they've been a double-act for the past 20 years. And they've only just started together – I was particularly chuffed with that. Both commentary and presentation teams take time to bed-in, you just can't turn-on relationships on screen and behind the mic straight away. We're delighted to keep that consistency into our second year.

"It was terrific to get Damon Hill back into the F1 paddock, he's such an erudite and reflective individual with all that fantastic history behind him. He's so well loved, and that's great for us. Johnny Herbert – again, what a much-loved British

All these viewing options are at your fingertips



RACE CONTROL GIVES YOU COMMAND

The technology race doesn't stop in Formula 1, and the best way to keep up with all the action on Sky Sports F1 is to make use of the up-to-date gizmos in our living rooms

to enhance the visual spectacle. Sky Sports F1 Race Control – free to all Sky Sports F1 subscribers – is available via the TV red button, the Sky Sports for iPad app and also online to PC and Mac users, offering extra

coverage to complement the TV experience. As many as nine live feeds are available at any one time, putting you in control of how you watch the race. Multiple on-board camera options are accessible, along with the

all-important timing screen (vital in qualifying), a pitlane channel that features essential team radio conversations as well as the FIA's information updates to teams, a driver tracker and a rolling highlights channel.

Check out skysports.com/f1 for all the details

F1 star. Walking through the paddock with him takes hours – not only does he want to speak to everyone, everyone wants to speak to him!

“Then you have Martin’s grid walk, which continues to be must-watch TV before every race, and Ted Kravitz’s notebook – which has become staple food for F1 fans.”

Another fresh asset to Sky Sports F1 HD for 2013 is a new series of classic races, which will complement its Legends series to get across the rich history of the sport.

“These will be broadcast in the build-up to every grand prix, up to five nights before each event,” reveals Turner. “Last year we built-up to Monaco and Silverstone with the previous five races, this year it will be before every weekend and not just the previous five, but the most significant events.”

Coupled with last week’s four-day broadcast of live testing in 3D – another world first for the channel – it shows Sky isn’t standing still when it comes to broadcasting the world’s fastest-moving sport.

“It’s my job to maintain Sky Sports’s reputation in a sport with a rich history,” Turner concludes. “And hopefully take F1 to new heights. That’s certainly our ambition, and I believe the team we’ve put together will do that.”



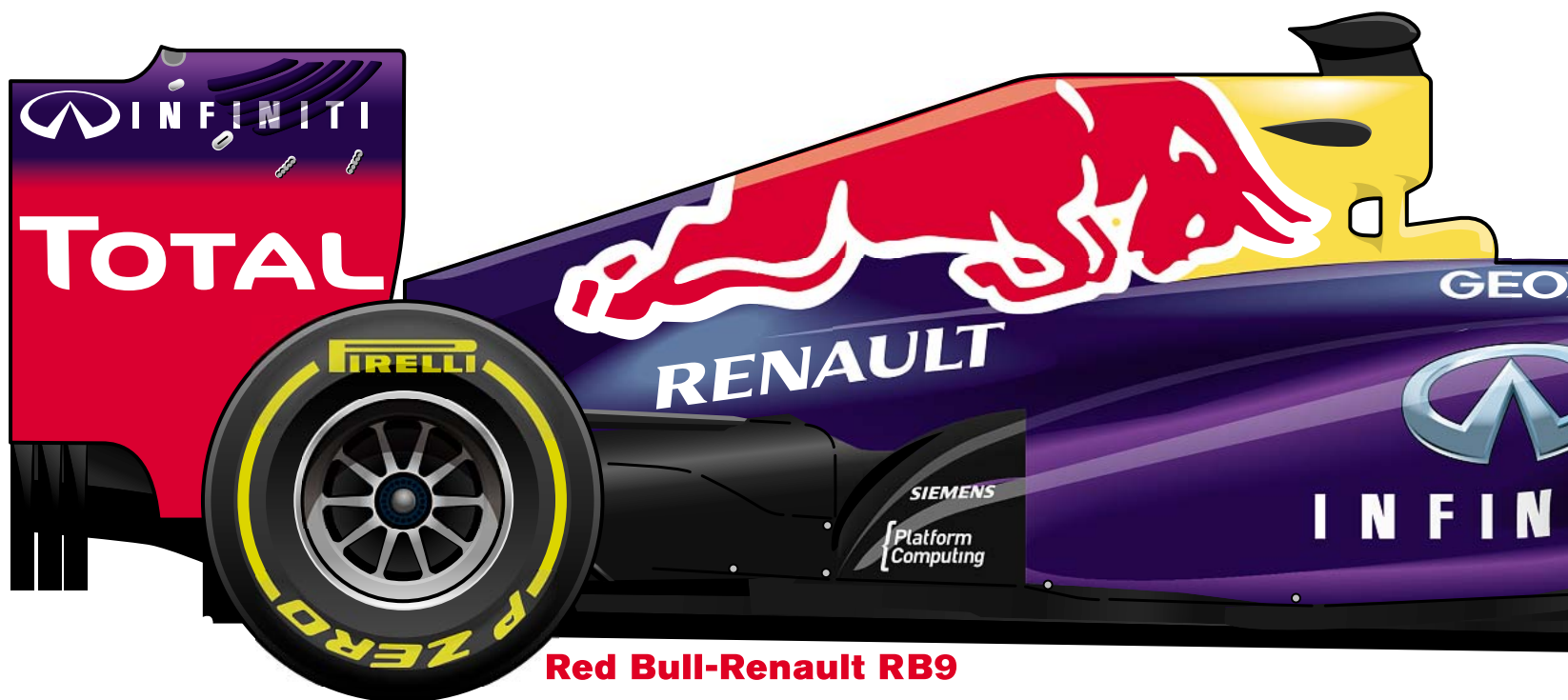
PICTURE: DUNBAR, FERRARO/LAT, GILHAM/GETTY

“Over the past four years the team has emerged first as a racewinner, then as a title contender with some rough edges and now into the formidable title-winning outfit of today”

AUTOSPORT RATING 1ST	Drivers	●●●●●●●●
	Engine	●●●●●●●●
	Chassis	●●●●●●●●
	Budget	●●●●●●●●
	Tactics	●●●●●●●●

Red Bull

There's no reason why the three-time champion team can't win a fourth straight title in this, the final year of the current rules cycle. But will the pressure of last year's fight and the spectre of 2014 result in Adrian Newey and his crew losing its stolen march?



Red Bull-Renault RB9

36

How time flies. It seems only yesterday that Red Bull was not taken seriously. It was the party team, the plaything of a spendthrift energy drinks magnate, and mocked by many in the paddock. But that all changed when Sebastian Vettel won the 2009 Chinese GP. There's only one word for what followed in 2010-2012: domination.

Considering where this team started – as a continuation of the hapless Jaguar team that achieved very little in five big-budget years in the sport – it's a remarkable achievement. Over the past four years, the team has emerged first as a racewinner, then as a title contender with some rough edges and now into the formidable title-winning outfit that it is today.

There's no reason for that to change this year, although with the regulations now very mature and in their fifth season, it's clear that Adrian Newey's team is in the realm of diminishing returns as it tries to improve the car. With this season expected to be so

close, it's hard to see it recapturing its dominance of 2011 but there's no reason why Vettel shouldn't be considered favourite.

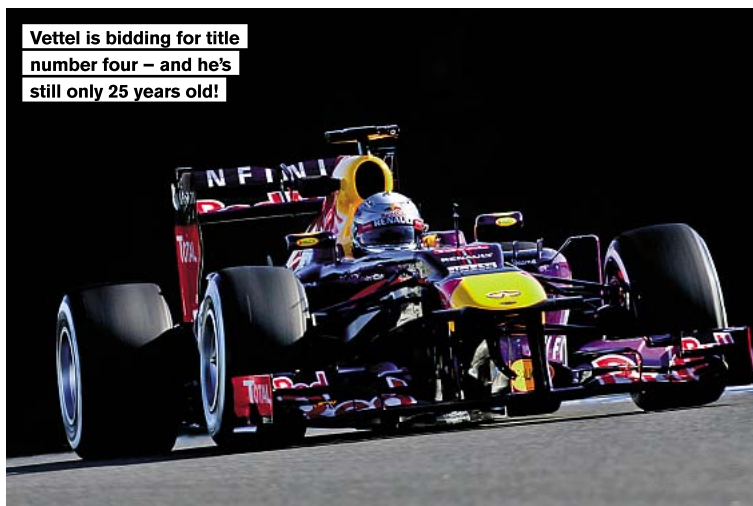
Above all, Red Bull has stability. Its facilities, on an unflashy industrial estate in Milton Keynes, remain

excellent and it has the budget and driver line-up to match anyone. The only potential curveball is the introduction of a new torsional front-wing flexibility test. In recent years, Red Bull has excelled when it comes to producing bodywork that is legal, but

deflects under load to aerodynamic advantage, and Newey has admitted that this is something that the team has had to adapt to. Then again, it's not the only team in this position.

Last year, Red Bull struggled in the first half of the season as it responded to the attempts to restrict the use of exhaust-blown diffusers, but by the fourth race it was winning. Late in the season, it found consistent top form and Vettel recovered from a big disadvantage to win the title. But, on average, it was the McLaren, not the Red Bull, that was the fastest car over a single lap in 2012 and this suggests that the reigning world champion team is going to face its stiffest challenge yet.

Chances are, the key work will be done out of sight this year. Red Bull capitalised on the rule changes ahead of 2009 to leap from mid-pack to the front. With next year's 1.6-litre V6 engines demanding changes to the cars, if Red Bull is to establish itself as a long-term F1 superteam, it has some work to do ahead of 2014.

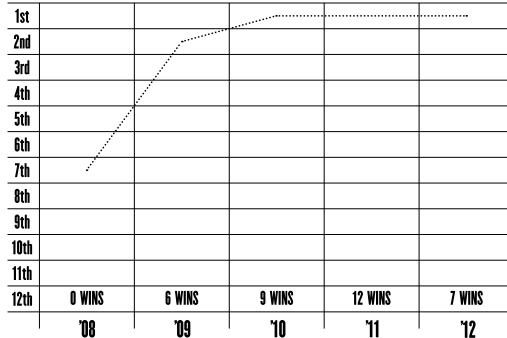
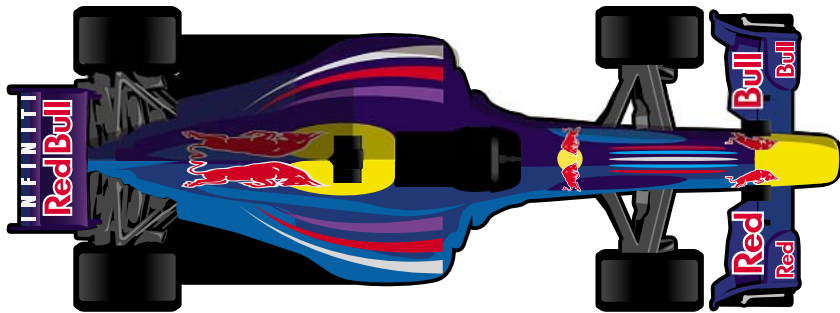


Vettel is bidding for title number four – and he's still only 25 years old!

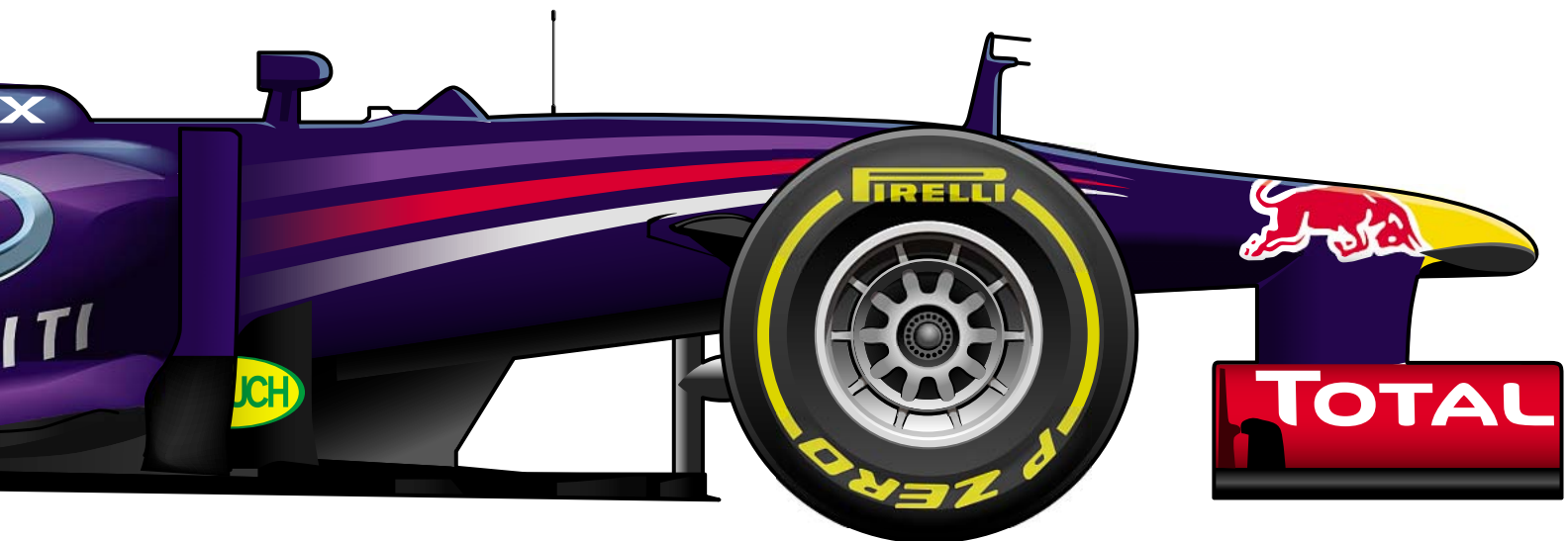
KEY STAT

5

Sebastian Vettel currently has 26 grand prix wins and needs only five more to draw level with Nigel Mansell (right) in fourth place in the all-time list



Team stats
 Starts **146**
 First GP **Australia 2005**
 Wins **34**
 Poles **46**
 Fastest laps **29**
 2012 position **1st**



Mark Hughes
 Grand prix editor

TAKE ADRIAN NEWEY, allow him full technical reign, provide him with the backing he needs, supply an efficient, uncomplicated race team and a great driver pairing to shore it all up. That little recipe has provided the F1 gold standard for the past three years and over the team's short history it's already established some all-time records. It's so effective, in fact, that technical-regulation changes have been made to haul them in. Last season's restrictions upon blowing exhausts and wing flexibility were perhaps the most blatant of them.

The only small change to the regulations for 2013 – the banning of double DRS – again potentially reduces an area of Red Bull advantage, albeit unintentionally this time. That change had already been decided upon and announced even before Red Bull introduced the feature on its car from Singapore onwards last year. But it was



double DRS that amplified the advantages of some of the RB8's traits and brought it a period of dominance – and now that feature is gone.

But it's that sort of straw-clutching in which the others may need to indulge to believe they can prevent Red Bull from making it four successive championships. Features such as exhaust blowing, cleverly flexible bodywork and double DRS are merely the symptoms of a mindset that wins this team races and titles. Removing them doesn't change the mindset, which can be relied on to once more maximise regulations

to the very margins of acceptability. It treads this line more finely than any other team.

Other straw-clutching theories for rivals to hang onto: It was involved in a serious development war right up to the final race of last season, raising possible question marks about the impact that may have had upon the development of the RB9. McLaren, for example, knew its title challenge was effectively over after Singapore. There were still two months of the season to go at that point...

Furthermore, just as 2012 may have stolen off 2013, so might 2014. Newey loves the challenge of clean-sheet regulation change and you can bet a lot of his attention is already upon the 2014 V6 turbo car. The 2014 aero regs may not have been as big a change as he would have liked, but new front-wing regs and the deletion of the lower rear wing for 2014 will effectively re-define the whole flow structure of the car and call for a re-think. Could this season's evolutionary RB9 turn out to be the middle child that gets overlooked?

KEY STAFF



Christian HORNER
 Team principal



Adrian NEWEY
 Chief technical officer



Rob MARSHALL
 Chief designer

“The Melbourne updates, along with the stopwatch, will decide how difficult it’s going to be for Red Bull to take another title double”

Gary Anderson



Gary Anderson
Technical consultant

ADRIAN NEWEY HAS STRESSED that the RB9 is very much an evolution of Red Bull’s title-winning 2012 car. But, unusually for him, there is a question mark over whether it’s a little too conservative a step.

Over the past few years, Red Bull hasn’t always been at the cutting edge with its front-wing design,

primarily because it has been so strong when it comes to harnessing the exhaust flow to create downforce. The endplates in particular are an area in which the team can still perhaps improve. There is also the question of whether the new torsional front-wing-flexibility test has hurt the team.

Elsewhere, the Coke bottle and exhaust are very similar to last year and the sidepods have been tidied up with a view to making the Coke bottle more powerful. It’s pretty much the same

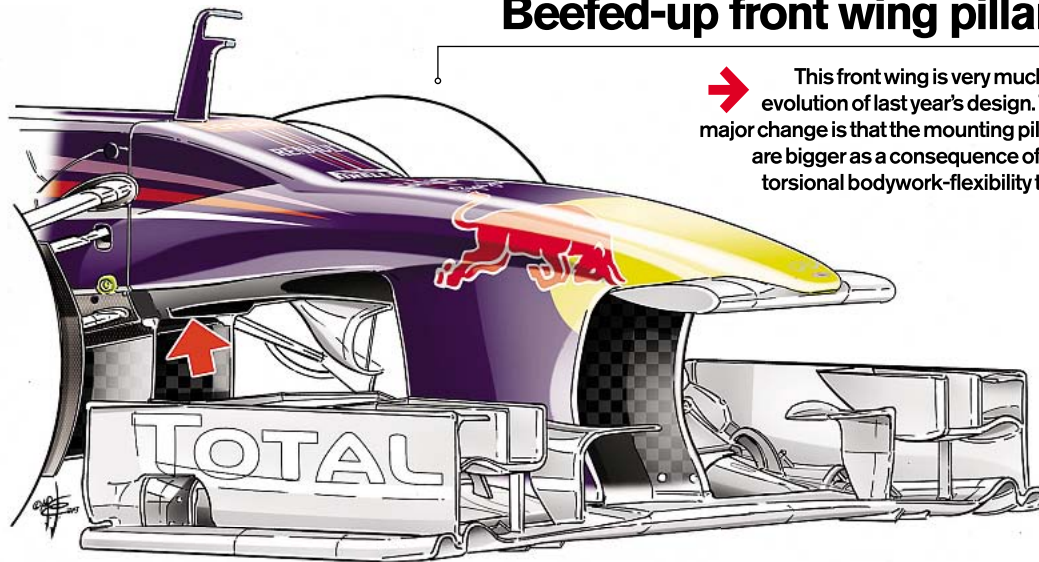
story in the suspension department as well.

There are also the usual Newey traits on this car, minimising the cross-sectional area of the nose and the suspension.

Red Bull introduced some upgrades at the final test in Barcelona, and will bring more to the first race in Australia. When we get to Melbourne, these updates, along with the stopwatch of course, will decide how difficult it’s going to be for Red Bull to take its fourth consecutive championship double.

Refined exhaust

➔ Red Bull has made small tweaks to its exhaust exits this year. As in 2012, there is a channel running from the floor into the diffuser. This design proved troublesome early in the season, but the team hit form once it got it to work consistently.

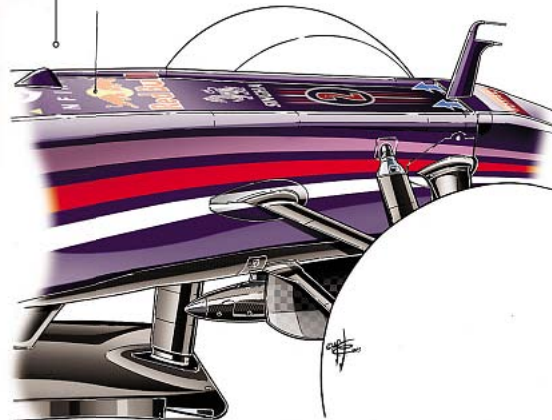
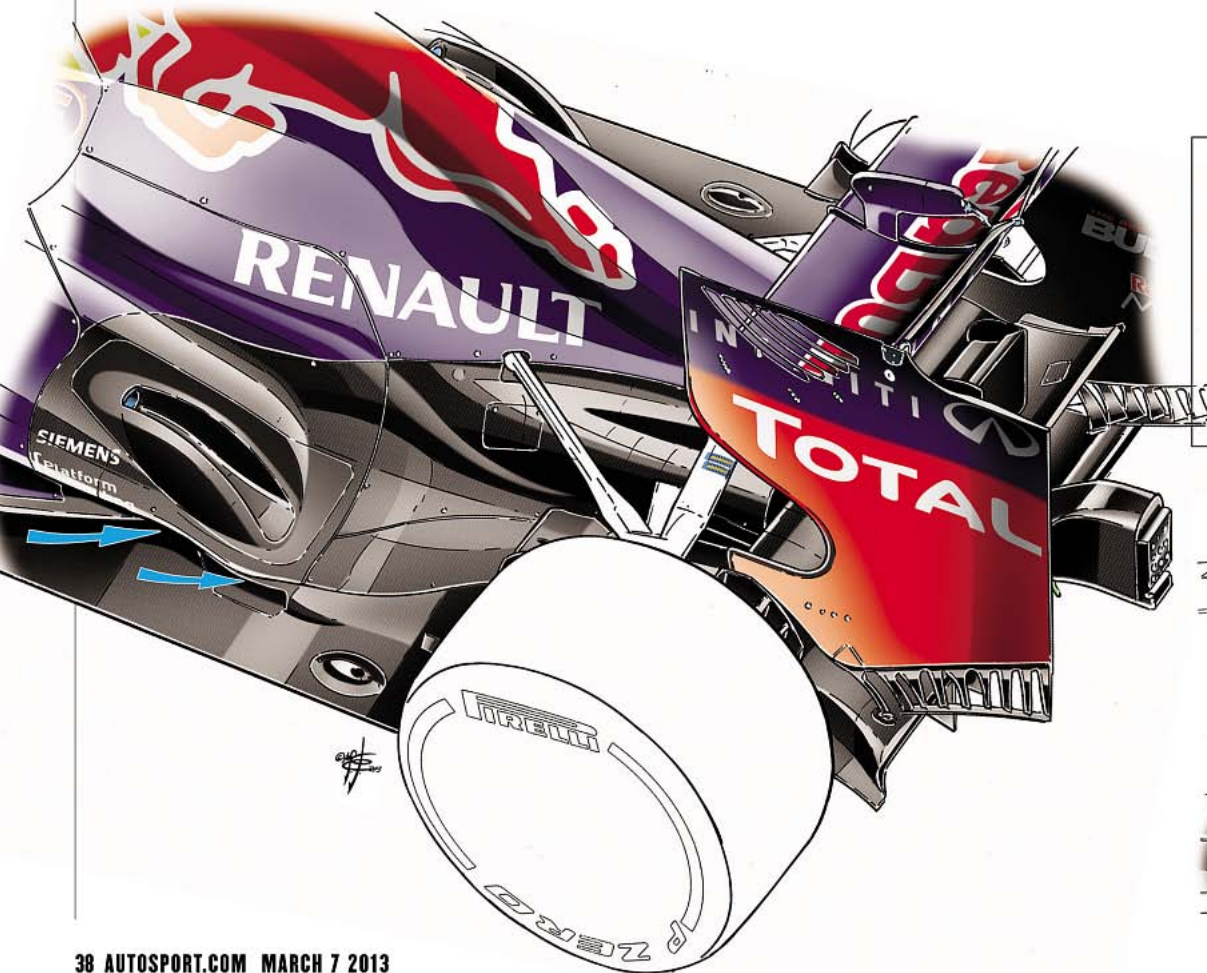


Beefed-up front wing pillars

➔ This front wing is very much an evolution of last year’s design. The major change is that the mounting pillars are bigger as a consequence of the torsional bodywork-flexibility test.

Holes in the nose

➔ Last year, the RB8 featured a forward-facing letterbox in the nose, which was used for electrical cooling. This year, that slot faces rearwards and is attached to a duct that leads to the underside of the nose. The low-pressure area on the surface of the nose helps to suck air from under the car, helping to accelerate the airflow coming off the front wing and increasing downforce with the sidepods/Coke bottle.



KEY STAT

0

Number of times an Australian has won his home world championship grand prix, something Mark Webber hopes to address

KEY STAT

150

Red Bull will start its 150th grand prix in Bahrain, the fourth round of the championship



1

SEBASTIAN VETTEL



Starts **101**
 First GP **USA 2007**
 Wins **26**
 Poles **36**
 Fastest laps **15**
 2012 position **1st**



Damon Hill
 1996 world champion

“I think Vettel and Red Bull could continue this streak for three or four years. You have to consider him the favourite for this season”

IT SEEMS QUITE RIDICULOUS to say this, but what's happened with Sebastian Vettel so quickly and in such a condensed timeframe, it seems like he's too young to be regarded as an all-time great.

But he is. He's absolutely in the pantheon of the greats on merit. He's achieved all those victories, broken all those records, and it's an incredible foundation when you think, "Well, what's he going to do over the next 10 years?"

But look at other sports: Boris

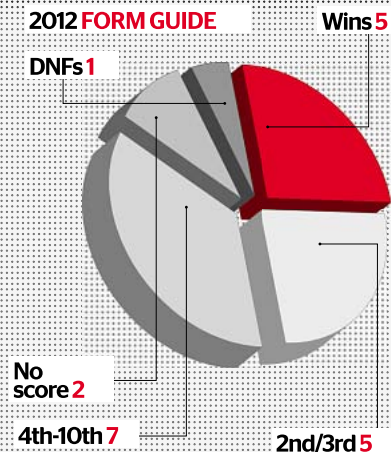
Becker was 17 when he first won Wimbledon, so it's not unusual outside motor racing to achieve greatness at an early age because you effectively get old very quickly in athletic sports. I think we're going to have to get used to that in motor racing, too.

Obviously you can't achieve what he has without the right equipment, and he's certainly had that driving Adrian Newey's cars, but I also think Vettel has been pushed hard by Mark Webber and the other strong

competition that's out there – he's not been able to relax for a second. Adrian is definitely in the genius bracket in terms of car design, and Vettel seems to understand the chemistry you need between the driving and technical side to make it all work properly.

Where he is right now, you can't see that diminishing. I think he and Red Bull could continue this streak for three or four years. You have to consider him the favourite for this season at least.

2012 FORM GUIDE



2

MARK WEBBER



Starts **196**
 First GP **Australia 2002**
 Wins **9**
 Poles **11**
 Fastest laps **14**
 2012 position **6th**



Damon Hill
 1996 world champion

“Mark is in a good place going into this year. He supplies incredibly solid support and now has the full backing of the team owner”

WHEN RED BULL'S motorsport advisor Helmut Marko publicly criticised Mark Webber recently, he nailed his colours quite firmly to Vettel's mast. But it's not Marko's team, and Mark has been supported quite reassuringly by Red Bull chief Dietrich Mateschitz.

He's discussed the situation with him, and perhaps now it's all been aired it will be a little easier for him. Before this happened, it did feel like Mark couldn't quite explain

why he wasn't getting the same warm feeling from all directions that Sebastian was getting in the team.

Now it's quite clear he has the full backing of the team owner as a valued part of the package, and that must be quite a relief that it's all out in the open now. But it also seems to me that Mark's quite capable of looking after himself!

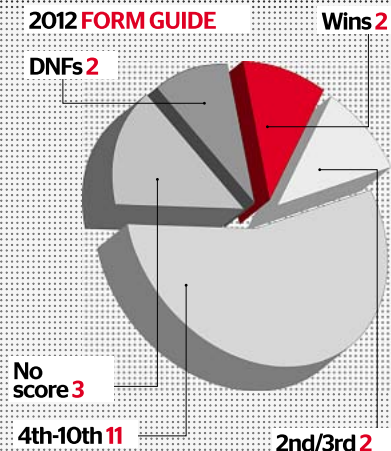
Mark is in a good place going into this year. He supplies incredibly solid support to the team. Can he maintain a title challenge? He was

there for quite a long time last year, and right until the end in 2010.

The form shows that Sebastian is able to dig deeper and pull something out of the hat with this generation of car, and that Mark has run out of steam with it.

Then there are days, like Monaco and Silverstone for example, where he's amazing. But he's being compared with one of the greats and that's a lot to contend with. Another time, another place, he might have dominated his team-mate.

2012 FORM GUIDE

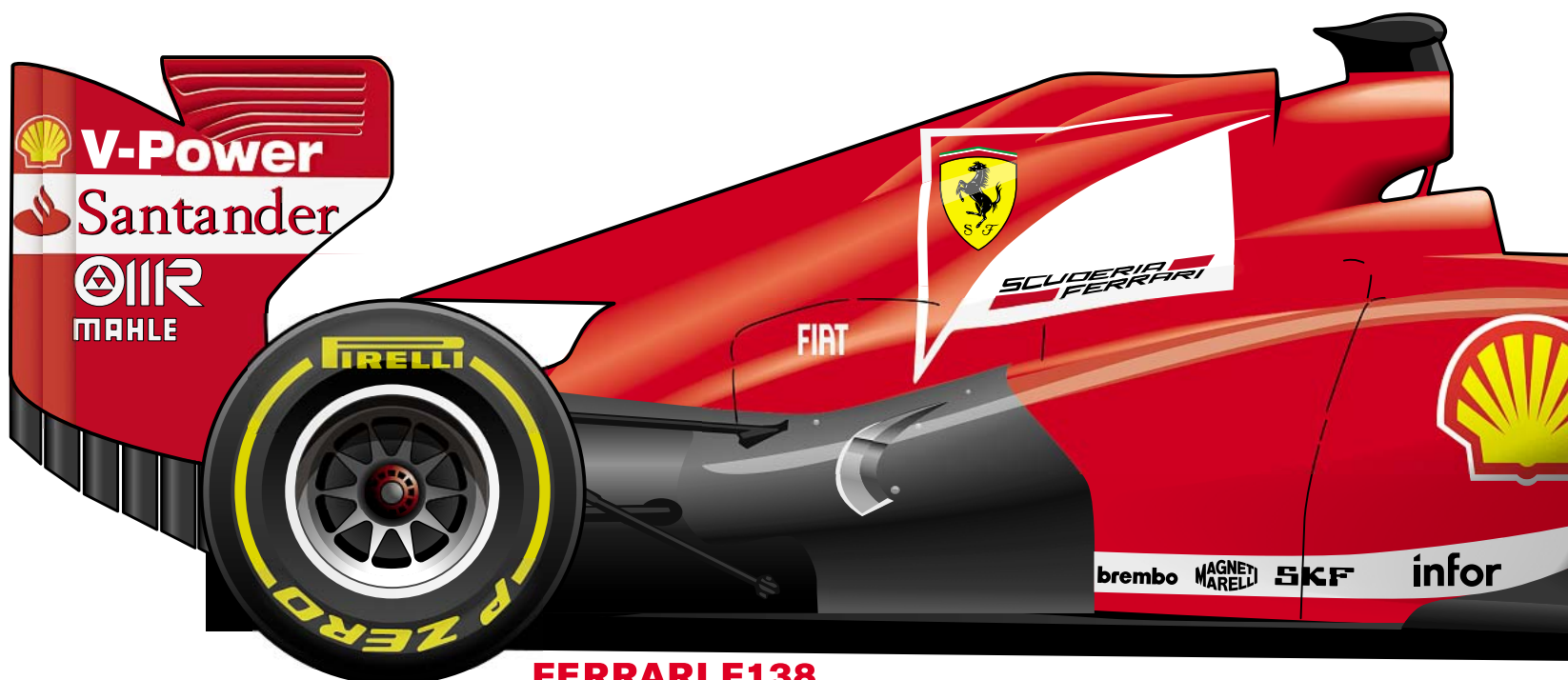


“With Ferrari president Luca di Montezemolo setting high standards and the Italian media always willing to pile on the pressure, the value of a strong showing in Australia cannot be underestimated”

AUTOSPORT RATING 3RD=	Drivers	●●●●●●●●
	Engine	●●●●●●●●
	Chassis	●●●●●●●●
	Budget	●●●●●●●●
	Tactics	●●●●●●●●

Ferrari

After a poor start to 2012 – and a stressful battle to remain in title contention – the Scuderia appears to have produced a more competitive car this time, which means Fernando Alonso and Felipe Massa should be able to get their respective campaigns off to a far better start



FERRARI F138

40

One thing is beyond doubt: Ferrari is in significantly better shape than it was at the same time last year. But whether Fernando Alonso has a machine capable of helping him to a third world championship is unknown. The Ferrari F138 is going to be thereabouts, but does it have the final few tenths of a second required to beat Red Bull and McLaren? That question cannot be answered until Melbourne, where Ferrari is expected to add some late upgrades to the car.

Straight out of the box, the new car was a more competitive machine than its predecessor. Last year, during testing, both Alonso and Felipe Massa had to work hard to provoke the car to overcome fundamental handling problems. Despite making prodigious progress with the car thanks to a raft of updates, and Alonso coming within touching distance of the drivers' title, 2012 was not an easy campaign for Ferrari. But many of the problems that afflicted it in '12 have been addressed.

The development work for the new car has been based in the Toyota Motorsport windtunnel in Cologne. Correlation problems forced Ferrari to shut down its Maranello windtunnel for upgrades and that work is not set to be completed until later in the season. Using the Toyota tunnel for design and development work has played a big role in the step forward this year.

Ex-McLaren man Pat Fry, who took over technical leadership of Ferrari in Spring 2011, has had more time to drag a team lagging behind in terms of simulation technology into the second decade of the 21st century. For while Ferrari was testing endlessly, often using its on-site Fiorano facility, rival McLaren was investing heavily in factory-based kit that has come to the fore since testing was cut back.



Inevitably, there is a huge amount of pressure on Ferrari. Alonso has missed out on the drivers' championship in a final round shoot-out twice in the past three years and not since 2008 has it won the constructors' title. A strong start will help Ferrari to build momentum, but if the going is tougher there is the ever-present danger of the current regime being under intense scrutiny. With Ferrari president Luca di Montezemolo setting high standards and the Italian media always willing to pile on the pressure, the value of a strong showing in Australia cannot be underestimated.

Whatever happens, Ferrari can be sure that, while Alonso still believes that he has a shot at the world championship, the Spaniard will be at the top of his game. If Felipe Massa can maintain his strong late-season form of 2012, in which he was the quicker Ferrari driver for the final couple of races, a run at both titles is perfectly possible.

KEY STAT

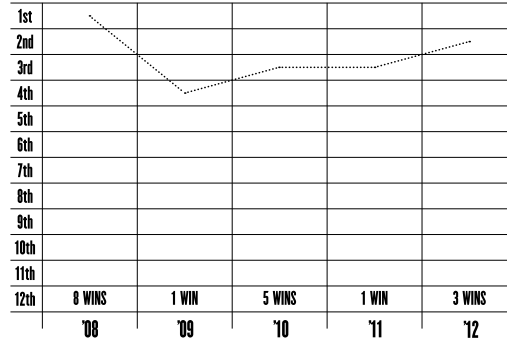
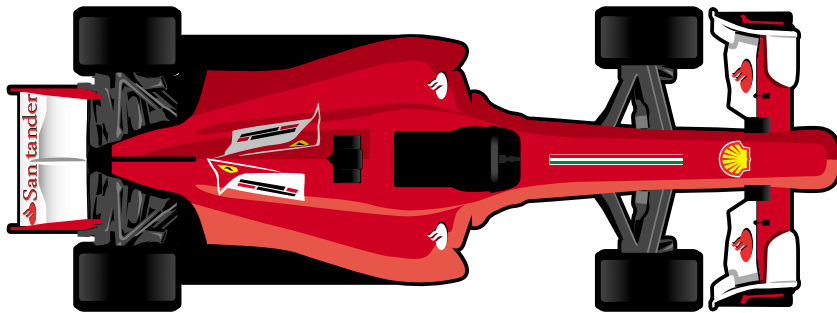
172

Felipe Massa has started 172 F1 races with Ferrari engines (via Sauber and Ferrari itself) – a record

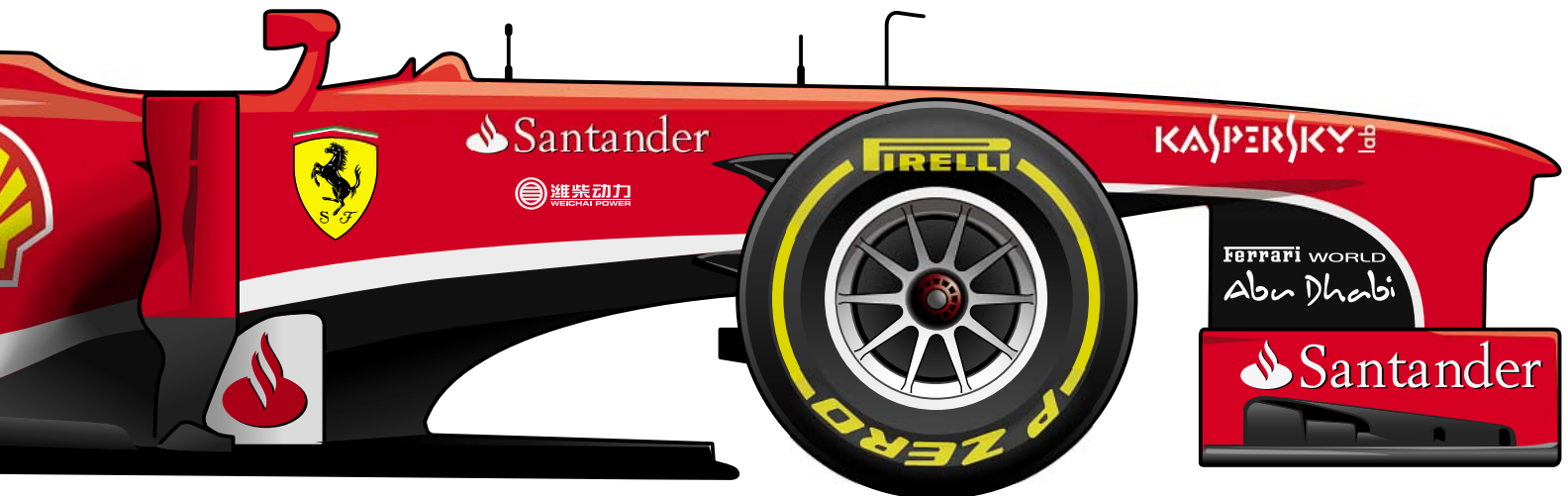
KEY STAT

2007

Ferrari has not won a drivers' title since Kimi Raikkonen prevailed in 2007 (right)



Team stats
 Starts **851**
 First GP **Monaco 1950**
 Wins **219**
 Poles **207**
 Fastest laps **227**
 2012 position **2nd**



Jonathan Noble
 Group F1 editor

IF ANY GOOD CAME OUT

of Ferrari's early 2012 troubles it was in highlighting the weaknesses in Maranello's system.

The Scuderia knew it had got the right idea with the exhausts on its cars, but its lack of cutting-edge simulation facilities meant it couldn't get the best out of them.

Add to that mix some correlation issues with its windtunnel and there was the recipe for a derailed campaign before it had even begun. That Ferrari bounced back from such strife to take the title to the final round in Brazil owed much to Fernando Alonso, but the team knows that it can't just rely on the Spaniard's brilliance if it's to triumph.

A ramp-up of its simulation facilities, allied to a commitment to using only Toyota's Cologne windtunnel for its 2013 car, is a sign it's taken on board the errors of 2012.

These two areas are not the only aspects that Ferrari must improve upon, though. Its



Ferrari's windtunnel is undergoing upgrades until later this year

F2012 still lacked out-and-out downforce – but early indications from the F138 in pre-season testing suggest matters have improved here, too.

With a big budget, high-quality staff,

an improved infrastructure, a strong driver line-up, engineering consistency, excellence from its pit and strategy crew, Ferrari will have to go some way not to be challenging hard for the crown this year.

KEY STAFF



Stefano DOMENICALI
 Team principal



Pat FRY
 Director (chassis)



Nikolas TOMBAZIS
 Chief designer

“Ferrari starts this season with a far better car than it did in 2012. The question is can it find those final few tenths it needs”

Gary Anderson



Gary Anderson
Technical consultant

AFTER LAST SEASON'S struggles, there are signs that Ferrari is back on track with its initial concept this year. In 2012, it was as if Pat Fry's technical team overlooked that the Coke bottle section at the back of the car was key to overall downforce and compromised

this area with its exhaust and sidepod design.

Overall, the rear of the car appears to be a decent step forward, although the team has admitted that it still needs to further refine its exhaust layout and performance, something that we could see in the early races.

Aside from that, there is a lot more detail work to the rear wing and floor, with a Red Bull-style tunnel designed to channel air into the diffuser, which makes this part of the car better than that

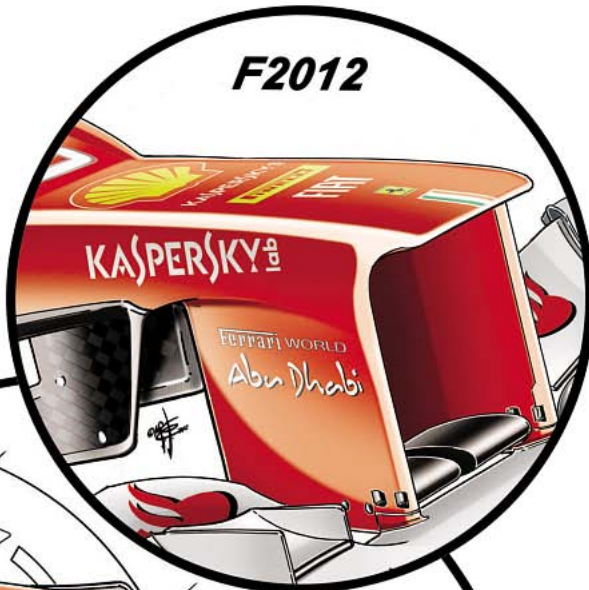
of its predecessor. That said, the vertical radiators are not the most efficient and are a compromise that Ferrari clearly believes is worth making.

There is still more to come at the front end of the F138, though. There is scope for further steps with the front-wing endplates at least.

Ferrari starts this season with a far better car than it did 2012. The question is whether it can find those final few tenths it needs to take the fight to Red Bull, McLaren and Lotus.

Tapered wing pillars

➔ The nose of the F138 is very different to last year's. The front-wing pillars are tapered inboard at the back to drive more airflow to the middle of the car.

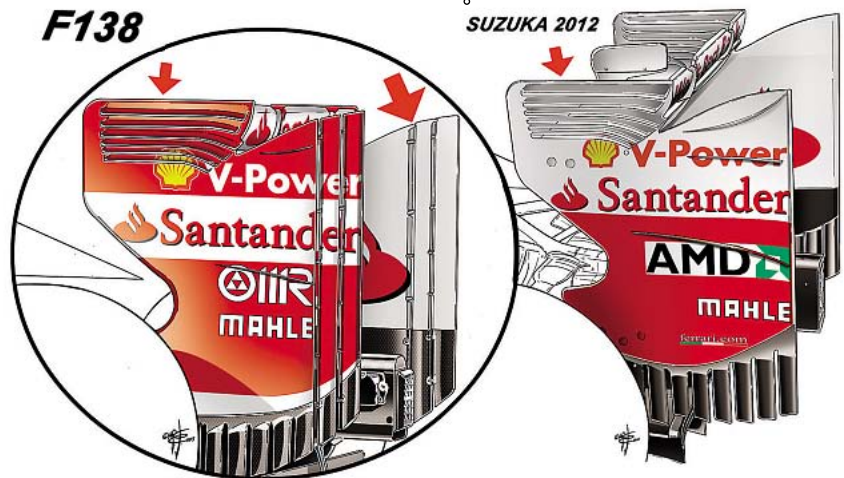


42



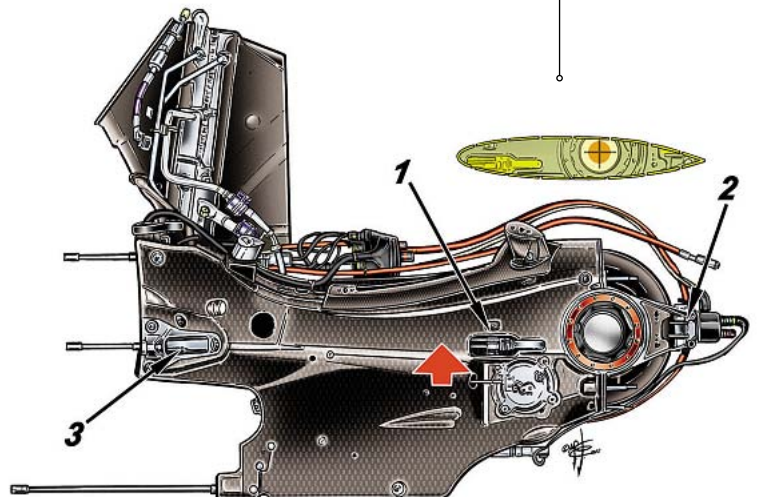
Sculpted rear wing vanes

➔ The rear wing reflects the step forward in detail work at Ferrari this year. Note the curved fins mounted on the outer surface of the endplates and the new turning vanes on the trailing edge.



Reduced loads on the 'box

➔ Ferrari mounts its rear suspension (except the wishbones) on a subframe on the back of the engine, whereas other teams mount it on the gearbox. This reduces the loads going through the 'box. Ferrari's unit is compact with the rear-wishbone legs and trackrod aligned and grouped in a shroud (in yellow) for aerodynamic reasons.



KEY STAT

5

Alonso's last title came in 2006. If he wins this year, he will break Jack Brabham's (1961-65) and Graham Hill's (1963-67) record of five active seasons between crowns



3

FERNANDO ALONSO



Starts	196
First GP	Australia 2001
Wins	30
Poles	22
Fastest laps	19
2012 position	2nd



Damon Hill
1996 world champion

“If Alonso could take the title fight right down to the wire in an inferior car, imagine what he can do with an improved one”

I WOULDN'T COUNT

Fernando Alonso as the underdog like he was last year, battling with a recalcitrant car. If it looks good from the start, and Ferrari seems to be in a much better place than it was last year, then he has to be considered the main threat to Sebastian Vettel. And that's something to be feared.

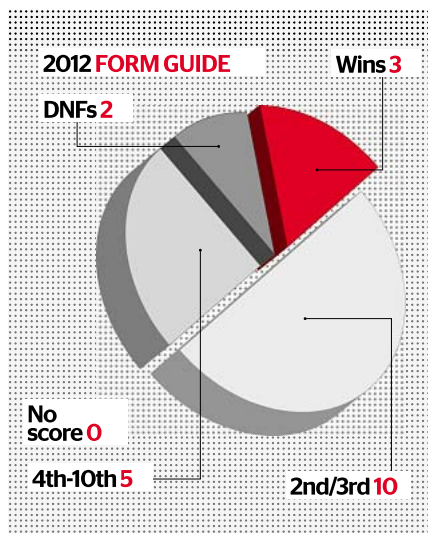
If he could take the title fight right down to the wire in an inferior car, imagine what he can do with an improved one.

If the team has closed the gap to Red Bull, I think Fernando can do the rest. His performance last year was simply stunning and his tenacity is awe-inspiring.

I think he's in the right place for who he is and what he's all about. He inspires the team, he drives the team. He has all the qualities that a great outfit like Ferrari needs. He's a very mature and complete driver. Again, we'll never know how he compares directly with Vettel and Lewis Hamilton,

so we'll just have to use our imagination on that one!

He carries so much weight in that team, and I think it responds to him doing that. Ferrari wants someone to stand up and be a leader. It's within his character and you can see why he didn't work out at McLaren, because that's not what McLaren likes! It's great for the sport and for the fans to see a driver that strong and confident, who uses Ferrari to his advantage.



4

FELIPE MASSA



Starts	172
First GP	Australia 2002
Wins	11
Poles	15
Fastest laps	14
2012 position	7th



Damon Hill
1996 world champion

“I think Massa will be stronger over the course of the season than we saw from him last year. He's clearly a fighter; Ferrari likes him, Alonso likes him, so the relationship is there”

THE FIRST PART OF THE season will be critical for Felipe – it's clear he will want to play a stronger role in the world championship and help Ferrari more in the constructors' points. I think he has the potential to do that, we saw that in 2008 of course. He's quick and capable, and has his moments in the sun.

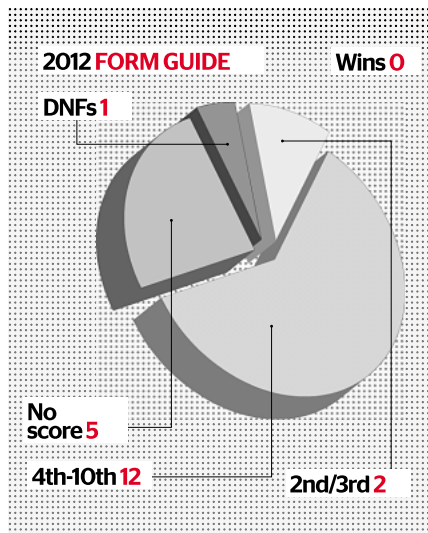
The problem with Felipe is he had that one chance – he came ever so close to winning the title,

but I can't see him ever winning the championship now. Then he had his accident, which was terribly unfortunate, and he's not someone who is ever going to be able to overshadow Fernando Alonso at Ferrari, either with his performances or his personality.

He's done awfully well to keep his seat, considering that he had so much pressure put on him to keep his place. But he would have had to have changed completely

as a driver over the winter to rival Fernando – that's not impossible, of course, but it is highly unlikely.

I think he'll be a lot stronger over the course of the season than we saw from him last year. He's clearly a fighter; Ferrari likes him, Alonso likes him, so the relationship is there. In some sense he's indebted to Alonso for keeping his drive, so I can't see their dynamic changing from a clear number one and two.

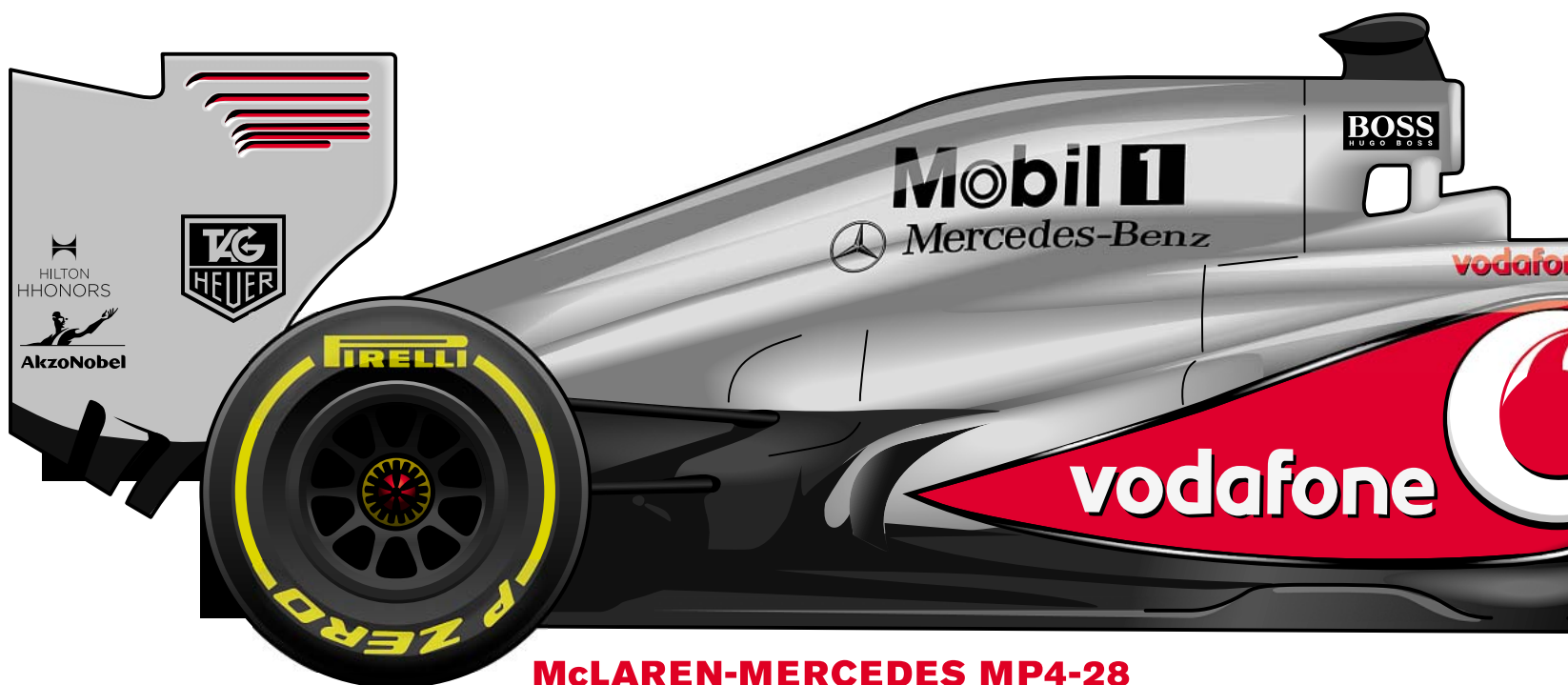


“Taking on board the lessons of last year should have left McLaren in a position of strength, for rules stability should ensure the car that ended the year as the pacesetter remains strong”

AUTOSPORT RATING 2ND	Drivers	●●●●●●●●
	Engine	●●●●●●●●
	Chassis	●●●●●●●●
	Budget	●●●●●●●●
	Tactics	●●●●●●●●

McLaren

The team that ended 2012 with the fastest car ought to steal a march on the opposition in this the final year of the current formula, but it will need to iron out the operational problems of last season and hope that Sergio Perez proves to be a worthy successor to Lewis Hamilton



McLAREN-MERCEDES MP4-28

Mclaren needs no reminding that a big opportunity to win the world championship in 2012 slipped through its fingers.

A few operational glitches, a run of poor reliability, and a spate of incidents meant what could have been another title for Lewis Hamilton and McLaren ended in frustration – and a parting of ways after six seasons together.

Taking on board the lessons of last year should have left McLaren heading into 2013 in a position of strength, for rules stability should ensure the car that ended the year as the pacesetter remains strong.

But there have been some unsettling changes at the outfit that leave it facing a few uncertainties ahead of the new season. The loss of Hamilton and the arrival of Sergio Perez may mean a fresh start – and an impetus of youth – but it means its driver strength is weaker than last year.

On the engineering front things are not ideal either. The loss of Paddy

Lowe – who is effectively sidelined ahead of a switch to Mercedes in 2014 – will be felt as the team is heading in to battle without one of its key players.

Yet if any team is capable of weathering such hiccups it is McLaren, which proved last year that in design and development terms it can be a benchmark operation.

The MP4-28 certainly appears to have given the team a solid platform with which to launch its 2013 title ambitions, even though there has been talk from Jenson Button of the new car being difficult to understand.

Part of that early uncertainty about how to extract the most from the car could simply be down to the decision

by the team to go pretty aggressive with its new challenger. There has been a switch to pullrod front suspension and a big push to maximise its efforts in the exhaust layout and performance department.

The team believes that such a move was essential if it was to not hit a development ceiling with the car. So, in theory, the benefits of its approach may only be felt later in the year – when it hopes that rivals run out of steam.

The ultimate success of McLaren's season will depend on the team delivering to its best consistently. It cannot afford a repeat of the operational dramas of 2012, of a mid-season Button slump, or of costly reliability issues at the business end of the campaign.

These are matters not under its control right now, but at least it knows from recent experience that just starting the season with the best car is no longer good enough. It has to be at its best throughout the whole year.



Perez replaces Hamilton, but can he match Button?

KEY STAT

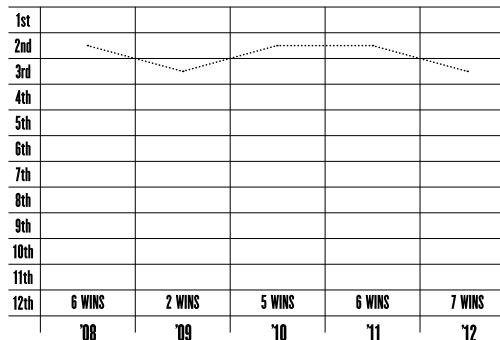
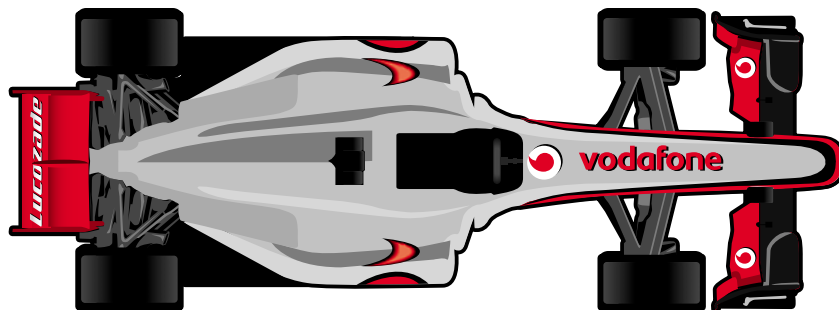
14

Number of campaigns that have passed since McLaren won its most recent constructors' title

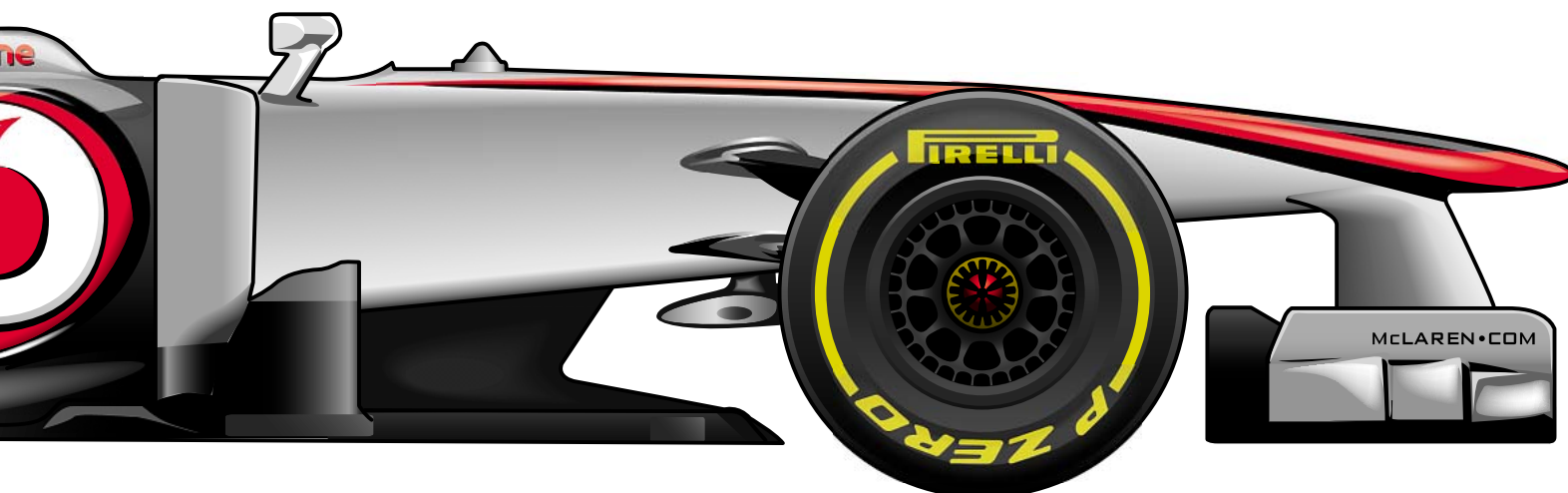
KEY STAT

247

Jenson Button is set to become the most prolific British F1 race starter when he starts his 247th race in the Brazilian GP season finale



Team stats
Starts 723
First GP Monaco 1966
Wins 182
Poles 155
Fastest laps 151
2012 position 3rd



Mark Hughes
Grand prix editor

IN THE FIRST TWO

winter tests at Jerez and Barcelona the MP4-28 proved to be something of an enigma: maybe the fastest car of all when running well but proving difficult to keep in a sweet spot.

Of all the top teams, McLaren has evolved its car the furthest from its 2012 model. Pullrod front suspension and a very different body architecture front and rear represent bigger changes than those seen at Red Bull, Ferrari or Lotus. Perhaps that has played its part in the team's struggle to fully understand the car.

Jenson Button's performance on the first day at Jerez left rivals reeling but it wasn't repeated. Similarly Sergio Perez then set the fastest time at the first Barcelona test, but on the following day the team was struggling to match the pace of the frontrunners.

This team prides itself on the power of



its simulation tools, systems and processes and so it would be no surprise if some intense number crunching unlocked the full potential of the car before it's put on a flight for Melbourne.

If some consistency can be found without knocking off the peaks of pace then the McLaren will be a formidable tool and a great platform for Button to build a title campaign upon.

KEY STAFF



Martin WHITMARSH
 Team principal



Tim GOSS
 Technical director



Ron DENNIS
 Chairman

“The McLaren MP4-28 is the most impressive of the 2013 cars, in terms of the step forward that we’ve seen from last year”

Gary Anderson



Gary Anderson
Technical consultant

THE McLAREN MP4-28 IS

the most impressive of the 2013 cars, in terms of the step forward that we’ve seen from last year. In 2012, the car was, on average, the fastest over a single lap but didn’t always carry that advantage into the race. That, along with reliability problems and pitstop errors,

cost McLaren a serious number of points.

Last year’s car famously ran without the step in the nose, but after the early-season flyaways a new, higher nose was introduced, although the front of the chassis itself remained unchanged. This suggests that McLaren finally realised that maximising the airflow underneath the car is key to overall downforce. This year, the chassis is at the maximum height and only the cosmetic panel preserves the smooth lines. Behind the front

wing hanging down from the nose, McLaren has a three-part vane, suggesting that it is doing everything it can to get the most from this extra airflow.

Elsewhere, it’s a question of tidying up areas like the rear suspension and more intricate detailing in the Coke bottle area and the front of the sidepods.

This all adds up to a good step forward for a car that was very fast last season.

Triple-rated under-nose vanes

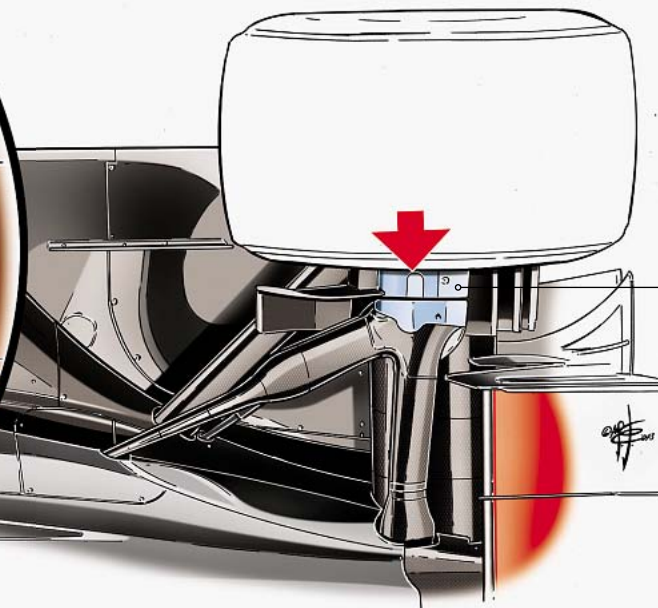
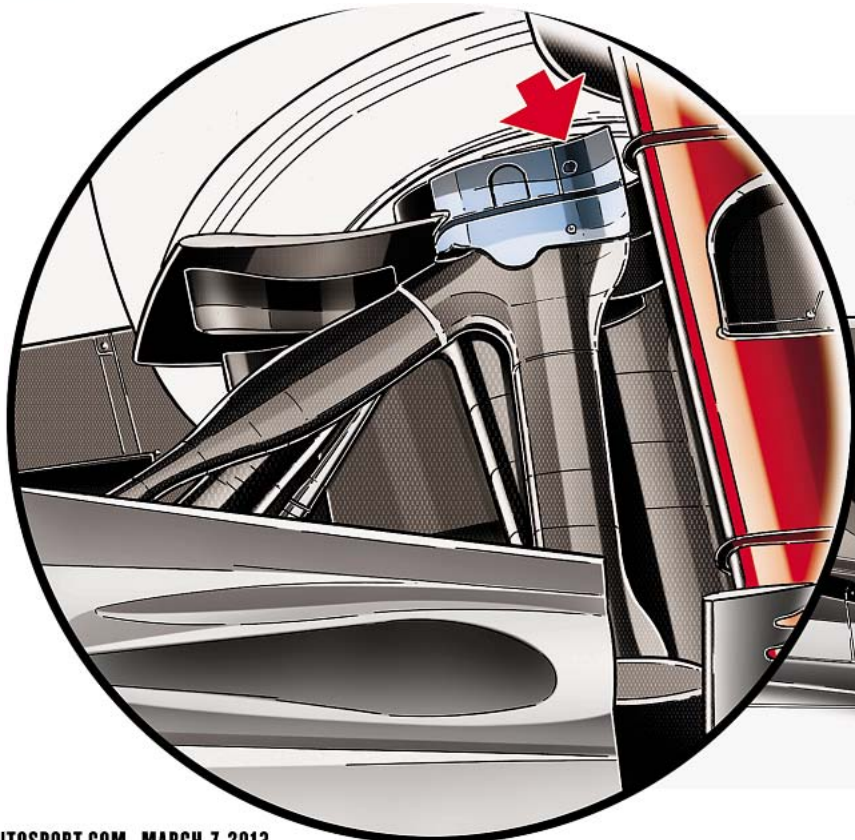
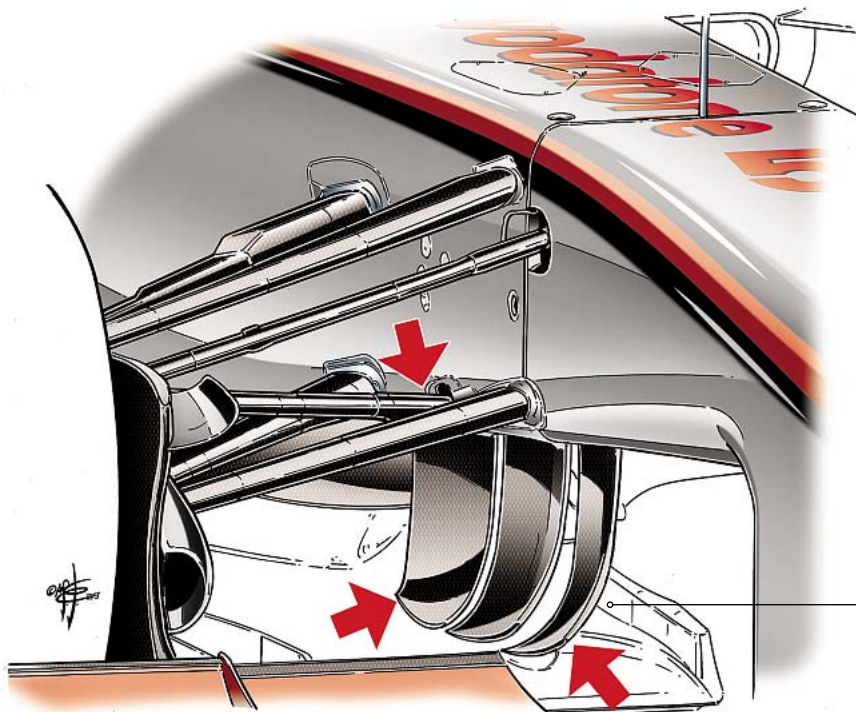
➔ Some teams have two vanes hanging from the underside of the nose behind the rear wing to channel airflow to the sidepods, but McLaren has tried a three-part wing. These are effectively a single wing with slot gaps to ensure that the airflow stays attached, because if you try to turn it quickly without them, it will separate. Together with the high nose, this should allow McLaren to create more downforce with the sidepods/Coke bottle area.

Suspension camber gambler

➔ A feature of the MP4-28 since its launch is the greater camber change built into the rear suspension.

Gary Anderson: “This will have been driven by the tyre understanding from last year. It allows you to run less static camber – ie: in the garage the rear wheel is more upright so that in slow corners you’ll get better traction because you’ve got more footprint from the tyre. But you need the camber at high speed because the tyre wants to roll over and put excessive load onto the outside shoulder. You need a bigger range of camber across the different cornering speeds/loads. That involves making the top wishbone a bit shorter, so the wheel upright comes up to meet it further inboard.

“But that connection is hidden here by the aero profile over the top wishbone – because in the rules the outboard part of the wishbone doesn’t have to comply with the 3.5:1 ratio of profile. It allows you to shape the wishbone aerodynamically and get it working better with the aero over the brake ducts – we can actually see that aero development starting here. The red arrows indicate an aero-profiled attachment to the upright that generates downforce.”



KEY STAT

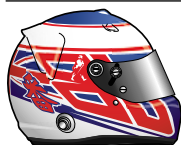
1970

If Sergio Perez wins a race this year, he'll become the first Mexican to win a grand prix since Pedro Rodriguez triumphed at Spa in 1970 (right)



5

JENSON BUTTON



Starts	228
First GP	Australia 2000
Wins	15
Poles	8
Fastest laps	8
2012 position	5th



Damon Hill
1996 world champion

“I've got a hunch that this could be another championship year for Jenson, if he can find the new car's sweet spot”

I'M SURE JENSON WILL FEEL

he's the leader at McLaren now that Lewis Hamilton has moved on, and I've got a hunch that this could be another championship year for Jenson. I think he's got so much experience, and he's providing the team with something that it wasn't getting from Lewis.

He already had the team focusing on him, because of his consistent feedback and willingness to develop the car. If you're looking for someone to

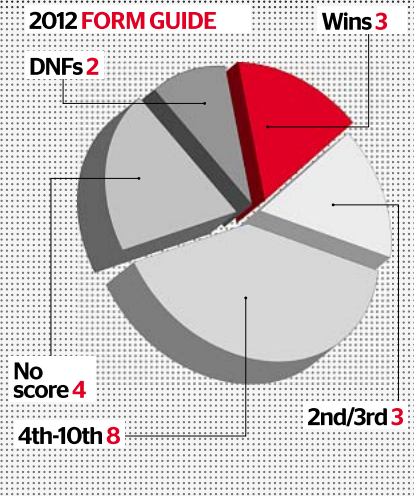
produce a blinding lap, then Lewis is your man, but to improve your car, Jenson is the better bet and he wasn't that far behind Lewis in terms of one-lap pace anyway. I also think Jenson is the more canny racer, less prone to putting everything at risk than Lewis was.

From the championship point of view, as long as Jenson's got a good car under him, I think he'll be right up there at the end. His main issue seems to be that he's very sensitive to the tyres. I don't

know exactly what he needs from the car, but during a race weekend you often see him hunting around for a set-up that gives him what he wants, and if he can't get that then he struggles.

My impression is that perhaps he spends too much time engineering the car at race meetings, trying to get more comfortable, although it came good for him in the second half of last year. If he finds the new car's sweet spot, he'll be a title contender, there's no doubt.

2012 FORM GUIDE



6

SERGIO PEREZ



Starts	37
First GP	Australia 2011
Best finish	2nd
Best grid slot	4th
Fastest laps	1
2012 position	10th



Damon Hill
1996 world champion

“Perez would have to have a pretty huge downturn in form not to be a success at McLaren, and I think he's got the flair to cope”

THIS IS OBVIOUSLY HIS BIG opportunity, but I think we'll not only see Perez survive the jump to McLaren, I believe he'll thrive. He'd have to have a pretty huge downturn in form not to be a success there, and I think he's got the flair to cope.

It's a big team, and with that comes big pressure. What will be crucial is how Perez engages with his new position within Formula 1. He's no longer in a 'pretending' team, on the

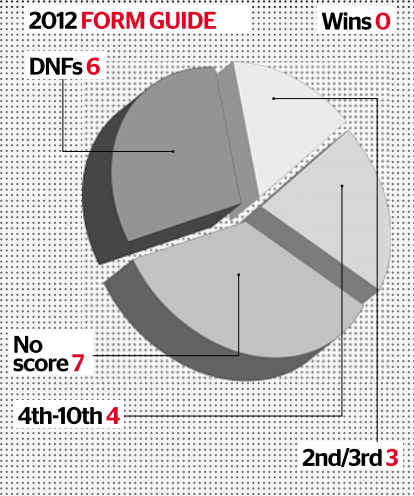
periphery, looking in at the dominant teams and occasionally racing among them. It's different at McLaren, and his new mindset must cope with the fact that it's not good enough to simply do well – he's going to have to reorientate himself to that new state of affairs.

We saw last year what he was capable of in Malaysia, Canada and Italy, but sometimes you have to say that the Sauber looked like the best car on those tyres in

certain circumstances. It's too early to say what he's capable of just by looking at testing, but I wouldn't expect him to put too much pressure on Jenson – but I could be wrong.

He'll start the season riding the buzz of being with a top team, he'll be very motivated and keyed-up. But McLaren know how to deal with someone to bring him on, and he'll receive everything he needs to learn all he needs to.

2012 FORM GUIDE

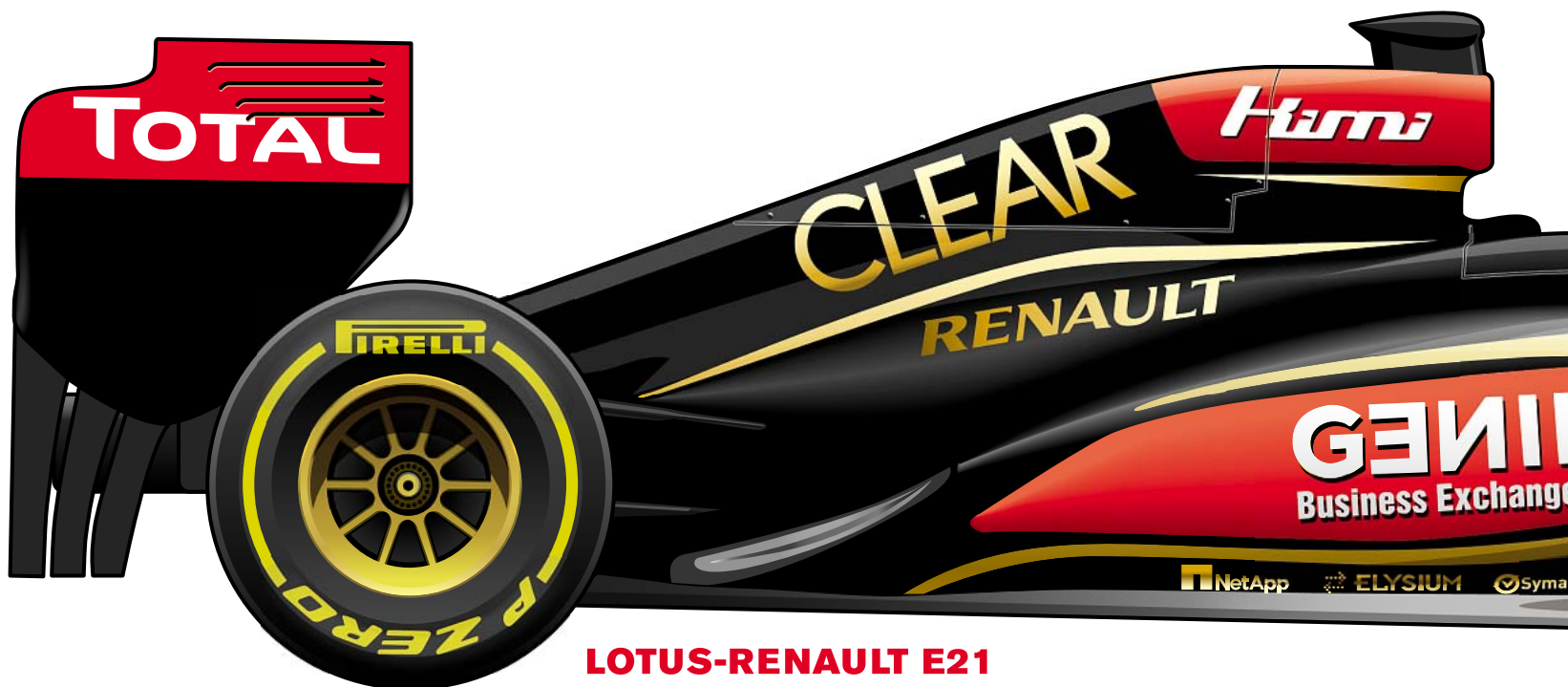


“It’s probably asking too much to expect Lotus to have a serious run at the championship, but it would be a surprise if the team didn’t add wins to its single victory of last season”

AUTOSPORT RATING 3RD=	Drivers	●●●●●●●●
	Engine	●●●●●●●●
	Chassis	●●●●●●●●
	Budget	●●●●●●●●
	Tactics	●●●●●●●●

Lotus

After just one season as rebranded Lotus, the former Renault team is back as a serious frontrunner. With Kimi Raikkonen – a winner again in 2012 – and Romain Grosjean driving what looks like another good car, expect the Enstone squad to be in the hunt once more



LOTUS-RENAULT E21

48

Look back over the past few years and you can see a very clear progression from the ex-Benetton/Renault team. After the regime change that followed the fallout of the Singapore Grand Prix race-fix controversy in late 2009, the Enstone outfit has made significant strides under the ownership of Genii Capital, with team principal Eric Boullier and technical director James Allison (a McLaren target) key players in the team’s revival.

After a 2009 campaign during which its on-track performance was disappointing, and there were very real doubts about the ongoing existence of the whole operation, the following season was far stronger with Robert Kubica leading it to fifth in the championship and several podium finishes. In 2011, the team endured a hiccup as a mis-step with forward-facing exhausts, combined with a windtunnel problem since resolved, set it back. But last season,

Kimi Raikkonen and Romain Grosjean claimed 10 podium finishes between them and the team’s first victory, since being rebranded as Lotus, in Abu Dhabi.

Combine that upward trend with the fact that the Lotus E21 has shown an impressive turn of pace during pre-season testing and you have a team that has to be taken seriously



Former world champion Kimi Raikkonen has pace and consistency

as a credible world championship contender. Considering that it’s not quite at the same level budget-wise as rivals Red Bull, Ferrari and McLaren, that’s doubly impressive.

Much will depend this year on the performance level of its drivers. On several occasions during the first half of last season, Kimi Raikkonen missed out on victories that were there for the taking, but after the August break he had clearly shaken off the rust, mud and gravel of two years in the World Rally Championship. If he starts this campaign at that level, or perhaps a fraction higher, Lotus will have a driver capable of lodging consistently strong results. And if, alongside him, Romain Grosjean can temper his prodigious speed with better decision-making, the team could have the best-balanced line-up of all.

It’s probably asking too much to expect Lotus to have a serious run at the championship, but it would be a surprise if the team didn’t add wins to its single victory of last season.

KEY STAT

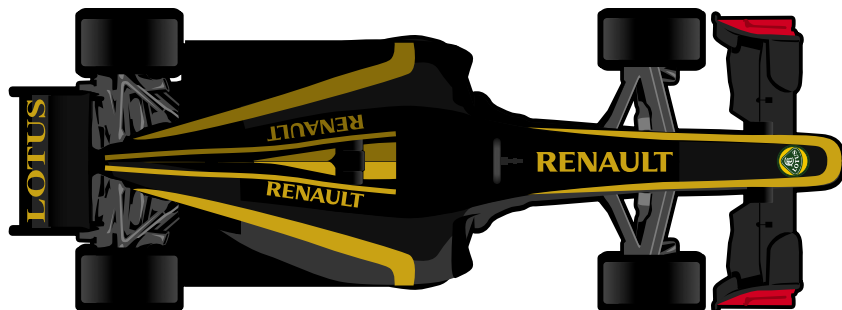
80

Number of wins by a Lotus chassis, courtesy of Team Lotus, Rob Walker Racing and the current team

KEY STAT

1981

The current Lotus team first came into F1 in 1981, when it ran under the Toleman banner (right)



1st					
2nd					
3rd					
4th					
5th					
6th					
7th					
8th					
9th					
10th					
11th	(RENAULT)	(RENAULT)	(RENAULT)	(RENAULT)	(LOTUS)
12th	2 WINS	0 WINS	0 WINS	0 WINS	1 WIN
	'08	'09	'10	'11	'12

Team stats
Starts 20*
First GP Australia 2012*
Wins 1*
Poles 0*
Fastest laps 3*
2012 position 4th*

*Statistics taken from the rebranding of Renault as Lotus only



7 KIMI RAIKKONEN



Starts 175
First GP Australia 2001
Wins 19
Poles 16
Fastest laps 37
2012 position 3rd



Damon Hill
1996 world champion

I FOUND KIMI SO impressive last year – he delivered like a mail train in the races. How he managed to get through an entire season without a major incident, and finish every race was extraordinary. He just kept out of trouble, and he got results out of races – a bit like Alonso – regardless of where he'd qualified.

He's as cool as ever, and his time out of F1 hasn't dulled him. He doesn't entertain anything that's superfluous to his job in the cockpit. He's so pragmatic, he believes that F1 isn't as complicated as some make out! As well as his Abu Dhabi victory, he could have won in Bahrain, but I think his reticence to pass Vettel there was actually a mark of his maturity. It was a big risk to pass at that moment, and the penalty for it going wrong would have outweighed the points he scored.

KEY STAFF



Eric BOULLIER
Team principal



James ALLISON
Technical director



Gerard LOPEZ
Chairman

8 ROMAIN GROSJEAN



Starts 26
First GP Europe 2009
Best finish 2nd
Best grid slot 2nd
Fastest laps 1
2012 position 8th



Damon Hill
1996 world champion

HE HAS AN INDICATOR over him as somebody who is far too impetuous at times. There is a pattern here, and I'm not sure he can readjust himself – it seems to be his style to get involved in incidents. Looking back at what happened at Spa, we were bloody lucky no-one got killed, and the worst thing that can happen is if a

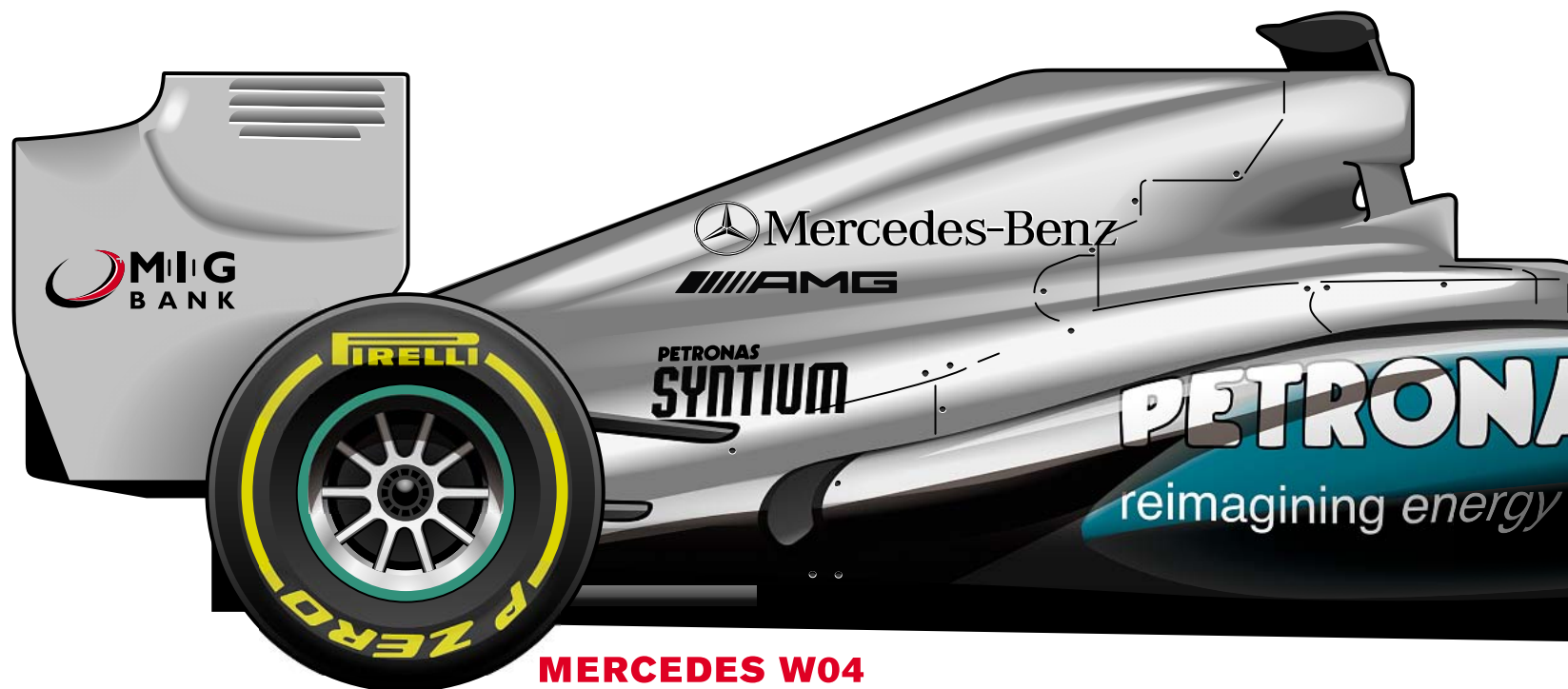
driver loses the respect of his peers. It's so important for your confidence to know that your rivals respect you, and I think it was made clear that Spa was unacceptable. Ayrton Senna often made a lot of moves that didn't come off, and you have to assess Grosjean by the frequency of these accidents. There's little doubt that he's quick, he's ambitious and he's got a great attitude out of the car. I want to see him do well, but he can't be red-mist all of the time.

“Hamilton will remain hungry and willing to knuckle down as long as he can see solid progress. For that to happen the team has to eradicate the political intrigue that marred its winter”

AUTOSPORT RATING 5TH	Drivers	●●●●●●●●
	Engine	●●●●●●●●
	Chassis	●●●●●●●●
	Budget	●●●●●●●●
	Tactics	●●●●●●●●

Mercedes

Will season four of the factory Mercedes F1 effort bear fruit now that Lewis Hamilton has joined Nico Rosberg after six years, 21 wins and a world title with McLaren? The pressure is certainly on to develop the W04 and put recent management machinations to one side



MERCEDES W04

No team has been more under the spotlight over the winter than Mercedes. Not only did the capture of Lewis Hamilton from McLaren ensure that its every move would be pored over in depth, but a raft of management changes – plus questions about the future of Ross Brawn – kept it in the headlines.

The ultimate success of the winds of change blowing through Brackley may not be felt for some time but, to the world outside, a lot is going to be judged on just how much of a step forward the W04 is over last year's car.

The 2012 campaign had been one of two distinct halves for the outfit: an opening phase of the season in which it fought – and triumphed – in the battle for poles and wins. Then came a nightmare end to the year in which it struggled to even score points.

Mercedes needs to show that its painful end to 2012 was a price worth paying as it got to grips with a better understanding of its car and, more

specifically, its Coanda-effect exhaust.

Early impressions from testing suggest that the 2013 car is indeed a step forward from last year, although questions remain about whether it

is a truly consistent frontrunner.

In Hamilton it does at least have a prize asset, and it is significant that he has bought in to the idea he has to dig deep if he is going to help the team

turn the corner and reach the top.

The key to its season, and indeed longer-term future, will be in how Mercedes drives itself forward from the position it starts the season in.

Hamilton will remain hungry and willing to knuckle down for as long as he can see solid progress and a development momentum building up. For that to happen, the team has to eradicate the political intrigue that marred its winter and instead focus on harnessing its resources.

That means there is a lot of pressure on the management trio comprising Brawn, Niki Lauda and Toto Wolff to pull together and move forward as one. If they can do that, then Mercedes may be able to break free of the frustrations that have dogged it over its previous three previous campaigns.

Should politics step in to play – as they commonly do at big manufacturer teams – then even Hamilton's brilliance and high levels of motivation may not be enough to lift it to the wins and title it so aspires to.



KEY STAT

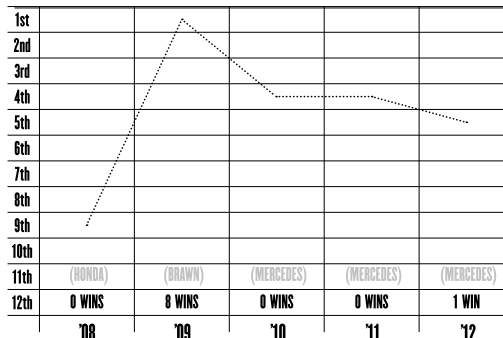
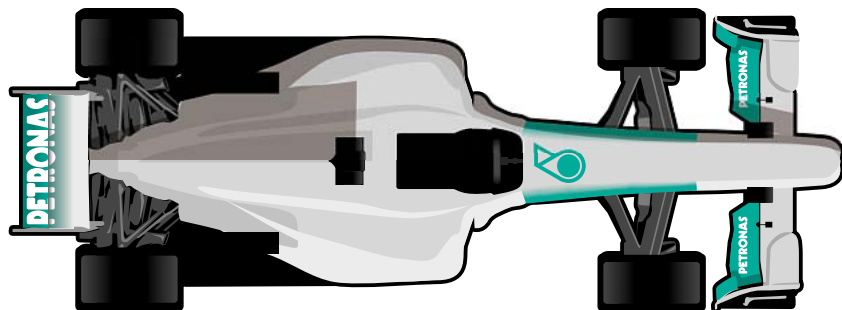
50

Lewis Hamilton's first Mercedes podium will be his 50th in F1. Only 11 drivers have done that

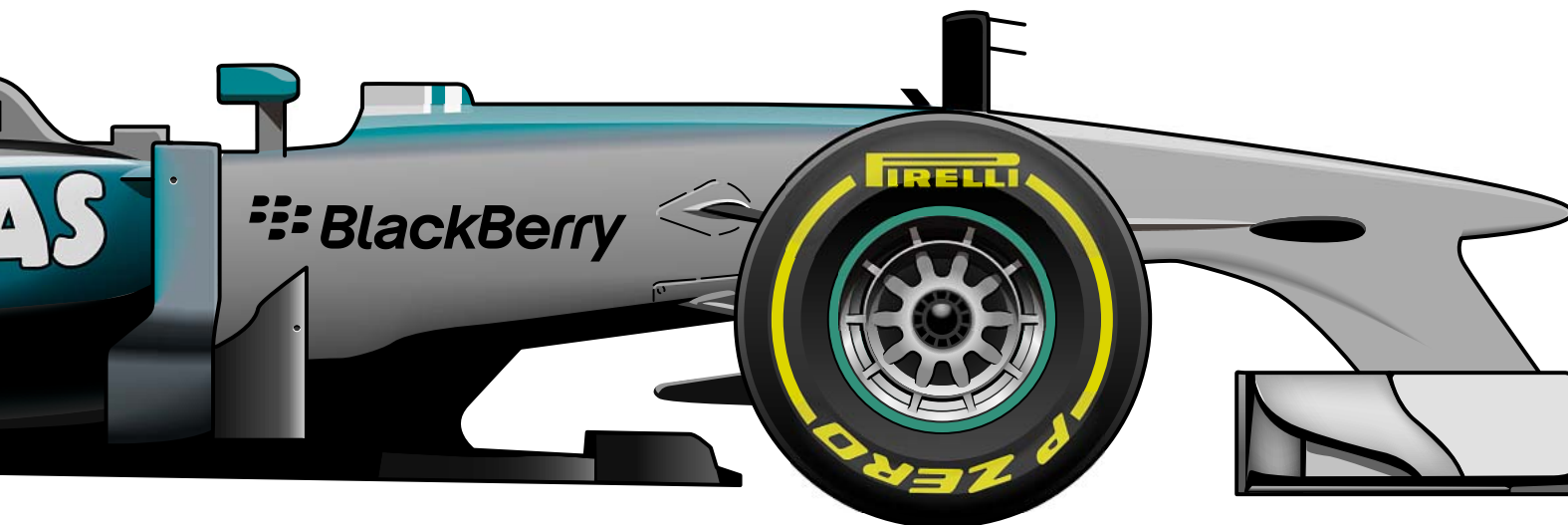
KEY STAT

2000

Lewis Hamilton and Nico Rosberg have been teammates before, with Team MBM in karting 13 years ago



Team stats
Starts 70
First GP France 1954
Wins 10
Poles 9
Fastest laps 12
2012 position 5th



9 **NICO ROSBERG**



Starts 128
First GP Bahrain 2006
Wins 1
Poles 1
Fastest laps 4
2012 position 9th



Damon Hill
1996 world champion

THIS PARTNERSHIP WITH Hamilton will be very interesting.

Nico has a chance to measure himself against a true star, because Michael Schumacher was clearly on the wane. I think that was hurting Nico a little bit, so having someone in his own peer group will be good for him. I think he'll shine, and put pressure on Lewis.

He's more than the ordinary driver that some have pigeon-holed him as. Perhaps he's a bit too comfortable at Mercedes. He's one who keeps his head down, doesn't engage with PR and politics too much, and comes across as less charismatic than you'd expect. That's to his detriment, because I think he's a more polished driver than people credit him.

But sometimes you have to express yourself, even if you're not winning – and perhaps he hasn't done that loudly enough.

KEY STAFF



Ross BRAWN
 Team principal

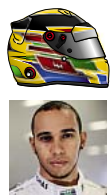


Bob BELL
 Technical director



Toto WOLFF
 Head of motorsport

10 **LEWIS HAMILTON**



Starts 110
First GP Australia 2007
Wins 21
Poles 26
Fastest laps 12
2012 position 4th



Damon Hill
1996 world champion

SIGNING LEWIS IS AN indication of how much

Mercedes wants to win. This is a long-term strategy for Lewis, it's his nature to be the centre of attention, and I think his mercurial nature is exciting for F1. I think he wants to grow; he's taken a bold move, and stepping out of McLaren was a

huge decision. He's massively indebted to McLaren for getting his big opportunity, but there comes a time when you've got to live your life on your own terms.

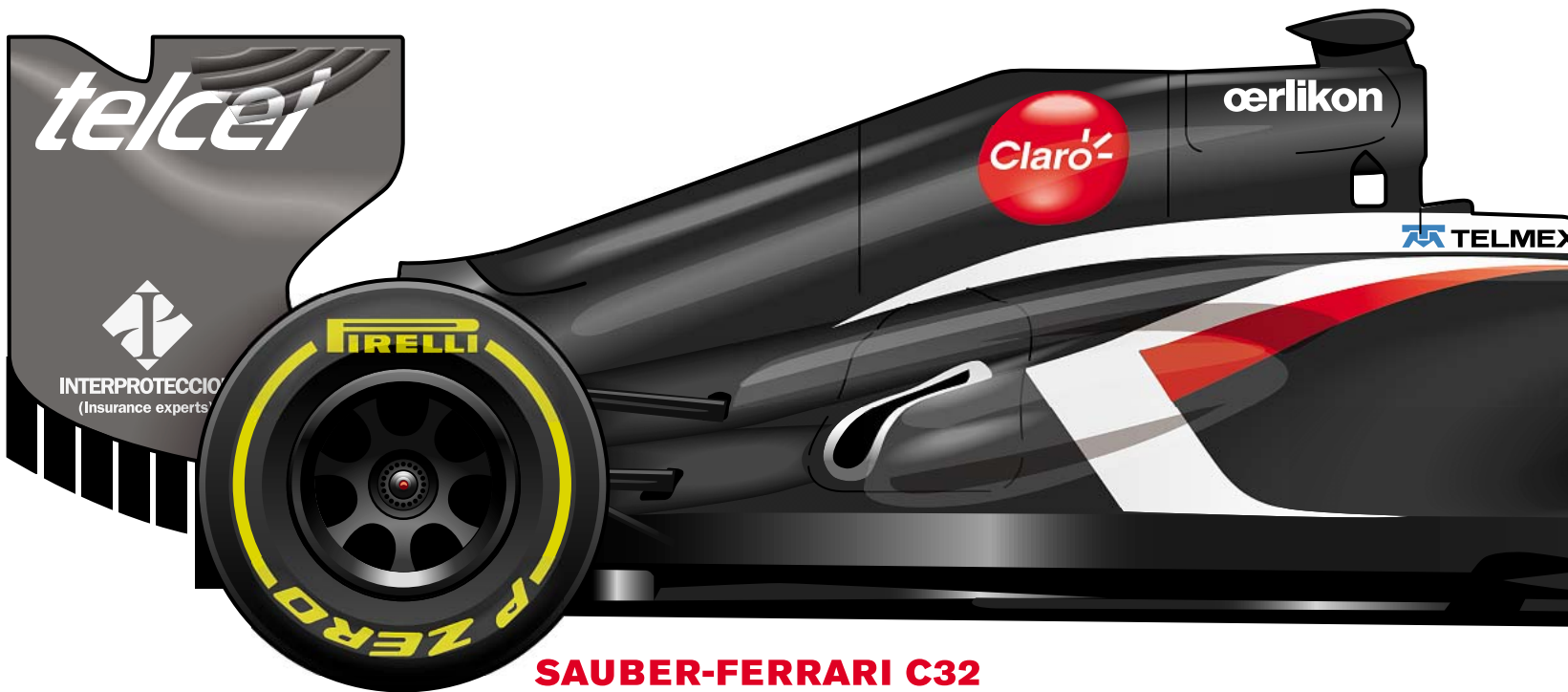
I think he'll develop into a stronger and better driver, but he'll have to learn a delicate balance of both supporting and criticising the team. Lewis is a pro, and he's going to a team that will pay him the revenue he believes he deserves. But if they don't give him the car he deserves, then Merc is wasting its money!

“In replacing Perez/Kobayashi with the Hulkenberg/Gutierrez line-up Sauber has lost driver continuity but Hulkenberg's pace and experience should more than cover that”

AUTOSPORT RATING 7TH	Drivers	●●●●●●●●
	Engine	●●●●●●●●
	Chassis	●●●●●●●●
	Budget	●●●●●●●●
	Tactics	●●●●●●●●

Sauber

Last year's Sauber performed miracles on occasion, with many suggesting it would have won races with a top-line driver aboard. With Nico Hulkenberg joining for 2013, can the Swiss team again frighten the better-funded and more high-profile teams ahead of it?



SAUBER-FERRARI C32

There was something swan-like about Sauber's apparently serene progression up the grid last year – in that there was a lot of frantic motion beneath the waterline. The departure of James Key on the eve of last season triggered a wholesale technical reshuffle. The Sauber C31 that sparkled so bright on occasions in 2012 was the product of the pre-shuffle line-up. The pressure is now on for the new group to maintain or even surpass what was Sauber's best season since the BMW days.

Designer Matt Morris has taken quite a bold step with the C32 and its narrow sidepods, reckoning on more than making up in reduced frontal area what you lose in the acceleration of the airflow along the flanks to the diffuser/rear brake ducts/beam wing. It's the only team to have followed this route and while Morris points out it's relatively simple to change to a more conventional arrangement, it's as if the strong form of last year's car has

emboldened a team that has traditionally been quite conservative.

In replacing Perez/Kobayashi with the Hulkenberg/Gutierrez line-up it has lost driver continuity but Hulkenberg's pace and experience should more than cover that gap.

Gutierrez has a steep learning curve ahead of him and retains the team's Telmex connection but he is not without talent and it's going to be interesting monitoring his progress.

What the driver brings to the equation is a moot point at Sauber.



There is at least one very senior person there who believes that with an Alonso or Vettel at the wheel of last year's car, it would have been winning races and contending for a title. In between the high points of the four podiums, last year's car could sink to midfield invisibility – and the question remains whether this was down to the traits of the machine itself or the drivers. Hulkenberg proved himself a robustly relentless performer at Force India, much less sensitive to tyre and track conditions than his team-mate Paul di Resta, and that should help answer the team's questions.

Last year Sauber threatened to transcend its traditional place of upper-midfield respectability. To deliver on that promise in 2013 would be quite a feat, given the resources of some of those teams above it. Ironically, if the car is as good or better than last year Sauber could well face the problem of hanging onto Hulkenberg, who is now very much on the radar of the traditional top teams.

KEY STAT

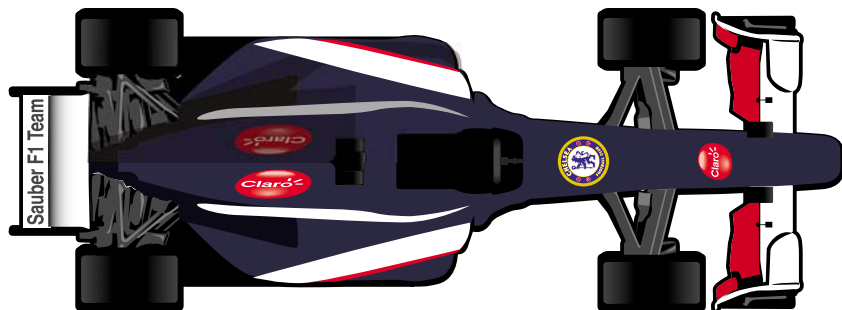
4th

Position in which Sauber finished its maiden F1 lap in the 1993 South African GP at Kyalami

KEY STAT

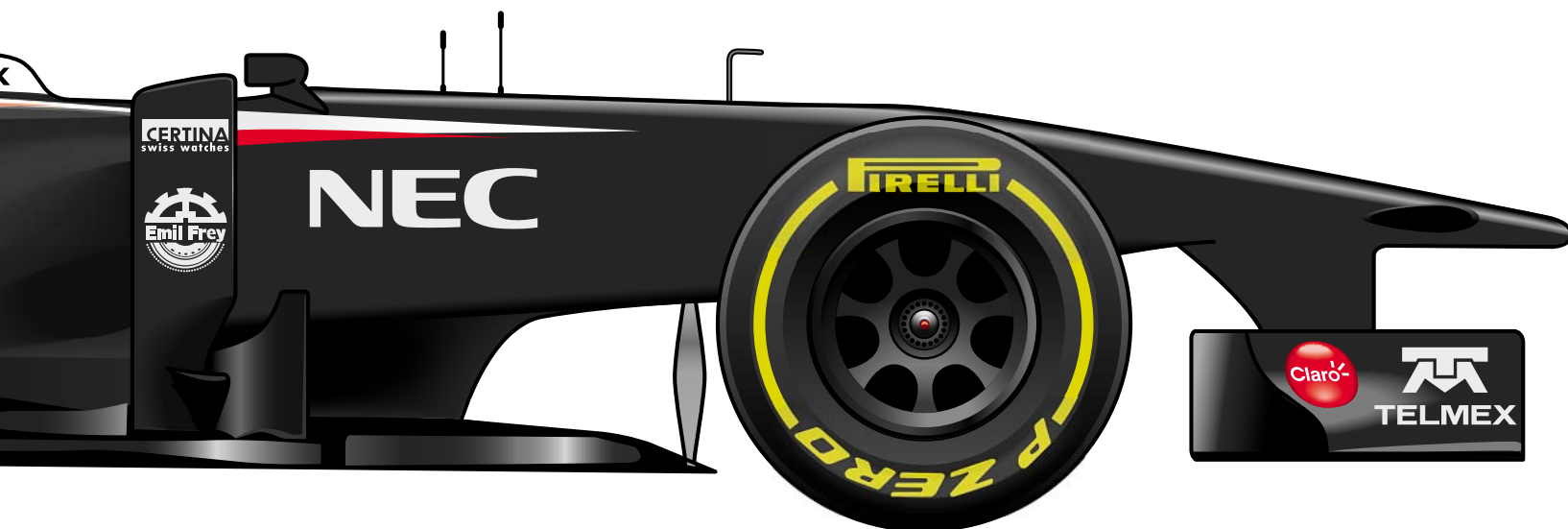
C

The C designation in all Sauber cars is a tribute to team founder Peter Sauber's wife Christine



1st					
2nd					
3rd					
4th					
5th					
6th					
7th					
8th					
9th					
10th					
11th	(BMW)	(SAUBER)	(SAUBER)	(SAUBER)	(SAUBER)
12th	1 WIN	0 WINS	0 WINS	0 WINS	0 WINS
	'08	'09	'10	'11	'12

Team stats
Starts **343**
First GP **South Africa 1993**
Wins **1**
Poles **1**
Fastest laps **4**
2012 position **6th**



11 NICO HULKENBERG



Starts **39**
First GP **Bahrain 2010**
Best finish **4th**
Poles **1**
Fastest laps **1**
2012 position **11th**



Damon Hill
1996 world champion

NICO'S SWITCH TO SAUBER

Nico might be motivated by the fact it seems more secure than Force India, by the sounds of it, so it's probably a wise move. I think it's a step up, because Sauber has grown in strength in many ways. But it also seems to me that the team lacks

ambition to break through and challenge the frontrunners, and that's why they confuse me.

Nico's clearly got a lot of talent, and he'll be able to display what he can do with that team. If he can show well, like Sergio Perez did last year, then it'll be a good move for his career. He's very solid, and he's another who smiles and gets on with the job at hand, so he's a good replacement for Perez.

12 ESTEBAN GUTIERREZ



Starts **0**
First GP **Australia 2013**
Wins **N/A**
Poles **N/A**
Fastest laps **N/A**
2012 position **3rd in GP2**



Damon Hill
1996 world champion

HE'S A VERY SMALL CHAP, ISN'T HE?

Esteban seems to be in favour, whether it was his Mexican sponsorship dollars or something else the team saw in him. The verdict is very much open on how well he's going to do. Going on his GP2 performance from last season, he did OK but not

brilliantly. Three wins but only third in the championship, and you'd have to say his ART team-mate James Calado caught the eye more with his performances as a rookie.

Sauber as a team seemed to understand the tyres very well last year, and could make its rubber last, which a lot of teams didn't. There's the nucleus of a good team here, but it needs to make a step forward to knock on Lotus's door.

KEY STAFF



Monisha KALTENBORN
Team principal



Matt MORRIS
Chief designer



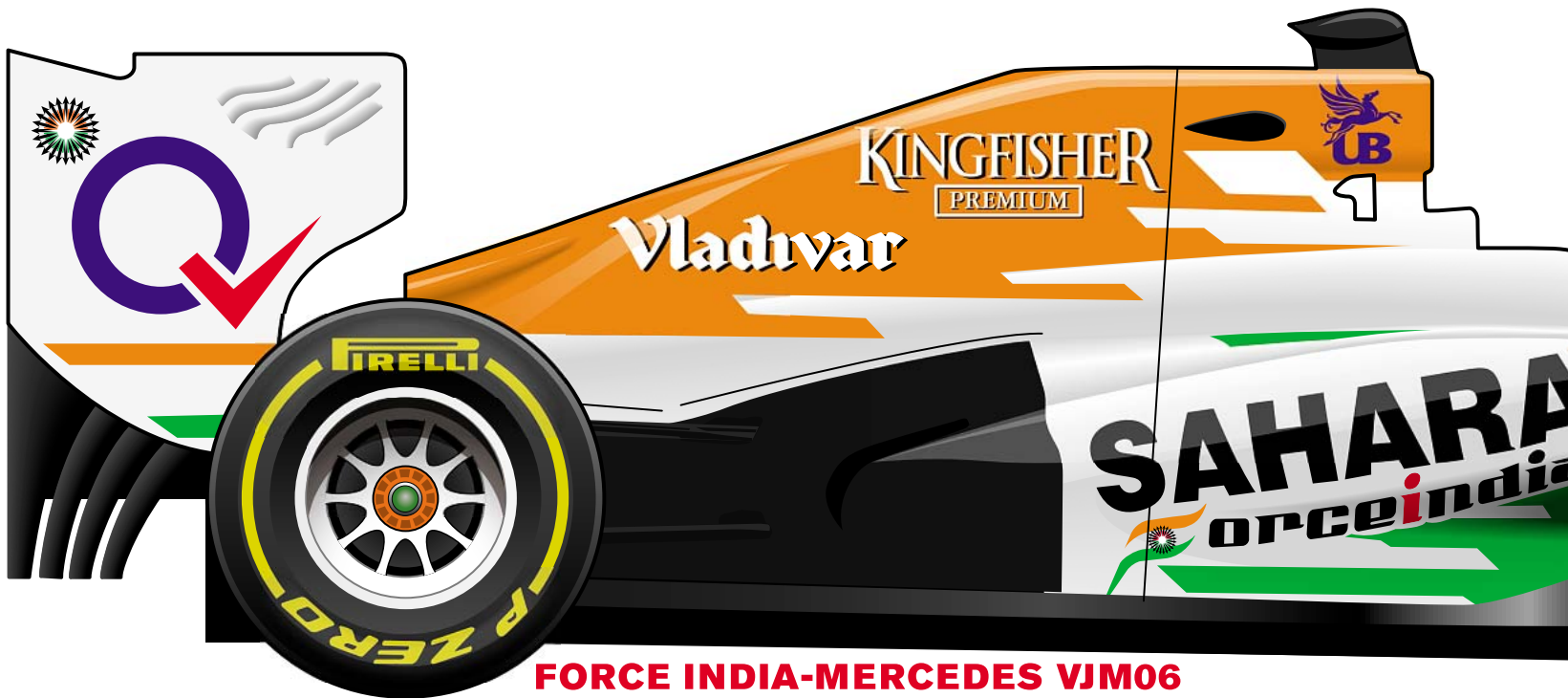
Peter SAUBER
Team founder

“While there is plenty of disquiet about the various travails of Vijay Mallya and the Sahara Group, it’s business as usual. That means it has the facilities and resources to again outperform expectations”

AUTOSPORT RATING 8TH	Drivers	●●●●●●●●
	Engine	●●●●●●●●
	Chassis	●●●●●●●●
	Budget	●●●●●●●●
	Tactics	●●●●●●●●

Force India

Billed as a formidable midfielder, Force India needs a strong car and a wobble from one of the better-funded and better-resourced outfits to improve on that status in 2013. In Paul di Resta and a returning Adrian Sutil it certainly has a driver line-up to pull in decent results



FORCE INDIA-MERCEDES VJM06

Force India’s rise from Formula 1 whipping boys during the dying days of Jordan and its transition through Midland and Spyker to its current status as formidable midfielder has been impressive. For the past three seasons, it has finished seventh, sixth and seventh in the constructors’ championship, arguably outperforming the expectations of a team that is towards the small end of the medium spectrum.

The Silverstone squad finished last season formidably, with Nico Hulkenberg leading the Brazilian Grand Prix and still able to finish fifth after a harsh penalty for hitting Lewis Hamilton while disputing the lead. Considering that it was able to do this after ceasing development on the car relatively early in the season tells you a lot about the level of understanding of the machinery that the team, under the technical directorship of Andrew Green, is capable of.

Only a slow start denied Force India

a repeat of 2011’s sixth place and returning to best-of-the-rest status behind the big five teams is a realistic aim for this year. But that’s not to say that it’s easy. Williams and Scuderia Toro Rosso are both teams that probably should be ahead of it on resources, so it’s going to take another year of overachievement to achieve a result that is, realistically,

maximising the outfit’s potential.

While there is plenty of disquiet about the various travails of Vijay Mallya and the Sahara Group, who own 85 per cent of the team between them (the other 15 per cent is held by largely silent partner Michiel Mol), it’s been business as usual back at base. That means that it has the facilities and the resources to continue to

outperform expectations this year.

On the driving front, Nico Hulkenberg’s defection to Sauber is a loss, but in Adrian Sutil it has a proven quantity who knows the team very well. While the driver line-up is weaker as a consequence of losing someone who, by rights, should be in a top car by now, the Paul di Resta/Sutil combination proved capable of securing sixth place in the standings before and can do so again.

As to whether the team can go any further than that is entirely down to whether one of the big teams underperforms. But Force India’s flirtations with the front in recent years suggest that a few shock results aren’t beyond it – even though its last podium finish came in the 2009 Belgian Grand Prix. Key to doing that will be to continue its strong qualifying performances from late last season, which allowed it to adopt more orthodox strategies rather than the tendency to split its drivers in the hope of gaining an advantage.



KEY STAT

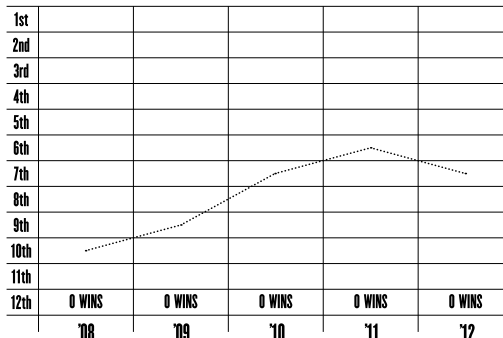
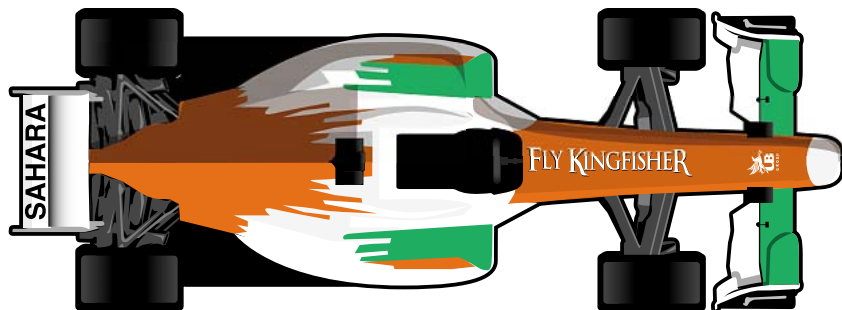
4

Force India: the fourth name for a team formed as Jordan in '91. It has also run as Midland and Spyker

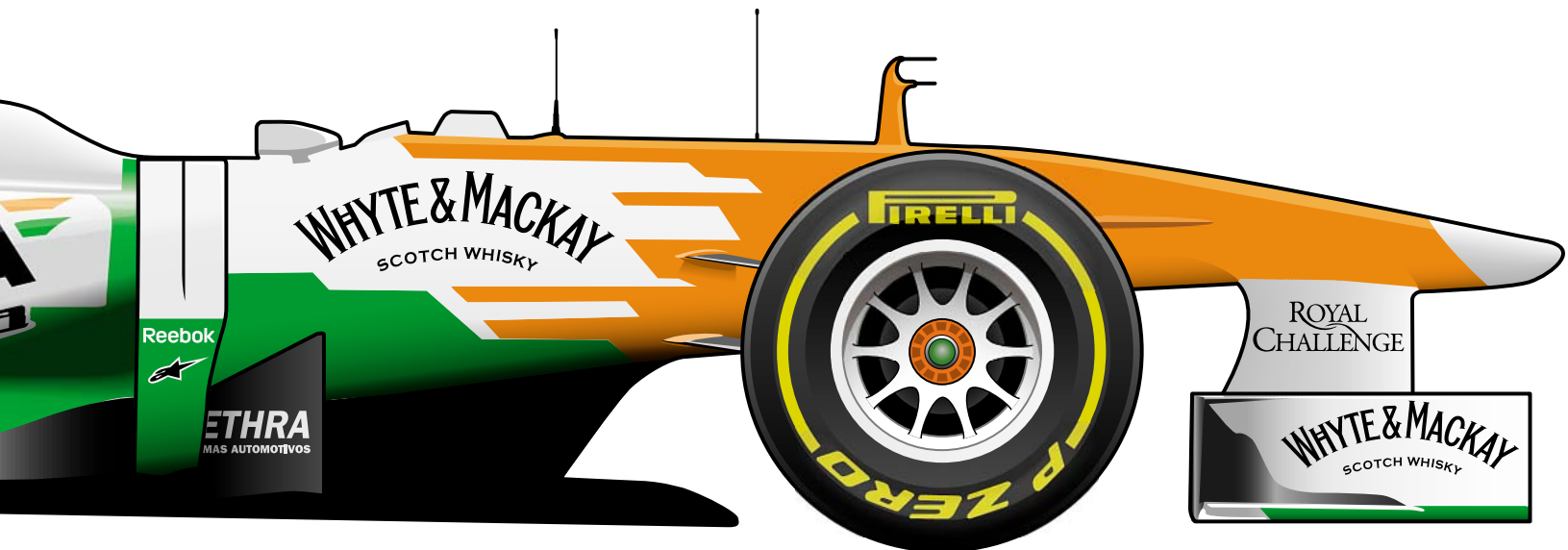
KEY STAT

1991

AUTOSPORT's technical expert Gary Anderson (right) was a long-time technical director of the team, starting at Jordan in 1991



Team stats
 Starts **93**
 First GP **Australia 2008**
 Wins **0**
 Poles **1**
 Fastest laps **2**
 2012 position **7th**



14 PAUL DI RESTA



Starts
 First GP
 Best finish
 Best grid slot
 Fastest laps
 2012 position

39
 Australia **2011**
4th
6th
0
14th



Damon Hill
1996 world champion

I GET THE SENSE THAT

Paul needs to exude a bit more; he seems quite intense and introspective. He will definitely be the leader at Force India, and he need look no further than Alonso to show him the best way to do that. Perhaps he shouldn't put so much

pressure on himself; he can drive, he's superbly talented, and I think he just needs to look like he's enjoying it a little more. Then he'd be more likely get the team around him.

After a very strong start last year, he seemed to get less and less happy as the season progressed, and once Nico Hulkenberg got going and enjoyed a really strong finish to the season Paul seemed a little dispirited.

KEY STAFF



Vijay MALLYA
 Team principal



Bob FERNLEY
 Deputy team principal



Andrew GREEN
 Technical director

15 ADRIAN SUTIL



Starts
 First GP
 Best finish:
 Best grid slot:
 Fastest laps
 2012 position

90
 Australia **2007**
4th
2nd
1
N/A



Damon Hill
1996 world champion

I'M NOT REALLY THAT

clear on Sutil, and I don't see what it is that put him back in the second Force India seat. He's got experience and the requisite sponsorship budget – and knows the team from previous seasons, of course – but what exactly was the judgement

criteria on that over the young Jules Bianchi? It's a decision that leaves me a little perplexed.

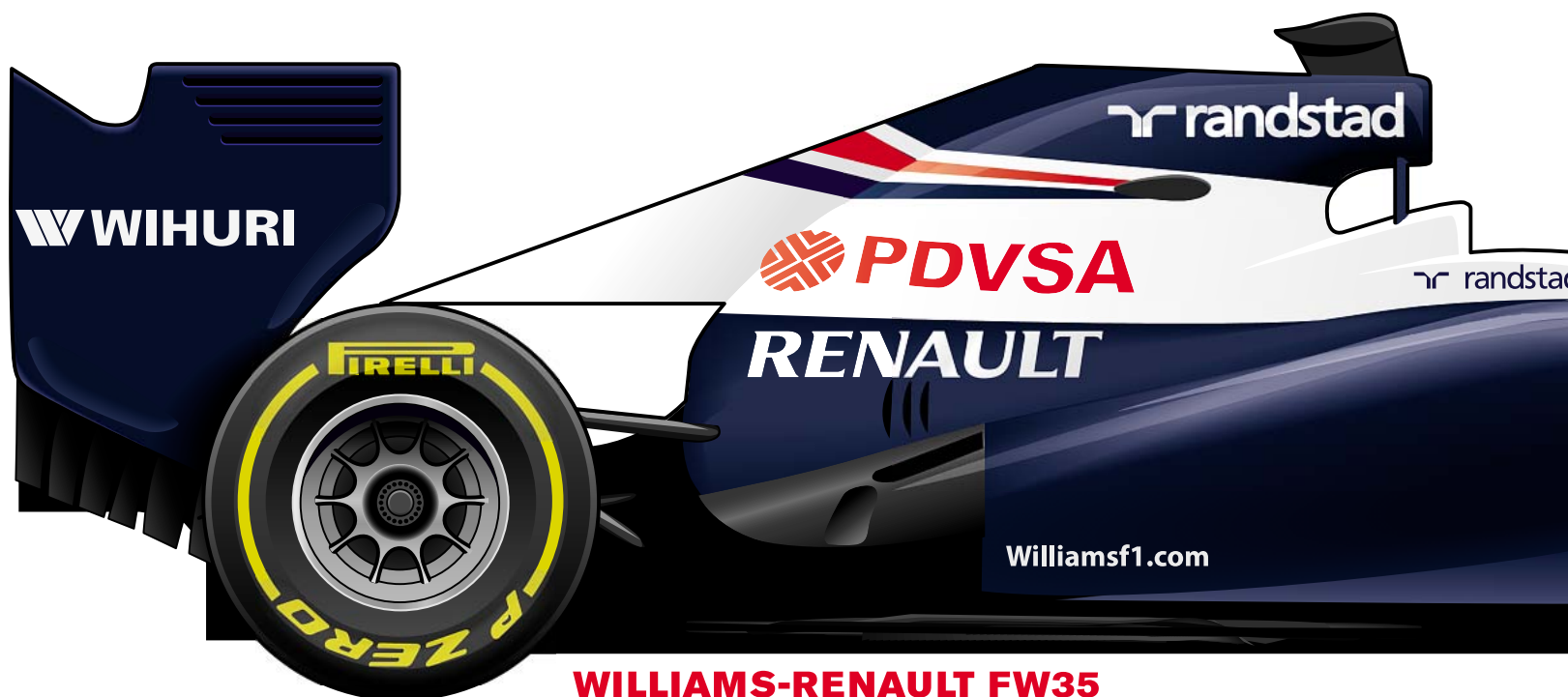
How much sponsorship money you can bring to a team has always been a key factor outside the top few outfits. The amounts, however, have become extraordinarily high now! It used to be a couple of hundred thousand quid, now you're talking multi-millions to get a place on the starting grid.

“There have been challenges over the winter – including the departure of Mark Gillan and Toto Wolff – but under the guidance of Mike Coughlan its FW35 has delivered promise in its early running”

AUTOSPORT RATING 6TH	Drivers	●●●●●●
	Engine	●●●●●●
	Chassis	●●●●●●
	Budget	●●●●●●
	Tactics	●●●●●●

Williams

This legendary – and universally well-loved – British F1 institution is poised to continue its strong recovery after years in the doldrums. If it can just tame its wild winner Pastor Maldonado, nurture rated newboy Valtteri Bottas and push the development of FW35...



WILLIAMS-RENAULT FW35

56

Williams's return to winning ways at last year's Spanish Grand Prix was heralded as confirmation of the start of a bright new chapter at the team. It had bounced back from its worst season in history, gone back to basics in bolstering its engineering expertise, and had delivered a neat package that showed on its day it could beat the very best its rivals could throw at it.

Yet Spain proved to be the high point of its campaign. A combination of car-development blind alleys and a fair bit of frustration on the driving front meant it finished the year only as eighth best team – when it clearly had more than the eighth best car.

Nevertheless, considering where Williams had come from at the tail end of 2011, last season should be viewed in some context – and ultimately it could be a precursor to a campaign that may deliver more.

There have been challenges over the winter – including the departure

of Mark Gillan and Toto Wolff – but under the guidance of technical director Mike Coughlan its FW35 has delivered some promise in its early running in pre-season testing.

The Grove-based outfit has certainly been bold with what it has been doing. An exhaust tweak that appeared on its launch-spec machine may have gone too far

according to the FIA, but innovation with its wheel hubs shows Williams is not taking things easy and going conservative as it bids to improve.

One of the biggest areas of improvement that Williams can rely on for this year is on the driver front. For the arrival of young Finn Valtteri Bottas has given the team a blisteringly fast rookie with tons of

potential – and one who should keep the enigma that is Pastor Maldonado on his toes.

While Bruno Senna put up a good fight at times in 2012, his inability to deliver in qualifying meant he never put Maldonado under too much pressure – which perhaps proved most costly as the season wore on.

And pressure from a team-mate could well be exactly what Maldonado needs. For one of the biggest frustrations with the Venezuelan is that, as his Spanish GP triumph showed, on his day he can deliver speed, error-free driving and intelligence to take him all the way to glory. The problem is that there are also days when he appears to leave his brain in neutral and gets involved in needless accidents.

If the team can harness more from Maldonado, enjoy seeing what Bottas brings to the party, and keep moving forwards with its new car then more podiums – and even wins – could be on the cards.



KEY STAT

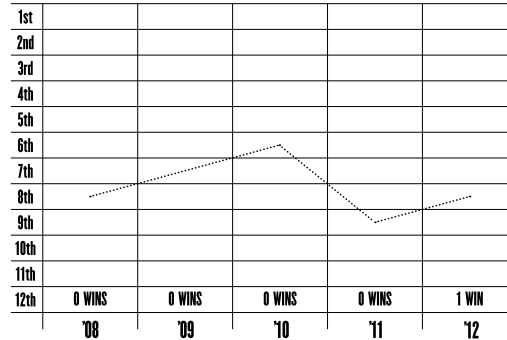
131

Number of races in a winless streak ended by Pastor Maldonado's victory in Spain last year

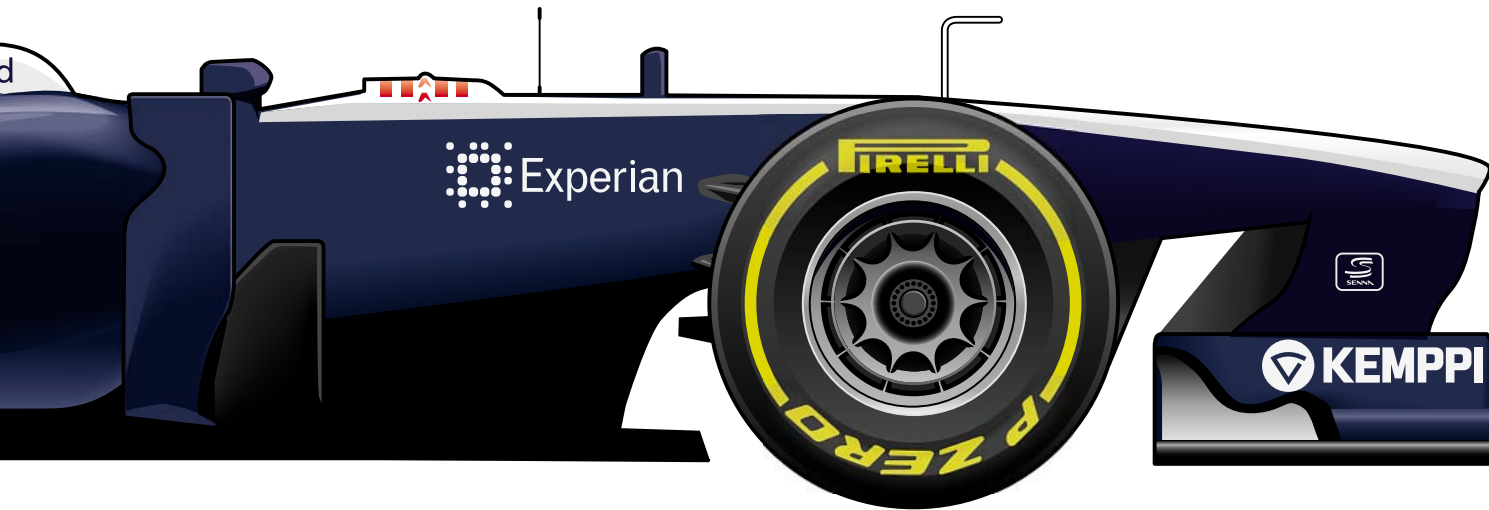
KEY STAT

1985

Valtteri Bottas is the first Finn to race for Williams since Keke Rosberg at the end of 1985 (right)



Team stats
 Starts **570**
 First GP **Argentina 1978**
 Wins **114**
 Poles **127**
 Fastest laps **131**
 2012 position **8th**



16 PASTOR MALDONADO



Starts **39**
 First GP **Australia 2011**
 Wins **1**
 Poles **1**
 Fastest laps **0**
 2012 position **15th**



Damon Hill
 1996 world champion

HE'S CLEARLY QUICK and competitive, and out of the car he's always very optimistic and positive, but sometimes there's this over-exuberance that clouds his judgement at inopportune moments in the car. Then, when you think he's going to blot his copybook again, he shines through!

He's definitely worth persisting with. Didn't he surprise us all in Barcelona last year with his mature drive to victory? He's carrying the weight of a nation on his shoulders, and he wants to do the best for his country, and perhaps we don't appreciate the pressures that some of these drivers are experiencing. He knows, politically, that he's carrying a lot of hopes.

But it will be intriguing to see how he deals with the new threat from Bottas...

KEY STAFF



Frank WILLIAMS
 Team principal



Mike COUGHLAN
 Technical director



Xevi PUJOLAR
 Chief race engineer

17 VALTTERI BOTTAS



Starts **0**
 First GP **Australia 2013**
 Best finish: **N/A**
 Best grid slot: **N/A**
 Fastest laps **N/A**
 2012 position **N/A**



Damon Hill
 1996 world champion

THE BUZZ HAS BEEN pretty consistent about this guy. He's a championship-winner in GP3, and he's been waiting patiently in the wings for his chance with Williams. He's cost Bruno Senna his place in F1, and Frank Williams says Valtteri is probably the most talented driver he's

seen – quite an accolade! He's now got to live up to that.

I'm sure he's got the right stuff, and he looks very confident in his own abilities. I think he's in the classic mould of the Finnish greats, who are able to dispense with the superfluous stuff and concentrate on the job in hand.

I think he knows what he's there to do, and it's going to be fun to watch his progress in his rookie season.

“Despite this being the final year of the current formula, it's new-broom time here as senior technical personnel recruited in 2011 and 2012 have their first direct input into a Toro Rosso”

AUTOSPORT RATING 9TH	Drivers	●●●●●
	Engine	●●●●●
	Chassis	●●●●●
	Budget	●●●●●
	Tactics	●●●●●

Toro Rosso

With last season's technical reshuffle now expected to pay dividends, Toro Rosso should be able to regain strong mid-field status. Many of the development blind alleys have been dropped, giving Ricciardo and Vergne a better platform with which to impress Red Bull



TORO ROSSO-FERRARI STR8

Despite this being the final year of the current formula, it's new-broom time here as senior technical personnel recruited in 2011 and 2012 have their first direct input into a Toro Rosso car.

Technical director James Key only joined in the second half of last year, by which time work on the new STR8 was already underway – but with the key inputs of chief designer Luca Furbatto, recruited from McLaren in late 2011 at around the same time as assistant chief of aero Jon Tomlinson, ex of Williams.

The twin-floor concept of the past two years is gone, having reached a development plateau. More conventional sidepods with deep undercuts around low-mounted radiators now feature and the rear end has been slimmed down considerably via a new gearbox casing and rear suspension. It also has a much wider range of set-up options, addressing a weakness of last year's car.

Key, meanwhile, has been working away at improving the communication

between the aero team – working from Bicester – and the Faenza team base.

On paper there's no reason why this new design shouldn't at least be capable of getting Daniel Ricciardo and Jean-Eric Vergne back to where they started last season, at the upper Q2 part of the grid. It was only as others developed and the STR7's development hit a brick

wall that the Toro Rossos slid steadily further down the grid.

If the car can be maintained at that sort of level, it will enable the development of its two quick, hungry young drivers to become more evident. Ricciardo showed a great turn of qualifying speed on occasion last year, notably in Bahrain where his lap – good

for sixth on the grid – was compared favourably by then technical director Giorgio Ascanelli with any he had seen from Vettel during his time at Toro Rosso. Vergne struggled more with the discipline of single-lap qualifying but invariably made good progress in the race. This time last year 'JEV' was considered favourably by Red Bull as the likely long-term Mark Webber replacement. As that focus has inevitably now shifted to Ricciardo, so Vergne has a lot of ground to regain – and against a formidable team-mate.

While the heights of 2008 – when the team was allowed to provide Vettel with a Ferrari-engined Red Bull-designed car – are not on the cards, how this team has progressed to become a bona fide constructor, creating design and aero departments from scratch, is impressive.

Some of the growing pains of that quick change became apparent last year, and Key has been working at untangling some of the knots that had arisen in the organisation. It bodes well.



Vergne puts STR8 through its paces in Barcelona testing

KEY STAT

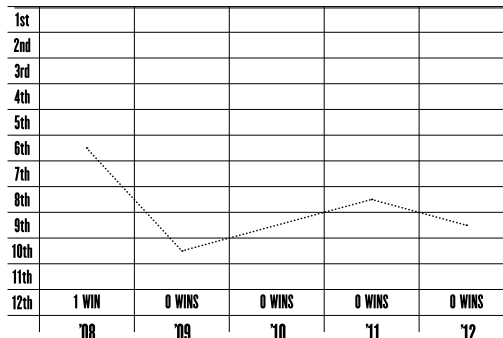
2005

Red Bull-owned Scuderia Toro Rosso originally competed in F1 as Minardi from 1985 until 2005

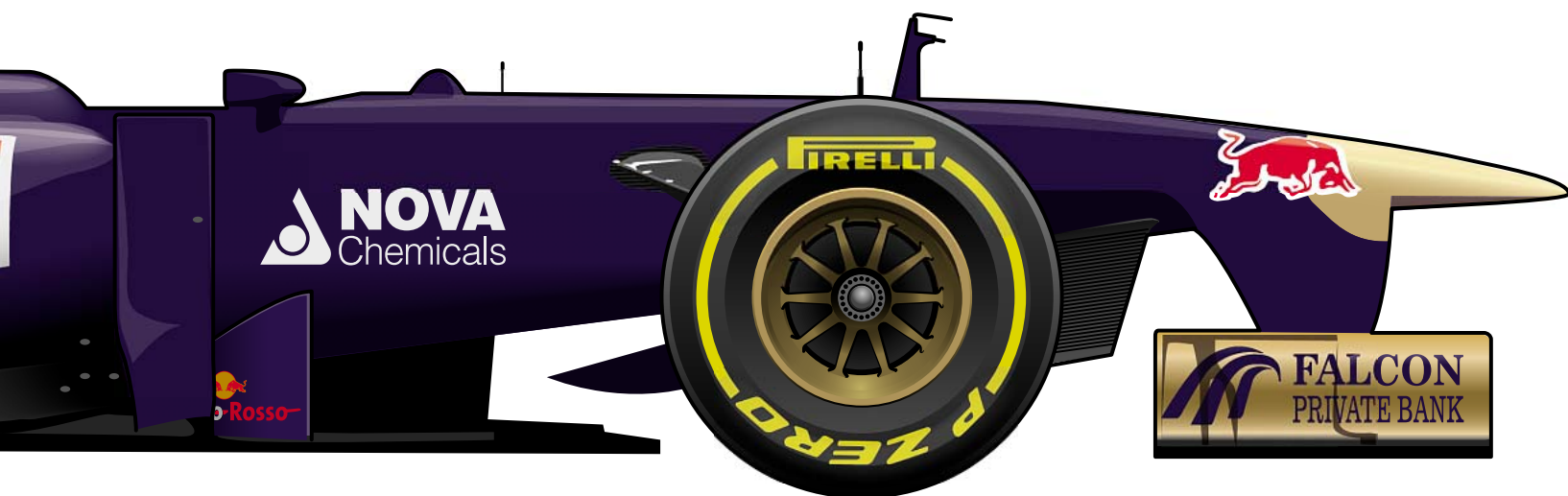
KEY STAT

1985

Team principal Franz Tost used to race. This is him in a Walter Lechner-run F3 car at Hockenheim in '85



Team stats
 Starts **128**
 First GP **Bahrain 2006**
 Wins **1**
 Poles **1**
 Fastest laps **0**
 2012 position **9th**



18 **JEAN-ERIC VERGNE**



Starts 20
First GP **Australia 2012**
Best finish **8th**
Best grid slot **11th**
Fastest laps **0**
2012 position **17th**



Damon Hill
1996 world champion

I THINK BOTH
 Jean-Eric Vergne and Daniel Ricciardo are quick racers, and from outside the team it's quite difficult to assess their talent to decide if they've got what it takes to make the step beyond and land a seat at the senior Red Bull Racing team.

Vergne's credentials are fantastic: British Formula 3 champion in 2010 and a multiple race winner in the Renault World Series for two different teams. And, of course, he scored points in only his second GP – in Malaysia last season.

He's perhaps more prone to misfortune than his team-mate Ricciardo – is that perhaps a sign that he's being a little over-aggressive? But the Frenchman's speed is certainly there.

19 **DANIEL RICCIARDO**



Starts 31
First GP **Great Britain 2011**
Best finish **9th**
Best grid slot **6th**
Fastest laps **0**
2012 position **18th**



Damon Hill
1996 world champion

I THINK THAT DANIEL
 Ricciardo has got the right attitude to this situation – he knows he's not going to get any chances better than this one to prove how good he is. He's a bright, optimistic lad, and I think he can make the grade.
 Like Vergne, a British F3 champion and

race-winner in Formula Renault 3.5, Ricciardo does have setbacks, which are inevitable in F1, but he doesn't let them get to him that much.

Daniel's quite resistant in a sense, which is a good thing as both he and Vergne are under massive pressure from within the Red Bull fold. They are, if you like, the whipping boys of F1! But their potential substitute status for the main team makes it all worthwhile.

KEY STAFF



Franz TOST
 Team principal



James KEY
 Technical director



Luca FURBATO
 Chief designer

Caterham



The team starts its fourth season of F1 with two new drivers – Charles Pic and Giedo van der Garde – and a car that it will need to develop quickly to move away from the back of the grid

Team stats
Starts **58**
First GP **Bahrain 2010***
Wins **0**

Poles 0
Fastest laps 0
2012 position 10th
*As Lotus



CATERHAM-RENAULT CT03

69

After securing a last-gasp financial boost by keeping hold of 10th spot in the constructors' championship for the third straight season, Caterham might have felt its biggest hurdle had been overcome.

But early testing form of its 2013 CT03 has left the team in no doubt that it is going to face a pretty tough early phase of the campaign.

With new team principal Cyril Abiteboul believing that the Leaffield-based outfit's longer-term ambitions would be better spent on settling things over the winter rather than starting the year with an all-new car, the focus has been on a major revamp for the early part of the campaign.

That means that drivers Charles Pic, who has made the switch from fellow tail-end team Marussia, and Dutch rookie Giedo van der Garde may be left struggling for pace until later in the year, with its nearest rivals all appearing to have made a step forward in form over the winter.

For a team in Caterham's position, the looming change of regulations for 2014 means its situation is even more complicated as it has to juggle efforts to move forward with its current car as well as lay foundations for the future.

Caterham has come a long way since it joined the grid (as Lotus) in 2010, but despite that progress, life for the Tony Fernandes-owned outfit won't get any easier at the back end of the grid.



Van der Garde has a mountain to climb with Caterham

KEY STAFF



Cyril ABITEBOUL
Team principal



Mark SMITH
Technical director



Tony FERNANDES
Owner

20 CHARLES PIC



Starts
First GP
Best finish
Best grid slot
Fastest laps
2012 position

20
Bahrain 2012
12th
19th
0
21st



Damon Hill
1996 world champion

MOVING FROM MARUSSIA to Caterham is a small step forwards, and I think the new management there and the factory that the team has moved into should make a difference in performance. Can Pic do something remarkable in an unremarkable team? I don't really know.

21 GIEDO VAN DER GARDE



Starts
First GP
Wins
Poles
Fastest laps
2012 position

0
Australia 2013
N/A
N/A
N/A
6th in GP2



Damon Hill
1996 world champion

HE'S SOMEONE I DON'T really know too much about, apart from noting he's a lot older than all the other rookies. But he's got the budget together, and he's taking his chance so we'll see how good he actually is. As a team, Caterham isn't too bad and it could make a step forward this year.

AUTOSPORT RATING
11TH

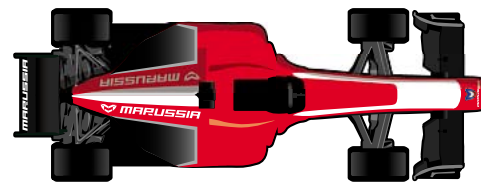
Drivers	●●●●●
Engine	●●●●●
Chassis	●●●●●
Budget	●●●●●
Tactics	●●●●●

KEY STAT
2008

Technical director Pat Symonds returns to the paddock after a ban for his role in the 2008 Singapore race fix controversy



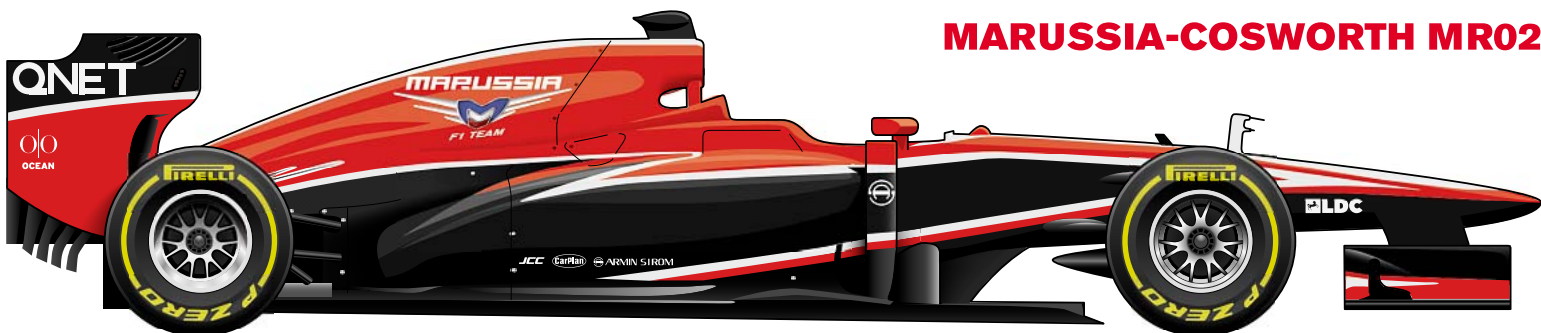
Marussia



Despite producing its first windtunnel-created car and adding KERS to its arsenal, Marussia can only really hope to fight with Caterham to avoid back-of-the-grid status during 2013

Team stats
Starts 58
First GP Bahrain 2010*
Wins 0

Poles 0
Fastest laps 0
2012 position 11th
*As Virgin



MARUSSIA-COSWORTH MR02

The financial climate has given this team a very difficult winter, but from it has emerged the first windtunnel-designed Marussia. It's as big a jump in sophistication as last year's car was from its predecessor.

The tunnel was used only to develop last year's CFD-designed car, though with fruitful gains. It began the year around 4.5 per cent off the ultimate pace and ended it 2.5 per cent away, closing in and occasionally overcoming nearest rivals Caterham along the way. The MR02 is the first KERS-boostered car from the team, giving it more ammunition in what will likely be a continuing fight only with Caterham.

The way the sport's finances are currently configured makes it unlikely a team of this size and resource can ever break away from the tail end of the grid. Its only long-term hope is that the size of the other teams comes back to meet it. The lap-time deficit equates pretty directly to windtunnel hours and the staff numbers required to keep up with such a programme. Factor in the move of most teams from 50 to 60 per cent scale tunnel models, which give around 10 per cent more fidelity and detail for 100 per cent more cost, and it's clear that the status quo won't change soon.

The loss of Timo Glock will be felt most on rainy days or at street tracks when opportunity for a shock result was tantalisingly feasible. Jules Bianchi and Max Chilton will be quick enough to give a representative picture of the car's level but there may be days when Glock's experience will be missed.



Chilton has done most of the pre-season running for Marussia

22

JULES BIANCHI



Starts	0
First GP	Australia 2013
Wins	N/A
Poles	N/A
Fastest laps	N/A
2012 position	2nd in FR3.5



Damon Hill
1996 world champion

I CAN'T SAY I KNOW TOO

much about Bianchi, apart from he was in the running for the Force India drive and is on the Ferrari Academy scheme. You have to judge him against his team-mate Chilton. Looking at their junior records, they've both achieved something, and finally got their big chance. And now the hard work begins!

23

MAX CHILTON



Starts	0
First GP	Australia 2013
Wins	N/A
Poles	N/A
Fastest laps	N/A
2012 position	4th in GP2



Damon Hill
1996 world champion

I THINK HE'S GROWN

in maturity and ability in the past year, when he's set poles and won races in GP2 and looked good when he's been in the F1 car too. He's got potential, although you're tempted to view him as someone who's been indulged, perhaps, on his way through the ranks.

KEY STAFF



John BOOTH
 Team principal



Graeme LOWDON
 Sporting director



Pat SYMONDS
 Technical director



Australia Melbourne

March 17

2012 winner

Jenson Button

2012 polesitter

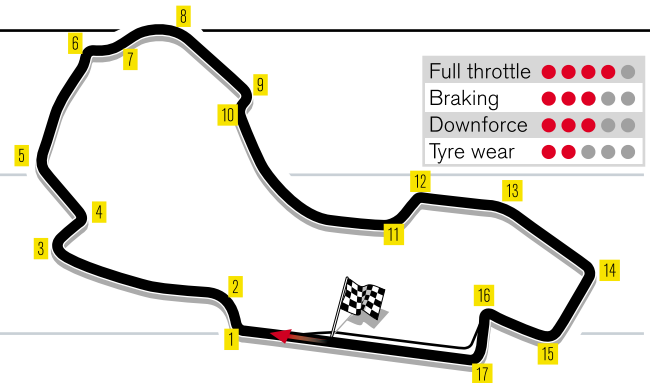
Lewis Hamilton, 1m24.922s

Lap record

Michael Schumacher, 1m24.125s (2004)

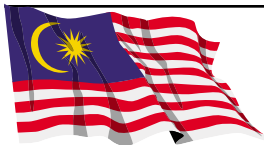
UK start time 0600

Live TV Sky Sports



Anthony Davidson
Sky F1 analyst

It's a difficult race to start the year with. It's a street track at the end of the day, and they're never easy, so it is a bit of baptism of fire especially for the rookie drivers. The key points to get right are Turns 11 and 12, where you have to carry the speed and avoid locking up into the slower speed corners 3, 9 and 16. They're all tricky to get right and there's not much room for error.



Malaysia Sepang

March 24

2012 winner

Fernando Alonso

2012 polesitter

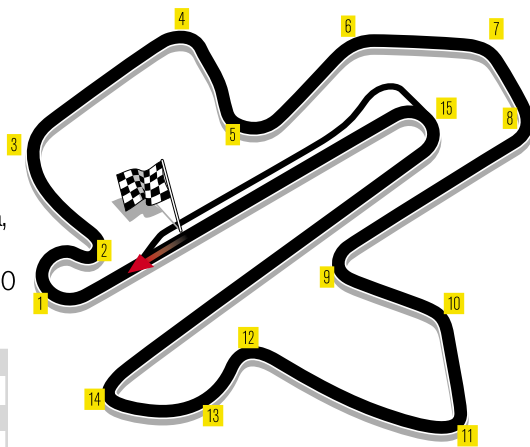
Lewis Hamilton,
1m36.219s

Lap record

Juan Pablo Montoya,
1m34.223s (2004)

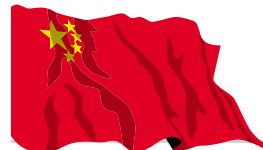
UK start time 0800

Live TV Sky Sports



Anthony Davidson
Sky F1 analyst

Often dictated by severe weather conditions, it's usually hot inside the car. It's probably the second most physically tough race on the calendar from inside the cockpit. But it's a great circuit. The grandfather of the Tilke tracks, it's weathering well and it's got a bit of character now. There are a few bumps, particularly on the run into Turn 4. It's an easy track to overtake on, with a big DRS zone down into Turn 1.



China Shanghai

April 14

2012 winner

Nico Rosberg

2012 polesitter

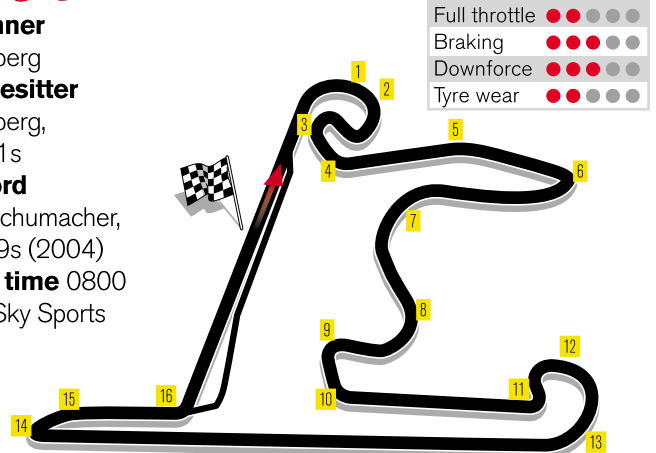
Nico Rosberg,
1m35.121s

Lap record

Michael Schumacher,
1m32.239s (2004)

UK start time 0800

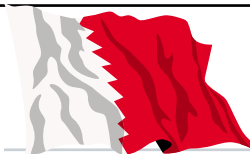
Live TV Sky Sports
& BBC



Anthony Davidson
Sky F1 analyst

It's quite a fun track to drive. This race is often quite cold, which can play havoc with the tyres as we saw last year and the year before that. Plus it's got the longest straight in F1 – over a kilometre long – so there's an overtaking spot into Turn 14. It has challenging corners like Turn 1 all the way around to Turn 4. It's a really demanding part of the lap – you have to get that right if you're going to get a quick time.

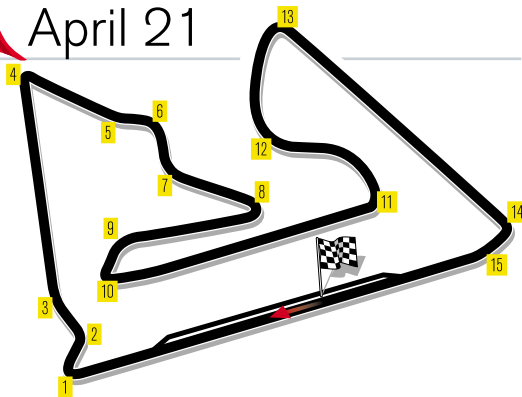




Bahrain Sakhir

April 21

2012 winner
Sebastian Vettel
2012 polesitter
Sebastian Vettel,
1m32.422s
Lap record
Michael Schumacher,
1m30.252s (2004)
UK start time 1300
Live TV Sky Sports



Full throttle ●●●●● Braking ●●●●● Downforce ●●●●● Tyre wear ●●●●●

Anthony Davidson Sky F1 analyst

I'm a big fan of the Bahrain layout. I consider it a real thinker's circuit. It's not all about having a great car, it's about thinking your way around that will give you the lap time ultimately. There's a lot of corners that follow into another and it's knowing where to push and where not to from Turn 4 through to Turn 10. This is the key part of the lap to get right. It's quite a dusty place and that can eat into your rear tyres if



you're not careful. And there's a great overtaking spot into Turn 1.



Spain Barcelona

May 12

2012 winner
Pastor Maldonado
2012 polesitter
Pastor Maldonado,
1m22.285s
Lap record
Kimi Raikkonen,
1m21.670s (2008)
UK start time 1300
Live TV Sky Sports
& BBC



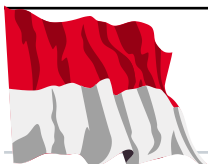
Full throttle ●●●●●
Braking ●●●●●
Downforce ●●●●●
Tyre wear ●●●●●

Anthony Davidson Sky F1 analyst

It's a great proving ground. If you're fast there, you'll be fast around most of the European F1 tracks. It's a medium-to-high-downforce circuit and favours a car that's very efficient, has a lot of downforce and is slippery for the long straight down into Turn 1. The track's been bastardised, especially with the loss of fast double right onto the pitstraight. We all think we know Barcelona like the backs of our hands,



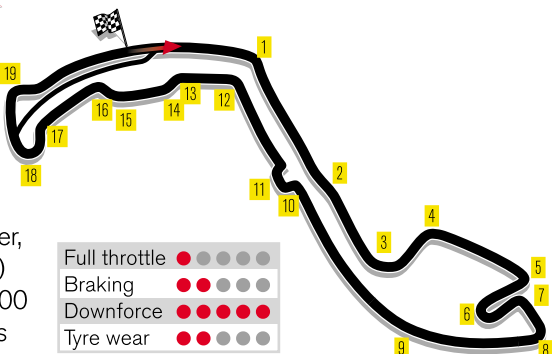
but we still get surprised, like last year when Maldonado won out of nowhere.



Monaco Monte Carlo

May 26

2012 winner
Mark Webber
2012 polesitter
Mark Webber,
1m14.381s
Lap record
Michael Schumacher,
1m14.439s (2004)
UK start time 1300
Live TV Sky Sports



Full throttle ●●●●●
Braking ●●●●●
Downforce ●●●●●
Tyre wear ●●●●●

Anthony Davidson Sky F1 analyst

It's a very demanding track. You've got to get into a rhythm, you've got to lose the respect for the barriers as the weekend goes on but stay unscathed throughout because track time is key. Turn 1 is always hard to get right under braking, you can often end up in the wall there if you're not careful. And during the race the marbles build up as you come down from Casino (4) to Mirabeau (5), so it's always hard to get



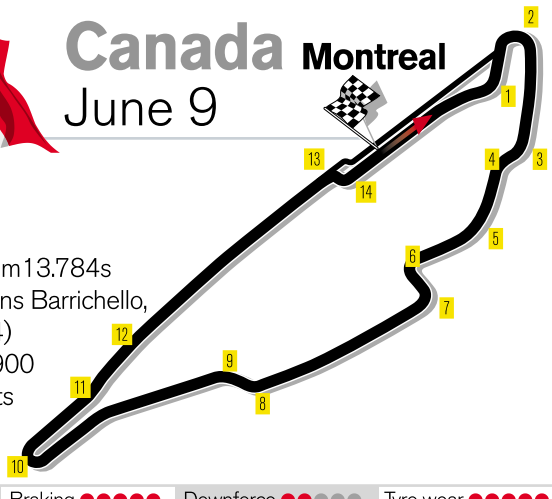
right. It's a frustrating track to race on as you just cannot overtake.



Canada Montreal

June 9

2012 winner
Lewis Hamilton
2012 polesitter
Sebastian Vettel, 1m13.784s
Lap record Rubens Barrichello,
1m13.622s (2004)
UK start time 1900
Live TV Sky Sports
& BBC



Full throttle ●●●●● Braking ●●●●● Downforce ●●●●● Tyre wear ●●●●●

Anthony Davidson Sky F1 analyst

Montreal is a fantastic city, the fans really understand motorsport and there's great heritage as well. It's also a really interesting mix of track. You come from Monaco – one of the highest downforce tracks – to one of the lowest, and that's pretty tough for a driver to get used to. And that's why you often see quite a few mistakes. The run from Turn 3 to 7 is a very tricky part of the lap to get right. You have to



be right on top of the car, and use the kerbs well to be quick.



Britain Silverstone June 30

2012 winner

Mark Webber

2012 polesitter

Fernando Alonso,
1m51.746s

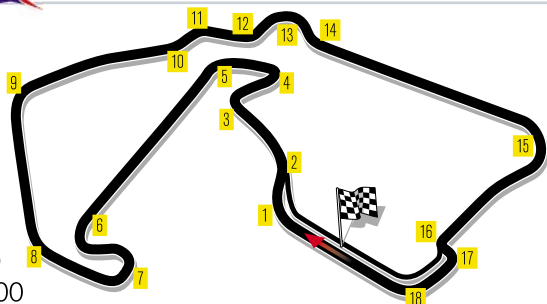
Lap record

Fernando Alonso,
1m30.874s (2010)

UK start time 1300

Live TV Sky Sports & BBC

Full throttle ●●●●● Braking ●●●●● Downforce ●●●●● Tyre wear ●●●●●



Anthony Davidson
Sky F1 analyst

I'm a huge fan of this track, not because I'm British, just because from a pure driving point of view I much prefer this layout to the old one. The drivers always want a chance of overtaking and the new layout really lends itself to that. Throw in the mixed weather conditions that we always have and it's one of the



best pieces of circuit design ever in my opinion, especially from Copse through to Stowe. It's just magic on four wheels when you drive through there – and that part should never be touched.



Germany Nurburgring July 7

2012 winner

Fernando Alonso
(Hockenheim)

2011 polesitter*

Mark Webber, 1m30.079s

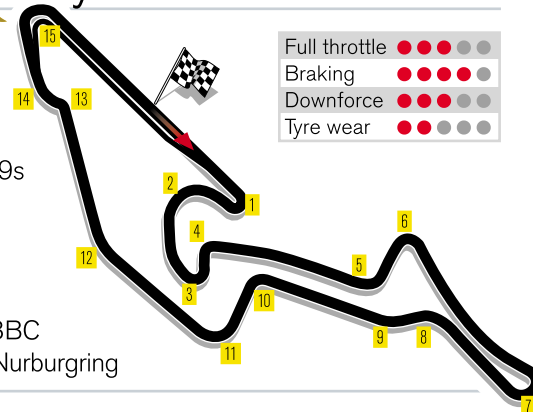
Lap record

Michael Schumacher,
1m29.468s (2004)

UK start time 1300

Live TV Sky Sports & BBC

*Last time race held at Nurburgring



Full throttle ●●●●●
Braking ●●●●●
Downforce ●●●●●
Tyre wear ●●●●●

Anthony Davidson

Sky F1 analyst

It's got some great parts that are nicely cambered and you don't get that anymore. Inside the car that gives you a great feeling. But for me the most enjoyable part of the track is from Turn 10 round to 11. It's a really nice and flowing, the car moves around just a bit, you go up and over the hill and it's a great part of the track. If you nail that section you can work your way up to a potential



overtaking move down to the tight chicane at Turn 13/14.



Hungary Hungaroring July 28

2012 winner Lewis Hamilton

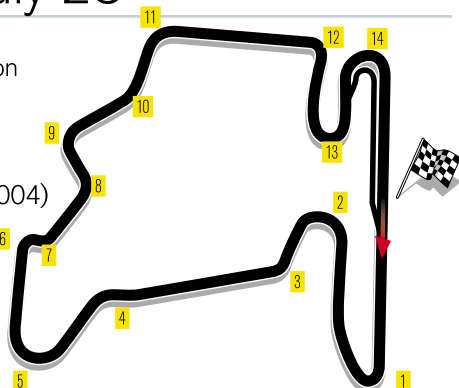
Lewis Hamilton, 1m20.953s

Lap record Michael Schumacher, 1m19.071s (2004)

UK start time 1300

Live TV Sky Sports

Full throttle ●●●●●
Braking ●●●●●
Downforce ●●●●●
Tyre wear ●●●●●



Anthony Davidson

Sky F1 analyst

They call it Monaco without the barriers and that's right. You've got room for error but it's just non-stop. It's relentless and undulating – more than the TV shows – and is a rollercoaster ride of medium-speed corners. The left/right section from Turn 8 all the way around to Turn 11 is reminiscent of the Esses at Suzuka as one leads into another and you've got to be fully committed. A car with good downforce always does the



business here. It's almost impossible to overtake, too, so qualifying is vital.



Belgium Spa August 25

2012 winner

Jenson Button

2012 polesitter

Jenson Button,
1m47.573s

Lap record

Sebastian Vettel,
1m47.263s (2009)

UK start time 1300

Live TV Sky Sports & BBC

Full throttle ●●●●● Braking ●●●●● Downforce ●●●●● Tyre wear ●●●●●



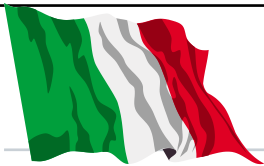
Anthony Davidson

Sky F1 analyst

It's the only track I've driven where even a Formula 1 car feels a little bit slow. It's so open and so flowing and fast that it slows everything down. Because it's all about the medium-speed corners, you have to carry the speed. I think it's got one of the most enjoyable corners on the entire calendar – Pouhon (Turn 10 and 11). The faster that F1 cars get, the more enjoyable that corner becomes. For me it's the new Eau Rouge. I'm sure



in the future an F1 car will go through there on full throttle.



Italy Monza September 8

2012 winner Lewis Hamilton
2012 polesitter Lewis Hamilton, 1m24.010s
Lap record Rubens Barrichello, 1m21.046s (2004)
UK start time 1300
Live TV Sky Sports & BBC

Full throttle	●●●●●
Braking	●●●●●
Downforce	●●●●●
Tyre wear	●●●●●

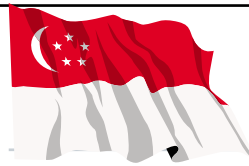


Anthony Davidson Sky F1 analyst

It's the lowest downforce track by quite a long way and the only one where you run a specific package. It's a power track so we tend to see a little mix up of the normal order. It's also one of the only tracks where you feel the top speed of an F1 car. It shakes you around, it's violent, it's bumpy, your vision gets blurred – it's brutal for so few corners. But the corners that really count are the ones where you do the biggest stops,



so into 1 and 2 and into 4 and 5 – you can make up a lot of time there.



Singapore Marina Bay September 22

2012 winner Sebastian Vettel
2012 polesitter Lewis Hamilton, 1m46.362s
Lap record Kimi Raikkonen, 1m45.599s (2008)
UK start time 1300
Live TV Sky Sports

Full throttle	●●●●●
Braking	●●●●●
Downforce	●●●●●
Tyre wear	●●●●●



Anthony Davidson Sky F1 analyst

It's an extremely physical race – the most physically demanding on the calendar. You haven't just got the high humidity, you've got the barriers around you as well, which makes the air a bit more static. It can be a rough ride for the drivers if the car is not set up well and the degradation can be quite high, but, strangely, because there's no sun on the asphalt you can still get poor tyre warm-up which is really bizarre,



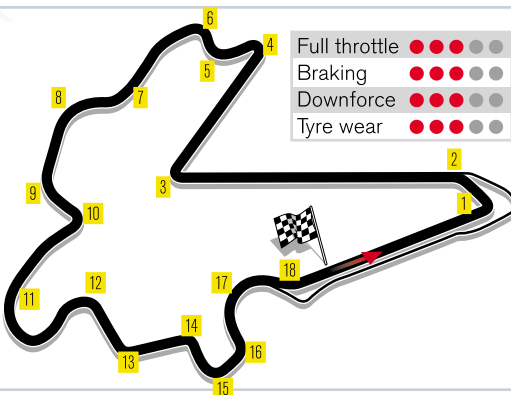
so it's a difficult one for the drivers and the teams to get right.



Korea Yeongam October 6

2012 winner Sebastian Vettel
2012 polesitter Mark Webber, 1m37.242s
Lap record Sebastian Vettel, 1m39.605s (2004)
UK start time 0700
Live TV Sky Sports

Full throttle	●●●●●
Braking	●●●●●
Downforce	●●●●●
Tyre wear	●●●●●



Anthony Davidson Sky F1 analyst

A track of two halves. The first sector is all about straight lines joined up with tight corners, the second is all left/right, left/right. You've got the high-speed Turns 7 and 8 and then Turns 9 and 10 – it's quite a challenge. At some parts of the track the walls get quite close, especially around the last sector. It doesn't really feel like a street track, but it's challenging nevertheless. You can overtake around the first half with the



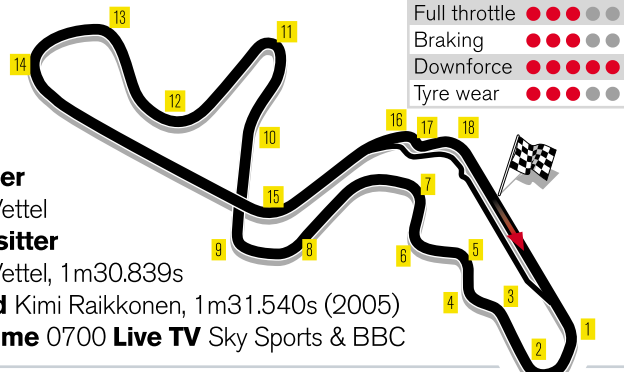
open, straightline nature lending itself to having a go at Turns 1, 3 and 4.



Japan Suzuka October 13

2012 winner Sebastian Vettel
2012 polesitter Sebastian Vettel, 1m30.839s
Lap record Kimi Raikkonen, 1m31.540s (2005)
UK start time 0700 **Live TV** Sky Sports & BBC

Full throttle	●●●●●
Braking	●●●●●
Downforce	●●●●●
Tyre wear	●●●●●



Anthony Davidson Sky F1 analyst

Brilliant circuit – my favourite on the calendar. Through the Esses at the start of the lap you can find a lot of lap time but the real key is the Degners (Turns 8 and 9) because there's literally no room for error and there's no more room for the circuit designers because of the drop-off down the dip to the other half of the track. I know some of the drivers complained – that's only natural because you don't want to damage



your car if you venture off the track a little bit. It's a huge challenge.



India Buddh International October 27

2012 winner

Sebastian Vettel

2012 polesitter

Sebastian Vettel, 1m25.283s

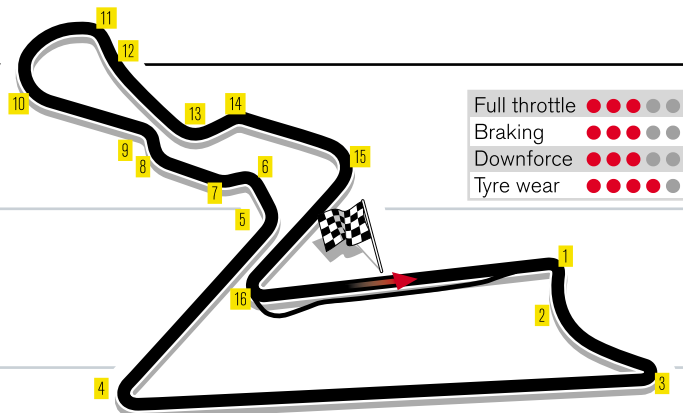
Lap record

Sebastian Vettel, 1m27.249s (2011)

UK start time

0930

Live TV Sky Sports & BBC



Anthony Davidson Sky F1 analyst

It's a great circuit and it's one where we saw drivers learning from the year before about where they can place their car and where they can overtake. The start of the race is always exciting because of the tight corner at Turn 3 – the uphill first-gear right-hander – and the massive drag race into Turn 4. There are tricky kerbs around the bus stop chicane on the section from Turns 5 through to 9 and some high-speed stuff thrown in there as well around Turns 10 and 11. A great track and one



that I feel Formula 1 is going to grow into over the years.



Abu Dhabi Yas Marina November 3

2012 winner

Kimi Raikkonen

2012 polesitter

Lewis Hamilton,
1m40.630s

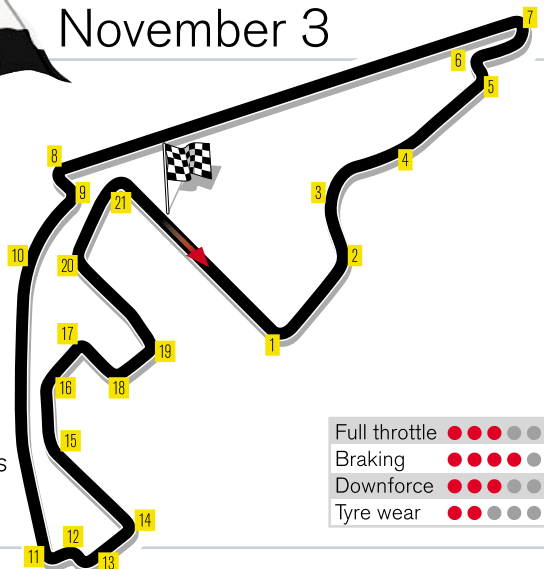
Lap record

Sebastian Vettel,
1m40.279s
(2009)

UK start time

1300

Live TV Sky Sports



Anthony Davidson Sky F1 analyst

Mark Webber describes it as like driving round an expensive car park – but you still see drivers like Lewis Hamilton finding extra speed from somewhere, especially around the last sector. That excites me. When a driver can extract lap time from somewhere, it proves to me that the circuit must be challenging in some way. It got slated in the first couple of years, but drivers have grown into it – last year we saw drivers



thinking outside the box especially at Turn 8 all the way through to Turn 14.



USA Austin November 17

2012 winner

Lewis Hamilton

2012 polesitter

Sebastian Vettel,
1m35.657s

Lap record

Sebastian Vettel,
1m39.347s
(2012)

UK start time

1900

Live TV
Sky Sports



Anthony Davidson Sky F1 analyst

Of all the new circuits, this is the one I would like to drive around in an F1 car. I think it's Tilke's finest, the layout is superb. From Turn 3 all the way to Turn 10 it's just spectacular. It's up and down, it's left and right. It's high-speed, slowing down all the way through as the corners tighten up. It's like threading a needle through that section. If you mess up the first part, you're going to be slow around the second part. If you master it,



you will be fast, but you need a car that can work in all types of corner.



Brazil Interlagos

November 24

2012 winner

Jenson Button

2012 polesitter

Lewis Hamilton, 1m12.458s

Lap record

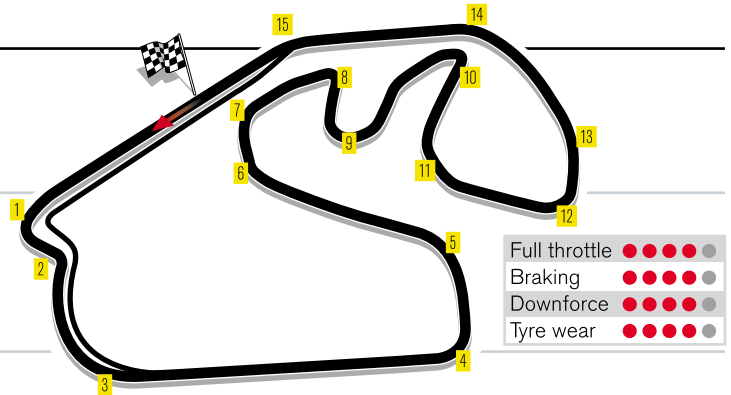
Juan Pablo Montoya, 1m11.473s (2004)

UK start time

1600

Live TV

Sky Sports & BBC



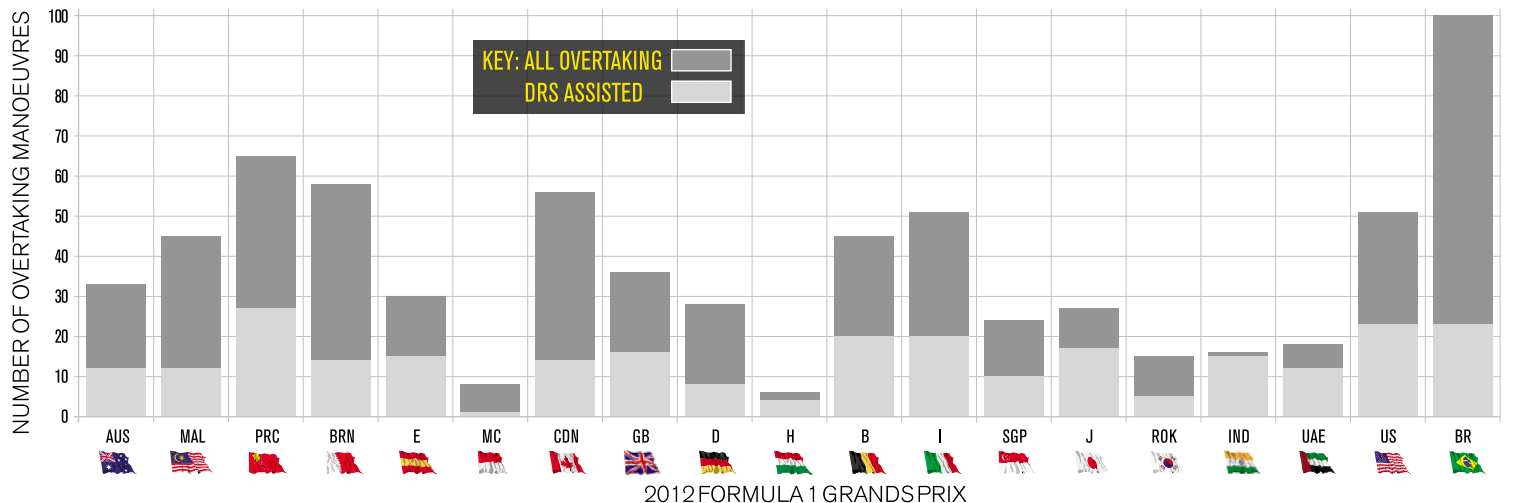
Anthony Davidson
Sky F1 analyst

When you talk about character on a circuit, Interlagos has got it in abundance. From the fans to the circuit design, it's got it all. And then you throw in stuff like it being 800m above sea level, which means there's less power and less downforce, and the cars slip-slide around a bit more, plus you've got cambered sections of the track... it's really a great circuit to drive and one that lends itself brilliantly to overtaking, into Turn 1 especially. Turns 1, 2 and 3 make or break your lap – early on into Turn 1, if you're carrying a front-wheel lock-up, it's going to hinder your performance and you're never going to get a fast lap time. Because it's quite a short lap, there are few places on the track where you can make up time. Turns 6 and 7 are good fun. Six is the only high-speed right-hander on the track and you feel the *g*-force there. It's a brilliant race to end the season and one we normally see decide the championship too.



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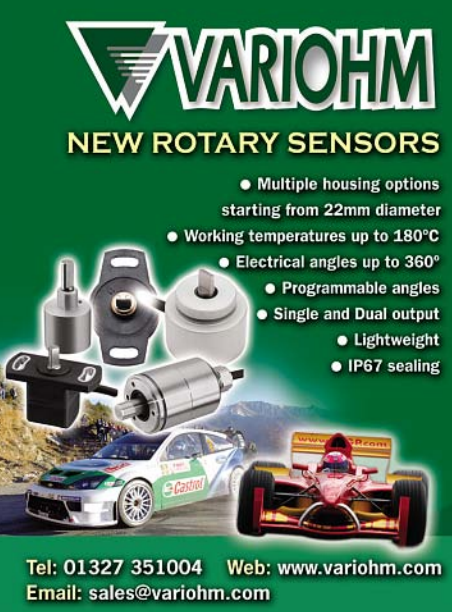
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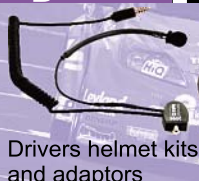
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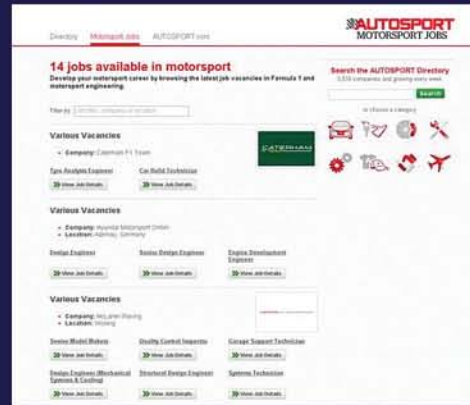
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"The decision to advertise for staff in Autosport was easy as the magazine is one of the most widely read motorsport publications in the world. The resulting response also met our expectations providing us with a large number of high quality candidates. What exceeded our expectations was the friendly and helpful nature of the Autosport staff who helped us with the timing and preparation of our advertisement. I would recommend the use of Autosport to any organization looking to recruit staff in our business."

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M-Sport will add a British GT attack to its successful WRC programme

AUTOSPORT

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JAKE HILL HAS DESERVED A

decent break for some time. After finishing as runner-up in Ginetta Juniors in 2010, he proved his pace in the Ginetta GT Supercup with wins in both G50 and G55 machinery.

Budget has always been his biggest problem, either forcing him to run on a shoestring with not enough new tyres, or missing rounds altogether. That he now has enough backing, helped by the KX Akademy (see page 48), means he can have a crack at a proper season.

The switch to front-wheel-drive and the Renault Clio Cup won't be easy, but Hill has already shown his ability to adapt – at a Mercedes GT3 test in which he impressed veteran Bernd Schneider. As KX mentor Jason Plato says, “we will finally get the chance to see what he's made of”.

Meanwhile, British GT keeps on getting better and better. The arrival of yet another big name – this time M-Sport from the world of rallying – underlines the professionalism and quality that will be fighting it out for honours in 2013.

It's not all new, though, with reigning champion Michael Caine returning with Motorbase, this time with Ahmad Al Harthy alongside (p49), and established squad Barwell expanding to three cars (p48). It's almost impossible to start predicting who's likely to come out on top, but one thing is for sure: whoever wins the 2013 British GT title will have beaten the best line-up the series has ever seen.

Leading WRC squad to British GT

M-Sport to run Audi R8 ahead of Bentley project. By GARY WATKINS

THE M-SPORT WORLD RALLY team will race in the 2013 British GT Championship as it gears up for its central role in Bentley's return to sports car racing later this year.

Ford's long-time partner in the WRC will build and run the new Bentley Continental GT3 racer, due to hit the track at the end of the summer, and has put together a programme in the British series in order to learn about racing. It will field a solo Audi R8 LMS ultra for former MG factory driver and Tourist Trophy winner Warren Hughes and Dutch amateur Rembert Berg.

Team owner Malcolm Wilson said: “Our background is 100 per cent rallying, apart from running in T-Cars with my son Matthew. This is about getting match fit for the second half of the season when the Bentley arrives.

“We are beginning a new chapter. We have no concerns on the engineering side, but we lack experience in racecraft.”

Wilson stressed that the programme is independent of Bentley, but he admitted John Wickham, who is co-ordinating the GT3 project at the British manufacturer, will undertake the team management role at the races.

“John has good experience and will help the learning process for us,” Wilson said. “It makes sense.”

The programme came together after Hughes linked up with 39-year-old Berg, whose racing experience is limited to a handful of Belcar races in the early-2000s and the odd appearance in BOSS GP and the Renault Eurocup Megane Trophy.

Hughes said: “I am very excited to be in a competitive entry in what is going to be a mega championship this year.”

M-Sport has committed to running the Audi at the first four weekends of the championship, but Wilson left the door open on the team completing the series.

“We could continue, but at this point in time there is no decision,” he said. “We will see how things work out.”

M-Sport's Audi is due to arrive at the team's

Cumbria headquarters this week ahead of a first test next week at Oulton Park, scene of the series opener on April 1. The team has one more day of testing, also at Oulton, scheduled ahead of the first race.

The Bentley Continental GT3 car is due to begin testing in August and race for the first time before the end of the season. An attack on the Blancpain Endurance Series with M-Sport is envisaged for 2014.

M-Sport is developing the Bentley in conjunction with stalwart sports car designer Graham Humphrys, who was employed by Bentley to work on the project at the beginning of last year.



M-Sport will focus on Bentley project after Audi races

Hill has had success in Ginettas and will now switch to the Clio Cup with SV



Hill gets KX backing for Clios

FORMER GINETTA STAR JAKE HILL will replace Luke Herbert in the KX Akademy and Scuderia Vittoria's Renault Clio Cup team this season.

Herbert had to give up his seat last month (see AUTOSPORT, February 28) due to budget issues and Hill has now been selected to replace him.

He will partner fellow KX Akademy members Ant Whorton-Eales and Stefan Hodgetts, whose Clio place

has been confirmed despite his Toyota British GT campaign.

"It's an incredible opportunity to be part of the KX Akademy and to drive with SV," said 19-year-old Hill, who was a race winner in Ginetta Juniors and the GT Supercup.

"I know I'll learn a lot. It's a big change and challenge moving from Ginettas to Clios but I'm confident I'll be competitive.

"I'm hugely grateful to Ginetta, and especially to Mike Flounders from Tollbar Racing for all they've done for me. Now I am in a position to focus purely on my driving, and to learn from Jason [Plato] and his team about the business side of being a racing driver."

SV boss Daniel Buxton added: "I've known Jake since Ginetta Juniors and he's incredibly talented. He's never had a real crack with enough budget.

"It'll be a learning year for him, but I also think he has the potential to be a race winner. He really wants it.

"We're pleased Stefan is confirmed. He's been blistering in testing and it's good for the other boys with the data."

BTCC star and KX Akademy mentor Plato said: "I'm delighted Jake has been able to secure the balance of funding to race an entire season without worry. We will finally see what he's made of."

British GT

Barwell to run BMWs and Aston in three-car attack on British GT

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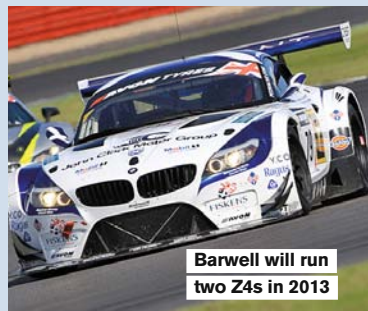
Barwell Motorsport will run two BMWs alongside its Aston Martin in the series.

Barwell has already confirmed Mark Poole and Richard Abbra in a new Aston Vantage (see AUTOSPORT, October 18) and has now added two BMW Z4 GT3s.

Race winner Oliver Bryant will drive a Z4 under the Ecurie Ecosse banner, as he did in 2012, this time alongside Marco Attard. Piers and Ron Johnson will drive the second German machine after switching from the Chevrolet Corvette run by Speedworks Motorsport last year.

The last time Barwell ran three cars in the series – Aston DBRS9s in 2007 – it won the teams' title and principal Mark Lemmer believes his 2013 line-up is strong.

"I am hugely excited about the season ahead," he said. "The last time we had a



Barwell will run two Z4s in 2013

three-car squad in British GT all of them claimed race wins, and that is certainly our goal again for this year.

"Although some of our drivers are quite inexperienced, we are confident that they will make rapid progress as the season plays out."



De Zille has already started testing

Porsche Carrera Cup

De Zille heads to Carrera Cup

FORMER SINGLE-SEATER RACER

Dan de Zille will contest this year's Porsche Carrera Cup GB with Redline Racing.

The 26-year old started his career in British Formula Ford in 2009 and finished sixth in the standings in 2011. He then graduated to Formula Renault, finishing 26th in last year's FRenault NEC, but has now decided to switch to GTs.

"Racing with wings and slicks in Europe was an amazing experience," said de Zille, son of successful 1980s single-seater driver Graham. "But you've got to move on and the Porsche Carrera Cup is something I can get my teeth into."

"I want to build a career in sports and GT racing and the Carrera Cup takes you somewhere. I've done several tests and I enjoyed being in the car."

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British GT

Caine to defend British GT title with Al Harthy and Motorbase

REIGNING BRITISH GT CHAMPION

Michael Caine will defend his title with a new co-driver, ex-Porsche Carrera Cup racer Ahmad Al Harthy.

Caine and Daniele Perfetti took the GT crown last year in a Motorbase-run Porsche 997 GT3 R. Caine will now team up with Al Harthy, who won the Pro-Am1 class in the Carrera Cup in 2012, in the squad's solo entry.

"I've raced against Ahmad and know he's a nice guy," Caine told AUTOSPORT. "I think there'll be loads and loads of different winners and you've got to keep your head and do what we did last year."

Although Caine and Perfetti didn't win a race last season – the second consecutive crew to take the crown without a victory – the 42-year-old does not plan to change his approach. "It would be great to win a race, but I'd rather be champion," he added.

Al Harthy, who is aiming to be the first Omani to compete in the Le Mans 24 Hours, said: "It was very important for me to remain part of British motorsport this



Caine (left) and Perfetti took the 2012 title

year. What we all achieved in 2012 paved the way for us to climb the ladder into British GT.

"Moving full-time into endurance racing and away from sprint racing is a big new challenge, but it's one I'm really looking forward to and I seriously couldn't have a better or more experienced team-mate than Michael – if I can get close to matching his lap times I'll be very happy indeed."



Fortec reveals its 2013 British GT challenger

This is how Fortec's Mercedes SLS AMG GT3s will look as the single-seater powerhouse expands into GT racing this year. It has yet to confirm its driver line-ups for its planned British GT and Blancpain Endurance programmes.

VW Racing Cup

Motorbike racer switches to cars for VW Racing Cup campaign

FORMER MOTORCYCLE RACER

Josh Caygill will switch to cars this season in the Volkswagen Racing Cup.

The ex-British Supersport rider will drive a Golf GTI for the new Warranty Direct/AWM team formed by multiple VW race winners Aaron Mason and Joe Fulbrook.

The 23-year-old has decided to make the switch from two wheels for safety reasons. "I was lucky to walk away from my last bike crash with a broken collarbone, shoulder and ribs, and that made up my mind to look for something a bit safer and more enjoyable," said Caygill, who has already started testing.



Caygill is switching to car racing

"I want to compete and to do as well as I can, but also I want to get some fun out of it. The VW Cup looks ideal."

Humble Pye

The voice of club racing

Stuart Kestenbaum, here testing his Macon, is one who helps keep FF1600 strong



Single-seater series proliferate, but FF1600 remains appealing

The landscape of single-seater racing in Britain has changed dramatically of late. With ever-rising costs set against global economic crises, perhaps nobody should have been surprised that Formula Renault UK and even hallowed British F3 (as we know it) bit the dust. Especially since reborn F2, a rare 21st-century bargain, fell with them.

When I joined AUTOSPORT in 1977, the 'system' was more simple. The financial step between the mighty Formula Ford (1600) or its slicked-and-winged cousin FF2000 – killed by FVauxhall Lotus in '89 – and F3 was just that, a jump that many managed. The step had yet to become a career-sinking gulf.

Of course, there were strata beyond F3, including the ShellSport Group 8 championship – which mopped up F1, F2 and F5000 cars and provided a haven for drivers who couldn't quite hack it (for whatever reason) in F1 proper, or had already played cameo roles in it.

Now, though, there are too many international classes, most of them one-make, between world championship grands prix and the nursery slopes. Nonetheless, it is heartening to see deserving British competitors like James Calado and Josh Webster have drives on merit, thanks to determined families, loyal sponsors and schemes like the Racing Steps Foundation.

Those below F3, which continues in European form, will still be

encouraged by the McLaren AUTOSPORT BRDC Award contest. But in its 25th year, its key focal points will be different, because Jonathan Palmer's new BRDC F4 and FFord EcoBoost go head-to-head on the radar for the first time. I am intrigued to see how both fare in the marketplace, with FRenault 2.0 – thriving in Europe, where competition in two series was fierce last year – still the probable target for graduates.

Relaunched at club level, the most popular winged option at home in recent seasons has been FRenault BARC, which continues to gather strength and pro teams while remaining accessible. Whether Renault's new 1.6 class will join it in 2014 is undecided, but if costings based on its continental debut this year are tenable maybe it will work.

For the clubman though, FF1600 still offers sensational racing at 'affordable' prices 46 years after its introduction. There's so much opportunity to choose your level – from late-model cars to charismatic historic – and it visits virtually every circuit. While old stalwarts Monoposto and GP750 (nee F4) enjoy grassroots followings, the Ford Kent class remains the default option.

Marcus Pye



"When I joined AUTOSPORT in 1977, the single-seater ladder was more simple"

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**Mazda RX8s
ran in Formula
Woman and will now
get 750MC class**



Radical win for Correa

Former British F3 racer Victor Correa (above) won the opening round of the Radical Masters Euroseries at the Algarve last weekend after starting his SR8 from pole. James Littlejohn and Tony Wells won the rain-affected second race, while James Abbott twice topped the SR3 class.

750 Motor Club

New Mazda RX8 contest planned for this season

A NEW SERIES FOR MAZDA

RX8s will be launched by the 750 Motor Club this year.

The RX8 Cup will run as a class within the club's revived Roadsports category until there are sufficient cars to support a standalone grid.

BMW Compact Cup mastermind Paul McErean is helping to promote the new series for the 750MC. "The RX8 idea has been in discussion for some time," he told

AUTOSPORT. "Rob Boston [former Mazda and Lotus racing pacesetter] is building cars and is going to be one of the drivers to get things going.

"It's basically the cars from Formula Woman – there are plenty lying around doing nothing. It will be 230-240bhp and £8000 to build a car."

The new series will make its debut at the 750MC season opener at Donington Park on March 23, where Roadsports will have

a 45-minute race with a mandatory pitstop.

"Starting it off in Roadsports makes perfect sense for everybody," added McErean. "Drivers can share a car, the organisers won't have to underwrite a full grid, and it will bolster Roadsports.

"There's said to be 12 guys thinking of leaving another formula to race these cars and Rob Boston has got a lot of drivers he wants to run. It's a bit more power for the same kind of money as MX5 racing."

Snag for Nigerian team

The Team Nigeria Racing Eagle squad planning to enter British GT with an Audi R8 (see AUTOSPORT, February 28) will not be linking up with United Autosports. The conditions for the deal to go ahead were not met by the deadline imposed by UA last week.

New team for British GT

A new race team, formed by a joint venture between Peter Smith's Redgate Consulting and Dan Eagling's Lifetime Racing, will contest British GT this season. Eagling will share the Redgate/Lifetime Racing Ginetta G50 in the GT4 class with Smith's son Matt.

Historics

GP Alfa heads to Donington

THE DONINGTON GP-WINNING

Alfa Romeo Tipo B (P3) is one of a number of early entries for the exclusive double-header race for Pre-War Grand Prix cars at the Donington Park Historic Festival in May.

Experienced historic racer Tony Smith plans to race the Alfa Richard Shuttleworth used to win the 1935 GP.

Owners of more than 20 Alfa Romeo, Alta, Bugatti, ERA, Maserati, MG and Talbot-Lago machinery have expressed their commitment to the HGPCA's Nuvolari Trophy event, which celebrates the 80th anniversary of car racing at the circuit.

HGPCA chairman Barry Cannell said: "This is an unmissable opportunity to go back to the circuit's roots. We have two thirds of a grid, and competitors coming from the USA and Europe."



Alfa P3 won at Donington in 1935



750MC racers will switch from the National circuit to the International

750 Motor Club

Silverstone International for 750

THE 750 MOTOR CLUB WILL

become only the second body to organise races on Silverstone's latest International circuit later this year.

The 750MC Summer Festival will move from the National circuit to the 1.85-mile layout at the southern end of the British Grand Prix circuit. It will also have the use of the Silverstone Wing for the two-day meeting on August 24-25.

Competition manager Giles Groombridge said: "The Silverstone weekend is always one of our most popular events of the year. This will be a fresh challenge for all of our drivers as

the circuit has only been used for one BRSCC meeting up until now.

"We are already running events on the Donington Park Grand Prix layout, Snetterton 300 and Rockingham this season, so this will become the fourth brand-new configuration for some of our championships, which should add spice to the racing."

● Seven of the 750MC's nine championship meetings will be televised this season. The BMW Compact Cup and Toyota MR2 series have dedicated shows, while other grids will feature in wrap-up packages on Motors TV.

First team gets F4 run

Reigning Ginetta Junior champion Charlie Robertson became the first competitor to sample the new BRDC F4 car, at Donington Park last week. "It felt quite natural and everything about the car impressed me," said the 16-year-old HHC Motorsport driver.

Races for MX5 Mk3s

The BRSCC will run a 16-race championship for the Mazda MX5 Mk3 this year, to be called the BRSCC Mazda MX-5 SuperCup.

Elliott wins Escort battle

Nick Elliott and Dave Price (below) won the opening round of the RAC Rally Championship, last Sunday's Mid-Wales Stages. They took victory by just 3.7s after a tough Ford Escort Mk2 battle with Marty McCormack and Phil Clarke, while Gareth Jones (Mk2) won the concurrent opening round of the British Historic Rally Championship.



MN-J (left) took GT4 title with Stewart Linn

Britcar

Nicoll-Jones in Britcar assault

FORMER BRITISH GT4 CHAMPION Matt Nicoll-Jones will contest the Britcar Production Cup this year.

The Academy Motorsport team boss will share a Ginetta G40 with Chris Webster. "We are developing a Class 2 Production Cup Ginetta G40, but time is

tight and we ideally want to run before the season starts," said the 27-year-old, who won the 2008 GT4 crown in a Ginetta G50.

"We are already running six or seven other Ginettas in various championships so the G40 was a natural choice, and we believe it will be very competitive."

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THIS WEEK

LETTERS • BEST PICS • LATEST GEAR • ON TRACK & SCREEN • ONLINE

Letters

What you think of the motorsport news of the past week



Gravel traps aren't always the best solution to every accident scenario says Bradley

Safety must always come first

Jamie O'Leary has valid points about advertising opportunities on asphalt at international venues and possible encouragement of bad driving (Soapbox, February 21).

However, if he had witnessed – as I and others have – the sickening sight of a beached FF1600 car on the exit of Copse getting hit at full speed by another car

just as the driver of the stranded car was getting out, he may hold a different view.

In that case it was not driver error, it was fluid on the racing line that was the cause.

I would suggest that the balance swings in favour of the greater safety – at least at sub-F1 levels – of extended run-off. Things happen very quickly at 100mph plus...

Jamie Champkin, Abbots Salford, Worcs

Motorsport has gone mad.

How can Susie Wolff be looking to get a superlicence in the same week as one of the great talents of recent years, Adam Carroll, ends up driving a McLaren GT?

Gary Dowsett

By email

I have some alternative F1

predictions to go with the usual set... Driver quietly getting on with racing without drama when it goes wrong or right – Vettel (honourable mention: Webber, Button).

Driver always at the centre of a whirlwind of drama about everything

and nothing – Hamilton.

Driver most likely to have to be a team player – Massa, if he continues his end-of-2012 run of being faster than Alonso.

Driver praised for not being a team player in a team sport – Raikkonen.

Most creative application of rules and regulations – FIA (winner every year).

Driver under undeserved scrutiny – Grosjean (hon mention: Hamilton).

Drivers who really need to prove their ability this year – Ricciardo and Vergne.

Driver who will be seen to have made the smartest decision – Hamilton,

especially when stories start to surface on the performance of the 2014 engines.

Technical device generating the most column inches for least on-track effect – passive DRS. No one will get it to work reliably, but everyone will talk about it.

Paul Irwin

Bexleyheath

Just finished reading your story

on Red Bull's latest protege, Antonio Felix da Costa (February 28). Here's a driver whose raw talent really impresses me, and he seems to have a level head on his shoulders. I hope he'll be knocking on the door of Toro Rosso before too long.

Ed Worthington

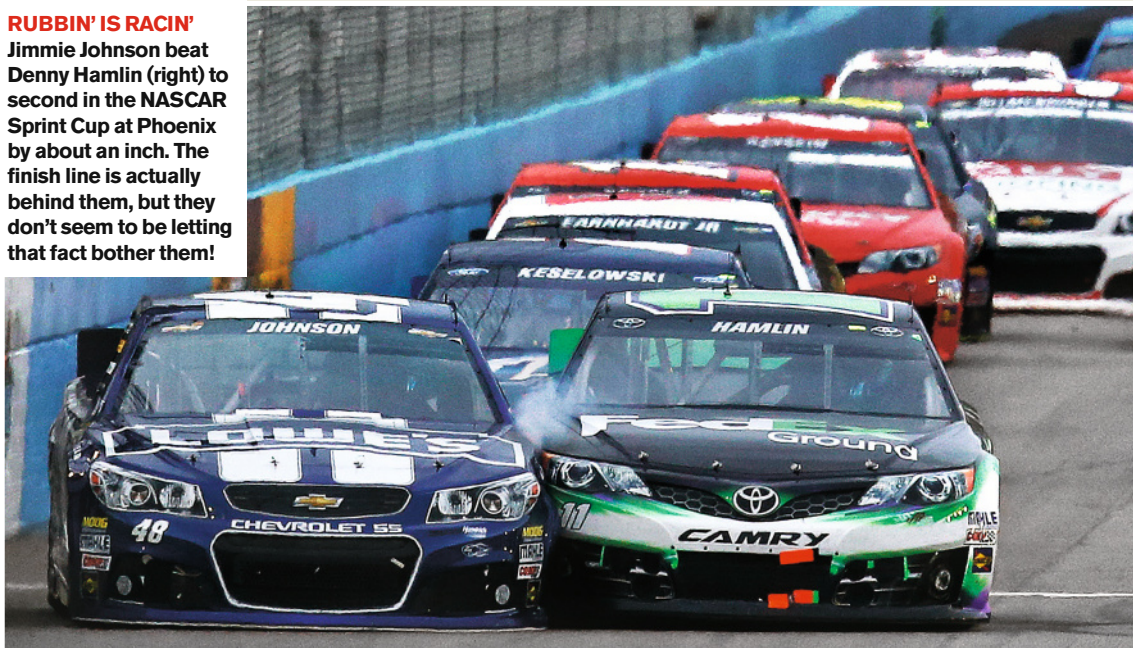
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In pictures

Our lensmen pounding the beat, from Phoenix to Barcelona via Adelaide

RUBBIN' IS RACIN'

Jimmie Johnson beat Denny Hamlin (right) to second in the NASCAR Sprint Cup at Phoenix by about an inch. The finish line is actually behind them, but they don't seem to be letting that fact bother them!



SOMEWHERE OVER THE RED BULL

Mark Webber and Sauber's Esteban Gutierrez haven't got time to pause to take in the meteorological phenomenon above their heads in Spain



WELCOME TO V8 SUPERCARS

Nissan's return to top-level Australian touring cars didn't go to plan at Adelaide. This is Todd Kelly, after he had rammed brother Rick!



NOW SAY CHEESE!

V8 Supercar racers are reduced to giggling wrecks by the addition of grid girls to their pre-season photoshoot in Adelaide



In the shops

Desirable new releases



TAMIYA 1:24 FORD CAPRI GR.5

£34.99 – hobbyco.net

Model king Tamiya got the creative juices flowing among plastic-kit builders of a certain age at AUTOSPORT Towers when it recently revealed its latest 1:20-scale replica of Klaus Ludwig's Wurth Zakspeed Ford Capri. The Group 5 DRM racer from the late 1970s comes with a driver figure and all the fat slicks and crazy spoilers you could ever need.



FERRARI F1 2013 T-SHIRT

£49.99 – autosport.com/shop

The new-for-2013 range of official F1 team merchandise is starting to filter through, with the most famous of them all, Scuderia Ferrari, first to appear here. All the high-quality, Puma-made clobber features the correct corporate red-and-white colours and logos and you can choose between the team T-shirt (above), team polo (£59.99), team shirt (£84.99) and team cap (£29.99).

VICTORY BY DESIGN DVDS

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Presented by former world sportscar race winner and historic ace Alain de Cadenet, these 70-minute documentaries cover Alfa Romeo, Aston Martin, Ferrari, Jaguar, Maserati and Porsche. 'The Cad' unravels the key technical secrets of all the great racing cars and takes them for a hearty workout.



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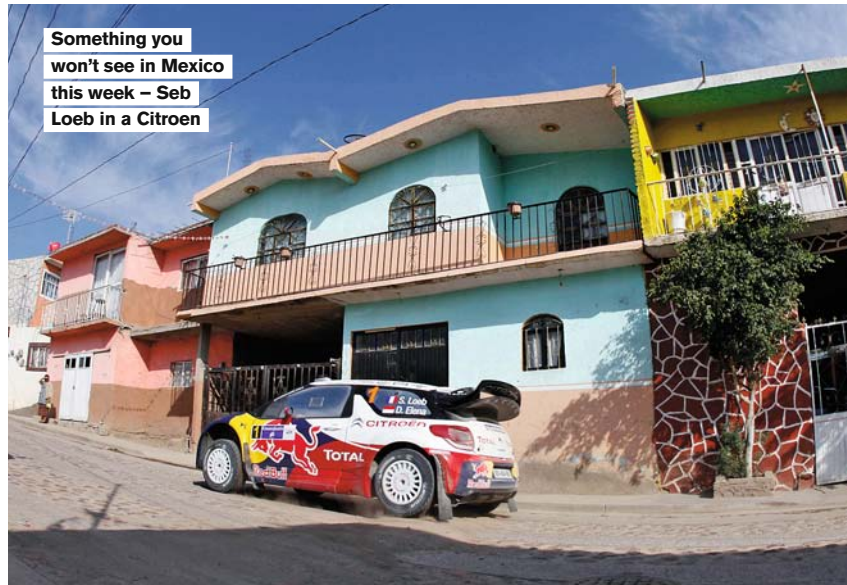
What's on

Your guide to the best events taking place in the UK and around the world – plus TV and online

On track

RALLY MEXICO
World Rally Championship
Rd 3/13
Leon, Mexico
March 7-10
wrc.com

The beginning of the post-Sebastien Loeb World Rally Championship era: but it's another Sebastien who leads the points anyway, as Volkswagen's Ogier plans to take over his namesake's world domination. The altitude of Rally Mexico will ask questions of his new Polo, however, which could open the door for Citroen's Mikko Hirvonen, who needs a big result to get his season going, and likewise Ogier's VW team-mate Jari-Matti Latvala.



Something you won't see in Mexico this week – Seb Loeb in a Citroen

NASCAR SPRINT CUP
Rd 3/36
Las Vegas, Nevada, USA
March 10
nascar.com

NASCAR NATIONWIDE
Rd 3/36
Las Vegas, Nevada, USA
March 9
nascar.com

NEW ZEALAND V8s
Rd 4/5
Taupo, New Zealand
March 9-10
nzracechamps.org.nz

V8 SUPER TOURERS
Rd 2/7
Ruapuna, New Zealand
March 9-10
v8st.co.nz

AUTOSPORT GREAT DEBATE

Another intra-office talking point: **DO WE REALLY LEARN ANYTHING FROM F1 TESTING?**

YES
SAYS EDD STRAW F1 EDITOR

The question isn't so much whether we learn anything from testing, it's more what the teams learn from it. Tempting as it may be to shorten pre-season to just one glorified shakedown, but there would be serious knock-on effects.

The pre-season running is essential as far as race-team operation goes. For a team like Williams, which has had a major reshuffle, this is key to it being able to start the season well. Then you have the rookie drivers, of which there are five this year, and those who have moved teams and need time to adapt.

But these are of secondary significance. The bottom line is that teams have a serious amount of work to do with the cars, meaning 12 days is about the right level to ensure all have a fair chance of being ready for the start of the season. Yes, there's moaning about ever-more-restrictive rules, but these remain prototype racing machines and, by allowing so little pre-season running, that can only stifle what little innovation is possible.

Clever concepts like the passive DRS would be hard to get to work without this key track time, and a smaller team such as Sauber may shy away from a neat design such as its narrow sidepods.

What there is an argument for, however, is changing the venues. Jerez is an outlier as far as the spread of circuits on the calendar is concerned, and that track time would be far better spent in warmer climes.

'How would rookies learn?' asks Straw. 'The hard way,' says Bradley



NO
SAYS CHARLES BRADLEY EDITOR

If I had a pound for every time someone from a Formula 1 team said of testing "it's impossible to judge where we are in relation to our rivals", I'd be slightly richer than I currently am.

In the good old days, when a team rocked up with a mega car you knew about it pretty much straight away – 1988's McLaren for example. Thanks to big fuel tanks and multiple tyre compounds, it's almost impossible to say with any certainty that Red Bull is off the pace

or Mercedes is bang on it (most likely vice versa, but you quite literally never know!).

At Jerez and Barcelona, the 11 F1 teams managed to rack up about 30,000 miles of running. Of course, this was all well and good for them to feed back to their boffins at base, to validate their windtunnel, CFD, simulation and tyre-model programmes, and what will that produce? Surely more-predictable outcomes, as the big teams will have more resource to crunch the numbers to push their cars even further ahead of the smaller squads than they were in the first place.

My solution is for teams to test at non-grand prix tracks in isolation for just two days (one for each race driver to a specified number of hours per day), at a venue of their choosing. They can shake the bugs out of their cars and get a baseline set-up, but not hone them to within an inch of perfection.

After all, wouldn't a bit of imperfection make the racing more interesting for the fans?

On television

THURSDAY MARCH 7

0030-0100, 0915-0945 **ESPN**

NASCAR Now

0900-1210 **Motors TV**

NASCAR Nationwide: Phoenix

1900-2000 **Sky Sports 4**

Racemax

2100-2115 **Sky Sports F1**

Ted's Notebook: F1 Barcelona

Winter Testing

2205-2305 **Sky Sports F1**

Times of our lives – GP greats

Nigel Mansell, Damon Hill and Murray Walker discuss the highs and lows of British Formula 1 stardom in the 1990s

FRIDAY MARCH 8

0230-0330 **Premier Sports**

NASCAR Sprint Cup: Highlights

1200-1230 **ESPN**

NASCAR Now

2000-2100 **Sky Sports F1**

The F1 Show

2100-2300 **Sky Sports F1**

F1 Testing: Barcelona Highlights

2205-0115 **Motors TV**

NASCAR Nationwide: Phoenix

2300-0000 **Sky Sports 4**

The F1 Show

SATURDAY MARCH 9

0355-0420 **Channel 5**

Motorsport Mundial

1100-1200, 1800-1855 **Sky Sports 4**

Max Power

1105-1310 **Motors TV**

V8 Supercars: Adelaide Highlights

1230-1430, 1600-1800 **Sky Sports F1**

F1 Testing: Barcelona Highlights

1650-1855 **Motors TV**

Grand-Am: Austin Highlights

2030-2130 **Sky Sports F1**

F1 Classics: Australian GP 1994

2100-0035 **Motors TV LIVE**

NASCAR Nationwide: Las Vegas

SUNDAY MARCH 10

1130-1330, 1500-1700 **Sky Sports F1**

F1 Testing: Barcelona Highlights

1445-1750 **Motors TV**

NASCAR Nationwide: Las Vegas

1830-2230 **Premier Sports LIVE**

NASCAR Sprint Cup: Las Vegas

2030-2245 **Sky Sports F1**

F1 Classics: Australian GP 1999

2100-2305 **Motors TV**

V8 Supercars: Adelaide Highlights

MONDAY MARCH 11

0500-0600, 2015-2115 **ESPN**

NASCAR Sprint Cup: Las Vegas

2000-2030 **ITV4**

GT Academy

2030-2230 **Sky Sports F1**

F1 Classics: Australian GP 2003

2030-2100 **ITV4**

TT Legends

2100-0000 **Motors TV LIVE**

NASCAR Nationwide: Las Vegas

TUESDAY MARCH 12

1750-1855 **ITV4**

WRC Rally Mexico Highlights

2030-2230 **Sky Sports F1**

F1 Classics: Australian GP 2007

WEDNESDAY MARCH 13

2030-2245 **Sky Sports F1**

F1 Classics: Australian GP 2010

Online

HOT ON THE WEB THIS WEEK

YOUTUBE: ALONSO AND MASSA SCARE EACH OTHER IN BARCELONA



SEARCH FOR: VIDEO-Hot laps Alonso-Massa-Front camera (6:42)

Ferrari aces Fernando Alonso and Felipe Massa took each other for a spin around the Circuit de Catalunya in one of the Scuderia's road-going 458 Italias once winter testing was finished. Alonso is sporting a half-scared/half-vengeful look from the passenger seat...

AUTOSPORT+

Coming up in our premium website this week

We ride with Massa... against Alonso!

Jonathan Noble takes a drive with Felipe Massa as the Brazilian races Ferrari team-mate Fernando Alonso in 458 road cars around the Spanish Grand Prix circuit at Barcelona. Take a look at the video on autosport.com.



Revved up over what's on the box

Massa's wheel fell off live on Sky on Saturday afternoon



AS A SELL IT WAS HARDLY COMPELLING. Perched on the podium of the Circuit de Catalunya, Damon Hill was asked for his view on what had happened over the previous three and a bit days of Formula 1 testing. "It's really data acquisition," was his revealing analysis.

And that, in a nutshell, sums up my problem with the live coverage of F1 testing. It's like watching the progress bar as you drag one large file from your desktop onto a USB stick, only with a series of USB experts making quips about previous file transfers to make the tedium seem less drawn out. The coverage itself couldn't be faulted.

Sky did it with real conviction, treating it like a practice session. The coverage was filled with interviews and expert opinion, not to mention a bucketload of cliché.

This started with the flamenco music that underscored the intro. And it made me wonder whether, when Spanish TV covers the British Grand Prix, they have Pentangle and Steeleye Span playing to montages of Morris dancers and bearded real-ale drinkers going about their business at a village fete before cutting to Silverstone?

The very concept of covering testing is a strange one. I can't imagine people tuning in to watch a Manchester United training

session, or the cameras following Usain Bolt as he performs a series of stretches, a gym programme and diet regime while he builds up to his next race.

Yes, it's always great to see – and listen to – the new cars in action, but shooting it in 3D (if you could find a rare TV that's got it) didn't add much. I'll admit it was interesting to see the incident that caused Felipe Massa's Ferrari to shed its left-front wheel but, a bit like scoring with a scissor-kick from the halfway line in a knockabout, it was ultimately meaningless.

The good news is that was the last one. Bring on Australia!
Revved Up

Jan Magnussen

■ Macau Grand Prix ■ November 20, 1994 ■ Dallara F394 ■ Recovery to third after qualifying shunt



Magnussen leads the field en route to winning heat two and taking third overall

FIRST OF ALL IT'S HARD TO really chose the race of my life. There isn't one that sticks out because every race has something fantastic about it. For me, Macau in '94 in F3 has to be one of the better ones because it didn't look like I could get anything out of it after I got a little greedy in qualifying and crashed the car. Actually, I got *really* greedy, it wasn't just a little bit!

I can't remember the name of the corner where I crashed, but I hit a girls' school. I must have got one lap in though as I qualified 18th.

We'd been fast in free practice so it was a little bit of a let-down but my team, Paul Stewart Racing, was fine with it. We'd just come off a fantastic year with 14 wins and they were saying that I was probably due to have a bad run. So I started the first race in 18th and got going pretty well from the beginning.

A couple of laps into the race there was a red flag which helped me a little bit because it bunched everyone up. In Macau it's very hard to pass people, so you've got to be really committed so that there's no doubt

in the mind of whoever you're trying to pass that you're coming through.

I finished fifth and then won the second heat which was good enough for third overall. It was a fantastic result but it should've been a win – when you're that fast you should win it but it all came back to that mistake in qualifying.

The thing that was cool about it was that Andy Miller, who was the chief engineer at PSR at that time,

tried to comfort me a little bit after the qualifying crash because I was so disappointed with myself. He said before the race, 'don't worry about it, you're probably due one of these – just forget about it all'. But then he predicted that I'd finish fourth in the first race and win the second, so that was almost a perfect call!

I pretty much led the second race from the beginning I think. I had a fantastic start and pulled away.

However, I didn't pull out enough of a lead to win the event overall. Maybe if I'd have done a deal with Kelvin Burt [second on aggregate] and he'd held up Sascha Maassen [overall winner] a little bit more maybe I could've won!

But it was a fantastic event – Macau really is unbelievable. I still remember coming back from the first session. I wasn't very fast because I was trying to learn the place – it's very fast and very narrow. I came back into the pits shaking and realising it was a real man's track!

I celebrated like I'd won 14 races that year. I can remember some of that night – it was more fun partying before everyone had cameraphones!

Macau is one of those places that even though you have to move on, you want to go back. I didn't get a chance, I had different plans the year after but my son Kevin did it in 2011. He had a huge wreck on the main straight but got away with it.

We both now think it's the craziest track in the world. ☼

Jan Magnussen was talking to Andrew van de Burgt

Profile



DANE JAN MAGNUSSEN WAS

a star of British junior single-seater racing, winning in Formula Ford, FVauxhall and racking up a single-season record of 14 wins in British F3 in 1994. He made his F1 debut for McLaren in '95 and raced a further 23 times for Stewart GP in '97/'98. Stints in the DTM and Champ Car made way for a switch to international sportscars, where he has won races and titles. Now 39, he still competes in Grand-Am.

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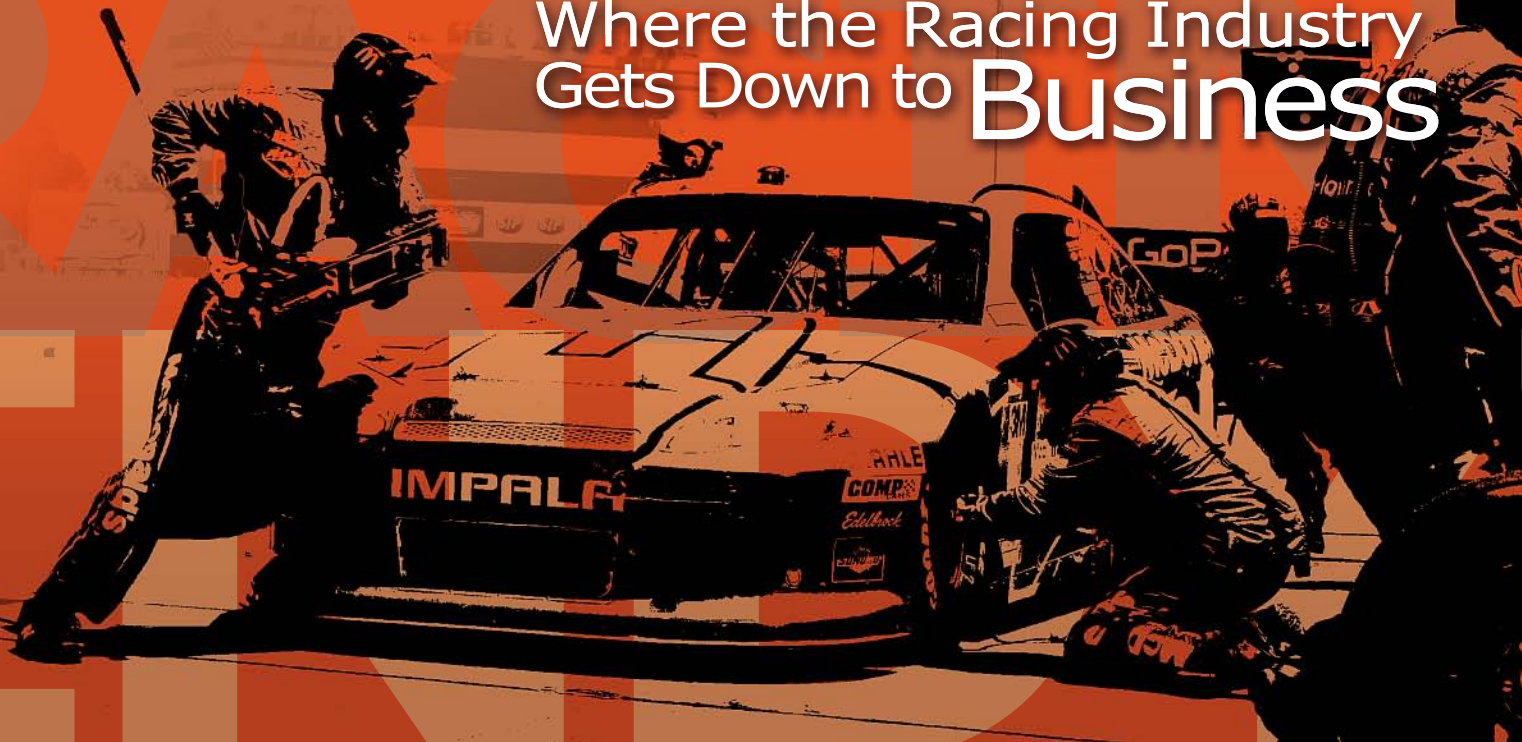
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Race Car Romain Grosjean**

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**Lotus F1™ Team,
E21 2013 Race Car**

Kimi Raikkonen

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