

FREE ENGINEERING
SUPPLEMENT

WIN NURBURGRING
HOT LAP

AUTOSPORT

F1 BAKU BUST-UP

“It definitely sets a precedent for all the young kids”

HAMILTON

“If I get a penalty then we should both get a penalty”

VETTEL

‘A DISGRACE’

Vettel under pressure – but was Hamilton’s verdict too harsh?

+ THE FULL STORY BEHIND RICCIARDO’S ‘CRAZY’ WIN



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Vettel lucky as things get serious with Lewis

SO IT SEEMS EVEN THE VERY BEST DRIVERS CAN BE susceptible to 'road rage'. Pulling alongside Lewis Hamilton's Mercedes and driving into it was not Sebastian Vettel's finest hour and he can consider himself fortunate that he kept his championship lead.

Had the speed of the impact been higher — or the damage to the Mercedes worse — it's quite possible that Vettel would have been excluded. That would certainly have sent out the right message to other drivers, both inside F1 and in the categories below.

As Nigel Roebuck argues on page 4, Vettel, who is an otherwise likeable and amusing character, does have form when it comes to losing his rag in the heat of battle. That could prove crucial when it comes to the final reckoning. Vettel picked up three points on his licence and now has nine in total. Three more and he'll get a race ban...

Not always known for his own solemnity, Hamilton handled the situation well, though refusing to take up Vettel's offer to talk it over may prove to be something of a negative marker in their relationship.

Hamilton didn't put a foot wrong in Baku. His qualifying performance, after a troubled practice, was special and he deserved to take his 57th Formula 1 grand prix victory. But the fact that he lost (for a pretty daft reason) and has now fallen out with Vettel should make the next few races fascinating.

• Next week we talk to Hamilton one to one and celebrate 50 years of motorsport's greatest junior category: Formula Ford. There are two special events — at Silverstone and Brands Hatch — this weekend. We'll bring you reports from those, as well as memories and stories from some of the key figures of the past five decades in a special supplement.



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COVER IMAGE
Coates/LAT Images

COVER STORY

16 Azerbaijan Grand Prix report and analysis

PIT+PADDOCK

- 4** Fifth Column: Nigel Roebuck
- 6** Sauber's week of chaos
- 8** Sainz Sr calls for automatic promotion
- 10** WTCC joker lap works after changes
- 13** Dieter Rencken: political animal
- 15** Feedback: your letters

REPORTS AND FEATURES

- 32** IndyCar: Dixon defeats Penske
- 44** Preview: Goodwood Festival of Speed

RACE CENTRE

- 36** Formula 2; MotoGP; Blancpain Endurance; British Rally Championship; FV8 3.5; World Touring Cars; NASCAR Cup

CLUB AUTOSPORT

- 61** DFVs and GT contest to Goodwood
- 62** Blundell to race in Mini Challenge
- 64** Le Mans XJ220s gather at Classic
- 65** Humble Pye: the voice of club racing
- 66** National reports: Silverstone; Rockingham; Kirkistown

FINISHING STRAIGHT

- 70** What's on this week
- 72** From the archive: 1964 Reims 12 Hours
- 74** Have-a-go hero: Sebastien Ogier

COMPETITION

- 38** Win a hot lap around the Nurburgring

FREE INSIDE

ENGINEERING SUPPLEMENT



Gary Anderson answers your questions and we talk to the experts at Ricardo in the latest issue of Autosport Engineering, which includes the latest news

NIGEL ROEBUCK

A young head on old shoulders

AFTER A CHAOTIC GP2 RACE AT BAKU in 2016, there were fears that the inaugural grand prix would be similarly pock-marked by accidents and safety cars, but in the event it was singularly dull, a race notable only for its lack of incident.

This time around it was rather different, and long before half-distance a third safety car period was converted to a lengthy red flag to give marshals the time to clear up what was looking evermore like a carbonfibre breakers yard. Into pitlane the cars peeled, and out got the drivers. In light of recent events one might have expected harsh words – and perhaps more – to be exchanged, but for the moment such behaviour was held in check.

The sweetness and light never lasts, does it? At the beginning of the season, when it became apparent that Ferrari had finally shaken off the mediocrity of recent years, Mercedes folk said they welcomed the challenge, and early-season results suggested that we'd have a championship battle between Lewis Hamilton and Sebastian Vettel. Both said they relished the prospect of a good, clean, fight, and – until Baku – that is how it was.

As they prepared for the restart, after the second safety car period, Hamilton backed off, as he was entitled to do, and Vettel, presumably taken unawares, tapped the back of the Mercedes. It caused no great damage

to either car, but instantly Sebastian drew alongside Lewis, waving his arms – and deliberately drove into him.

Swiftly it was declared that the incident was 'under investigation', and for some time the stewards discussed it before announcing a 10-second stop-go penalty for Vettel, deeming his manoeuvre 'potentially dangerous'.

Given that at the time they were proceeding slowly, behind the safety car, it was hardly 'dangerous' in the manner of Suzuka in 1990, where Ayrton Senna – by his own later admission – deliberately speared Alain Prost off the road at 150mph. That didn't mean, however, that Vettel's action was other than completely unacceptable, and an opportunity was missed by those in authority to make a big point, not just to the gentlemen of Formula 1, but to every kid on a kart: 'If you behave like a petulant brat, and let your temper get the better of you, you will pay a very high price'. Vettel should have been disqualified on the spot.

It was back in 2009, in relaxed circumstances, well away from a Formula 1 paddock, that former team-mate Mark Webber first gave me insight into the Jekyll & Hyde aspect of Vettel's character.

"I can see why Seb's popular," Mark said. "He's normally polite, got a sense of humour, and smiles a lot, but if things go wrong... mate,



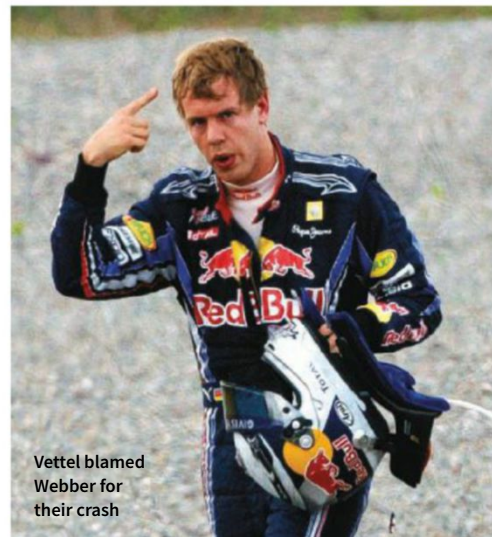
Webber and Vettel clash in Turkey 2010

when it comes to throwing toys out of the pram, I've never seen anyone like him."

A year later we had a graphic demonstration of this at Istanbul Park, where the Red Bulls, running first and second, had a coming-together, which damaged Webber's car and put Vettel out on the spot. Although everyone –



Hamilton had the right to dictate pace



Vettel blamed Webber for their crash



save perhaps Helmut Marko – agreed that Mark had been blameless, Sebastian angrily stood there by the trackside, suggesting with sign language that his team-mate wasn't right in the head.

Then there was Mexico last year, where he took very badly the news that Max Verstappen was to receive no immediate penalty for cutting across the grass at Turn 1, and chose to communicate his feelings to the powers-that-be: "Well, here's a message for Charlie [Whiting]: f*** off!" This, in case anyone had missed it, he then repeated, prompting Maurizio Arrivabene to interrupt: "Calm down, Seb! Just get your head down – we'll talk about it later..."

Having appreciated the possible repercussions of his remarks, Vettel subsequently offered apologies both to Whiting and to Jean Todt, but it surprised me that he was let off the hook by the governing body. "In light of this sincere apology and strong commitment," read the statement from Paris, "the FIA President has decided, on an exceptional basis, not to take disciplinary action against Mr Vettel by bringing this matter before the FIA International Tribunal." Quite what the 'exceptional basis' was remains unclear.

“An opportunity was missed by those in authority to make a big point, not just to F1 but to every kid in a kart”

If there is a single Formula 1 radio sound more familiar than the voice of Romain Grosjean moaning about his Haas's brakes, it is that of Vettel raging about being held up. As Fernando Alonso has said, "Vettel needs to be reminded that the track belongs to everyone."

No-one needs to be told what a magnificent racing driver Sebastian can be, but in the cockpit of a Formula 1 car he appears much of the time to be in a highly volatile state, constantly infuriated by the behaviour of other drivers. When, in Baku, he believed – wrongly – that Hamilton had brake-tested him, he instantly lost his rag.

Moreover, after the race Vettel was anything but contrite, reminding one of Senna on one of his more excessive days. "Something you have to remember about Ayrton," Alain Prost once said to me, "is that nothing is ever his fault – he doesn't believe that's possible."

On Sunday it was Hamilton's turn to send a message to Whiting: "A 10-second penalty's not enough – you know that, Charlie..." One couldn't disagree with the sentiment, but it was the stewards who had taken the decision.

In the past three years or so, there have been few reasons to feel sorry for Hamilton, for, as Tony Kanaan pointed out in response to Lewis's suggestion that there wasn't much depth of talent in IndyCar, he has been one half of a two-car world championship, and 34 grand prix victories have come his way. That said, Baku should have brought another, for he drove beautifully, and without the red flag would never have had the problem with the head restraint.

More than that, Hamilton impressed with his composure, saying he thought Vettel 'disrespectful', that he had no wish to discuss it with him. As his 30th birthday approaches, Sebastian needs to calm down and grow up. 🍷



FORMULA 1

Sauber's week of chaos,

THERE WAS A MAJOR TALKING POINT IN the Formula 1 paddock in Baku even before Sunday's mad race: the news that Sauber had parted ways with team principal Monisha Kaltenborn, and the bizarre way in which the whole situation was handled.

The story broke on Wednesday (June 21), with multiple sources indicating to Autosport that Kaltenborn's opposition to alleged plans to favour Marcus Ericsson over Pascal Wehrlein was among the issues behind her departure.

Kaltenborn also had very different views to the owners — who saved the team last July with a takeover and are believed to have Swedish backers — regarding the team's rebuilding process. Those two factors were key in sparking the split.

It wasn't until around 12 hours later that the team, many of whose staff had been travelling to Baku on Wednesday, broke its silence. And when it did, its approach made little sense.

Chairman Pascal Picci — who has no F1 experience — chose to release a statement denying reports of unequal treatment but making no mention of Kaltenborn's position. It was only shortly afterwards that a second statement confirmed the departure, claiming “diverging views of the future of the company”. There were no quotes from Kaltenborn, who has yet to speak publicly following the move.

It was a strange approach, as was the failure

to find a way to make it work with Kaltenborn, who has nearly two decades of experience working in F1 with Sauber.

Picci took exception to suggestions that the owners wanted to favour one of its drivers. He claimed it was part of an agenda against the team in a subsequent interview. “I must once again deny the story that there was a difference of opinion about the management of the drivers after someone said that we would like to favour Ericsson,” he said. “This is a low shot — like a punch under the belt — that has made us look bad. It's a negative action, orchestrated around Marcus and the team in order to demolish us. If the Swede got stronger or gets ahead of Pascal in the standings, then many will think and certainly say that this has only happened because he has a better or more competitive car. It's an attitude that I find disgusting.”

When facing the media on Thursday, Wehrlein chose not to comment on the speculation, but Ericsson gave his view, agreeing with the chairman. “It's completely false and untrue,” he said. “It's very disrespectful towards every single member of the Sauber F1 team. We have both been given equal equipment and priorities.”

Wehrlein said Kaltenborn called him to explain the situation. Ericsson said he had yet to speak to his former boss.

When asked if Wehrlein felt he had lost an important supporter in Kaltenborn, he replied:



FORMULA1

RUSSELL GIVEN F1 TEST SHOT BY MERC

WHILE BAKU WAS A difficult weekend off-track for one protege of Mercedes' junior-driver scheme – Pascal Wehrlein – it brought good news for another.

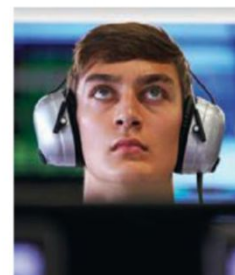
As a GP3 Series newcomer, George Russell hasn't done a lot of driving this year – the category is only one race weekend into its season so far. But not only does he have a raft of summer races to look forward to with ART Grand Prix, but Mercedes confirmed that he will drive for its Formula 1 team at the Hungaroring test.

The 19-year-old's outing on August 1-2 will not, of course, be his first taste of an F1 car. As the 2014 McLaren Autosport BRDC Award winner, he has tested a McLaren, while he also got an outing in a '15 Mercedes at the Algarve circuit in April this year.

"I've probably driven more virtual laps than anyone else with this car so it's going to be incredible to drive it in reality," said Russell, whose duties for Merc have included simulator work since 2016, well before his initially clandestine Merc junior role was made public.

Supporters of young talent should fete Mercedes for giving its protege such a chance. And it would be equally gratifying if Russell's GP3 team-mates – Renault junior Jack Aitken and Honda's Nirei Fukuzumi – had a chance of a similar reward.

MARCUS SIMMONS



accusation and denial

"You can say that, definitely. She supported me so much and our relationship is or has been really good and will be good in the future as well. Monisha was very close to me at one of my toughest times in my career so far when I had my injury [earlier this season], so she helped me a lot there and I am very thankful for that and this is something that I will never forget."

It has emerged that Kaltenborn and the owners had been at loggerheads for several weeks, with Kaltenborn urging them to replace technical director Jorg Zander.

Sources suggest he has made very little impact since rejoining the team from Audi's LMP1 project for the start of this season. Sauber has had the budget to produce updates this year, a scenario it was not blessed with for much of last season, but has scored points just twice.

Kaltenborn wanted change. The owners did not. They backed Zander. So Kaltenborn was given an ultimatum – fall into line, step aside and take a lesser role, or leave the company altogether. She decided on the last option.

It marks the end of a long stint at Sauber that began in 2000 when she joined to head up its legal department. She rose to CEO in January '10 and took a share in the company. When Longbow

Finance acquired Sauber last year, founder Peter Sauber retired while Kaltenborn retained her position but relinquished her shares – and ultimately control.

She secured Mercedes junior Wehrlein's services this season and pushed through the deal with Honda, to ensure current-spec engines from next season and a partnership that could give the team stability in the long term. But since the takeover, she was fighting a losing battle.

Simultaneously, Zander's influence was growing.

Her departure leaves Sauber in a precarious position with two factions forming. There are those who are on the side of the owners and those who are loyal to Kaltenborn. This could see key staff depart over the coming weeks.

Former Renault chief Fred Vasseur, ex-Manor racing director Dave Ryan, former Manor sporting director Graeme Lowdon and ex-McLaren CEO Jost Capito have been linked to the team principal role. At the time of going to press Sauber had yet to make an announcement.

It remains unclear whether whoever gets the job will be given the freedom to run the team or whether the owner will get involved. In turn, uncertainty hangs over the Swiss team once more.

LAWRENCE BARRETTO

Wehrlein (leading Ericsson) scored a point for Sauber in Azerbaijan GP

LAT IMAGES



FORMULA 1

MYSTERY TEAM LINKED TO BID FOR 11TH SLOT IN F1

INTRIGUE ABOUT A possible 11th team entering Formula 1 in the future ramped up last week when a new name was registered in Britain and the FIA confirmed that it had been sounded out about expanding the grid.

There have been rumours for several weeks that new contenders were weighing up an entry to grand prix racing, but no firm plans have so far been revealed. But an update of Britain's Companies House register last Wednesday revealed the renaming of a business as China F1 Racing Team Limited.

The company, which had previously been called Bronze Fortune Limited, is run by a French lawyer named Michael Orts who has competed in sportscar racing in Europe and the US. Little is known about the plans, and Orts was not immediately available for comment about whether this was a serious bid to get on the grid.

But speaking at the FIA Sport Conference in Geneva last week, the governing body's president Jean Todt confirmed that the governing body had been approached by some individuals regarding a future entry.

"There are always rumours, but we have had some interest from

some teams," he said.

When asked if he could give more detail on the number, Todt said simply: "Not many."

It is up to the FIA when it chooses to open up the tender process for potential new F1 teams, and Todt explained that the governing body would only do so if there were serious candidates.

"When we feel it is time we will be able to make a tender," he said. "At the moment we have 10 teams and the idea is to have up to 12 teams. So we have an opportunity; if we have one or two strong newcomers it could be possible.

"First we need to check the request. It's going through a kind of audit to see who are the potential buyers. If it's a big manufacturer, it's easy. If it's a privateer, you need to be more careful. And then, once you are sure that there is a real interest, and once you're sure that people are able, like was the case with Haas [above], for example, then we make a tender."

Todt was adamant that it was unrealistic to expect a new team to be put together as soon as 2018. "It would be foolish to think that a new team would be ready in eight months, [or] even less," he said.

ALEX KALINAUCKAS & JONATHAN NOBLE

SINGLE-SEATERS

Sainz: champs must move up

The Toro Rosso star's dad wants an automatic promotion system in place. But could it work?

W

orld Rally Championship hero Carlos Sainz has suggested that junior drivers who win championships should be automatically promoted to the next step on the ladder.

The topic of driver progression was discussed at the FIA Sport Conference in Geneva last week and Sainz (below), whose son Carlos races for Toro Rosso in Formula 1, was joined in a panel discussion with F1 CEO Chase Carey, FIA Single Seater Commission president Stefano Domenicali and Mercedes motorsport boss Toto Wolff.

"We need to make sure the people who are talented, the people who win Formula 4, Formula 3, now the new Formula 2, automatically the winner has the option to move into the next category," said the double WRC champion. "Financial assistance – [whether that's] the price of the championship, or the promoter of the championship has to give a really good prize to the winner and make sure he can make the next step."

Carey was asked for his thoughts on the rebranding of GP2 to F2, which is now under the FIA's regulatory control – a deal that came about after Liberty took control of F1 and its single-seater assets, which also include GP3.

When asked how important that agreement had been to Liberty, Carey explained that F1's new owners want to see the category's seats filled by the best drivers in the world to encourage competition levels. "I think that it's very important for us to play a role in developing the drivers of the future, in many ways investing in the sport," he said. "The nature of F1 and the economic realities of it put pressure on the teams and don't necessarily in all cases lead to the 20 best drivers in the world being in F1 seats, but that is our goal."

While both Sainz and Carey made commendable and desirable points about the ideal direction of motorsport's junior categories, the question over who pays for such a meritocratic system was left unanswered. Problems could also arise if a strict success system were to be enforced – Max Verstappen, for example, leaped from Formula 3 to F1 in 2015 but had finished third in the junior series in '14.

Domenicali suggested that the FIA is looking at assisting champions "together with the promoters", but was adamant that the governing body could not do it alone. Wolff, using the example of Niki Lauda, recommended that a path for "someone who is extremely clever" with sponsorship and solid performances is left open.

Perhaps if Carey's admirable position of wanting to see the best drivers make it to F1 then Liberty needs to be the one to start fronting up the money, actually invest, to make sure that the most talented drivers can reach the top – as they should.

ALEX KALINAUCKAS





BRITISH RALLY CHAMPIONSHIP Hyundai WRC star Thierry Neuville had a lead of over 20 seconds on last weekend's Ypres Rally when he rolled his i20 R5 out of the event. "I came too fast and didn't expect there to be so much gravel on the road; there was no chance to turn into the corner," lamented the bespectacled Belgian. "I planned to take it quite fast and when I saw the gravel I tried to brake harder but we understeered off." He returned to finish 35th, with a rally-topping nine stage wins. The livery on his car was designed by an eight-year-old girl, who was one of five children who submitted designs in a Hyundai Belgium initiative. **Photograph by Richard Banks**

WORLD ENDURANCE/FORMULA E

Series bosses thrash out no-clashes agreement

THE WORLD ENDURANCE Championship and Formula E have reaffirmed their agreement to avoid calendar clashes as part of a new deal involving Formula 1.

Gerard Neveu and Alejandro Agag, respectively heads of the WEC and FE, were brought together with Formula One Group chief executive Chase Carey by the FIA at last month's Monaco Grand Prix. As well as the agreement to avoid date conflicts between the WEC and FE, Carey and Neveu agreed that F1 and WEC events should not take place in the same country on the same weekend.

The principal that there would be no F1 date on the weekend of the Le Mans 24 Hours was also reaffirmed. Next year's WEC blue riband will take place on June 16-17, the weekend between the Canadian and French grands prix.

"Le Mans will be a protected weekend, and we will not have F1 and the WEC at the same time in the same country, because that does not make sense,"

said Neveu. "We are trying to do our best for everyone and I have the feeling that the three partners are working very constructively."

Agag described the meeting as a "very good initiative from the FIA".

Neveu insisted that this year's clash between the Nurburgring WEC round and the New York Formula E fixture on July 15-16 would be a one-off. The clash contradicts a gentleman's agreement between the WEC and FE made in 2013 to allow drivers to contest both series.

The provisional 2017/18 FE calendar published by the FIA last week appears to bear out Neveu's claims. The New York double-header has moved forward a week to July 7-8 and the WEC round at the 'Ring would not be able to take place until the following weekend, because Neveu has promised his teams that there will be no race within four weeks of Le Mans.

The 2018 WEC schedule is not set to be unveiled until later in the season.

GARY WATKINS



Buemi leads Lopez in Formula E. Both have been cup-tied by WEC/Formula E clashes this summer

FIA FORMULA 4

JUNIORS GET SINGAPORE, MALAYSIA, US SUPPORTS

THE FIA'S ENTRY-LEVEL Formula 4 single-seater class has won support slots for three late-season grands prix in 2017, providing a huge boost for junior racers in their respective regions.

The South East Asia F4 Championship, which had its first season in 2016-17, kicks off its second campaign with rounds at the Singapore and Malaysian grands prix. This follows hard on the heels of the US F4 Championship, which has exploded to fields of over 30 cars in its second season, announcing a US GP support fixture at Austin.

This is not the first time that FIA F4 has supported a Formula 1 event: the Mexican-based NACAM series' inaugural event in 2015 was at the Mexican GP, while the Russian-backed SMP series supported F1 in '16 at Sochi – in both cases the winners, Luis Leeds and Richard Verschoor, were instantly given Red Bull Junior roles. NACAM F4 had a slot at the '16 Mexican GP too.

The SE Asia series (below) features Mygale-Renaults all run by Sepang-based Meritus.

F1 sporting chief Ross Brawn said: "It's important that an F1 grand prix can offer not only a great show in terms of racing but also attract the interest of the younger generations. Its presence at the F1 events will have a double benefit: for these young drivers who will have the chance to live an event side by side with the F1 world, and for the spectators who will have the chance to see exciting races and maybe discover talents of the future!"

The US series uses chassis produced by Onroak-owned Crawford and powered by Honda engines.

MARCUS SIMMONS



WORLD TOURING CAR CHAMPIONSHIP

Vila Real joker lap is a hit after overnight change

THE RALLYCROSS-STYLE JOKER-LAP EXPERIMENT met with a positive response on its first use in the World Touring Car Championship at Portugal's Vila Real street circuit last weekend, even though an overnight change had to be made to the alternative route before racing began.

Joker laps were written into the series' regulations ahead of the 2017 season and a lap was meant to be used at the opening round in Marrakech, although that was canned due to space restrictions. The Vila Real joker lap was positioned at the Turn 26 roundabout, taking cars to the left of the final corner on a tighter left-right flick. Each driver was required to serve a joker once in each of Sunday's two races.

The alteration came after Saturday's practice and qualifying, when teams raised concerns about the speed

differential between cars taking the normal corner exit and those rejoining after serving their jokers, with the potential for contact on the racing line deemed a risk.

The joker-lap lane was made narrower and longer as a result, giving those on the conventional line additional room on the run to the first corner.

Portuguese home favourite Tiago Monteiro, who placed second and third in the two races, said: "Two podiums on a track like this where it's hard to overtake wouldn't have been possible without the joker lap. I think it was a success. Well done to the organisation and to [WTCC head] Francois Ribeiro to put this together in such a short time."

Joker laps have already been used in Argentina's Super TC2000 series for one round each season since 2015.

JACK COZENS



SPA 24 HOURS

Bentley adds third car for Spa 24

BENTLEY IS PLAYING THE percentages with its decision to field a third factory car in the Spa 24 Hours next month. It has brought in the German Abt team to enter an extra Continental GT3 to bolster the two regular M-Sport entries in the Blancpain GT Series.

"We're playing a numbers game," said Bentley motorsport boss Brian Gush. "At the Le Mans 24 Hours, the number of factory LMP1 cars meant there was a one-in-five chance [for each] of winning, but the number of top cars at Spa means there is a one-in-30 chance.

The Abt car will be driven in the BGTS Endurance Cup double-points round on July 29-30 by Nico Verdonck, Jordan Pepper and Christer Jons, who were part of the team's assault on the Nurburgring 24 Hours last month.

GARY WATKINS



WORLD RALLY CHAMPIONSHIP

Lie-ins and old Ford Escorts on the cards for Rally GB

OCTOBER'S RALLY GB HAS UNDERGONE significant route changes after the teams complained about a lack of time for sleep ahead of the final day – but for the first time ever, drivers will be allowed to compete on Britain's World Rally Championship round in whatever car they want.

In addition to a final-day timetable change for the October 26-29 event, the start venue has been shifted from Llandudno to Towyn, with the start ramp leading straight into an all-new spectator stage at the Tir Prince race track.

World Rally Championship teams voiced their concerns as soon as the route for the Deeside-based event was revealed earlier this month. Originally, the cars were due to arrive in service at 2236 on Saturday, departing the following day at 0530 – which would effectively have been 0630 with the autumn time change taking the clocks back one hour on Sunday morning. The primary concern for the teams centred on a problem with a car on a late Saturday stage, which could have left mechanics working through the night with no sleep to get the car prepared for the final leg.

The event organisers have cancelled the first run through Gwydyr on Sunday morning, meaning the cars will leave service approximately two hours later.

Rally GB managing director Ben Taylor told Autosport: "I feel it makes sense to implement

this change. We're not losing a lot of mileage and if it's going to make lives easier and safer then that's in everyone's interest."

The change of start venue comes in an effort to offer British fans the chance to see the WRC cars in action on a Thursday night for the first time since 2013.

"It's going to be a great night out," added Taylor. "Rallying is an amazing sport, but it can be difficult for people to get to see it, so we are always looking for innovative ways to bring it to new audiences. The stage at Tir Prince will bring the action to the heart of this busy region and get the event off to the best possible start."

The decision to allow all cars on to the entry list for Britain's premier rally came following a change in the WRC regulations, which states that non-homologated machinery is permitted at the behest of the local governing body, provided it is approved by the FIA.

This rule is aimed at privateer drivers in classic cars such as the Ford Escort MkII – a model made famous by Roger Clark when he won the 1976 RAC Rally in an RS1800 (above). The FIA will look less benevolently on a career-minded driver in a pre-2012 two-litre World Rally Car – which are almost as powerful as the current machinery – hoping to upstage the established WRC drivers of homologated cars.

DAVID EVANS

IN THE HEADLINES

BRIT GP THURSDAY: F2, GP3... AND TRAVIS

Next month's British Grand Prix will be a four-day event, with Formula 2 and GP3 free practice moved forward to Thursday afternoon, and the F1 Fan Zone operating then. Those with a weekend ticket will get access for the extra day, but will need to pay extra for the Thursday evening concert by 1990s radio-friendly indie popsters Travis. Thursday-only tickets cost £40; £20 for children.

GASLY TIPPED FOR FORMULA E DEBUT

Reigning GP2 champion and Red Bull Junior Pierre Gasly is now the favourite to replace Sebastien Buemi at Renault e.dams for next month's Formula E double-header in New York. Buemi is committed to Toyota for the clashing World Endurance round at the Nurburgring. Meanwhile, Ferrari has given Sam Bird dispensation to miss the 'Ring, so he will take up his FE ride with DS Virgin. Toni Vilander and Miguel Molina are among the possibles to fill in for the Brit alongside Davide Rigon.

WICKENS MISSES OUT ON INDYCAR RACE

Mercedes DTM star Robert Wickens almost made his IndyCar debut at Road America last weekend. Mikhail Aleshin was delayed getting his visa to return to the US, so Wickens filled in for the Russian at Schmidt Peterson Motorsports during free practice on Friday. Aleshin finally got through immigration in time for Saturday's running.

SUNINEN IN FIESTA WRC FOR POLAND

Finn Teemu Suninen will make his debut in a Ford Fiesta WRC on this week's Rally Poland. The 23-year-old, who has starred in the WRC2 series for the past year and a half, will use the rally as a warm-up for Rally Finland, where he remains in M-Sport's latest World Rally Car. German Armin Kremer has confirmed that he will also drive a Fiesta WRC, on Rally Germany in August.

ROVANPERA TO CONTEST BRC

Kalle Rovanpera will contest next year's British Rally Championship. The 16-year-old Finn plans a mix of BRC and WRC rounds in 2018. His father Harri used the BRC as a springboard into the WRC 21 years ago.

EKSTROM GIVES UP WRX FOR NORISRING

Versatile Swedish Audi star Mattias Ekstrom will miss this weekend's World Rallycross round at Holjes to contest the DTM event at the Norisring. Ekstrom's replacement at his home event in his EKS S1 will be PG Andersson.

LOEB BACK IN PIKES PEAK PEUGEOT

Sebastien Loeb has taken ownership of the Peugeot 208 T16 Pikes Peak (below) in which he set the current record on the mythical Colorado 'race to the clouds' in 2013. He plans to campaign it on the Turckheim-Trois Epis hillclimb in his home region of Alsace on September 9-10.



Hamilton, Raikkonen, Plato, Sutton...

Are you our next Champion?



Renault Sport UK will hold a 'taster day' at Blyton Park, Lincolnshire on Tuesday 18 July for youngsters looking to join its exciting new Renault UK Clio Cup Junior championship.

Drivers aged 14 to 17 will have plenty of time to sample the excellent UK Clio Cup Junior race car ahead of the category's inaugural eight-round season which begins in September.

The eventual Champion will receive FREE registration into the senior Renault UK Clio Cup – a prize valued at around £18,000 (see prize structure below).

They will also join the likes of F1 greats Lewis Hamilton and Kimi Raikkonen, touring car stars Jason Plato, Ashley Sutton, Andy Priaulx and Le Mans 24 Hours winner Jonny Adam in an illustrious Hall of Fame of Renault Sport UK champions...

Full championship registration costs just £1600 + VAT. These open on 3 July 2017.

Contact

Renault Sport UK Motorsport Manager Will Fewkes: Tel +44 (0)7894 317477 / Email will.fewkes-extern@renault.co.uk

Prize Structure

- Champion: FREE registration to 2018 or 2019 Renault UK Clio Cup – value c.£18,000
- 2nd place: £2000 towards a 2018 Renault Sport UK championship registration
- 3rd place: £1000 towards a 2018 Renault Sport UK championship registration
- Race win: a set of Michelin tyres for a Renault Sport UK championship in 2018

Rounds	Date	Circuit	Friday testing
1&2	9-10 Sept	Snetterton, Norfolk	£190 + VAT
3&4	23-24 Sept	Brands Hatch, Kent	£195 + VAT
5&6	14-15 Oct	Pembrey, Carmarthenshire	£170 + VAT
7&8	18-19 Nov	Brands Hatch, Kent	£195 + VAT



Power of speech

The fifth FIA Sport Conference's mix of constructive dialogue and healthy debate points to a positive future despite significant challenges

By Dieter Rencken, Special Contributor

[@RacingLines](#)

THAT GLOBAL MOTORSPORT IS IN RUDE HEALTH

— arguably in a better state than at any stage during the past two decades — was demonstrated during last week's FIA Sport Conference in Geneva, held under the banner of 'Progress and Direction Together Through a Decade of Change'.

It was the fifth such conference — the first having been held in 2013, towards the end of FIA president Jean Todt's first four-year term — and attracted more than 150 delegates representing 115 countries. The aim was to provide member clubs (known in FIA-speak as ASNs) with tools to develop motorsport in their regions, and further expand regional networks.

The agenda drew from the great and good of international motorsport — whether administrators, promoters, drivers or engineers — and the list proved a major draw. Where else could motorsport administrators from developing countries get to meet F1 bosses Chase Carey or Sean Bratches? Speak to double rally champion Carlos Sainz, World Endurance champion and ex-F1 racer Mark Webber or Mercedes F1 boss Toto Wolff?

Amusingly, during the plenary session Carey and Wolff opened negotiations about

F1's revenue structure on stage — surely a no-go during Bernie Ecclestone's reign. Indeed, the participation of Carey was something of a coup — as was Bratches's presence the next day — for one

could not imagine Ecclestone addressing FIA members on F1's plans, and points to the burgeoning relationship between the FIA and F1's new commercial manager, the Formula One Group.

Sainz related his passion for motorsport, how he had dreamed of rallying from the age of 11, and how a championship staircase helped him move upwards: he won Spain's SEAT Panda Cup, which offered the prize of a Group 2 SEAT drive, without which, he emphasised, he could not have progressed. Sainz proposes a sort of WRC4-WRC1 ladder, with promotion for winners.

"The key is to ensure that winners are automatically given the opportunity of moving to the next level," he said.

Stefano Domenicali — ex-Ferrari team boss-turned-Lamborghini CEO, who moonlights as chairman of the FIA Single Seater Commission — described the progress made in restructuring the path from entry formulas to F1 via F4, F3 and F2, with the objective being the adoption of common regulations on both sides of the Atlantic, and in Asia-Pacific regions.

"Since 2014 we have created 12 [F4] championships around the world, but we must ensure a balance between performance, and training and learning, and must keep costs down," he said.

Probably the most exciting news was the announcement of the FIA's 'Cross Car' concept: an enclosed bike-engined buggy aimed at countries with developing infrastructures, and best described as an 'all-terrain kart'. The plan is for Cross Cars to compete on surfaces ranging from ice and snow through asphalt to gravel and sand, either singly against the clock, or against each other. A range of power units will enable the same vehicle to be fitted with progressively more powerful engines. Delegates were seen to be mouthing "I want!", and not only for their kids...

The second day featured an environmental workshop before a panel session with ex-Williams technical director Patrick Head, Rodi Basso (McLaren Applied Technologies), Jean-Eric Vergne, Frederic Sausset, Susie Wolff, Mario Almondo (Brembo) and Pirelli's Paul Hembery, with the theme of motorsport's technological relevance.

"Motorsport is at a dividing point between road-car technology and entertainment," said Head. "New [automotive] technology may not always be that beneficial to the entertainment side, but on the other hand, many people thought Formula E wouldn't

last, and it's going from strength to strength."

Although Formula E CEO Alejandro Agag was unable to attend, WEC CEO Gerard Neveu, still grinning after a stonking Le Mans 24 Hours the previous weekend, joined

"It's about talking to people at home — how do we get this sport across?"

the second plenary of day two (theme: Motorsport as Entertainment Medium), also featuring Bratches and Webber.

Bratches, who described F1 as "a fantastic global brand with half a billion fans around the world champing at the bit for more content", believes F1's biggest challenge lies in attracting new fans: "It's about talking to people at home — how are we going to get this sport across to them? We are trying to keep the original customer, and we're trying to convert new people. If you start talking about DRS and MGU-Ks, you get bogged down."

Webber suggested that motorsport's challenge lay in reinjecting emotion: "In a lot of other sports — football, tennis, golf, basketball — there's a huge human component, and that doesn't change. Where is the entertainment side? Why do people turn their TVs on?"

That was the essence of the final conference under Todt's second mandate: constructive dialogue sprinkled with healthy debate. And there is no doubt that, as Todt seeks a third (and, thanks to FIA statutes, final) mandate, motorsport has made massive progress during challenging times. It now has a defined direction, while being united as seldom (if ever) before. 🏁



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FEEDBACK

Great race, shame about Vettel's antics

First of all, congrats to Daniel Ricciardo on winning the Azerbaijan Grand Prix. Admittedly, it was a victory borne out of unfortunate circumstances for various other frontrunners, but that's not his problem. Also, to win from 10th on the grid is a great example of making one's own luck.

Secondly, it was a shame to see Lance Stroll lose second at the line, but what a way to silence his critics.

Overall, this was a very entertaining race, which caused a 'motorsport-neutral' friend of mine to message me to register his enjoyment of the event (getting there with the new fans).

However, it was very disappointing to see the actions of Sebastian Vettel. His behaviour on track was bad enough, but his defiant attitude over the radio and comments in the post-race interview were completely unacceptable.

He talks of them being "men". If that is the case, he should accept his punishment like a man. I know five-year-olds (of both genders) who have displayed greater levels of maturity.

Richard Newell

By email

FIA must crack down now

A brilliant grand prix marred by Vettel's temper. The racetrack is no place for this type of behaviour. The FIA needs to stamp it out immediately (a 10-second stop-go penalty is just not a deterrent).

The FIA needs to advise *all* drivers in *all* series that this will not be tolerated and could result in anything from race bans to a lifetime ban.

Action is needed now, and Vettel needs to understand that he was totally out of order, something he had not accepted even after the race.

Paul Hewitt

Luton, Bedfordshire

What message does this send?

How ironic that Hamilton had to pit for *safety* reasons, but ended up losing out in traffic to Vettel, who had to stop for *dangerous* driving. What message does that send?

Peter O'Donnell

By email

Road rage has no place in F1

Am I alone in wondering whether the repeated NASCAR-style 'debris cautions' during the Azerbaijan Grand Prix inspired Sebastian Vettel's road rage following his rear-ending of Lewis Hamilton – the kind of petulant overreaction too commonly seen in the American stock car series?

In all seriousness, though, in his evasive post-race interview, the absence of any suggestion from Vettel that his 'wheelbutt' of Hamilton's car was accidental on his part leaves the distinct impression that it was entirely intentional.



Vettel's actions in Azerbaijan, and his total lack of contrition, have our readers riled

I was reminded of teenage racing driver Dan Ticktum, who has recently returned to motorsport following a two-year ban after deliberately colliding with an opponent under safety-car conditions. Obviously the context and outcome of the incidents differ, but there does seem to be quite a disparity between 730 days and 10 seconds for what amounts to the same thing.

Before giving further interviews I would hope that Vettel spends some time considering the example he is setting – as a multiple world champion working at the pinnacle of his sport – on younger, aspiring drivers the world over. In his defence, Vettel stated that 'We are racing with men', but based on what I witnessed on Sunday, unfortunately for his competitors it appears that they are actually racing with a stropky, reckless child.

Sam Lockyer

Surbiton, Surrey

Not worthy of a world champion

Vettel's behaviour is nowhere near acceptable. Spoiled brat isn't even close! This is not world-champion behaviour. Lewis was very considered in his response and Seb evasive, which says it all. I guess the mutual respect is over.

Simon Astley

Rickmansworth, Herts

HAVE YOUR SAY, GET IN TOUCH

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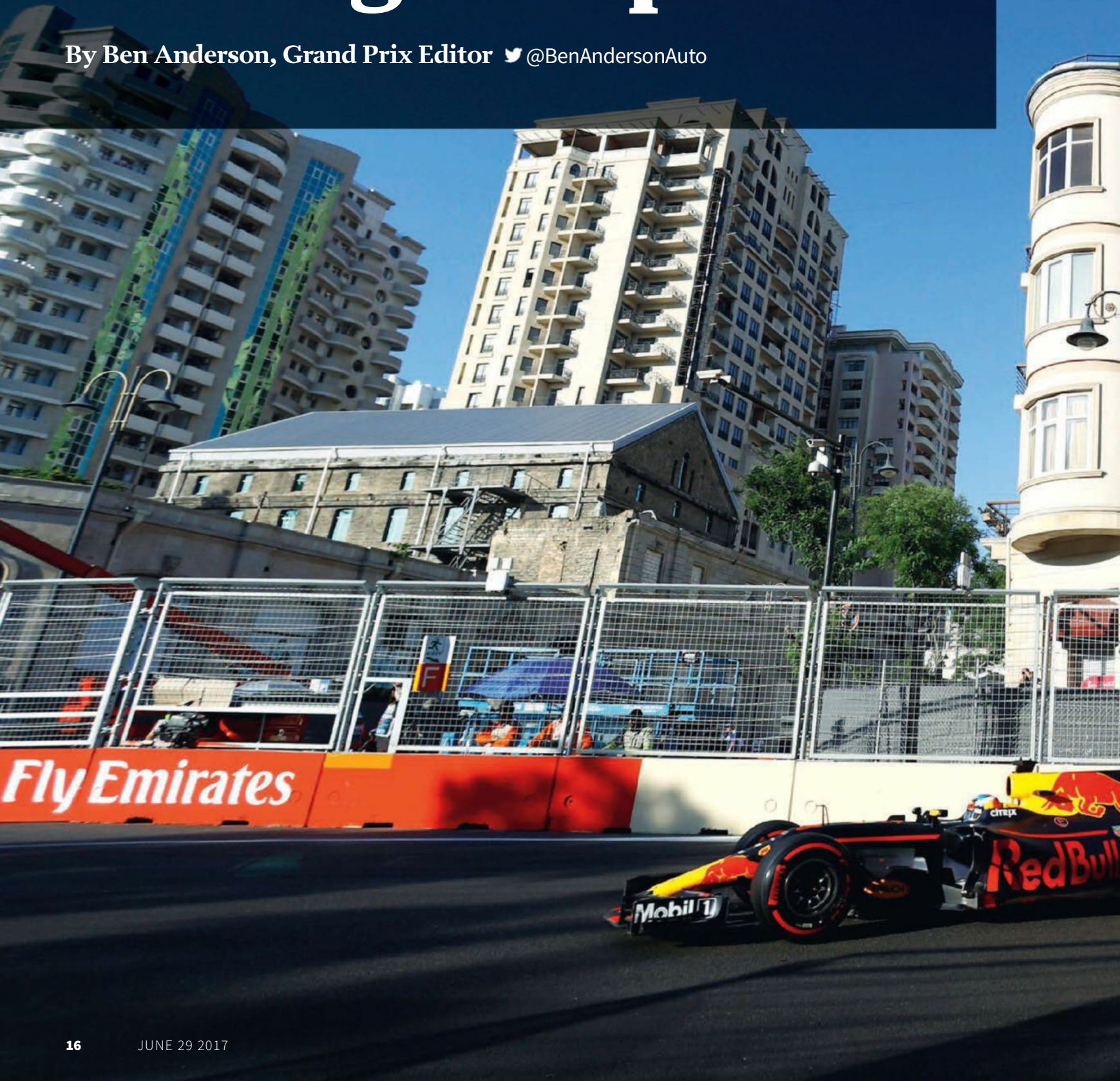
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Ricciardo wins as title fight explodes

By Ben Anderson, Grand Prix Editor [@BenAndersonAuto](#)







AFTER SEVEN RACES OF MUTUAL RESPECT AND CORDIAL COMPETITION, the 2017 Formula 1 title battle between Lewis Hamilton and Sebastian Vettel finally got physical on the streets of Baku. A chaotic recipe of multiple collisions on a tightly enclosed street circuit, leading to multiple safety-car periods and restarts, created conditions for the first controversial moment between this F1 season's two chief protagonists.

Had the Azerbaijan Grand Prix proceeded free of safety-car periods, Hamilton and Vettel would most likely have finished one-two comfortably, with the Mercedes man slashing the Ferrari star's championship points advantage into single digits.

As it was, Vettel finished one place ahead of Hamilton to extend his lead by two points, despite serving a 10-second stop-go penalty for deliberately driving into Hamilton under safety-car conditions.

Hamilton called Vettel's driving "disrespectful" and said the four-time world champion had "disgraced himself" with his behaviour. Vettel thought – wrongly as it turned out – that Hamilton deliberately brake-tested him before one of those safety-car restarts and took exception. What Vettel did after inadvertently rear-ending Hamilton's Mercedes behind the safety car was inexcusable, and the penalty he received for swerving into his rival ultimately cost him this grand prix.

Hamilton's headrest came loose after a mid-race red-flag period, which required him to make an unscheduled pitstop. That would have handed victory to Vettel if only the four-time champion had kept his emotions in check.

Into the breach stepped Daniel Ricciardo, who rose from 17th at the end of lap six to win a breathless race, ahead of Valtteri Bottas – who at one stage was a lap down – and Williams rookie Lance

Stroll, who claimed an unlikely first podium finish of his F1 career.

All the talk afterwards was of course about Hamilton and Vettel, their on-track clash and the inevitable recriminations. But had Bottas not collided with Kimi Raikkonen at Turn 2 after the start, it's likely that the Hamilton/Vettel incident would never have happened. That clash came as Raikkonen attempted to pass Bottas on the outside of the left-hander. Bottas bounced over the inside kerb and into his rival as they tried to get through the corner side by side, clearing the path for Vettel to undertake his ultimately fateful chase of Hamilton.

Having almost rear-ended Bottas by locking up into Turn 1 after the start, Vettel was suddenly clear in second place, as Bottas crabbed back to the pits with a puncture and Raikkonen dropped back with damage to his Ferrari. The broken bargeboard that Raikkonen had picked up in that clash also proved crucial to the outcome of the battle between Hamilton and Vettel.

The first safety-car period came on lap 12 of 51, shortly after Daniil Kvyat's Toro Rosso broke down on the inside of the track at the exit of Turn 12. When the restart came on lap 17, after Kvyat's car had been craned away, Raikkonen's damaged bargeboard finally broke free of his car completely and left debris strewn across the start-finish straight.



LAT IMAGES



Bottas/Raikkonen clash (above) allowed Vettel though to pursue Hamilton (top), then inadvertently triggered the second safety car – and *that* incident

The safety car was immediately redeployed so that marshals could sweep the circuit, which meant Hamilton would once again have to fend off Vettel at a restart. The first one he'd managed expertly, backing the pack up on the short run down the hill between Turns 15 and 16 – the 'real' final corner of the lap before the snaking 'straight' that leads to the startline. Hamilton waited until the exit of 16 before bolting clear and leaving Vettel for dust.

"It's a very hard circuit to maintain position into Turn 1, because it's such a long straight," said Hamilton, who felt officials would have been better served to use the virtual safety car in order to help drivers maintain tyre temperature at higher speeds and reduce the chances of further incidents.

"I looked at the last race – I didn't do such a great job, so I really studied, I made sure I was on top of it for this weekend, »

PENALTY POINTS FOR VETTEL

SEBASTIAN VETTEL WAS GIVEN three penalty points for the incident with Lewis Hamilton, which means he now has a total of nine for the past 12 months.

He is now just three points away from a race ban under F1 rules, thanks to three other offences he committed in 2016.

But the two penalty points he got at last year's British Grand Prix, for running Felipe Massa off the track, will be wiped away if he does nothing wrong in the next races. As they run over a rolling 12-month period, they are due to expire on the Monday following the Austrian GP next month.



VETTEL'S PENALTY POINTS TALLY

2016 British Grand Prix	Running Felipe Massa off track (2 points)
2016 Malaysian Grand Prix	Causing first-corner incident with Nico Rosberg (2 points)
2016 Mexican Grand Prix	Moving under braking (2 points)
2017 Azerbaijan Grand Prix	Potentially dangerous move on Lewis Hamilton (3 points)



Ricciardo pulled a blinder with stunning double pass on the two Williams drivers

particularly as I was on pole. The safety car kept coming out, so obviously your first trick that works won't work again necessarily — particularly to a four-time world champion — so I had to come up with lots of different ways to make sure I was into Turn 1 in the lead.

"But the same point happens. By Turn 7, I'm told the safety car is going to come in; I'm allowed a 10-car-length gap between myself and the safety car while the lights are on, I go into Turn 15 more or less around that kind of gap, and as he [the safety car] goes down the hill I can see the lights switch off. At that point I don't need to accelerate and speed up and keep that gap, so I kept a consistent pace, probably a consistent deceleration down to the apex, and just didn't speed up from the apex. I did that first time and I did that again on the second time."

But second time around Hamilton and Vettel collided at the exit of Turn 15, Vettel seemingly caught by surprise at Hamilton's decision not to accelerate coming off the corner. Vettel rear-ended the Mercedes, threw his hands in the air in frustration, then immediately drove alongside his rival and swerved right into him, remonstrating with his free left hand as he went.

It looked like one of those situations where Vettel simply misjudged what Hamilton was likely to do — rather like expecting the car in front at a roundabout to go for a gap, accelerating yourself, then having to slam on the brakes again when that driver makes a different choice. Vettel thought Hamilton would accelerate, he didn't, and Vettel ran into the back of him. The FIA's analysis of Mercedes' data cleared Hamilton of any wrong-doing, but

Vettel was convinced that Hamilton had brake-tested him.

"We know the leader dictates the pace, but we were exiting the corner, he was accelerating, then he braked so much that I couldn't stop in time and ran in the back of him," said Vettel, who praised Hamilton's first restart as "brilliant" for almost costing him a place to Sergio Perez's Force India.

"He needs to understand that he can't do that. He's done it a couple of times — a couple of years ago in China where it was very close to having a crash in the back of the field. I just think that wasn't necessary. It's not the right way to do it — exiting the corner, accelerating and then braking. I don't think there was any point.

I don't think it was very deliberate for him to brake-check me, I don't think he's that kind of guy, but that's what he did. I wasn't happy with that."

So unhappy that he decided to drive into Hamilton in protest.

"I drove alongside, then we had a little contact, but I drove alongside mostly to raise my hand," Vettel added. "I didn't give him a finger or anything, I just wanted to tell, because I can't literally talk to him, that was not right.

"I don't agree with the penalty — if you penalise me then you should penalise both of us. I think the penalty was very harsh."

Harsh or not, Vettel deserved a penalty. You cannot dispense your own brand of justice, however much you may feel you've been wronged. Red Bull team boss Christian Horner called it a "Tourette's moment" from his former driver.

"It just looked like a red-mist moment to me," Horner said.

"It looked like a red-mist moment. He's lost it and taken a swipe at him"



“He’s lost it and taken a swipe at him, which was only ever going to result in a penalty.”

This is not the first time that Vettel has overreacted to perceived injustice in the heat of the moment. His expletive-laden outburst at race director Charlie Whiting and Max Verstappen during last year’s Mexican GP being only the most recent example. In Baku, Vettel would have been best served to save his complaints solely for the radio airwaves. Taking matters into his own hands crossed the line of acceptability and demeaned his status as a multiple world champion, and it also cost him a likely race victory.

“I didn’t do any brake testing,” insisted Hamilton, who felt Vettel’s driving set a bad example for younger drivers. “I just did the same thing I’d done on the previous laps. When the safety-car lights go out, I control the pace. I went into the corner with 50-bar of >>

Stroll was pipped to second place at last gasp by Bottas, but first F1 podium finish was still impressive

QUALIFYING



LEWIS HAMILTON CALLED THE LAP THAT GAVE HIM POLE FOR the Azerbaijan Grand Prix “do or die”, but his stunning form throughout qualifying suggested he was always more likely to be doing rather than dying, ultimately.

He was off the pace in Friday practice, looking as though he was stuck in a similar hole to the one that trapped him so completely in Russia, his Mercedes struggling for grip through sequences of slow-speed 90-degree turns on an ultra-smooth track surface.

But Hamilton’s crew dug him out of that hole with “a lot of changes overnight” to the car’s mechanical set-up. Hamilton was third fastest in final practice, four tenths off team-mate Valtteri Bottas, and come qualifying made another step to assume complete command.

He was the only driver to lap under 1m42s in Q1 and was comfortably fastest with a single run in Q2 as well. The only time Hamilton’s crown looked in any danger of slipping came during the first runs in Q3. Bottas stole ahead with a 1m41.274s lap, but

“If ever there was a time for me to perfect, that was it”

Lewis Hamilton

only because Hamilton got “greedy”, locking up and running wide at Turn 16. When Daniel Ricciardo’s Red Bull hit the wall at the Turn 6 right-hander, bringing out the red flags, it spoiled a potentially faster lap that had looked set to return Hamilton to the top.

Ricciardo’s crash turned the remainder of the session into a one-lap dash. Hamilton pulled out a stunning 1m40.593s effort on his final run to claim pole by almost half a second from Bottas.

“If ever there was a time for me to perfect, that was the time,” said Hamilton, who punched the air as he crossed the timing line.

The ultimate gap was large, but Bottas came close to nicking pole on his final run, save for a couple of crucial errors at Turns 7 and 16. He said he couldn’t quite generate as much front-tyre temperature as Hamilton, despite being quicker through Turns 3 and 4.

The fight at the front looked close with Ferrari and Red Bull through practice, but both Ferraris uncharacteristically struggled with tyre temperature and ended up way off the pace, with Kimi Raikkonen 1.1 seconds adrift in third and Sebastian Vettel – using an older engine after a hydraulic leak in FP3 – 1.248s off in fourth.

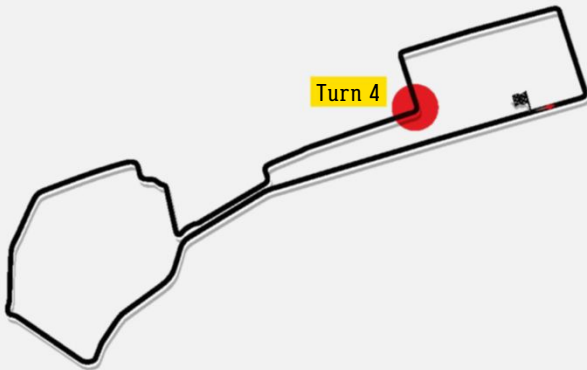
Vettel’s tyre situation wasn’t helped by getting caught at the end of the pitlane when Ricciardo hit the wall, but he refused to blame that incident or a lack of running for Ferrari’s failure to threaten Mercedes, saying: “I don’t like excuses.”

Max Verstappen came within two tenths of beating both Ferraris to third, but failed to improve on his final Q3 run. He lost two tenths having to turn the updated Renault engine down due to a rev-limiter problem, and he also suffered a lock-up at Turn 7, which caused his gearbox to lose synchronisation and cost him another tenth.

“We should be ahead without all of those things that happened,” said the Red Bull star. But Mercedes, and Hamilton in particular, was way out of reach here.



**"BOTH RED BULLS IMPRESS
WITH SOME NICE DRIFTING"**



AZERBAIJAN'S BAKU CITY CIRCUIT IS AN UNUSUAL STREET track, combining the straightline speed demands of Monza, the aerodynamic efficiency requirements of Spa, the asphalt smoothness and corner profiling of Sochi, but claustrophobic run-off areas and walls with all the forgiveness of Monaco at its most menacing.

"It's a weird track," says Red Bull's Daniel Ricciardo. "You pretty much run low downforce to not get eaten alive on the straight, but all the corners are second or third gear. It's kind of a high-downforce track with a low-downforce set-up."

Teams have to balance engine power with ERS efficiency, drag at high speed, downforce at low speed, working tyres that Pirelli freely admits are too hard for this track properly on a low-energy circuit, which also makes braking extremely challenging at a venue where there is a high deceleration demand.

Autosport clammers over one of the circuit's ubiquitous purple barriers to make it trackside for first free practice on Friday. Once the right side of this overzealous security measure we find ourselves at Turn 4, a 90-degree right-hander typical of the layout.

Max Verstappen's Red Bull comes into view at speed, front tyres squealing in protest as he turns in, clearly not up to temperature yet. There's understeer for Romain Grosjean's Haas too. Initially he keeps his distance from the wall on approach, which tightens the entry and exacerbates that understeer.

Jolyon Palmer and Verstappen come closest to crashing in front of me here – Palmer losing the rear on entry but saving it; Verstappen running in too deep and almost understeering into the wall. But he and team-mate Ricciardo impress with some nice drifting on the exit, flirting with disaster.

Palmer's Renault looks a real handful, snapping from understeer to oversteer. Nico Hulkenberg looks more assured, but the kind of smooth rotation executed consistently by Stoffel Vandoorne's McLaren-Honda looks beyond the Renault, which struggles in these kinds of low-speed turns.

Hulkenberg describes Turn 4 as Renault's Achilles' heel, as the drivers constantly battle a disruptive tailwind. "This is quite a brutal track," he says. "It's pretty crazy and mental."

Several incidents throughout the weekend suggested that such an analysis was spot-on.



Hulkenberg's Renault struggles on "mental" track



Vettel fumes over his perceived injustice, while Victor Ricciardo can barely believe his good fortune

brake [pressure], I didn't increase that and I didn't accelerate out of the corner because I was trying to let the safety car go.

"Generally the car behind wants to get as close as possible and honestly, I think it's a misjudgement from him. To blame the car in front, I think some people don't like to own up to their own mistakes. That's the kind of thing you see in go-karts. It shows pressure can get to even some of the best of us."

The part of his tactics that Hamilton did alter for the second restart was bunching the field along the main straight, rather than gunning it at the exit of Turn 16.

This backed Vettel into the chasing pack and the Ferrari only just managed to fend off challenges from Felipe Massa's Williams (on the inside) and the Force Indias of Perez and Esteban Ocon (on the outside) at Turn 1.

Vettel defended again along the following straight, and the concertina effect allowed Ocon to get inside Perez as the pack funnelled into Turn 2. The team-mates went through the left-hander side by side, but collided at the exit as Ocon eased to the right and choked off Perez's space.

Raikkonen picked up a rear puncture in the immediate aftermath, as Perez's front wing shattered, and the circuit became so littered with debris that officials decided to red-flag the race after 22 laps.

Mercedes used the stoppage to effect, running repairs to what team boss Toto Wolff called "extensive" damage to the diffuser on Hamilton's car from the first Vettel impact. But of more significance was the failure to properly secure Hamilton's headrest when he returned to the car for the restart.

Hamilton attempted to jam it into position while driving, but was eventually forced into the pits at the end of lap 31, sacrificing a narrow lead over Vettel to have the problem rectified. "We have to figure out why the headrest came loose – whether we need to improve on our design there or whether it wasn't properly locked," Wolff said. "The knobs that go into the hole are not very large..."



Vettel immediately put the hammer down, after being told that he would need to pit to serve his stop-go penalty. Vettel came in two laps after Hamilton, but his in-lap was more than 2.3s quicker, which meant that the Ferrari emerged seventh, crucially one place ahead of its main rival.

“Ten seconds is not enough for driving like that,” fumed Hamilton over Mercedes’ team radio, before resigning himself to a chase of the Ferrari.

With those two out of the picture, Ricciardo found he was unexpectedly leading the race, ahead of Stroll and Kevin Magnussen’s Haas, which took the added benefit of Nico Hulkenberg breaking his Renault against the inside wall at Turn 7 after the red-flag restart and Massa’s Williams suffering a damper failure.

Ricciardo had started down in 10th after crashing in Q3, and things got worse when the Red Bull was forced into the pits on lap five to clear debris from a brake duct, dropping Ricciardo to 18th.

But the Australian made steady progress back through the field and was up to ninth by the time of that fateful second safety-car restart. He vaulted to fifth when the Force Indias collided and Raikkonen punctured, and on the red-flag restart pulled off a stunning double pass on the Williams duo of Massa and Stroll on the inside at Turn 1. That move was reminiscent of the sort of skill and bravery that first elevated Ricciardo into grand prix racing’s elite circle in 2014, and it ultimately won him this race once Vettel and Hamilton were forced to pit.

Ricciardo’s fifth grand prix victory owed much to the misfortune of others, not least a Renault engine failure for his Red Bull team-mate Max Verstappen early on, but as a racing driver you take the wins wherever you find them.

“Pretty much all of my wins have come under crazy circumstances”

“I have been pretty fortunate,” Ricciardo said. “I’ve only had a few victories but pretty much all of them have come under pretty crazy circumstances.”

Those “crazy circumstances” also allowed Bottas to unlap himself after that early crawl back to the pits, and the Mercedes charged through the order after the red-flag restart, eventually beating Stroll’s Williams for second in a drag race across the finish line by just 0.105s.

“I was pushing the maximum there was – I was doing like qualifying laps,” said Bottas, who hunted Stroll down at more than a second per lap over the final 12 laps of the race. I was not quite sure where the finishing line was actually, but when they opened up the radio and I could hear the clapping in the

background, I knew, ‘OK, that was P2 then.’ It showed that you should never give up.”

Hamilton was not far from pulling a similar move on Vettel, coming just 0.212s short of beating his chief rival as the top five cars were blanketed

by little more than six seconds at the finish.

There seemed a certain level of injustice at Hamilton finishing behind Vettel, given what had transpired earlier in the race, but Vettel was so adamant that he did nothing wrong in the immediate aftermath – in contravention of the FIA’s analysis and that of almost everyone else – that Niki Lauda likened his defiance to Vettel’s hero Michael Schumacher at his most indignant.

It remains to be seen whether this first flashpoint between Hamilton and Vettel becomes a portent. Vettel plans to phone Hamilton to clear the air before the next race; Hamilton says he plans to do his talking on the track. Whatever happens next, the events of the Azerbaijan Grand Prix have certainly added a new dimension to their rivalry – and to the 2017 title fight. ❄



RAIKKONEN BLAMES BOTTAS FOR COLLISION

KIMI RAIKKONEN SAYS THAT Valtteri Bottas was to blame for their collision on the opening lap in Baku.

The Ferrari driver tried to pass second-placed Bottas round the outside of Turn 2, but Bottas bounced over the inside kerb, pitching him into Raikkonen and pushing the Ferrari into the wall.

"There was not much I could have done," said Raikkonen. "I got hit at Turn 2 and there was quite a lot of damage on the car already on the left-hand side. It was completely his fault, but I paid the price."

Bottas defended his actions: "I was on the inside, I thought I had the corner. There should have been space for two cars to go around."

"He was turning in the corner so for me there was nowhere else to go. So I went over the kerb, bottomed out, the car jumped and hit him and I got a puncture."

The stewards noted the clash but decided not to take any action.

Raikkonen dropped to fifth and later retired following damage caused when he hit debris from the Force India clash. Bottas dropped to the back of the field and was a lap down, but recovered to finish second.



Force India tension rises after Pe

TWO WEEKS ON FROM THE team-orders controversy that undid Force India in its battle for a podium finish in Canada, the squad suffered further internal strife when Sergio Perez and Esteban Ocon collided in the Azerbaijan Grand Prix.

The team-mates were fighting over fourth place after the second

safety-car restart and collided at the exit of Turn 2 as Ocon tried to pass Perez on the inside.

The contact punctured Ocon's right-rear tyre and broke his T-wing, floor and a brake duct, while Perez's car broke a trackrod so he briefly retired from the race before the mid-race red-flag period offered a reprieve.

Ocon recovered to finish sixth, but Perez — who was hit with a time penalty for his team working on the car in the wrong part of the pitlane during the stoppage — eventually retired for good late on.

After the team had let another podium opportunity slip through its fingers, Force India COO Otmar Szafnauer said both drivers had

Alonso: I should have fought for Baku win

FERNANDO ALONSO BELIEVES "in normal circumstances" he should have been in a position to win the Azerbaijan Grand Prix.

The McLaren driver started on the back row, following a 40-place grid penalty for engine-component changes, but took advantage of a chaotic race to run fifth and ultimately finish ninth.

"I was with [race winner Daniel] Ricciardo when the first safety car came out," said Alonso. "[Lewis] Hamilton lost his headrest, [Sebastian] Vettel was penalised, both the Force Indias were out, Kimi [Raikkonen] retired. So you are automatically in the top two

or three, so we should have fought for victory, but unfortunately we are not in that position."

Nonetheless, Alonso's ninth-place finish delivered McLaren-Honda's first points of the season, with Stoffel Vandoorne crossing the line 12th to also give the squad its first two-car finish of 2017.

"Scoring two points in Baku was impossible to think before coming here, so it's welcome," said Alonso.

Honda chief Yusuke Hasegawa said he was "very relieved" to get points, but conceded that the manufacturer had a long way to go to deliver an engine to match its rivals.

Honda brought an updated 'spec 3'

engine to Baku that ran only on Friday, but which Hasegawa said generated more than two or three tenths of a second per lap of performance.

On Saturday, McLaren racing director Eric Boullier described the weekend as one of the most painful he's experienced in motorsport. In addition to Alonso's penalty, Vandoorne picked up 35 places to confine the duo to the back of the grid.

After the race, Boullier said the points were morale-boosting, but added: "I'm not smiling, I'm not excited, because it's not the reason why I'm racing."



BOTTAS-RAIKKONEN COLLISIONS

 **2015**
Russian Grand Prix

 **2015**
Mexican Grand Prix

 **2017**
Spanish Grand Prix

 **2017**
Azerbaijan Grand Prix



rez and Ocon collide

crossed the line of acceptable conduct. "The worst thing you can do is hit your team-mate," he said. "We will review it in a professional manner, talk to the drivers and say this is unacceptable. We cannot be running into each other."

Perez blamed Ocon: "It was just over-aggressive. In all my career I've had team-mates who have been hard

but given enough room. What happened is totally unacceptable."

Ocon said the collision was triggered by earlier contact after Turn 1. "He touched me after Turn 1 and then I was on the inside for Turn 2 and we touched again," he said. "It's racing and it happens sometimes. We will discuss it and it should not happen in the future."



Stroll shrugs off criticism as 'just noise' after podium

LANCE STROLL SAYS HE HAS always shrugged off criticism of his performances as "just noise" after scoring his maiden podium in the Azerbaijan Grand Prix.

A fortnight after breaking his F1 points duck with ninth on home ground in Montreal, the Williams rookie kept his composure in a crazy Baku race to finish third, only losing second to recovering Mercedes driver Valtteri Bottas in a drag race across the line.

Asked if he thought the result would silence critics who felt he's been elevated to F1 too soon, the reigning European Formula 3

champion replied: "I don't think it proves a point. I don't listen to that stuff, it's just noise. I had it last year when I had the perfect year and this year when I had some tough times. I'm happy with myself. It's all noise in the background, I don't care."

Stroll conducted a testing programme in a 2014 Williams last season to prepare himself for F1, and is continuing that into the first part of this year between races.

Williams technical chief Paddy Lowe said after Stroll qualified a career-best eighth that a pre-Baku test at Austin helped the Canadian make a set-up breakthrough.

Verstappen let down by Renault

MAX VERSTAPPEN COULD HAVE WON IN BAKU had he not been let down by his Renault engine, says Red Bull boss Christian Horner.

Verstappen was challenging Sergio Perez for third when the failure occurred on lap 13. "After what looked like a promising position, I was gutted to be let down once again by a technical problem," he said.

His team-mate Daniel Ricciardo dropped to 17th place after an unscheduled stop to clear debris from a brake duct, but produced a stunning recovery drive to take his first victory of 2017.

Q&A

CHRISTIAN HORNER RED BULL TEAM PRINCIPAL



Could Verstappen have won the race?

"No doubt. Max was looking really strong. He was finding rhythm, he was putting Perez under a lot of pressure to get into P3 and the leaders were just up the road ahead. Then [there was] a sudden engine failure that, at the moment, is unexplained. So we'll need to look through what's left of the engine to try to understand what happened there."

How frustrated is Max after a second successive retirement?

"Right here and now he's enormously frustrated. But what compounds that is that his team-mate has been getting podiums and now a victory. But you can see it's through no fault of the team or the effort the team's putting in. What you'll see with Max is there's a big result just around the corner. The way he's driving at the moment, he's really stepped it up a gear."

What did you make of Ricciardo's race?

"It was despair [when Verstappen retired] and then suddenly Daniel's hovering around the top 10. He was picking off more cars with each restart. He benefited from the incident between Sebastian [Vettel] and Lewis [Hamilton] and then Lewis's headrest issue. He had a little bit of luck today to get himself track position in the lead. Then the last 15 or 20 laps he drove in the perfect way. I'm really happy for him to have won the race."

Is Red Bull back on track?

"Chassis-wise, we're getting in a decent position. Renault are doing what they can. We desperately need more performance and reliability, but bit by bit that's coming. I'm hopeful that the second half of the season for us should certainly be stronger than the first half."

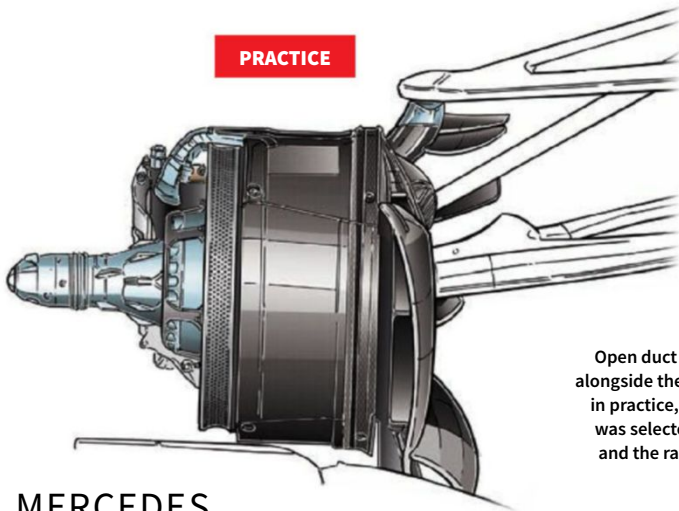




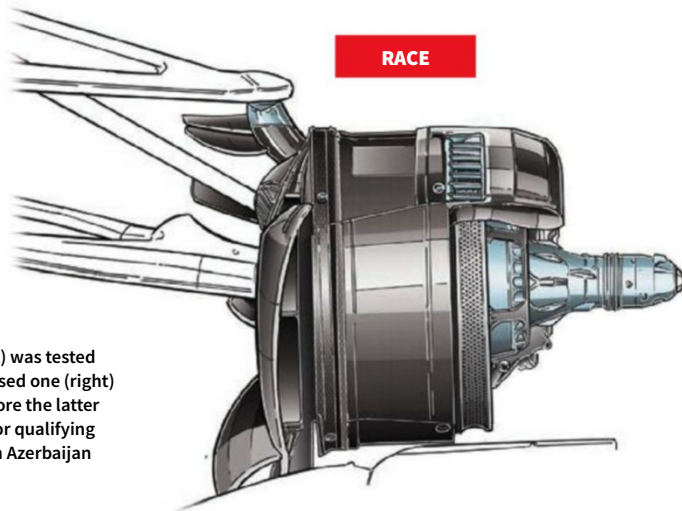
DRAWING BOARD

BY GIORGIO PIOLA AND GARY ANDERSON

PRACTICE



RACE



Open duct (left) was tested alongside the closed one (right) in practice, before the latter was selected for qualifying and the race in Azerbaijan

MERCEDES

I'm old enough to remember the days when a brake duct was a brake duct but fortunately, or unfortunately, those days are long gone. Currently the brake ducts are major downforce-producing devices and vitally important because they produce the load directly onto the wheel

and tyre assembly so there is no time lag created by suspension movement.

They are also a tool that teams use to help with tyre warming. Getting heat into the front tyres has never been easy and in Baku Mercedes used the practice sessions to try to get the

optimum package.

In FP1 and FP2 Mercedes ran with an asymmetrical duct system, which would allow the team to compare tyre warm-up and brake cooling across the axle. In this view, which is from the front of the car, the left-hand side has a fully open disc,

good for tyre warming but not for brake-temperature consistency. With this set-up down those long straights in Baku, the brakes can get cold.

The right-hand view retains some of that hot air, meaning the inner surface of the rims won't see so high a temperature but the brakes

will stay at a more stable temperature, meaning the initial bite from the brakes will be higher.

For FP3 and the rest of the Baku weekend, Mercedes adopted the package that gives the best brake-cooling package and let the tyres look after themselves.

RED BULL

For Baku, Red Bull introduced a new, smaller twin-element upper rear wing. With the RB13's lack of power from the Renault engine and the long straights of Baku, top speed is a prime consideration for set-up and it certainly helped the team to join the big fight between

Mercedes and Ferrari.

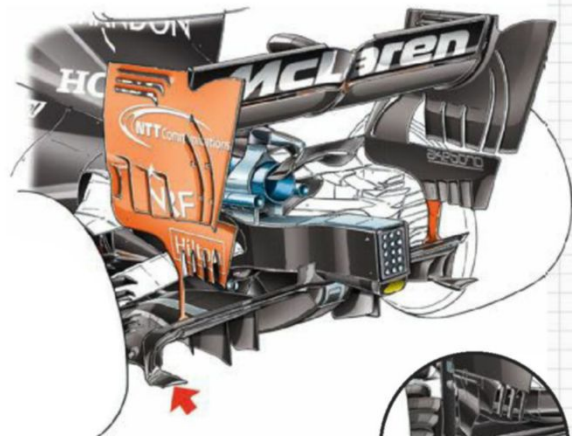
Red Bull always runs the car with more rake (front rideheight low, rear rideheight high). This set-up produces more downforce from the front wing and underfloor, especially in the slow corners, so reducing the cross-section of the rear wing is not that big

a penalty, especially as the drag reduction this gives is a big advantage for top speed.

The other thing worth mentioning is how neatly and well detailed the rest of the components around the rear wing are. From the lower positioning of the central wing mount to the DRS package, the detail is second to none.

The bargeboard details haven't altered hugely, but by being larger they will work that little bit more and help extract more of the mass airflow from under the front of the chassis.

This helps the performance of the front wing, especially the central section, and introduces increased airflow to the leading edge of the sidepods, both of which help with the overall level of downforce produced by the car.



McLAREN

McLaren's new diffuser package for its MCL32 has taken a leaf out of the Mercedes concept with its outboard foot and vertical vane detail.

Connecting the trailing edge of the diffuser to the low-pressure area behind the rear tyres will improve the performance of the diffuser and in turn the complete underfloor

assembly.

With the new wider rear tyres it is even more important. Getting the complete rear of the car working to extract the airflow from the underfloor makes it incredibly powerful and, as the underfloor downforce is not so critical to turbulence, it will also improve the car in traffic.



Sainz made 'sacrifice' to avoid Kvyat crash

CARLOS SAINZ JR CLAIMS HE SACRIFICED himself at the start in Baku to avoid a crash with Toro Rosso team-mate Daniil Kvyat.

Kvyat ran wide at Turn 1, rejoining in front of Sainz, who took avoiding action and spun as a result. "I would have probably done the same," said Sainz. "I would have come back on track without caring too much because it's the start of the race.

"But it was either turn the wheel and spin or take both cars out due to the speed difference we had. It's a shame, but it's one of those things that can happen at the start that you have to sometimes sacrifice."

Kvyat felt he was blameless. "I guess there is not anything to do with me. Cold tyres maybe," he said.

Sainz denied that claim. "The tyres were

up to temperature," he said. "It was just that I was a bit surprised when he came back and I had to do a very harsh input on the steering to avoid him and this threw me into a spin. It was a racing incident."

Kvyat retired later in the race after he encountered what the team described as a "complete electronic shutdown". Sainz recovered to finish eighth.



Sainz fought back from spin to finish eighth

LAT IMAGES

Sauber secures point by ordering Ericsson to let Wehrlein through

SAUBER SCORED A POINT in the Azerbaijan Grand Prix thanks to Pascal Wehrlein's 10th-place finish.

Wehrlein made Q2 with a stunning effort in qualifying, but struggled with an engine problem early in the race, which required several pit visits to correct and forced him to drop back.

Team-mate Marcus Ericsson battled hard with the McLaren-Honda of Stoffel Vandoorne for what turned out to be 10th place

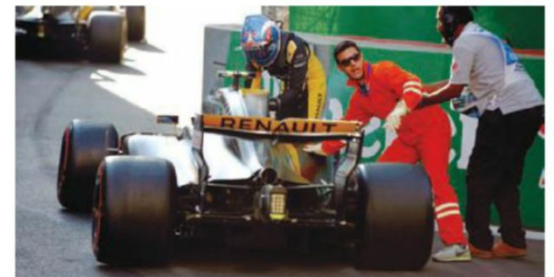
in a race of attrition, but began to struggle with floor damage in the latter part of the race.

He defended hard from Wehrlein initially, and the pair made contact at Turn 3, before Ericsson was ordered to move aside for fear that their squabbling would allow Vandoorne — on a charge after an unscheduled late pitstop — to steal the final point.

The result capped a difficult weekend for

Sauber, which began with team principal Monisha Kaltenborn parting company with the squad amid an internal power struggle.

The Swiss team issued a statement denying allegations that it had favoured Ericsson over Wehrlein this season, which the events of this race should help to quell further, while company chairman Pascal Picci suggested someone was trying to "demolish" the team.



Renault reels after disastrous race

RENAULT ENDURED A DISASTROUS RACE in Baku, with Nico Hulkenberg squandering a potentially strong points finish by damaging his car irreparably against a wall, while team-mate Jolyon Palmer retired with engine problems.

This followed an awful Saturday, when a fuel fire in final practice forced Palmer to skip qualifying and an electrical shutdown stopped Hulkenberg in his tracks in Q2.

Hulkenberg raced strongly initially, battling in the top six with Williams pair Felipe Massa and Lance Stroll after the red-flag restart, then misjudged the entry to Turn 7 on new tyres and clipped the wall, breaking his right-front suspension.

Palmer's race lasted only seven laps before an ignition problem, discovered on his out-lap to the grid, forced him to retire.

Cyril Abiteboul said: "On a day like today, a double DNF is the worst that can happen to the team."



Sauber denies it has favoured Ericsson this year

F1/AZERBAIJAN GRAND PRIX RESULTS

STARTING GRID

1 Hamilton #44

1m40.593s

2 Bottas #77

1m41.027s

3 Raikkonen #7

1m41.693s

4 Vettel #5

1m41.841s

5 Verstappen #33

1m41.879s

6 Perez #11

1m42.111s

7 Ocon #31

1m42.186s

8 Stroll #18

1m42.733s

9 Massa #19

1m42.798s

10 Ricciardo #3

1m43.414s

11 Kvyat #26

1m43.186s

Race results / 51 laps – 190.170 miles							Fastest laps				
POS	DRIVER	TEAM	FINISH TIME	LED	TYRES	TIME IN PITS	POS	DRIVER	TIME	GAP	LAP
1	Daniel Ricciardo	Red Bull-Renault	2h03m55.573s	18		22m36.902s	1	Vettel	1m43.441s	-	47
2	Valtteri Bottas	Mercedes	+3.904s			22m50.180s	2	Hamilton	1m43.469s	+0.028s	46
3	Lance Stroll	Williams-Mercedes	+4.009s			22m15.353s	3	Bottas	1m43.925s	+0.484s	51
4	Sebastian Vettel	Ferrari	+5.976s	3		22m40.184s	4	Ricciardo	1m44.882s	+1.441s	46
5	Lewis Hamilton	Mercedes	+6.188s	30		22m38.211s	5	Stroll	1m45.108s	+1.667s	44
6	Esteban Ocon	Force India-Mercedes	+30.298s			22m46.023s	6	Alonso	1m45.168s	+1.727s	49
7	Kevin Magnussen	Haas-Ferrari	+41.753s			22m13.095s	7	Raikkonen	1m45.542s	+2.101s	44
8	Carlos Sainz	Toro Rosso-Renault	+49.400s			22m14.733s	8	Perez	1m45.588s	+2.147s	37
9	Fernando Alonso	McLaren-Honda	+59.551s			22m14.404s	9	Ocon	1m45.634s	+2.193s	39
10	Pascal Wehrlein	Sauber-Ferrari	+1m29.093s			23m11.513s	10	Sainz	1m45.866s	+2.425s	46
11	Marcus Ericsson	Sauber-Ferrari	+1m31.794s			22m18.856s	11	Magnussen	1m46.312s	+2.871s	45
12	Stoffel Vandoorne	McLaren-Honda	+1m32.160s			22m36.058s	12	Verstappen	1m46.398s	+2.957s	10
13	Romain Grosjean	Haas-Ferrari	-1 lap			22m59.996s	13	Vandoorne	1m46.648s	+3.207s	45
14	Kimi Raikkonen	Ferrari	46 laps-floor			27m02.028s	14	Grosjean	1m46.831s	+3.390s	45
R	Sergio Perez	Force India-Mercedes	39 laps-collision			27m10.158s	15	Wehrlein	1m47.120s	+3.679s	46
R	Felipe Massa	Williams-Mercedes	25 laps-suspension			22m12.124s	16	Ericsson	1m47.186s	+3.745s	45
R	Nico Hulkenberg	Renault	24 laps-accident			22m14.904s	17	Massa	1m47.340s	+3.899s	10
R	Max Verstappen	Red Bull-Renault	12 laps-engine			-	18	Kvyat	1m48.394s	+4.953s	9
R	Daniil Kvyat	Toro Rosso-Renault	9 laps-electronics			-	19	Hulkenberg	1m48.536s	+5.095s	9
R	Jolyon Palmer	Renault	7 laps-ignition			-	20	Palmer	1m51.673s	+8.232s	5

WEATHER Dry, sunny; track 53C, air 28C WINNER'S AVERAGE SPEED 92.072mph FASTEST LAP AVERAGE SPEED 129.816mph

New Used Ultra-Soft Super-Soft Soft Medium Hard Wet Intermediate

1

This was the first time Alonso has not reached Q2 in 2017

8

Stroll outqualified team-mate Massa for the first time in a career-best eighth place

10

Ricciardo's 10th place was the lowest grid position for a winner since Alonso's victory from 11th at Valencia in 2011

18

Stroll, at 18 years and 239 days, is the second-youngest podium finisher of all time – 12 days short of Verstappen's record

37

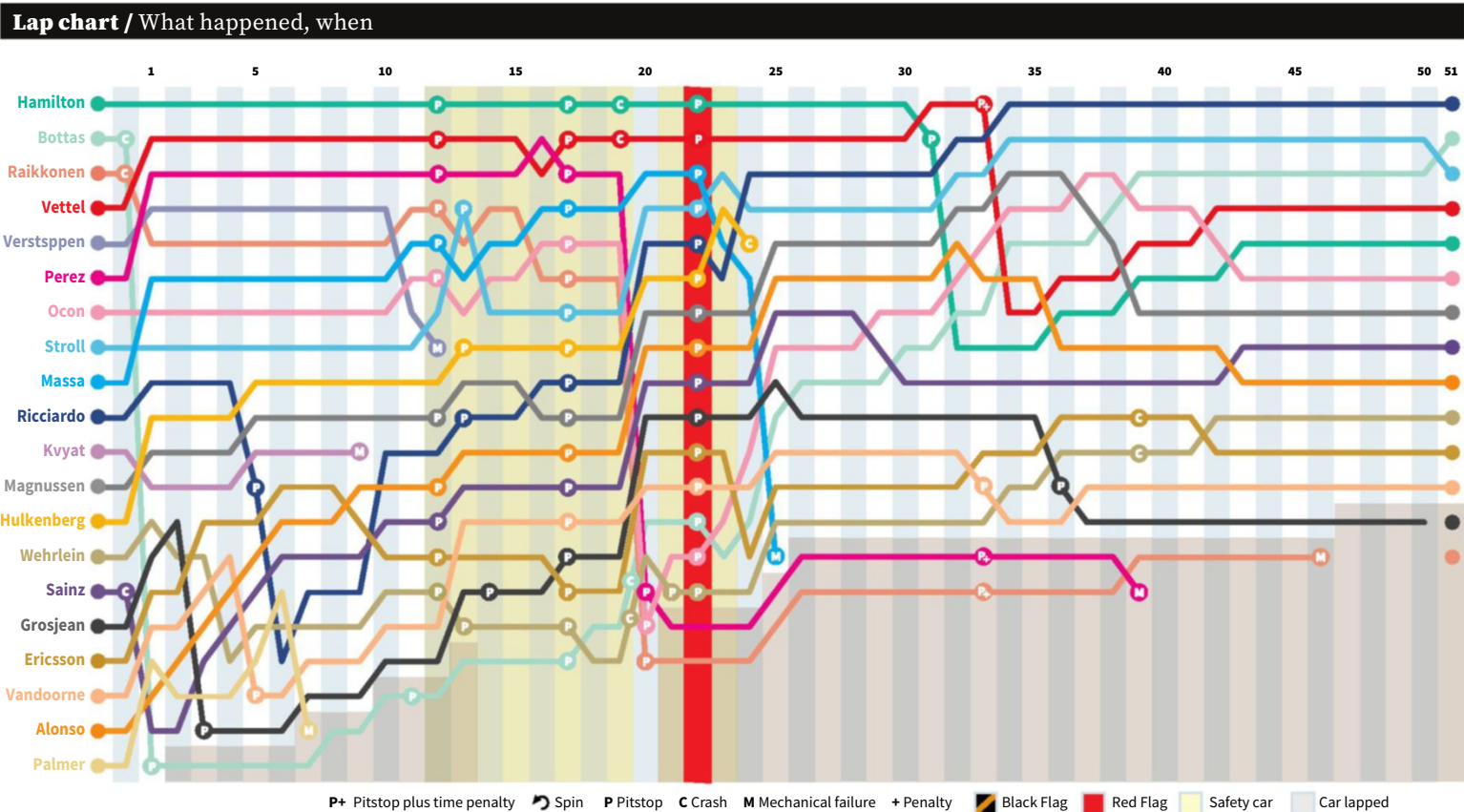
Perez's retirement means his 37-race finishing streak is over. The record is Heidfeld's 41

66

Hamilton's 66th pole moves him clear of Ayrton Senna in the all-time pole position list

708

Ricciardo passed the 700-points-scored barrier with his victory



12 Magnussen #20 1m43.796s	14 Wehrlein #94 1m44.603s	16 Grosjean #8 1m44.468s	18 Vandoorne #2 1m45.030s	20 Palmer #30 no time
13 Hulkenberg #27 1m44.267s	15 Sainz #55 1m43.347s	17 Ericsson #9 1m44.795s	19 Alonso #14 1m44.334s	

Qualifying 1

POS	DRIVER	TIME
1	Hamilton	1m41.983s
2	Verstappen	1m42.544s
3	Raikkonen	1m42.678s
4	Ricciardo	1m42.857s
5	Kvyat	1m42.927s
6	Vettel	1m42.952s
7	Bottas	1m43.026s
8	Ocon	1m43.051s
9	Perez	1m43.162s
10	Massa	1m43.165s
11	Sainz	1m43.489s
12	Stroll	1m43.613s
13	Hulkenberg	1m43.930s
14	Magnussen	1m44.029s
15	Wehrlein	1m44.317s
16	Alonso	1m44.334s
17	Grosjean	1m44.468s
18	Ericsson	1m44.795s
19	Vandoorne	1m45.030s
20	Palmer	no time

WEATHER Dry, sunny; track 48C, air 27C

Qualifying 2

POS	DRIVER	TIME
1	Hamilton	1m41.275s
2	Bottas	1m41.502s
3	Vettel	1m41.911s
4	Verstappen	1m41.961s
5	Raikkonen	1m42.090s
6	Ricciardo	1m42.215s
7	Stroll	1m42.284s
8	Perez	1m42.467s
9	Massa	1m42.735s
10	Ocon	1m42.751s
11	Kvyat	1m43.186s
12	Sainz	1m43.347s
13	Magnussen	1m43.796s
14	Hulkenberg	1m44.267s
15	Wehrlein	1m44.603s

GRID PENALTIES

VANDOORNE 30-place penalty for additional power-unit elements used; five-place penalty for replacing the gearbox
ALONSO 40-place penalty for additional power-unit elements used
SAINZ three-place penalty for causing a collision in Canadian GP

Qualifying 3

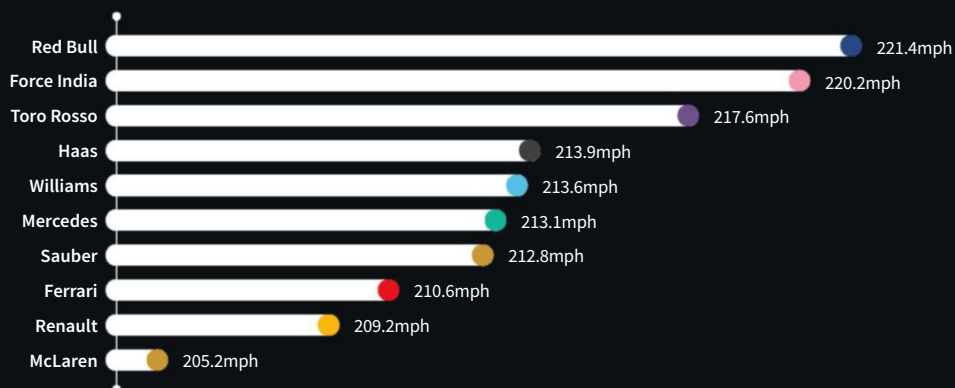
POS	DRIVER	TIME
1	Hamilton	1m40.593s
2	Bottas	1m41.027s
3	Raikkonen	1m41.693s
4	Vettel	1m41.841s
5	Verstappen	1m41.879s
6	Perez	1m42.111s
7	Ocon	1m42.186s
8	Stroll	1m42.753s
9	Massa	1m42.798s
10	Ricciardo	1m43.414s

RACE PENALTIES

PEREZ Drive-through penalty for car being removed from fast lane while race was suspended
RAIKKONEN Drive-through penalty for car being removed from fast lane while race was suspended
VETTEL 10-second stop-go penalty for colliding with Hamilton

SPEED TRAP

Fastest for each constructor in qualifying



Free practice 1

POS	DRIVER	TIME
1	Verstappen	1m44.410s
2	Ricciardo	1m44.880s
3	Vettel	1m44.967s
4	Perez	1m45.398s
5	Hamilton	1m45.497s
6	Bottas	1m45.737s
7	Ocon	1m45.752s
8	Massa	1m45.968s
9	Raikkonen	1m46.000s
10	Kvyat	1m46.617s
11	Stroll	1m46.649s
12	Magnussen	1m46.721s
13	Grosjean	1m46.837s
14	Hulkenberg	1m47.217s
15	Vandoorne	1m47.446s
16	Sainz	1m47.501s
17	Alonso	1m47.551s
18	Palmer	1m48.525s
19	Wehrlein	1m49.048s
20	Ericsson	1m49.937s

WEATHER Dry, sunny; track 54C, air 27C

Free practice 2

POS	DRIVER	TIME
1	Verstappen	1m43.362s
2	Bottas	1m43.462s
3	Ricciardo	1m43.473s
4	Raikkonen	1m43.489s
5	Vettel	1m43.615s
6	Stroll	1m44.113s
7	Perez	1m44.306s
8	Kvyat	1m44.321s
9	Ocon	1m44.484s
10	Hamilton	1m44.525s
11	Massa	1m44.609s
12	Alonso	1m45.515s
13	Sainz	1m45.733s
14	Magnussen	1m45.831s
15	Hulkenberg	1m46.003s
16	Palmer	1m46.061s
17	Vandoorne	1m46.174s
18	Wehrlein	1m47.150s
19	Ericsson	1m47.347s
20	Grosjean	1m47.722s

WEATHER Dry, sunny; track 44C, air 28C

Free practice 3

POS	DRIVER	TIME
1	Bottas	1m42.742s
2	Raikkonen	1m42.837s
3	Hamilton	1m43.158s
4	Ricciardo	1m43.287s
5	Ocon	1m43.344s
6	Verstappen	1m43.614s
7	Massa	1m43.738s
8	Kvyat	1m43.908s
9	Stroll	1m44.040s
10	Perez	1m44.138s
11	Hulkenberg	1m44.312s
12	Vettel	1m44.344s
13	Sainz	1m44.401s
14	Alonso	1m44.741s
15	Magnussen	1m44.926s
16	Vandoorne	1m45.143s
17	Grosjean	1m45.491s
18	Ericsson	1m45.645s
19	Wehrlein	1m45.722s
20	Palmer	1m53.040s

WEATHER Dry, sunny; track 56C, air 26C

SEASON STATS

Drivers' championship

1	Vettel	153
2	Hamilton	139
3	Bottas	111
4	Ricciardo	92
5	Raikkonen	73
6	Verstappen	45
7	Perez	44
8	Ocon	35
9	Sainz	29
10	Massa	20
11	Hulkenberg	18
12	Stroll	17
13	Magnussen	11
14	Grosjean	10
15	Wehrlein	5
16	Kvyat	4
17	Alonso	2
18	Palmer	0
19	Ericsson	0
20	Vandoorne	0
21	Giovinnazzi	0

Constructors' championship

1	Mercedes	250
2	Ferrari	226
3	Red Bull	137
4	Force India	79
5	Williams	37
6	Toro Rosso	33
7	Haas	21
8	Renault	18
9	Sauber	5
10	McLaren	2

Wins

Hamilton	3
Vettel	3
Bottas	1
Ricciardo	1

Fastest laps

Hamilton	4
Raikkonen	2
Perez	1
Vettel	1

Pole positions

Hamilton	5
Bottas	1
Raikkonen	1
Vettel	1

Qualifying battle

HAM	5	3	BOT
RIC	3	5	VER
VET	6	2	RAI
PER	7	1	OCO
STR	1	7	MAS
VAN	0	7	ALO
VAN	0	1	BUT
KVY	4	4	SAI
GRO	4	4	MAG
HUL	8	0	PAL
ERI	1	5	WEH
ERI	2	0	GIO

Nobody's perfect...

...but Hamilton, Magnussen and Stroll came closest in Baku

By Ben Anderson, Grand Prix Editor

[@BenAndersonAuto](#)

MERCEDES



9 LEWIS HAMILTON
Mercedes turned its Friday set-up problems around and Hamilton produced a mega qualifying performance. Hamilton controlled the race, even after Vettel drove into him twice, but a loose headrest cost him victory. The only fault is a slow in-lap that cost a place to Vettel in the final reckoning.

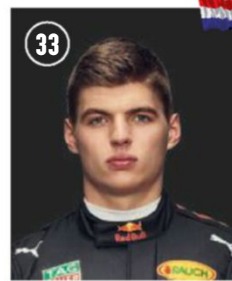


8 VALTTERI BOTTAS
Was much nearer to Hamilton's pace than it looked in qualifying and pole would have been a closer-run thing without a couple of small mistakes. Was hesitant on the brakes in first-lap collision with Raikkonen, but recovery was superb. Never gave up and impressively hung it out in successful late chase of Stroll.

RED BULL



8 DANIEL RICCIARDO
Struggled to hang on to the RB13 in low-downforce trim in the same way as Verstappen, and crunching the wall in Q3 would ordinarily have ruined his race. But this was no ordinary race. Rode his luck, but raced well and pulled off a stunning double pass of Massa and Stroll that ultimately bagged him victory.



8 MAX VERSTAPPEN
Has been in great form recently and drove well again – fastest on Friday and set to outqualify the Ferraris but for one small mistake and some engine and gearbox glitches. Fell behind Perez but was applying pressure when the car let him down again in the race, which Red Bull is convinced he would have won but for engine failure.

FERRARI



4 SEBASTIAN VETTEL
Ferrari's usual excellence with the tyres was missing and Vettel struggled to fourth in qualifying. There was no excusing what he did in the race. Vettel's petulant overreaction to Hamilton's restart tactics damaged his integrity and cost him victory, completely tainting an otherwise strong drive.



7 KIMI RAIKKONEN
After outqualifying Vettel for the second time in three races, Raikkonen's grand prix was a hard-luck story in a race of many. First-lap collision with Bottas was just one of those things, and Raikkonen was simply in the wrong place at the wrong time when the Force Indias came together, which cost him a big points haul.

FORCE INDIA

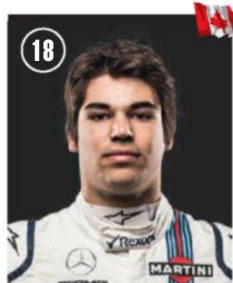


7 SERGIO PEREZ
Squeaked ahead of Ocon in qualifying, though the team felt both drivers underperformed. A strong first lap put Perez in the driving seat behind Hamilton and Vettel, but he lost ground to Massa at the second restart, then collided with Ocon at the exit of Turn 2, which spoiled a golden chance for Force India to finish on the podium.



7 ESTEBAN OCON
Rate of progress is impressive, and a slightly tidier run through Turn 3 would have qualified him ahead of Perez on his Baku debut. Squeezing Perez on the exit of Turn 2 looked a minor misjudgement that had major consequences in the race, but Ocon blamed his team-mate for starting it. Later recovered strongly to sixth.

WILLIAMS



9 LANCE STROLL
Stroll appears a driver transformed. Points in Canada boosted his confidence and private test in his 2014 Williams between races gave him a better set-up direction for Baku. Form was strong through free practice, he narrowly outqualified Massa for the first time, and drove with composure to bag a maiden podium finish.



8 FELIPE MASSA
Massa looked good in practice, but felt the grip went away in qualifying without extra preparation laps to build tyre temperature, and he came perilously close to disaster several times. Drove well in the race, running ahead of Stroll until a rear-damper failure locked his suspension solid and robbed him of a certain podium finish.

McLAREN



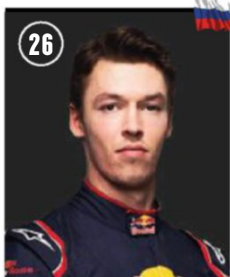
6 STOFFEL VANDOORNE
Qualified well behind Alonso, which was disappointing considering he was much closer after the first runs in Q1. Mixed it with his team-mate initially in the race, but had to pit early and fell back through the restarts. Should have finished 10th, but a flat-spot forced an extra stop and set up a fruitless late chase of the Saubers.



8 FERNANDO ALONSO
Alonso was a sniff away from Q2 here, even without the benefit of Honda's new 'spec 3' engine that he sampled in practice, but a multitude of grid penalties made it a pointless exercise in any case. Raced valiantly with faster cars and lucked his way up to fifth at one point, but ultimately the car regressed to its natural level.



TORO ROSSO

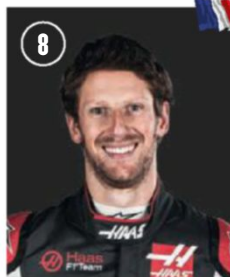


8 DANIIL KVIAT
Kvyat is very strong here and lapped in the top 10 throughout free practice, but the Toro Rosso was always going to struggle to make Q3 without a big aero tow on Baku's long straights. Ran wide at Turn 1 after the start and almost collided with Sainz, but was racing Magnussen (who finished seventh) before the car broke down.



6 CARLOS SAINZ JR
Was never really at the races this weekend, struggling for confidence in the car, so was relieved to be told a couple of incorrect settings were found after qualifying. Recovered from a first-corner spin trying to avoid his team-mate to bag points again. Should have finished one place further up without that incident.

HAAS

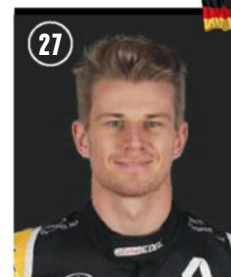


5 ROMAIN GROSJEAN
A torrid weekend for Grosjean, who struggled with a Sochi-like lack of feeling under braking. Was very honest in admitting he needs to do better driving around the problem until it's fixed. Would have finished 10th without the suspected left-front brake-disc problem that made the second half of his grand prix a nightmare.

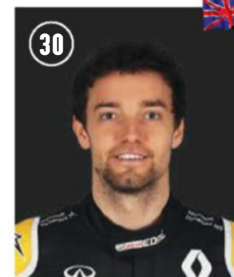


9 KEVIN MAGNUSSEN
Is coping better than Grosjean with persistent brake problems and drove very well on a tough weekend for the team. Qualified as high up as could be expected and kept his nose clean as others faltered in the race. Got up to third, but was never going to hang on to a podium. Seventh was the best result possible in the circumstances.

RENAULT

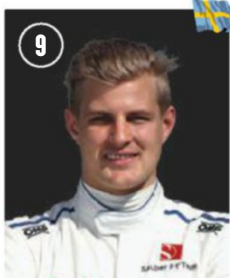


6 NICO HULKENBERG
Hulkenberg coped admirably with a difficult car, which shut down on him before he could flex his muscles in Q2. Raced very well initially and was fighting with Stroll and Massa in the top six until a terrible lapse of judgement at Turn 7 broke the car. Can only blame himself for squandering a decent haul of points for Renault.



N/A JOLYON PALMER
It's impossible to rate Palmer's performance, as the car let him down too often. Had to skip qualifying thanks to a fuel fire in final practice and an ignition problem en route to the grid spoiled his race. Admits Hulkenberg has been on another level this year, but never got to find out how close he could get here.

SAUBER



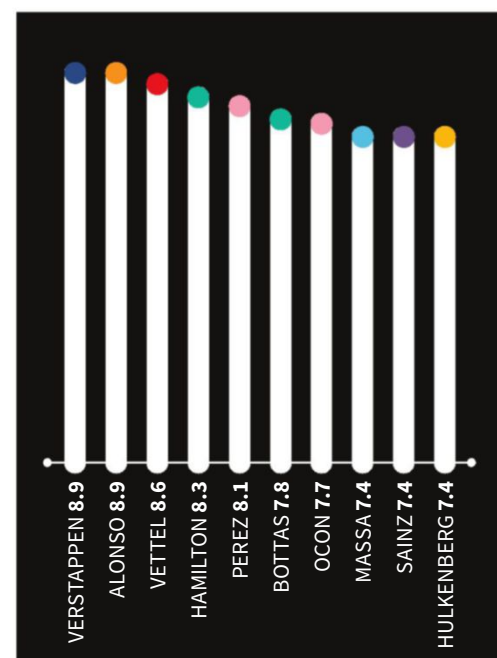
7 MARCUS ERICSSON
Paid for not getting the tyres up to temperature on his first qualifying run and flat-spotting them, but drove well in the race. Battled hard with Vandoorne and Wehrlein and was desperate to hang on for a first F1 point, but floor damage slowed him down and he followed team orders to cover Vandoorne's late charge.



8 PASCAL WEHRLEIN
Sauber was cast adrift on Friday, but adding downforce allowed Wehrlein to get the tyres working and he heroically dragged the car into Q2. Early part of his race was spoiled by an engine problem, but with that corrected was back up to speed and would probably have passed Ericsson's hobbled car even without team orders.



TOP 10 AVERAGE RATING





Dixon the magician is

He shouldn't have beaten the four Penske cars, but the Ganassi star picked them off in a stunning drive at Road America

By David Malsher, IndyCar Correspondent

[@David Malsher](#)

Chip Ganassi saw his dreams turn to ashes in last Sunday's NASCAR Cup race at Sonoma, California, after Kyle Larson and Jamie McMurray locked out the front row on the road course, but finished the race 26th and 10th respectively. Over in Azerbaijan, Honda powered McLaren's Fernando Alonso to his first points in an otherwise desperate season.

But in Elkhart Lake, Wisconsin, the combination of Chip Ganassi Racing and Honda created magic that shredded the pre-race form guide at Road America.

And the conjuror, inevitably and deservedly, was four-time IndyCar Series champion Scott Dixon.

The Team Penske Dallara-Chevrolets of Helio Castroneves (scoring his 50th career pole), Will Power, Josef Newgarden and Simon Pagenaud had occupied the first four places on the grid. Dixon started fifth but had been 1.6 seconds slower than the polesitter, a huge gap by IndyCar standards, even taking into account the fact that the 4.014-mile Road America — the Spa-Francorchamps of the States — is far and away the longest track on the schedule. Surely this was the Penske drivers' race to lose. And somehow they did.

The blame shouldn't be dumped on the four aces in the cockpits though.

Dixon was leading Rahal and Pagenaud early in the race. Then the charge started

Whether Dixon was being too modest about his own contribution to the result, or whether he was trying to play up his car's advantage and thereby outpsyche the four Penske pilots, his comments suggested he felt he had a clear car advantage in race trim, largely down to Honda Performance Development's engines having more torque and better fuel economy.

And fuel economy was very important here. IndyCar lengthened the race by five laps this year, in order to try to force the drivers into a four-stop strategy. Right idea, poor execution, argued the drivers, who said that, without caution periods, a three-stop strategy would still be far quicker — 28 seconds quicker, according to Graham Rahal — given the yawningly



miracle man

LAT IMAGES

long pitlane at Road America. All IndyCar's race extension had done, therefore, was make the fuel-saving requirements more acute.

Now, with the possible exception of Power, Dixon is without peer at saving fuel while going fast. So if there was anyone likely to go a lap longer on a stint, it was him. But the New Zealander suggested that, in fact, he was merely maximising an inherent Honda

hard to get the mileage number with their engine. So I think that definitely helped us. They couldn't run flat-out like we could in some of the scenarios."

That Dixon was even in the position to challenge them was something of a minor miracle. On the Saturday night, his anxious crew members were spending a lot of time staring into the fuel filler as some foreign matter had fallen into the fuel cell. Then on raceday, Dixon

"The Honda engine's very strong. They don't really have to turn it down for the race"

advantage. "Huge credit to Honda," he said post-race. "The engine's very strong. They don't really have to turn it down for the race. To get the fuel mileage as well is always very difficult when you're making so much power.

"[The Penske Chevys] were able to turn up to similar performance when they needed to earlier in the race, but we don't have to detune as much as they do. I think they were having to save fuel pretty

sat out the entire warm-up session with a separate issue.

"We just couldn't get fuel pressure," he explained. "The difficult part was that you can't replicate it inside the pits. It was third, fourth or fifth gear, where it was causing the starvation.

"We were trying to run the car at high rpm while dragging the brakes in the pits before the race to try to rectify the issue. It wasn't until the warm-up lap we could



These were the only clouds on Dixon's horizon at the finish

really figure out that they fixed the issue."

With that sense of uncertainty troubling him, Dixon made a strong start. Castroneves got away cleanly, Power bogged down slightly, which allowed Newgarden into second and held up Pagnaud who, unlike the majority of his rivals, started on the harder black tyre compound. Dixon was thus past one Penske car already, and recovered from being squeezed onto the grass by the »



fast-starting Rahal. Dixon's proximity occasionally forced Power into defence mode, but Dixon wasn't going to force the issue; instead he just saved fuel. When Castroneves, Power and Pagnaud pitted from first, third and fifth on lap 13, Newgarden and Dixon were able to go a lap longer and Dixon emerged ahead of Power, who had lost some time on his out-lap dueling with the off-strategy (four-stopping) Alexander Rossi, who was flying along on the 'red', softer tyres.

The same tactics almost got Newgarden ahead of Castroneves too, but on warm rubber the veteran passed his young team-mate without trouble. At the start of lap 20, however, Newgarden was able to pass Castroneves around the outside of Turn 1 to snatch the lead. Behind, the other Penskes had swapped places too, but only after Power, now on black tyres, was adjudged by race control to have blocked Pagnaud, on the faster reds, and been forced to relinquish a place.

At the second round of pitstops, Newgarden and Dixon were able to do it again — go one lap longer than Castroneves, Pagnaud and Power — and this time it was Castroneves who fell to Dixon's sword. He was up to second and on the red tyres, behind Newgarden who was on blacks. But the two-second gap between them was eradicated in an instant: Takuma Sato, who had qualified near the back, hurt his neck in Saturday practice and thus missed the Sunday morning warm-up, had dropped it on cold tyres at Turn 11 and stalled. That brought out the race's first full-course caution on lap 29.

On the restart two laps later, Dixon therefore had tyres that were easier to bring up to temperature, and he was ready to go. Push-to-pass isn't allowed

on restarts, but he was firmly in Newgarden's slipstream coming up the hill and, although Penske's young pup protected the inside line, Dixon had enough momentum to swing to the outside and sweep around him to grab the lead. If he could do that despite the notably draggier road-course aerokit of the Honda, that HPD unit is putting out some serious grunt, as Dixon concurred.

"I think what contributed to that was the torque of the engine," he said. "Obviously in these lower gears out of the last corner, that enabled us to get close to Josef, get in the draft, get beside him. We kind of petered out towards the end [of the straight]. You can't use overtake on the restarts, so we weren't able to clear the #2 car; I knew it was going to get interesting. But I knew he's a guy that you can race with cleanly. It was one of those situations where we both gave each other room."

And that was it, job done. Newgarden, still struggling to get his tyres up to temperature, lost second too, to Castroneves, but the polesitter had

Castroneves and Newgarden battled at the front early on

nothing for the Ganassi car out front and had fallen four seconds behind by the time he made his final stop with 14 laps to go. The Brazilian didn't quite get the out-lap he wanted either, so that when all the other frontrunners pitted a lap later, although he was able to comfortably clear Pagnaud and Power, Castroneves didn't quite have the momentum this time to get around Newgarden.

The Penske drivers got another chance to tackle Dixon after a second full-course caution flew with nine laps remaining. One of Dixon's Ganassi team-mates, Tony Kanaan, had made hard contact with the barrier at the Kink, after clashing with Rossi, losing his left-front wing, and therefore costing him vital downforce at one of the fastest turns on the course. The two laps of yellow that followed alleviated the drivers' fuel worries, and everyone trackside waited for a no-holds-barred fight to the end between Dixon and the four Penske cars, but that's not what we got. Instead, only Newgarden gave chase, while Castroneves had to consolidate third and quite legitimately bottled up Pagnaud and Power, who looked too tentative to risk any bold move on a team-mate.

Newgarden chipped away at Dixon's lead and had more push-to-pass boost left, but never got close enough to take a serious lunge, and crossed the line just under 0.6s adrift.

And so Dixon scored the first win for the reformed Ganassi-Honda pairing, and further extended his points lead — one that he built despite being classified almost last in the double-points Indy 500 and being eliminated from a possible victory run at Texas Motor Speedway. Ignore anyone who tells you he's not the favourite for the title this year. 🌟



Rossi was quickest of those on a four-stop strategy



Gutierrez is in at Dale Coyne Racing for the rest of 2017



Kimball came through for a strong sixth

HONDA UPS AND DOWNS

HONDA'S TWO FOUR-CAR TEAMS SUFFERED some truly odd twists in fortunes last weekend at Road America.

At Chip Ganassi Racing, Scott Dixon was gutted by qualifying, but obviously turned things around to perfection on raceday. Max Chilton was encouraged by qualifying seventh for the second straight year at this track, but fell backward from a top-eight finish in the last stint, unable to make his tyre strategy work. Charlie Kimball was solid, converting 10th on the grid into a strong sixth place.

Tony Kanaan was the only CGR driver to suffer total disaster, losing his way on set-up in qualifying, and then crashing out of the race.

His equivalent on the Andretti Autosport team was Takuma Sato, who was never on the pace this weekend. His team-mates, though, veered wildly between promise and despair. Alexander Rossi topped first practice, while Ryan Hunter-Reay spun into the Turn 14 gravel. In FP2, it was Rossi's turn to drop it at T14. In Saturday practice Marco Andretti went sixth quickest and then he qualified eighth – fastest of the AA cars – as Rossi encountered an engine issue that meant he'd start 15th, and Hunter-Reay had an inexplicable gripless-tyre issue that left him 12th.

Come the race, Rossi went for a four-stop strategy that catapulted him to prominence on occasion, but he ultimately lost a top-eight finish when a bolt broke in his front-wing assembly, costing him a lot of downforce in fast turns. Hunter-Reay stuck with three stops, charged hard, and might have beaten Kimball to sixth but also suffered a front-wing failure in those last seven laps; it was rudely chopped off by the Ganassi driver! And Andretti, the driver on the team who most needs a good result, almost from the start found his throttle kept jamming open, sending him off-track. When he pitted to have the issue resolved, he discovered it had also deleted his pitlane speed limiter... Cue drivethrough penalty for speeding; cue yet another day of anonymity for the third-gen driver (below).



RESULTS ROUND 9/16, ROAD AMERICA (USA), JUNE 25, 55 LAPS – 220.770 MILES

POS	DRIVER	TEAM/CAR	TIME
1	Scott Dixon (NZ)	Chip Ganassi Racing · Dallara-Honda	1h47m18.9870s
2	Josef Newgarden (USA)	Team Penske · Dallara-Chevrolet	+0.5779s
3	Helio Castroneves (BR)	Team Penske · Dallara-Chevrolet	+4.1918s
4	Simon Pagenaud (F)	Team Penske · Dallara-Chevrolet	+4.9721s
5	Will Power (AUS)	Team Penske · Dallara-Chevrolet	+5.7227s
6	Charlie Kimball (USA)	Chip Ganassi Racing · Dallara-Honda	+14.7178s
7	Ed Jones (UAE)	Dale Coyne Racing · Dallara-Honda	+21.6338s
8	Graham Rahal (USA)	Rahal Letterman Lanigan Racing · Dallara-Honda	+22.2273s
9	Max Chilton (GB)	Chip Ganassi Racing · Dallara-Honda	+23.3076s
10	Mikhail Aleshin (RUS)	Schmidt Peterson Motorsports · Dallara-Honda	+24.3586s
11	Carlos Munoz (CO)	AJ Foyt Enterprises · Dallara-Chevrolet	+26.1402s
12	Spencer Pigot (USA)	Ed Carpenter Racing · Dallara-Chevrolet	+33.4983s
13	Alexander Rossi (USA)	Andretti Herta Autosport · Dallara-Honda	+38.1370s
14	Ryan Hunter-Reay (USA)	Andretti Autosport · Dallara-Honda	+39.8433s
15	Conor Daly (USA)	AJ Foyt Enterprises · Dallara-Chevrolet	+43.1988s
16	JR Hildebrand (USA)	Ed Carpenter Racing · Dallara-Chevrolet	+1m16.5039s
17	Esteban Gutierrez (MEX)	Dale Coyne Racing · Dallara-Honda	+1m28.4634s
18	Marco Andretti (USA)	Andretti Autosport · Dallara-Honda	-1 lap
19	Takuma Sato (J)	Andretti Autosport · Dallara-Honda	-1 lap
20	James Hinchcliffe (CDN)	Schmidt Peterson Motorsports · Dallara-Honda	-2 laps
21	Tony Kanaan (BR)	Chip Ganassi Racing · Dallara-Honda	44 laps-accident
NS	Robert Wickens (CDN)	Schmidt Peterson Motorsports · Dallara-Honda	Fri sub for Aleshin

Winner's average speed 123.431mph. **Fastest lap** Newgarden 1m43.4651s, 139.664mph.

Q3 1 Castroneves 1m41.3007s; 2 Power 1m41.3611s; 3 Newgarden 1m41.6608s; 4 Pagenaud 1m42.0385s; 5 Dixon 1m42.9308s; 6 Rahal 1m45.0464s.

Q2 Castroneves 1m41.8260s; Newgarden 1m42.0044s; Power 1m42.1811s; Pagenaud 1m42.2853s; Dixon 1m42.6584s; Rahal 1m42.6954s; 7 Chilton 1m42.7566s; 8 Andretti 1m42.8614s; 9 Hinchcliffe 1m43.2105s; 10 Kimball 1m43.3221s; 11 Jones 1m43.7959s; 12 Hunter-Reay 1m43.9786s.

Q1 – GROUP 1 Pagenaud 1m41.9478s; Castroneves 1m42.0758s; Dixon 1m42.0824s; Kimball 1m42.4088s; Jones 1m42.7865s; Hinchcliffe 1m42.7941s; 14 Pigot 1m42.8875s; 16 Kanaan 1m42.9077s; 18 Hildebrand 1m42.9132s; 20 Sato 1m43.4111s; 21 Daly 1m44.1579s.

Q1 – GROUP 2 Power 1m41.5032s; Newgarden 1m42.2200s; Hunter-Reay 1m42.5181s; Chilton 1m42.6074s; Rahal 1m42.6474s; Andretti 1m42.7931s; 13 Munoz 1m42.9039s; 15 Rossi 1m43.0171s; 17 Gutierrez 1m43.1652s; 19 Aleshin 1m43.8891s.

CHAMPIONSHIP

1 Dixon 379; 2 Pagenaud 345; 3 Castroneves 342; 4 Sato 323; 5 Newgarden 318; 6 Power 316; 7 Rahal 307; 8 Kanaan 273; 9 Rossi 271; 10 Jones 254.



Penalty denies Leclerc a perfect performance

FORMULA 2
BAKU (AZ)
JUNE 24-25
ROUND 4/11

A YEAR ON FROM ITS CALAMITOUS FIRST visit to the Baku street circuit as GP2, the Formula 2 field arrived in the city with the adventures of racing thrown into perspective by the death of championship leader Charles Leclerc's father, Herve, just three days earlier.

But the Formula 1 support series put on a tremendous show and Leclerc emerged with a pole, two fastest laps, and very nearly two victories. Only a sprint-race time penalty stopped him from completing a perfect weekend.

"I've said it before but I'll never stop saying thanks to my father for everything he did for me, and I dedicate this win to him," the 19-year-old said after his triumph in a chaotic feature race.

In that encounter, Leclerc led away from a fourth consecutive F2 pole and was starting to edge clear when the first of three safety cars neutralised the race after Johnny Cecotto, who had stalled on the grid, stuffed his Rapax car into the Turn 2 barriers.

Leclerc dropped Nicholas Latifi at the restart, where the DAMS driver was passed by Nyck de Vries for second place, and he swapped his fragile super-soft rubber for mediums on lap seven. He lost time braking to avoid the fast-arriving Nobuharu Matsushita in the pitlane and de Vries closed the gap, but was unable to make a move due to the time it took to get his own fresh tyres up to temperature.

The race was briefly interrupted for a second time when Nabil Jeffri crashed out, but although his car was swiftly recovered under the virtual safety car, the next incident – Louis Deletraz crashing out at the exit of Turn 2 – required a full neutralisation.

Leclerc was now second behind Luca Ghiotto, who had yet to pit after starting last, and did not risk an aggressive move when the race restarted. This allowed de Vries to close right up on the Ferrari Formula 1 junior driver, but their short three-way scrap ended when Ghiotto came in.

It looked as if the race would conclude without further drama but, while the leaders had no more issues, a scrap between Sean Gelael, Sergey Sirotkin, Gustav Malja and Matsushita ended when Gelael hit the wall at the tight Turn 8 and left the cars behind him nowhere to go. The wreckage blocked the track and, although a third safety car was deployed, red flags were eventually shown and Leclerc's third win of 2017 was confirmed in the pitlane.

De Vries finished second ahead of Latifi and Oliver Rowland, who lost fourth after the race due to a quirk of the long Baku track. The stewards deemed he had failed to slow for the yellow flags that were out for Jeffri's crash and although Rowland protested that he had – "I backed off six-seven tenths, so more than enough" – he set a personal best sector due to the length of the track's second timing segment and was guilty under the letter of the law.

That rule was to have massive implications in race two, which, if anything, was more dramatic.



First Rowland, who had moved up to second for the reversed-grid race due to his penalty, muscled his way past polesitter Ralph Boschung. But the Briton's lead did not last long as a gearbox problem forced him out at one-third distance. That handed the lead to Norman Nato – the Frenchman surviving a clash when passing Boschung with only front-wing damage.

Leclerc was mired in the pack after starting eighth, and in front of him de Vries roared up from seventh on the grid to run second. But the McLaren F1 junior plunged off the track at Turn 3 and could not get going again.

Leclerc then began a scintillating charge, dispatching first Artem Markelov, then Sirotkin and Boschung in a double move, and Jordan King using DRS on successive laps.

Now third, 10 seconds behind Nato, he began setting fastest laps with ease in clear air.

The Monegasque dispatched Latifi to take second, but just as he caught Nato it was announced that he was under investigation for failing to slow for yellow flags – the same offence that had frustrated Rowland the day before.

Leclerc did move into the lead on the road with three laps to go, but just moments later a 9s time penalty was confirmed and his chances of emulating Antonio Giovinazzi's double in Baku for Prema in 2016 disappeared. He crossed the line in first, but the win was Nato's.

Latifi was too far behind to capitalise on Leclerc's penalty and so stayed third. King finished fourth, but was later disqualified when his tyres were found to have below the minimum pressures required by Pirelli.

Leclerc, who admitted to being understandably less confident ahead of qualifying, was philosophical, despite the penalty: "I'm just very satisfied with how it ended after a difficult first part of the weekend."

He left Baku with a 42-point lead over the luckless Rowland.

ALEX KALINAUCKAS

Leclerc's fourth pole in a row was a career-first feat; he led at the start of race one

RESULTS ROUND 4/11, BAKU (AZ), JUNE 24-25 (24 LAPS – 89.458 MILES)

POS	DRIVER	TEAM	TIME
1	Charles Leclerc (MC)	Prema Racing	52m33.196s
2	Nyck de Vries (NL)	Rapax	+3.469s
3	Nicholas Latifi (CDN)	DAMS	+6.390s
4	Artem Markelov (RUS)	Russian Time	+11.694s
5	Norman Nato (F)	Pertamina Arden	+17.074s
6	Jordan King (GB)	MP Motorsport	+18.570s
7	Oliver Rowland (GB)	DAMS	+19.090s
8	Ralph Boschung (CH)	Campos Racing	+21.348s
9	Sergio Canamasas (E)	Trident	+22.870s
10	Sergey Sirotkin (RUS)	ART Grand Prix	+24.042s
11	Gustav Malja (S)	Racing Engineering	+24.828s
12	Nobuharu Matsushita (J)	ART Grand Prix	+25.696s
13	Sergio Sette Camara (BR)	MP Motorsport	+29.675s
14	Sean Gelael (RI)	Pertamina Arden	+33.101s
15	Robert Visoiu (RO)	Campos Racing	+33.320s
16	Luca Ghiotto (I)	Russian Time	+49.207s
R	Louis Deletraz (CH)	Racing Engineering	11 laps-accident
R	Nabil Jeffri (MAL)	Trident	9 laps-accident
R	Antonio Fuoco (I)	Prema Racing	6 laps-accident
R	Johnny Cecotto Jr (V)	Rapax	0 laps-accident

Winner's average speed 102.133mph. Fastest lap Leclerc 1m54.025s, 117.766mph.

QUALIFYING

1 Leclerc 1m52.129s; 2 Matsushita 1m52.697s; 3 Latifi 1m52.865s; 4 de Vries 1m53.018s; 5 Markelov 1m53.135s; 6 Fuoco 1m53.220s; 7 Cecotto 1m53.313s; 8 Canamasas 1m53.354s; 9 Rowland 1m53.479s; 10 Visoiu 1m53.670s; 11 Sette Camara 1m53.853s; 12 Nato 1m53.900s; 13 Gelael 1m54.032s; 14 Malja 1m54.286s; 15 King 1m54.295s; 16 Boschung 1m54.339s; 17 Sirotkin 1m54.384s; 18 Deletraz 1m54.688s; 19 Jeffri 1m54.857s; 20 Ghiotto 2m06.148s.

RACE 2 (21 LAPS – 78.267 MILES)

1 Nato 40m37.601s; 2 Leclerc +8.717s; 3 Latifi +11.574s; 4 Sirotkin +12.792s; 5 Markelov +12.890s; 6 Matsushita +14.472s; 7 Ghiotto +16.888s; 8 Boschung +21.387s; 9 Sette Camara +27.343s; 10 Gelael +27.827s; 11 Visoiu +31.612s; 12 Fuoco +32.664s; 13 Malja +34.645s; 14 Cecotto +35.789s; 15 Canamasas +49.243s; 16 Deletraz +57.152s; 17 Jeffri +1m38.931s; EX King +12.505s-tyre pressures; R de Vries 8 laps-accident; R Rowland 7 laps-gearbox.

Winner's average speed 115.589mph. Fastest lap Leclerc 1m53.635s, 118.170mph.

GRID FOR RACE 2

Decided by result of Race 1, with top eight finishers reversed.

CHAMPIONSHIP

1 Leclerc 122; 2 Rowland 80; 3 Markelov 78; 4 Ghiotto 58; 5 Latifi 53; 6 Matsushita 52; 7 de Vries 45; 8 Nato 43; 9 King 37; 10 Alexander Albon 37.



Leclerc dedicated pole and win to his father Herve



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Rossi defeated Petrucci to claim his 89th top-level win



LAT IMAGES

Resurgent Rossi roars into title hunt

MOTOGP
ASSEN (NL)
JUNE 24-25
ROUND 8/18

THE FACT VALENTINO ROSSI HAD gone more than a year without a race win had once again raised the question of just how much longer the seven-time champion would be a force in MotoGP.

Indeed, the debate over whether he still has the pace to cut it at the front of this ultra-competitive series will probably continue to rage until his retirement, but yet again the 38-year-old came up with the perfect response to his critics in Assen last weekend.

His eighth Dutch TT win, which came after an exhilarating duel with Pramac Ducati rider Danilo Petrucci in tricky conditions, catapults him back into the thick of the title fight too, especially after his Yamaha team-mate Maverick Vinales crashed out of the race.

It had been another Yamaha rider, Johann Zarco, who stole the show in a wet qualifying session. The Tech3 rookie

beat Marc Marquez, Petrucci and Rossi to secure the first pole of his top-line career and his team's first since Brno in 2013.

Zarco proved he was rapid in the dry too, as he led the way for the first 11 laps until being passed by Rossi. But then the Moto2 champion faded and was fifth when he became the first man to dive into the pits for his wet-shod second bike when rain began to fall in the latter stages.

That left four at the front vying for the win, with Rossi heading Petrucci, Andrea Dovizioso and Marquez, but the first two soon broke clear to make it an all-Italian dice for glory.

Petrucci nosed ahead with four laps of the 26 remaining, but was soon repassed by Rossi. Petrucci was then held up by backmarkers – namely Hector Barbera and Alex Rins – on the final two laps. This thwarted any chance of what would have been another famous underdog Assen win to follow up Jack Miller's 2016 triumph for the Marc VDS squad.

Seemingly reinvigorated by the new Yamaha chassis he tried in testing after

a torrid Barcelona outing, Rossi is only seven points away from the top of the standings, a position now held by Dovizioso – the first Ducati rider to head the MotoGP points since Casey Stoner in 2009. Dovizioso looked like making it a hat-trick of consecutive race wins at one stage as he surged forwards in the drizzle, but eventually came off worst in a tight three-way battle for the last podium spot with Honda duo Marquez and Cal Crutchlow.

Dovizioso had been right behind Vinales when the Spaniard made his dramatic exit at the final chicane. The Yamaha rider said afterwards that he was lucky to avoid being hit by the man who took his place at the top of the points table.

For the other works Ducati of Jorge Lorenzo, the Assen weekend was a disaster. The three-time champion took his worst-ever premier class grid slot when he toiled to 21st in the rain on Saturday, and could only manage 15th in the race after pitting for his 'wet' bike.

He ended up one place behind Zarco, who suffered the indignity of being handed a ridethrough penalty for speeding in the pits during his bike swap – an unfortunate end to what had been yet another mightily impressive performance on the Tech3 bike.

But while Zarco's rookie campaign has been one of the stories of 2017 so far, it was by far the most experienced man in the field who shone brightest at Assen when it really mattered. It seems unlikely Rossi will have to wait another year for his next MotoGP victory.

JAMIE KLEIN

AT A GLANCE

- 1 Rossi Yamaha
- 2 Petrucci Ducati
- 3 Marquez Honda

➔ **P43 RESULTS**



Former points leader Vinales crashed out of fifth place

Early stop crucial to Bentley win

BLANCPAIN ENDURANCE CUP

PAUL RICARD (F)

JUNE 24

ROUND 3/5

BENTLEY CLAIMED ITS FIRST Endurance Cup win for three years in the Blancpain GT Series last Saturday evening's Paul Ricard 1000km. Vincent Abril, Andy Soucek and Maxime Soulet took that honour aboard the #8 M-Sport Continental GT3 at the end of a topsy-turvy event in which no fewer than five manufacturers hit the front.

The race split in two, strategically, just over 30 minutes into the six-hour event when a full-course yellow virtual safety car, which morphed into a safety car proper, triggered a round of pitstops. The winning Bentley was among the early stoppers, while the factory Black Falcon Mercedes-AMG GT3, in which Yelmer Buurman had converted his pole position into the lead of the race, stayed out.

With a maximum drive time of 65 minutes between fuel stops, the yellows came out just early enough for the cars to reach the finish on five stops. Black Falcon reckoned it would be marginal and opted to leave Buurman out in the Merc he shared with Adam Christodoulou and Luca Stolz. The two Rowe BMW M6 GT3s, which had qualified in 12th and 24th places, were left out on track, too.

The early and late stoppers took turns at the front as the strategies of the two groups played out. Soucek brought the Bentley through to the front of the 'early' group at the start of hour four, ahead of Michele Rugolo in the AF Corse Ferrari 488 GT3 he shared with Alessandro Pier Guidi and Pasin Lathouras.

The winning Bentley was on the right strategy



SRO/DIRK BOGAERTS/PHOTOGRAPHY

It slowly became clear that stopping early had been the correct call. Soulet was just 14 seconds behind the Black Falcon Merc when it pitted for the final time with 40 minutes to go. That handed the Bentley a lead of just over 30 seconds over the chasing SMP Racing Ferrari.

The Black Falcon Merc was a further 48s behind, but the German team's strategic conservatism turned out to be academic. The car stopped with transmission failure before the end.

"The car was perfect and everything went according to plan," said Soulet. "We stopped early under the full course yellow, which was the key today. It was a risk, but it paid off."

The SMP Ferrari shared by Miguel Molina, Victor Shaytar and Davide Rigon arguably had the pace to win round three of the 2017 Endurance Cup, but the Franco-Russian team didn't quite play it correctly on strategy by not bringing Shaytar in for the car's first stop until the

safety car was out. The time lost by the car Rigon had qualified on the front row could never be made up.

The #50 AF Corse Ferrari remained in the mix until the final hour when fuel problems relegated it to 23rd.

The two BMWs also hit trouble. Philipp Eng had moved past Stolz into what became the lead in the second hour, only for the car in which the Austrian was joined by Alexander Sims and Maxime Martin to retire with suspension problems just after three hours. The second of two punctures did for the sister car driven by Bruno Spengler, Markus Palmtala and Tom Blomqvist.

The factory WRT Audi R8 LMS shared by Rene Rast, Nico Muller and Antonio Garcia came through to third from 10th on the grid. Rast was able to fight past Alex Buncombe in the #23 RJN Nissan GT-R NISMO GT3 and then Daniel Juncadella in the #88 Auto Sport Promotion Merc during the closing stages to take the final podium spot.

Juncadella, who shared the ASP car with Felix Serralles and Renger van der Zande, took fourth. The Nissan in which Katsumasa Chiyo and Lucas Ordóñez joined Buncombe took fifth.

Grasser Lamborghini drivers Mirko Bortolotti, Christian Engelhart and Andrea Caldarelli, winners of the first two BGTS enduros, ended up 13th at the finish. The Lambo, running 15kg heavier under the Balance of Performance than at Silverstone, qualified 20th and a one-minute stop-go for avoidable contact left the trio of factory drivers with little chance of making the top 10.

Pro Am honours went to the Barwell Lambo driven by Adrian Amstutz, Martin Kodric and Patrick Kujala for a second BGTS endurance race in a row.

GARY WATKINS

AT A GLANCE

1 Soucek/Soulet/Abril

Bentley

2 Shaytar/Molina/

Rigon Ferrari

3 Garcia/Muller/Rast

Audi

➔ P43 RESULTS

The Bentley crew scored the first non-Lambo Blancpain enduro win of 2017



VISIONSPORT AGENCY



Abbring wins after Neuville rolls

BRITISH RALLY CHAMPIONSHIP
YPRES RALLY (B)
JUNE 23-24
ROUND 4/7

WORLD RALLY CHAMPIONSHIP DRIVER Thierry Neuville proved that the Ypres Rally can bite at any time.

In a one-off outing at the Belgian event – part of the British Rally Championship for the first time – he rolled out of the lead on SS6 on day one, giving up a 20-second lead. “I just came in too fast and didn’t expect so much gravel,” he said.

Instead, Kevin Abbring and regular Ypres frontrunner Bryan Bouffier then fought for the win in a class of their own. The latter led until SS16 when he went off carrying too much

speed into a tight right-hander, causing some damage to his gearbox.

He then began a huge fightback, but Abbring was able to see him off by just eight seconds.

Keith Cronin was the highest placed BRC regular in seventh place overall.

JACK BENYON

RESULTS

1 Kevin Abbring/Pieter Tsjoen (Peugeot 208 T16 R5) 2h20m46.8s; **2 Bryan Bouffier/Gilbert Dini (Skoda Fabia R5)** +8s; **3 Vincent Verschuere/Veronique Hostens (Skoda)**; **4 Bernd Casier/Pieter Vyncke (Ford Fiesta R5)**; **5 Hermen Kobus/Erik De Wild (Skoda)**; **6 Giandomenico Basso/Lorenzo Granai (Hyundai i20 R5)**.

Points 1 Osian Pryce (Ford) 66; **2 Fredrik Ahlin (Skoda) 63**; **3 Keith Cronin (Ford) 49**; **4 David Bogie (Skoda) 37**; **5 Matt Edwards (Ford) 36**; **6 Martin McCormack (Skoda) 30**.

Fittipaldi flies to birthday victory

WORLD SERIES FORMULA V8 3.5
MOTORLAND ARAGON (E)
JUNE 24-25
ROUND 5/9

PIETRO FITTIPALDI HAD A 21ST BIRTHDAY TO remember, securing a dominant Formula V8 3.5 victory at Aragon last Sunday. The Brazilian also took over the lead in the championship from his Lotus team-mate Rene Binder, who failed to finish.

It had been a different story the day before, where Fittipaldi struggled from pole and retired after contact with Konstantin Tereschenko on the first lap, while Binder recovered from seventh on the grid to finish fifth.

A delighted Egor Orudzhev took his first victory of the season in that race, leading an SMP Racing

one-two as Matevos Isaakyan came second from eighth on the grid. Fortec’s Alfonso Celis Jr, Force India’s Formula 1 reserve driver, claimed the final podium position with a last-gasp move.

Fittipaldi took his eighth pole position in 10 races for the second event, and this time started well and took a comfortable victory. Binder, on the other hand, was slow off the line and retired after making contact with RP Motorsport’s Yu Kanamaru on the opening lap.

There was drama during the mandatory pitstops as the Teo Martin mechanics had to extinguish a small fire on Tereschenko’s car, before the Russian crashed on his out-lap.

Celis secured another podium with a second-placed finish in race two and Orudzhev also capped a fine weekend in third. Both drivers moved within five points of Binder for second in the championship, while Fittipaldi opened up a 14-point lead at the head of the standings.

JAMIE HOWLETT

RESULTS

Race 1 1 Egor Orudzhev 23 laps in 41m48.398s; **2 Matevos Isaakyan** +13.134s; **3 Alfonso Celis**; **4 Roy Nissany**; **5 Rene Binder**; **6 Konstantin Tereschenko**; **7 Yu Kanamaru**; **8 Damiano Fioravanti**; **9 Diego Menchaca**; **10 Giuseppe Cipriani**. **Race 2 1 Pietro Fittipaldi** 24 laps in 42m26.477s; **2 Celis** +2.381s; **3 Orudzhev**; **4 Kanamaru**; **5 Isaakyan**; **6 Nissany**; **7 Menchaca**; **8 Fioravanti**; **9 Nelson Mason**; **10 Cipriani**. **Points 1 Fittipaldi 144**; **2 Binder 130**; **3 Celis 128**; **4 Nissany 126**; **5 Orudzhev 125**; **6 Isaakyan 120**.



Fittipaldi added to his pole tally in Spain

IN BRIEF

MOTO2

After two relatively subdued races, Moto2 points leader Franco Morbidelli returned to form at Assen with his fifth victory of the season. The Italian, who will step up to MotoGP with the Marc VDS squad next year, grabbed the lead from nearest title rival Thomas Luthi on the final lap to seal the win by 0.158 seconds. Honda protege Takaaki Nakagami, who is also tipped for a 2018 MotoGP graduation, took third.

MOTO3

Spanish rider Aron Canet came out on top in a frenetic 11-bike tussle at Assen to take his second Moto3 win of the season, beating Romano Fenati by 0.035s over the line after a last-corner pass. Britain’s John McPhee took advantage of the chaos to get his third podium of 2017, less than a tenth shy of Fenati, while points leader Joan Mir found himself shuffled back from first to ninth on the final lap.

JAPANESE F3

Sho Tsuboi collected a double brace of pole positions and race wins from the Japanese Formula 3 championship’s visit to the Suzuka circuit. The TOM’S driver secured his maiden wins after 18 months racing in the series ahead of his team-mate Ritomo Miyata in race one and Alex Palou in the second encounter. Mitsunori Takaboshi maintained his points lead with a pair of third place finishes.

FORMULA RENAULT NEC

Gabriel Aubry beat his Tech 1 Racing team-mate Max Fewtrell to victory in the first race of the 2017 season, which took place at Monza last weekend. The pair swapped positions on several occasions during the early running, but the Frenchman crossed the finish line 0.615s ahead. It was the same result in race two after Aubry deposed long-time leader Fewtrell with a move at Turn 1. Bartłomiej Mirecki and Michael Benyahia scored one third place each.

NASCAR XFINITY

One week after losing out in a photo finish with Denny Hamlin, William Byron earned the first NASCAR Xfinity Series victory of his career – the 19-year-old is in his first season in the series competing with JR Motorsports – last Saturday night at Iowa Speedway. Ryan Sieg finished second, with Tyler Reddick third, Ross Chastain in fourth and Dakoda Armstrong completed the top five positions.

NASCAR TRUCK SERIES

John Hunter Nemechek, on four fresh tyres, went three-wide to move into the lead and held off Johnny Sauter to win last Friday’s NASCAR Truck Series race at Iowa Speedway. It was his second consecutive victory of the season and the fifth of his career. Brandon Jones finished third.

Michelisz upstages Monteiro

WORLD TOURING CAR CHAMPIONSHIP
VILA REAL (P)
JUNE 24-25
ROUND 5/10

AS FIRST WINS OF THE SEASON GO, Norbert Michelisz's dominant showing in Vila Real – upstaging World Touring Car Championship team-mate Tiago Monteiro on his home streets – was about as perfect as he could have hoped for.

A victory might well have been Michelisz's at Monza in April had he not been biffed by Mehdi Bennani while challenging for the lead. One podium from the next four races marked something of a rough patch for the Hungarian, but despite being plagued by illness in Portugal he showed no signs of fatigue as he overshadowed his rivals all through Saturday with the fastest time in both first practice and qualifying.

As spectacular as Vila Real's sweeping curves and dramatic downhill chicanes can be, track action can verge on processional, so a strong getaway was crucial to Michelisz's hopes of a first win.



As it turned out, the hard work was done for him by fellow main-race front-row starter Rob Huff, who stalled his Citroen C-Elysee. But Michelisz still needed his wits about him, with Volvo's Thed Bjork lurking, but that threat subsided – especially after the pair opted to serve their joker laps at the same time – and allowed him a comfortable run to the flag.

There was no repeat of Monteiro's sensational home victory from 12 months earlier, but he did regain the points lead with a couple of canny races. An advance from seventh to second – within a second

Michelisz's main race victory was his first win since the WTCC's visit to Japan last September

of race winner Bennani's Sebastien Loeb Racing Citroen – in race one was due to his combination of opportunism and searing pace, while third in the main encounter was all he needed to maintain a points buffer back to the Volvos of Bjork and fourth-place finisher Nicky Catsburg.

Behind the Honda-Volvo flotilla in race two was Huff, who produced a rousing drive from the back of the field after his stall to salvage an unlikely fifth.

JACK COZENS

➔ P43 FULL RESULTS

Harvick holds on to end road-course win drought

NASCAR CUP
SONOMA (USA)
JUNE 25
ROUND 16/36

AFTER WINNING THE NASCAR PRO Series West race at Sonoma Raceway on Saturday, Kevin Harvick doubled up a day later and earned his first Cup victory on the 1.99-mile road course to score the 35th top-level win of his career.

After Martin Truex Jr, who led a race-high 25 laps and won the first stage,

dropped out with engine problems, Harvick cycled into the lead on lap 89 of the 110 following a round of green-flag pit stops. The race remained caution-free from there and, from being nine seconds in front, he still comfortably held off Stewart-Haas Racing Ford team-mate Clint Bowyer for the win, despite having to slow to save fuel. Bowyer, with a battered car, had fought his way past Denny Hamlin to take second place with a few laps remaining.

Harvick qualified 12th but did not score

Harvick battles McMurray on way to first road-course win since Watkins Glen '06

points in the first two stages of the race. He started the final segment towards the back end of the top 10 and led 24 laps en route to his first win of 2017.

Brad Keselowski finished third after a strategy gamble that relied upon a late caution to give him a free pitstop. When it finally came, it only did so on the final lap after Kasey Kahne had hit the Turn 1 wall, consigning the Team Penske Ford to third. Hamlin finished fourth.

Jimmie Johnson won the second stage and finished 13th, just behind Joey Logano, whose hopes were shot by a penalty for pitroad speeding at his final stop.

JIM UTTER

RESULTS

1 Kevin Harvick (Ford Fusion) 110 laps in 2h46m52s; 2 Clint Bowyer (Ford); 3 Brad Keselowski (Ford); 4 Denny Hamlin (Toyota Camry); 5 Kyle Busch (Toyota); 6 Dale Earnhardt Jr (Chevrolet SS); 7 Kurt Busch (Ford); 8 Chase Elliott (Chevy); 9 Ryan Blaney (Ford); 10 Jamie McMurray (Chevy). **Playoff qualifying 1 Jimmie Johnson 483/3 wins;** 2 Kyle Larson 659/2; 3 Martin Truex Jr 646/2; 4 Keselowski 519/2; 5 Harvick 548/1; 6 Blaney 415/1; 7 Kurt Busch 389/1; 8 Ryan Newman 367/1; 9 Ricky Stenhouse Jr 355/1; 10 Austin Dillon 322/1; 11 Kyle Busch 542; 12 Elliott 509; 13 McMurray 477; 14 Hamlin 476; 15 Joey Logano 434; 16 Bowyer 427.



RESULTS ROUND-UP

MOTOGP

RD 8/18, ASSEN (NL), JUNE 25 (26 LAPS – 73.379 MILES)

1	Valentino Rossi (I) <i>Yamaha</i>	41m41.149s
2	Danilo Petrucci (I) <i>Pramac Ducati</i>	+0.063s
3	Marc Marquez (E) <i>Honda</i>	+5.201s
4	Cal Crutchlow (GB) <i>LCR Honda</i>	+5.243s
5	Andrea Dovizioso (I) <i>Ducati</i>	+5.327s
6	Jack Miller (AUS) <i>Marc VDS Honda</i>	+23.390s
7	Karel Abraham (CZ) <i>Aspar Ducati</i>	+36.982s
8	Loris Baz (F) <i>Avintia Ducati</i>	+37.058s
9	Andrea Iannone (I) <i>Suzuki</i>	+37.166s
10	Aleix Espargaro (E) <i>Aprilia</i>	+1m01.929s
11	Pol Espargaro (E) <i>KTM</i>	+1m09.384s
12	Tito Rabat (E) <i>Marc VDS Honda</i>	+1m10.121s
13	Dani Pedrosa (E) <i>Honda</i>	+1m10.344s
14	Johann Zarco (F) <i>Tech3 Yamaha</i>	+1m35.655s
15	Jorge Lorenzo (E) <i>Ducati</i>	-1 lap
16	Hector Barbera (E) <i>Avintia Ducati</i>	-1 lap
17	Alex Rins (E) <i>Suzuki</i>	-1 lap
R	Scott Redding (GB) <i>Pramac Ducati</i>	24 laps-accident
R	Alvaro Bautista (E) <i>Aspar Ducati</i>	17 laps-accident
R	Bradley Smith (GB) <i>KTM</i>	13 laps-accident
R	Maverick Vinales (E) <i>Yamaha</i>	11 laps-accident
R	Jonas Folger (D) <i>Tech3 Yamaha</i>	9 laps-accident
R	Sam Lowes (GB) <i>Aprilia</i>	8 laps-accident

Winner's average speed 105.617mph.

Fastest lap Redding 1m34.617s, 107.382mph.

QUALIFYING 2

1 Zarco 1m46.141s; **2 Marquez** 1m46.206s; **3 Petrucci** 1m46.526s; **4 Rossi** 1m46.705s; **5 Redding** 1m47.574s; **6 Folger** 1m47.663s; **7 Bautista** 1m47.812s; **8 Crutchlow** 1m48.042s; **9 Dovizioso** 1m48.079s; **10 Lowes** 1m48.128s; **11 Vinales** 1m48.266s; **12 Pedrosa** 1m49.623s.

QUALIFYING 1

1 Redding 1m46.926s; **2 Lowes** 1m47.191s; **3 Miller** 1m47.217s; **4 Baz** 1m47.234s; **5 A Espargaro** 1m47.277s; **6 Iannone** 1m47.649s; **7 Rins** 1m47.804s; **8 Abraham** 1m47.947s; **9 P Espargaro** 1m47.957s; **10 Barbera** 1m48.080s; **11 Lorenzo** 1m48.219s; **12 Smith** 1m48.448s; **13 Rabat** 1m48.700s.

RIDERS' CHAMPIONSHIP

1 Dovizioso 115; **2 Vinales** 111; **3 Rossi** 108; **4 Marquez** 104; **5 Pedrosa** 87; **6 Zarco** 77; **7 Petrucci** 62; **8 Lorenzo** 60; **9 Crutchlow** 58; **10 Folger** 51; **11 Miller** 40; **12 Bautista** 34; **13 Redding** 33; **14 Baz** 31; **15 Iannone** 28; **16 A Espargaro** 23; **17 Rabat** 23; **18 Barbera** 21; **19 Abraham** 20; **20 P Espargaro** 11; **21 Rins** 7; **22 Pirro** 7; **23 Smith** 6; **24 Lowes** 2; **25 Guintoli** 1.

MANUFACTURERS' CHAMPIONSHIP

1 Yamaha 164; **2 Ducati** 142; **3 Honda** 141; **4 Suzuki** 35; **5 Aprilia** 25; **6 KTM** 13.

BLANCPAIN ENDURANCE CUP

ROUND 3/5, PAUL RICARD (F), JUNE 24 (170 LAPS – 611.721 MILES)

1	Andy Soucek (E) Maxime Soulet (B) Vincent Abril (F) <i>Bentley Team M-Sport</i> · Bentley Continental GT3	6h01m17.768s
2	Victor Shaytar (RUS) Miguel Molina (E) Davide Rigon (I) <i>SMP Racing</i> · Ferrari 488 GT3	+29.272s
3	Antonio Garcia (E) Nico Muller (CH) Rene Rast (D) <i>WRT</i> · Audi R8 LMS	+1m19.230s
4	Renger van der Zande (NL) Felix Serralles (USA) Daniel Juncadella (E) <i>Auto Sport Promotion</i> · Mercedes-AMG GT3	+1m22.658s
5	Lucas Ordonez (E) Alex Buncombe (GB) Katsumasa Chiyo (J) <i>RJN Motorsport</i> · Nissan GT-R NISMO GT3	+1m37.964s
6	Stuart Leonard (GB) Jake Dennis (GB) Robin Frijns (NL) <i>WRT</i> · Audi R8 LMS	+1m55.276s
7	Filipe Albuquerque (P) Clemens Schmid (A) Filip Salaquarda (CZ) <i>ISR</i> · Audi R8 LMS	+1m56.528s
8	Pieter Schothorst (NL) Frederic Vervisch (B) Christopher Mies (D) <i>WRT</i> · Audi R8 LMS	-1 lap
9	Christopher Haase (D) Markus Winkelhock (D) Peter Terting (D) <i>Sainteloc Racing</i> · Audi R8 LMS	-1 lap
10	Edoardo Mortara (I) Michael Meadows (GB) Raffaele Marciello (I) <i>Auto Sport Promotion</i> · Mercedes-AMG GT3	-1 lap
11	Matthew Simmonds (AUS) Struan Moore (GB) Matt Parry (GB) <i>RJN Motorsport</i> · Nissan GT-R NISMO GT3	-1 lap
12	Adrian Amstutz (CH) Martin Kodric (HR) Patrick Kujala (FIN) <i>Barwell Motorsport</i> · Lamborghini Huracan GT3	-1 lap
13	Andrea Caldarelli (I) Christian Engelhart (D) Mirko Bortolotti (I) <i>GRT Grasser Racing Team</i> · Lamborghini Huracan GT3	-1 lap
14	Ahmad Al Harthy (OM) Salih Yoluc (TR) Jonny Adam (GB) <i>TF Sport</i> · Aston Martin V12 Vantage	-1 lap
15	Jean-Luc Beaubelique (F) Nico Bastian (D) Jules Gounon (F) <i>Auto Sport Promotion</i> · Mercedes-AMG GT3	-2 laps
16	Sam Tordoff (GB) David Fumanelli (I) Jonny Kane (GB) <i>Strakka Racing</i> · McLaren 650S GT3	-2 laps
17	Niek Hommerson (NL) Louis Machiels (B) Andrea Bertolini (I) <i>Spirit of Race</i> · Ferrari 488 GT3	-2 laps
18	Kenneth Heyer (D) Indy Dontje (NL) Patrick Assenheimer (D) <i>HTP Motorsport</i> · Mercedes-AMG GT3	-2 laps
19	Alexander Mattschull (D) Rinat Salikhov (RUS) Matteo Malucelli (I) <i>Rinaldi Racing</i> · Ferrari 488 GT3	-2 laps
20	Oliver Morley (GB) Miguel Toril (E) Matt Griffin (IRL) <i>Black Falcon</i> · Mercedes-AMG GT3	-2 laps

Pro-Am 1 Amstutz/Kodric/Kujala; **2** Al Harthy/Yoluc/Adam; **3** Beaubelique/Bastian/Gounon.

Winners' average speed 101.587mph. **Fastest lap** Alessandro Pier Guidi AF Corse Ferrari 488 GT3 1m57.921s, 109.854mph.

CHAMPIONSHIP

1 Soucek/Soulet/Abril 51; **2 Bortolotti/Caldarelli/Engelhart** 50; **3 Rigon/Shaytar/Molina** 46; **4 Eriksson/Buhk/Perera** 33; **5 Rugolo/Pier Guidi/Lathouras** 27; **6 Rast/Muller/Garcia** 19; **7 Serralles/Juncadella** 16; **8 Mortara/Marciello/Meadows** 16; **9 van der Zande** 15; **10 Cioci/Fischella/Calado** 12. **Blancpain GT overall 1** Bortolotti/Engelhart 86; **2 Buhk/Perera** 82; **3 Abril** 82; **4 Soulet/Soucek** 51; **5 Leonard** 51; **6 Frijns** 51.

WORLD TOURING CAR CHAMPIONSHIP

ROUND 5/10, VILA REAL (P), JUNE 25 RACE 1 (11 LAPS – 32.740 MILES)

1	Mehdi Bennani (MA) <i>Sebastien Loeb Racing</i> · Citroen C-Elysee WTCC	22m00.741s
2	Tiago Monteiro (P) <i>Honda Racing Team JAS</i> · Honda Civic WTCC	+0.799s
3	Thed Bjork (S) <i>Polestar Cyan Racing</i> · Volvo S60 Polestar	+1.632s
4	Tom Chilton (GB) <i>Sebastien Loeb Racing</i> · Citroen C-Elysee WTCC	+2.447s
5	Nicky Catsburg (NL) <i>Polestar Cyan Racing</i> · Volvo S60 Polestar	+4.459s
6	Rob Huff (GB) <i>Munnich Motorsport</i> · Citroen C-Elysee WTCC	+4.855s
7	Norbert Michelisz (H) <i>Honda Racing Team JAS</i> · Honda Civic WTCC	+6.040s
8	Nestor Girolami (RA) <i>Polestar Cyan Racing</i> · Volvo S60 Polestar	+12.317s
9	Yann Ehrlacher (F) <i>RC Motorsport</i> · Lada Vesta WTCC	+13.151s
10	John Filippi (F) <i>Sebastien Loeb Racing</i> · Citroen C-Elysee WTCC	+16.210s
11	Aurelien Panis (F) <i>Zengo Motorsport</i> · Honda Civic WTCC	+34.376s
12	Manuel Fernandes (P) <i>RC Motorsport</i> · Lada Vesta WTCC	+51.335s
13	Daniel Nagy (H) <i>Zengo Motorsport</i> · Honda Civic WTCC	+57.739s
R	Ryo Michigami (J) <i>Honda Racing Team JAS</i> · Honda Civic WTCC	8 laps-puncture
R	Kevin Gleason (USA) <i>RC Motorsport</i> · Lada Vesta WTCC	3 laps-retired
R	Esteban Guerrieri (RA) <i>Campos Racing</i> · Chevrolet RML Cruze TC1	0 laps-suspension
NS	Tom Coronel (NL) <i>ROAL Motorsport</i> · Chevrolet RML Cruze TC1	0 laps-accident

Winner's average speed 89.240mph. **Fastest lap** Michelisz 1m58.654s, 90.303mph.

GRID FOR RACE 1

1 Michigami; **2 Girolami**; **3 Guerrieri**; **4 Bennani**; **5 Chilton**; **6 Catsburg**; **7 Monteiro**; **8 Bjork**; **9 Huff**; **10 Michelisz**; **11 Filippi**; **12 Ehrlacher**; **13 Gleason**; **14 Fernandes**; **15 Panis**; **16 Nagy**.

RACE 2 (13 LAPS – 38.693 MILES)

1 Michelisz 25m47.552s; **2 Bjork** +0.480s; **3 Monteiro** +2.200s; **4 Catsburg** +4.457s; **5 Huff** +4.587s; **6 Chilton** +8.834s; **7 Bennani** +20.846s; **8 Guerrieri** +23.834s; **9 Girolami** +24.864s; **10 Filippi** +25.384s; **11 Ehrlacher** +25.793s; **12 Gleason** +45.075s; **13 Michigami** +45.624s; **14 Nagy** +1m26.761s; **15 Fernandes** +2m18.129s; **16 Panis** 10 laps-puncture.
Winner's average speed 90.009mph. **Fastest lap** Huff 1m57.929s, 90.859mph.

QUALIFYING

Q3 1 Michelisz 1m55.846s; **2 Huff** 1m56.530s; **3 Bjork** 1m56.919s; **4 Monteiro** 1m58.940s; **5 Catsburg** no time.

Q2 Monteiro 1m56.227s; Michelisz 1m56.397s; Huff 1m56.777s; Bjork 1m56.821s; Catsburg 1m57.168s; **6 Chilton** 1m57.765s; **7 Bennani** 1m57.915s; **8 Guerrieri** 1m58.364s; **9 Girolami** 1m58.447s; **10 Michigami** 1m58.599s; **11 Filippi** 1m58.967s; **12 Ehrlacher** 1m59.287s.

Q1 Michelisz 1m57.010s; Huff 1m57.333s; Monteiro 1m57.487s; Bennani 1m58.106s; Bjork 1m58.144s; Michigami 1m58.190s; Catsburg 1m58.344s; Chilton 1m58.420s; Guerrieri 1m58.650s; Ehrlacher 1m59.368s; Girolami 1m59.483s; Filippi 1m59.783s; **13 Gleason** 2m00.410s; **14 Fernandes** 2m00.567s; **15 Panis** 2m00.937s; **16 Nagy** 2m03.490s.

CHAMPIONSHIP

1 Monteiro 164; **2 Bjork** 160; **3 Catsburg** 154; **4 Michelisz** 137; **5 Bennani** 133; **6 Chilton** 128; **7 Huff** 127; **8 Guerrieri** 80; **9 Girolami** 58; **10 Coronel** 31.

Dovizioso now leads riders' standings



Motorsport's game-changers

It's the 25th Goodwood Festival of Speed this weekend.
Here's our guide to some of the highlights to look out for

By Samarth Kanal and Jamie Howlett





BERNIE AND HIS BRABHAMS

THE ENIGMATIC BERNARD CHARLES Ecclestone takes centre stage at the 2017 Goodwood Festival of Speed, being honoured with the Central Feature outside Goodwood House.

His career will be broken into 'The Five Ages of Ecclestone', with a car from each making up the display. They are: 'driver', 'manager', 'team owner', 'impresario', and 'legend'.

Bernie was a regular competitor in 500cc Coopers in the 1940s and '50s and entered the '58 Monaco Grand Prix in a Connaught, which he had bought after the team disbanded, but failed to qualify.

His first period in management had begun a year earlier, with Stuart Lewis-Evans, but the passing of the talented youngster caused Ecclestone to leave racing. He returned as manager of Jochen Rindt, who would become Formula 1's only posthumous world champion in 1970.

Ecclestone became a team manager in 1971, purchasing the Brabham team,

and built a formidable partnership with designer Gordon Murray, securing the '81 and '83 drivers' titles with Nelson Piquet.

As an impresario he controlled F1's rights, taking the category to its current position as a global phenomenon. This era will be celebrated with the Ferrari F2001 of his friend Michael Schumacher, reflecting the German's dominance.

Finally, the 2016 Mercedes W07 that Nico Rosberg drove to the world championship will represent the legend status that is awarded to Bernie.

On track, the 1981 and '83 title-winning Brabhams will head up the hill, along with the '73 Brabham-Cosworth BT42/44, and one special car from Bernie's private collection – the BT46B, otherwise known as the 'fan car'.

The life and career of Ecclestone will be marked by a key moment on Sunday afternoon, with world champions, Brabham drivers and team members, team owners and, of course, the man himself.



Owning Brabham was just one of Bernie's F1 roles



BT52 (main pic) and fan car will be among the Brabhams on show

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WILLIAMS CELEBRATION

WILLIAMS CONTINUES ITS 40TH ANNIVERSARY celebrations with a trio of machines at the 25th Goodwood Festival of Speed. Karun Chandhok, former HRT and Lotus driver turned accomplished broadcaster, will be driving the FW08B and an FW14B, while Australian veteran Alan Jones will commandeer an FW06.

The FW08B is a six-wheeled peculiarity which was banned from competing in F1 a year after it was built in 1982. With four-wheel drive through the rear slicks, there won't be a shortage of grip. And, more surprisingly, those who have driven it – as Felipe Massa did recently at Silverstone – report little in the way of understeer.

For only the second time since 1992 spectators will be able to see Nigel Mansell's title-winning Williams FW14B on track. Chandhok will sit behind the famous 'Red 5' on the nose of the once-dominant car that boasts another banned feature: active suspension. The reactive rideheight helped the Renault-powered FW14B to 10 wins from 16 races between Mansell and his team-mate Riccardo Patrese. The FW08B and the FW14B represent Williams's history of ingenuity, very much in keeping with the Festival's theme, 'Peaks of Performance – Motorsport's Game-Changers'.

Australian veteran Jones, who won the 1980 F1 world championship with Williams, will be driving the 1978 FW06 at Goodwood. This car was the first produced by the team, founded by Frank Williams and Patrick Head. And while it couldn't quite keep up with its ground-effect-exploiting competitors, the seeds of Williams's eventual dominance were sown.



RARE FERRARIS JOIN THE PARTY

FERRARI WILL BE SHARING ITS BIRTHDAY celebrations with Williams, as the Maranello manufacturer marks its 70th anniversary with a staggering showing of sportscars and single-seaters at Goodwood. Representing its post-millennial superiority are Michael Schumacher's championship-winning F2002 and F2004, plus there is the F2007 in which Kimi Raikkonen took his sole title as Ferrari entered the post-Schumacher era.

Ferrari will also run the 1990 641, in which Alain Prost battled McLaren's Ayrton Senna for the title, with FIA GT champion and former F1 driver Olivier Beretta at the wheel.

Five-time Le Mans 24 Hours winner Derek Bell will return to the 166 Dino Formula 2 car he raced in 1968 and '69, while current World Endurance Championship driver and Formula E ace Sam Bird will also be driving



Schuey dominated in F2002



The 330 P4 was a superb sports-racer

a number of the race cars from Maranello.

The constructor's brutal, angular 1970s machines will be out in force at the Festival, with three Ferrari 312s, including the B3 of Jacky Ickx and Clay Regazzoni, and the short, squat 312T immortalised by Austrian world champion Niki Lauda.

The celebration will also delve into Ferrari's roots, featuring the first Ferrari to bear the Prancing Horse badge – the 125S – and a number of Mille Miglia machines, such as the 166 Barchetta and the 1954 375 Spyder. Phil Hill's 1961 F1 championship-winning 156 'sharknose' will be driven by his son Derek.

A small selection of the rare, alluring and almost fabled Ferrari 250s will feature too, representing not only desirability but the journey to Ferrari's current line-up of sportscars. The Le Mans-winning 250LM is a particularly notable runner, as is the 330 P4 endurance prototype.

TERRIFIC TIN-TOPS

THE SHARPEST, WIDEST-BODIED cars will thunder up Goodwood's hillclimb over the weekend, sporting their paint jobs without the battle scars they once carried. The BMW 3.5 CSL, nicknamed the 'Batmobile' due to its angular wings, will be one of the most famous shapes from the 1970s.

Along with the successful BMW tin-top will be a later Group 5 offering, the 1979 Zakspeed Ford Capri. Regular historic racer Ric Wood will drive the low-slung, flame-spitting machine that bears only a passing resemblance to its road-going version.

Andrew Jordan, the 2013 British Touring Car champion, will be at the wheel of a number of cars, including a late 1960s Group 2 Chevrolet Camaro, a 1988 Ford Sierra Cosworth RS500 sporting Texaco livery, and the Ford C100 prototype, while three-time BTCC champion Matt Neal will be on a Honda British Superbike. Furthermore, 1987 World Touring Car champion Roberto Ravaglia will make his Goodwood FoS debut in the title-winning BMW E30 M3.

NASCAR machines will return to Goodwood as Richard Petty, the most successful NASCAR driver of all time, enters his 1992 Pontiac Grand Prix. Mike Skinner, 1995 NASCAR Truck Series champion, will also take on the NASCAR hillclimb record in a Toyota Tundra truck (right).

Kerry Earnhardt, the eldest son of the late seven-time champion Dale Earnhardt Sr, will drive a 2000 Chevrolet Monte Carlo run by Richard Childress Racing – the car Dale Sr drove in his final full season.



JOHN SURTEES

THE LATE JOHN SURTEES WAS A REGULAR at Lord March's Festival, jumping out of Formula 1 cars and onto bikes quite happily, and memorably taking to the hill alongside fellow Ferrari F1 world champion Kimi Raikkonen in 2014.

Fittingly, *Il Grande John* will be remembered on both four wheels and two, with a 1960 MV Agusta one of the picks of the bike collection. This was a year in which he won seven of the 12 races he entered across the 350cc and 500cc championships, winning both titles.

Also present will be the flat-nosed 1970

Oulton Park Gold Cup-winning Surtees-Cosworth TS7. Surtees pipped a young Jochen Rindt to an aggregate victory. The car was riddled with issues during the 1970 F1 season but Surtees carried on in a car that now represents the late designer, driver and team owner's raw determination and talent.

The 1966 Lola-Chevrolet T70 Spyder that won three races and the title in the inaugural Can-Am Challenge Cup will also feature, with exposed engine and bellowing, spitting, protruding exhausts included.



Ferrari champs:
Surtees and Raikkonen



TOM KRISTENSEN



NINE-TIME LE MANS WINNER TOM Kristensen will be celebrated on the 20th anniversary of his first win at the Circuit de la Sarthe, with 12 cars from his career going up the hill.

Leading the batch will be the TWR Porsche WSC95 that he co-piloted to victory in 1997 with Michele Alboreto and Stefan Johansson, followed by the glorious-sounding BMW V12 LMR from '99, a year in which he was denied victory.

The man himself will climb into an Audi R8, from his success in 2000, while former team-mate Allan McNish drives another. Breaking up the Audis will be the 2003 Bentley Speed 8 winner, and the R18 e-tron quattro from the Dane's last victory in '13, courtesy of Audi Sport.

Sportscars aren't all that Kristensen will drive at the Festival – he'll also be in action in an Audi RS5 DTM.

RALLY CARS AT GOODWOOD

EXPECT TO SEE CARS FROM ACROSS THE eras in the Forest Rally Stage at the top of the Goodwood hill, from a current-spec Ford Fiesta to Group B monsters, including the Lancia 037.

Bronwyn Burrell will climb aboard the Austin Maxi in which she contested the 1970 London-Mexico World Cup Rally, and Festival favourite and 1965 European Rally champion Rauno Aaltonen will pilot a Morris Mini Cooper S on the stage.

Rally action isn't confined to the Forest Stage – Jean Ragnotti is one to watch out for in the Renault 5 Maxi Turbo on the hill,

particularly if he pulls off his high-speed handbrake turns, and Le Mans winner and ex-F1 driver Alex Wurz will drive a 1976 Lancia Stratos.

If Quattro is your thing, then you'll be in for a treat on both the hill and the stage, with 1983 World Rally champion Hannu Mikkola in an Audi Quattro RS 002, a 1987 Audi Sport Quattro S1 Pikes Peak, and the 2016 Audi S1 ERS RX rallycross machine.

But if you truly want to be astonished, find a place outside Goodwood House as the Kamaz Dakar Truck flies past – its size belies its speed.

AND NOT FORGETTING

HEIDFELD IN FORMULA E

Goodwood hillclimb record holder Nick Heidfeld will return to attempt the course in a Mahindra Formula E car, while Kenny Brack will run a Lanzante-tuned McLaren P1 LM against the clock. Sportscar veteran and rapid hillclimber Anthony Reid will entertain in the Arrinera Hussarya, a Polish supercar.

RALLYCROSS STARS

Four-time British Rallycross champion Pat Doran will bring his 1986 Ford RS200 Evolution to Goodwood along with a host of other Rallycross machines. Rob Russell will drive the first rallycross event winner, Vic Elford's Porsche 911.

DRIFTING COMPETITION

Before the FIA hosts the world's first 'Intercontinental Drifting Cup' in September, Goodwood will host its own very first drift competition. Among the entry are Japanese racer Daigo Saito in a Lamborghini Murcielago, current Formula Drift championship leader James Deane, and reigning Formula Drift champion Chris Forsberg, competing for the title of 'Goodwood FoS Drift Champion'.

TYRRELL AND HAILWOOD

Two very different but equally iconic names will appear on two and four wheels at this year's event. Adam Tyrrell will drive the Tyrrell 001, built in secret by his grandfather Ken, after dissatisfaction with the March 701 he'd been running in 1970. David Hailwood, son of Mike, will ride one of his father's Hondas from the Isle of Man TT, where the legendary rider took 14 wins over 12 years of competition.

JOEY AND ROBERT DUNLOP

The Dunlop dynasty features in its own class at this year's Festival of Speed, honouring the family 40 years after Joey Dunlop took his first Isle of Man TT win. Honda will be bringing Joey's final TT-winning SP1 over from Japan, just for the event. Robert, brother of Joey, will also be celebrated with a display of JPS Nortons.

ROSBERG RETURNS

Retired and reigning Formula 1 world champion Nico Rosberg (below) will launch his 2014 Mercedes W05 up the hill on Sunday. Current Mercedes driver Valtteri Bottas will pilot the car on Saturday, while the Renault F1 team will celebrate its 40th anniversary with Jolyon Palmer and reserve driver Sergey Sirotkin.



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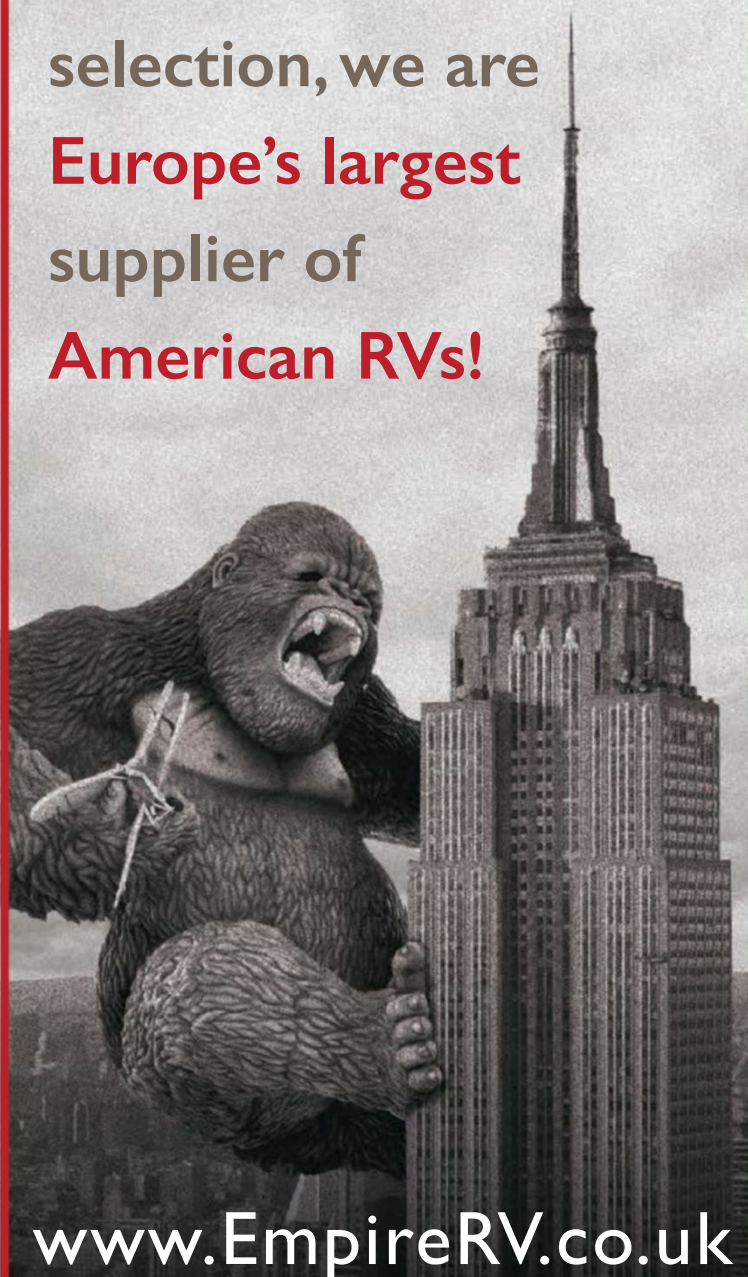
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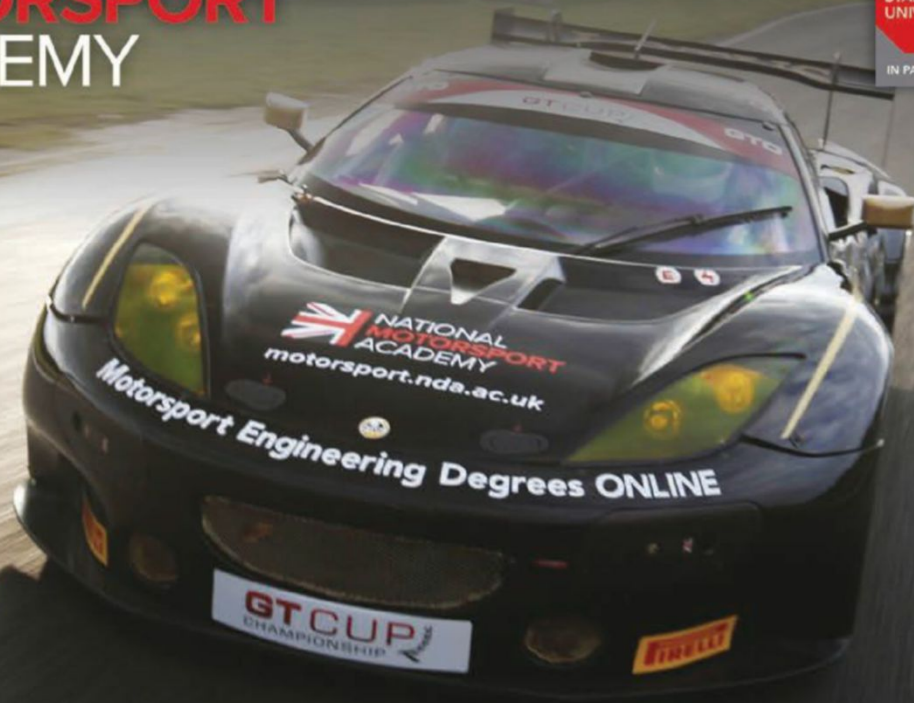


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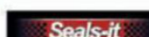
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The team's headquarters in Enstone, Oxfordshire is a state-of-the-art Formula 1 facility which plays home to over 500 people; including many of the world's leading minds in aerodynamics, advanced materials research, engineering and automotive design.

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Senior Composite Design Engineer

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Design Engineers - required to support the ESS team

Designers required with exposure to one or more of the following areas: Composites, ESS, ERS, Battery System, Cooling System, High Voltage (electrical components), rotating parts.

Energy Recovery System (ERS) Engineers

Experienced engineers required who currently have exposure to Formula 1 ERS systems as well as trackside experience. This role is required to support trackside activity and factory tests.

Software Engineers (Fixed Term Contract 6-9 months)

We are looking for qualified embedded and Matlab software or control software engineers with automotive experience. The main purpose of the role is to contribute towards the ESS battery and other systems software projects, ensuring performance and reliability targets are met.

ESS Test Engineers / Dyno Operators

Required to perform tests in ESS test cell at the factory to support Formula 1 power unit development. The initial focus of these roles will be to support commissioning and set up of a new ESS test cell facility.

PU Test System Technicians / System Engineers / PU Performance Engineers

Technicians and engineers will be responsible for the operation and reliability of PU (ICE and ERS System) at trackside and at the factory, supporting the development of Formula 1 Engines on Dyno.

PU Mechanics and ERS Technicians

Required for factory and race operation, supporting power unit development on Formula 1 Engines.

Project Planner

This role is required to assist in the ESS project, by maintaining and analysing production planning data according to Project Master Plan created by Project Manager, in order to support production plans and priorities. Additionally, Project Planner will be responsible for input of authorised demand into company manufacturing (ERP) system and for accurate and timely creation of all works orders.

Bill of Materials (BoM) Administrator

BoM Administrator is required to support the ESS project and take responsibility for BoM construction and maintenance. The role focuses on checking and verifying Design Release & associated data and controlling the import & entry of this data into ERP system.

Race Team Coordinator

An experienced Race Team Coordinator is required to look after the race team logistics, including both freight and travel, and to lead the unpack and pack up of race equipment. This role has duties at both trackside and factory.

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FESTIVAL OF SPEED

DFV-engined cars to star at Goodwood

THE COSWORTH DFV ENGINE, which was launched 50 years ago, will be celebrated at this weekend's Goodwood Festival of Speed.

The Festival has secured an example of every Formula 1 championship-winning car powered by the DFV, and a host of names with which to join them. F1 champions Jackie Stewart (1969, '71, '73), Emerson Fittipaldi ('72, '74) and Alan Jones ('80) will be there, while the Connew PC1, Eiffelland Type 21, Lotus 49, Matra MS80 and Williams FW07 are among the cars involved.

The V8 unit was developed in '67 with the backing of Ford, with the intention of mating it to the Colin Chapman-designed Lotus 49. The engine was instantly successful and was opened up for sale to teams for the '68 season, when Graham Hill took the title with Lotus. It remained competitive



through to the early years of the first F1 turbo era in the early 1980s and developments of the engine were also successful in Indycar and sportscar racing.

Goodwood will also continue its shootout series, which ran for British

Adam, fresh from winning GTE Pro at Le Mans, will be part of GT hillclimb shootout

Touring Car Championship drivers and cars in 2016. This year, GTs will be the subject of timed runs up the hill.

Le Mans GTE Pro winner Jonny Adam, fresh from taking a dramatic late victory in the Le Mans 24 Hours this month, will appear in his Aston Martin Vantage GTE. A Porsche Carrera Cup GT3 car from the Le Mans support race will be piloted by Charlie Eastwood, a winner in the Carrera Cup GB this year.

Bentley will have a presence with its Blancpain race-winning Continental GT3 and driver Andy Soucek, while former BTCC star Anthony Reid will pilot the Arrinera Hussarya GT3, which he has been doing extensive development and test work with.

The shootout will be broadcast on Sky Sports TV at 1555 on Sunday.

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Blundell (r) will race
Mini challenger below

MINI CHALLENGE JCW

Blundell to race Mini JCW at Brands

EX-FORMULA 1 DRIVER MARK BLUNDELL will compete in the next round of the Mini Challenge's JCW Championship at Brands Hatch on July 8 and 9.

Blundell will contest the three races aboard the Mini UK-backed guest car, which is entered by the Mini UK VIP team.

The 51-year-old will be making his first race appearance at Brands since 2010, when he was one of many British guest drivers in the German Volkswagen Scirocco R Cup series race supporting the circuit's DTM event.

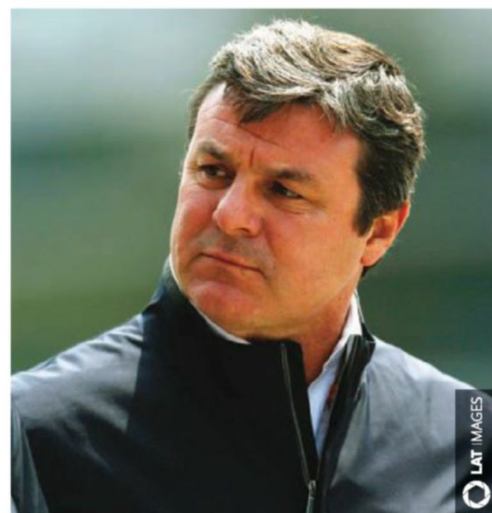
Blundell raced for Brabham, Ligier, Tyrrell and McLaren during his four-year F1 career. He was also prolific in sportscar racing, and won the 1992 Le Mans 24 Hours with Peugeot. He last raced regularly in the British GT Championship in 2013 with a United Autosports-run McLaren, contesting the first three rounds.

"I'm really looking forward to it because I don't do much racing these days outside of events such as the Goodwood Revival," said Blundell. "When Mini approached me and asked me to have a go it just had fun written all over it."

"I had about 30 laps in the JCW around Snetterton to get used to it. The car is a real bundle of fun, but it was much harder to drive than I gave it credit for. It's got a lot of power and a short wheelbase so it's often sideways."

"I'm not a front-drive expert – I think I've only done 100 laps in a front-wheel-drive car in my entire career – and I'm also not a left-foot braker, so both of those things go against me."

"But I love Brands Hatch. It's a great, short circuit and the JCW is going to be great fun around there, especially with 30 of them on the grid. It'll be a good laugh getting involved."



RADICAL SR1

New and faster Radical SR1 on track

RADICAL'S NEW-GENERATION SR1 racer broke cover at Rockingham last weekend, with the new machine expected to match the lap times of GT4 machinery.

Radical motorsport head Alex Mortimer shook down the new Generation 2 SR1 ahead of last weekend's rounds of the SR1 Cup. The car is now available for order, with the cars being introduced into the SR1 Cup with immediate effect.

The new cars feature the same 175bhp, 1340cc RPE-Suzuki

engine as the old machines, but have completely remodelled bodywork and aerodynamics and weigh just 490kg.

"We can bolt slick tyres onto the new SR1 and it'll lap two seconds up the road from GT4 pace," said Mortimer.

"I think we'll keep the car running on treaded tyres so it matches GT4 lap times and doesn't get too close to the SR3 times, but it's certainly a very capable little thing."

"The new SR1 is built on the proven foundations of the original, but it has a better balance and better aero."

New Gen 2 SR1s will be performance balanced with the older cars via a combination of weight, ride-height and engine restrictors for this year.

The new SR1 starts at £40,000 for a ready-to-race car and deliveries will begin in August.

The championship is aimed at entry-level drivers.



Cammish held off
Rovera and Zamparelli

PORSCHE CARRERA CUP GB

Cammish claims simulator prize

PORSCHE CARRERA CUP GB CHAMPION
Dan Cammish has secured a prize test in Porsche's LMP1 simulator for winning the Carrera Cup race at Le Mans earlier this month.

He beat 60 other drivers to claim the victory, despite briefly losing the lead on the final lap, and believes the test will help bring him closer to his goal of a works drive.

"It's an amazing prize," said Cammish, who finished just ahead of Dino Zamparelli and Alessio Rovera. "It will be a great experience

and it's an opportunity to try something that very few people get to try. It gets me that little bit closer to the manufacturer."

Cammish added that the challenge of learning the La Sarthe circuit was made even greater by being forced to miss second practice.

"I made a mistake in practice and hit a flappy track-limit marker," he said. "It destroyed the front of the car and I had to miss the second session. Everyone thought that was really going to hurt us."

LMP3 CUP

Hoy to partner award winner in LMP3

OLYMPIC GOLD MEDALLIST SIR
Chris Hoy will return to LMP3 racing for the first time since landing the inaugural European Le Mans Series class title in 2015 when he makes a guest appearance in the LMP3 Cup finale at Donington Park.

Six-time Olympic cycling champion and 11-time world champion Hoy has been

unveiled as the celebrity entrant in the guest United Autosports-run Ligier JSP3 for the season finale on September 16-17.

Hoy will share the car with the winner of the series' Young Driver initiative, which will be one of 10 drivers – Scott Malvern, Alex Sedgwick, Enaam Ahmed, Toby Sowery, Sandy

Mitchell, Stephane Kox, Bradley Smith, Dan O'Brien, Harrison Scott and Callan O'Keeffe. The winner will be the driver who garners the most public votes via an online poll.

Also in LMP3 Cup, Alex Kapadia and Dean Gibbs will replace Jamie Spence and Jason Rishover at Nielsen Racing.



Sir Chris Hoy (r) is
the star driver for
Donington finale

BRITISH GT

Third Lambo for Barwell at Spa

BRITISH GT CHAMPIONSHIP LEADER
Barwell Motorsport will field a third Lamborghini in next month's Spa round.

The team has entered its additional Huracan GT3 in the Belgian event on July 7-8 for ex-GP3 racer and Lamborghini Super Trofeo champion Patrick Kujala and gentleman driver Adrian Amstutz, who are double winners in the Pro-Am class of the Blancpain GT Series Endurance Cup this year. They are taking in the British series event to

prepare for the Spa 24 Hours, the blue-riband Blancpain round, at the end of July.

Barwell boss Mark Lemmer said: "They want to use it as a bit of a warm-up for the 24-hour race and to get some more experience of the track."

- The British GT3 grid at Spa will be further boosted by an entry from the Kessel Racing Ferrari team for Blancpain regulars Carlo van Dam and Piti Bhirombhakdi.

IN BRIEF



AUTOSPORT PRIZE FF1600 BACK IN LIVERY

The Lotus 61 Formula Ford given away in an Autosport magazine competition in 1969 is now back in period livery for the first time in decades. The car (above), won by Autosport reader Rod Stevens ahead of the 1969 season, spent many years with Guernseyman Dave Lowe, but has since been acquired by Glenn Eagling.

CLIO JR SAMPLER DAY AT BLYTON PARK

The relaunched Renault UK Clio Cup Junior series will have a free sampler day at Blyton Park on July 18 for interested drivers. The series is open to 14-17-year-olds and will feature four rounds this year, following its postponement from an original June start date. The opener will take place at Snetterton on September 9-10.

WIND BLOWS AGAINST BMW MAN GALES

Trackday Trophy driver Steve Gales was forced to miss qualifying at Rockingham last weekend as his BMW 235i was being repaired after a collision with a Porsche Cayenne in the paddock as he headed for the assembly area. He started the race from the back of the grid, but picked up a stop-go penalty, and then finally retired after 22 laps and a couple of spins when he hit the pitwall.

JIM WALSH TROPHY GETS BIG ENTRY

This weekend's Jim Walsh Trophy marks 50 years to the day since the very first Formula Ford race was held and will feature a 35-car line-up. The SuperSeries race around the Silverstone Grand Prix Circuit at the MSVR meeting on July 2 will include category legend Rick Morris, 2015 Jim Walsh Trophy winner Joey Foster, regular ace Oliver White and 2015 Walter Hayes Trophy winner Graham Carroll.

LUNDQVIST TESTS F3 BUT WON'T SWITCH

Double R British F4 driver Linus Lundqvist tested a BRDC British F3 car with the team for the first time at Rockingham last week. The Swede (below), who is third in the F4 points, is not currently due to race in F3, and the test was just to give the car a run. Double R currently has a spare seat in F3 after Harry Hayek fractured a vertebra in a crash at Snetterton last month. The Australian is facing an eight-month spell on the sidelines.





SILVERSTONE CLASSIC The three TWR Jaguar Sport XJ220s that took part in the 1993 Le Mans 24 Hours will be reunited at the Silverstone Classic, where they will lead a parade of XJ220s to honour the model's 25th birthday. All three cars will run in their original liveries and the event is thought to be the first time that the cars will have run in public together since the 1993 race. The David Coulthard/David Brabham/John Nielsen car was the first GT finisher but was later disqualified following an administrative issue.

RGB

DEBATE OVER FUTURE OF STRUGGLING RGB CLASS

RGB CHAMPIONSHIP CLASS F drivers Richard Webb and David Watson have disagreed on the best way forward for the beleaguered category.

Spire driver Webb and MNR exponent Watson were the only two drivers entered for the front-engined class in the recent round at Brands Hatch earlier this month, with the rest of the grid in rear-engined Class R machines.

Both are competing in brand-new cars that were given their debuts at Croft in May.

"I don't think anyone's really moved the class on for a long time now," said Webb, who suggests capping development as a possible solution.

"Either other manufacturers have got to bring the F cars along, as we and the MNR guys are doing, or they need to change the rules to cap development."

Watson, however, feels that the class should be merged into the overall series. "The way to level that out is to increase the weight in Class R, to say 590-600kg, and keep Class F at 560kg," he explained.

"I suspect that the MSA committee will canvass the drivers past and present in Class F and hopefully come up with a structure that can be implemented for next year."

OBITUARY

Colin Blower 1948-2017

HINCKLEY GARAGISTE COLIN BLOWER, WHO DIED ON JUNE 20, aged 69, was a top club racer of his generation.

Equally skilled in the workshop and behind the wheel, Blower raced an MGB in 1973 and won Production Sports/Saloon championships in TVR 3000M, Porsche 911 and Colt Starion, plus the '92 TVR Tuscan Challenge.

A shunt at Croft's '74 finale wrecked Blower's Lotus Europa but TVR's chairman Martin Lilley loaned a Ford V6-engined 3000M for '75. The launch of the TVR Tuscan Challenge in '89 lured him back, and indeed he won the '92 championship.

Colin escaped a crash at Silverstone in a 450bhp AJP8-powered Tuscan in '95, but masterminded a superlative set-up for the monsters. He and Jamie Campbell-Walter subsequently won a Donington British GT round with a Cerbera – which caught fire, stopping the race! – but Ultima and Vauxhall VX220 projects were less fruitful.

Having found historic racing in 2004 with Nigel Kemp's Lola T70 Spyder, Blower prepared Aston Martin racers long after Parkinson's disease curtailed his racing. The sport's thoughts are with Colin's wife Karen and son Sam.

SILVERSTONE CLASSIC

Boxer Froch to make racing debut

FORMER WORLD SUPER-Middleweight boxing champion Carl Froch will make his racing debut at the Silverstone Classic next month.

Froch, who retired from boxing in 2015, will tackle his maiden race in an Austin A35 along with other celebrities for the one-off event.

The 39-year-old has been preparing for the race by

attending the Motorsports School at Donington Park.

"I had been to Donington a few times, I came to the Superbikes before as I used to have a bike, but I had only been as a spectator until I came to the school," said Nottingham-based Froch.

"I have been to see the Formula 1 at Silverstone as a guest but got bored because

you can't see enough, not like you can on TV.

"But I love it here at Donington and wanted to do a few extra laps before my big day on July 29.

"I am going there hoping to win; I will try. But in racing you can beat someone, and there are three on the podium. In boxing if you don't win you are the loser."



Froch (r) has been testing ahead of debut



Formula Ford gears up for 50th birthday

By Marcus Pye, the voice of club racing

[@autosport](#)

THE FORD COSWORTH DFV FORMULA 1 ENGINE, Formula Vee and Gurston Down and Tregrehan hillclimb venues have all reached their half centuries in recent weeks, but this week it's Formula Ford's turn to celebrate its 50th birthday. Back where the extraordinary story began on the club (Indy) circuit at Brands Hatch, the anniversary of Ray Allen's inaugural victory will resound around the Kentish amphitheatre on Sunday. Sticklers for detail may also notice that the feature race is scheduled for 1545, as per the original!

Almost 50 FF1600 cars of the pre-'72 era justifies four races on the GP circuit, with a championship round following a qualifier each day. Only the quickest 12 competitors (six per qualifying session) will progress to Saturday's final by right. The rest fight for the remaining 26 places in a heat. On Sunday, the top dozen from the previous day's points race automatically progress to the final, its grid to be filled from an earlier repechage. If the racing is as clean as at Donington and Cadwell Park in the dry, and on a horribly wet Silverstone GP circuit, the world's most successful junior single-seater class will again justify the admission price.

Watching the action unfold at the Legends of Brands Hatch Superprix – a staple of the HSCC calendar for 20 plus years – will be a tremendous contingent of Formula Ford alumni from its early days, including Kenneth Acheson, Ray Allen, Wil Arif, Mike Blanchet, Bob Evans, Geoff Lees, Damien Magee, Richard Mallock, Richard Morgan, Rick Morris, Richard Robarts, Tony Trimmer and Gerrit van Kouwen, plus Champions of Brands Andy Ackerley and Karl Jones. Chassis manufacturers Alan Cornock (Royale), Hugh

Dibley (Palliser) and Ivor Walklett (Ginetta) are planning to attend the event, too.

Presiding over Saturday evening's special supper reception – at which fellow commentator Ian Titchmarsh and I are aiming to catch up with many – will be BRDC stalwart Chris Alford who was instrumental in bringing Formula Ford under the HSCC's wing in 1995, when Brian Hayward (Lotus 61) topped the tree. Eleven drivers have lifted the title, Neil Fowler (now a top Lola preparer) for five successive seasons!

I've not competed in the category for many years but am hugely excited that the greatly underrated Ben Mitchell is to debut my Mk20 at this auspicious event, eight months after I acquired it – unrun in more than a decade – through a series of coincidences. I do, however, feel for Claire M. who now has her elder son in the running alongside husband Westie in Simon Hadfield's Lotus 59 and younger lad Sam (both previously HFF champions) in the family Merlyn.

Double British Touring Car champions Colin Turkington and John Cleland are in action both days. The Northern Irishman contests the Jaguar Classic Challenge in an E-type and the Guards Trophy with a Brabham BT5, while the Scot is a Super Touring favourite with his own family-run Vauxhall Vectra. Cameron Jackson (Euroracing 101) is hungry for Classic F3 success, but faces on-form period F3 combatant Richard Trott (Chevron B43). The weekend's fastest cars will contest the Derek Bell Trophy double-header, which sees Formulas 5000, 2, 3, Atlantic and FF2000 machines go head-to-head. Classic Clubmans ace Mark Charteris's first run in his US import March 742 is eagerly anticipated. 🍷



COMEBACK FOR PASSADORE GRD

A newly restored GRD 373 raced by Uruguayan Pedro Passadore alongside future Formula 1 champion Alan Jones in the works DART F3 team of 1973 returns to the tracks at Brands Hatch this weekend. "We'll test it on Friday, then hopefully race," said James Denty, whose ex-GRD engineer father Peter has owned it for 30 years.

BARRY SIDERY-SMITH 1936-2017

The passing of Surrey motor trader Barry Sidery-Smith last week, aged 81, robs marque sportscar racing of an indefatigable stalwart who competed for almost 60 years and organised events for like-minded souls.

'Sideways', as he was affectionately nicknamed (he seldom was), sampled a Parker-JAP 500 in the late 1950s but was fabled for his exploits in Austin-Healeys, MGs, MGAs and Triumph TRs.

MG coursed through his veins and Barry, rarely lost for words, was gobsmacked when friends raised £20,000 to rebuild his beloved 'B' when it was smashed at the 2002 Le Mans Classic.

To Barry's wife Pam, the racing and classic car movement shares your loss of a unique and irreplaceable character.



DINNER'S COOKING AT TREGREHAN

Record-holder Andrew Dinner (Pilbeam-Vauxhall MP82) set BTd at 18.37s as Truro & DMC celebrated 50 years of hillclimbing at Tregrehan, St Austell, last weekend. Keith Richards (OMS Hornet) chased as records fell. They were watched by Jim Bennett and Derek House, who competed there in 1967, and regular venue winner Mike Remnant.



Britcar double hits the spot for ill Wylie

ROSS WYLIE BATTLED THROUGH a bout of chickenpox for a brace of Britcar victories with Witt Gamski at Silverstone's GP circuit.

"Not the best" was Wylie's response to how he felt last Saturday morning, but his mood was brightened by a fighting sprint race victory. Gamski started the MJC Ferrari 458 from pole, but fell behind Calum Lockie, to the tune of 50 seconds by the time he handed over to Wylie.

Following a driver swap the lead Ferrari had David Mason at the wheel, and he was overtaken at Becketts by Wylie with 10 minutes to go, then drifted into the clutches of team-mate Johnny Mowlem in the other FF Corse Ferrari.

Lapped traffic was crucial in deciding the final outcome for both. A defending Mason greeted a Class Three Ginetta G55 battle at Brooklands for the last time, Mowlem tagging his team-mate into a spin as the quartet failed to fit into the narrowing space.

"Traffic pinched David when I was edging alongside him and we came together," said an apologetic Mowlem, sharing with Bonamy Grimes. "I apologised as it was a new car too!"

Mowlem and Grimes' chance to make amends in the Endurance race was shortlived. A gearbox problem proved terminal in their pursuit of Wylie, who grabbed the lead following pitstops after the opening hour. "It's a weak point of the car," bemoaned Grimes. "It's such a shame because we were right where we needed to be to challenge them."

Simon Rudd's overall points lead was trimmed after two second-place finishes in Class Three, Team Hard stablemates Angus Dudley and Callum Hawkins-Row edging the intra-team dices.

Mini Se7en and Miglia grids combined for the first time this season, with

Rupert Deeth claiming an emphatic double win in the Miglia class. His sluggish race-two start made completing the brace more difficult, but a tactical slipstreaming partnership with Dave Drew helped his cause on the way to a clean sweep of the points.

Se7en leader Lewis Selby was less fortunate, however, because his car lost fourth gear in race one – "the worst circuit to have lost that specific gear," he said. In his absence, a fierce fight for class honours was narrowly won by Darren Thomas each time. "It was a good, clean race at the front and it's a relief to finally get that result," he said after enduring poor fortune in recent rounds.

The Clubmans Cup pitched three intriguing duels between the experienced Mark Charteris and 17-year-old former Junior Saloon Car racer James Clarke.

Charteris emerged with a narrow hat-trick, despite ending the second race with his updated Mallock's speedometer in his lap after taking evasive action around a backmarker. "Aero is what we need to keep improving," said Clarke.

The Classic Touring Car Championship combined a healthy entry of 61 cars, split into a trio of double-headers.

Success came initially for Simon Ward at the wheel of an in-house-prepared Vauxhall Astra GTE in the class for pre-1993 machinery, despite enduring

Wylie battled illness to take two wins in the Ferrari he shared with Gamski

Charteris claimed a hat-trick of Clubman's Cup wins but Clarke pushed him hard

half of the first race with two functioning gears. Differential issues denied polesitter Karl Cattliff the chance in his rapid BMW E36, but he made up for the setback in fine fashion by climbing from 38th to first later in the afternoon.

Not to be outdone, AJ Owen produced a 'burn from the stern' of his own after a rollercoaster weekend in his pre-2003-class Honda Civic.

A throttle problem first ended his unbeaten run, unleashing "an angry AJ" as he described following a charge from 39th on the grid to second place in race two. Invitational entry Stephen Sawley claimed a double win between his traditional Thunder Saloons outings, Simon Beament spinning out of the race one lead in his Ford Escort RS2000.

Despite pirouetting on oil left by Chris Baker's Ford Escort Mk3, Dale Gent hung on to claim the first of two Thunder Saloon victories in his Subaru Impreza. Darren Dowling and his TVR took the fight to Gent in the absence of Andrew Wilson's Holden Monaro, V8 Supercar power still reaching the podium twice thanks to Andy Robinson's Ford Falcon.

Adriano Medeiros picked up from he left off when Classic Formula Fords last visited Silverstone in March, comfortably adding his fourth and fifth victories of the season. The Brazilian controlled the pace on both occasions, title rival Mark Armstrong's view obstructed by a loose nosecone in the first outing.

Kumho BMW wins were shared between Oliver Taylor and James Card in their respective E90 and E46 machinery. Taylor's decisive move into Stowe sealed first blood, before the pair's next dice ended a mere 0.7s in favour of Card.

DAN MASON

➔ P69 FULL RESULTS



Lang boosts title chances with two Radical Rockingham wins

JACK LANG BOOSTED HIS RADICAL Challenge title hopes with two wins out of three last weekend.

Having led from the start of race one, Lang found his lead drastically reduced after Oliver Barker took second from Steve Burgess at Deene on lap five of 12.

Barker's pressure told at Tarzan three laps later, while Burgess and Bradley Smith tangled in their duel for third.

However, a loss of gears exiting Tarzan for the 12th time left Barker sidelined, so Lang won, with Kristian Jeffrey and Stuart Maloney completing the podium.

Smith shadowed Lang for the whole of race two but was still two tenths adrift at the flag. Burgess had managed to withstand Brian Caudwell's pressure for third until his engine let go after 11 laps. Caudwell then received a jump-start penalty, which handed Maloney his second podium of the day.

Lang made the best start in race three too, but Barker ousted Smith into Deene on the opening lap, before grabbing Lang's lead exiting Yentwood.

Two safety car periods intervened and, having pitted in third, Burgess emerged as the new leader, taking the victory over Barker and Caudwell, with Lang fourth.

Ben Dimmack escaped from an early three-car break to win the first Mini Challenge Open race, with Rob Austin a clear second, after Aaron Reeve ran wide at Deene on the fifth lap but still retained third. Austin took the race two spoils, after Dimmack had led the first four laps, with Reeve a clear third again.

In the Trackday Trophy, Steve Hewson and Matt Nossiter's grabbed a late win in their BMW, despite picking up a drivethrough penalty for short-stopping. The Mini of erstwhile leaders Toby Hotston and Lawrence Davey

dropped to third behind Dean Hyde's BMW M3 in the final minutes.

Mini Challenge Cooper points leader Jessica Hawkins led a four-car break from the start of the first race. Her lead grew and she went on to win as Owen Walton and Sam Weller duelled for second. Matt Hammond was a close fourth.

Race two was punctuated by the safety after two cars went off, and the race came down to a two-lap sprint between Hammond, Walton, Martin Poole and Hawkins. The lead pair held station, but Hawkins forced her way into third on the last lap. However, a one-second post-race penalty handed the place back to Poole.

Gavan Kershaw's Lotus Evora was never headed in the AMOC Intermarque and Aston Martin GT Challenge. Christopher Kemp's Vantage GT4 held a race-long second, with Tom Black's similar car completing the top three.

Despite his fantastic start in the first Radical SR1 Cup race, Andrew Ritchie was down to third before they reached Tarzan on the opening lap. Jerome de Sadeleer took charge for a comfortable win over David Thompson, while James Pinkerton took Ritchie for third at the Brook Esses on lap five of 13.

After running four abreast through Turn 1, de Sadeleer led race two into Tarzan on the opening lap, before easing to win number two. Ritchie and Pinkerton battled for third, allowing Thompson to consolidate second.

Callum McDougall/Ben Simonds' Caterham Supersport led home Simon Clark's Porsche Boxster and Darren Goes' SEAT Leon Cupra in hard-fought Trackday race, while in the Allcomers it was a double win for David McNulty's Lotus Exige.

PETER SCHERER



Lang (r) battled with Barker for Radical honours

RESULTS

RADICAL CHALLENGE (12 LAPS)

1 Jack Lang; 2 Kristian Jeffrey +1.030s; 3 Stuart Maloney; 4 Jack Manchester; 5 Spencer Bourne; 6 John Caudwell. **Class winner** Tom Harvey. **Fastest lap** Oliver Barker 1m19.130s (88.25mph). **Pole** Bradley Smith. **Starters** 26. **RACE 2 (15 LAPS)**

1 Lang; 2 Smith +0.243s; 3 Maloney; 4 Barker; 5 Brian Caudwell; 6 Dominik Jackson. **CW** Brian Harvey. **FL** Smith 1m19.442s (87.91mph). **P** Smith. **S** 26.

RACE 3 (27 LAPS) 1 Steve Burgess; 2 Barker +2.869s; 3 B Caudwell; 4 Lang; 5 Richard Baxter; 6 T Harvey/B Harvey. **CW** Harvey/Harvey. **FL** Barker 1m19.025s (88.37mph). **P** Barker. **S** 25.

MINI CHALLENGE OPEN (BOTH 10 LAPS) 1 Ben Dimmack; 2 Rob Austin +2.731s; 3 Aaron Reeve; 4 Tim Bill; 5 Andy Montgomery; 6 Neil Ginley. **FL** Dimmack 1m34.806s (73.66mph). **P** Reeve. **S** 8. **RACE 2 1 Austin;**

2 Dimmack +2.334s; 3 Reeve; 4 Bill; 5 Montgomery; 6 Kevin Owen. **FL** Austin 1m34.546s (73.86mph). **P** Bill. **S** 8.

MSVT TRACKDAY TROPHY

(26 LAPS) 1 Steve Hewson/Matt Nossiter (BMW E36); 2 Dean Hyde (BMW E30) +5.262s; 3 Lawrence Davey/Toby Hotston (Mini JCW); 4 Richard Clarke/Mark Steward (Honda Civic Type R); 5 Colin Tester/Adrian Timpson (Toyota MR2); 6 Matt Shawyer/David Traviss (Toyota Celica). **CW** Shawyer/Traviss; Mike Chapman/Jon Yates (VW Golf); Phil Burden (Ford Puma); Nicholas Jackson/Elliott Newman (Ford Fiesta). **FL** Hewson 1m35.446s (73.17mph). **P** Hewson/Nossiter. **S** 30.

MINI CHALLENGE COOPER (BOTH 9 LAPS) 1 Jessica Hawkins; 2 Owen Walton +1.566s; 3 Sam Weller; 4 Matt Hammond; 5 Richard Newman;

6 Martin Poole. **CW** Daniel Bishop. **FL** Walton 1m39.337s (70.30mph). **P** Hawkins. **S** 17. **RACE 2 1 Hammond;** 2 Walton +0.361s; 3 Poole; 4 Weller; 5 Hawkins; 6 Newman. **CW** Bishop. **FL** Walton 1m39.924s (69.89mph). **P** Hammond. **S** 17.

AMOC INTERMARQUE & ASTON MARTIN GT CHALLENGE (30 LAPS)

1 Gavan Kershaw (Lotus Evora GT4); 2 Christopher Kemp (Aston Martin Vantage GT4) +55.721s; 3 Tom Black (Aston Martin Vantage GT4); 4 David Tinn (Aston Martin GT4); 5 Robin Marriott (Aston Martin Vantage GT4); 6 Robert Hollyman (Porsche 964).

CW Kemp; Hollyman; Matthew Wilton-Cowen (Ferrari 360); Andrew Peck (Porsche 968 CS); Bob Searles/Steve Atkinson (Porsche 944 Turbo); Laurence Squires (BMW E36 323). **FL** Kershaw 1m25.592s (81.59mph). **P** Kershaw. **S** 15.

RADICAL SR1 CUP (13 LAPS)

1 Jerome de Sadeleer; 2 David Thompson +2.915s; 3 James Pinkerton; 4 Andrew Ritchie; 5 Nigel Paine; 6 David Tagg. **FL** de Sadeleer 1m26.978s (80.29mph). **P** de Sadeleer. **S** 11. **RACE 2 (14 LAPS)**

1 de Sadeleer; 2 Thompson +20.973s; 3 Ritchie; 4 Pinkerton; 5 Mark Crader; 6 Paine. **FL** de Sadeleer 1m27.409s (79.90mph). **P** de Sadeleer. **S** 10.

MSVT TRACKDAY CHAMPIONSHIP (27 LAPS) 1 Callum McDougall/Ben Simonds (Caterham Supersport);

2 Simon Clark (Porsche Boxster) +24.365s; 3 Darren Goes (SEAT Leon Cupra); 4 Ryan Steele (Citroen Saxo); 5 Kester Cook (Ford Fiesta); 6 David Gardner/Chris Mills (BMW M3). **CW** Goes; George Wright/Jack Wright (Porsche 944); Jack Wood (Renault Clio); John Cooper/Alastair Kellett (Ford Fiesta Zetec S). **FL** McDougall/Simonds 1m32.938s (75.14mph). **P** Goes. **S** 33.

ALLCOMERS & Z CARS (11 LAPS)

1 David McNulty (Lotus Exige); 2 Chris Everill (Ginetta G50) +19.385s; 3 Jason McNulty (Lotus Elise Cup R); 4 Jamie Jeffrey (BMW Z4); 5 Karl Graves (BMW 120D); 6 Peter Bramble (MGB). **CW** Jeffrey. **FL** D McNulty 1m31.190s (76.58mph). **P** D McNulty. **S** 9. **RACE 2 (13 LAPS) 1 D McNulty;** 2 Ross Everill (Ginetta G50) +48.000s; 3 J McNulty; 4 Jeffrey; 5 Graves; 6 Alan Forster (MG ZR 160). **CW** Jeffrey. **FL** D McNulty 1m30.922s (76.81mph). **P** D McNulty. **S** 9.



Hawkins (l) triumphed again in Mini Challenge Coopers



DEMPSTER

KIRKISTOWN
500 MRCI JUNE 23-24

Trio of winners in FF1600 thrillers

NO FEWER THAN FIVE FIRST CLASS Formula Ford 1600 races topped the bill at Kirkistown when the BRSCC National Championship paid its first visit to Northern Ireland last week.

But it was always going to be tough for first-time visitors who, despite getting plenty of testing miles in during the preceding days, still had a lot of ground to make up on the experienced locals.

At least that was the way it looked on Friday evening when they made the first of their three track appearances.

At least they had somebody with plenty of Kirkistown experience to follow in race one where James Roe, having qualified on pole, simply charged away from the pack, pursued by Jordan Dempsey. That left the visitors to squabble over the final podium position; it eventually fell to Neil MacLennan in his Cliff Dempsey Ray, chased by team-mate Jamie Thorburn. They both had Luke Cooper's Swift in close company as they crossed the line. Further back, Luke Williams made good progress to 12th from the back of the grid having lost an engine during qualifying.

Roe and Dempsey started on the front row again in race two, but Dempsey's race was a short one, his Van Diemen RFoo spearing off with broken steering after a brush with Roe just after the start. Roe, on the other hand, stayed with the leading bunch until lap 11 when a driveshaft pulled out, possibly as a result of the contact he had with Dempsey at the start.

With Roe's car stranded at the Hairpin, red flags came out and the result was declared with Thorburn leading Ross Martin over the line. Williams' progress through the field took him to third spot ahead of MacLennan, with the

best Irishman being Keith Donegan in fifth at the flag.

Donegan found himself on row two for the third race thanks to a partially reversed grid, but things became a bit hectic at the off when James Scott-Murphy became the casualty of a midfield squabble off the line. The result was an outing for the safety car, which held things in check for a while.

At the restart Donegan led for a little while before MacLennan got past. He hung on for second though, despite a lot of pressure from Williams and Martin, the latter in a brand new car to replace the one wrecked in his Knockhill aerobatic display earlier in the month.

In between the National races were two rounds of the Northern Ireland Championship. In the first of these, Niall Murray emerged victorious after a race-long battle with Kevin O'Hara, which only ended on the final lap with contact at the Hairpin. Roe and Alan Davidson, in his ageing but very effective Mondiale, took the other podium positions, while O'Hara struggled home fifth, behind David McCullough, with bent suspension.

Things were even more hectic in the second race, where once again O'Hara and Murray were at the front, but with more company this time. Roe, Davidson and McCullough all got in on the act too. It took until lap 13 of 16 before it all went wrong, with Murray and O'Hara getting together again at the Hairpin. Murray recovered to eventually finish fifth, while Roe, Davidson and McCullough battled on to the finish with Davidson in front of the other two when it mattered.

Elsewhere on the programme, there were double winners aplenty. Andrew

The third National FF1600 race was won narrowly by MacLennan ahead of Donegan

Armstrong (BMW M3) was supreme in both Saloon/GT encounters, the first from Richie O'Mahoney's SHP RT2000, which topped the small GT entry, the second from Martin Duffy's M3.

Jonny Forsythe scored back-to-back victories in two fairly fraught Fiesta races where the midfield action bordered on the extremely silly on occasion.

In race one, Daniel Conlon and Mark Stewart followed him home, while in race two Stewart took the runner-up spot, with Stuart Agnew completing the podium.

Both HRCA Historic races fell to John Benson's uprated S2000 Crossle from Bernard Foley's mighty 4.5-litre MGB.

A small field of BOSS Ireland machinery had two outings, the first going to Peter Dwyer's Lola-Nissan after the polesitting Reynard Rover of Donal Griffin fell by the wayside. Eamon Matheson's MM-Honda also suffered mechanical problems after leading briefly. Race two went to the F3 Dallara of Fergus Faherty from Hynes and Dwyer.

RICHARD YOUNG

[➔ P69 FULL RESULTS](#)



Armstrong won both Saloon/GT contests

DEMPSTER

RESULTS ROUND-UP

SILVERSTONE GP BARC

BRITCAR ENDURANCE CHAMPIONSHIP (23 LAPS)

1 Witt Gamski/Ross Wylie (Ferrari 458); 2 Bonamy Grimes/Johnny Mowlem (Ferrari 458) +49.691s; 3 Calum Lockie/David Mason (Ferrari 458); 4 Jonny MacGregor/Ben Sharich (Taranis); 5 Graham Lucking/Leyton Clarke (Ferrari 458 Challenge); 6 Colin Wilmott/Oliver Wilmott (Porsche 997 Cup). **Class winners** Grimes/Mowlem; Lockie/Mason; Wilmott/Wilmott; Angus Dudley/Callum Hawkins-Row (Ginetta G55); Paul Hollywood/Andrew Howard (Aston Martin Vantage); Sam Allpass/Jamie Martin (BMW M3 E46 GTR); Stewart Lines (SEAT Leon Cup TCR); Mark Murfitt/Michael Broadhurst (Porsche Cayman); Neil Garnham/Rob Young (BMW M3 E92); Barry McMahon (Alfa Romeo 156); Mark Vivian/Derek Holden (Ginetta G40). **Fastest Lap** Wylie 2m03.931s (106.33mph).

Pole Gamski/Wylie. **Starters** 29.

RACE 2 (53 LAPS) 1 Gamski/Wylie;

2 Lucking/Clarke +1m17.078s; 3 MacGregor/Sharich; 4 Dudley/Hawkins-Row; 5 Darron Lewis/Thomas Knight (Ginetta G55); 6 Hollywood/Howard. **CW** Lucking/Clarke; Dudley/Hawkins-Row; Hollywood/Howard; Allpass/Martin; Alyn James/Daniel Wheeler (Honda Civic Type R). **FL** Wylie 2m05.031s (105.39mph). **P** Gamski/Wylie. **S** 27.

MINI SETEN/MIGLIA (BOTH 6 LAPS)

1 Rupert Deeth (Miglia); 2 Dave Drew (Miglia) +4.789s; 3 Aaron Smith (Miglia); 4 Alfie Brown (Miglia); 5 Colin Peacock (Miglia); 6 Tristen Knight (Miglia). **CW** Gary Warburton (Libre); Darren Thomas (Se7en); Shaun Turlton (Se7en S). **FL** Deeth 2m32.369s (86.48mph). **P** Deeth. **S** 42.

RACE 2 1 Deeth; 2 Smith +2.587s;

3 Drew; 4 Robert Howard (Miglia); 5 Knight; 6 Sam Summerhayes (Miglia). **FL** Deeth 2m33.252s (85.98mph). **P** Deeth. **S** 36.

CLUBMANS CHAMPIONSHIP (9 LAPS)

1 Mark Charteris (Mallock Mk23 SP); 2 James Clarke (Mallock Mk27) +5.279s; 3 Steven Dickens (Mallock Mk29); 4 Alan Cook (Mallock Mk20/21B); 5 Ian Crombie (Mallock Mk27 Synergy); 6 Mike Evans (Mallock Mk27). **CW** Evans; Barry Webb (Delapena Mallock Mk16BW). **FL** Charteris 2m06.391s (104.26mph). **P** Clarke. **S** 21. **RACE 2 (8 LAPS)** **1 Charteris;** 2 Clarke +0.533s; 3 Jonathan Hair (Beagle MkIV); 4 Dickens; 5 Crombie; 6 Steve Everson (Mallock Mk27). **CW** Evans; Webb. **FL** Charteris 2m06.703s (104mph). **P** Charteris. **S** 22. **RACE 3 (8 LAPS)** **1 Charteris;** 2 Clarke +1.388s; 3 Hair; 4 Dickens; 5 Cook; 6 Crombie. **CW** Evans; Webb. **FL** Charteris 2m08.513s (102.54mph). **P** Charteris. **S** 22.



Deeth (I) was a double Mini Miglia winner at Silverstone

CTC PRE-66/PRE-83/PRE-93

(8 LAPS) 1 Simon Ward (Vauxhall Astra GTE); 2 David Hunt (BMW M3 E36) +6.579s; 3 Matthew Howarth (Vauxhall Astra GSI); 4 Andrew Harrison (Jaguar XJS); 5 Stephen Primett (Ford Escort); 6 Mark Osborne (Triumph Dolomite Sprint). **CW** Hunt; Harrison; Primett; Alistair Lindsay (Volkswagen Golf); Stuart Caie (Ford Capri); Chris Morgan (Austin Mini Cooper S); Malcolm Jeffs (Alfasud); Alan Greenhalgh (Ford Falcon); Frank Guest (Alfa GTV); Samuel Goodwin (Ford Fiesta); Tony Preston (Morris Minor); Freddie Brown (Hillman Imp). **FL** Ward 2m32.118s (86.62mph). **P** Karl Cattliff (BMW E36 M3). **S** 39.

RACE 2 (6 LAPS) 1 Cattliff; 2 Hunt

+10.048s; 3 Ward; 4 Harrison; 5 Howarth; 6 Primett. **CW** Ward; Harrison; Primett; Lindsay; Caie; Morgan; Jeffs; Greenhalgh; Guest; Preston; Goodwin. **FL** Cattliff 2m28.218s (88.90mph). **P** Ward. **S** 37.

CTC PRE-03/PRE-05/CLASSIC

VW/4TWO (8 LAPS) 1 Stephen Sawley (Honda Civic); 2 David Hickton (VW Golf) +5.000s; 3 Rich Hockley (Honda Civic EK); 4 Nick Sanderson (SEAT Leon Supercopa); 5 Simon Beament (Ford Escort RS2000 Maxi); 6 George Young (Honda Civic Type R). **CW** Hickton; Hockley; Sanderson; Alistair Lindsay (VW Golf); Rory Baptiste (VW Golf GTi); Mario Neophytou (Peugeot 106 GTi); Neil Bray (MG ZR); Rahim Baloo (Peugeot 206 GTi); James Palmer (Smart ForTwo); Steven Needham (Smart ForTwo). **FL** Beament 2m28.139s (88.95mph). **P** A J Owen (Civic Type R). **S** 44. **RACE 2 (6 LAPS) 1 Sawley;** 2 Owen +3.757s; 3 Young; 4 Hickton; 5 Sanderson; 6 Ken Lark (VW Corrado). **CW** Owen; Hickton; Sanderson; Luke Allen (Honda Civic Type R); Lindsay; Bray; Bright; Baptiste; Neophytou; Palmer; Needham. **FL** Owen 2m27.794s (89.16mph). **P** Sawley. **S** 41.

CTC THUNDERSALOONS (5 LAPS)

1 Dale Gent (Subaru Impreza); 2 Darren Dowling (TVR Sagaris) +7.226s; 3 Andy Robinson (Ford Falcon); 4 Ian Knight (SEAT Supercopa); 5 James Janicki (Nissan Skyline); 6 Ian Craig (BMW E46 M3). **CW** Dowling; Stephen Sawley (Honda Civic); Jeffrey Windsor (Ford Sierra RS Cosworth); Craig Percy (Morris Minor V8); Richard Askham (Jaguar XJR); Alexander Tait (Ford Fiesta); Andrew Mizzi (Honda Accord Type R); Peter Dunmore (Honda Civic Type R); Chris Brown (Ford Fiesta XR2). **FL** Gent 2m14.043s (98.31mph). **P** Dowling. **S** 28. **RACE 2 (6 LAPS)** **1 Gent;** 2 Dowling +4.550s; 3 Robinson; 4 Janicki; 5 Bradley Gelman (Ford Sierra Cosworth); 6 Sawley. **CW** Dowling; Sawley; Tait; Askham; Benjamin Griffiths (Honda Accord Type R); Percy; Dunmore; Brown. **FL** Gent 2m16.120s (96.81mph). **P** Gent. **S** 23.

CLASSIC FORMULA FORD (9 LAPS)

1 Adriano Medeiros (Van Diemen RF80); 2 Mike Gardner (Cossle 32F) +19.170s; 3 Scott Guthrie (Cossle 25F); 4 Stuart Kestenbaum (Cossle 16F); 5 Nigel Lingwood (Van Diemen RF80); 6 Ben Tinkler (Van Diemen RF80). **CW** Kestenbaum. **FL** Medeiros 2m23.846s (91.61mph). **P** Medeiros. **S** 24. **RACE 2 (7 LAPS) 1 Medeiros;** 2 Gardner +8.583s; 3 Tinkler; 4 Mark Armstrong (Van Diemen RF80); 5 Lingwood; 6 Kestenbaum. **CW** Kestenbaum. **FL** Medeiros 2m24.227s (91.36mph). **P** Medeiros. **S** 24.

KUMHO BMW (9 LAPS)

1 Oliver Taylor (E90 M3); 2 James Macintyre-Ure (M3 E46) +5.908s; 3 James Card (M3 E46); 4 Roger Lavender (E46); 5 Darren Fielding (E36 M3); 6 Lucky Khera (M3 E92). **CW** Macintyre-Ure; Paul Travers (M3); Ben McClelland (E36 M3); Christopher Cheverall (M3 E36); Kevin Denwood (E46 Compact); Gareth Montgomery (323i); Giuseppe Callari (318is); Timothy Sweet (325 Compact).

FL Taylor 2m19.484s (94.47mph).

P Taylor. S 26. RACE 2 (7 LAPS)

1 Card; 2 Taylor +0.726s; 3 Lavender; 4 Fielding; 5 Khera; 6 Lee Frost (E90 V8 WTCC). **CW** Taylor; Travers; McClelland; Cheverall; Montgomery; Denwood; Sweet; Callari. **FL** Taylor 2m18.260s (95.31mph). **P** Taylor. **S** 24.

KIRKISTOWN 500 MRCI

BRSCC NATIONAL FF1600 (16 LAPS)

1 James Roe (Van Diemen RF99); 2 Jordan Dempsey (Van Diemen RF00) +2.009s; 3 Neil MacLennan (Ray GR09); 4 Jamie Thorburn (Ray GR15); 5 Luke Cooper (Swift SC16); 6 Josh Smith (Firman FR16). **CW** John Ferguson (Spectrum 012); Andrew Blair (Reynard FF87). **FL** Roe 1m01.629s (88.33mph). **P** Roe. **S** 26.

RACE 2 (11 LAPS) 1 Thorburn;

2 Ross Martin (Ray) +0.755s; 3 Luke Williams (Firman FR16); 4 MacLennan; 5 Keith Donegan (Van Firman JL13K); 6 James Scott-Murphy (Van Diemen JL16). **CW** Ferguson; Blair. **FL** Cooper 1m01.771s (88.12mph). **P** Roe. **S** 26.

RACE 3 (12 LAPS) 1 MacLennan;

2 Donegan +0.279s; 3 Williams; 4 Martin; 5 Michael Eastwell (Spectrum 011); 6 David McArthur (Van Diemen LA10). **CW** Miles Griffiths (Ray GR13); Blair. **FL** Cooper 1m01.729s (88.18mph). **P** McArthur. **S** 26.

NORTHERN IRELAND FF1600

(BOTH 16 LAPS) 1 Niall Murray (Van Diemen LA10); 2 James Roe (Van

Diemen RF99) +0.294s; 3 Alan Davidson (Mondiale M89S); 4 David McCullough (Van Diemen RF01); 5 Kevin O'Hara (Van Diemen RF01); 6 Will Herron (Van Diemen RF00). **CW** Davidson; Ian McCulla (Reynard FF84); Arnie Black (Cossle 32F). **FL** Roe 1m01.650s (88.29mph). **P** Murray. **S** 14. **RACE 2 1 Davidson;** 2 Roe +0.441s; 3 McCullough; 4 Herron; 5 Murray; 6 Dempsey. **CW** Roe; Nicky Gibson (Cossle 40F). **FL** Davidson 1m01.662s (88.27mph). **P** Murray. **S** 14.

SALOON/GT (BOTH 15 LAPS)

1 Andrew Armstrong (BMW M3); 2 Richie O'Mahoney (SHP RT2000) +36.840s; 3 Tony Traub (Honda Integra) 4 Donal O'Neil (SEAT Cupra); 5 Dermot Nolan (SHP RT2000); 6 Francis Allen (BMW 330i). **CW** O'Mahoney. **FL** Armstrong 1m03.224s (86.09mph). **P** Armstrong. **S** 14. **RACE 2**

1 Armstrong; 2 Martin Duffy (BMW

M3) +1.296s; 3 Ralph Jess (BMW E36); 4 O'Mahoney; 5 Traub; 6 Allen. **CW** O'Mahoney. **FL** Armstrong 1m02.723 (86.78mph). **P** Armstrong. **S** 12.

FIESTA ZETEC (BOTH 13 LAPS)

1 Jonny Forsythe; 2 Daniel Conlon +3.155s; 3 Mark Stewart; 4 Stuart Agnew; 5 Ricky Hull; 6 Eorann O'Neill. **FL** Conlon 1m17.732s (70.02mph).

P Forsythe. S 12. RACE 2 1 Forsythe;

2 Stewart +0.487s; 3 Agnew; 4 O'Neill; 5 Hull; 6 Conlon. **FL** Stewart 1m17.913s (69.86mph). **P** Forsythe. **S** 11.

HRCA HISTORIC SPORTS CARS

(BOTH 15 LAPS) 1 John Benson

(Cossle 37S); 2 Bernard Foley (MGB GT) +33.457s; 3 Clive Brandon (Lotus 47); 4 Edmund Cassidy (Sunbeam Tiger); 5 Garth Maxwell (MGB GT); 6 Wolfgang Schnitter (MG Midget). **FL** Benson 1m03.275s (86.02mph). **P** Benson. **S** 11. **RACE 2 1 Benson;**

2 Foley +35.046s; 3 John McCandless

(Cossle 47S); 4 Cassidy; 5 Maxwell; 6 Schnitter. **FL** Benson 1m03.046s (86.01mph). **P** Benson. **S** 11.

BOSS IRELAND (BOTH 17 LAPS)

1 Peter Dwyer (Lola Nissan); 2 Colm Hynes (Reynard 88D Holden) +4.371s; 3 John Stewart (Mygale M12); 4 Fergus Faherty (Dallara F306); 5 Noel Roddy (Dallara F302); no other finishers. **FL** Dwyer 57.126s (95.28mph). **P** Donal Griffin (Reynard Rover 90D). **S** 7.

RACE 2 1 Faherty; 2 Hynes +4.879s;

3 Dwyer; 4 Stewart; 5 Eamon Matheson (MM2); no other finishers. **FL** Faherty 57.407s (94.82mph). **P** Matheson. **S** 6.



Benson was the historic ace at Kirkistown

WHAT'S ON



Behind the mic – becoming a com

MY CIRCUIT COMMENTARY DEBUT was a bit like getting a job as a roadie for Iron Maiden, and then, a few days before starting, finding out you will be standing in for Bruce Dickinson. It was a sudden and nerve-shredding experience, but bloody good fun.

It all came about earlier, when the Autosport Academy training scheme offered one successful applicant the chance to be taken under the wing of 750 Motor Club commentator Ian Sowman and taught the art of calling club circuit racing.

The initial plan was a three-part training programme, in which I would observe for the first meeting at Croft, have a limited amount of participation later in the year at Cadwell Park, and then make my full-blown debut at Rockingham in September.

But this was turned on its head when Ian's co-commentator found himself triple-booked for the weekend of Croft at the end of May. It was in-at-the-deep-end stuff now.

I had prepared a binder full of notes

— from series rules, to past champions and race winners — but the 750 Motor Club was completely alien to me. In fact, this was my first-ever experience of club racing.

A quick online class about being a commentator from Ian just a couple of days before my debut was not quite how I had envisaged my learning process, but it proved useful nevertheless, even if it did nothing to calm my considerable nerves.

Thick as thieves – Duncan and Sowman describe the action after breaking into the Croft commentary box

That anxiety was not eased when Ian informed me that the commentary box had to be broken into by the circuit staff because the locks weren't working. Ever the cynic, I didn't quite feel that the omens were pointing in my favour.

The box itself was rather bare-bones: we had a couple of fuzzy television screens with laptimes on them, two microphones, and a sort-of-functioning air-conditioning unit. It was rather like stepping back in time, but it did have a handy view out of the window.

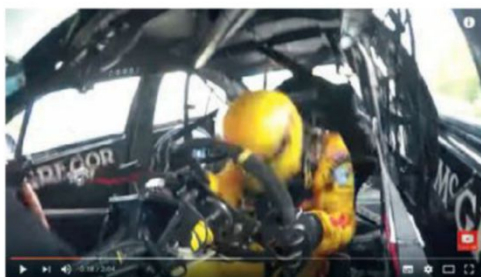
After the final practice sessions had concluded, it was time for the talking to begin. A lovely introduction to the day's action from Ian was swiftly followed by my Scottish tones booming through the circuit's sound systems, and before long the racing got under way.

Trying to differentiate my Tom Bells from my Phil Laws in the opening Hot Hatch race while also trying to correctly identify Croft's turns was almost an overload for my brain, but before long I began easing into it, making sure to follow Ian's tutelage whenever I spoke.



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HOT ON THE WEB THIS WEEK

YouTube CORONEL ESCAPES 25G IMPACT UNSCATHED

Search for: Bizarre crash into firetruck at WTCC race of Portugal for Tom Coronel 2017

Watch WTCC driver Tom Coronel's Chevrolet Cruze crash into a fire vehicle after a wheel failure in practice at Vila Real. He's revealed that the impact measured 25g – enough to snap his seatbelts and the restraint ties on his HANS device.

NEXT WEEK

ON SALE NEXT THURSDAY



LEWIS UNPLUGGED
Hamilton on Rosberg, Vettel and his future in the sport

PLUS Celebrating racing's greatest junior category
FORMULA FORD AT 50



JONES

mentator

As the weekend wore on, I found myself gelling with the commentary game, growing in confidence in my questions to drivers post-race in pitlane and feeling more comfortable in my call-outs during the action.

That's not to say there were no mistakes; I found out on Sunday I had irked the clerk of the course when I rather foolishly said 'rubbin's racing' during a Civic race the day before. But mistakes are part of life and, as much as I wanted to be, I was never going to come away from my commentary debut sounding like Ben Edwards.

I have certainly gained an almighty amount of respect for commentators after my experience. It's all too easy to criticise when something seemingly goes unnoticed or unmentioned, but I now know just how easy those calls are to miss.

I also know what to expect when I get to Cadwell Park in July, and the nerves I suffered before Croft have turned to sheer excitement.

LEWIS DUNCAN

INTERNATIONAL MOTORSPORT

EUROPEAN FORMULA 3

Rd 5/10
Norisring, Germany
July 1-2

WATCH ONLINE
Live fiaf3europe.com

DTM

Rd 4/9
Norisring, Germany
July 1-2
WATCH ON TV
Live BT Sport ESPN, Saturday 1745. BT Sport 1, Sunday 1600

FORMULA RENAULT EURO CUP

Rd 5/10
Hungaroring, Hungary
July 1-2

EUROFORMULA OPEN

Rd 4/8
Hungaroring, Hungary
July 1-2
WATCH ON TV
Live BT Sport ESPN, Saturday 1400, Sunday 1230

INTERNATIONAL GT OPEN

Rd 4/7
Hungaroring, Hungary
July 1-2
WATCH ON TV
Live BT Sport ESPN, Saturday 1500, Sunday 1300

WORLD RALLYCROSS

Rd 7/12
Holjes, Sweden
July 1-2
WATCH ON TV
Live Motorsport.tv, Sunday 1300

IMOLA 12 HOURS 24 HOUR SERIES

Rd 5/7
Imola, Italy
June 30-July 1

NASCAR CUP

Rd 17/36
Daytona, Florida, USA
July 1
WATCH ON TV
Live Premier Sports, Sunday 0000

V8 STOCK CARS

Rd 5/12
Curitiba, Brazil
July 2

SUPER TC2000

Rd 6/12
Rafaela, Argentina
July 2

MOTOGP

Rd 9/18
Sachsenring, Germany
July 2

WATCH ON TV

Live BT Sport 2, Sunday 1245

UK MOTORSPORT

BRANDS HATCH HSCC

July 1-2
Pre-1980 Endurance, Super Touring, Derek Bell Trophy, Historic FF2000/Classic FF2000, Historic FF1600, Classic Racing Cars/Classic F3, Historic Touring Cars, Guards Trophy, Historic Road

Sports, '70s Road Sports, Jaguar Classic, Formula Junior

SILVERSTONE MSVR

July 1-2
LMP3 Cup, F3 Cup, GT Cup, Monoposto, FF1600, Lotus Elise/Cup, Production BMW/Racing Saloons

CROFT BARC

July 1-2
Caterham Graduates, MaX5, Junior Saloons, Legends

ROCKINGHAM BARC

July 1-2
Clio Cup, MGOC, Pickups, Hyundai Coupes,

Intermarque, MR2s, Nippon/Tricolore/Multimarques

KNOCKHILL SMRC

July 2
Mini Coopers, Fiestas, FF1600, Classic Sports and Saloons, Legends, Sports and Saloons, BMWs





FROM THE ARCHIVE

The field sets off at midnight at the start of the 1964 12 Hours of Reims, dubbed "half a Le Mans" in contemporary reports. The race was won by the Ferrari 250 LM shared by Graham Hill and Jo Bonnier, one lap ahead of the similar car of John Surtees and Lorenzo Bandini.



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UNEXPECTED
PLACES



SEBASTIEN OGIER

WORLD RALLY CHAMPION RECALLS HIS OUTING IN FRENCH FORMULA 4

For a rally driver whose hero is Ayrton Senna, it comes as no surprise that Sebastien Ogier has been tempted by some on-track action alongside establishing a glittering World Rally Championship career.

Like his contemporaries, Ogier has always been entirely comfortable on the loose; a natural flair for finding grip in compromised conditions is what has helped him lift four world titles. But when it comes to asphalt, rally drivers are usually ready and willing to get some help in terms of picking the right lines, braking technique and learning how to get the best out of the tyres.

In 2011, Ogier had been working with the Auto Sport Academy in France to really get his eye in on the asphalt. It clearly worked, with victories in Germany and Corsica for Citroen that year.

Through the Academy, there was an opportunity for him to make his single-seater race debut. It wasn't an MP4/4 around Monaco, but the French Formula 4 finale at Paul Ricard wasn't a bad place to start.

"I had the opportunity to make the race," says Ogier. "I had been working with them in the car, training for my driving skills and then there was the chance to race so I took it. It was interesting. It's the only time — so far — that I raced this kind of [Formula Renault] car and it was nice. Of course, with the 1600cc engine there wasn't so much power, but it was really interesting.

"I was able to look at how I was braking, turning and basically how to drive on track. From the driving point of view, it was very good. I did two races in that car, but I don't remember the result."

We do — a pair of fifth places from a field of 21 — pretty good for a man used to competing with a roof and more than one seat.

Those two F4 outings weren't really the highlight of Ogier's busman's break: "I also drove a Ferrari in the GT Championship round the same weekend," he says. "That was a lot of fun."

Sharing a F430 Scuderia with Lionel Comole, Ogier took a hugely credible 10th place. A few years later, he did make it to Monaco, where he placed a 911 GT3 13th out of 26 in the Porsche Supercup support race. 🏆

DAVID EVANS



Ogier can't exactly recall the results of his only single-seater races, but we're happy to lend a hand

DPPI

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Sunita Davies +44 (0) 20 3405 8134

Autosport, ISSN number 0269946X, is published weekly by Autosport Media UK Ltd, 1 Eton Street, Richmond, TW9 1EF, United Kingdom. Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431. Subscription records are maintained at Autosport Media UK Ltd, 1 Eton Street, Richmond, TW9 1EF. Air Business Ltd is acting as our mailing agent.

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Seymour Distribution Ltd, 2 East Poultry Avenue, London, EC1A 9PT. Tel: +44 (0) 20 7429 4000. Printed by William Gibbons & Sons Ltd, 28 Planetary Road, Willenhall, Wolverhampton WV13 3XT. ISSN 0269-946X. Autosport is published weekly by Autosport Media UK Ltd, 1 Eton Street, Richmond, TW9 1EF.

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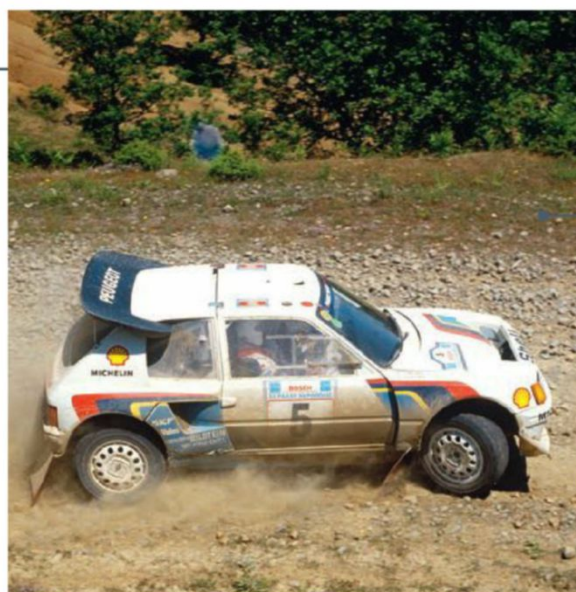
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ENGINEERING

4 NEWS Updates from the industry

Ferrari to headline Autosport International is one of many recent announcements

10 CARBON DYMAGS A wheel revolution

Why carbon-composite specialist Dymag has decided to reinvent the wheel

12 TDI CHALLENGE Future engineering stars

Young talents battle it out to win Manufacturing Technologies Association competition

14 ASK GARY Ex-F1 designer's frank views

Gary Anderson answers your questions on changing engines, active aerodynamics and more

18 SECRET STAR Spotlight on Ricardo

The British engineering firm that wins a lot but usually gets little credit in the outside world

20 ENGINEERING IMPACT Pros and cons in motorsport

Expert engineering brings a lot to motorsport, but also its own problems. Can we do better?

26 COLIN FOLWELL Corbeau founder remembered

Stories of the entrepreneur and innovator behind the creation of a racing-seats empire

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LAT IMAGES

Ferrari feature to top Autosport International 2018

THE CENTREPIECE OF THE 2018 AUTOSPORT International show will be a feature of Ferrari vehicles showcasing the lineage of the Italian marque from its legendary sportscars through to Formula 1 machinery.

The 2018 show – which includes a dedicated performance engineering technology exhibition – will be held at the NEC in Birmingham across four days from January 11-14.

The Ferrari showcase feature will be run in conjunction with Corse Clienti, Ferrari's exclusive client-racing programme. The initiative takes a Ferrari owner via its Corsa Pilota programme from a 488 GTB through the Ferrari Challenge Series, the FXX cars, to Le Mans and even to owning and driving a Scuderia Ferrari F1 car.

Speaking as the news was announced, Autosport Network UK editorial director Anthony Rowlinson, said: "We are absolutely thrilled to announce this exciting collaboration between Autosport International and Ferrari. Ferrari remains the world's most exotic and evocative

automotive and racing marque, having built so many revered road and race cars over the past 70 years – all of them carrying the Prancing Horse. The Ferrari badge ignites passion across every continent and in all cultures, so we're honoured to be hosting Ferrari as the show's main feature. More details will follow soon, but no petrolhead should miss out on this!"

A new site for the Autosport International show, autosportinternational.com, was launched ahead of the announcement of the Ferrari feature. The online platform offers fans and visitors the opportunity to purchase event tickets, stay up to date with breaking news and explore the different exhibitors scheduled to attend in 2018.

Alongside the Ferrari showcase and the engineering exhibition, the 2018 edition of Autosport International will feature the very latest products from the motorsport and automotive spheres, which highlight cars and exhibitors from every level of motor racing.

"We're thrilled about this collaboration with Ferrari. No petrolhead should miss out on this"



Corsa Pilota cars such as the FXX-K will be on show

AUTOSPORT INTERNATIONAL 2018

Trade registration goes live

ADVANCED TICKET SALES FOR THE 2018 Autosport International trade-only days are now available via registration.

The trade-only show runs on two dedicated trade days on January 11-12 and has attracted the motorsport industry's largest companies since its debut in 1991.

In 2018, the show will showcase the latest technological developments ahead of next season in addition to creating many business and networking opportunities.

It also provides a platform for industry professionals to meet in a business-to-

business environment, generating an estimated £1 billion of global motorsport business in the process.

The 2018 show will provide interested parties with access to all the companies behind the latest technical innovations in world motorsport, alongside the cars and stars from the various local and international race series that will also be exhibiting at the event.

Registration can be completed online at www.autosportinternational.com



PLEXTUNING

New dash display and logger released

MOTORSPORT ELECTRONICS and engine-tuning firm Plex Tuning has released a new dash display and central logger that it says is designed for "the most demanding of usage cases".

The seven-inch PLEX SDM-700 display – which weighs less than 800g and is enclosed in aluminium – deploys full spectrum datalogging and vehicle-dynamics analysis.

The device displays and logs up to 1024 data channels, as well as status and error flags from external sensors, connected devices and internal calculated values. It also has a

responsive light-sensor that enables the adaptive display to change to suit prevailing light conditions.

Christian Siepmann, the founder and chief driver of CS Racing, a Danish motorsport company that uses the system on its BMW F1 engine project, said: "The huge amount of freedom and possibilities provided by the PLEX SDM-700 give us power to enhance the functionality of the rest of the electronics in the car. It collects all error and diagnostic channels from the rest of the connected devices and can display them in a dedicated diagnostic page."



XTRAC

Further Indy 500 success

TRANSMISSION TECHNOLOGY SPECIALIST Xtrac again provided the gearbox of the victorious car at the 2017 Indianapolis 500, which was won by Andretti Autosport driver Takuma Sato.

Xtrac has supplied gears and gearboxes to IndyCar teams from the early 1990s, before it became the exclusive supplier to the series in 2000.

The crashes that marred the 101st Indy 500 – including an enormous accident for Chip Ganassi Racing driver Scott Dixon – highlighted the safety progression of the current IndyCar machines, to which Xtrac has provided its latest suspension wheel energy-management technology, as well as the rear impact structure, which is integrated into each car's transmission.

HEWLAND ENGINEERING

Hewland joins forces with Hero

THE HEWLAND ENGINEERING TRANSMISSION design firm has formed a partnership with the Hero Motors manufacturing company to produce a high-volume, high-quality powertrain solution for OEMs.



The joint venture will utilise Hewland's advanced transmission design capability and flexible UK engineering alongside Hero Motors' mass-manufacturing capabilities. The two companies intend to provide customers with support from initial concept design through to high volume supply.

The Hero-Hewland partnership will aim to provide powertrain solutions for automotive and commercial vehicle OEMs, along with an ever-growing electric-vehicle customer base where the latter is recognised as a leading designer and manufacturer.

Hewland is renowned for its performance transmissions that are used throughout the top levels of motorsport. Hewland also increasingly supports numerous pre-production development programs for various OEMs.

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YAMAZAKI MAZAK

Yamazaki Mazak to unveil iSmart factory concept

YAMAZAKI MAZAK WILL UNVEIL its iSmart factory concept at the 2017 EMO metalworking show in Hannover this September.

Mazak will use the exhibition to showcase its approach to 'Industry 4.0' and will unveil the iSmart approach alongside 25 new machines, including 15 making their world debuts.

The iSmart factory concept utilises Mazak's Industry 4.0 infrastructure that is designed to enable machine users to switch from automated cell manufacturing to a completely connected factory in the future.

Mazak's iSmart approach is based on three areas: its SMOOTH connecting technology; a new cloud computing SmartBox, which provides faster data analysis with increased security; and the MT

Connect standard communication protocol that allows the cross-communication of multiple machines in the factory or workshop. All elements facilitate the sharing of manufacturing data between the production floor and offices, which the company hopes will result in shorter lead times, reduced in-process inventory and lower indirect labour expenses.

Richard Smith, European group managing director at Yamazaki Mazak said: "At EMO 2017 Mazak is demonstrating its clear leadership in developing a robust infrastructure for the application of Industry 4.0. The iSmart Factory concept, which combines SMOOTH Technology, SmartBox and MT Connect, will provide visitors with a vision of the totally connected factory."



THE ADVANCED ENGINEERING SHOW

Bristol tops list of high-value manufacturing hotspots

THE ADVANCED ENGINEERING SHOW has published its ranking of the UK's 20 "high-value manufacturing hotspots", with Bristol on top.

These figures are based on the number of visitors from a particular area that attended last year's AE show and the number of exhibitors

registered to date, taking into account travel factors. They show that the three strongest regions for engineering employment are the South East and West Midlands, according to an AE statement.

Bristol emerged with an 'Advanced Engineering Impact' score of 5179 to

beat Birmingham (4871) and Liverpool (4831) to the top spot.

Alison Willis, industrial divisional director at Easyfairs, which organises the AE show, said: "High-value manufacturing provides more than 5.5 million engineering jobs to the UK economy, with a total turnover of

£1.24 billion. This isn't bad when many people think we no longer make things. Many of these jobs are highly skilled and highly paid, and are driving innovation in the country's manufacturing base."

Registration for November's AE 2017 is now open.

WALTER GB

Launch of updated carbide insert

WALTER GB HAS LAUNCHED ITS Tiger.tec Gold carbide insert, which features a new titanium aluminium oxide (TiAlN) coating process.

The company claims this offers "staggering increases" in tool life compared with inserts coated using the conventional chemical vapour deposition (CVD) process.

The Tiger.tec Gold inserts are said to have higher wear resistance on flank faces, reduced cracking, a greater resistance to plastic deformation and improved process reliability.



2017 TDI CHALLENGE

MTA 2017 TDI finalists

THE MANUFACTURING TECHNOLOGIES ASSOCIATION has revealed the 2017 TDI Challenge finalists.

The 14-16 finalists are: Jamie Easton from Kingdown School, Will Bailey from Priory Community School, Jacob Lawson from Caistor Grammar School, Dan Kimber from Brighton College, Peter Lawson Russell from The Royal Hospital School, and Simon Knowles from Sutton Grammar School for Boys. The 17-19 finalists are: Max Eskenazi from Highgate School, Myles Lydon from Royal Grammar School Worcester, Halimah Ershad from Forest School, Beth Martin from Droitwich Spa High School, Sam Taylor-Jones from Ipswich School, and Hannah Cowie from Bedford Modern School. Oakham School and Harrow School provide the two 17-19 teams.



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PRODRIVE

Prodrive offers motorsport knowledge to automotive sector

THE PRODRIVE MOTORSPORT AND technology business has been offering its expertise in the racing world to other industries.

The Banbury-based company – which claimed the GTE Pro class win at the 2017 Le Mans 24 Hours via its

partnership with Aston Martin Racing – recently launched a 12-month trial of 20 new plug-in hybrid (PHEV) Ford Transit Custom vans in London in conjunction with Transport for London. The project is aimed at reducing local emissions by running

the vehicles solely on electric power for the majority of city trips such as deliveries or maintenance work.

Prodrive also recently celebrated the launch of the Hummingbird folding bike, which weighs just 6.7kg, and acted as a technical partner for

the BAR Team in the Americas Cup. The company also worked on designing a new Wavetricity system, which harnesses wave power to generate electricity.

Oliver Wood, business manager at Prodrive, said: “The wealth of opportunities to motorsport companies is exciting. The chance, too, for other sectors to benefit from the knowledge of motorsport companies is also encouraging.

“For Prodrive it was a natural progression to offer our high-performance engineering skills to the mainstream automotive market and beyond. Today this work represents more than half of our sales, with more than 100 engineers working on projects for leading vehicle manufacturers, as well as businesses in the aerospace, defence and marine sectors.”

Prodrive will be part of a vehicle and technology showcase at the upcoming MIA Business Growth Conference on July 13.



LAT IMAGES



SST TECHNOLOGY

Fast-growing engineering firm to attend MIA event

THE SST TECHNOLOGY ENGINEERING business will attend the 2017 MIA Business Growth Conference after more than tripling its workforce in the past four years.

The 2017 MIA Business Growth Conference is focused on embracing change and accelerating growth, and will take place at the Force India Formula 1 team's headquarters in Silverstone on July 13.

SST Technology has expanded alongside its graduate and apprentice recruitment scheme.

As the news of the company's participation in the MIA conference was revealed, managing director

Daniel Chilcott said: “Embracing change and seizing opportunities has been central to SST Technology's growth over the past five years. Alongside continuing to grow our workforce, we've also significantly increased the size of our operational footprint and invested in new technology.

“We're looking forward to attending this year's Business Growth Conference. The event is a fantastic opportunity to network with some of the most exciting leaders in the global motorsport sector, as well as share our insights with the industry.”

RALLY DESIGN

Brake tool set launched

THE RALLY DESIGN COMPANY has launched a new 15-piece brake maintenance and assembly tool set for the maintenance of drum and disc brake systems.

The tool set, which includes brake spring pliers with a moveable claw for removing and installing brake shoe springs, an assembly tool for installing and removing the draw spring of handbrake shoes, and a special tool for installing and removing spring plates and the holding device of brake linings on

drum brakes, is available for £69.50+VAT.

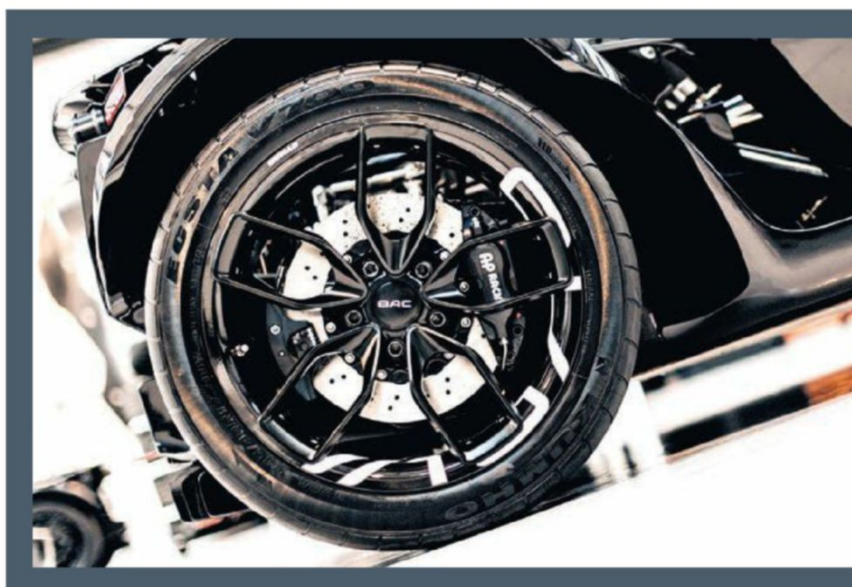
Other equipment pieces included in the set are: a brake line flare nut wrench for screwed connections on brake lines at the front and rear axles; brake cable pliers for removing and replacing the handbrake cables that compress the return springs so far that the cable may be easily removed and replaced; and a brass brake caliper brush for cleaning aluminium brake calipers that has soft brass bristles to aid cleaning.





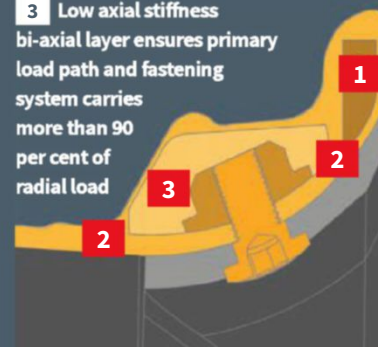
Boxstrom wheels roll into action

Dymag's new carbon composite barrels have revolutionised wheel technology, as **Stefan Mackley** found out



BOXSTROM BARREL DETAIL

- 1 Sacrificial layer
- 2 Primary load path
- 3 Low axial stiffness bi-axial layer ensures primary load path and fastening system carries more than 90 per cent of radial load



“I know it sounds like we have reinvented the wheel, but we really have,” claims Chris Shelley, CEO of carbon-composite wheel specialists Dymag.

He’s speaking of the company’s new Boxstrom carbon hybrid wheel, which is their toughest, lightest and safest wheel design yet. The carbon-composite barrel has a fully optimised load path, protected by sacrificial bi-axial composites, which really has revolutionised the wheel, according to Shelley.

“It’s so clever and so different, and it delivers that extra safety, that extra stiffness, tested to original equipment manufacturer standards,” he says. “The performance and safety benefits of our new design are so clear to our OEM customers, that it is causing us to win some very high-profile projects against our mainstream competitors.”

Such is the success of the wheels – for which patents have been filed – that several cars at the Goodwood Festival of Speed this weekend will feature the new Boxstrom barrels, including a Bugatti Veyron, Porsche 918 and Nissan GTR. The Briggs Automotive Company’s BAC Mono supercar has been fitted with the wheels that will guide it up the famous hill and is just one car manufacturer to embrace the new technology.

Fisker Inc’s new EMotion electric vehicle will feature Boxstrom carbon barrels and Dymag has five more OEM contracts lined up that Shelley believes could be secured in the next six months.

“The whole market has moved on massively now; what I think you’re going to see over the next five years – and that’s Dymag’s strategy – is to really focus on doing more supply direct to vehicle

manufacturers,” says Shelley.

“We’re aiming to be the leading supplier of the carbon hybrid barrels to the industry, so we are also working with some of the world’s leading wheel companies, major players, to effectively supply our barrels to OEMs in collaboration with those companies.”

Dymag has developed carbon wheels for decades, including producing the first three-spoke motorcycle wheel and first carbon-composite commercial car wheel. Only in recent years has the technology been embraced by car manufacturers, though, with BMW and Ford using it on their cars.

“The main reason why you want a carbon barrel or carbon wheel is because you’re trying to take down mass and rotating mass,” says Shelley. “The biggest rotating mass on the whole car is the wheel and tyre together, that’s what’s driving the desire to have lightweight barrels.”

“There are two things that have really held the product back from moving mainstream as it is now. The first one is safety – there’s a negative perception that carbon wheels and carbon-composite products shatter – but we have completely disabused that because we have been making these kinds of wheels for 20 years and they don’t shatter, they are safe. We have made an even safer wheel so if they do get subjected to heavy impacts they fail in a very safe way – they crack, they don’t shatter. They ‘leak before break’, to use engineering terminology.

“The second issue is stiffness. Carbon composites and plastic wheels don’t tend to be as stiff as metal wheels, which causes issues with the handling, especially in cornering, and creates difficulty engineering the brake and suspension system of the cars.

“It’s one of the reasons why a lot of OEMs have been reticent of going down the route of using less stiff wheels. What we have managed

to do is bring the stiffness of our carbon wheel much closer to an aluminium wheel.”

The future looks bright for the Wiltshire company that was founded in 1974 by Max Boxstrom, after whom the new breed of carbon hybrid wheels are named. But this wasn’t always the case; the global financial crisis in 2009 brought the company to the edge of extinction as a lack of investment and low sales of high-spec wheels meant Dymag entered liquidation.

The return of Shelley, who had been with Dymag between 1994 and ’97, saved the brand and relaunched a new company, and since then the carbon wheel specialist has gone from strength to strength.

The number of staff at the factory has increased from 22 in January to 36, with this number expected to double by the end of the year. The company is set to expand in 2018 and will employ between 50 and 100 people.

It has also received an Advanced Manufacturing Supply Chain Initiative (AMSCI) government loan and grant package of £7.2million, and has been working closely with the UK’s National Composites Centre in Bristol to design its technology and develop mass-production capability.

“We were the first company to ever make this kind of wheel more than 10 years ago, so we had experience of designing and making them,” says Shelley. “We have experience of putting the wheels out in the field in real-life over an extended period of time.

“We have a reputation and a brand for what we do and that gives us a great deal of acceptance that we clearly know what we are doing.”

Enquiries from OEM customers, and premium wheel companies who wish to use the Boxstrom carbon barrels with their own exclusive centrepiece, are encouraged.



Finding the engineers of the future

With the UK facing an engineering skills shortage, the TDI Challenge competition, organised by the Manufacturing Technologies Association, seeks to encourage and inspire young people thinking of a career in engineering and manufacturing. By **Alex Kalinauckas**



Britain has a long history of engineering excellence in motorsport – Frank Costin, Colin Chapman and Patrick Head designed many of the most famous and successful cars during the early decades of Formula 1, before such names as Ross Brawn, Adrian Newey and James Allison rose to prominence in more recent years.

Brawn has already moved on to help run F1 itself, and in the future Red Bull, Mercedes and the other teams will be looking for new engineering talent to design and build their cars.

To inspire students to look to engineering and manufacturing as career paths, the Manufacturing Technologies Association uses its Technology, Design and Innovation (TDI) Challenge – a nationwide competition for secondary school students aged 14-19.

The MTA is the trade association for companies that make and supply manufacturing technologies. Examples of these include machine tools, manufacturing software, metrology equipment, cutting tools, additive manufacturing, and laser and waterjet cutting.

“Many of our members are technology-led manufacturing companies supplying a

The finalists have to present their ideas to a panel of industry judges

whole range of industries, particularly the advanced engineering industries,” says Paul O’Donnell, the MTA’s head of external affairs. “Lots of our members are involved in the UK’s world-leading motorsport supply chain. That includes some of the big machine-tool companies that have significant relationships with some of the F1 teams, down to much smaller specialist providers – small but really high-technology companies in the motorsport supply chain.”

The TDI Challenge, which was established in 2003, is open to all design and technology pupils from across the UK and they are invited to submit any projects they have

THE VIEW FROM THE CLASSROOM

Why does the TDI Challenge appeal to educators? Three teachers explain why they have encouraged their pupils to enter the 2017 edition...

"It's a good mix of competition, education – through seeing the insides of an engineering company – and networking with students and other

professionals. It's also a great opportunity for my students to get external recognition and for them to get other people's viewpoints on their work."

Andy F Thomson, director of design, technology and engineering at Highgate School

"I think it's great when pupils hear positive feedback from

actual industry experts. When a pupil designs and manufactures an outstanding piece of work they deserve all the praise they can get. Who knows what effect these experiences will have on young people? We hope it will encourage them to study the subject or related subjects at the next level. Plus who wouldn't want to be in with

the chance of winning a drone?!"
Sarah Awbery, design and technology teacher at Brighton College

"The competition's judging criteria complement what they have to do as part of their course and is in fact better and easier for the students to understand than the published exam

marking scheme. Plus, the opportunity to enter a national competition creates a great 'buzz' in the DT classroom and healthy competition between the DT students."

Gwen Andrews, head of applied studies faculty/head of design and technology department at Sutton Grammar School For Boys



completed as part of their studies. The Challenge is divided into two age categories – 14-16 (GCSE/KS4/BTEC L2) and 17-19 (A-Level/BTEC L3) – with two divisions for individual and group entries.

"What we like to think makes it different to other competitions is that, instead of putting additional pressure on teachers to create extracurricular projects, this is clearly based on the coursework projects that the students are doing as part of their studies," explains Laura Pickering, the MTA's education and development coordinator. "It's a bit of a different challenge – there's a lot of similar STEM [Science, Technology,

Engineering and Maths] competitions out there, but this also recognises the hard work the teachers are putting in."

The winners, who are selected by a panel of industry judges that is made up of the MTA's education and development committee, receive the award and prizes including tablets, cameras, speakers and drones, as well as a £1000 voucher for the winning school in each category to spend on design and technology equipment. All finalists are given a tour of the Yamazaki Mazak headquarters in Worcester, where the judging day takes place.

"We've found in the past that some

winners of the TDI Challenge have then been offered apprentices and scholarships as a result of them making it to the finals of the competition, so it can really be a kickstarter for their careers," adds Pickering.

As well as encouraging students to consider the engineering and manufacturing career path, the TDI Challenge is designed to celebrate the talents of those taking part and encourage their personal development.

"The young people stand up in front of a panel – it's relatively informal but with some quite serious people from the industry – and they talk about their ideas, talk about their project, and also talk a little bit about themselves as well," says O'Donnell. "It's about the personality of the student as well as their technical proficiency and how innovative or how well executed the design has been. That's a real strength of the TDI."

The 2017 final will take place on July 5, and this year's contest has had the highest number of entries to date.

"Around 60% of the entries were from schools that we've not engaged with before, which is brilliant news for us," says Pickering. "There's a very good representation of both state and independent schools, and we're starting to see a lot more girls enter the competition as well, which is great news."

There has been a lot of focus on the engineering skills shortage the UK is currently facing, and the MTA believes that the TDI Challenge gives pupils the chance to showcase their talents in the field and – via the tour of the state-of-the-art Mazak facility – that "manufacturing isn't dark, dirty, dangerous, dusty stuff", according to O'Donnell.

"There is a skills gap that we're facing within engineering at the moment, and I think a lot of students aren't aware of the wide variety of careers that are available to them," adds Pickering. "What we try to do is create ongoing links with schools, so it's not just about them entering the competition, it's how we can support them afterwards."

All the finalists – including 2016 14-16-year-old category winner Christopher Kalogroulis (top right) – are given a tour of the Yamazaki Mazak factory and are invited to the MTA's annual MACH exhibition

Ask Gary Anderson

Every two weeks on Autosport.com former Jordan and Jaguar F1 technical director **Gary Anderson** answers readers' questions. Here are some of the highlights from his replies so far this year



LAT IMAGES

How easy would it be for McLaren to adapt its car for a Mercedes engine, given the similarities with the Honda engine?

It's a lot easier to change the power-unit package today than it was a few years ago. One of the more useful things the FIA has done over the past few years is to define the length of the engine bay and the engine-to-chassis and engine-to-gearbox pick-up-point locations.

This means that the overall geometry of the cars can be fairly similar. It's the detail of the intrusions into the chassis and gearbox for the oil tank, hydraulics, turbo, etc, as well as the cooling system's requirements, that will be the time-consuming design process.

Performance doesn't just come by doing something like fitting a Mercedes

engine, it comes from sorting the detail out better than the other teams using the same componentry.

When you have teams like Mercedes itself, Force India and Williams using the same power unit since 2014, they will have gone through all the permutations on the installation and have ended up where they are currently.

To get to this level and also be in a position to maximise the use of a very different power unit at the circuit will not be easy or immediate – even with the experience of running the engine in 2014.

If McLaren makes this shift then it will still take time for it to get up to speed. Mercedes will probably help, but remember the two are in competition and the last thing Mercedes needs to do is jeopardise its own championship-winning potential.

Process of swapping to Mercedes power shouldn't be overwhelmingly complicated for McLaren, but the devil's in the detail

It was announced at Le Mans that there will be active aero in LMP1 in the future. Do you think this is a good idea, and would it be a good idea for F1 to consider this?

I suppose the bigger question that needs to be answered first is will there still be an LMP1? This year there were two teams plus a single privateer. One of those big teams has gone home with its tail between its legs and, in reality, it may never return, so that would leave Porsche. I don't think it will stick around to race against itself, especially now it has a hat-trick of wins under its belt and an overall tally of 19.

If that were to happen then LMP2 would quickly become LMP1, and with the budgets they have active aerodynamics would be the last thing they would need or want.

Formula 1 is similar to the World



Endurance Championship. You have the teams that have the budget and manpower to take on anything, which is Ferrari, Mercedes and Red Bull. Then you have the real racers from Force India rearwards that are doing what they can within what they have. Very few of them have that golden goose that will send them a cheque at the end of the month if they overspend.

Personally, I would side with what former Sauber boss Monisha Kaltenborn said recently. Formula 1 is too technically-driven, and it's that way because of the few and not the majority. Yes, we want it to be cutting-edge, but we also want it to survive en masse and not just for the few.

Do you think we'll ever have active aerodynamics in F1? They exist on modern hypercars like the LaFerrari. It may aid overtaking.

It would be difficult to get enough extra downforce from active aerodynamics to influence overtaking. On a car like the LaFerrari, it is mainly about keeping the car stable and not actually increasing the quantity of the downforce.

With a Formula 1 car, you face a very different problem. On many circuits these cars are running fairly near the maximum downforce that can be produced by the available aerodynamic surfaces.

When one car gets close to another, the one following will lose around 20% of its overall downforce. Most of this is

lost from the front, so not only does it lose grip, it also loses balance.

To have any aerodynamic surfaces available that could reproduce that 20% would be very difficult. And to have enough front-wing adjustment available to pull the balance to somewhere near what the driver wants would be impossible. It would be a very expensive challenge, and I'm afraid one that would, in the long term, fail.

That doesn't mean the FIA isn't going to implement it. After all, the last few attempts it has had at creating a set of regulations that would improve overtaking have, if anything, made things worse.

Above: LMP1 has more important issues to worry about than active aero. Above, right: the thickness of a sticker can modify airflow



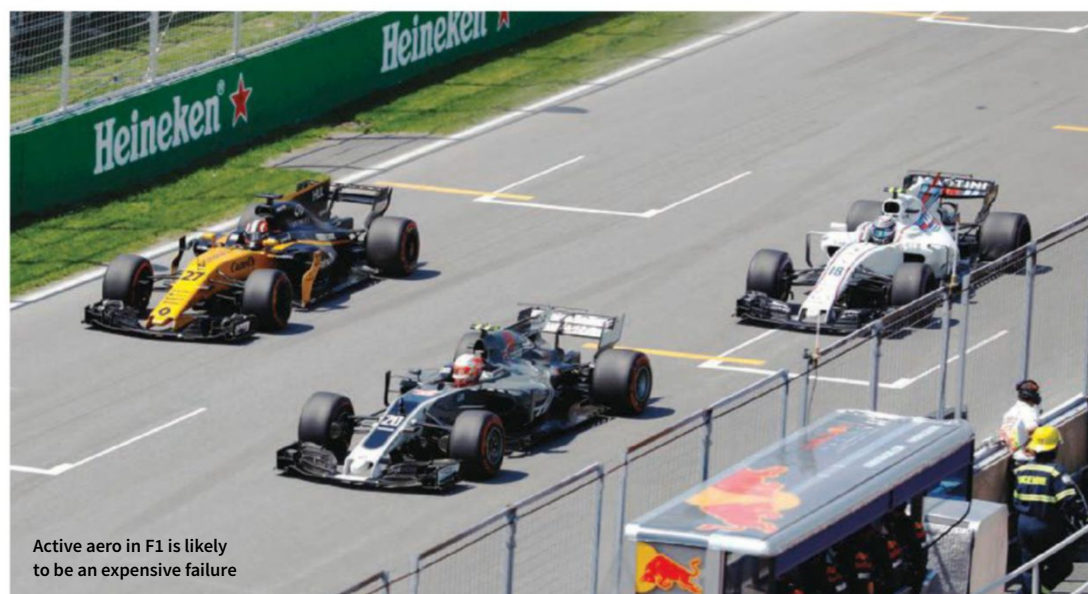
Do things like the paint on cars, in terms of weight, friction, smoothness, etc, have an impact on aerodynamic performance, and what do teams do to minimise any disadvantage?

Weight, no matter where it comes from, will always be a penalty. On an average circuit, 10kg extra will cost you 0.3 seconds, so every team will do its level best to minimise the penalty of the weight of the paint.

Surface friction is also something that teams work on, but with such complicated aerodynamic surfaces it is very difficult to see a benefit. On something like an aeroplane, which is fairly uniform, benefits are there to be had.

Smoothness is something that can alter the car dramatically – even the thickness of a sticker can alter the airflow. You will see the teams taping over the body joints with see-through tape, which is because the thickness of that tape is more uniform than the potential small steps in the body joints. So this just gives that little bit more consistent airflow over the car.

Teams have even used tape strategically placed to improve the airflow separation characteristics of the underside of the front wing. ►



Active aero in F1 is likely to be an expensive failure

Cleaning chromed or polished wheels has always been difficult. Standard pH neutral products are unable to shift seated brake dust and acids and alkaline cleaners can damage your finish and make your new wheels look worn and tired. In comes Dragon's Breath; pH neutral wheel cleaning with a difference. Dragon's Breath causes a chemical reaction with baked on brake dust, infiltrating the contamination and changing its colour and state. Now water soluble, brake dust will rinse off freely from paint and metal finishes safely and effectively.

Black To The Future is a trim and tyre dressing in the form of a thick gel. It uses fortified polymers to restore and protect tyres and plastic trim for months at a time, regardless of weather. It revives faded plastics and holds the restored colour. It is designed to be used neat and can be applied to tyres for a show finish.



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I've always wondered when it rains, how all the water coming into the airbox and down to the engine affects the engine's power. Is the fuel/air mixture changed? Does it do damage if too much water comes in with the air?

As long as it's not a massive amount of water – basically normal rainfall – it doesn't do any harm. The airbox intake relative to the volume of air the engine uses is actually quite small, so the amount of water coming in is also quite small.

Actually, you get more power from the engine on a wet day than you do when it's sunny and warm. The moisture mixes with the airflow and makes it heavier and denser; the electronics account for this density change and adjust the fuel as required.

Drivers always comment that the engine feels crisper and more powerful on a damp day than when it's sunny and bright, and that's why when you're testing pre-season and trying to set a quick lap time, you always try to get out on track early in the morning when there's still some moisture in the air.

At races, during qualifying, you always look to catch that little bit of cloud cover. It makes a difference that can add up to a couple of tenths.

Would Formula 1 cars benefit from four-wheel drive? I know it's not allowed anymore, but would the extra weight and complexity outweigh any benefits? I don't suppose front-wheel drive would work either...

Yes, Formula 1 cars would 'end up' faster with four-wheel drive rather than with rear-wheel drive, but not by very much. This would probably not happen immediately, but the teams would soon come to terms with minimising the losses and optimising the gains.

Any gain in tyre contact-patch area will always give more grip, and as current F1 cars are traction-limited on most circuits, four-wheel drive will give better traction.



As for front-wheel drive, this was really created for simplicity in road cars as the engine and gearbox all become one package, so are easier and simpler to manufacture, assemble and fit.

As far as performance is concerned, front or rear-wheel-drive cars in the British Touring Car Championship can all win, so it's down to the circuit requirements and which system suits which best.

As you say, it's not allowed in the regulations and I'm afraid this is one regulation that I support. It would open up a huge bag of worms and expense that F1 is better off without.

Rain can actually be an aid, rather than a hindrance, to engine performance

Stirling Moss won 1961 International Gold Cup at Oulton Park in all-wheel-drive Ferguson-Climax P99

Why did F1 cars develop the famous 'Coke-bottle' shape?

If you look through the years of the cigar-shaped cars, then the 'Coke-bottle' shape has been around for a long time.

During the 1970s and early '80s, the cars became fairly box-shaped. This was to house all the stuff contained within the sidepods and to maximise the potential underfloor downforce.

But then Alan Jenkins, who was at McLaren at the time, had a 'eureka!' moment and designed a sidepod that swept inside the rear tyres. So in a fairly primitive manner, the Coke bottle was born.

His version was a fairly gentle sweep just inside the tyre, but as time passed this styling got more and more exaggerated. Now it's a vital part of the aerodynamic package that creates a car.

The objective is to allow the airflow that is hitting the front of the rear tyre to be pulled inside the wheel and tyre. This, in effect, makes the car narrower and reduces its overall drag.

The rear-wing endplates then help turn that airflow back out again into the low-pressure area behind the rear tyre. Overall, it's trying to make the rear tyre as invisible as possible to the airflow. ■





Unsung hero of British motor

Working behind the scenes for leading companies in motorsport, Ricardo is a cutting-edge firm many have never heard of, as **Kevin Turner** found out

Many companies have contributed to the motorsport success of famous manufacturers over the years. Some are well-known, while others have quietly worked behind the scenes, rarely recognised for their expertise. Ricardo is one of the longest-serving of these unsung heroes.

Founded by Sir Harry Ricardo over 100 years ago, the Shoreham-based company is involved in much confidential work for multiple marques, both with road and racing projects. For many years, no vehicle or component carried Ricardo logos, but it has offices all around the United Kingdom, plus sites in the United States, Germany, India, Japan and China, with 3000 employees.

The list of racing categories in which Ricardo is – or has recently been – involved, largely in terms of engines and/or transmissions, is impressive and includes Formula 1, IndyCar, LMP1 and LMP2,

MotoGP, NASCAR and the World Rally Championship. It has also been a key player in McLaren's recent GT successes, but Ricardo's impact goes back much further.

It was the Mark V tank of 1915 that got the company going during World War 1. There was too much smoke produced by early tank engines, which were also underpowered, so Harry Ricardo was asked to take a look. He redesigned the engine, which became the first volume-produced UK engine across different manufacturers. Ricardo then used the money to start his engineering company. He filed many patents, and took several major manufacturers to court when they tried to steal his ideas, although the business was always secondary to the innovation.

"Harry was passionate about efficiency," says Steve Sapsford, who joined the firm in 1986. "Now it's a lot more fashionable."

The Octane rating system we all know today came from the work done by Ricardo's 1919 E35 Research Engine, and the



Harry Ricardo (above right) and his firm have played a crucial engineering role in many success stories of the sport, including victorious Audi R8 (top) and the Group B Peugeot 205 T16

company's first forays into motorsport came with Vauxhall in the early 1920s, refining the combustion system.

Other motorsport projects included working on the exciting – and almost mythical – 1938 Alfa Romeo 162. The three-litre supercharged V16, which had a revolutionary wide-bank angle and an estimated power output of 560bhp at 8200rpm, could have provided Italy's best response to the domination of Mercedes-Benz and Auto Union in grand prix competition, but it never got to race.



sport



One of the original founders of what would become Ricardo's driveline and transmissions capability, Harry Ferguson, developed the P99 after WW2. It remains the only four-wheel-drive car to win an F1 race, thanks to Stirling Moss at the 1961 Oulton Park International Gold Cup.

More recently, Ricardo was behind the viscous coupling that improved torque distribution for some of the four-wheel-drive Group B rally monsters of the 1980s, and was involved in the 2006 JCB Dieselmax record car, in which Andy Green set the land speed



record for a diesel-engined car at 350.092mph. Ricardo was also supplier to Audi on the Le Mans-dominating R8, and designed and developed the transaxle on Peugeot's 908 HDi FAP.

The breadth of Ricardo's abilities is wide. It can commit to an entire project – design, build prototypes, test, and make the final product – or focus on a single element of the process as prescribed by the client. Original equipment manufacturers (OEMs) often get Ricardo to build and/or test prototype engines. There are four proto-engine shops at Shoreham, where work can be done in secret. Many contributions therefore remain unknown to the outside world.

Engine development remains a cornerstone of Ricardo's business. Improved technology now allows ever-greater understanding of what really goes on inside powerplants, something Harry Ricardo was particularly fascinated by.

Ricardo's Shoreham HQ is extensive, and includes the new Vehicle Emissions Research Centre and an Advanced Engine Development Centre. There are more than 30 cells (think advanced dynos), which are used for engine calibration, development and durability testing, including race simulations. Laps of the Nurburgring Nordschleife, for example, can be reproduced on the dyno. Different conditions, such as high altitude, can be simulated, and there is a chemistry department on site.

Advanced R&D work often uses single-cylinder engines and Ricardo uses laser diagnostics to look at fuel droplets within powerplants. It is this attention to detail that has helped engines become more powerful, more efficient, or both.

So what of the future? Ricardo still works with many manufacturers and the increasing

Sapsford (right) talks Autosport through Ricardo's impressive engineering history

interest in 'alternative' engine technology is opening up new challenges – and opportunities. And that can mean returning to ideas that Ricardo has seen before.

"There's not much that hadn't been done by the end of the 1920s," reckons Sapsford. "Look what's happened in 100 years for the internal combustion engine because everyone put the effort in. Imagine where electric technology could be..."

Harry Ricardo hinted at that line of thinking in 1924: "Once the incentive is established, a way can always be found. Ripe seeds of invention everywhere abound, and it awaits only a certain combination of need, of circumstances and, above all, of chance to decide which shall germinate."

Much of Ricardo's current work is therefore on hybrids. Or rather, hybrid systems because "you can't treat the parts in isolation", Sapsford asserts. That is where the incentive currently lies.

Combinations of turbocharging and supercharging are where Ricardo is going, but electric is also being explored. Crucially, it is the development in computer and ECU technology that has made much of this possible. "Control systems are the enabler for all of this," says Sapsford, essentially allowing ideas of the past to become reality.

Inevitably, Ricardo is also keeping a close eye on Formula E. Certain parts of motorsport remain useful areas to push development forward. "If we can get the rules aligned with what the manufacturers want, that would be good and there are some real opportunities," adds Sapsford. "We never rule anything out."

Whether or not Ricardo does become involved in Formula E, you can be pretty sure its products will be winning in motorsport for years to come. Even if nobody knows.

The pros and cons of motorsport engineers

They are a key part of any professional motorsport team, but could there be ways of improving the show by limiting their impact? **Kevin Turner** investigates

A Formula 1 engineer recently suggested, in jest, that the pinnacle of motorsport should ban engineers. This was too good an opportunity to miss, so Autosport Engineering pressed the point and asked a few more questions to see just what the benefits – and drawbacks – would be.

The first question is why? What would the advantage of banning engineers be?

“A lot of what the ‘good old days’ had that we ‘lack’ in modern F1 is unpredictability, largely due to unreliability, or just errors, such as people running out of fuel,” says the source, who perhaps unsurprisingly wishes to remain anonymous.

“Admittedly, a lot of the improvement in reliability has been driven by cost-saving regulations [as opposed to just engineers], but there are also countless painful experiences that engineers have learned from and militated against, the result of which is better reliability and therefore more predictable results.”

Expecting engineers to think in a different way is not sensible. We see that every time there is a rule change – they simply find the best solutions to make cars better, rather than to achieve what the regulations might actually have been aiming for. That is their job and finding loopholes has given us

some of the greatest racing cars of all time.

“The main thing that sparked the thought is what happens whenever a group of engineers are together – even something that’s supposed to be ‘fun’ will suddenly start to become optimised, particularly if there is an element of competition,” says our engineer.

“The key character trait that defines an engineer is someone that looks at an everyday situation, something that other people have accepted as the norm, and sees opportunities to optimise the process. We tend to want to do this in bars when the system is suboptimal, or when a shop is laid out illogically.

“This has its benefits, but bringing together a group of people with a strong sense of logic can have something of a buzz-killing effect, when fairly quickly the ‘correct’ way is established and that becomes the norm.

“We tend not to see magic or wonder in the world; we see cause and effect and like to boil things down to black and white. Anything grey is turned into a model and statistical analysis performed so that ‘grey’ can become a defined likelihood of black or white.

“Clearly engineers have brought some exciting and creative innovations to the sport, but our tendency to improve and

optimise has probably led us to converge on similar solutions across the teams. If decisions were made with more passion and less logic, we would probably see a bit more randomness.”

The point about convergence is key. Many suggest F1’s current rules are too restrictive, that things should be freed up to allow different solutions. While that may work initially, cars would look more and more similar over time as the best, fastest way is found. Sharks and whales share many similarities even though their evolutionary paths are very different because the environment in which they live is the same. How much the removal of engineers would reduce this effect is debatable, but it would surely slow it down.

Race strategy without engineers could also be a lot more interesting. It could even increase the chances of a smaller team springing a surprise result. Considering no team outside Mercedes, Red Bull and Ferrari has won a grand prix since the start of 2013, that would surely benefit F1.

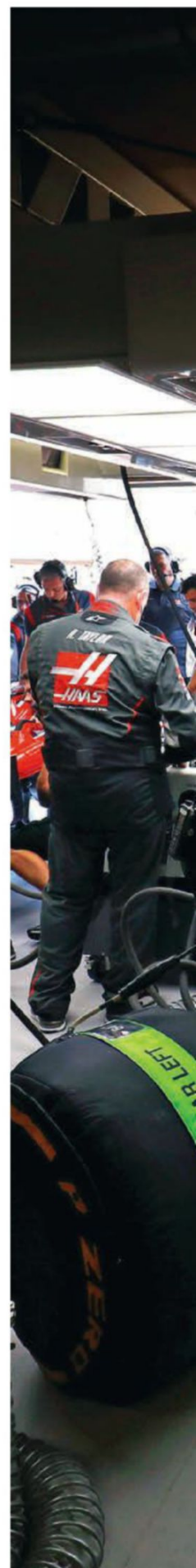
“Without the professional timing information the teams use, there would be a lot more strategic mistakes resulting in unexpected results,” the engineer says. “The fastest teams would probably adopt relatively conservative strategies with tyres, fuel, etc. This would therefore leave opportunities for slower teams to take a chance on more aggressive strategies, which if they paid off could result in surprise wins and podiums.

“To an extent, I think we saw this when we first had the high-degradation Pirelli tyres [in 2011] and there were people ‘dropping off the cliff’ and a number of different winners. Fairly quickly, though, the engineers at all of the teams began to understand the tyres and the racing order became more predictable.

“I think there’d also be more examples of an ordinarily strong team/driver package having a particularly off weekend if there were no engineers to help understand poor Friday form and come up with fixes.” ►



High-deg tyres helped to mix things up in 2011



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How quickly would Mercedes, for example, have been able to turn around some of its weekends of tyre-induced problems this season without lots of data and many boffins?

If this is sounding rather promising, the next question is: would F1, or indeed motorsport, actually work without engineers?

“Realistically, I’d struggle to imagine the sport without engineers, but I’ll have a go,” says our source. “The team would be a team manager, the drivers and mechanics – I suspect we may have to allow a systems technician and/or engineer and perhaps another for the engine or we may be left with the drivers pushing their cars around!”

“We’d ban anyone with a degree in engineering, or maths, science, etc, and probably anyone over 40 because they’ve built up too much experience. Technically the drivers would be managing their own tyres, set-ups, etc, but we’d probably let them bring a friend along to help keep track of everything.

“I imagine tyre choices would be biased towards the fastest, but shortest-life, option. I think we’d see more variation in selection of downforce level – you’d have some drivers deciding more downforce is always better, but then others may be tempted by higher top speed for overtaking.

“In races, the driver would run until their tyres were finished, which could come as a bit of a surprise and therefore less warning of pitstops for the teams – this could well end up with less-slick pitstops, more situations like Daniel Ricciardo at Monaco [in 2016], where a bit of confusion has a big impact on the race result.”

Of course, it’s easy to see teams working around such restrictions, in the same way as budget caps are considered unworkable. And there would be plenty of downsides to banning engineers anyway.

“One of the attractions of F1 is the high-tech nature of the sport, which would quite clearly be diminished if you were to ban engineers.”

This would perhaps be the biggest loss. Some of the appeal of motorsport’s higher echelons is the excellence on display, and there would be the risk of stagnation without the constant drive for improvement.

Such backward steps are an anathema to competitive environments. Even the ‘lower’ levels of motorsport have experienced increases in professionalism, which is entirely natural and predictable.

Jordan Racing Team boss and driver Mike Jordan believes that is one reason why some historic cars are going faster and faster, comfortably surpassing the level they were at in period. “I do think a lot of this is just application,” he says. “It’s being at them all the time and just trying little things, applying a more modern mindset to it.

“You can’t stop evolution, unless you ban our sort of people and everyone has to do it with their mates and keep the car at home.”

In other words, that ‘engineering’ philosophy has spread far and wide.

As these pages have shown on numerous occasions, motorsport engineering – the

Formula 1 has tried to ‘engineer out’ unreliability, taking an element of unpredictability with it

Is reducing the amount of data available to teams the way forward?

knowledge gained, experience built, advancements made – also has applications in the wider world. With the rise of hybrids and electrification, modern motorsport is arguably more relevant now than for many years, thanks to series such as the World Endurance Championship and Formula E. That leads to manufacturer interest.

While some may argue that losing manufacturers would have benefits (reduced budgets, for example), it would also mean less impressive machinery. And how long would contemporary motorsport really last if it became detached from the modern world?

Banning engineers is never going to happen. Despite all of the interesting points about randomness and unpredictability, we wouldn’t want it to either.

But perhaps engineers don’t have to be sacrificed for F1 in particular to get some of the positives mentioned above. Instead of banning the people, restricting what they have access to – and the things they can do – may help reintroduce some of that desired unpredictability.

F1 has long tried (and often failed) to restrict the pace of the cars through rule changes by limiting the technology that can be in the cars themselves. How about limiting the technology those engineers have to work with instead?

For example, reducing the amount of data that they can take from the cars after a session. Perhaps the parameters they are allowed to measure could be specified to create more unknowns.

That way the engineer’s ‘buzz-killing’ desire for optimisation can still be pursued, but its influence will be limited. There would still be missing pieces of the puzzle.

F1 could thus be about excellence and randomness. And engineers would still be helping to drive everything forward, just as they always have. ■





CARTEK POWER DISTRIBUTION PANEL

CARTEK Motorsport Electronics is pleased to announce the new Power Distribution Panel. This product is a full redesign of its successful but bespoke Power Control Panels, with the main aim of allowing the user to customise and configure it themselves.

The CARTEK Power Distribution Panel is a fully integrated, fully electronic solution to power distribution in race and rally cars. Designed to replace 16 Fuses, Relays and Switches as well as a variety of control systems, these units therefore greatly simplify the wiring, reducing build time, saving weight and maximising reliability.

FEATURES

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 - Toggling (headlights high beam/low beam)*
 - 0v momentary action (use as ordinary switch for ECU map etc)*
- Over current and short circuit protection – no fuses or relays needed
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- Dedicated wiper module included as standard
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- 4 dedicated function inputs – flash input for lights, wash input for wipers, wiper park position etc

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XTRAC WINS THE INDY 500

Autosport International exhibitor Xtrac has supplied gears and gearboxes to Indycar teams from the early 1990s, before becoming the exclusive supplier to the Verizon IndyCar Series in 2000. The 2017 Indy500 perfectly highlighted the safety of the current Indycar crop, which Xtrac has aided with the very latest technology such as SWEMs (suspension/wheel energy management) and the RIS (rear impact structure) integrated into the P1011 transmission.

The P1011 gearbox continues to operate with exemplary performance, reliability and safety, including a 100 per cent problem-free running in the 101st Indy 500. Xtrac's technical support team was on hand for all sessions throughout the month of May, assisting teams from its Indianapolis base for all of their gearbox requirements at the Indy 500.

FIND OUT MORE ABOUT XTRAC AT
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HEWLAND HIGH-VOLUME POWERTRAIN SOLUTIONS

Autosport International exhibitor Hewland Engineering, a world leader in transmission design, has formed a partnership with Hero Motors to provide a high-volume, high-quality powertrain solution for original equipment manufacturers (OEMs).

The joint venture will utilise Hewland's advanced transmission design capability and flexible UK manufacturing alongside Hero Motors' high-quality, cost-leading, mass-manufacturing capabilities, allowing customers to be supported from initial concept design, right through to high-volume supply.

Hewland is well renowned for its performance transmissions, which are used throughout the top levels of motorsport. Hewland also increasingly supports numerous pre-production development programmes for a host of OEMs.

Hero Hewland's customers will benefit from advanced transmission design, prototype and low-volume manufacture, test and support by a leading UK transmission company, together with a cost-leading, high-quality, mass-manufacture option with Hero Motors.

This strong partnership will provide



powertrain solutions for automotive and commercial vehicle OEMs, along with an ever-growing electric vehicle customer base, where Hewland is recognised as a leading designer and manufacturer.

FOR MORE INFORMATION ABOUT HEWLAND AND HERO MOTORS, PLEASE VISIT THEIR WEBSITES AT

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AP RACING LAUNCHES NEW WORLD RADI-CAL 2, BRAKE CALIPER RANGE

Following on from the success of its Pro 5000 range, AP Racing has brought the same design philosophy to the road performance market in the form of its new World + range.

The new forged 4 and 6 Piston ranges incorporate AP Racing's patented technology, allowing the road user to experience the superior performance that Radi-CAL™ offers.

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The patented design was first developed by AP Racing in 2007, and since then the company has produced over 80 different Radi-CAL™ caliper designs for race, OEM and now performance upgrades markets.

AP Racing is constantly refining its Radi-CAL™ brake caliper designs, and the concept is protected by patents across Europe and in numerous other countries including the USA, China and Japan.

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Best seat in the house

Remembering Corbeau Seats founder Colin Folwell, who left an indelible mark on the sport before his passing in October 2016. By **James Newbold**

You don't spend five decades building up a business from scratch, then rebuild it all over again after a fire, without earning some serious respect from your peers – and that's what Corbeau Seats founder Colin Folwell did. To say nothing of his reputation as an innovator and savvy marketing man, Folwell's sheer force of will ensured that Corbeau grew from a private concern operating out of his East Sussex garden shed to a market-leading provider of aftermarket seats at the time of his death last October, following a short illness.

Briefly a member of the Rolling Stones before they found commercial success, Folwell was a regular on the club-racing scene in the late 1950s and '60s, which gave him a crucial insight into a problem many drivers were experiencing. Recognising that drivers needed to be protected in the event of an impact and properly supported – not sliding around on bench seats, which were the norm in period – Folwell designed and built his own bespoke bucket seat, the GT4, which was far ahead of its time and attracted interest from rivals wanting a slice of the pie.

Such was the demand that Folwell expanded his operation and founded Corbeau Equip in 1963, paving the way for made-to-order race seats to become the norm in British motorsport. Improved designs fortified Corbeau's reputation as one of the industry's leading names, while Folwell's enthusiastic support of drivers using Corbeau products helped grow the business across diverse motorsport



platforms from rallying to touring cars.

Folwell gave future Haymarket and Prodrive managing director Tony Schulp his first job at the age of 17 and the two would go on to become firm friends, working together at exhibitions around Europe, including the Jochen Rindt Show in Vienna.

"Colin was the pioneer of the original bucket seat – there were a lot of companies that followed, but he definitely led the way," remembers Schulp, who also ran Corbeau seats in his 2CV racer.

"What Colin managed to do was not just sell it to the racing world, but it was the early days of car tuning and car conversions. If you had an old Mini, then you put a Corbeau seat in it – that's just what you did."

Folwell was instrumental in securing Corbeau a prized FIA homologation in 1992, becoming the first British manufacturer to do so, and led the company into new markets, catering for super-yacht teams, classic-car owners and even into the



Folwell saw a need in the market and ended up building an empire

marine industry in over 50 countries.

Corbeau was sold to the CMC Group in 2011 and Vic Lee appointed as managing director, although Folwell remained involved in the company as president.

"There was a time in British Touring Cars in the 1970s when you didn't see a car without a Corbeau seat, they all ran them," adds Schulp.

"Colin was an innovator in producing seats to a quality and a standard, and at a price that meant the man in the street could buy the same seat Gerry Marshall was using. He definitely had a big safety impact on motorsport and not just motorsport, but kids playing in their cars as well."

Folwell was a titan of the race seat industry for over 50 years and will be remembered for making a positive impact on all who met him.

"Colin was driven by having a good time and producing great seats – his customers were always his friends," says Schulp. "He came with us to Le Mans many times, I remember once we took over a chateau and one morning I went down into the kitchen and about 15 foot up on the roof there were Corbeau stickers!

"He put them wherever he went – they appeared in restaurants and bars all over the world and you'll still see them in places today. I went to a race at Mount Fuji two years ago and there was a Corbeau sticker in the bar, which made me smile." ■

Corbeau can be found in many places around the world, including Autosport International



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