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beat Ogier in Spain



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NOVEMBER 1 2018

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HAMILTON EDGES EVER CLOSER TO SCHUMACHER

Lewis Hamilton has now joined the legendary Juan Manuel Fangio on five Formula 1 world titles and it would be easy to argue that his 2018 campaign was his best so far. Ferrari had a faster car for significant chunks of the season and yet Hamilton had the points lead even before Mercedes came on strong after the summer break.

It is remarkable that Michael Schumacher's records of seven titles and 91 world championship grand prix wins – which just a few years ago seemed unapproachable – are now within range. Hamilton's tallies are currently five and 71 respectively.

Who you think is the greatest F1 driver of all time will depend on many factors, not least of which is likely to be your age and the type of driver you most admire. But there can be no doubt that Hamilton has earned a place in the debate, and it seems unlikely that he won't add to his case in the months (and years?) to come.

Who can stop him? Sebastian Vettel and Ferrari need to seriously regroup after their challenge fell apart, but clearly the potential is there. Perhaps more intriguing is Red Bull and Max Verstappen. Red Bull remains one of the most-savvy teams in the paddock and can still produce a top chassis. If Honda's upward trajectory continues, perhaps Verstappen – who was superb in Mexico last weekend – will get a shot at Lewis before the rules change in 2021.

● One of motor racing's greatest appeals is the mix of human and technology, and our Mobility Special distills this to its finest degree. Motorsport isn't always the most progressive of places, but big advancements have been made in helping those with injuries in recent years. There are some remarkable stories in the supplement and we thank all those who agreed to be involved.



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Motorsport Images/Etherington/LAT; McKlein

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FREE INSIDE

ENGINEERING SUPPLEMENT



The positive impact of motorsport for those with disabilities and some remarkable people feature in this special.



HAMILTON EQUALS FANGIO

FORMULA 1

Newly crowned five-time Formula 1 world champion Lewis Hamilton has targeted at least getting “close” to Michael Schumacher’s all-time record over the remainder of his career and outlined how he wants his legacy to extend beyond his on-track success.

Hamilton moved level with Juan Manuel Fangio on five titles with his latest coronation last Sunday in Mexico, which means only seven-time Schumacher stands ahead of him in the all-time list. At the age of 33, Hamilton has become a five-time champion at the same age as Schumacher was when he managed it in 2002, and has at least two more seasons in F1 after renewing his Mercedes deal to the end of the '20 season.

In addition to his five titles, Hamilton has 71 wins, 132 podiums and 81 pole positions. He is comfortably the most successful British driver in F1 history, has long since surpassed Schumacher’s pole record and is zeroing in on the German’s

win (91) and podium (155) tallies.

Hamilton says he had not put any thought towards reaching Schumacher’s records while focusing on securing the 2018 title. In his first media session as a five-time world champion he called Fangio the “godfather” and, asked if he would consider himself F1’s ‘GOAT’, said Schumacher still stands as F1’s greatest of all time.

“I was just really not trying to take anything for granted,” said Hamilton. “The way I’ve always approached it is I’ve just been really thankful for the ones I have. I’m very, very fortunate to be up here now, obviously with more than most people have, and I don’t take that for granted. Whether or not I’m going to have

“I WANT TO HAVE SOME POSITIVE IMPACT, NOT JUST TAKING, TAKING”



Hamilton:
five titles and
71 victories;
Fangio: five titles
and 24 victories

LAT
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IMAGES

O AND TARGETS SCHUMACHER

the chance to win more, who knows? I'm going to give it everything to do so. The 91 wins that he has, for example, that's a lot of wins. There's still a long way to go but I'm here for a few more years, so I'm hoping that I can at least get close."

Hamilton recognises Schumacher's "genius" with the way he integrated himself at Ferrari and set up a streak of five straight titles from 2000-04. Had Nico Rosberg not beaten Hamilton to the '16 crown, Hamilton would be celebrating the same run with Mercedes. "Firstly I could never, ever personally classify myself as the best," said Hamilton. "Obviously, within myself, I know of my abilities and where I stand. My dad always told me, since I was eight years old, 'Do your talking on the track'. So, I just try to let my results and the results from the things that I do outside of my sport, hopefully, also contribute to that, so that people can hopefully create a decent opinion."

Hamilton's off-track exploits this year have earned him headlines away

HAMILTON v SCHUMACHER		
	HAMILTON	SCHUMACHER
Starts	227	306
Wins	71	91
Win rate	31.3%	29.7%
Podiums	132	155
Pole positions	81	68
Fastest laps	41	77
Titles	5	7
Seasons per title	2.4	2.6
Wins per season	5.9	5.1
Age at fifth title	33	33
Average car pace (100% best)	100.227%	100.797%

from F1 thanks to his collaboration with legendary US fashion designer Tommy Hilfiger. His interest in music and supposed attraction to a celebrity lifestyle have brought critics, but undoubtedly helped,

rather than hindered, Hamilton in elevating himself to new levels.

He has also hinted at a desire to use his success to give something back — "to have some positive impact; I don't want to be just taking, taking, taking". Hamilton reeled off a few ideas: building a school, encouraging education or "just helping people get through difficult times". He is hoping to meet with FIA president Jean Todt to discuss what can be done to inspire, and to avoid young racers compromising their education.

"Parents take the kids out of school to focus on trying to get that ultimate and then when it doesn't happen you fall flat on your back," said Hamilton. "If I have any impact on this sport — obviously winning a championship is a great thing — but hopefully I can work on that with Jean, so that with these kids, even if they don't make it to Formula 1, or as another racing driver, they can be an engineer."

SCOTT MITCHELL

P13 OPINION



Loeb has M-Sport offer – or could run WRX Peugeots

WRC/WRX

Sebastien Loeb barely had a moment to savour his 79th World Rally Championship win in Spain last weekend before he was thinking about next year and the potential to stay at Citroen, move to M-Sport or run his own Peugeot 208 WRX.

Prior to Peugeot's shock withdrawal from World Rallycross late last month, Loeb had fully intended to remain in that series with the Velizy factory squad. Now, though, anything is possible – including the potential for his Sebastien Loeb Racing squad to take the 208 WRXs and run them.

Loeb admitted he knew nothing of Peugeot's intentions. "I didn't know this was happening," said Loeb. "One or two weeks ago I was sure I would do a full season in World Rallycross [in 2019] and now I have nothing."

Loeb's latest WRC win could lead to more rallies next season, but not a full campaign.

Asked about his future, he said: "It was a nice feeling to fight again and to win and maybe this does give me more desire to come back next year – this is where I feel better, rallying is my discipline. But in another way, I know why I retired – it's a lot of

time and involvement. Will I come back full-time? No, it's not what I want. Will I come back for some rallies? Maybe, but even that is complicated."

Citroen's hierarchy is keen to talk to Loeb about retaining him alongside Sebastien Ogier and Esapekka Lappi, but team principal Pierre Budar pointed out that the French manufacturer is still sourcing the budget for a third car. "We are talking to our partners right now about this," he said. "But if we cannot find a solution then there will be no third car."

Loeb's other rallying alternative could be a switch to M-Sport, with Malcolm Wilson already lining up an offer to Loeb. "It would be ridiculous not to talk about what could be possible," said Wilson. "Who knows what can happen, but I would be very, very interested in him coming back to our place and having a run in the car. I understand his reasons why he might not want to do the whole year, but I have no doubt we could make this work for him as well as for us."

Loeb tested an M-Sport Ford Focus RS WRC in Greystoke in 2005 with an eye to joining the team in '06 when Citroen was taking its sabbatical.

DAVID EVANS

Wickens clarifies his paraplegia...

INDYCAR SERIES

Injured IndyCar racer Robert Wickens has admitted he is – for now – paraplegic, despite videos showing a small amount of movement in his legs, and says he is "far away from walking on my own".

The Canadian, who in 2018 proved to be IndyCar racing's most convincing rookie since Sebastien Bourdais in '03, was injured in a 200mph-plus accident at Pocono Raceway in August, incurring a long list of injuries, the most severe of which was to his spinal column. The Schmidt Peterson Motorsports driver recently transferred from Indianapolis to the Craig Hospital in Englewood, Colorado, which specialises in rehab for spinal-cord injuries and traumatic brain injuries.

Having used the word "paraplegic" in a social-media post, Wickens then clarified his situation following several sensationalist headline-writers' clickbait efforts. "I've been paralysed the moment I hit the fence pole in Pocono," he wrote. "We were very clear that I had a spinal-cord injury in the press release issued by SPM, but I guess people are not aware of what that means and are just speculating."

"'Paralysed' & 'paraplegic' are paralysis from the level of injury on the lower half. I'm paralysed from the chest down..."

"People may not be paraplegics forever. Since my spinal-cord injury was 'incomplete' the nerves may be able to find a way back to my legs. Incomplete means the spinal cord was not severed, it was only bruised. In months time the swelling will go down and we will learn more on how much nerve regeneration happens."

"The doctors have told us every SCI [spinal-cord injury] is different. Two people with the same injury may heal differently. One may walk again and one may not..."

"The good news is, I already have most feeling and some movement back in my legs, so there is hope over the course of 24 months that I may regain enough movement to walk again! So far the signs are promising, but I'm trying not to get ahead of myself! I am just keeping my head down and working until my therapist and doctors tell me to stop!"

DAVID MALSHER



...as Ericsson leaves F1 for SPM line-up

INDYCAR SERIES

Sauber Formula 1 driver Marcus Ericsson will switch to IndyCar in 2019 with Schmidt Peterson Motorsports.

With Ericsson's current team-mate Charles Leclerc moving to Ferrari, Sauber is having a complete change in its line-up for 2019, with Kimi Raikkonen joined by rookie Antonio Giovinazzi. But Ericsson will remain part of the squad as reserve driver.

The 28-year-old Swede will partner James Hinchcliffe in the Honda-powered SPM line-up, but will race with the #7 rather than the #6 of the injured Robert Wickens. That is being retained for the Canadian "when he wants to and is able to return".

"It's a great honour to be picked as one of the drivers at Schmidt Peterson Motorsports and IndyCar for the 2019 season," said Ericsson. "It feels like a perfect step for me and my career after five years in F1. SPM have had some great success over the years, and I'm looking forward to working hard

to continue and improve on that path.

"The racing in IndyCar looks great and I feel really excited to be part of it in the future. It will be a lot to learn including new tracks, oval racing, etc. I know it won't be easy, but it's a challenge I'm looking forward to and I can't wait to get started."

Team co-owner Sam Schmidt added: "Ric [Peterson] and I are excited to welcome Marcus to the team. He has a ton of experience racing in the top levels of motorsports, so we believe that he will be able to contribute to our development programme that began in earnest in 2018.

"While the circuits on the IndyCar schedule will be brand new to him, particularly the ovals, we have a lot of confidence and trust in him. We think he and James will be a good fit."

Jack Harvey (right, below) will also retain a link with SPM through its collaboration with Meyer Shank Racing, which aims for an expanded but still part-time schedule.

DAVID MALSHER



DTM BMW has given its new turbocharged M4 DTM car its first rollout at its Dingolfing proving ground near the Munich manufacturer's base. Bruno Spengler was at the wheel of the car, built to the series' new 620bhp 'Class 1' regulations with which Japan's Super GT series is aligning. BMW sports boss Jens Marquardt said: "Our first few kilometres of the Class 1 era went very positively. We are happy with all the functional tests. The new turbo sounds awesome. However, its most impressive attribute is its efficiency – despite being considerably more powerful than its predecessor." **Photograph by BMW**

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Ticktum's F1 McLaren test

FORMULA 1

Dan Ticktum experienced his first taste of Formula 1 machinery last week on Silverstone's Grand Prix circuit, his prize drive for winning the 2017 McLaren Autosport BRDC Award.

The 19-year-old Macau Grand Prix winner took four victories this season on the way to finishing as runner-up in the Formula 3 European Championship with Motopark, losing out to eventual champion Mick Schumacher.

Ticktum drove McLaren's Mercedes V8-powered MP4-28, as campaigned by Jenson Button and Sergio Perez in 2013. After an installation lap on intermediate tyres, Ticktum undertook four runs of five flying laps each on demonstration-specification slicks.

He told Autosport: "Everyone will say it

who's done it, but it's impossible to put into words how driving an F1 car feels. It's been hard work with a lot of ups and downs, but to be sat in an F1 car is more than a dream. I feel like I've completed my life almost – I'm just so happy!

"The experience is like taking everything in Euro F3 and then doubling it. All the techniques to drive it, I've noticed there are quite a lot of similarities, some of which you'd expect. But the noise is just incredible and I won't ever forget that – my first time driving an F1 car."

Amelia Lewis, the McLaren graduate engineer who ran the test, added: "We were obviously really impressed with what he was doing, so we wanted to make sure he got the opportunity to do all of the runs. I think everyone in the team is impressed with how he's performed."

MATT KEW

IN THE HEADLINES

LAUDA LEAVES HOSPITAL

Three-time F1 world champion Niki Lauda has left hospital in Austria more than two and a half months after undergoing a lung transplant. The AKH Vienna hospital confirmed that the non-executive chairman of the Mercedes Formula 1 team had been allowed to leave in good condition. It said that Lauda would now undergo "intensive rehabilitation" that will last "several weeks".

NEW INFINITI WINNER

A Mexican engineering student is heading to the UK for a Formula 1 work experience placement at Renault as the latest winner of the 2018 Infiniti Engineering Academy. Carlos Sainz unveiled the winner, Patricio Barroso Rios, at last weekend's Mexican GP. The 20-year-old is studying mechanical and electronic engineering, and in addition to his work placement he will spend six months at Infiniti's Technical Centre Europe in Cranfield.

GIOVANARDI QUILTS ALFA

Multiple touring car champion Fabrizio Giovanardi quit the Team Mulsanne Alfa Romeo World Touring Car Cup squad ahead of last weekend's Suzuka round. Giovanardi cited "disappointment" at a lack of results that reached "breaking point" after the Chinese events, and was replaced in the Giulietta squad by TCR Italy runner-up Luigi Ferrara. Kevin Ceccon took the team's and marque's first win in the series in Japan.

STARS DEMO SF RACER

Ex-F1 heroes Takuma Sato and Kazuki Nakajima demoed the new Super Formula Dallara SF19, which now features a halo, at last weekend's series finale at Suzuka (below). Sato, the 2017 Indy 500 winner, and SF regular Nakajima each completed four laps using Honda and Toyota power respectively.



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FERRARI BRAKE DISCS

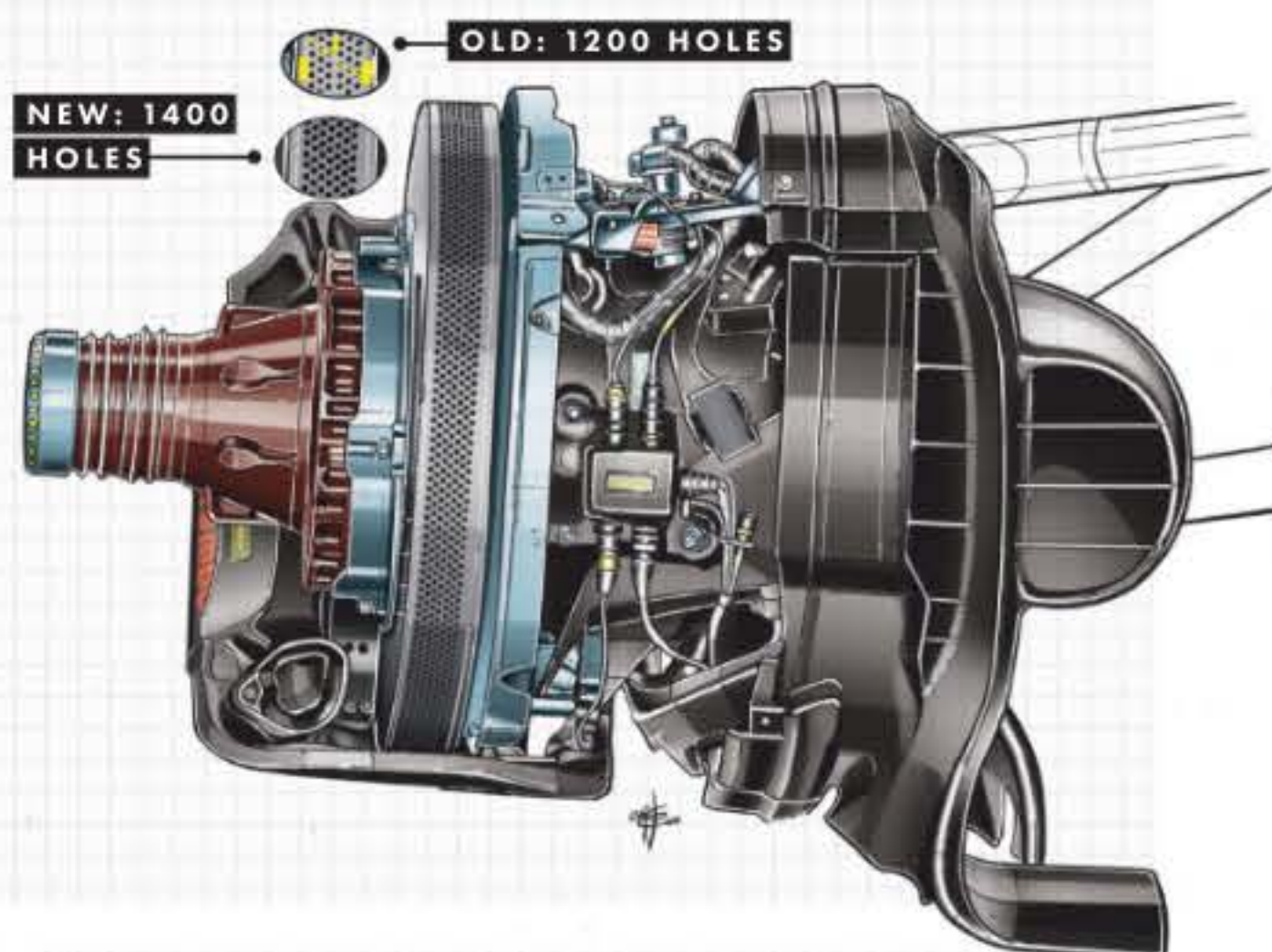
Ferrari ran a new brake-disc configuration in Mexico. With the 2225m altitude, cooling is critical and the brakes are no exception.

These new discs have more than 1400 holes in them, as opposed to the older versions that had 1200. More holes means increased internal surface area, and that increased airflow passes through the disc, taking more of the heat with it. It also means that the disc has less mass, so it will heat up faster. This is something

that will be of benefit at the end of the long pit straight in Mexico.

The amount of brake-disc material on either side of the holes is also reduced. This means the disc will not have as much material to wear off. This is closely monitored by the teams. But if for any reason the disc temperatures get much in excess of 1000C, the wear rate increases dramatically, so being alert in the early stages of the race when the car is carrying its highest fuel load is critical.

GARY ANDERSON



RED BULL EXPERIMENTAL FLOOR

Red Bull followed Ferrari's lead and added some small vertical turning vanes on the top outer surface of its underfloor. Like Ferrari, it was tested only on Friday by way of an experiment.

These vanes are a little confusing. You want the airflow on the top surface of the floor to be pulled out through the longitudinal and angled slots on the outer edge of the floor, and then you also try to turn that flow over the top surface with these

small turning vanes. Yes, they can help prepare the flow direction, but they also block off some of the slots and will reduce the amount of flow that goes through the slots.

I'm sure they will reappear, as both Ferrari and Red Bull get on top of what they want to get from them. But it could also be just initial testing for 2019, when the bargeboard trailing-edge vortices will have much less effect on how the outer floor sealing is achieved.

GARY ANDERSON



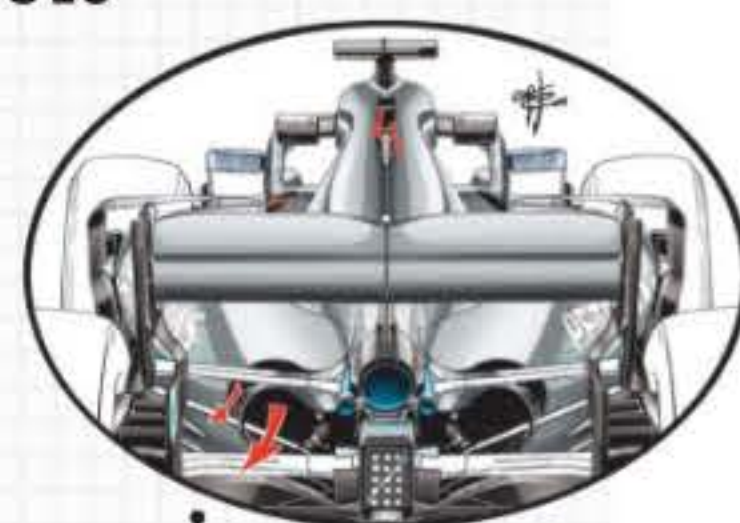
COOLING CHALLENGES

During initial car design, it is vitally important to be able to achieve the component cooling required for the worst scenario that the season is going to throw at you. If you don't, you can very easily lead yourselves down the wrong path, because any airflow used for cooling is airflow that you can't use for creating downforce.

On top of that, if you have to carve out bigger cooling exits at the circuit, this will not necessarily be very efficient.

Mexico is the most difficult of the season. The air is pretty thin so it reduces downforce, drag and cooling quite dramatically. But with the engine able to create 160bhp from electrical harvesting and having a turbo, some of the engine power is retained.

I was surprised Mercedes had to run its engines turned down on Friday. A team of this standing should be on top of this situation before getting to the circuit. Mercedes opened up the top slot on the engine cover, the top exits on the sides of the chassis and



WIDER GAPS AND LARGER EXITS AID MERC COOLING

fitted its biggest rear exits. If you haven't got the cooling for the race, then you will have to turn down the engine performance and stay out of traffic – neither of which makes the racing easier.

Williams was a little more dramatic. Its rear exits are fairly brutal even compared to Hungary. With exits like this, I'm pretty sure car efficiency will have dropped off significantly, but Williams is fighting a different battle. At best, it will be stuck in traffic for the full race so having that bit of extra cooling for them makes sense.

GARY ANDERSON



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AIMING HIGH

It's no longer wild conjecture to ask whether Lewis Hamilton will match the records achieved by Michael Schumacher. Setting the bar higher is a whole other matter

EDD STRAW

Can Lewis Hamilton match Michael Schumacher's record of seven world championships and 91 wins? It's a question that's been asked before, and not just of Hamilton, but the closer the now five-time world champion gets, the less fatuous it seems.

It's possible, and now he's so close it's more likely than not that he will match Schumacher — although for various reasons eclipsing F1's benchmark is a much longer shot.

Hamilton is under contract to the end of 2020, which guarantees him two more seasons. So based on the past two campaigns, this could mean two more world championships to draw level with Schumacher. He has managed nine victories per season in each of '17 and '18, which would take him to 89 by the end of '20 on top of whatever he does in the final two races of this year.

So you could argue that Hamilton could end 2020 and his current contract dead level with Schumacher on titles and wins, with the potential to eclipse him in the years to come. But the more interesting question is, what disruptive forces could prevent that?

One potential factor is the most unpleasant — death or injury. Modern safety standards mean this is unlikely, but it would be naive to put the chances at zero. Of the 16 multiple champions,

"EVERY EMPIRE CRUMBLES EVENTUALLY, AND MERCEDES WILL FALL ONE DAY"

four have been denied the opportunity of further success by this. Ayrton Senna, Jim Clark and Alberto Ascari all died at the wheel of racing cars when further titles were still possible, and Graham Hill was never a victory contender after his Watkins Glen crash in 1969.

Then there is the question of age and decline. Five-time title winner Juan Manuel Fangio is perhaps the most famous example of this, retiring during a piecemeal 1958 season as the reigning world champion and expressing the desire not to hang on and fade.

You could also include Hill in this broad category, as well as Nelson Piquet, Alain Prost, Niki Lauda and Jack Brabham — not to mention Schumacher himself (second time round particularly). But all were older than Hamilton is now. Fangio and Hill were 46, Piquet 39, Prost 38, Lauda 36, Brabham 44 and Schumacher 37 and then 43 when they quit.

At 33, Hamilton is still a few years off drifting into that zone, and there's certainly no sign of any obvious decline. This brings

us to another consideration — motivation. Mika Hakkinen admitted after his first title that his slow start to 1999 was partly influenced by the struggle to pick himself up again having climbed the mountain once. After regrouping and winning again that season, he had one more run at the title in 2000, then retired at the age of 33, initially on a sabbatical, after an '01 campaign during which he only occasionally delivered the old magic.

It's also been suggested that the intensity of fighting for titles led to two-time world champion Emerson Fittipaldi's willingness to join brother Wilson's Copersucar-backed team, although there were other factors. But Hamilton's motivation remains undimmed.

There's usually a point where a star driver has to face the challenge from an upstart. Hamilton has done so, taking on a driver surely destined to win multiple titles in Max Verstappen — but the Dutchman has yet to get into a title-winning car. Or perhaps it could be Charles Leclerc at Ferrari.

Lauda, Prost and Piquet were among those who faced challenges from the next generation and were eventually unwilling or unable to take them on. This is perhaps the one challenge that's inevitable — either this or age will inevitably catch up with Hamilton one day.

There's also the danger of a driver's team slipping down the pecking order. We have a great example in Sebastian Vettel, whose run of four championships was ended by Red Bull slipping back.

Mercedes is a mighty team, but there are challenges at various points on the horizon that can cause problems, including next year's aerodynamic rule changes. Beyond that, there are possible new engines and promised major rule changes that could have a big technical impact, and even the threat of cost cutting. Every empire crumbles eventually, and Mercedes will fall one day.

If that happens, Hamilton may face the question of where to move to, running the risk of an ill-judged transfer such as Fittipaldi's, or those of Fernando Alonso's career.

Then there are unforeseen factors, for example politics. Ferrari's signing of Kimi Raikkonen, combined with Schumacher's desire to see Felipe Massa continue at Ferrari, played a part in Schumacher's first retirement. Brabham didn't think he was past it, but felt pressured into quitting by family concerns.

The one multiple champion not yet mentioned is Jackie Stewart. He quit on his own terms at the end of 1973 in a move planned long before the death of team-mate Francois Cevert while still at the top of his game. Concerns about safety certainly played their part given he'd seen so many friends and rivals killed, but the decision was his.

As for whether Hamilton will match Schumacher, we can only say 'probably' because there are so many ways to be knocked off your perch. As for eclipsing him? Maybe. The next step is world championship number six and, if Ferrari raises its game again, that could be the toughest yet. ✎



KVYAT'S SECOND COMING

Daniil Kvyat's rollercoaster Formula 1 career has delivered him back to where it began. Will a year's sabbatical have made him a more complete driver?

ADAM COOPER

A year ago Daniil Kvyat's Formula 1 career appeared to be over. Told by Helmut Marko straight after the United States Grand Prix that he was out of Toro Rosso and the Red Bull driver-development programme, he seemed to have little chance at that point of the season of being picked up by anyone else.

A glimmer of hope came when he was chosen by Ferrari for a simulator role. It was paid employment, but he knew that it wasn't even worth dreaming about ever landing a Maranello race seat. Others had far more compelling and immediate calls on them.

And yet he has now been called back to Toro Rosso for 2019, after Daniel Ricciardo's defection to Renault gave Pierre Gasly the chance to graduate to Red Bull Racing – just as Sebastian Vettel's move to Ferrari for '15 handed Kvyat a promotion that subsequently turned out to be premature.

It's an extraordinary and unexpected development, and proof that second chances do come along in this sport. And what a chance Kvyat now has. In 2019 Toro Rosso will move closer to what promises to be a very competitive Red Bull-Honda package, taking the same gearbox and other elements.

With rookie Alexander Albon expected to be in the second seat,

"IT'S EASY TO FORGET THAT KVYAT ACTUALLY OUTSCORED TEAM-MATE RICCIARDO IN 2015"

Kvyat will be a clear team leader at an organisation that will target fourth place. He's also handily positioned as reserve for Red Bull, should he be required for any reason.

So what went wrong first time around – and how has this change in his fortunes come about?

It was in 2014 when, at the age of 19 and as reigning GP3 champion, Kvyat was first propelled into a Toro Rosso seat. He showed well against Jean-Eric Vergne, who was in his third season and, although the Frenchman scored more points, it was Kvyat who got the Red Bull job when Vettel announced that he was leaving. Vergne was dropped from the programme.

"Daniil's first year was quite good," recalls Toro Rosso boss Franz Tost. "He drove some really good races, and this was the reason Red Bull took him. There was also a discussion on whether it was too early for him, but his races were really competitive, and also his technical understanding was good, his feedback was good.

"He would have stayed with us if Sebastian had not changed to Ferrari, no doubt. Normally we always say a driver should stay three seasons with us. It was after one season, but because of his high talent, because of his natural speed, we thought it was the right decision."

The first year at Red Bull was not too shabby, and it's easy to forget that he actually outscored team-mate Ricciardo by 95 to 92 points. Expectations for Kvyat were higher in the second year, and the pressure was on as Ricciardo raised his game.

"On his day he was quick," says the Australian. "Some days I was like, 'Hey, he pulled that out.' I was never really sure if he knew how he was doing it. He would just do it, and then the next day or a week later he was eight tenths off. But the natural talent is there."

Meanwhile, Max Verstappen was performing exceptionally at Toro Rosso, and Marko and Christian Horner were keen to promote him. Verstappen, too, was pushing to move up. Although Kvyat finished third in the 2016 Chinese GP, a series of incidents provided the excuse to send him back to Toro Rosso.

Rejection by Red Bull's senior team was a crushing blow to his confidence, and he struggled to match new team-mate Carlos Sainz. In 2017 things unravelled further. He was "rested" for Malaysia and Japan, brought back for the US GP when Gasly had another commitment, and then finally dumped for good.

"It was a very tough decision, and it was not easy," says Tost. "But I think it was the best decision, because I had the feeling that both parties lost a little bit the trust in each other. Daniil was not so happy with our work, we were not so happy with some races. As always, when the success doesn't come as you expect, then there are many question marks on both sides."

The Ferrari sim job was a lifeline. It gave him the chance to get to know a different team and different engineers, and reflect on his time with Red Bull. He also landed a crucial new ally in manager Nicolas Todt, one of the smartest operators in the paddock.

Sensibly, regardless of possible temptations, he had not burned his bridges with Marko and Red Bull. And it paid off when the call came through that they wanted him to come back.

"Kvyat has something open with F1," says Tost. "He now gets another chance, and I really hope that he will take it, because he deserves to be in F1. He is very fast, and I hope that this one-year sabbatical will help him to get everything together and to show his real talent and his abilities and his speed."

"I am curious," says Ricciardo. "But I think the year off will actually be quite good for him. I think it has probably made him realise a few things with himself, and he will appreciate being back in the sport and being more mature. I am not saying he was immature, but these things will help him keep a cooler head, and hopefully reach his potential more consistently." ✎

YOUR SAY

Since attending my first race in my teens – a Wendy Wools event at Thruxton – I've always loved the anticipation of heading off to a circuit/hillclimb/sprint/rally venue

STEVE MUNDY

Special memories of that first race

What a great article Andrew van de Burgt wrote in last week's Autosport ('100 not out', page 52). I haven't been to half as many circuits and only been abroad to Le Mans, Monza and a day trip to Spa, but since attending my first race in my teens – a Wendy Wools event at Thruxton – I've always loved the anticipation of heading off to a circuit/hillclimb/sprint/rally venue.

Been lucky enough to compete at a lot of mainly south and south-west hills and British circuits. All the emotions that Andrew described for his first event at Cadwell (right) I could recognise from my first hillclimb at Gurston in 1985 and certainly from my first circuit event at Pembrey in '93.

I must agree that Cadwell is a cracking place to race at, it's like a never-ending Wiscombe, fantastic fun. Having that for a first race event must have been great.

Steve Mundy

Gosport, Hampshire

The best seat is in the bar

Re Steve Cameron's letter, 'The plight of the humble F1 fan', October 25. I share his frustration regarding the cost of Formula 1 on Sky, which I don't think comes close to the Channel 4 coverage.

But I believe that I can offer a crumb of comfort, which goes some way towards a solution. For less than the cost of a British Grand Prix grandstand ticket at Silverstone, I have a season ticket for Cadwell Park, a fabulous circuit with great viewing and facilities.

On a Sunday you can enjoy great club racing, have lunch in the restaurant and watch Sky coverage on television in the bar with a comfortable seat and a pint in hand. Simple!

David Denham-Smith

Louth, Lincolnshire

Some bloke called Max Verstappen won

For me, the Mexican Grand Prix was a fantastic weekend for Red Bull. For BBC Hereford and Worcester, the grand



prix was all about Lewis Hamilton winning his fifth world championship and, oh, by the way, this bloke called Max Verstappen won the race.

Thank goodness for Autosport because we wouldn't have any excellent, unbiased analysis of F1 at all!

Joshua Kerr

Kidderminster, Worcestershire

The boy from Stevenage done good

Lewis, as someone else who started in a council house in Shephall, Stevenage, I just wanted to say you done good. You done really good.

Graeme Innes-Johnstone

Elland, West Yorks

Arise, Sir Lewis...

Surely the time is due for Lewis Hamilton to receive a knighthood after winning his fifth world championship. Let's be honest, people have received it for a lot less.

Chris Mann

Haverhill, Suffolk

HAVE YOUR SAY, GET IN TOUCH

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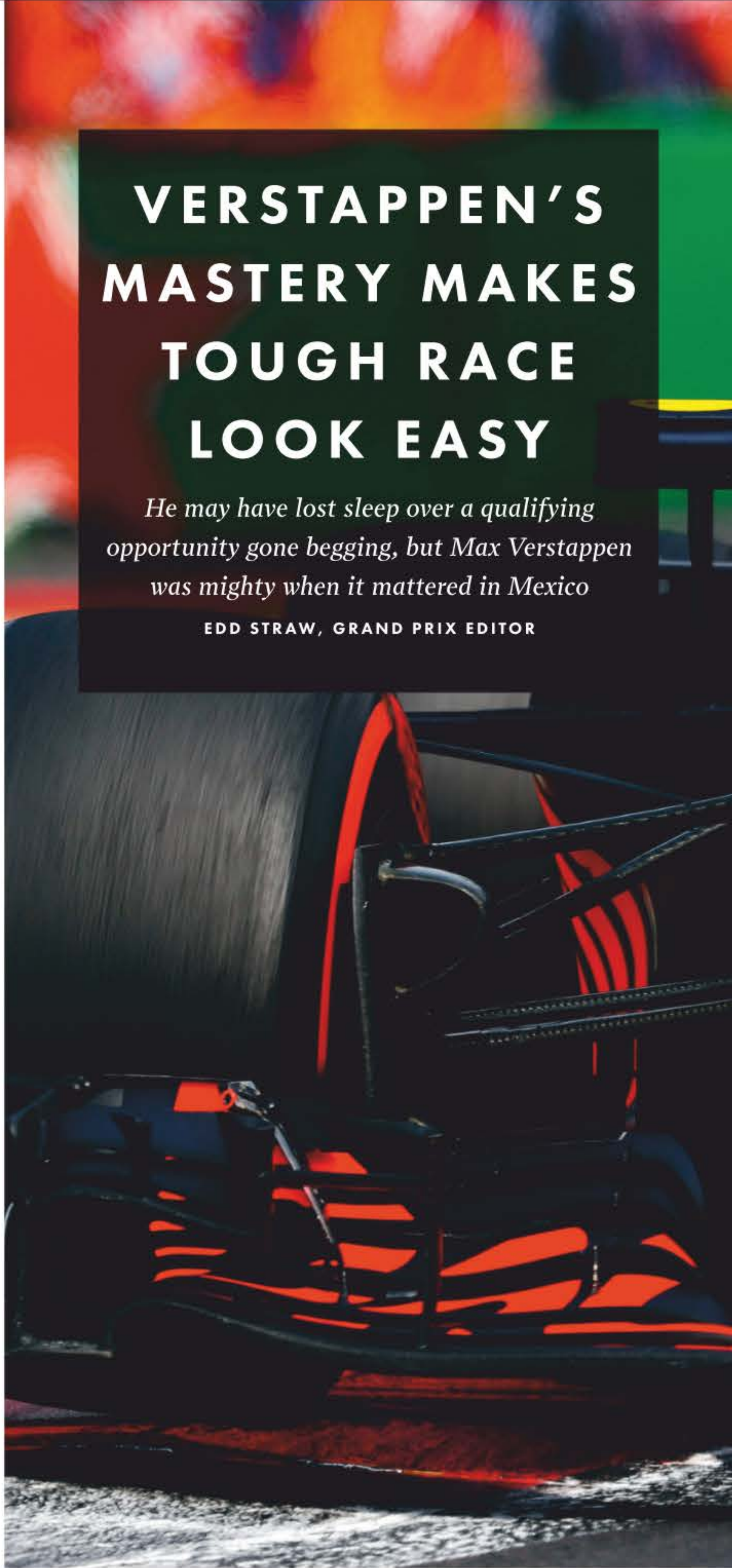
RACE CENTRE

MEXICAN GRAND PRIX • WRC SPAIN • MOTOGP • WORLD OF SPORT

VERSTAPPEN'S MASTERY MAKES TOUGH RACE LOOK EASY

He may have lost sleep over a qualifying opportunity gone begging, but Max Verstappen was mighty when it mattered in Mexico

EDD STRAW, GRAND PRIX EDITOR





DUNBAR/LAT



MAX VERSTAPPEN WAS NOT A HAPPY MAN AFTER MISSING OUT ON POLE POSITION FOR THE Mexican Grand Prix. The P2 marker board that he booted over with the nose of his Red Bull as he parked up at the end of the session was testament to that. But after a fitful night of tossing and turning, during which he managed only three hours of sleep, he brought his A-game not just to win, but to dominate a race that presented very testing conditions, and to upstage newly crowned five-time world champion Lewis Hamilton.

Verstappen blamed car problems, specifically under braking, for missing out on pole. But the feeling was that he still had the speed to have beaten team-mate Daniel Ricciardo to first on the grid on a weekend where the high altitude of Mexico City played to Red Bull's strengths – or, at least, mitigated its weaknesses. Still, while Verstappen's Saturday didn't go as well as it should have done, he nailed it every step of the way last Sunday.

The reasons for Red Bull's tremendous pace – Verstappen topped all three free practice sessions and Q2 before falling short at the final hurdle – lie in the unique demands of the track. At around 2225 metres, the air is approximately 22% less dense. That equates to a proportional reduction in engine power for all manufacturers and, since Renault doesn't have the same poke as Mercedes and Ferrari, that mitigates its disadvantage.

The ERS package remains as potent because the MGU-K is an electric motor kicking out 160bhp, although the turbo has to work harder to try to cram as much oxygen into the engine as it can. Renault's biggest problem appears to be the V6 itself, so at Mexico City there's a weakness eliminated. Beyond that, with everyone forced to run aggressive wing profiles that only deliver Monza-esque downforce in the thinner air, Red Bull's aero efficiency also helped.

So too did a thoroughly sorted mechanical platform that allowed the car to be well-balanced straight out of the box and not take too much out of the tyres. This combination is what led to Red Bull's first front-row lockout since the 2013 United States GP, before the introduction of the V6 turbo hybrids.

"Credit where credit's due, Renault have provided us with an engine this weekend in these conditions that is competitive," said



Verstappen snatched the lead at the start under huge pressure

Red Bull team principal Christian Horner after the race. "That's enabled us to go head to head, lock out the front row and win the grand prix in a dominant fashion.

"Theoretically, we should have had a one-two here. The altitude of this circuit does constrain some of our rivals and it puts Renault into a window where they are competitive, which is why we put an awful lot of focus in this race in taking the penalties [at previous races] to get another B-spec into the pool to have for this weekend."

Ricciardo had looked set to lead the charge for Red Bull in the race, but his journey from pole to an agonising retirement in the closing stages while on for a battling second started heading in the wrong direction from the start when he bogged down. This allowed the fast-starting Hamilton, from third on the grid, to dive between the two Red Bulls moments after the lights went out.

There were concerns at Red Bull pre-race that the extra poke of the Mercedes might allow Hamilton to get past off the line, but Verstappen kept to the right of the track on the long run to Turn 1. That left Hamilton hung out to dry on the outside line and content to settle into second behind Verstappen. Ricciardo, meanwhile, had Sebastian Vettel challenging him on one side and Valtteri Bottas on the other. While Vettel backed out of it, Bottas toughed it out, only for Ricciardo to emerge from the right/left/right complex with third. Worse came for Bottas a few corners later, when Vettel's Ferrari passed

him after light contact that put the Finn momentarily off the road.

So Verstappen had everything set. All six of the leading drivers, with Kimi Raikkonen at the back of that group after an early dalliance with 'Class B' leader Carlos Sainz Jr's Renault, were starting on ultrasofts. But there were concerns about how the tyres would stand up, and it wasn't long before Mercedes started to struggle badly.

Verstappen quickly built enough of a lead to ensure that Hamilton didn't have the DRS to attack with when it was activated after the first two laps. By the end of lap seven, following the interruption of a very brief virtual safety car to clear up Fernando Alonso's retired McLaren and some carbonfibre shards from the exit of Turn 3 – distributed when Esteban Ocon clipped the back of Nico Hulkenberg's Renault – Hamilton was still just 1.9s behind.

Then things started to go wrong. Over the following three tours, Hamilton lost a second per lap to Verstappen and was drifting back into the clutches of Vettel. Initially, he complained of a lack of rear grip, but then the real problem set in: understeer that appeared to accelerate the front-left graining that many suffered.

While Verstappen had happily built up, then exceeded, the 3.5s gap he was told was required to be comfortable, Hamilton was in excess of five seconds down when he pitted for supersofts at the end of lap 11, followed by Bottas. Mercedes had little choice but to do this, even though it would have put Hamilton behind Sainz >>



had the Renault driver not pitted on the same lap to get rid of the hypersofts on which he'd started.

Since Hamilton wasn't close enough to threaten a quick undercut, Verstappen went a couple of laps longer before diving into the pits to switch to supersofts, while Red Bull brought Ricciardo in on lap 12 to attempt to undercut past Vettel. At this stage, all three were told they were aiming to go to the end, although the tone of some of the communications suggested this was far from certain.

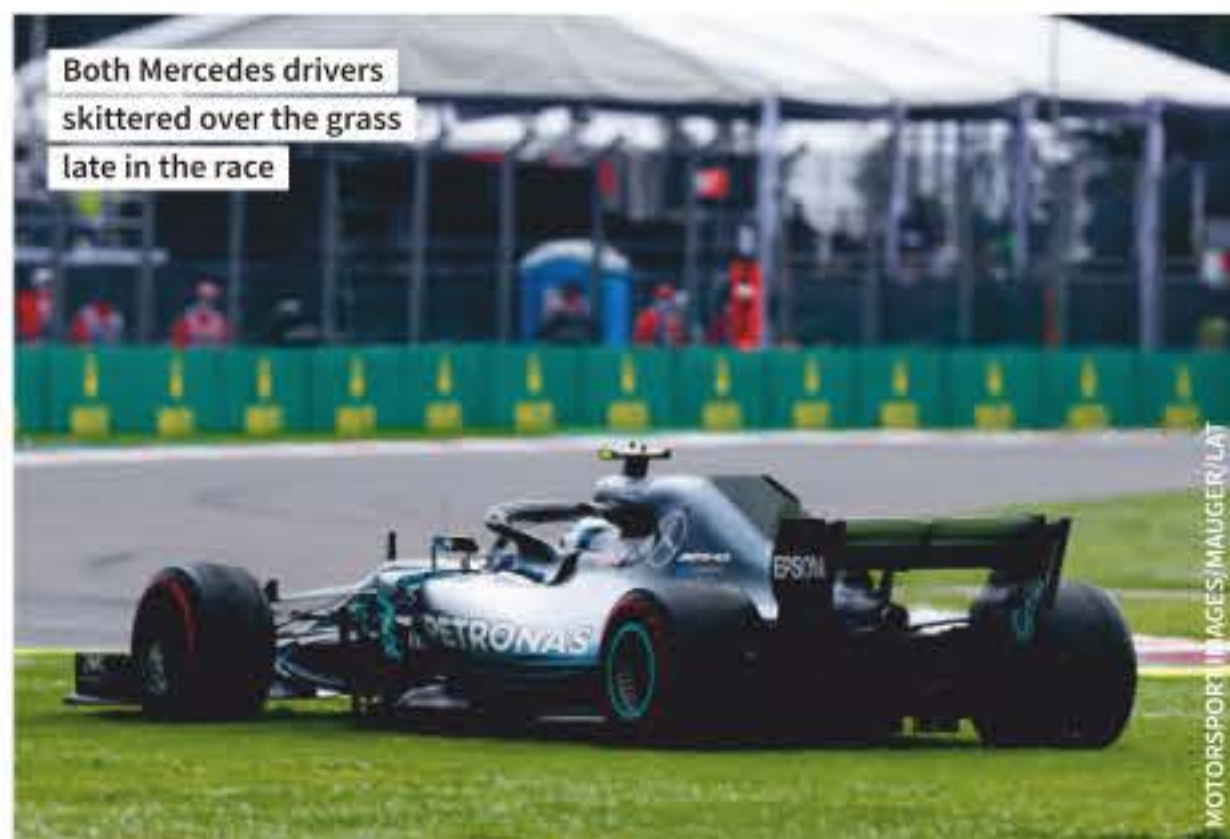
Crucially, this phase of the race gave Verstappen the platform he needed. By the end of his out-lap he was 2.2s clear of Hamilton and running third, with Vettel temporarily leading from Raikkonen. Verstappen picked off Raikkonen before Turn 1 on lap 15 thanks to having more grip through the final corner; he was subsequently reminded to look after the rear tyres, then assumed the lead when Vettel finally stopped at the end of lap 17. Hamilton, behind, was already not entirely happy with the grip levels and lost time passing

Raikkonen, doing so after attacking on the inside into Turn 1 in a move he completed two corners later. Almost immediately, Ferrari instructed Raikkonen to come in to the pits.

When Verstappen led at the end of lap 18, he was 8.133s clear and told that all he needed to do was match the lap times of the cars behind. A few laps later Hamilton reported "I have no grip", which meant that Verstappen couldn't help but build his lead. On lap 27, Hamilton fell over 10s behind for the first time and began to come under increasing pressure from Ricciardo.

By this point in the race, Verstappen had a significant margin and knew the squabbling behind him would only allow him to consolidate his lead. During this phase of the race he was utterly in control, with only the occasional nudge from the pitwall not to overexert the machinery or the tyres as his strategy hovered between one stop and two. But any peril connected to a possible second stop was relieved by what was going on behind, which allowed Verstappen to stop at the end





Both Mercedes drivers
skittered over the grass
late in the race

MOTORSPORT IMAGES/NAUGER/LAT



Ricciardo's retirement
put paid to Red Bull's
hopes of a one-two

MOTORSPORT IMAGES/PORTLOCK/LAT

of lap 48 for a second set of fresh supersofts and still emerge with a lead of 5s over second place – now held by Ricciardo.

Aside from the occasional concerns that he might push a bit too hard while chasing fastest lap, which he did set briefly before being eclipsed moments later by hypersoft-shod Bottas, Verstappen stroked it to the finish without ever looking like making a mistake. Eventually, he crossed the line 17.316s clear of second-placed Vettel.

While we've seen drives like this from Verstappen before – his victory on his Red Bull debut in the 2016 Spanish GP stands out for being a great tyre-managing performance – this is indicative of a driver ever more at ease with the demands of elite sport. He knew what he needed to do, even after the qualifying error, and executed the race beautifully.

"The difference is I just listen to myself," said Verstappen. "I do my own thing, even if there are a lot of things written I really don't care. My dad always told me in go-karting, back in the day, if I was maybe overdriving or something he would always tell me, 'Max, even if you think you are not going fast enough, it's still fast enough.' So, for my feeling, I just backed it out a little bit and that seems to make me a bit faster."

Since June's Canadian GP, after his desultory run of six races during which he squandered two victory chances and made several other critical mistakes, Verstappen has been driving beautifully. This victory was as dominant as we've seen during 2018, which given the taxing tyre demands shows just how in control he can be.

But behind, the battle was far more complicated. Second place was passed from Hamilton to Vettel to Ricciardo and then back to Vettel again, but initially it was the Mercedes driver who fell by the wayside. On lap 39 of 71, Hamilton was passed by Vettel into Turn 2, then was baffled to be informed that Ricciardo was rapidly closing the gap. The Australian attacked into Turn 1 eight laps later, Hamilton locked up, skated across the grass and headed back to the pits for an inevitable second stop. With no supersofts left, Hamilton had to take on >>

QUALIFYING



MOTORSPORT IMAGES/NAUGER/LAT

The stage was set for Max Verstappen to take his first Formula 1 pole position and break Sebastian Vettel's record for the youngest driver to do so. Fastest in all three practice sessions, then in Q2 and on the first runs in the top-10 shootout, he certainly looked good for pole. Then, Verstappen's Red Bull team-mate Daniel Ricciardo flashed across the line to take top spot by 0.026 seconds.

It was still nip-and-tuck at that moment. Verstappen entered the stadium having completed the first two sectors just one hundredth of a second slower. Then he went deep into the tight Turn 13 left-hander and had to scramble through the following corners as he shipped over two tenths of a second. The result was a lap slightly slower than his first, and a pole position lost. He wasn't happy but, unseen, things had started to unravel before that.

"I was struggling the whole qualifying, with the same problems I had in FP2 when I had a lot of rear locking on the downshifting and when I came off throttle," said Verstappen. "We couldn't do anything throughout qualifying, so I just had to lock a lot of the tools, and go forward on the brake balance to try and stabilise the whole car."

Ricciardo yelled with delight when he was told he had pole, his third in F1, and admitted even then he was holding a lot in. During recent months a string of engine-related problems, and perhaps a few hints of not being at his fully motivated best as a result, have held Ricciardo back, but this was a great steal. His pace in the final sector on both Q3 runs was key, and perhaps the pressure played a part in Verstappen's stadium mistake, which was an exaggerated version of a minor error on his first run.

**"I HAD A LOT
OF LOCKING
WHEN I CAME
OFF THE
THROTTLE"
VERSTAPPEN**

After struggling badly during Friday practice, Mercedes delivered a remarkable turnaround to allow Lewis Hamilton to take third, just 0.135s down. Sebastian Vettel was happy enough with the lap he did for fourth in his Ferrari, although failed to improve on his second run.

Valtteri Bottas made Q3 after a Mercedes engine change following a hydraulic failure during FP3, and he had a small but significant edge of 0.170s over Kimi Raikkonen's Ferrari. All of the top six set their Q2 times on ultrasofts to avoid starting on the high-degradation hypersofts.

Nico Hulkenberg took 'Class B' pole for Renault. Team-mate Carlos Sainz Jr was a quarter of a second down in eighth and complaining of a lack of rear grip thanks to set-up changes conceived to protect the tyres.



TRACKSIDE VIEW

If every Formula 1 qualifying session and race were run in the conditions the drivers were presented with during FP1 in Mexico, the season would go very differently. In fact, there's every chance Valtteri Bottas would be world champion...

The Autódromo Hermanos Rodríguez presents a unique set of conditions on Friday morning. At an altitude of around 2225 metres the air density is considerably lower than usual, which is very bad news for downforce. Although teams pile on all the downforce-producing parts they can find, the overall load produced by the cars is akin to ultra-trimmed-out Monza. Add to that the fact that this track is very dusty and green at the start of FP1, and you have the least-grippy dry conditions of the year.

Watching at the end of the fast esses in the middle of the lap, at Turns 10-11, for the first phase of FP1 makes this very clear. In the early stages, every driver is battling either understeer or oversteer, often both, as they get a feel for the conditions. It's here that Bottas excels.

While Mercedes team-mate Lewis Hamilton struggles a little more in the right-left that ends this sequence, evinced by the rear end stepping out on several occasions, Bottas is able to make the car almost dance across the surface. It's never planted, but rarely exhibits signs of significant oversteer or understeer, just as he avoids the rear-out moments that some drivers encounter when they are a little too aggressive on the throttle. Max Verstappen is the other driver in the same class, and already you can see that the Red Bull is the car to beat.

Moving round to the Turns 7-9 left-right-left that makes up the bulk of the esses, which is slightly slower but still quick, you can see the same pattern. Early on his second run, Hamilton has a big rear-end moment out of Turn 8, while Bottas continues to skate serenely on even though he's slightly slower than his team-mate. Verstappen, again, looks mighty, and it's no surprise to see he tops the session by almost half a second. Team-mate Daniel Ricciardo looks fast, but on several occasions has the rear end hanging out more in this section.



On a 'green' track early on, Bottas made the Mercedes look almost effortless



Norris was impressively committed during his FP1 outing for McLaren



Looking further down the order, McLaren's 2019 newcomer Lando Norris catches the eye. Often during this season, Stoffel Vandoorne has struggled to emulate Fernando Alonso's ability to hustle the car to drag out a lap time. Again, during

FP1 in Mexico, Vandoorne spends more time just sitting inside the understeer while the front-end limitation sorts itself out, while Norris is able to harry the car. It equates to a similar lap time, but Norris has the slight edge.

Since the track conditions change by the time qualifying comes round, the early running isn't that significant. But the early eye-test proves Verstappen is going to be formidable.

EDD STRAW

Vettel broke off post-race interviews to congratulate Hamilton for his title win

PORTLOCK
motorsport
IMAGES



ultrasofts that had been used for a run in qualifying; he had also handed fourth place to Raikkonen, who was running to the end.

Vettel also opted to pit at the end of lap 47, rejoining in third behind Ricciardo on fresh ultrasofts. Ricciardo's five-second advantage was quickly whittled down to next to nothing, a pass seemingly inevitable. But remarkably, he held firm, even finding the pace on 45-lap-old supersofts to take fastest lap for a time on lap 57.

Agonisingly, a suspected clutch-bearing problem then caused Ricciardo to grind to a halt, handing the position back to Vettel. Given how strong a drive this was (albeit not quite at Verstappen's level), and his terrible luck in recent months, you can forgive Ricciardo for having the air of someone who wanted to walk out of the paddock and not come back until pre-season testing.


This also promoted Raikkonen to a solid – if anonymous – third, with Hamilton coming home fourth. In the closing stages, he summed up everyone's feelings by saying: "It's crazy that we're not in this race, the car's just... got no grip." He finished 1m18.738s off the lead, with his team-mate a whole lap down after tyre troubles.

So exactly what went wrong? Most drivers were struggling with graining, usually on the front-left tyre, although those with

a more oversteery balance did struggle at the rear, and Hamilton was no exception. But while other drivers were able to clear the graining phase, the Mercedes drivers became stuck in an endless spiral. Mercedes certainly struggled to get the front tyres switched on, which contributed to the sliding over the surface that exacerbated the graining, but the team did not offer an immediate answer to exactly why this was occurring.

Car balance can have a significant impact on graining, and it's possible that the understeer Hamilton referred to as early as the pre-grid laps was the source of the problem. This also raises the possibility that Mercedes went for this balance to protect the rear tyres after a difficult Friday in higher track temperatures; we could also take into account the effect of Mercedes' controversial wheelrims, which had been declared legal by stewards when Mercedes asked, though the team elected not to use them for fear of later protests. Understeer can also be created to protect the rears. Whatever the cause, Mercedes has sometimes struggled to get the tyres working this year, and in the conditions in Mexico it just wasn't at the races.

This was still a Mercedes team going badly on an outlier circuit during a season that has now already delivered the drivers' championship for Hamilton and, all things being equal, will bring the constructors' crown too. Hamilton didn't want to win the title with a fourth place, but that takes none of the sheen off a remarkable achievement from a driver who is getting better and better.

He is also one who looks well equipped to take on the best of the next generation, exemplified by Verstappen, who showed everyone that he's capable of making a difficult race look easy with his victory. 

**"YOU CAN FORGIVE RICCIARDO
FOR HAVING THE AIR OF SOMEONE
WHO WANTED TO WALK OUT"**



Gasly takes points from the back

Toro Rosso's Pierre Gasly climbed from last on the grid to finish 10th, just 1.2 seconds behind Sauber driver Marcus Ericsson.

Gasly ran 17th early on after starting on hypersofts with the objective of stopping early to make the most of clear air.

He stopped after five laps and dropped to the back. After a strong middle stint on supersofts, he stopped again for a second set of supersofts at the end of lap 26, again dropping to the back and running last until lap 44.

He then jumped both Haas drivers when they pitted, and passed Sergey Sirotkin, Esteban Ocon and Brendon Hartley (the last-named as a result of team orders). He moved into the points when Daniel Ricciardo retired.

Gasly did have one difficult moment when he ran off track after locking up trying to pass Ocon. Stewards investigated the incident and deemed Gasly had been left enough room.

"We know that when we are close on track, there is a chance things happen," said Gasly. "I think he wasn't super-happy by the fact that starting last I managed to overtake him. He pushed me wide and I had to go off track."

Hartley was relegated to 14th after finishing 12th on the road thanks to a five-second penalty for not leaving Ocon enough space while battling with him. He accepted the punishment.

Ricciardo laments 'cursed' Red Bull

Daniel Ricciardo described his 2018 Red Bull as 'cursed' after retiring from a grand prix for the eighth time this year.

Ricciardo, who started from pole position, was holding off Sebastian Vettel for second place on a one-stop strategy when he pulled off on lap 62 with an issue believed to have originated with a clutch-bearing problem not related to any Renault parts. In his disappointment after the race, Ricciardo suggested he would be happy to step aside and let Pierre Gasly, who will take his seat next year, complete the season.

"I don't think 'frustration' is the word anymore," said Ricciardo. "Everything feels hopeless. Honestly, I don't see the point of coming on Sunday; I don't see the point of doing the next two races."

"I haven't had a clean race or weekend in so long. I'm not

superstitious or any of this bullshit, but... the car's cursed. I don't have any more words.

"Helpless' I think is the best word. Even today, the starts have been good all weekend, the practice starts, and for the race start it's all over the place.

"Just things are happening on Sunday that I've got no more explanation for. The car... I'll let Gasly drive it, I'm done with it."

Six of his retirements have been as a result of mechanical problems, with two down to on-track incidents. This latest failure leaves him 70 points behind team-mate Max Verstappen in sixth place in the championship, having originally been tipped as a title outsider after winning two of the season's first six races. Verstappen has failed to take the chequered flag only four times.

Ericsson 'fuming' after strategy compromise

Marcus Ericsson said he was "fuming" about finishing ninth after Sauber opted to extend his first stint on hypersoft rubber to help team-mate Charles Leclerc.

Ericsson ran three laps longer than Leclerc, stopping on lap 16 and rejoining last after losing an extra nine seconds to a slow stop,

but helped to delay those who started on harder tyre compounds and potentially threatened Leclerc's position, helping him secure an eventual seventh place.

"I was really fuming in the car," said Ericsson. "I know we had to work for the team's best, but it was a bit extreme."



RACE IN BRIEF

WILLIAMS FINED FOR RISK TO CREW

Williams was fined €25,000 for "endangering" its pit crew after Lance Stroll struck a team member when he was released from a pitstop. Stewards deemed he was "released unsafely" after what was termed a "minor miscoordination" led to the incident. The crew member was not hurt, but stewards said the team was obliged to ensure all personnel were clear of the car.

PEREZ DENIED BY BRAKE PROBLEMS

Sergio Perez was on course for seventh place in Mexico City when he retired with a brake problem after completing 38 laps. Perez was right behind Charles Leclerc, who went on to finish seventh, and looked to have the pace to get ahead when he slowed and returned to the pits. Racing Point Force India is now 15 points behind McLaren in the battle for sixth.

RENAULT ON BRINK OF FOURTH PLACE

Nico Hulkenberg's sixth place in the race means that Renault is close to securing its stated objective of fourth in the constructors' championship. The team now has a 30-point lead over Haas, although an FIA hearing into Romain Grosjean's exclusion from sixth place in the Italian Grand Prix could result in the gap closing by 10 points.



Vandoorne ends points drought

Stoffel Vandoorne ended a 14-race points drought stretching back to April's Azerbaijan Grand Prix with an outstanding drive to eighth place.

The McLaren driver was just 0.109 seconds behind team-mate Fernando Alonso in qualifying – albeit he fell in Q1 while the Spaniard advanced to Q2 – and ran 19th after slipping back during the first sequence of corners.

After stopping to switch to supersofts at the end of lap 12, Vandoorne ran to the finish and climbed to eighth place, sandwiched between the Saubers of Charles Leclerc and Marcus Ericsson.

Race engineer Tom Stallard took to Twitter after the race to praise Vandoorne's performance, showing a picture of the state of his driver's front-left Pirelli after a marathon stint.

"On the inside of the front-left tyre it looks smooth because the grip rubber is completely worn away," said Stallard. "So

impressive to drive tyres like this with no mistakes."

Vandoorne admitted that his first lap did compromise his race. But just as in Bahrain, where he dropped to the back and recovered to also finish eighth, from there he drove superbly.

"I am very happy with the performance after lap one," he said. "We were last and had to make a great recovery. Super-happy with how everything went."

"We had some good overtakes on track, we made the tyres last in the crucial moments, we attacked when we had to attack."



Sainz loses 'Class B' victory

Carlos Sainz was on course to win Formula 1's 'Class B' midfield battle when he retired in the stadium near the end of the 29th lap.

Sainz was leading Renault team-mate Nico Hulkenberg, having jumped ahead of the slow-starting German before the first corner, when he pulled off after suffering what the team called an "electrical shutdown". Had he finished the race, Sainz would likely have taken the sixth

position that Hulkenberg claimed.

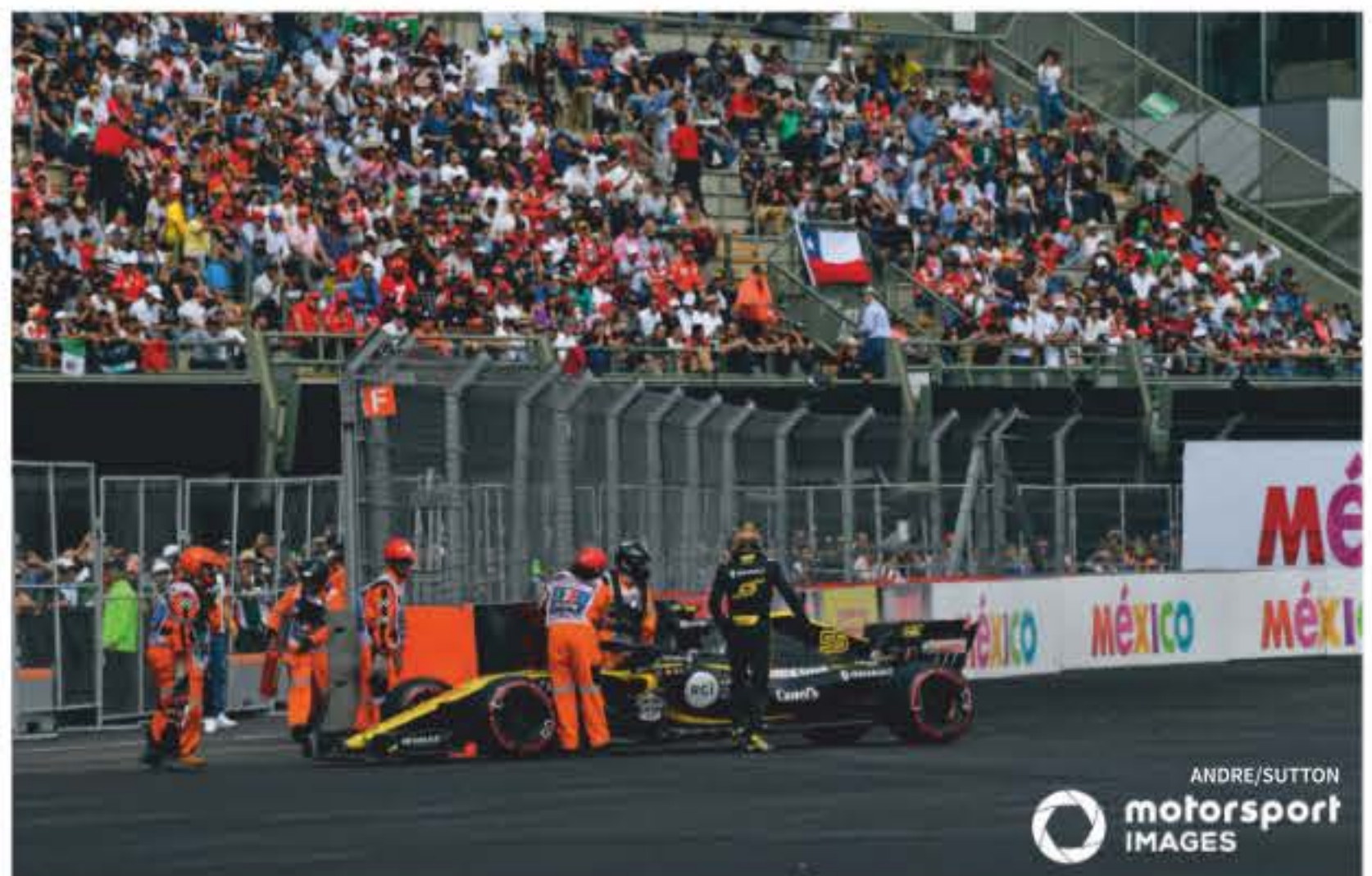
Hulkenberg finished 11.564 seconds clear of Sauber driver Charles Leclerc in the battle for midfield honours. Hulkenberg's result means he's on the brink of sealing the unofficial 'Class B' title. He now leads Sergio Perez by 41 points thanks to the Racing Point Force India driver retiring with a brake problem while on course for seventh place.

Alonso's 'one-in-a-million' blow

Fernando Alonso's race lasted only until lap four, when he retired with a water leak after picking up debris on the first lap.

Alonso started 12th and held the position in the early stages. Then Esteban Ocon clipped the back of Nico Hulkenberg's Renault at Turn 3 and lost part of his front wing, which slid to the outside of the track and became lodged in Alonso's McLaren.

"It was a sad day," said Alonso, who had every chance of finishing in the points having failed to do so in the previous three races. "We've been unlucky with some of the debris from the Force India in front of us landing in our car. It's a one-in-a-million possibility to have a DNF."



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Q & A

LEWIS HAMILTON

The five-time world champion reflects on his success

What are you feeling right now?
Right now, it just doesn't feel real. I feel like I'm going to wake up in a matter of moments. It's been such a difficult year and such a great battle but a lot of work. To try and raise the bar this year has been such a huge challenge. I think I had a great season last year and I was thinking how can I raise the bar, how can I squeeze some more out of myself? There is no secret formula but somehow I managed to find that balance and that flow, and I've had some of the best races of my career, and I think that's ultimately why I'm sitting here.

Are you surprised to wrap the championship up so quickly after the early fight with Sebastian Vettel?

Through the year there were a lot of testing times for us. It took some special laps, it took some special moments in the car, and I honestly could just relive those moments all the time. Some of those experiences I had in the car were really magical. I truly believed that we could win this championship, but it has been the toughest battle that we've had collectively as a team. So much work has gone on in the background.

How will you celebrate?

I just feel very content right now. I feel very happy. I'm looking forward to going to sleep, honestly, but I'm really trying to cherish

"I STILL HAVE WORK TO DO. I'VE TO GO TO THE FACTORY AND RALLY THE TROOPS"

this moment because I know this moment will only last for a period of time, and then you're moving on to the next thing. I still have work to do. I've still got to get back to the factory and rally the troops next week to figure out how we can come back and win these next races. I have no idea why I struggled so much in these last two and we all feel the pain of not winning those races, and we still have the constructors' championship to win.

To what extent did your various off-track activities empower you this season?

Being able to tap into your creativity is only a positive — there are no negatives about that. Naturally people will have opinions for and against things that you do, but one thing for me is I don't do everything perfectly and I don't always say the right things, but one thing I do do is me. Having these opportunities to do these other things, tapping into a different part of the mind, it has nothing to do with being a racing driver but I think it's keeping the brain stimulated. Ultimately, on my list, there's a new dream there, to do something like he [Tommy Hilfiger] has done within that business. So, we will see how it is 10 years from now.

What did you say to Sebastian after the race?

He came over and, the one thing he said was, 'Just don't let off — I need you fighting with me next year' — which I respect. I just said thank you so much for being such a strong competitor this year. Ultimately it was a true showing of great sportsmanship and respect between us, which I think has been there all year long. It's been a hard year. He's fought so well and I know he drove fantastically well today, and I know he's going to go from strength to strength, so I've got to stay on my toes. 🏆

P30 DRIVER RATINGS





FREE PRACTICE 1

POS	DRIVER	TIME
1	Verstappen	1m16.656s
2	Ricciardo	1m17.139s
3	Sainz	1m17.926s
4	Hulkenberg	1m18.028s
5	Hamilton	1m18.075s
6	Bottas	1m18.322s
7	Vettel	1m18.746s
8	Raikkonen	1m18.936s
9	Hartley	1m19.024s
10	Latifi	1m19.078s
11	Perez	1m19.124s
12	Giovinazzi	1m19.134s
13	Grosjean	1m19.276s
14	Ericsson	1m19.312s
15	Norris	1m19.646s
16	Vandoorne	1m19.716s
17	Magnussen	1m19.853s
18	Sirotkin	1m19.899s
19	Stroll	1m20.142s
20	Gasly	notime

WEATHER 19C, cloudy

FREE PRACTICE 2

POS	DRIVER	TIME
1	Verstappen	1m16.720s
2	Ricciardo	1m16.873s
3	Sainz	1m17.953s
4	Vettel	1m17.954s
5	Hulkenberg	1m18.046s
6	Hartley	1m18.061s
7	Hamilton	1m18.100s
8	Raikkonen	1m18.133s
9	Bottas	1m18.140s
10	Perez	1m18.167s
11	Ocon	1m18.485s
12	Grosjean	1m18.733s
13	Leclerc	1m19.024s
14	Gasly	1m19.047s
15	Vandoorne	1m19.096s
16	Stroll	1m19.219s
17	Ericsson	1m19.322s
18	Sirotkin	1m19.335s
19	Alonso	1m19.543s
20	Magnussen	1m19.670s

WEATHER 24C, sunny

FREE PRACTICE 3

POS	DRIVER	TIME
1	Verstappen	1m16.284s
2	Hamilton	1m16.538s
3	Vettel	1m16.566s
4	Ricciardo	1m17.028s
5	Raikkonen	1m17.045s
6	Leclerc	1m17.059s
7	Sainz	1m17.336s
8	Gasly	1m17.525s
9	Ericsson	1m17.565s
10	Hulkenberg	1m17.623s
11	Ocon	1m17.731s
12	Perez	1m17.819s
13	Grosjean	1m18.145s
14	Vandoorne	1m18.445s
15	Alonso	1m18.548s
16	Hartley	1m18.637s
17	Sirotkin	1m18.669s
18	Stroll	1m18.698s
19	Bottas	1m18.839s
20	Magnussen	notime

WEATHER 16C, damp then cloudy

SPEED TRAP



QUALIFYING 1

POS	DRIVER	TIME
1	Bottas	1m15.580s
2	Hamilton	1m15.673s
3	Verstappen	1m15.756s
4	Ricciardo	1m15.866s
5	Vettel	1m16.089s
6	Perez	1m16.242s
7	Ocon	1m16.252s
8	Raikkonen	1m16.446s
9	Hulkenberg	1m16.498s
10	Hartley	1m16.682s
11	Ericsson	1m16.701s
12	Sainz	1m16.813s
13	Gasly	1m16.828s
14	Alonso	1m16.857s
15	Leclerc	1m16.862s
16	Grosjean	1m16.911s
17	Vandoorne	1m16.966s
18	Magnussen	1m17.599s
19	Stroll	1m17.689s
20	Sirotkin	1m17.886s

QUALIFYING 2

POS	DRIVER	TIME
1	Verstappen	1m15.640s
2	Hamilton	1m15.644s
3	Vettel	1m15.715s
4	Ricciardo	1m15.845s
5	Bottas	1m15.923s
6	Raikkonen	1m15.996s
7	Hulkenberg	1m16.126s
8	Sainz	1m16.188s
9	Leclerc	1m16.320s
10	Ericsson	1m16.633s
11	Ocon	1m16.844s
12	Alonso	1m16.871s
13	Perez	1m17.167s
14	Hartley	1m17.184s
-	Gasly	notime

QUALIFYING 3

POS	DRIVER	TIME
1	Ricciardo	1m14.759s
2	Verstappen	1m14.785s
3	Hamilton	1m14.894s
4	Vettel	1m14.970s
5	Bottas	1m15.160s
6	Raikkonen	1m15.330s
7	Hulkenberg	1m15.827s
8	Sainz	1m16.084s
9	Leclerc	1m16.189s
10	Ericsson	1m16.513s

WEATHER 20C, sunny

SEASON STATS

DRIVERS' CHAMPIONSHIP

1	Hamilton	358
2	Vettel	294
3	Raikkonen	236
4	Bottas	227
5	Verstappen	216
6	Ricciardo	146
7	Hulkenberg	69
8	Perez	57
9	Magnussen	53
10	Alonso	50
11	Ocon	49
12	Sainz	45
13	Grosjean	31
14	Gasly	29
15	Leclerc	27
16	Vandoorne	12
17	Ericsson	9
18	Stroll	6
19	Hartley	4
20	Sirotkin	1

CONSTRUCTORS' CHAMPIONSHIP

1	Mercedes	585
2	Ferrari	530
3	Red Bull	362
4	Renault	114
5	Haas	84
6	McLaren	62
7	Racing Point Force India	47
8	Sauber	36
9	Toro Rosso	33
10	Williams	7

*Team lost its 59 points scored in rounds 1-12 as Force India due to its name change.

QUALIFYING BATTLE

Hamilton	13	6	Bottas
Vettel	15	4	Raikkonen
Ricciardo	4	14	Verstappen
Perez	4	15	Ocon
Stroll	8	11	Sirotkin
Hulkenberg	11	8	Sainz
Gasly	12	5	Hartley
Grosjean	9	9	Magnussen
Vandoorne	0	19	Alonso
Ericsson	3	16	Leclerc

Scores ignore sessions if a driver didn't participate in qualifying, as happened with Hartley in Spain and GB, Verstappen in Monaco, and Grosjean in Canada.

WINS

Hamilton	9
Vettel	5
Ricciardo	2
Verstappen	2
Raikkonen	1

FASTEST LAPS

Bottas	6
Ricciardo	4
Hamilton	3
Verstappen	2
Vettel	2
Magnussen	1
Raikkonen	1

POLE POSITIONS

Hamilton	9
Vettel	5
Bottas	2
Ricciardo	2
Raikkonen	1

STARTING GRID

10 Ericsson #9 1m16.513s	8 Sainz #55 1m16.084s	6 Raikkonen #7 1m15.330s	4 Vettel #5 1m14.970s	2 Verstappen #33 1m14.785s
9 Leclerc #16 1m16.189s	7 Hulkenberg #27 1m15.827s	5 Bottas #77 1m15.160s	3 Hamilton #44 1m14.894s	1 Ricciardo #3 1m14.759s

RACE RESULTS ROUND 19/21, 71 LAPS - 189.75 MILES

POS	DRIVER	TEAM	FINISHTIME	LED	TYRES
1	Max Verstappen (NL)	Red Bull-Renault	1h38m28.851s	67	USu, SSn, SSn
2	Sebastian Vettel (D)	Ferrari	+17.316s	4	USu, SSn, USn
3	Kimi Raikkonen (FIN)	Ferrari	+49.914s		USu, SSn
4	Lewis Hamilton (GB)	Mercedes	+1m18.738s		USu, SSn, USu
5	Valtteri Bottas (FIN)	Mercedes	-1 lap		USu, SSn, USu, HSu
6	Nico Hulkenberg (D)	Renault	-2 laps		HSu, SSn
7	Charles Leclerc (MC)	Sauber-Ferrari	-2 laps		HSu, SSn
8	Stoffel Vandoorne (B)	McLaren-Renault	-2 laps		USn, SSn
9	Marcus Ericsson (S)	Sauber-Ferrari	-2 laps		HSu, SSn
10	Pierre Gasly (F)	Toro Rosso-Honda	-2 laps		HSn, SSn, SSn
11	Esteban Ocon (F)	Force India-Mercedes	-2 laps		SSn, SSu, USu
12	Lance Stroll (CDN)	Williams-Mercedes	-2 laps		USn, USn, SSn
13	Sergey Sirotkin (RUS)	Williams-Mercedes	-2 laps		USn, SSn
14	Brendon Hartley (NZ)	Toro Rosso-Honda	-2 laps		SSn, USn, SSn
15	Kevin Magnussen (DK)	Haas-Ferrari	-2 laps		SSn, USn
16	Romain Grosjean (F)	Haas-Ferrari	-3 laps		SSn, USn, HSu
R	Daniel Ricciardo (AUS)	Red Bull-Renault	61 laps-hydraulics		USu, SSn
R	Sergio Perez (MEX)	Force India-Mercedes	38 laps-brakes		SSn, USu
R	Carlos Sainz (E)	Renault	28 laps-electrical		HSu, SSn
R	Fernando Alonso (E)	McLaren-Renault	3 laps-accident		USn

FASTEST LAPS

POS	DRIVER	TIME	GAP	LAP
1	Bottas	1m18.741s	-	65
2	Verstappen	1m19.186s	+0.445s	66
3	Ricciardo	1m19.462s	+0.721s	57
4	Vettel	1m19.522s	+0.781s	49
5	Raikkonen	1m20.334s	+1.593s	19
6	Leclerc	1m20.537s	+1.796s	67
7	Hulkenberg	1m20.637s	+1.896s	67
8	Hamilton	1m20.728s	+1.987s	49
9	Grosjean	1m21.370s	+2.629s	46
10	Magnussen	1m21.874s	+3.133s	45
11	Vandoorne	1m21.921s	+3.180s	14
12	Sainz	1m22.386s	+3.645s	6
13	Hartley	1m22.438s	+3.697s	26
14	Ericsson	1m22.440s	+3.699s	18
15	Ocon	1m22.629s	+3.888s	6
16	Sirotkin	1m22.640s	+3.899s	66
17	Gasly	1m22.755s	+4.014s	69
18	Stroll	1m22.983s	+4.242s	27
19	Perez	1m23.545s	+4.804s	6
20	Alonso	1m24.197s	+5.456s	3

WEATHER 18C, cloudy

TYRES n - New set u - Used set Available | SH - Superhard H - Hard M - Medium S - Soft SS - Supersoft US - Ultrasoft HS - Hypersoft I - Intermediate W - Wet

WINNER'S AVERAGE SPEED 115.60mph FASTEST LAP AVERAGE SPEED 122.28mph

RACE BRIEFING

FP1

NICHOLAS LATIFI replaced Ocon at Force India
ANTONIO GIOVINAZZI replaced Leclerc at Sauber
LANDO NORRIS replaced Alonso at McLaren

GRID PENALTIES

GROSJEAN Three-place penalty for causing a collision in the US GP
GASLY 20-place penalty for additional power unit elements used and replacement gearbox

RACE PENALTIES

HARTLEY Five-second penalty and two licence points for causing a collision with Ocon
WILLIAMS fined €25,000 for unsafe release of Stroll

STAT

5

Verstappen now has the same number of points-paying GP wins as world champions Giuseppe Farina and Keke Rosberg

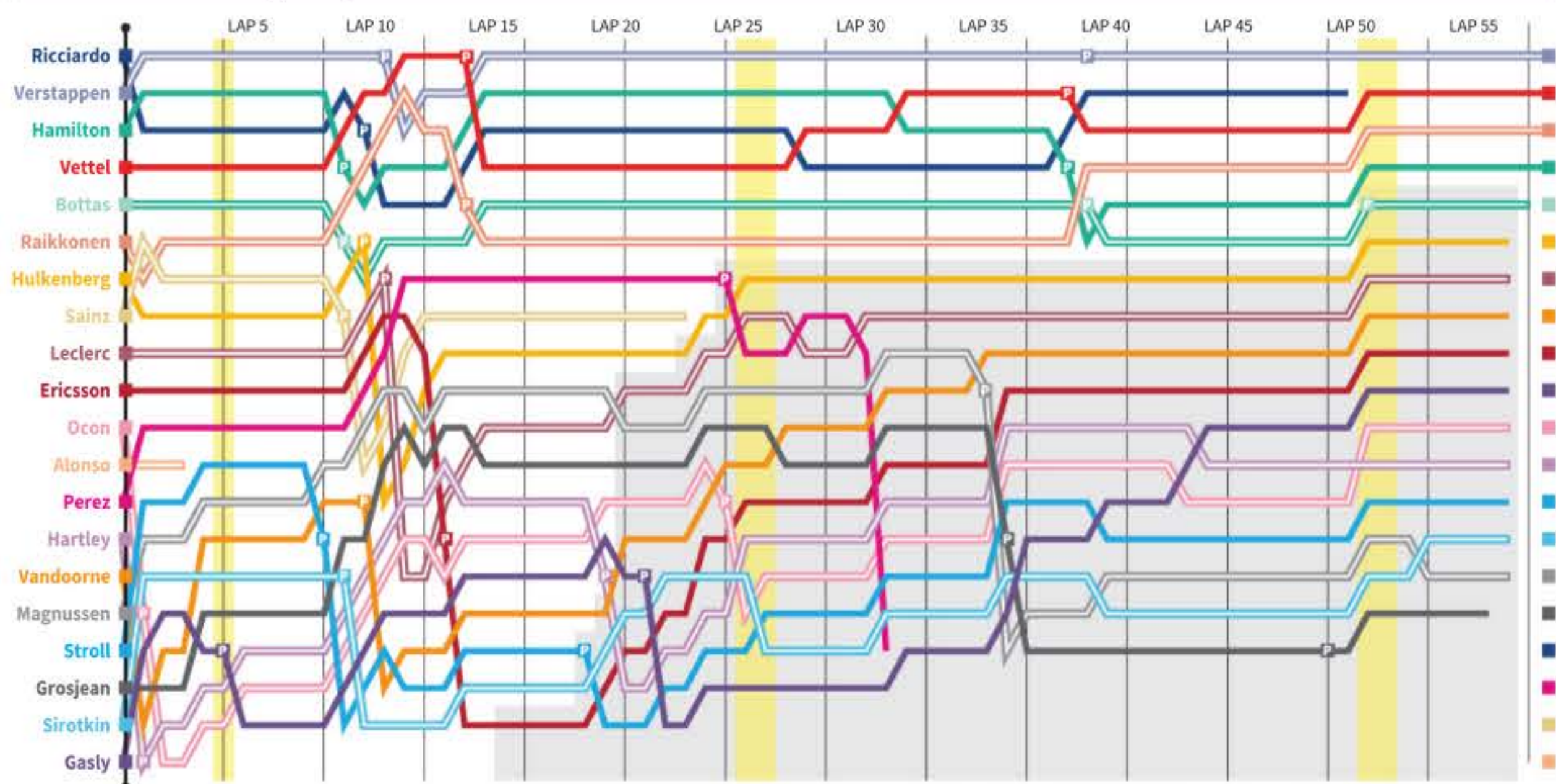
NEXT RACE

NOV 11 BRAZILIAN GP

Interlagos



LAP CHART What happened, when



P Pitstop C Crash M Mechanical failure S Spin P Penalty L Car lapped SC Safety car

NO-ONE RATES A PERFECT SCORE IN RED BULL REVIVAL

Daniel Ricciardo and Max Verstappen starred with pole position and the race win respectively, while the real Stoffel Vandoorne finally stood up

EDD STRAW

MERCEDES



LEWIS HAMILTON

8 Did a great job to beat the Ferraris during qualifying, which put him in a position to challenge for the lead at the start. It was soon clear that Mercedes was fighting serious problems. There was little he could have done to improve his result, so he kept plugging away and his reward was the world championship.



VALTTERI BOTTAS

7 Had the same problems as Hamilton and struggled to make an impression in the race. He did take fastest lap, having switched to hypersofts late on, and closed to within 20s of Hamilton, but he was very much the second Mercedes driver. There wasn't much more he could have done.

FERRARI



SEBASTIAN VETTEL

8 Was happy after qualifying, but had he made his second Q3 lap count it's not impossible that he could have pipped Hamilton to third place. Did a superb job to get ahead of Bottas with a robust move, the kind that sometimes he's misjudged this season, and was clearly the quicker Ferrari driver.



KIMI RAIKKONEN

7 After the outstanding victory in the US, it was back to solid, dependable Raikkonen with a largely anonymous performance that finished with him over half a minute behind Vettel. But that still added up to third, and he did a good job to make a one-stop strategy work.

RED BULL



DANIEL RICCIARDO

9 Didn't quite have the speed of Verstappen over the weekend, but found prodigious pace when he needed it in the final sector in Q3 to steal pole position. Had he not bogged down at the start, he might well have held onto the lead. He certainly didn't deserve another failure.



MAX VERSTAPPEN

9 A faultless drive, showing killer instinct when he needed it to make sure of the lead at the start and then control for the rest of the race. Being able to build more than a pitstop's lead over Ricciardo showed how strong he was. Despite braking problems, he should have had pole. And he knew it.

FORCE INDIA



SERGIO PEREZ

8 Qualifying wasn't great and the 0.323s gap from Ocon to Perez allowed Alonso to sneak in between the Force Indias. But Q3 was never likely given the decision to use ultrasofts in Q2. Was looking well set in the race, but a brake-seal failure cost him a likely 'Class B' second place in a well-executed race.



ESTEBAN OCON

6 Things were looking good after qualifying and there was nothing wrong with his pace, but clipping Hulkenberg's rear at Turn 3 sent his race into a downward spiral. After scrapes with Hartley and Gasly, he came home 11th. Without that early error he could have had a shot at seventh place.

WILLIAMS



LANCE STROLL

7 That he got relatively close to a points finish, albeit boosted by a place thanks to Hartley's penalty, reflects a decent job on a two-stop strategy. Whether he could have done better is up for debate, but given the performance of the Williams this was probably close to the maximum.



SERGEY SIROTKIN

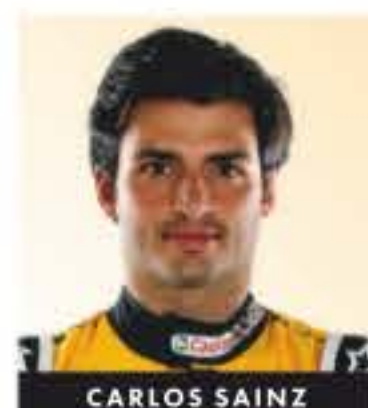
7 An error put him behind Stroll in qualifying, but drove well in the race and completed a marathon stint on supersofts to run to the end after stopping on lap 11. With the Williams still tricky, it's difficult to judge its ultimate potential. But strong pace late on almost gave him the advantage over Stroll.

RENAULT



NICO HULKENBERG

9 On paper, this was a perfect weekend for Hulkenberg, who topped the midfield in qualifying and the race and ended the day with a handy margin of 11.5s over Leclerc. But a mediocre start denies him a perfect 10, simply because it allowed team-mate Sainz to jump him after the lights went out.

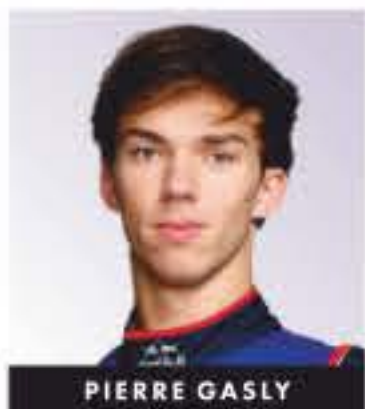


CARLOS SAINZ

9 While qualifying was a little disappointing in terms of the gap to Hulkenberg, Sainz can't be faulted for the race. He jumped Hulkenberg at the start, and was 4.3s clear of his team-mate and on target for what would have been sixth place when he retired. A good, if incomplete, weekend's work.



TORO ROSSO



PIERRE GASLY

9 Back-of-the-grid penalty for engine-component changes meant he didn't have a proper crack at qualifying, and was 0.146s slower than Hartley in Q1. But he drove a very good race, pitting very early after a short stint on hypersofts and then having to make a second stop later.



BRENDON HARTLEY

6 Another weekend where his performance was good, but the results don't quite show that. A slightly scruffy Q2 lap denied him a possible Q3 shot, then locking up at the first corner forced an early stop. Was also hit with a penalty for crowding Ocon, which cost two places after he crossed the line.

HAAS



ROMAIN GROSJEAN

6 It's hard to judge either Haas driver, given the team's traditional Mexico City struggles. What we can say is that Grosjean was the quicker, as both struggled for grip. Even after he stopped under the late VSC the pace wasn't stunning, suggesting there was not much performance left on the table.



KEVIN MAGNUSSEN

6 A similar story to Grosjean, albeit with a big deficit in qualifying that was almost entirely down to poor pace in the second sector in a car with no grip. Did make a fight of it early in the race with a good start, but the speed wasn't there to do anything but drop back as both Haas drivers struggled home.

McLAREN



STOFFEL VANDOORNE

9 This was his best performance in months. While he fell in Q1, he was only 0.109s behind Alonso, which is the closest he's been since June's Canadian Grand Prix. An accomplished long stint on supersofts meant he managed a one-stopper, parking himself comfortably between Leclerc and Ericsson in the points.



FERNANDO ALONSO

7 Admitted his qualifying lap wasn't perfect, but it was still pretty good and laid the foundations for a shot at a points finish. It sums up Alonso's luck that his race was compromised by a chunk of Ocon's front wing getting wedged under his car, before he retired with a water-pump problem.

SAUBER



MARCUS ERICSSON

7 Gap to Leclerc in qualifying was a little too big at 0.324s, meaning he was fortunate that the Force Indias opted to run on ultrasofts for their best Q2 laps, but even so Ericsson did earn a rare top-10 start. Gave away a little time with an extended first stint, but that paid off later as he came back through to ninth place.

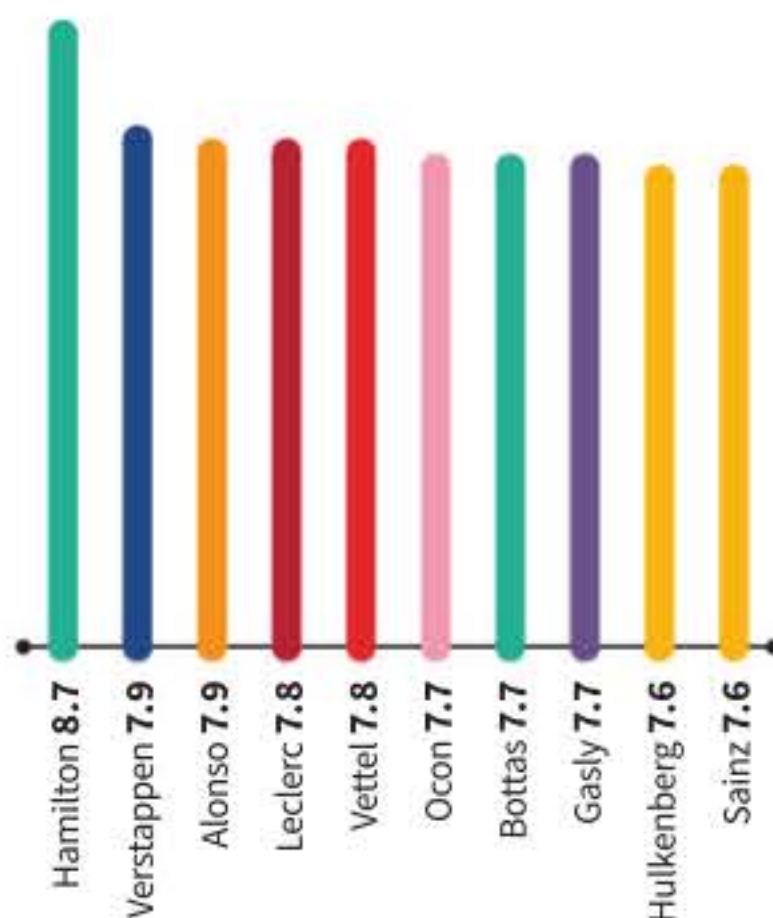


CHARLES LECLERC

9 Another weekend on which he was able to show his class, having already caught the eye in damp conditions during practice on Saturday. Maybe he could have slipped ahead of Sainz in qualifying, but he made a start on hypersofts work and was rewarded with his third top-seven finish.

TOP 10 AVERAGE RATINGS

AUTOSPORT'S RATING
AFTER ROUND 19



READERS' RATING
AFTER ROUND 19



GIVE
YOUR DRIVER
RATINGS

VISIT
AUTOSPORT.COM



STAT

79

Loeb scored his 79th WRC win,
35 more than second-best
Sebastien Ogier



The original Seb shows them how it's done

Sebastien Loeb returned to the World Rally Championship and overshadowed the title fight with victory

DAVID EVANS

ALL PHOTOGRAPHY MCKLEIN



The Citroen mechanic looked anxiously up at the screen, awaiting Sebastien Loeb's due time into the service park at 0843. The mechanic couldn't keep still. Moving from foot to foot, he went through some stretching exercises, trying to heat fingers chilled by a damp, dank autumnal seven degrees.

Eyes up, 0839. More stretching. Four minutes later, the #10 C3 WRC turned in. Action stations. The king was back.

The previous time Loeb had woken up to a Sunday morning in Salou, a 76th World Rally Championship win was waiting. Almost half a minute ahead, his DS3 WRC wouldn't miss a beat and the podium's top step was his.

Of course it was. The year was 2012, and nobody but Loeb had been on that top Spanish step since Markko Martin eight years earlier. The Frenchman had cornered the Catalan market for WRC wins. There was no news left in a Loeb win in this part of the world. It was all a bit processional. Dull even.

Not this time. A fortnight short of six years on, Loeb laughed off pre-event suggestions that win number nine could be anywhere near the horizon.

He described such talk as 'pretentious' and Loeb doesn't do pretension; he's the very antithesis of showy. Instead he talked quietly of the complications of this third and final chapter in the story of his 2018 World Rally Championship with Citroen.

Friday's gravel would be OK – he'd shown enough speed to lead on the dirt in Mexico earlier this year – and, starting 11th on a road swept clean of the loose gravel should, in theory, offer both grip and confidence in the car. But then there was this talk of rain coming on Saturday.

What was the problem? Loeb monstered many a rally in monsoon-like conditions down the years. He leaned in, almost as though he didn't want anybody to hear. "I didn't test for this," he said. "I didn't have any rain in my test. I haven't driven an asphalt stage in the wet for six years..."

And then he stalled at a hairpin in a pretty meaningless dash around Barcelona's Montjuic Park on Thursday. Going to bed 27th overall on Thursday night was not conducive to waking up on Sunday morning eight seconds off the lead. It took time. But it happened.

Friday morning wasn't ideal. The flipside of running on a cleaner road is the need for a harder tyre to deal with the more abrasive surface. The downside to the harder tyre is the lack of adhesion in the wet. A handful of damp patches cost Loeb his confidence. He just couldn't feel the car beneath him. "I'm getting too much understeer," he grumbled. "I can't drive it like this."

When some drivers say that, it reads as a direct criticism of the team. Not in this instance. Loeb's mind was elsewhere. He was thinking out loud – his mind was with his engineers, investigating a solution.

A slightly more aggressive approach to set-up and his attack in the stages delivered an improvement and second-fastest on the second run at the 24-mile Fatarella-Vilalba. That was enough to move him up to fourth.

By the end of day one, two rallies had already developed. There was Ott Tanak in a class of his own, for the second rally in succession (and the fifth from the past six), and then there was everybody else.

This time Tanak's wasn't the only Toyota being talked about as Jari-Matti Latvala further extended his current purple patch. The Finn went quickest through SS3 to take the fight to his team-mate. One stage later and it had all gone wrong.

A brief aside here. Last year, the University of Rochester completed some research that revealed that a lot of swearing generally indicated a higher level of intelligence. Latvala showed himself to be, by some distance, the harbour's brightest light when he got to the end of stage four. He didn't so much drop the f-bomb, he was carpet-bombing.

Turns out he'd had a puncture. Second had become 10th. His chance was gone. Or had it? Friday night and a penitent Latvala admitted he might have spoken too soon.



"If this rain comes, this is a new rally," he said. So maybe he could win after all. "Maybe," he said with a bashful grin, "and sorry about that swearing..."

Loeb departed the service park hoping the rain would stay away and come back another day. The rain arrived. But it was so hard to call. It was on, then off. Drizzling. Raining. Pouring, briefly. Drizzling again. And that's all in the space of a pre-dawn, 15-minute service. What to do?

Elfyn Evans's co-driver Dan Barritt knew. "Low-intensity rain all morning..." he said, before adding with a grin: "...but it'll be pissing down in places."

Between service and the stages sat the Muntanyes de Prades. Alpine, but not exactly the Alps, this massif is enough to disturb the weather and drain the rain from the clouds.

What was happening on the coast, where the sun was still firmly tucked up and not yet troubling the horizon, mattered not a jot. The news, the intel and, possibly, the win and even the championship lay 50 miles away where road meets stage.

On mornings like these, radios are clamped to ears as service-park spies lurk in the shadows trying to fathom what rubber rivals are running. It wasn't difficult. Nobody in their right mind would be taking the hard in such chilly, damp conditions, but would anybody roll the dice and run with the wet?

Radios crackled. "Latvala, full wet." Silence. Requests to repeat echoed about the place. "Latvala. Full. Wet."

Hiding a compound is no problem for the



Latvala showed pace before things went wrong, much to his frustration

RETURN OF THE
SUPERSTARS

Petter Solberg was late getting to the FIA's pre-event press conference. Typically, the 2003 World Rally champion had just wanted to go through one more page of data with his engineer. And one more set-up option with Volkswagen Motorsport's suspension and chassis specialists.

The conference was going on, but any hopes of Solberg sneaking into the room unnoticed were ruined by the sight and sound of camera flashes and clicking shutters as he came through the door.

"Hello everybody!" was offered in that endearingly singy Norwegian lilt. It was good to have him back. And not just him. Backing Solberg up were plenty of familiar and much-missed faces from Volkswagen's four years of WRC domination. And then there was Sebastien Loeb. And Ken Block.

Everyone was pretty pleased to see them, but it was Solberg who put it into context.

"You have to have respect for guys like Seb and Ken," he said. "You can have the sort of fame and money and everything they have got, but they still come back here to the family. They don't just go and hide away, they come back to enjoy themselves and I really respect that."

Solberg was, however, the only one of the returning superstars who had a fan dressed from head to toe in his national flag.

As you'd expect, Loeb and Solberg delivered in terms of times but, eight years after his last serious WRC effort, it was always going to be harder for Block to match the pace he once managed. But he made up for it in the sort of way you'd expect, with a second, smokin' donut around the roundabout in the Barcelona street stage.

Thank you boys, all of you. It was great to see you back. Just don't leave it as long next time.



Tanak flew but
was denied
yet again

"I didn't test for this. I haven't driven an asphalt stage in the wet for six years..."

teams – the tyre code H5 or S6 is hidden with a simple square of black tape. Hiding the FW3 is much less straightforward. It's a narrower tyre and comes with a radically different tread pattern. And it only works in – as the name suggests – the full wet; the compound is so soft, any dry patches will immediately generate heat and take the edge off the tyre. All of which fed into the feeling of surprise at the selection.

When Esapekka Lappi and Tanak followed suit, a precedent had been set. Never had a team headed for the stages with Michelin's FW3 bolted beneath all three cars (even if Lappi had a couple of softs in the boot).

When Saturday morning's opener was cancelled due to the high number of spectators, Toyota's rivals talked of its good fortune in now having a shortened distance over which it had to make the softest tyre work. The feeling couldn't have been more different at Toyota. Strategy-wise, it had gone all-in, and the team's newest recruit Kris Meeke explained the frustration.

"There was a lot of rain in that first one,"

he said, pointing to a missed opportunity to lift lots of time from rivals. "And there's more rain in the last stage of the loop."

Make no mistake, Toyota was on the offensive on Saturday morning. And when Tanak and team-mate Latvala went one-two on the weekend opener, it was clearly the right choice.

Ironically, it was, quite possibly, the selection of that softest boot that cost Tanak so dearly as he became the Japanese squad's second high-profile puncture victim in 24 hours. He stopped, changed and watched his world fall apart for the second time in three weeks. What was worse was the virtual championship standings at that point: Tanak was jointly leading the title race with Thierry Neuville, with Sebastien Ogier three points back. That wasn't the moment to tell him as much.

Latvala took full advantage of his team-mate's agony to steal second place just behind Dani Sordo at lunchtime. And Latvala was right: a new rally had begun. One loop later, at the end of Saturday, six drivers were within 16.5s of victory. And Latvala was leading!

After all the rubber-based histrionics of Saturday morning, Michelin's engineers looked forward to a far quieter Sunday. And so it would be. Five of those six potential winners all poo-pooed the potential for a hard tyre. And who could blame them? It was 7C outside, it had rained most of the night and the roads were borderline sodden. Granted, there wasn't much more rain >>

“The information was useless this weekend. Every time we got it wrong. Every time!”



Ogier took the championship lead with close second

forecast, but the soft was the only choice.

The sixth driver? Welcome back to the story, Loeb. It was a good job those mechanics had done their stretching exercises... with softs on the C3 and the boys about to fire the car up to leave service, Loeb changed his mind. Hards. All round.

With just about enough time, the wheels were whipped off and replaced. Cue more radio-based disbelief.

“I was convinced the good choice was the hard,” said Loeb. “With the information I had, I was just sure this tyre could work in the damp – maybe even better than the soft. We looked back to what I had

said when I drove this tyre [with the DS3] and I could see, if I could get some heat in it, then it worked.

“The information we had was there would be no rain. But yesterday, they said there would be rain and there was none! I wasn’t completely sure about the weather, but I knew myself for the tyre. I was worried if I went on the soft, somebody else would take the hard and I would lose. So I said, ‘Let’s go for it.’”

And in doing so, Loeb encapsulated everything he brought to this fight to counter seat time in a modern-day World Rally Car. He brought experience,

the ability to read conditions, and a willingness to back himself.

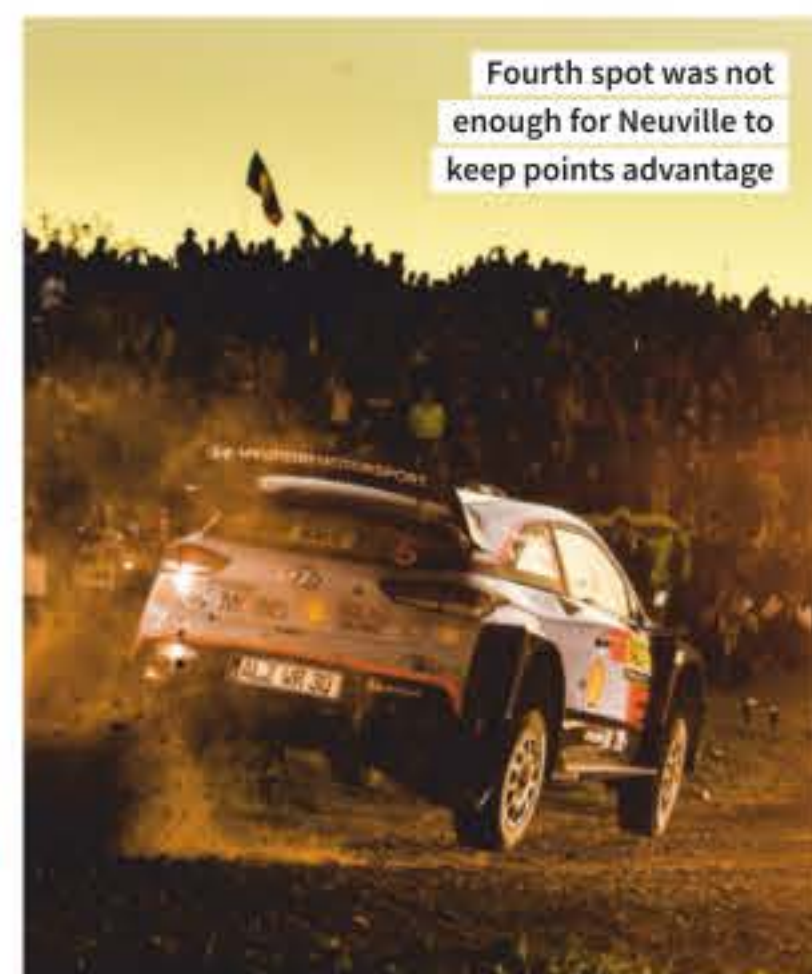
The fact that Loeb wasn’t in a championship fight made that gamble less complicated, but still Ogier was hugely frustrated as he watched his former Citroen team-mate and rival go fastest through the first loop of the final morning and into the lead.

“The information was useless this weekend,” said Ogier. “Every time we got it wrong. Every time!” He signalled the interview was over by getting in his car and shutting the door of his M-Sport Ford.

Latvala was doing all he could. He’d



Ogier (r) to Loeb: ‘How did you do that?!’



Fourth spot was not enough for Neuville to keep points advantage

started the day with 14 world championship titles right behind him. His platitudes about having more WRC starts than either of his Sebastien rivals were starting to look a little thin as he shipped time to the Frenchmen. Latvala remained second, but 7.1s behind Loeb and 3.7s up on Ogier. Then Latvala's event went south when he clipped a barrier and punctured in the penultimate stage. No swearing this time. Just a head in hands.

One stage left and it was Loeb versus Ogier. A straight fight, nine miles and 3.6s between them after a sensational scratch from Ogier in SS17.

Ogier beat him in the powerstage, but not by enough. Loeb crossed the line, not knowing if he'd won or not. Breathing hard, he asked his co-driver Daniel Elena if it was enough. They didn't know. Turns out they'd done it by 2.9s.

Time after time we'd seen Loeb win here, but there was never anything like this emotion. Close to tears, the 44-year-old said: "This is an incredible feeling, an incredible win. I can't believe it. We had a half-spin at the roundabout this morning doing these stupid donuts – I was a little bit stressed after that. I didn't think we could do this. This is so satisfying."

Second place and second in the powerstage was enough to move Ogier back into the lead of the championship. A superb charge from Evans, allied to a late puncture for Neuville, was enough for M-Sport's Welshman to edge the man who'd topped the table coming into Spain.

Neuville was furious. Crossing the line with his Hyundai's front-left Michelin in tatters, he couldn't contain his rage. Raising his hands he bellowed: "Putain!"

If you wanted to counter Neuville's French curse, you only had to look to the service park's red corner to see what this result meant to Loeb. Remember what he did when he won his first title in Corsica, 2004? He turned a somersault. He did the same in Spain last Sunday.

Looking on, team principal Pierre Budar shook his head and smiled. He could scarcely believe what he'd seen. "It's astonishing," he said, "wonderful. To see the speed they could make when they have done no practice or when the tyre is not perfect and the set-up not exactly what they want, it's amazing. There are not many drivers in the world who can do this."

The popularity of this win extended well beyond Citroen – the prolonged applause greeting the winners' arrival at the post-event press conference told its own story. It overshadowed the fact that there are only three points between Ogier and Neuville with one rally to go.

There's been no end of talk about the need for electrification in the World Rally Championship recently; courtesy of the reds' big little man and a breathtaking title race, the WRC couldn't be more electric right now. *W*

RESULTS ROUND 12/13, RALLY SPAIN, OCTOBER 25-28

POS	DRIVER / CO-DRIVER	TEAM / CAR	TIME
1	Sebastien Loeb (F) Daniel Elena (MC)	Citroen Total / Citroen C3 WRC	3h12m08.0s
2	Sebastien Ogier (F) Julien Ingrassia (F)	M-Sport Ford WRT / Ford Fiesta WRC	+2.9s
3	Elfyn Evans (GB) Daniel Barritt (GB)	M-Sport Ford WRT / Ford Fiesta WRC	+16.5s
4	Thierry Neuville (B) Nicolas Gilsoul (B)	Hyundai Shell Mobis WRT / Hyundai i20 Coupe WRC	+17.0s
5	Dani Sordo (E) Carlos del Barrio (E)	Hyundai Shell Mobis WRT / Hyundai i20 Coupe WRC	+18.6s
6	Ott Tanak (EST) Martin Jarveoja (EST)	Toyota Gazoo Racing WRT / Toyota Yaris WRC	+1m03.9s
7	Esapekka Lappi (FIN) Janne Ferm (FIN)	Toyota Gazoo Racing WRT / Toyota Yaris WRC	+1m16.6s
8	Jari-Matti Latvala (FIN) Miikka Anttila (FIN)	Toyota Gazoo Racing WRT / Toyota Yaris WRC	+1m26.4s
9	Craig Breen (IRL) Scott Martin (GB)	Citroen Total / Citroen C3 WRC	+2m07.0s
10	Andreas Mikkelsen (N) Anders Jager (N)	Hyundai Shell Mobis WRT / Hyundai i20 Coupe WRC	+2m48.2s
OTHERS			
11	Teemu Suninen (FIN) Mikko Markkula (FIN)	M-Sport Ford WRT / Ford Fiesta WRC	+3m52.0s
21	Khalid Al Qassimi (UAE) Chris Patterson (GB)	Citroen Total / Citroen C3 WRC	+21m28.6s
30	Jean-Michel Raoux (F) Laurent Magat (F)	Jean-Michel Raoux / Citroen DS3 WRC	+35m14.4s
R	Ken Block (USA) Alex Gelsomino (I)	Hoonigan Racing Division / Ford Fiesta WRC	SS7-accident

DRIVERS' CHAMPIONSHIP

1 **Ogier** 204; 2 **Neuville** 201; 3 **Tanak** 181; 4 **Lappi** 110; 5 **Latvala** 102; 6 **Mikkelsen** 84; 7 **Sordo** 71; 8 **Evans** 70; 9 **Breen** 61; 10 **Paddon** 55.

MANUFACTURERS' CHAMPIONSHIP

1 **Toyota Gazoo Racing WRT** 331; 2 **Hyundai Shell Mobis WRT** 319; 3 **M-Sport Ford WRT** 306; 4 **Citroen Total** 216.



STAGE TIMES

STAGE	FASTEST	LEADER	SECOND
SS1 Barcelona (1.99 miles)	Ogier 3m35.3s	Ogier	Neuville +3.7s
SS2 Gandesa 1 (4.35 miles)	Tanak 4m19.6s	Ogier	Tanak +0.1s
SS3 Pesells 1 (16.52 miles)	Latvala 14m36.5s	Tanak	Latvala +6.1s
SS4 La Fatarella-Vilalba 1 (24.14 miles)	Mikkelsen 27m01.2s	Tanak	Evans +11.7s
SS5 Gandesa 2 (4.35 miles)	Sordo 4m14.7s	Tanak	Evans +11.5s
SS6 Pesells 2 (16.52 miles)	Latvala 14m12.5s	Tanak	Evans +14.4s
SS7 La Fatarella-Vilalba 2 (24.14 miles)	Latvala 26m13.2s	Tanak	Sordo +26.8s
SS8 Savalla 1 (8.77 miles)	Stage cancelled		
SS9 Querol 1 (13.21 miles)	Tanak 11m30.6s	Tanak	Sordo +32.9s
SS10 El Montmell 1 (15.16 miles)	Latvala 12m58.4s	Sordo	Latvala +0.3s
SS11 Savalla 2 (8.77 miles)	Neuville 7m47.1s	Latvala	Sordo +3.9s
SS12 Querol 2 (13.21 miles)	Loeb 11m25.8s	Latvala	Sordo +4.7s
SS13 El Montmell 2 (15.16 miles)	Neuville 13m07.3s	Latvala	Ogier +7.2s
SS14 Salou (1.39 miles)	Tanak 2m41.9s	Latvala	Ogier +4.7s
SS15 Riudecanyes 1 (10.16 miles)	Loeb 10m22.6s	Loeb	Latvala +2.6s
SS16 Santa Marina 1 (9.01 miles)	Loeb 8m08.9s	Loeb	Latvala +7.1s
SS17 Riudecanyes 2 (10.16 miles)	Ogier 10m14.2s	Loeb	Ogier +3.6s
SS18 Santa Marina 2 (powerstage) (9.01 miles)	Tanak 8m02.5s	Loeb	Ogier +2.9s

WORLD OF SPORT

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LAT IMAGES
motorsport
IMAGES

Vinales breaks Yamaha's winless spell

MOTOGP

PHILLIP ISLAND (AUS)

OCTOBER 28

ROUND 17/19

It was a case of now or never for Yamaha at Phillip Island. As crashes ruled out Honda's main challengers, Suzuki's challenge proved duller than expected, and Ducati still wasn't quite a victory threat at its bogey circuit, the race was ultimately Yamaha's to lose.

Thanks to a perfectly executed ride in the Australian Grand Prix, Maverick Vinales ensured Yamaha made the most of it. A combination of impeccable timing and formidable speed paved the way for him to

end a winless streak for the manufacturer, stretching 25 races back to Assen in 2017.

By Friday evening there was a sense that the race had been thrown wide open. One of the pre-event favourites was unable to start: Cal Crutchlow, a winner at Phillip Island two years ago, took a nasty tumble as he went to sweep into the fast first corner during FP2.

The LCR Honda rider went flying through the gravel trap, and his discomfort was palpable as soon as he came to rest. At the circuit medical centre Crutchlow was diagnosed with a badly broken ankle, which meant being airlifted straight to Melbourne to begin a series of operations.

Both his weekend and his season were effectively over on the spot.

Andrea Iannone, meanwhile, came out of practice as the pacesetter. A number of riders suggested the Suzuki rider was now best-placed to take the fight to the newly crowned 2018 champion Marc Marquez.

On Saturday the picture looked somewhat different. While the Iannone threat hadn't been extinguished entirely, the Italian did fail to fire in a qualifying session made tricky by spotting rain on a mostly dry circuit. He ended up fourth. Instead, qualifying belonged to Marquez, who finished up 0.3s clear of the entire field, at the head of which were a pair of Yamaha riders: Vinales and Johann Zarco.

The race started with the usual Phillip Island shuffle. Pramac Ducati riders Danilo Petrucci and Jack Miller surged forwards from eighth and sixth on the grid and enjoyed brief stints at the head of the pack on the first lap, followed by Marquez and Andrea Dovizioso.

Five laps in, Marquez and Zarco were involved in what proved to be a race-defining shunt. Having taken a tow from Miller down the long Gardner Straight, the pair disputed the same patch of asphalt as they went to brake into Turn 1. Zarco clipped the back of Marquez, and his Tech 3 Yamaha went flying as he slid across the grass on his back. Remarkably, he got up and walked away.

Marquez managed to stay on his bike, but his day was done. The back end of the



Marquez realised his race was over after collision with Zarco



Vinales helped
save Yamaha's
troubled season



Crutchlow was flown to
hospital after FP2 crash

Honda was broken, so Marquez cruised back to the pits to retire from the race.

Vinales saw his opportunity. Initially he and team-mate Valentino Rossi broke away from the field, but while Rossi's charge swiftly faded, Vinales just kept going.

Once in front, he stayed there. His lead was as much as four seconds with a third of the race to go. While he let Iannone and Dovizioso – who emerged as best of the rest – get to within 1.5s at the end, Vinales was clearly managing the pace.

Iannone never quite lived up to the early-weekend hype, but he did manage to come home second. There was a very brief period with a handful of laps to go where he looked like he might try and run down Vinales, but he was ultimately forced to fight to hang on to second when Dovizioso came knocking on the final tour.

Compared with Ducati's disaster of a weekend at the circuit a year ago – where then title contender Dovizioso ran wide at Turn 1 and never recovered – there were promising signs of improvement. Super sub Alvaro Bautista finished fourth on his debut with the factory squad, while Miller was seventh on the very bike that struggled so much in 2017.

Alex Rins and Rossi slotted in between Bautista and Miller, both riders failing to match their respective team-mates at the front of the field. Franco Morbidelli was the best rookie in eighth, leading home Aleix Espargaro and Bradley Smith.

ANDREW VAN LEEUWEN

RESULTS ROUND 17/19, PHILLIP ISLAND, OCTOBER 28 (27 LAPS – 74.624 MILES)

POS	RIDER	TEAM	TIME
1	Maverick Vinales (E)	Yamaha	40m51.081s
2	Andrea Iannone (I)	Suzuki	+1.543s
3	Andrea Dovizioso (I)	Ducati	+1.832s
4	Alvaro Bautista (E)	Ducati	+4.072s
5	Alex Rins (E)	Suzuki	+5.017s
6	Valentino Rossi (I)	Yamaha	+5.132s
7	Jack Miller (AUS)	Pramac Ducati	+6.756s
8	Franco Morbidelli (I)	Marc VDS Honda	+21.805s
9	Aleix Espargaro (E)	Aprilia	+22.904s
10	Bradley Smith (GB)	KTM	+22.940s
11	Karel Abraham (CZ)	Aspar Ducati	+34.386s
12	Danilo Petrucci (I)	Pramac Ducati	+35.025s
13	Scott Redding (GB)	Aprilia	+36.348s
14	Takaaki Nakagami (J)	LCR Honda	+36.389s
15	Xavier Simeon (B)	Avintia Ducati	+44.214s
16	Thomas Luthi (CH)	Marc VDS Honda	+48.226s
17	Jordi Torres (E)	Avintia Ducati	+1m04.965s
18	Mike Jones (AUS)	Aspar Ducati	+1m19.817s
R	Pol Espargaro (E)	KTM	22 laps
R	Hafizh Syahrin (MAL)	Tech 3 Yamaha	18 laps-accident
R	Dani Pedrosa (E)	Honda	11 laps-accident
R	Marc Marquez (E)	Honda	5 laps-rear damage
R	Johann Zarco (F)	Tech 3 Yamaha	5 laps-accident
NS	Cal Crutchlow (GB)	LCR Honda	DNS-accident

Winner's average speed 109.603mph. Fastest lap Vinales 1m29.632s, 111.008mph

QUALIFYING 2 1 Marquez 1m29.199s; 2 Vinales 1m29.509s; 3 Zarco 1m29.705s; 4 Iannone 1m29.712s; 5 Rins 1m30.026s; 6 Miller 1m30.140s; 7 Rossi 1m30.270s; 8 Petrucci 1m30.328s; 9 Dovizioso 1m30.519s; 10 Syahrin 1m30.593s; 11 P Espargaro 1m30.640s; 12 Bautista 1m32.367s.

QUALIFYING 1 1 Bautista 1m29.851s; 2 P Espargaro 1m30.105s; 3 Abraham 1m30.174s; 4 Nakagami 1m30.452s; 5 Morbidelli 1m30.518s; 6 Smith 1m30.646s; 7 Simeon 1m30.679s; 8 Pedrosa 1m30.770s; 9 A Espargaro 1m30.911s; 10 Luthi 1m30.958s; 11 Torres 1m31.141s; 12 Redding 1m31.309s; 13 Jones 1m32.639s.

RIDERS' CHAMPIONSHIP 1 Marquez 296; 2 Dovizioso 210; 3 Rossi 195; 4 Vinales 180; 5 Crutchlow 148; 6 Petrucci 137; 7 Zarco 133; 8 Iannone 133; 9 Jorge Lorenzo 130; 10 Rins 129; 11 Bautista 96; 12 Pedrosa 95; 13 Miller 83; 14 Morbidelli 46; 15 A Espargaro 39; 16 Tito Rabat 35; 17 P Espargaro 35; 18 Syahrin 34; 19 Smith 29; 20 Nakagami 21; 21 Redding 15; 22 Abraham 10; 23 Mika Kallio 6; 24 Katsuyuki Nakasuga 2; 25 Simeon 1; 26 Michele Pirro 1; 27 Luthi 0; 28 Stefan Bradl 0; 29 Torres 0; 30 Jones 0; 31 Sylvain Guintoli 0; 32 Christophe Ponsson 0.

MANUFACTURERS' CHAMPIONSHIP 1 Honda 339; 2 Ducati 300; 3 Yamaha 256; 4 Suzuki 193; 5 KTM 55; 6 Aprilia 49.



It was an open contest
in the early stages

WEEKEND WINNERS

MOTO2
PHILLIP ISLAND
1 Brad Binder
KTM
2 Joan Mir
Kalex
3 Xavi Vierge
Kalex

MOTO3
PHILLIP ISLAND
1 Albert Arenas
KTM
2 Fabio Di
Giannantonio
Honda
3 Celestino Vietti
KTM



Binder won
by 0.036s



Race three win allowed
Tarquini to gain ground
in the WTCR title race

Tarquini paints clearer picture as rivals falter

WTCR
SUZUKA (J)
OCTOBER 27-28
ROUND 9/10

If the fight to be the inaugural World Touring Car Cup champion had previously looked too close to call between a trio of Hyundai drivers, the three races at Suzuka offered up a clear favourite for the 2018 crown heading into the Macau season finale later this month.

Gabriele Tarquini may not have been the star of the weekend – that honour went to a driver less than half his age: Kevin Ceccon – but he did capitalise brilliantly on a tough weekend for Yvan Muller and an utterly wretched one for Thed Bjork.

It means that 56-year-old Tarquini goes into the triple-header on the streets of Macau 39 points clear of Muller, while Bjork has 53 points to make up.

The vagaries of the WTCR's compensation

weight system meant that the Peugeot and Alfa Romeo runners arrived at Suzuka with no ballast, whereas Hyundai and Audi were at the opposite end of the scale. Aurelien Comte capitalised on his featherweight Peugeot 308 to score pole for the opener.

But it was ex-GP2 racer Ceccon who prevailed come the race, passing Comte on the second lap and then surviving a pair of safety-car restarts to deliver Alfa Romeo its first WTCR triumph. It also ensured that every marque on the grid this year has won at least once.

Muller managed to finish third behind Comte to draw level on points with eighth-placed Tarquini, but that was the high point of his weekend. In second qualifying he was left stranded in 11th on the grid after having a Q2 laptime deleted, and things didn't get any better from there.

While his former Chevrolet team-mate Rob Huff passed reversed-grid poleman Pepe Oriola to win race two in his Sebastien Loeb

Racing Volkswagen, Muller finished outside the points (although he was later elevated to 10th when Denis Dupont was penalised), and fifth place for Tarquini tipped the scales back in his favour to the tune of nine points.

But it was in race three that Tarquini inflicted the biggest blow. Starting second behind Ceccon, Tarquini passed the Alfa Romeo off the line. When Ceccon picked up a five-second time penalty for being out of place on the grid, Tarquini simply let his rival by and clung to his tail.

Ceccon crossed the line 2.9s to the good, but he dropped to third behind Tarquini and Comte when his penalty was applied, while Muller's title ambitions suffered a major knock further down the order.

Mired in a hectic battle for sixth, he was hit by the Honda Civic of Esteban Guerrieri at the hairpin, costing him two places. The pair made contact again at 130R, which led the pack to bunch up into the final chicane and Muller to be hit from behind.

That essentially spelled the end of Muller's race. He pitted shortly after, although the mess did allow Muller's YMR team-mate Bjork to salvage eighth.

It proved to be the only points finish of 2017 WTCC title winner Bjork's weekend – he was taken out of the opener by a clash with Gordon Shedden and finished a low-key 12th in the second race.

The chaos in the last encounter also allowed comeback hero Tiago Monteiro (making his first race start in more than a year after his huge testing accident) to come within a whisker of grabbing the final point: 11th proved to be the Honda driver's best result in a tough return event.

JAMIE KLEIN



Alfa Romeo finally
joined the winners'
circle thanks to Ceccon

United charge is too late for title

ELMS

ALGARVE (P)
OCTOBER 28
ROUND 6/6

United Autosports pair Filipe Albuquerque and Phil Hanson took their second win in a row in the European Le Mans Series season finale at the Algarve Circuit – it's just a shame that it came too late to spice up the race for the title, which had already been won by G-Drive crew Andrea Pizzitola and Roman Rusinov.

From second on the grid, Timothe Buret took a brief lead from the off in the Panis Barthez Competition Ligier, but it was polesitter Pierre Ragues in the Duqueine Engineering ORECA who hit back to take control. The car's time in first place was shortlived, though, since broken suspension forced it to retire.

That paved the way for a flying Felipe Nasr. He'd made significant progress in the Cetilar Villorba Corse Dallara,

having started ninth, and found himself top of the leaderboard. But first place proved unlucky again; the car was penalised for an unsafe, last-second dive into the pits.

Nasr's misfortune promoted the two United Autosports Ligiers into second and third, with the Albuquerque/Hanson car ahead of Will Owen/Wayne Boyd/Hugo de Sadeleer. After finding their way past the Panis Barthez Ligier – now in the hands of Julien Canal – they ran one-two until the G-Drive ORECA appeared in their mirrors. That car – in which Jean-Eric Vergne joined Pizzitola and Rusinov – had qualified fifth and dropped back after an early spin for Rusinov but was now in with a sniff of victory.

After a full-course yellow for the spinning Proton Competition Porsche 911 RSR of Gianluca Roda, Vergne made a blinding restart to move into second. But such was his haste



Albuquerque (left) and Hanson celebrate back-to-back wins

that Vergne breached track limits while passing Albuquerque and was slapped with a 10-second penalty.

Albuquerque got back in front and wrapped up the spoils by just 0.520s over Will Stevens in the Panis Barthez Competition car. Vergne was third on the road, but his penalty dropped him to fourth behind the second United Autosports entry.

The Inter Europol Competition Ligier of Martin

Hippe/Jakub Smiechowski took its maiden LMP3 win, as RLR MSport's Job van Uitert/John Farano/Rob Garofall finished fifth to clinch the class title.

Marvin Dienst/Dennis Olsen/Christian Ried came out on top in GTE in their Proton Competition Porsche, but it was Gianluca and Giorgio Roda who made history as the first father-son pairing to win an ELMS championship.

PIOTR MAGDZIARZ

WEEKEND WINNERS

WORLD TOURING CAR CUP SUZUKA

- Race 1 Kevin Ceccon**
Team Mulsanne
Alfa Romeo Giulietta TCR
- Race 2 Rob Huff**
Sebastien Loeb Racing
Volkswagen Golf GTI TCR
- Race 3 Gabriele Tarquini**
BRC Racing Team
Hyundai i30 N TCR

SUPER FORMULA SUZUKA

Naoki Yamamoto
Team Mugen Dallara-Honda

EUROPEAN LE MANS SERIES ALGARVE

- LMP2 Filipe Albuquerque/Phil Hanson**
United Autosports Ligier JSP217
- LMP3 Jakub Smiechowski/Martin Hippe**
Inter Europol Competition
Ligier JSP3
- GTE Marvin Dienst/Dennis Olsen/Christian Ried**
Proton Competition Porsche 911 RSR

For full results visit:
motorsportstats.com

Yamamoto snatches crown

SUPER FORMULA
SUZUKA (J)
OCTOBER 28
ROUND 7/7

Naoki Yamamoto won the Super Formula season finale at Suzuka and the overall crown by a whisker, the Honda star edging championship rival Nick Cassidy by 0.654 seconds at the chequered flag and a single point in the standings.

Team Mugen driver Yamamoto entered



Yamamoto made the most of an extra three points on offer in finale

the weekend five points behind and took his 10th series pole, earning himself a bonus point. That, and the fact that this year the finale offered another three points for victory, meant there was all to play for.

Kenta Yamashita, Cassidy's Kondo Racing Toyota team-mate, lined up second on the grid, followed by Kazuki Nakajima and Cassidy. The Kiwi's launch took him side-by-side with Yamashita into the first two corners as Yamamoto pulled out a gap.

After stretching his lead to more than 7.5s, Yamamoto dived for the pits on lap 19 of 43 to switch from soft to medium tyres. Cassidy went in the opposite direction, staying out longer on mediums before a soft-shod blast to the finish.

On the faster compound, Cassidy reeled in Yamamoto and brought the gap down to under a second. It was a valiant attempt but ultimately not enough to prevent the championship spoils falling to Yamamoto, returning Honda to the top after a five-year drought.

JIRO TAKAHASHI



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Calculated Ammermuller wins crown

PORSCHE SUPERCUP
MEXICO CITY (MEX)
OCTOBER 27-28
ROUND 8/8

Michael Ammermuller wasn't the driver with the most wins in the Porsche Supercup this season, but he was the most consistent. This was what allowed him to clinch his second consecutive crown with a pair of characteristically calculated drives in the Mexico City double-header.

While Ammermuller led the championship from start to finish, former Force India test and simulator driver Nick Yelloly did an outstanding job to run the German close in his first full season in the Supercup. With three races remaining he was just one point behind, but Ammermuller clinching both pole positions in Mexico always meant he was firmly in control.

A slow start meant Ammermuller dropped to third behind the fast-starting Larry ten Voorde and Julien Andlauer in the first race. Ten Voorde proved to have started too well and, after leading throughout, a 10-second penalty relegated him to sixth. This promoted Ammermuller to second ahead of Lechner Racing team-mate Thomas Preining. As for Yelloly, he was up against it from ninth on the grid after being hit with a three-place grid penalty for a yellow-flag offence in qualifying, but drove



well to take fourth, having threatened Preining in the closing stages.

This meant Ammermuller went into the final needing only to avoid disaster to secure the title. This sort of thing is right in the 32-year-old former Red Bull Junior's wheelhouse, and he was happy to finish fourth in a race won by Andlauer, only to be bumped up to third behind Yelloly when second-placed Preining was given a three-second penalty for gaining an advantage by leaving the track.

Ammermuller won just once, in the Barcelona season opener, with Yelloly taking two victories that included a great win under pressure from his title rival

at Monaco. But while Yelloly strung together a bunch of fourth and fifth places to support those wins and final-race podium, Ammermuller's quartet of second places and pair of thirds really made the difference in a championship that offers only a small gap between positions in terms of points awarded – just two points between first and second.

It was that consistent, strong finishing that gave Ammermuller the crown, entirely justifying a cautious, no-risk approach that left the way clear for Preining, Andlauer and Yelloly to claim more wins.

EDD STRAW

Logano's ungraceful win

NASCAR CUP
MARTINSVILLE (USA)
OCTOBER 28
ROUND 33/36

Joey Logano became the first driver to book his place in the NASCAR Cup four-way title showdown by winning Martinsville's 'round of eight' playoff race.

It was the Team Penske driver's first



win at the venue, but it came via a final-corner collision with Martin Truex Jr.

Truex's Toyota passed long-time leader Logano's Ford late on in a considerate manner; Logano did not reciprocate. In the final two turns he nudged Truex's rear bumper, then elbowed alongside. Truex's resultant slide meant Logano and Denny Hamlin both pipped him to the line.

Logano excused the body contact, saying: "[I was] just thinking about Miami [and the final]. You've got to expect [at] Martinsville at the end of the race you're going to have some bumping and grinding."

Truex meanwhile simmered: "He won the battle but he won't win the damn war. I'm not going to let him win it. We should be in victory lane."

GRAHAM KEILLOH

WEEKEND WINNERS

PORSCHE SUPERCUP
MEXICO CITY

Race 1 Julien Andlauer
 Martinet by Almeras

Race 2 Julien Andlauer
 Martinet by Almeras

NASCAR CUP
MARTINSVILLE

Joey Logano
 Team Penske Ford Fusion

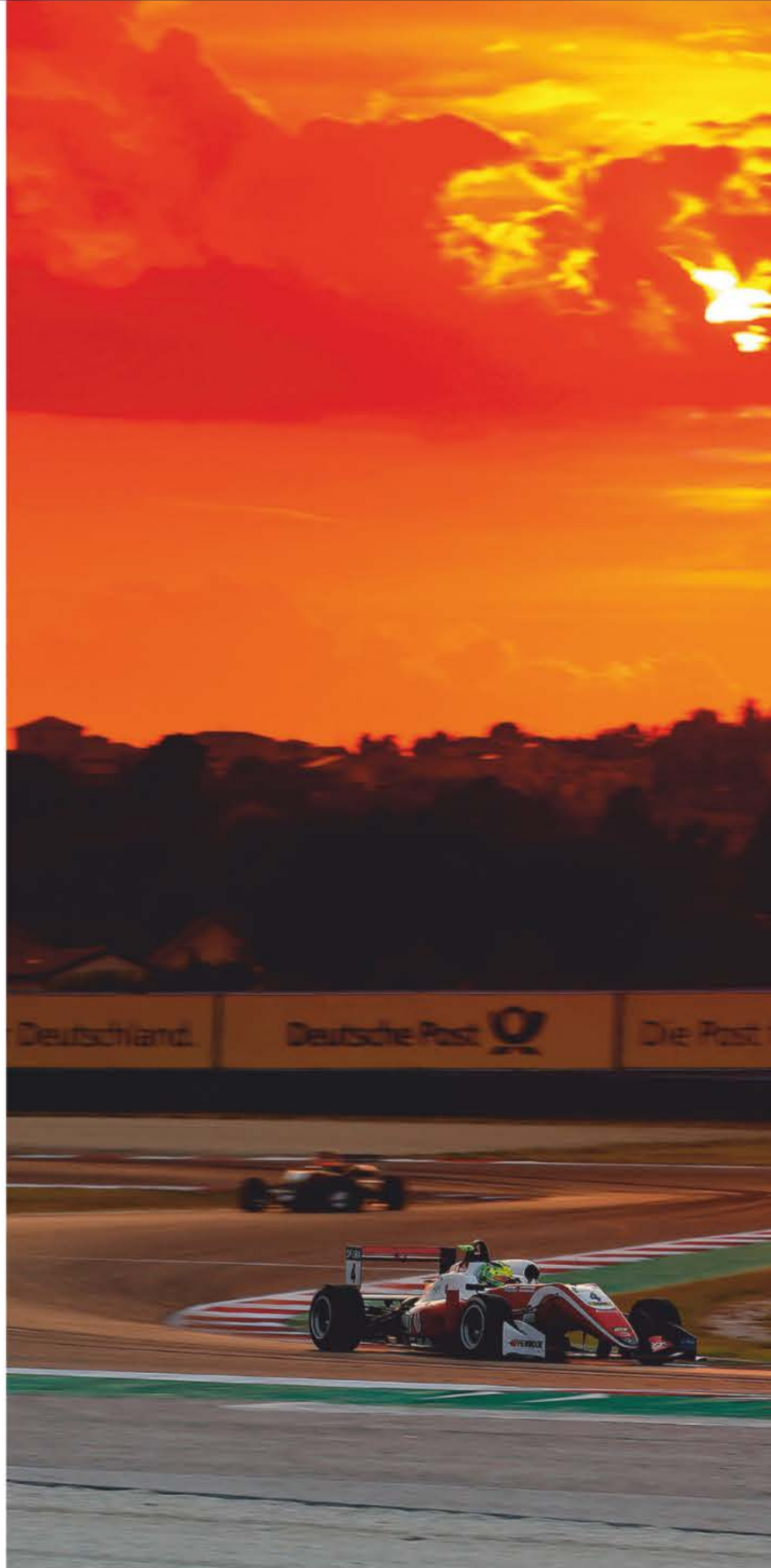
NASCAR TRUCK SERIES
MARTINSVILLE

Johnny Sauter
 GMS Racing Chevrolet Silverado

For full results visit:
motorsportstats.com

INSIGHT

EUROPEAN F3 REVIEW • GRAHAM HILL'S TOP 10 GREATEST RACES



F3 JUMPS OFF CLIFF EDGE – FOR NO REASON

Mick Schumacher won the final Formula 3 European Championship title, and there was some terrific racing from a host of new talents. But despite the strong field, there was discontent during the category's uncalled-for requiem

MARCUS SIMMONS

ALL PHOTOGRAPHY FIA F3/SUER



W

hen Nikita Troitskiy crossed the finish line at just after 10.40am on a sunny Sunday morning at Hockenheim last month, he brought the curtain down on a thriving championship that apparently has no obvious reason to slide into oblivion. The

Russian, his front wing collateral damage from the multitude of first-lap skirmishes, had pitted for repairs and hence, on that balmy autumn October 14 day in Baden-Württemberg, he gained the unwanted distinction of being the last driver to complete a Formula 3 European Championship race.

How did it come to this? Why should a category in rude health – there were 24 starters for that finale, pretty representative of the season average – be put to the sword after the best part of seven decades of unearthing the best young talent in the sport? OK, some will say that F3 continues in the new one-make FIA F3 Championship that, from 2019, will slot in beneath Formula 2 on the Formula 1 undercard at European grands prix. But that's disingenuous: it may have the F3 title, but it's GP3 in all but name. While contemplating the fact that two of the most loyal F3 teams – in the forms of Motopark and Van Amersfoort Racing – hadn't been selected for the category's new era, one paddock veteran was moved to remark at Hockenheim that the FIA had sold the soul of F3 to F2/GP3 svengali Bruno Michel.

You could benignly put the situation down to a well-intentioned gambit from Jean Todt, whose unopposed run to his second presidential term at the FIA included a desire to streamline the single-seater process so that F2 and F3 raced alongside F1, just like Moto2 and Moto3 support MotoGP. Not necessarily a bad idea, but a one-size-fits-all philosophy rarely works in any business or industry – what suits bike racing won't always fit with cars, and vice versa.

So the F2 name, unused since the MSV/Palmer series of 2009-12, was eventually attached to Michel's GP2 Series in time for the '17 season, before unreliable new bespoke F2 cars were introduced for this year (some F3 drivers are shying away from stepping up here for '19 because of the troubles teams have had with the machinery).

During that '17 campaign, the existing F3 teams debated what to do, their grids having dropped since the frantic '15 season, and they decided that the development costs in their category had become too expensive and that the only way forward was the one-make route. And then their phones started ringing and emails started pinging and a whole glut of Formula 4 drivers came in to F3 in '18, so it was just a normal cyclical thing that motorsport always goes through. But by then the decisions had been taken for F3's new era. And, as if there was ever any doubt this would happen, Michel won the tender to promote it as a replacement for his GP3 Series. »



Armstrong was super-impressive but somehow only won at Norisring



Vips was often stunning but his title bid unravelled with Nurburgring harpoonery

And now our new, 'streamlined' single-seater ladder (for 'ladder' is what it now is, as the abolition of GP3 and old-era F3 in favour of a new F3 also abolishes the pyramid structure that is crucial for F2 in the long term) is more confused than ever before. F3V, the subsidiary of the DTM-promoting ITR that has organised the F3 European Championship on behalf of the FIA since 2013, is continuing with the old cars – as also is the Japanese F3 Championship. Euroformula Open, which has used the current-spec Dallara F3 chassis since '12 with a one-make engine, is opening its series up to Euro F3 powerplants. And the FIA's wish to introduce one series for its new Regional F3 concept to Europe in '19 has instead produced three: by giving approval to Italy's WSK instead of Renault Sport, it merely caused the French manufacturer to press on anyway with its plans, while keeping the old Formula Renault Eurocup name. These are all series that allow in men and women, while the new-and-divisive W Series – another for Regional F3 cars – restricts itself to female participation. What a mess.

Amid all this, the F3 European Championship of 2018 developed into the most ill-tempered and political season since the series' name was revived in '12. It also, for much of the year, produced some fantastic racing, launched a clutch of new talents onto the international scene, and featured a title battle that was unpredictable bordering on bewildering. It's probably fair to say that none of the leading drivers are as well-formed and ready to shine in higher echelons to the extent of predecessors such as Lando Norris, George Russell, Felix Rosenqvist, Antonio Giovinazzi, Nick Cassidy, Esteban Ocon or Max Verstappen. But, in a way, that's what made it so fascinating – until late summer, a good half-dozen or so Zebedeed up and down the points as they took one step forward and two back.

Eventually some sort of out-of-focus pattern emerged and it appeared that the most exciting talents were Dan Ticktum and Marcus Armstrong, with Juri Vips potentially even more explosive but playing catch-up after a relatively poor start to his season. Ticktum and Vips generally spearheaded the attack of Motopark, with Armstrong looking the most impressive of a very potent Prema Powerteam line-up alongside Ralf Aron, Guan Yu Zhou, Mick Schumacher and Robert Shwartzman.

The niggles between the two teams came thick and fast. Both operate under very different philosophies, entirely opposite to lazy national stereotypes: the Italian Prema operation, super-organised, methodical, briefings coming out of the drivers' ears; the German Motopark squad, instinctive, informal, the youngsters driving with flair and aggression. At Zandvoort the arguments began flying over allegations that Prema had exploited a loophole in the testing rules

ROUND BY ROUND

Pau

Race 1 Guan Yu Zhou
Race 2 S Fenestraz
Race 3 Ralf Aron

Zhou takes his first F3 win after beating away wheel-spinning poleman Ticktum at the start. Aron pulls off great move on Ticktum for second. Fenestraz wins race two despite a clout from Scherer, who then crashes, promoting Palou and Armstrong. The Pau GP is won by Aron from poleman Ahmed, but only counts for half-points due to heavy rain during a safety car period.

Hungaroring

Race 1 Dan Ticktum
Race 2 Enaam Ahmed
Race 3 Enaam Ahmed

Ticktum breaks Euro F3 duck in opener despite first-corner clash with Armstrong. Aron is second on road but jumped-start penalty promotes Zhou to second, Shwartzman to third. Ahmed wins twice on Sunday, the first from Armstrong and Palou, as brake problems put Ticktum out of third. Then Ahmed beats Ticktum and Schumacher after another Ticktum/Armstrong collision.

Norisring

Race 1 M Armstrong
Race 2 Juri Vips
Race 3 Dan Ticktum

Armstrong leads all the way from pole in race one, as Aron fends off Daruvala for second. Vips is another new winner after passing Armstrong and then Ahmed to claim race two. Ahmed is given a harsh penalty for clash with Shwartzman, so Andres takes podium. Ticktum stalls and is hit by Vaidyanathan. After miracle repair Ticktum wins finale from charging Vips, after both pass Armstrong.

Zandvoort

Race 1 Ralf Aron
Race 2 Ralf Aron
Race 3 N Troitskiy

Aron scores two wins, the first after beating poleman Zhou away and fending off early pressure. Clutch-troubled Schumacher is third. In the second Aron survives first-turn touch with Ticktum, who clips Schumacher into gravel. Armstrong is second from Zhou as Ticktum fades with damage. Jumped start costs Ticktum finale, as drivethrough promotes Troitskiy to shock win from Zhou, Daruvala.

Spa

Race 1 J Daruvala
Race 2 Dan Ticktum
Race 3 M Schumacher

Armstrong and Palou lead opener before poleman Daruvala wins from Palou and Aron, who has clash with Ahmed. Schumacher takes first pole for race two but collides with Zhou. Then Aron and Vips shunt while battling for lead. Ticktum, 10th on grid, passes Scherer to win. Schumacher takes first win in finale, passing Shwartzman and Armstrong following further clash with Zhou.

"SOME SORT OF PATTERN EMERGED AND IT APPEARED THAT THE TALENTS WERE TICKTUM, ARMSTRONG AND VIPS"



Ticktum, here leading Scherer and Daruvala, took stunning Spa win from 10th on the grid

(Prema boss Rene Rosin suspected his Motopark counterpart Timo Rumpfkeil of dragging this into the open); meanwhile, Aron and Armstrong cheekily used a press conference to cast doubt upon the maturity of Ticktum's driving (he wasn't there to answer the charges), Ticktum read the comments, and declared they "make me laugh" and are "pathetic". All good old-fashioned sporting kidology.

Just a few weeks later, the extraordinary run of form that gave Schumacher and Schwartzman a run of one-two finishes for Prema – and Schumacher the title – completely changed the narrative. Whispers even from within Prema had reached Autosport as early as the first weekend at Pau, to the effect that Schumacher had the best Mercedes engine of the lot, that there was nothing Prema could do about it and that this frustrated the team. When Schumacher

and Schwartzman notched up five one-two finishes out of the six September races at the Nurburgring and Red Bull Ring (the sixth of those races was a one-three), the whispers accelerated that their engines had been turned up. At the same time, the form of team-mates Armstrong, Aron and Zhou slumped. Armstrong needed a new engine at the Nurburgring, taking an enforced 10-place grid penalty, and he was never as competitive again, although this ultra-smooth driver began wrestling his machine, perhaps overdriving as he became a serial track-limits offender.

Most eye-opening of all was Schumacher's pole position for race one at the Red Bull Ring – 0.247 seconds clear of the field on a relatively short circuit (0.195s covered the top nine in Q2 in 2016) only served to ramp up the theories. Furthermore, one team told >>

Silverstone

Race 1 Dan Ticktum

Race 2 M Schumacher

Race 3 Juri Vips

Ticktum takes mega win in opener after hunting down and passing on-form Fenestraz. Spate of Prema punctures allows Ahmed into third. Schumacher wins race two, as Vips passes poleman Scherer for second. Scherer then stops, so Aberdeen takes first podium. Vips wins frantic early fight with Fenestraz in final race. Aberdeen is third again and Ahmed wins great fight for fourth.

Misano

Race 1 M Schumacher

Race 2 Juri Vips

Race 3 Ralf Aron

Schumacher leads all the way in race one to defeat Armstrong and Schwartzman. Vips takes stunning race-two pole in wet and holds on in face of Palou pressure in damp race, with Schumacher also close after Daruvala breaks a pushrod while third. Aron takes terrific win from fast-closing Vips in wet finale after passing Armstrong, who is taken out by Zhou. Habsburg is third after battle with Vips.

Nurburgring

Race 1 M Schumacher

Race 2 M Schumacher

Race 3 M Schumacher

The tide turns and Schumacher wins every race from Schwartzman. The Russian beats him to first-race pole, but Schumacher makes the best start and Schwartzman has to fend off Ticktum. It's a repeat for top three in race two. Same goes for Vips, whose title challenge fades when he is harpooned at Turn 1 in both races. Palou dislodges Ticktum from final podium spot in race three.

Red Bull Ring

Race 1 M Schumacher

Race 2 M Schumacher

Race 3 R Schwartzman

Schumacher takes all three poles this time – and wins wet first race from Schwartzman to take series lead. Palou charges up the order to third. On a dry Sunday, Schumacher wins again from Armstrong and Schwartzman, while Ticktum has big shunt with Fenestraz and Daruvala. Schwartzman takes first win in final race after early scrap with Schumacher. Ticktum can't pass Aberdeen for third.

Hockenheim

Race 1 Guan Yu Zhou

Race 2 Juri Vips

Race 3 R Schwartzman

Zhou returns to form to take pole for opener and win. Schwartzman has to fight off attack from Vips for second, while Schumacher clash with Armstrong delays his title. He clinches it in race two by finishing second to dominant Vips, with Aron third. Schwartzman (right) wins season finale as Schumacher beats Palou to second. Vips storms from back of field to top 10 after first-lap hit from Aron.





THE MYSTERIOUS FORM OF THE BRITISH TEAMS

You'd have got long odds on Enaam Ahmed being the best driver from the two British teams during the early-season Formula 3 European Championship races in 2018, but that's exactly what the Londoner and series rookie was.

Fresh from its title with Lando Norris, Carlin continued with 2017 race winners Jehan Daruvala and Ferdinand Habsburg, and gained Sacha Fenestraz. Like Norris, Fenestraz arrived in F3 as the reigning Formula Renault Eurocup champion, comes from the same ADD management stable, drove Norris's old chassis and was even sharing a house with his predecessor.

Hitech GP had endured a disappointing 2017, albeit with an upturn in form towards the end of the season, and placed its trust in underrated and underfinanced Spaniard Alex Palou to lead the team. Alongside him it signed BRDC British F3 graduates Ahmed and Ben Hingeley, Ahmed having dominated what had been regarded as a relatively weak year in his domestic series.

The season turned into a struggle for Carlin, with its drivers reporting inconsistent grip. By the middle of the year, Daruvala was really stepping up and had developed a spectacular style to frequently leave his team-mates behind and often challenge towards the front – exactly where you'd expect him to be, and perhaps indicating that there was nothing really that wrong with the Carlin equipment after all. Habsburg went into a spiral of poor qualifying but often raced well, while the form of Renault F1 prospect Fenestraz, apart from a Pau win and a Silverstone pole, simply wasn't good enough for someone of his pedigree. The team's Nikita Troitskiy also took a shock win – at Zandvoort – and learned well to improve vastly as a driver over the year.

Over at Hitech, Ahmed applied himself over the winter, learning from Palou and the team, and was a contender straight from the off, with two wins during the second round at the Hungaroring. He was a revelation and (sometimes more than) a match for Palou. But the squad's form slipped mid-season, Ahmed citing the development progress made at other teams. It's fair to say Palou finished the season as the more competitive Hitech driver, but Ahmed had been the one in there pitching and taking wins earlier on.

"AHMED LEARNED, APPLIED HIMSELF AND WAS A REVELATION"

Autosport that it had spotted a trick suspension part on Schumacher's car at the Nurburgring and alerted the series' technical delegate. This was probably more a case of a rules loophole than illegality and, as Rosin told Autosport over the weekend of the Hockenheim finale, if Prema was cheating then it had been cheating throughout the seven years of the current generation of F3 – ie. the team was doing nothing it wouldn't normally do. Red Bull Junior Ticktum, who had already hinted in his Red Bull preview before the Austrian weekend that post-season he would tell all on what had

"FAIR PLAY TO THE KID. I LIKE MICK. HE'S A GOOD LAD; I HAVE A LOT OF RESPECT FOR HIM"

been going on, gave an emotional interview to Autosport denying that he was cracking under the pressure, that Schumacher's advantage was obscene and that his and Motopark's title had been stolen but "fair play to the kid. I like Mick. He's a good lad and I have a lot of respect for what he's come back from." He then blurted all on social media in an ill-advised Sunday-night post. To be fair, the puzzling inversion of the form from the first several weekends of the season can't not have affected Ticktum, as well as Armstrong, Zhou, Aron etc.

With the title effectively all but sealed in Schumacher's favour, the Hockenheim finale went back to what would be regarded as a normal weekend. Zhou, who had been confused and baffled, suddenly bounced back with a pole and a win. Aron, who'd been mystified by engine performance all year, was suddenly more competitive. Ticktum raced brilliantly, but being fifth fastest of the six Motopark drivers in Q2 illustrated that he wasn't his normal self, and he admitted to screwing up.

The incredible step change in Schumacher's form in the second half of his second year of F3 did border on the unnatural, leaving enough of a shadow of doubt that is a shame for him as much as anyone else. Does this prove that open competition on engines, chassis etc has had its day in junior motorsport? Not if you ask many who compete in tightly controlled one-make formulas, where differences can be even more pronounced and you're often told to like your equipment or lump it, with very little scope for changing it. That'll be the new F3 – a big step back from the old. 🍀

DRIVERS' CHAMPIONSHIP

POS	DRIVER	TEAM/CAR
1	Mick Schumacher (D)	Prema Powerteam / Dallara-Mercedes
2	Dan Ticktum (GB)	Motopark / Dallara-Volkswagen
3	Robert Shwartzman (RUS)	Prema Powerteam / Dallara-Mercedes
4	Juri Vips (EST)	Motopark / Dallara-Volkswagen
5	Marcus Armstrong (NZ)	Prema Powerteam / Dallara-Mercedes
6	Ralf Aron (EST)	Prema Powerteam / Dallara-Mercedes
7	Alex Palou (E)	Hitech GP / Dallara-Mercedes
8	Guan Yu Zhou (PRC)	Prema Powerteam / Dallara-Mercedes
9	Enaam Ahmed (GB)	Hitech GP / Dallara-Mercedes
10	Jehan Daruvala (IND)	Carlin / Dallara-Volkswagen

11 Sacha Fenestraz (Carlin Dallara-Volkswagen) 121; **12** Jonathan Aberdein (Motopark Dallara-Volkswagen) 108; **13** Ferdinand Habsburg (Carlin Dallara-Volkswagen) 87; **14** Fabio Scherer (Motopark Dallara-Volkswagen) 64; **15** Nikita Troitskiy (Carlin Dallara-Volkswagen)

AUTOSPORT'S TOP 10 DRIVERS



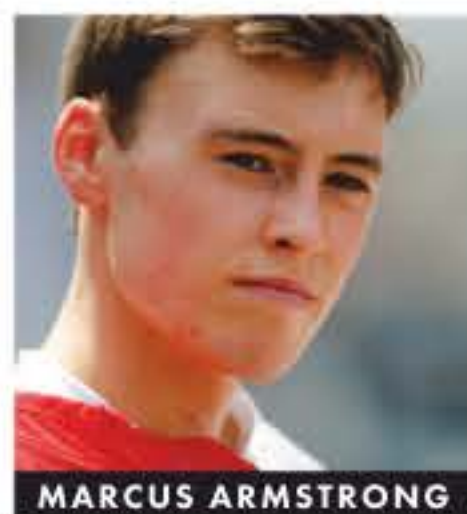
JURI VIPS

1 Budget was confirmed relatively late so he missed a lot of the crucial pre-Christmas testing. Once up to speed he was outstanding, and wasn't fazed by the Schumacher blitz. Fab car control and a massive Red Bull-bound talent.



DAN TICKTUM

2 Red Bull Junior carried a lot of pressure and there were slip-ups, but also fantastic performances – his Silverstone defeat of Fenestraz was superb. But he was outshone by team-mate Vips late on and his last two weekends were nightmares.



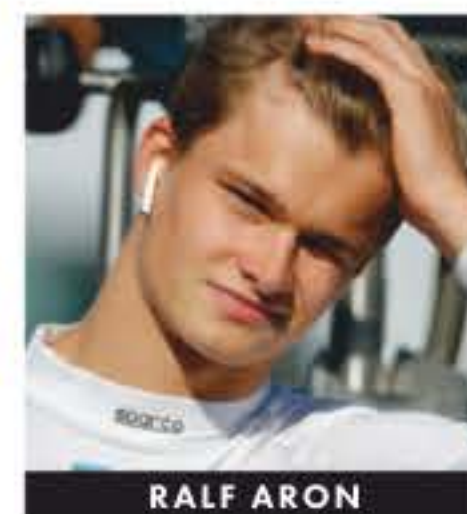
MARCUS ARMSTRONG

3 Kiwi Ferrari protege was most impressive of the Prema quintet for the longest period of the season before it all went wrong from September on. A classy, intelligent, methodical and smooth driver who has the talent to go a long way.



MICK SCHUMACHER

4 Looked nothing special until summer, before he got a couple of wins under his belt and floodgates opened for late-season spree and title. But the manner of this raised sufficient paddock doubts that it was all down to his driving.



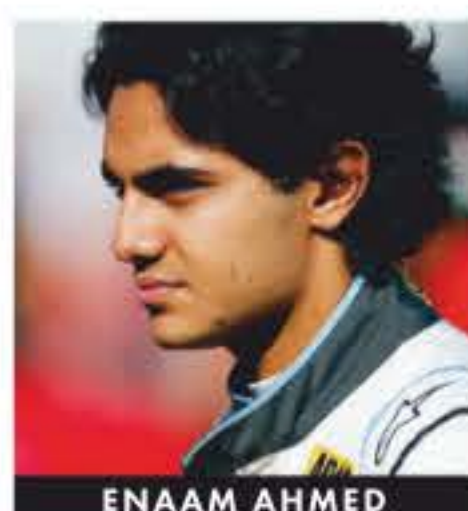
RALF ARON

5 Tally of four wins was eclipsed only by Schumacher. Made the most of his chances, but got overshadowed by fellow Estonian Vips, had doubts over engine and didn't enjoy himself – and fell out with Vips after a run of incidents.



GUAN YU ZHOU

6 Ferrari junior vied with Ticktum for much of the year for quickest driver on supertimes (average of best lap of weekend), but title challenge fell apart with run of mid-season incidents that usually weren't his fault. Quick, but a bit inconsistent.



ENAAM AHMED

7 Looked fantastic on first three weekends but mid-season dramas seemed to take the wind out of his sails, and his engineer went on paternity leave. Showed enough to remind why he beat Schumacher and Ticktum in Junior karting.



JEHAN DARUVALA

8 Force India protege's first season of F3 was one where he probably drove too conservatively. This year, he utterly ragged it from mid-season on to take Carlin machinery into places others couldn't. Fascinating to watch his development.



ROBERT SHWARTZMAN

9 The same late-season murmurs about Schumacher also applied to this Ferrari prospect so he's difficult to evaluate. Spent much of year as fifth best Prema driver until that late form. He's good, but let's wait to judge properly.



ALEX PALOU

10 A good driver who'd been around the third tier of racing for a long time without doing a Euro F3 season. Hitech gave him a chance and he looked strong early on, but with his experience he should have won races, as Ahmed did.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	PTS
15	10	7	4	7	3	5	9	15	3	DNF	13	4	DNF	1	DNF	1	5	1	3	5	1	1	1	1	1	2	12	2	2	365
3	DNF	5	1	DNF	2	4	DNF	1	5	6	DNF	13	1	5	1	8	6	6	4	4	3	3	4	8	17	4	5	7	4	308
8	9	6	3	5	DNF	6	DNF	7	8	7	11	5	4	2	8	9	10	3	9	7	2	2	2	2	3	1	2	5	1	294
10	17	12	6	18	4	7	1	2	6	8	15	6	DNF	4	4	2	1	5	1	2	DNF	18	6	6	4	8	3	1	9	284
5	3	DNF	DNF	2	DNF	1	2	3	4	2	16	DNF	6	3	6	5	DNF	2	13	DNF	6	4	5	4	2	5	DNF	DNF	DNF	260
2	8	1	5	12	7	2	13	6	1	1	14	3	DNF	14	DNF	10	DNF	7	5	1	5	5	8	23	5	9	6	3	15	242.5
7	2	19	12	3	DNF	11	4	DNF	10	4	6	2	11	9	7	11	7	8	2	6	DNF	6	3	3	DNF	10	4	8	3	204
1	12	13	2	4	5	9	12	4	2	3	2	DNF	DNF	13	DNF	6	8	4	11	DNF	7	8	10	12	9	11	1	10	5	203
6	5	2	7	1	1	14	15	8	16	DNF	10	19	5	6	3	4	4	21	6	10	4	DNF	9	22	11	18	9	DNF	8	174
DNF	6	3	13	6	11	3	6	5	12	DNF	3	1	3	11	9	15	12	9	DNF	9	DNF	14	13	10	18	7	DNF	4	DNF	136.5

37; **16** Marino Sato (Motopark Dallara-Volkswagen) 31.5; **17** Ben Hingeley (Hitech GP Dallara-Mercedes) 22; **18** Keyvan Andres (Van Amersfoort Racing Dallara-Mercedes) 18; **19** Julian Hanes (Ma-con/Carlin Dallara-Volkswagen) 7; **20** Artem Petrov (Van Amersfoort Racing Dallara-Mercedes) 7; **21** Sebastian Fernandez (Motopark Dallara-Volkswagen) 5; **22** Sophia Florsch (Van Amersfoort Racing Dallara-Mercedes) 1.

GRAHAM HILL'S

10 GREATEST RACES

It's 50 years this week since Hill secured his second Formula 1 world title, so here's our list of his standout drives

KEVIN TURNER

1964 REIMS 12HRS

FERRARI 250 LM (1ST)

10

John Surtees beat the Ford GTs to pole with Luigi Chinetti's North American Racing Team Ferrari 250 LM, but fourth-starter Hill was

also in the mix with his similar 3.3-litre Ferrari run by Maranello Concessionaires.

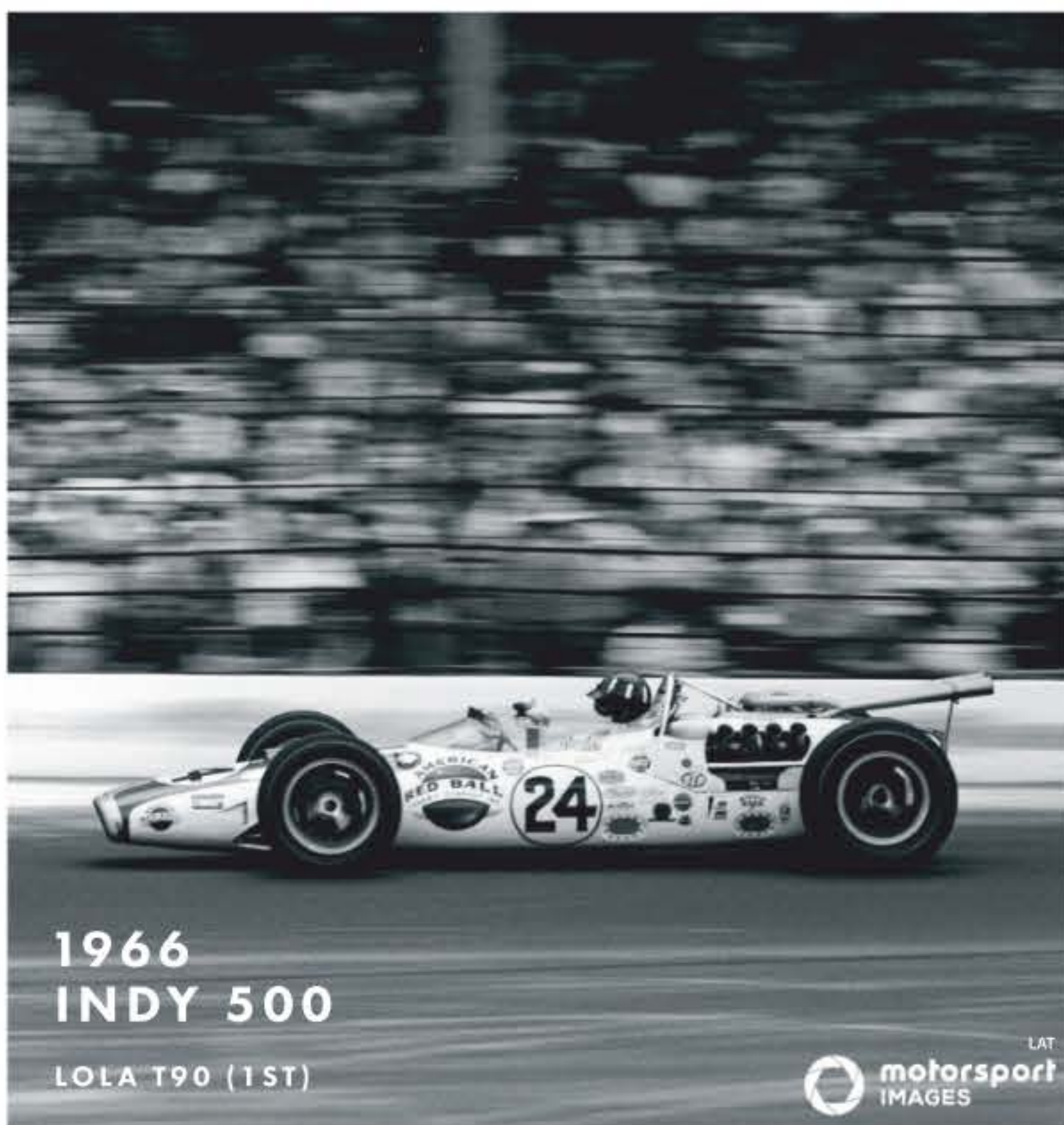
Hill led the Fords of Richie Ginther and Bruce McLaren, and Surtees in an early scrap. McLaren was soon delayed in traffic, leaving a fierce fight between the leading trio. "Ginther's Ford was slightly quicker down the straight, but on acceleration from Thillois and Muizon the five-speed gearbox of the Ferrari gave an advantage," reckoned Autosport's Bill Gavin.

In his 1969 book *Life at the Limit*, Hill wrote: "We had an almighty thrash in the dark with speeds of up to 180mph – on this very narrow road. With all this slipstreaming going on, you had to be careful that the draught from the other cars didn't unsettle your car. It was really an exciting fight and motor racing par excellence. It was hair-raising."

Ginther was forced out with a broken crown wheel and pinion, but for much of the next 10 hours, Hill and co-driver Jo Bonnier battled Surtees/Lorenzo Bandini.

After the final stops, Surtees resumed 75 seconds behind Bonnier and started closing in. But with 50 minutes to go, the NART Ferrari suffered a front-left tyre failure, allowing Hill/Bonnier to take an unrepresentative one-lap winning margin.

"It was one of those unforgettable experiences," said Hill.



9

One of Hill's most famous drives came when he won the Indianapolis 500 as a rookie.

Other commitments meant Hill wasn't there for the start of the Month of May, and much of practice was about learning the idiosyncrasies of the Brickyard and sorting the car. Hill thus lined up on row five.

His first job in the race was to escape a multi-car accident. "All hell was let loose within the closely packed bunch of 33 cars accelerating like mad," said Hill in *Life at the Limit*. "I was having to take avoiding action, weaving in and out among the flying wheels, castings, radius rods and other debris. I managed to get through this whirling mass of destruction before the gate finally closed."

Unsurprisingly, the race was stopped, with Hill 13th for the restart thanks to 11 cars being beyond repair.

Hill felt the Lola's roll bar was too stiff, but as others hit trouble he moved up the order. Mario Andretti led before his engine dropped a valve, 1965 winner Jim Clark spun twice while in front, then long-time leader Lloyd Ruby was black-flagged for dropping oil.

Shortly after that Hill took Clark for second, but still victory seemed to be going elsewhere: Mecom Lola team-mate and fellow rookie Jackie Stewart looked uncatchable up front.

Then Stewart's oil pressure vanished and Hill came through to win. He had led just 10 of the 200 laps. "I was very fortunate to win," reckoned Hill, but he had avoided errors and now had two-thirds of motorsport's unofficial triple crown.





1972 LE MANS 24HRS

MATRA MS670 (1ST)

MCKLEIN

8

The race that completed Hill's triple crown, which for the man himself was winning the Formula 1 title, the Indy 500 and Le Mans.

Hill hadn't contested the 24 Hours since 1966 and his co-driver Henri Pescarolo was not initially enthused at being partnered with an 'old man'. But Hill was impressed with both the team and the V12-engined Matra. He realised he had a real chance to win and rose to the occasion.

Jo Bonnier's Lola grabbed the lead early on and Rolf Stommelen's Alfa Romeo challenged too, but in reality the race was an all-Matra affair. And specifically a battle between Hill/Pescarolo and Francois Cevert/Howden Ganley.

The advantage swung back and forth between the two blue cars, and Hill's charge when the rain arrived was particularly noteworthy.

"We had a lap time we had to respect and were not allowed to fight between us, but the only time it was not possible to control the drivers was when

it was raining," recalled Pescarolo in a 2012 interview for Autosport. "The conditions during the night were very difficult and it was the time he chose to really attack."

Shortly before midday on Sunday, Ganley pitted with water in the electrics, then clashed with a backmarker. Hill/Pescarolo took victory by 10 laps.

The death of Hill's friend and former teammate Bonnier after contact with a backmarker took the shine off the event, but Hill had earned his unique place in history.

1968 SPANISH GP

JARAMA

LOTUS 49 (1ST)

7

This makes the list not because it was a great race, but because of Hill's incredible personal resolve in the wake of team-mate Jim Clark's

death at Hockenheim the month before. With Lotus boss Colin Chapman absent, it was Hill who picked up the beleaguered squad in difficult circumstances.

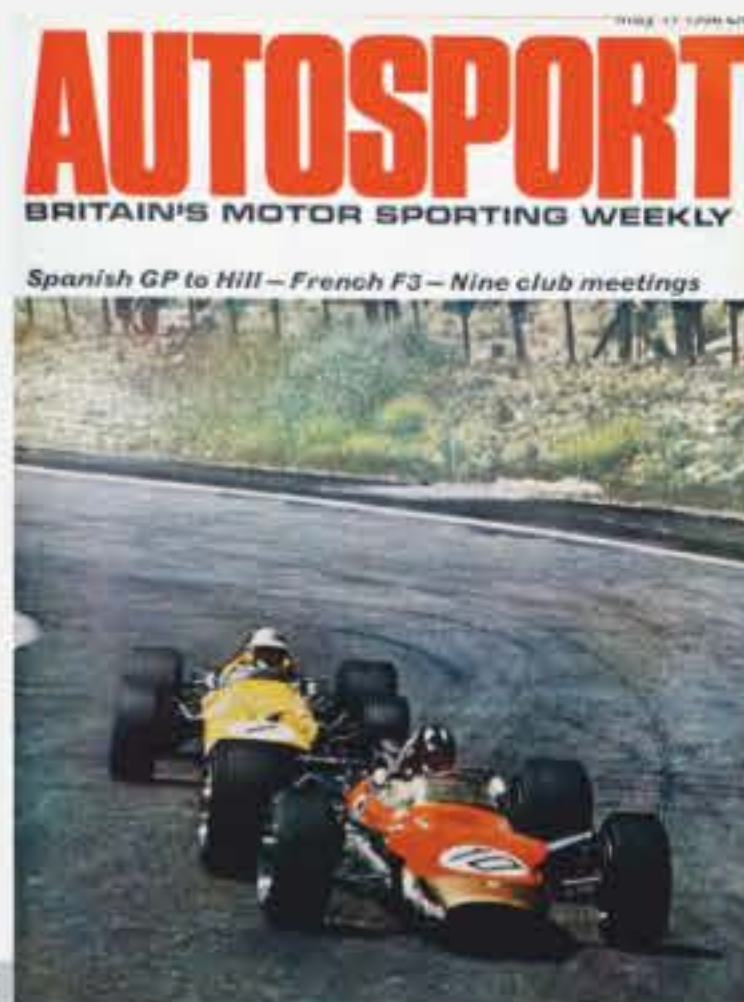
In *Graham*, written with Neil Ewart, Hill said:

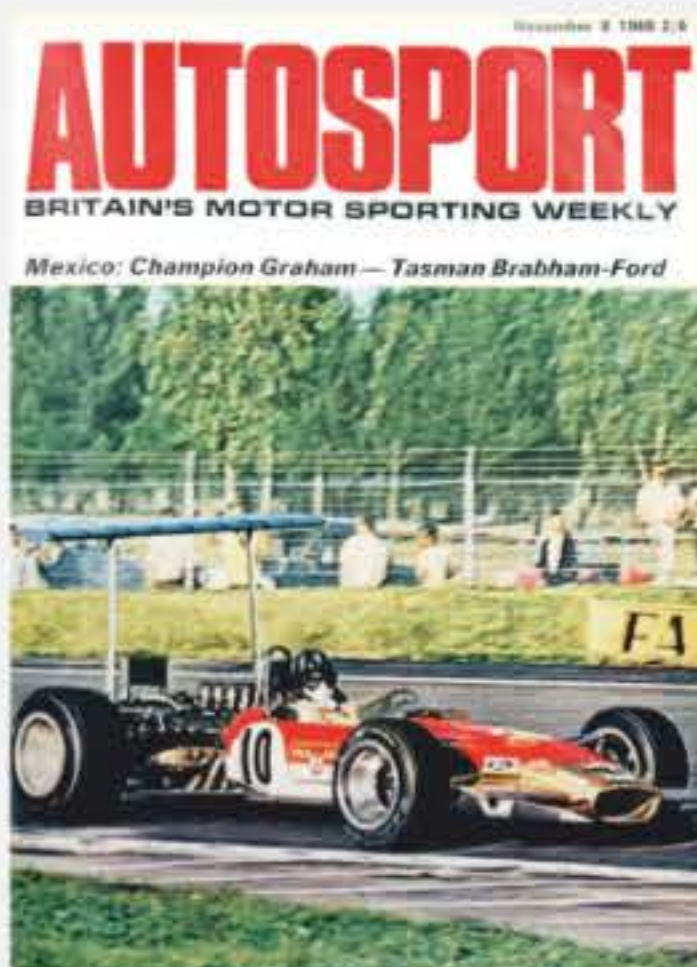
"The team was in despair and Colin Chapman seriously considered giving up racing. It made me more determined than ever to go out and win."

Three drivers led before Hill got to the front and the 13-car race should have been won by Chris Amon. His Ferrari was more than 20s ahead of Hill when fuel-pump issues struck.

Hill took the lead with 33 laps to go and went on to score one of his most important wins. "I think that victory made Colin and Lotus think it was worth carrying on," added Hill. "Colin said he would continue until the end of the year and see how he felt about things then. I'm glad he did, otherwise I wouldn't have won the championship."

"I was terribly upset over Jimmy's death but, as a racing driver, I couldn't allow my emotions to come through. If I did I would have been lost and unable to cope."





1968 MEXICAN GP

MEXICO CITY

LOTUS 49B (1ST)

6

Hill wasn't the fastest driver of 1968 but, given the emotional turmoil at Lotus, his dogged determination kept him in contention.

He arrived at the Mexico City finale with three points in hand over Jackie Stewart and six over Denny Hulme.

Hill shot through from row two to lead at the start. Stewart's Matra, up from seventh, passed him on lap five, while poleman Jo Siffert's Rob Walker-run Lotus closed on both. By the time he joined them, Hill was back ahead and things looked good when Siffert dived by Stewart.

The blue Lotus then took the lead, which was fine for Hill as long as he stayed ahead of Stewart. Then Siffert's throttle linkage came adrift, handing the lead back to Hill, with Stewart right behind.

Hill absorbed the pressure until the Matra started struggling – not enough fuel was reaching the engine at high revs. That left Hill to cruise home to secure his second world title with his 13th world championship race victory.



1962 BRDC INTERNATIONAL TROPHY

SILVERSTONE

BRM P57 (1ST)

5

Although yet to win a world championship grand prix, Jim Clark started as favourite for this non-points-paying race at Silverstone. Hill

pipped Clark to pole position, but in slippery conditions the Lotus took the early initiative.

After a slow start, Hill moved into second on lap three, but he could do nothing about Clark's early charge. The BRM started to lose its vertical exhaust pipes and briefly ceded second to the Lola of John Surtees, but Hill was soon back in front.

Clark was around 25s ahead until Hill started to catch him in the closing stages. With two laps to go the gap was still 6s, but Hill gained 4s on the penultimate tour and poor Lotus communication left the leader vulnerable.

"The last lap will be talked about for years to come," said Autosport's Gregor Grant. "Clark arrived at Club among one or two slower cars and swept up Abbey Curve to what he thought was victory. Meanwhile, Hill had threaded his

way past the same cars and howled up Abbey closing all the way on Clark. Hill's BRM hurtled over the line in what looked like a photo-finish, arriving almost sideways in that last, desperate effort. No-one could have been more astonished than Clark."

In *Life at the Limit*, Hill wrote: "I was going to go through on the inside, but as soon as he realised what I was up to he shut the gate. So I whipped the BRM round to the other side and went straight round the outside of him. Unfortunately, the track was only dry on the proper line and I had to go right into the wet. I crossed the finish line in a big broadside and pipped him by about a car's length or less.

"It was a fantastic finish, one of the most thrilling I've ever had. To beat Jimmy Clark and Lotus at the same time made it doubly a pleasure, though I did feel a tiny bit sorry for Jimmy."

The Lotus had led 51 of the race's 52 laps, but Hill snatched victory in the final yards in a finish that Autosport described as "almost unparalleled in F1 racing".

1971 JOCHEN RINDT MEMORIAL TROPHY

THRUXTON

BRABHAM BT36 (1ST)



MCKLEIN

4

Ronnie Peterson was one of motorsport's most exciting new talents when he arrived at Thruxton for the second round of the 1971 European Formula 2 campaign. But

he wouldn't be the only star of the weekend.

Hill, by then 42 years old, took pole for his heat in one of Rondel Racing's Brabhams, while 27-year-old Peterson (works March 712M) was the quickest qualifier for heat two, 0.2s faster than Hill.

Hill won his heat, while Peterson finished

second in his after getting stuck in fifth gear.

Hill made a fine start to lead Henri Pescarolo (Frank Williams March) and Peterson in the 50-lap final, though Pescarolo soon found a way by. When the Frenchman's engine blew just two tours later, Hill was left with a small lead over Peterson.

"The backmarkers were giving the leaders quite a lot of trouble when being lapped," said Simon Taylor in Autosport's report.

"Tetsu Ikuzawa nearly caused a nasty when he shut the door on Hill in the chicane and it needed all Graham's skill to hold his sliding car."

With Hill's exhaust pipe also coming adrift, Peterson caught the Brabham. "Hill remained unruffled and never gave a gap," added Taylor.

Not, at least, until the closing stages. The March got a good run approaching the chicane and finally sliced by. Peterson's timing seemed perfect, but he was then delayed in a misunderstanding with backmarker Jeremy Richardson on the final lap.

Hill took his chance and held on to win by 0.6s from the rising star, with both drivers equalling their qualifying times. It was arguably his most competitive drive since his Watkins Glen crash.

HILL'S GREATEST PERSONAL BATTLE

Hill's career could have come to an end in the 1969 United States Grand Prix at Watkins Glen. After spinning, getting out and noticing his tyres were chunking, he was making his way back to the pits when the right-rear tyre deflated, pitching him into a violent roll.

Hill had not been able to do up his seatbelts and was thrown out, suffering serious leg injuries. He spent many months recovering and often exercised more than required to try to expedite his comeback.

He made the season-opening



MOTORSPORT IMAGES/SUTTON

1970 South African GP at Kyalami in March (five months after the crash) – when due to race Rob Walker's Lotus 49C – his target.

"The doctors said I wouldn't be able to race until October," Hill told Autosport in April 1971. "I didn't want to hear that."

Hill duly made it to South Africa and qualified 19th, but even then he had doubts. "On race day, my legs were still giving a lot of pain and I wasn't sure I could complete the race," said Hill in *Graham*. "Then I began to drive faster and faster and I finished in sixth place.

"When I came into the pits it was fabulous to see the pleasure on everyone's faces. That one championship point was the hardest I ever won."

It's easy to argue that Hill was never quite the same after the accident, particularly given the struggles he experienced in the final seasons before his 1975 retirement. But the fact that he won the non-championship '71 BRDC International Trophy at Silverstone and '72 Le Mans is testament to a personal fight that Hill won against the odds.

"IT WAS A TREMENDOUS DISAPPOINTMENT, BUT I GOT A GREAT RECEPTION"



3

Hill's luck at his home grand prix was appalling. He came close to winning the British GP on several occasions and scored four podiums, but always fell

short. His 1960 effort was probably his best.

Hill stalled his BRM at the start and was the 23rd of the 24 starters to get away. While polesitter and reigning world champion Jack Brabham led, Hill began a fightback that took him to 11th after five laps.

"Naturally I was a bit narked at making such a stupid mistake and drove probably one of my best races ever," reckoned Hill in *Life at the Limit*.

Autosport agreed: "The BRM man was driving a terrific race, lapping at over a second quicker than Brabham. With every lap he moved nearer and nearer to the leaders. The advance of the BRM was nothing short of phenomenal."

Just before half distance of the 77-lapper, Hill passed Innes Ireland for second place and, despite briefly losing time in traffic, closed on the leading Cooper.

Hill snatched the lead on lap 55 and set the fastest lap – 0.6s faster than anyone else – on the very next tour. "Graham countered Brabham's every move and was giving the most polished exhibition of driving in his entire career," wrote Gregor Grant.

The BRM led for 17 laps and, though

Brabham kept him in sight, looked set to win.

"I noticed that the brake-pedal pressure was beginning to disappear," wrote Hill. "The rear brake was a single disc working off the gearbox. As it was out of the airstream, it tended to get too hot; the seal melted and fluid could escape. I realised that when there was no more fluid left, I would have no rear brakes left, lock up the front and go straight on somewhere!"

With six laps to go, Hill came upon two backmarkers approaching Copse and had to make a quick decision. "Either I could go by the two cars and get into the corner before they did or sit behind them and lose time – perhaps sufficient for Jack to pass," recalled Hill. "I decided to overtake them under braking, but I arrived just a bit too quickly and the brakes weren't up to it."

The BRM spun and couldn't restart. Brabham swept through to win.

Although it was a driving error that put Hill out, Autosport was in no doubt about his performance: "It was one of those determined efforts which make motor racing the most attractive of all sports. Hill made the race and if that is the sort of racing that modern GP cars produce then promoters will have little difficulty in attracting the crowds."

And the response of the fans was something Hill appreciated: "It was a tremendous disappointment, but I got a great reception from the crowd, which helped disperse the gloom."

1962 GERMAN GP

NURBURGRING

BRM P57 (1ST)

2

The 1962 German GP on the mighty Nurburgring featured a fight for victory between three greats. And Hill won.

His weekend

didn't start smoothly, either. There was drama in practice when his new BRM was wrecked in an accident caused by an onboard TV camera falling off Carel Godin de Beaufort's Porsche.

"I appeared round a hedge doing something like 120-130mph when I saw a rather large black object in the middle of the road," described Hill in *Life at the Limit*. "I was unable to avoid it because of the speed. It pierced the oil tank, oil got onto my back wheels and I spun round and went into a ditch – tearing off wheels and suspension bits. I strained my neck and my chest, arm and shoulder muscles and I was a bit bruised."

Hill had to switch to an older P57 for the rest of the weekend. Polesitter Dan Gurney's Porsche led initially, but on lap three of the 15 Hill took the lead. John Surtees (Lola) snatched second two tours later, but all three remained in contention.

Despite constant pressure, Hill crossed the line just 2.5s ahead of Surtees and 4.4s in front of Gurney after almost 2h40m.

It was a success Hill always rated: "It was a classic race as far as I was concerned – the pressure was tremendous, the conditions foul; I'd had a particularly nasty experience in practice that was enough to put anybody off for a whole year and I was delighted to think that I was able to come out on top in another car."



STATS

176
STARTS13
POLES14
WINS10
FASTEST
LAPS1965
MONACO GP

BRM P261 (1ST)

1

Autosport claimed this was “probably the greatest of post-war motor races”. Despite the excellence of his German Grand Prix drive, it also seems right that a

Monaco GP should top five-time winner Hill's list.

In the absence of Lotus and Jim Clark – busy winning the Indianapolis 500 – Hill was a reluctant favourite and beat Jack Brabham and Formula 1 rookie Jackie Stewart to pole. The BRMs pulled clear and Hill had a small cushion over Stewart when things went wrong on lap 25 of 100.

“I saw Bob Anderson in his Brabham literally creeping down towards the chicane,” described Hill in *Life at the Limit*. “I had seen no flag and no signals or anything. All I could see as I blasted over the hill – in that fleeting second that you get to make a decision – was that he was going to be occupying the chicane at about the same time I wanted to flash through it doing about 95mph. There was only one thing I could do: I just stood on the brakes as hard as I could, locking them up.”

Hill went down the escape road before he finally came to a stop, jumped out and pushed the car back onto the track. He set off, but Stewart had taken the lead and Hill had fallen to fifth.

Then Stewart spun and waved Hill through. The more experienced BRM man charged off after the Ferraris of John Surtees and Lorenzo

Bandini, with all three moving up a spot when leader Brabham retired.

“The Londoner's progress was meteoric,” enthused Gregor Grant in *Autosport*. “Using all his immense skill, he was steadily cutting down the gap.”

Just after half-distance, Hill overtook Surtees and closed on Bandini. But the leading Ferrari proved tricky to pass.

“In the end I got Bandini at the same place as I got Surtees – on the short straight going down the hill towards Mirabeau after leaving Casino Square,” wrote Hill. “I managed to come round Casino Square just that little bit better, holding a tighter line, and I got down the inside of both of them under braking.”

Bandini fought hard, with all three leaders going under the lap record, before Surtees took second and piled on more pressure. But Hill held on and even edged away. He ended up taking victory by over a minute when Surtees ran out of fuel on the final lap.

“It was a tremendous race and I think that this with the 1962 German GP were probably my best races ever,” said Hill. “I don't think I have ever felt quite like it before – a tremendous feeling of peace, serenity and fulfilment.”

He also said that he wished “Jim had been there to see it”, perhaps hinting at the only doubt that can be cast over this as his greatest drive.

That didn't diminish the race in the eyes of

HILL'S MONACO HAT-TRICK

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Autosport founding editor Grant. The week after his report, he wrote a piece underlining what he thought of Hill's drive: “The incredible fightback will go down in history as one of the finest individual feats of all time, as stirring as Juan Manuel Fangio's Nurburgring chase of Peter Collins and Mike Hawthorn [in 1957].

“Some wonder what would have been the outcome had Clark and Dan Gurney been there. I would venture to suggest that the result would have been the same, for on that day no-one would have beaten Hill.”

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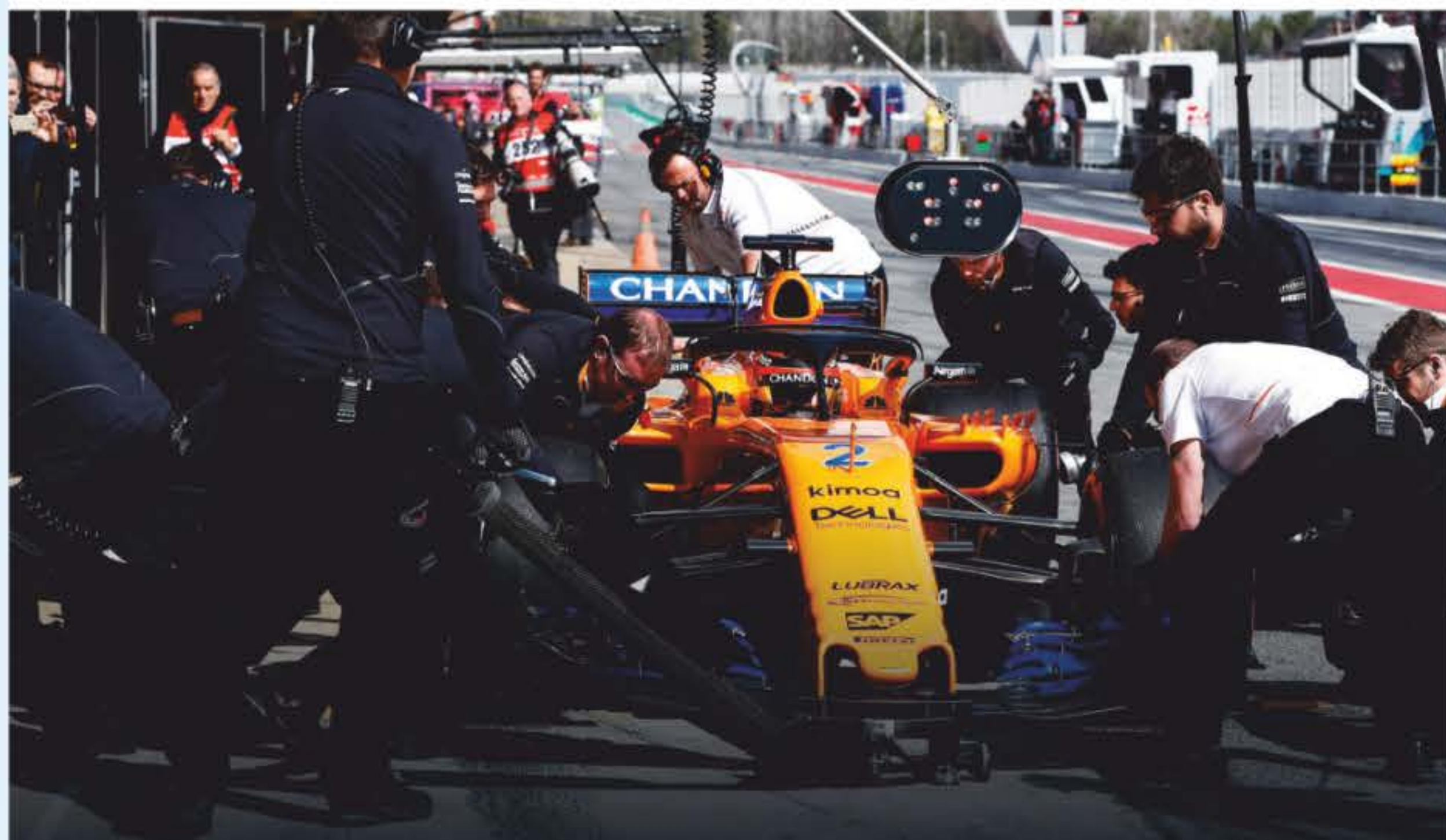
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FUTURE OF CIRCUIT UNCLEAR AS CASH WOES HIT DEVELOPER

LAKE TORRENT

The future of the proposed £29million Lake Torrent circuit in Northern Ireland has been thrown into major doubt after the developer behind the project went into receivership last week.

Some initial groundwork on the circuit, located 40 minutes' drive from Belfast and planned for completion by the end of 2019, was carried out last year but progress then began to stall. The delays were caused by a planning issue regarding the possibility of old mineshafts being on the site, which was formerly a quarry.

Matters came to a head last week when backers of the project refused to provide promised funds until the planning issue is resolved. That led to Manna Developments – the firm behind the circuit – entering receivership.

In a statement, Manna said: “While this is a disappointing development, it has not come as a surprise. Funding remains in place to deliver Lake Torrent but, as is the case with any loan, there are conditions which relate to the release of funds.

“Unfortunately the challenges in resolving one particular planning issue have been such that it hasn’t been possible to fulfil the relevant conditions. Our funding partner is aware of the status of the planning, but remains committed to making the funds available.

“EVERYONE NEEDS TO WORK TOGETHER TO SEIZE THIS OPPORTUNITY”



"The MP for the area is entirely aware of the planning condition, which has caused such delay, and has been working diligently to try and bring a resolution for the benefit of Manna Developments, Lake Torrent and the people of Northern Ireland, not least those in his constituency. Like us, he is hopeful that matters can be resolved quickly. Everyone needs to work together to seize this once-in-a-lifetime opportunity to really further enhance Northern Ireland's reputation on the global motorsport stage."

Ben Willshire, managing director of Driven International – the firm that designed the circuit's layout – added: "On our side we were waiting for an update from Manna Developments. We've prepared all the drawings for the FIA and FIM, but weren't actively working on the project and were waiting on the next steps. We've done all we can to help and it's a shame because I think the project has got huge potential."

The circuit had signed a three-year contract to host a round of World Superbikes, but the series will instead visit Donington Park next year.

STEPHEN LICKORISH



BTCC star hopes for date change

GOODWOOD

Andrew Jordan hopes that Goodwood "realises what they are missing" to ensure that the 2020 Revival and Members' Meeting avoid further clashes with the British Touring Car Championship.

Both the April 6-7 Members' Meeting and the September 13-15 Revival – both popular events for drivers – have been pushed back a week for 2019. They now fall across BTCC weekends: the Brands Hatch season opener and Knockhill.

The chief reason for adjusting the date of the Members' Meeting was to avoid the poor weather that blighted this year's event, while the Revival's change is to

prevent a clash with the provisional date of the Italian Grand Prix.

BTCC champions Jordan, Matt Neal, Jason Plato and more recently Ash Sutton are all regulars at Goodwood meetings.

Jordan told Autosport: "I am obviously really disappointed [about the dates] as Members' Meeting and Revival are my two favourite events of the year. I do think it's a real shame as over the past few years the BTCC drivers have stolen the show and proved we can race hard and fair. Hopefully they realise what they are missing and make sure it doesn't clash in 2020."

The Duke of Richmond said: "Deciding on the dates for our motorsport events is always a challenge. As well as inviting the very best drivers and riders, we want to make sure as many fans as possible can come and enjoy it."

"Inevitably there will sometimes be clashes and this September is particularly tricky with F1 fixtures and BTCC rounds. We'll miss our BTCC friends very much but look forward to welcoming them back to Goodwood very soon."

MATT KEW



New tyre to help boost grids

SUPER TOURING

Dunlop has relaunched its Super Touring tyre, with the stated aim of boosting grid sizes in historic racing.

The 1990s tyre war provided an added element of intrigue to the British Touring Car Championship, with Dunlop supplying the factory Audis during the halcyon days of the decade's mid-to-late period.

After being tested by two-time BTCC champion John Cleland and prolific Historic Sports Car Club Super Touring Car Trophy racer James Dodd, Dunlop has reintroduced a similar specification into production.

To reduce costs for competitors, the tyre will be more durable than its 1990s

counterpart but yield similar grip.

Dunlop Motorsport's Michael Butler, who offered tyre support to Super Touring teams in period, said:

"Cars that are this advanced need a bespoke tyre."

"In the nineties, there were no limits on tyre development. We had qualifying tyres, specifications for sprint and endurance races, and different tyres to suit each manufacturer. Modern day historic racing teams do not need this complexity."

"We've used the latest materials to replicate the performance of that 'tyre-war' era, but with the durability and consistency that's important for a season on a sustainable budget."

MATT KEW



Barwell gets new Lambos as Minshaw (inset) leaves British GT

Minshaw quits, Barwell gets new Lamborghinis

BRITISH GT

British GT runner-up Jon Minshaw is the latest frontrunning driver to reveal that they won't be contesting a full season in the series next year, as Barwell Motorsport has unveiled its first pairing for 2019.

Minshaw, 55, has finished second in the standings, driving a Barwell Lamborghini Huracan alongside Phil Keen, in each of the past three seasons with a total of 13 wins in the series. It is understood that he has other commitments for 2019 and

will contest a select few international events, and could make the odd British GT appearance.

Minshaw joins 2018 champion Flick Haigh, '16 title winner Derek Johnston and '17 victor Rick Parfitt Jr in ruling out a full campaign next season. A new driver will be announced soon and is expected to partner recently unveiled Lamborghini factory racer Keen.

The team has announced that 2004 British GT champion Jonny Cocker and



Sam de Haan will continue with the squad as Barwell takes delivery of upgraded Huracan Evos for next season as part of a new three-year deal with the manufacturer.

Team boss Mark Lemmer said: "We are thrilled to announce the continuation of our highly successful partnership with Lamborghini with the new Huracan GT3 Evo. The Evo is exactly that, a natural evolution of what has already proved to be a fantastic car. We are privileged to welcome back Sam and Jonny and we can't wait to reveal an exciting driver for British GT in the coming weeks."

The team has also revealed some of its drivers for the Blancpain GT Series Endurance Cup next year. Am Cup champions Leo Machitski and Adrian Amstutz will return in one Huracan, while Scot Sandy Mitchell will be back in another.

• TF Sport has confirmed Alex Toth-Jones as its first driver as the team returns to the GT4 category of British GT. As well as running the new GT3 Aston Martin Vantage, TF Sport plans to run two of the new GT4 models. Toth-Jones joins the team after finishing fifth in the Ginetta GT5 Challenge this year.

STEPHEN LICKORISH

Ginetta Junior champ Smalley tests G55

GT4 SUPERCUP

Ginetta Junior champion Adam Smalley has tested a G55 for the first time ahead of a possible move into the GT4 Supercup next year.

The 17-year-old claimed the Junior crown by eight points from team-mate Louis Foster this year in his second season of racing.

He tested a G55 at Donington Park with the Elite Motorsport squad that powered

him to the Junior title.

"In karting I had driven on slick tyres but it was nothing like that – the grip level was unbelievable and the power was amazing," said Smalley of his first outing in the car. "It was really good. That's the way we're looking at going, but it's all down to budget. It's still on the touring car package with ITV4 coverage and that's attractive for sponsors."

Smalley says he would

like to remain with Elite, having also won last season's Winter Series with the team. "They've done a fantastic job for me this year – they won the teams' championship, took a one-two in the drivers' championship and I only had one mechanical failure all year," he added.

Elite made its GT4 debut this year with Harry King, who finished third overall.

STEPHEN LICKORISH



Smalley got first taste of GT4 machinery

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Browning to single-seaters

BRITISH F4

Ginetta Junior title contender Luke Browning will graduate to British Formula 4 next season.

The 16-year-old will remain with the Richardson Racing team that he has competed with in Ginettas for the past two campaigns. He finished third in the standings this year, taking eight wins.

"The fact that I'm able to remain with the team has been a key factor in this deal because we have developed a really good working relationship over the past

two seasons," said Browning.

"They have helped to mould me into the driver I am and we know how each other works, so there is no-one else I would want to graduate with.

"Running in a single-seater is going to be totally different to anything I've done before, but the team has good experience of the car and we have a good testing programme to help me get up to speed."

Richardson didn't compete in British F4 this season, having previously run Harry Webb in the series in 2017.

STEPHEN LICKORISH

New Clio planned for 2020

CLIO CUP UK

Development work is under way on the new Renault UK Clio Cup car that is set to be introduced in 2020.

The current 220 Trophy Clio has been used in the UK since 2014 and has provided some of the closest title battles in the championship's history.

No details have yet been revealed about the new car, but Renault Sport Racing sporting manager Tarik Ait Said says there won't be a sudden reduction in lap times with the fifth-generation machine.

"Development is under way but we are not looking for outright performance," he said. "We are going to try to take all the feedback we have from the teams now to [develop] the car.

"One reason for the success of the Clio Cup is cost control and we have to make sure the car is affordable for everyone.

"We see the paddock is growing with bigger teams, but at the same time we have to be careful it doesn't turn into a very expensive category.

"In France we have some drivers who could race in GT3, but they don't want to go quicker and feel this [Clio Cup] is the right thing for them. Part of our customers are these people."

Ait Said also paid tribute to the quality of the racing the current car has produced in the UK.

"I think the Clio Cup races in the UK are probably the craziest [of all the series] and it's so competitive," he said.

STEPHEN LICKORISH

IN THE HEADLINES

GERAGHTY'S MINI RETURN

Last year's Scottish Mini Cooper Cup champion Mark Geraghty will make a full-time return to the series in 2019. The Perthshire driver took a year out of the championship to race in the 750 Motor Club's Club Enduro as well as an outing in the C1 Challenge at Croft. Geraghty has now bought back his championship-winning Mini Cooper, run by Andrew Lamont Motorsport.

HOPE FOR MAX5 BOOST

Organisers of the BARC-run Mazda Max5 championship are hoping to raise its profile next year after the 2018 series ended with 11 starters at Brands Hatch last weekend. Series coordinator Jon Halliwell says three Mk4 cars are almost complete in preparation for the new season, work is ongoing with new sponsors and all involved are trying to draw in competitors from rival Mazda series. A new tyre deal will likely mean the appointment of a single supplier.

BRSCC SUPPORTS W SERIES

The British Racing and Sports Car Club has defended its role as the organising body for the controversial new W Series. The new international single-seater championship, which is aimed at helping women reach Formula 1, approached the BRSCC about the role. "It's new and ground breaking but it has caused a lot of controversy and discussion," said BRSCC competitions director Dominic Ostrowski. "I can see both sides, but anything that creates more opportunity has to be a good thing."

BROOKS IS SELECTED

Ethan Brooks has been picked as next year's Ginetta Junior Scholar. The British Schools Karting champion was chosen from the dozens of applicants after three days of assessment at Blyton Park, featuring driving, fitness and media tests. He will receive a fully-funded season in the series in 2019. This year's Scholar, James Taylor, finished sixth in the standings.

VSCC RETURNS TO BRANDS

The Vintage Sports-Car Club will run a race meeting at Brands Hatch next season as vintage racing returns to the Kent track after a long gap. The VSCC race calendar, branded Formula Vintage, will cover five events as well as an endurance race at Snetterton at the end of the season. The Brands Hatch date on Bank Holiday Sunday (August 25) replaces the popular Mallory Park race meeting, which has traditionally hosted the annual Edwardian race.



Jackson pulls Hayes entry

WALTER HAYES TROPHY

Newly crowned Historic Formula Ford 1600 champion Cameron Jackson has decided against competing in the Walter Hayes Trophy this weekend.

Jackson had planned to contest the Silverstone event in a SpeedSport-run Van Diemen RF07 alongside fellow Historic FFord racer Ed Thurston, but has now elected to focus on developing the car for events next year.

"We had a bit of a testing programme, had issues along the way, so we've not really been able to develop the car," he said. "Myself and Mike [O'Brien, SpeedSport boss] made the decision not to do it."

"We don't want to just make up the numbers. We want to prove we can get on the pace. A couple of things went wrong,

we had some engine issues, we ran out of time to get the car on the button.

"Last year we did it [the Walter Hayes Trophy], had some issues and struggled for pace. I don't want to be in that position again. Those guys are running around in those cars all year and the teams are well versed, they have their set-ups and data and we're starting from zero.

"The intention is to keep developing the car, and race it a few times next year to prove it ahead of festival-type events."

This year's entry list is headed by 2017 winner Michael Moyers in his Kevin Mills-run Spectrum 011C. Moyers did not contest the Brands Hatch Festival a fortnight ago, but will return to action at the Hayes after a partial season in the National Championship this year.

STEPHEN LICKORISH & JACK BENYON

Saloon ace Dickinson remembered

OBITUARY

One of Britain's best-loved and most successful special saloon racers of a golden era, Lincolnshire's Tony Dickinson, died on October 19 aged 71, following a recurrence of the cancer he fought off six years ago.

The Boston garage was a quiet achiever whose car racing career began with a 850cc Mini in 1966.

Hillman Imp, Sunbeam Stiletto and Ford Escorts led to the trio of immaculate two-litre Cosworth-powered Skoda coupe clones in which he won countless races.

Supported by Dealer Team Skoda, Dickinson won initially in the ex-Derek McMahon/Alec Poole car.

It was superseded by the ultimate 130RS, built from a Group 6 Lola T294 that had competed at Le Mans. He cleaned up in a Hart-powered weapon and completed a quartet of large-capacity class titles from 1979-82.

A British Saloon Car Championship sojourn with an Escort Mk2 in '82 led to Dickinson winning his class first time out, only to be excluded for being under weight.

Thundersaloon titles sharing fellow Bostonian Joe Ward's Opel Manta 400 and a class win at the Nurburgring in Ward's TVR Griffith followed in 1991, before Tony supported second son Simon's racing.

MARCUS PYE

New home for Tin Tops

SALOONS & TIN TOPS

The British Automobile Racing Club-run Modified Saloons and Tin Tops series, which have been familiar features on mainly south-eastern circuits in recent years, look set to switch to the Classic and Modern Motorsport Club for the 2019 season.

Competing drivers had a meeting at Brands Hatch to discuss the change, which would take them under the wing of the organisation set up by Classic Sports Car Club co-founder

Richard Culverhouse. While the Tin Tops category has managed healthy grids, Modified Saloons has dwindled this year. Just 10 cars competed at Brands Hatch last weekend.

That would leave just the Intermarque series operating under the aegis of the BARC's South Eastern region, but it is also expected to change.

Regular Modified Saloons frontrunner Malcolm Wise said: "I don't get involved in the politics, but I'll wait and see what's on offer."

BRIAN PHILLIPS





AGE IS NO HANDICAP

While the Birkett Relay is a source of constant fascination, perhaps it's time to consider targeting lapsed competitors in more-venerable machinery

MARCUS PYE

Among the fascinations of the 750 Motor Club's Birkett Six Hour Relay race, first run at Silverstone in August 1951, is its constant propensity to surprise. In this year's 68th edition – there were two in 2000 – competitors from 66 teams faced the challenge of Formula 1's British Grand Prix circuit, with the 90-degree exit from Vale, instead of the Historic version of recent seasons. Cue recalculations in the handicapping office, for all ostensibly start with an equal opportunity of landing the coveted prize, and some cars brake and corner better than others.

The great diversity that was the norm a decade ago, when Austin Sevens from the club's roots, chain-driven Frazer Nashes and Formula 750 cars squared up to AC Cobras, a Porsche 935 clone or two and hordes of marque teams, was on the slide from the moment the race switched from the International track to the 3.66-mile layout. While agile high-downforce Suzuki Hayabusa-engined Radical SR3s, turbocharged Subaru-powered Sakers and potent bewinged TCR SEATs traverse the Becketts flick-flack with relish, and meaty BMW E46 M3s enjoy the blast to Stowe, sustained high revs on the long Hangar Straight can finish off elderly rolling stock.

As I drove over the infield bridge on Saturday, two long lines of

"THE BIRKETT WITHOUT THE HART ATTACKS TEAM IS LIKE CHRISTMAS WITHOUT A TREE"

cars to my right were undergoing noise testing and preparing to join the Wellington Straight for the opening practice session. It struck me that they were facing the opposite way to those who raced on the monster runway that linked Stowe and Copse corners on the track used in 1951. So coming face to face with Steve Allen's 1928 Bentley 4½-litre special – David Turner's mount in the winning VSCC team that day – outside race control in the paddock was a joy.

The current race is not short of variety, as Austin A30 to Dodge Dart and Citroen C1 to Ariel Atom attested in mixed equities. The Caterham hordes of previous years had noticeably retreated, with Honda Civic Type Rs and BMWs in the ascendant, but two teams of VW Fun Cup cars joined the miscellany for the first time. Accustomed to jostling round Spa for 25 hours at the pinnacle of their endurance programmes, the Audi-engined tubeframe Beetle clones should find six a veritable breeze.

A tour of the pits revealed some eager newbies amid veterans

for whom the Birkett remains the season's 'must-do' (and in some cases only) event. Ex-Formula 3000 ace and 1990 Fford Festival winner Dave Coyne was looking forward to exercising Chris Compton-Goddard's newly imported Ferrari 430, the talented Abbie Eaton – a race leader at July's Silverstone Classic in dad Paul's gruff Holden Commodore – saddled a BMW M3, and teenager Max Lynn (younger brother of Aston Martin WEC racer Alex) was Caterham 7-mounted, following the lead of Historic ace father Shaun who cut his racing teeth in them.

Sadly there was only one Clubmans squad, and even The Defibrillators was forced to diversify into Radical territory to 'neutralise' their handicap in the almost unthinkable absence of Chris Hart's rival Hart Attacks. The Birkett without the Hart Attacks – to which the late Justin Foley and I were co-opted at a very wet Snetterton in the 1990s, and helped secure the scratch win – is like Christmas without a tree, although the front-engined sports-racers' small fuel tankage is a major (undercompensated?) handicap when some of the quickest machines can run way over an hour flat-out.

The race's inter-services element has grown over the past decade or so. Four competed this year: the Armed Forces Race Challenge team of Mark Inman (Vauxhall VX220), Stan Palmer (Honda Civic Type R), Trevor Hancock (Peugeot 206 GTi) and Martyn Hathaway (Mini Cooper S) finished seventh on handicap, prevailing over three-time winners and reigning champion RAFMSA, which wound up 15th in the Royal Air Force's centenary. Royal Navy Royal Marines and Army Sports Car Racing will surely up their games in 2019.

As more sophisticated cars have joined in, many team sizes have shrunk from six drivers to three or four because owners want more track time or to maximise stints. Of course this can bite them through mechanical drama or incident, the avoidance of which demands seamless concentration in constant traffic and changing weather conditions like Saturday's. But it was good to see the Red Rascal squad winning the blue-riband handicap prize with a fleet of three BMW E46 M3s each shared by two drivers in the spirit of the competition. And the Cupra Racing boys piloted their front-wheel-drive TCR SEATs brilliantly to pip the top Radical team to scratch gold in a photo finish.

Perhaps the 750MC's 80th Anniversary could be celebrated with two Birkett Relays at Silverstone next year... Rather than weed out the fastest cars (and risk alienating repeat customers already looking to 2019), how about a second one on the National Circuit, targeting the type of cars that competed in the races of yore – at circuits as far afield as Thruxton and Donington – re-engaging lapsed competitors who might return given smaller speed differentials? Just a thought from a fan. 🍷

Red Rascals master wet conditions to win Birkett Six Hour Handicap



SILVERSTONE
750MC
OCTOBER 27

The 68th running of the 750 Motor Club's Six Hour Relay – honouring founder Holland Birkett – brought an unprecedented Scratch result as a team of front-wheel-drive saloons covered the greatest distance.

In the presence of a winning Bentley from 1951's inaugural event, 66 hopefuls set off on the Grand Prix circuit.

If Carl Swift, Stewart Lines and 2013 handicap winners Lee and Shayne Deegan's stated intent to outrun Radical SR3s with a trio of mighty SEAT Cupra TCRs sounded like bluster to some, the sceptics hadn't factored in that team's prodigious speed or the wet weather.

But for a broken CV joint on Swift's Team Cupra car at the beginning of his second stint, the Spanish machines made light work of increasingly sodden conditions once the forecasted rain came. Superb drives by the Deegan brothers on

their debuts in Area Motorsport's car led to ex-BTCC racer Lines holding off Breakell Racing Heroes' Wade Eastwood's orange SR3 over a heart-in-mouth final lap in traffic.

Having rounded Brooklands and Luffield together, they accelerated through Woodcote and were split by just two car lengths at the chequer.

"That was incredible, but I'd have preferred to be the chaser," said Lines. Lee Deegan added: "The Cupra was awesome, even when it was aquaplaning on the straights."

Brace puts Smith in prime position ahead of last round

BRANDS HATCH
BARC
OCTOBER 27-28

Lewis Smith took a major step towards his first Intermarque title with a double victory in his Vauxhall Tigra at the penultimate round of the championship.

Nearest challenger Steve Burrows (Peugeot 206cc) is still well in touch, though, and finished runner-up in both of Sunday's races after starting the day level on points.

Smith has been a rapid but irregular threat since he joined the championship and last weekend he was in imperious form, leading throughout a damp first race. Burrows was delayed in traffic, helping Malcolm Blackman (Vauxhall Tigra) to snatch second only to spin

moments later. He recovered to third, going by Ray Harris (Mercedes SLK) in traffic.

Smith started eighth on a part-reversed race two grid, but in a breathtaking three-abreast move went from third to first at Paddock Hill at the start of lap two. Blackman held second until he retired, promoting Burrows. Harris beat a closely matched group to take third.

A successful debut in a Vauxhall Astra VXR in the South Eastern Tin Tops earned Rod Birley victory ahead of Bradley Lane's Honda Civic Type R in race one. He followed Lane home in race two but still secured a class win. Chris Bassett (Peugeot 205 GTI) twice joined them on the podium.

A pair of Monoposto races brought victories for Zachary Anderton's Jedi. Alex Fores's F3 Dallara led more than half of race one before finishing second, but



retired in race two. This ended in confusion after a muddled safety car intervention, which prompted a shunt when some drivers were unsighted as those ahead braked.

Four-time winner Ian Bower (BMW M3) plunged off at Paddock while chasing Ray West's M3 in pursuit of another Pre-'93 victory in the first of eight Classic Touring Car races. Lacking suitable tyres for the conditions, West missed Sunday's wet race, leaving Alexander Owen (Honda Civic Type R) to win by more than 40s.

A broken clutch on Alan Greenhalgh's Ford Falcon after claiming Pre-'66 pole left Barry Sime (Mini) to a comfortable win on Saturday. Paul Inch (Mini) and Michael

The battle for the Handicap trophy wasn't as close but still provided plenty of intrigue. Paul Rose (JPR Motorsport, Saker), Classic Clubmans champion Clive Wood (The Defibrillators, Mallock Mk21/23 Proto) immediately split the Radicals of Eastwood and Brian Murphy (from James Breakell's twin squads) and Elliot Goodman (RAW Motorsport).

The Subaru engine in Rose's car developed a misfire second time out, but Steve Harris in his new 540bhp Saker and VW Fun Cup driver Dominic Jackson (RapX) got them home fourth.

Debutant team Podium Preparation's handicap hopes took a blow when Andrew Stacey's Mini Cooper S broke in Friday testing, but a dash back to Andrew Jebson's Lincolnshire base to fetch a substitute Citroen C1 showed spirit.

Since the BMW 330 and Porsche 968 of team-mates Chris Bailan and Andrew Peck were much pacier than the C1, leading the calculator boffins to revise their expectations, the team was surprised to lead for almost four hours. By the end of the fifth hour, Honda Civic Type R equipes Reasonably Northern and Area Motorsport went top on 106 laps each – although Reasonably Northern would receive one extra credit lap in the final reckoning.

As the deluge continued, both teams suffered as Daniel Reason and Daniel Hobson slid off. Led by Rob Baker and Mark Grice, Area's clincher was a set of shared wet tyres to their rivals' cut slicks.

That wasn't enough, though, for Red Rascal's BMW E46 M3s shared by Chris



Lovett/Jamie Ingram, Russell Clarke/Kevin Dengate and Kenny Coleman/Reece Jones – leading a very strong marque representation – maintained their momentum and growled to victory.

Red Rascal's 127 laps was topped up to 144 with credits, a gross score matched by the Mostly Rusty Two Seaters Toyota MR2 Mk1s of Gareth Baxter, Neil Stratton, Adam Lockwood and Dave Hemingway, who received 30 bonuses, with Area Motorsport in third.

MARCUS PYE



Sheraton (Ford Anglia) battled for second, which Inch took even though he had clutch problems. After overnight repairs, Inch mastered the wet to win on Sunday.

Dave Cockell's Ford Escort broke an auxiliary drive belt in Classic Thunder qualifying, leaving him 12th on the grid, but he charged into the lead before half distance.

Balginder Sidhu (BMW M6), Andrew Wilson (Holden Monaro) and Adam Hatfield (Toyota Avensis) finished next, but Lee Gillard's Subaru had been a contender for second when he tangled with a backmarker and crashed opposite the pits. Cockell won again on Sunday, but only just from a closing Ilsa Cox's SEAT Leon.

Highlight of the first day's action was a five-way contest for Pre-'83 honours. David Howard's getaway from fourth on the grid took him into the lead in his Jaguar XJ12, which he defended for 16 laps against Mark Osborne's more nimble but outpowered Triumph Dolomite, Stephen Primett's Escort, Tom Burgess's Ford Fiesta and Stephen Cripps's Escort. In Sunday's encounter Howard couldn't get the start he needed to bottle up the others on a still-slippery surface.

He chased Mark Cholerton's Escort for third, while Primett passed Burgess to secure the win.

BRIAN PHILLIPS

WEEKEND WINNERS

SILVERSTONE

BIRKETT SIX HOUR RELAY – HANDICAP

1 Red Rascal – Chris Lovett, Russell Clarke, Kenny Coleman, Kevin Dengate, Jamie Ingram, Reece Jones (BMW E46 M3s) 144 laps (127+17 credit); **2** Mostly Rusty Two Seaters – Gareth Baxter, Neil Stratton, Adam Lockwood, Dave Hemingway (Toyota MR2 Mk1s) 144 laps (114+30); **3** Area Motorsport – Mark Grice, Rob Baker, Martin Dalzell, Daniel Hobson (Honda Civic Type Rs); **4** Reasonably Northern – Lewis Rose, Daniel Reason, Jason Ballantyne, David Vincent (Honda Civic Type Rs); **5** Route 1 Racing 330 Flyers – Martin Roche, Bill Redropp, Darren Ball (BMW E46 330s); **6** Caterham Billies – Max Lynn, Max Gaunt, Charlie Mizon (Caterham 7s). **Class winners** Mostly Rusty Two Seaters; Cupra Racing – Carl Swift, Lee Deegan, Shayne Deegan, Stewart Lines (SEAT Cupra TCRs); Podium Preparation – Andrew Stacey (Citroen C1); Chris Bailan (BMW E46 330); Andrew Peck (Porsche 968).

SCRATCH RESULT

1 Cupra Racing 135 laps; **2** Breakell Racing Heroes – Wade Eastwood, Ash Hicklin, Robert Rees, Charles Graham (Radical SR3s) 135 laps; **3** Breakell Racing – Brian Murphy, Lee Bailey, Aaron Bailey, Simon Garmiston (Radical SR3s); **4** JPR Motorsport – Paul Rose, Steve Harris (Saker S1-400s), Dominic Jackson (Saker RapX S1); **5** RAW Motorsport – Elliot Goodman, Barry Liversidge, John MacLeod (Radical SR3 RSXs); **6** Red Rascal. **CW** Cupra Racing; Breakell Racing Heroes; Red Rascal; Area Motorsport. **Fastest lap** Breakell Racing Heroes 2m09.35s (102.05mph). **Pole** RAW Motorsport. **Starters** 66.

For full results visit: theresultslive.co.uk

BRANDS HATCH INTERMARQUE

Race 1 & 2 Lewis Smith (Vauxhall Tigra)

TIN TOPS

Race 1 Rod Birley (Vauxhall Astra VXR)

Race 2 Bradley Lane (Honda Civic Type R)

MONOPOSTO TIEDEMAN TROPHY

Race 1 & 2 Zachary Anderton (Jedi Mk6)

PRE-'93/PRE-'03/PRE-'05 TOURING CARS

Race 1 Ray West (BMW M3)

Race 2 Alexander Owen (Honda Civic Type R)

PRE-'66 TOURING CARS

Race 1 Barry Sime (Morris Mini Cooper S)

Race 2 Paul Inch (Mini Cooper)

HISTORIC THUNDER/BLUE OVAL SALOONS

Race 1 & 2 Dave Cockell (Ford Escort Cosworth)

PRE-'83 TOURING CARS

Race 1 David Howard (Jaguar XJ12)

Race 2 Stephen Primett (Ford Escort Mk1)

MODIFIED SALOON

Race 1 Rod Birley (Ford Escort WRC)

Race 2 Andy Thompson (SEAT Toledo)

MAX5 CHAMPIONSHIP

Race 1 & 2 Paul Roddison (Mk4)

For full results visit: tsl-timing.com

REVOLUTIONARY ROAD

Meet the new British constructor — founded by a familiar name — aiming to execute a radical change in sports-prototype racing

MARCUS PYE

PHOTOGRAPHY: RICHARD STYLES





Last Thursday, October 25, the fruits of a remarkable year's graft under the radar manifested themselves when a new and innovative sports-racer emerged from Snetterton's Archie Scott Brown Centre into the autumn sunshine to spontaneous applause.

Following yet another late night and hours of tweaking in its garage, the sense of team achievement was palpable. Revolution Cars MD Phil Abbott's eyes moistened as his son James growled the futuristically styled prototype, cloaked in marque branding, towards Riches corner accompanied by a delicious V6 soundtrack.

"The past six weeks have been crazy with pushing [towards this moment]. Everybody involved in bringing this car to reality wanted a bit longer. But they didn't get permission from me," says Abbott, 63, co-founder of Radical Motorsport back in 1998.

His ousting in June 2016 from the empire he nurtured – and which built 2000 race cars in its first 12 years, matching single-seater legend Van Diemen's feat in 1985 – set him on another extraordinary path, floodlit via a valuable learning interlude with Jacques Nicolet's Le Mans-based Onroak Automotive organisation, parent of the Ligier sportscar marque.

"I've done it a few times before, but bringing a brand-new concept to the market from scratch in 12 months was a challenge," he adds. "Everything about the process [its gestation] was so different, using state-of-the-art materials. Many people thought that producing a carbonfibre car for under £100k [plus VAT] couldn't be done, so today is very special. And quite a relief!

"The Radical SR3, of which we sold more than 1200, was a brilliant car 15 years ago and is still a great piece of kit. But, as with [the evolution of high-performance] road cars, the marketplace has changed. If you are gearing up to sell a new racing car for the next five years it's got to be very different."

The technology behind producing the first vacuum-infused carbonfibre tub with German composite pioneer Dominik Dierkes's DD-Compound company is constantly pushing the boundaries of manufacturing capability. Dierkes introduced himself when Abbott was still running Radical. DD-Compound's patented methods of moulding super-strong and complex structures economically are having a transformative effect in the aviation, boating and mainstream automotive fields. Adaptable and affordable, they are ideal for relatively low-volume markets.

"Now I realise that this was the key to something I'd been looking at for about five years," says Abbott. "There had to be a better way of doing a production racing car, moving away from old-school tubeframe chassis. Once I saw DD's process I was sold on it. While

"I GUESS I'VE ALWAYS BEEN A BIT OF A MAVERICK, SO THE TIMING WAS RIGHT TO START AGAIN"

I was 'captive' [at Radical] we couldn't put our heads above the parapet, though. I guess I've always been a bit of a maverick, so the timing was right to start again, go for it."

The catalyst for the Revolution wasn't purely the possibilities opened by new materials: "We turned it round, starting with the customer experience. What do they want and what are they prepared to pay for that? Then we set about finding the technology – and crucially the right people to work with it – to match and hopefully exceed those expectations."

The result is also very distinctive. "Simon Cox did a wonderful job with the styling. He's a real artist," says Abbott.

Formerly head of design at Infiniti, Cox also has the Chevrolet Corvette C7 and Cadillac Cien on his CV. His landmark Isuzu Vehi-Cross concept presaged the SUV by over a decade. He now lectures to a new generation of designers at Coventry University. >>

The monocoque is the work of Pete Watts. A mechanical-engineering graduate who joined the renowned Advanced Composites in Derby in 1983, as carbonfibre's motorsport influence boomed, he rose to be head of composites at the BAR Formula 1 team, then consulted with Bentley, McLaren and other marques. One crucial difference in this car was that it had to accommodate larger drivers than the pint-sized professionals in LMP1's orbit.

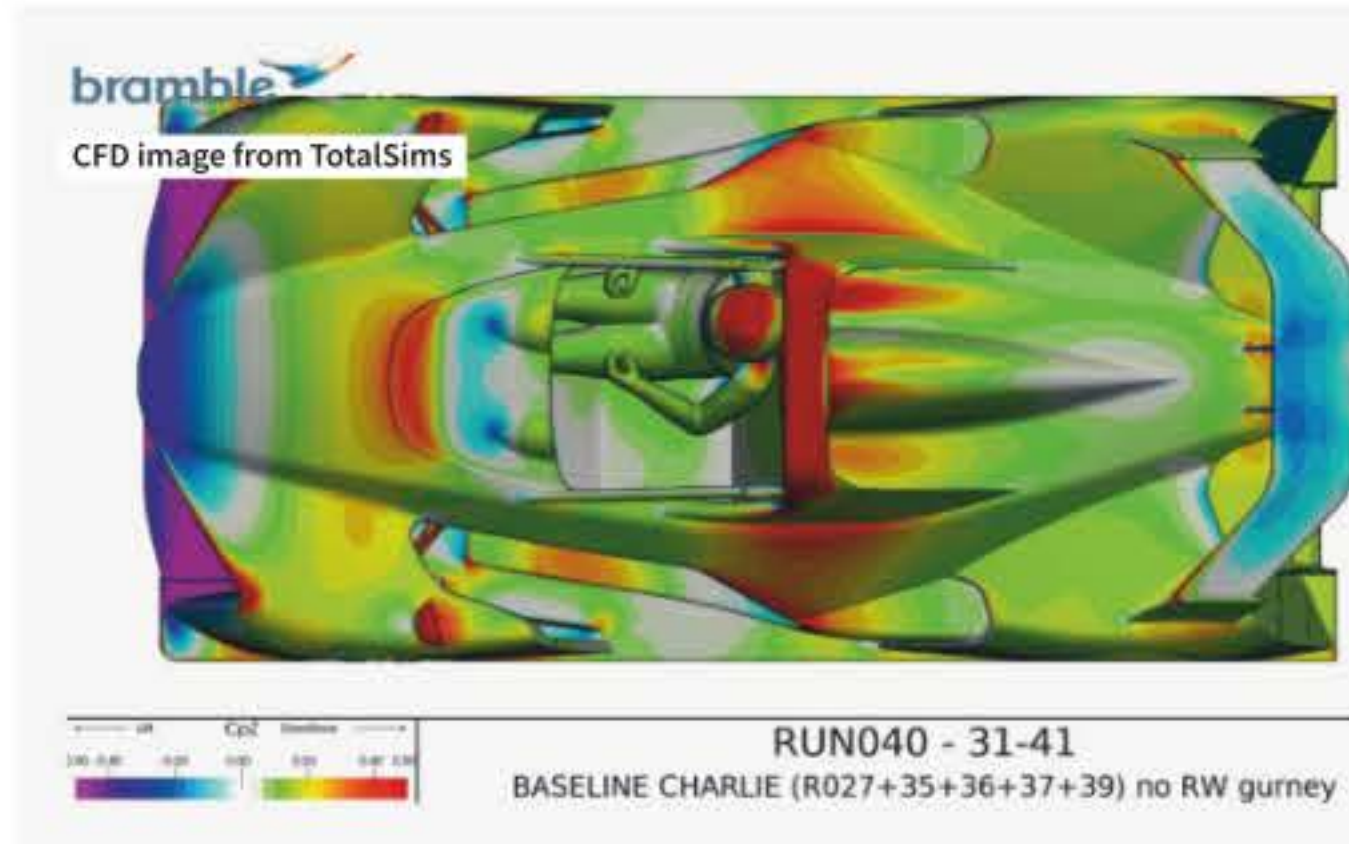
Driver safety is king among design criteria and the Revolution's ROPS [roll over protection system] has achieved FIA Free Formula Article 227 certification.

Also packaged within Cox's envelope, reworked for practicality and productionisation, is Ford's compact US-sourced 3.7-litre Ford V6 'crate engine', which develops 305bhp in standard form and should run 100 hours or 10,000 miles between rebuilds. Mounted longitudinally, the dry-sumped unit is mated to a six-speed sequential transaxle by French company 3MO – the WRC specialist also chosen to supply the gearboxes for the widely hailed retro-style Alpine Renault A110 road car.

Jack Shaw, who worked with Simon Carrier (previously with Reynard and M-Sport) at Toyota Gazoo Racing, was engaged on detail design with Watts. Veteran Lotus suspension guru Richard Hurdwell – rooted, like Abbott, in the 750 Motor Club, where he won the 1978 F1300 championship in the self-built Wells Two car – masterminded the suspension layout, aiming for a baseline set-up to open the Revolution's performance envelope to a wide range of drivers.

The distinctive and fine-tuneable aero package is the result of a collaboration with TotalSim, the Brackley-based computational fluid dynamics (CFD) consultancy set up by Dr Rob Lewis in 2007.

"Rob's a top, top, guy," says Abbott. "The work his team has done over the course of hundreds of 'runs' is exceptional. The Revolution's 3:1 lift-over-drag ratio is not massive by [LM]P2 standards, but for a club car is huge."



Viewed from trackside, James Abbott's initial shakedown runs in the prototype at Snetterton demonstrated the chassis's poise and flat attitude through the 300 Circuit's wide range of corners, and its high-speed stability. While running in components and performing systems checks, straight out of the box the Revolution topped 150mph on the Bentley Straight without exiting the preceding Williams corner at racing speeds.

"After testing CN cars the first things that struck me on leaving the pit garage was how smooth it was with no vibration through the chassis," says Abbott Jr. "We had a couple of minor teething problems, to be expected with a brand-new car out of the box [the engine and transmission had run on a rolling road], but I'm really encouraged."

While the car's bodywork has yet to be finished – missing at Snetterton were the fairings behind the rollhoop shroud, wing

REVOLUTION AND RADICAL SR3 TO HEAD UK SPORTS PROTOTYPE CUP

From previous experience with the entry-level Radical SR1, which only sold once a dedicated academy-type racing championship was created for it, Revolution's principals know that an aspirational series will determine its new sports-racing car's success.

James Bailey (formerly of tyre supplier Dunlop) shares that vision. His Pitbox91 concern has masterminded the brand new UK Sports Prototype Cup and will promote it in conjunction with the BARC on Britcar programmes in 2019.

A Revolution UK Trophy class headlines the UK Sports Prototype Cup, following a five-year agreement between the constructor and

Pitbox91. Both car and series will be launched at MotorsportDays.LIVE at Silverstone tomorrow (Friday) and Saturday.

"We wanted a multi-marque racing environment for lightweight sports-prototype cars in a premium weekend package," says Bailey, whose 30-year motorsport

career includes creating the Dunlop Great and British Festivals from 2006-10.

Radical's best-selling SR3 cars are invited to compete concurrently, in a separate Trophy classification. Should competitors with machines of similar performance wish to join in, further divisions may be added, subject to a

minimum of eight cars.

"When we started planning [the UKSPC] we had considerable interest from SR3 teams and drivers," adds Bailey. "They told us that the service from Dunlop's team and welcoming atmosphere were selling points."

The inaugural calendar is targeting visits to Brands

Hatch, Donington Park, Oulton Park, Silverstone and Snetterton, with a provisional European Le Mans Series support slot at Portugal's Autodromo Internacional do Algarve.

To be announced later this year, the schedule is set to feature generous track time around a format of 25-minute sprint races and longer endurance-style races of between 45 and 60 minutes for one or two drivers, with compulsory pitstops at each round.

The UKSPC will also be a qualifying event for the Sunoco 240 Challenge. Suitably qualified drivers will be able to compete for a seat in a GT4 car for the enduro on the Friday of the 2020 Daytona 24 Hours.





Ford-sourced V6 makes 305bhp and should run 10,000 miles between rebuilds

endplates mounted on the rear wheelarches and the front splitter cover – these will be added and the practicalities of detaching the engine cover addressed when the production panels are made.

“Working hand in hand with DD we can respond quickly to these things,” says Abbott Sr. “Making production patterns is now so much simpler than the old labour-intensive methods in the days of fibreglass.”

Building the cars will not be done conventionally either. Construction is being outsourced to trusted teams with whom Abbott Sr has built long relationships and who share his ambitions. The first is Rob Wheldon’s RAW Motorsport concern, which completed the prototype in the days running up to the unveiling, following a change from the original plan to run it secretly at the Papenburg proving ground in Germany the previous week.

“I’ve known Rob for a very long time, since I sponsored him in karting,” says Abbott. “He coached James and managed the factory Radical team before setting up on his own. Rob was really excited about the project and wanted to go on to the next level, so it [engaging RAW] was a natural fit. Derek White and Rich Webb [whom Abbott supported in motorcycle racing] are centrally involved there too.”

Indeed, for a young company aiming to go places fast, Revolution Race Cars already has a strong family feel, since Radical France’s Romain Rousseau, for whom customer focus is an obsession, is on board too. And with Roger Green (another old Radical hand) working on its PR strategy and James Bailey-organised twin racing series to bring the product to British and European circuits next season (see panel), a fascinating new era of affordable high-performance sportscar racing is on the horizon.

Although it officially launches across media platforms tomorrow (Friday), interest is already running high. As the car hit the track for the first time, seven deposits had been taken, with several more in the pipeline. “Our plan is to have two or three cars running by the end of November, when we can start customer testing,” says Abbott. “Realistically January’s build is sold, but we’re aiming to have 20 ready by the start of next season.”

Is the Revolution a game-changer? Time will tell, but the initial impressions are that it fits a niche that Phil Abbott identified between the uber-successful Radical SR3 he pioneered and the high-downforce LMP3 sports-racers aimed at pro drivers on the global stage. With heavy focus on LMP3 and its incredibly physical big sister P2, Onroak was committed to its Ligier brand, which is why Abbott boldly started again.

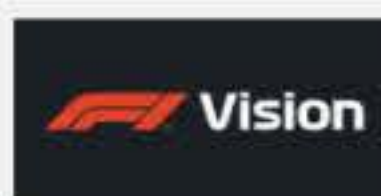
The result is a grown-up product offering extraordinary performance at a low price point. At £89,000+VAT for a carbon car with low running costs and a ready-made racing series from year one, surely its future is bright... Vive la Revolution! 🏁



TECH SPEC

Chassis	Vacuum-infused carbonfibre monocoque, aluminium honeycomb crash box
Engine	3.7-litre Ford V6
Transmission	3MO six-speed transaxle, multi-plate differential
Suspension	Double wishbone, pushrod/rocker-operated, cast aluminium uprights, Nitron three-way adjustable dampers
Steering	Rack & pinion (non-assisted)
Brakes	Front/rear: 280mm discs, four-pot calipers
Wheels/tyres	Front: 15x8"; Dunlop 205x580mm; Rear: 16x10.5"; Dunlop 265x605mm
Wheelbase	2660mm
Track front	1800mm
Track rear	1780mm
Length	4330mm
Width	1990mm
Height	1132mm
Fuel capacity	80 litres
Dry weight	675kg

INSIGHT THAT COMES AT A COST



GRAND PRIX
ACCESSORY
F1 VISION
RRP £89

Watching a grand prix from trackside is one of the most spectacular sights in sport. *Following* it, however, particularly for those spoiled by in-depth television coverage, companion screens, multiple feed choice and, of course, Autosport's live online coverage, is sometimes not so easy. This is where F1 Vision comes in.

The successor to Kangaroo TV and Fanvision, F1 Vision is available to rent for grand prix weekends. It enables you to follow the on-track action, view live timing and tyre data, watch multiple onboards, listen to commentary, ham in on the radio communications of your favourite driver(s), and generally simulate your own front room while sitting in the grandstand or occupying your favourite general-admission area.

At this year's British Grand Prix, hire of an F1 Vision for the weekend came in at £89. While not cheap on top of paying to be there in the first place, it does offer a dramatically enhanced experience for those who do have the cash to spare. And since it's an expensive system to set up, the price isn't unreasonable.

Listening to the live radio transmissions is the star attraction. While the radio communications dropped into the main feed are always interesting, they are selective and sometimes significantly delayed. The anticipation that builds when you hear a driver ordered to box with a potential undercut on the cards is well worth the money, and you also get the chance to appreciate the more mundane procedural aspects drivers have to deal with.

Tune in for qualifying and what you get is a largely constant flow of functional minutiae. Drivers are appraised of gaps to cars ahead and who is behind, which drivers are on a lap, who is backing up, as well as tyre and brake temperatures and offset. By the time the driver gets the 'go qualify' instruction near the end of a warm-up lap,

it's remarkable they can be in the zone to nail that near-perfect lap.

Having used it extensively trackside during the season, I have a couple of criticisms. There are times when the sunshine makes it tricky to see the screen properly. Also, inevitably, the earphones provided struggle to block out the sound of a grand prix field, but it's no problem to swap in your own (ideally noise-cancelling) headphones to correct that issue.

Whether F1 Vision is for you depends on the kind of fan you are. If you're the sort who can't watch a race without live timing



**"FOLLOWING A RACE
IN DETAIL REQUIRES
THIS AMOUNT OF
INFORMATION"**



F1 Vision offers fans an unfiltered insight into the drivers' grand prix weekend



running, or loves to hear the details and behind-the-scenes insight of the pit-to-car-radio, it's well worth the money. Following a race in detail and really appreciating the nuances requires this amount of information – the main danger is you may spend too much time cycling through the timing data rather than watching the cars on track.

F1 Vision is one of those luxury items that you'll write off if you haven't used it, but won't be able to live without if you don't have it when trackside at a race. So it all comes down to whether you are willing and able to invest the extra cash in it. If you do, it will give you something you can't get even when watching at home, and allow you to experience the race as it unfolds through the eyes of your favourite driver.

It's available at all grand prix venues (except, this season, at Suzuka). For more information, visit f1vision.com.

EDD STRAW



MOTORSPORT IMAGES/SUTTON

 YouTube

youtube.com/AUTOSPORTdotcom



Why Schumacher's records are now in reach for Hamilton

As Lewis Hamilton secured his fifth world championship in the Mexican Grand Prix last weekend, thereby drawing level with Juan Manuel Fangio, Autosport assesses whether or not he can go to the top of the pile and beat Michael Schumacher's tally of seven titles and 91 grand prix wins – as his former Mercedes team-mate Nico Rosberg has claimed. Go to <https://bit.ly/2JqAMr4>

THIS WEEKEND'S EVENTS

INTERNATIONAL MOTORSPORT

MotoGP

Rd 18/19

Sepang, Malaysia

November 4

TV Live BT Sport 2, Sunday 0630

TV Highlights BT Sport 3, 1430, 2000

Australian Supercars

Rd 15/16

Pukekohe, New Zealand

November 3-4

Super TC2000

Rd 11/12

Buenos Aires, Argentina

November 4

NASCAR Cup

Rd 34/36

Texas Motor Speedway, USA

November 4

TV Live Premier Sports, Sunday 1930

NASCAR Xfinity Series

Rd 31/33

Texas Motor Speedway, USA

November 3



DON'T MISS

NASCAR Truck Series

Rd 21/23

Texas Motor Speedway, USA

November 2

Brazilian Stock Cars

Rd 11/12

Goiania, Brazil

November 4

UK MOTORSPORT

Silverstone HSCC

November 3-4

Walter Hayes Trophy: FF1600, Open Wheel, Closed Wheel, BWRDC Ladies Race

Brands Hatch BARC

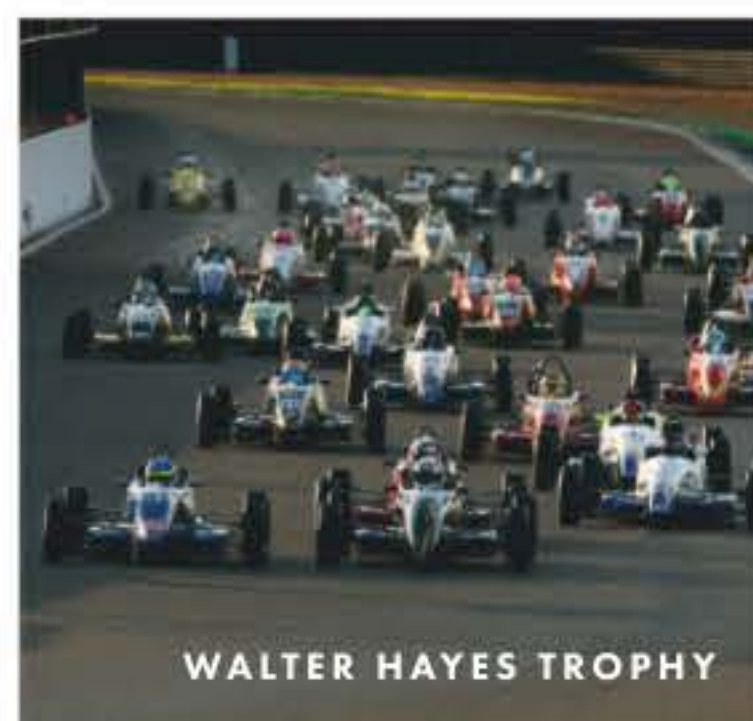
November 3-4

Trucks, Pickups, Legends, Junior Saloons

Mondello Park MPSC

November 4

Fiesta Endurance Race



WALTER HAYES TROPHY



SUTTON IMAGES

FROM THE ARCHIVE

Bruce McLaren, Graham Hill and Jim Clark entertain Silverstone's crowds racing side by side to the line in their Minis (although, strictly speaking, these appear to be Austin

Sevens) ahead of the 1960 British Grand Prix. In the main event, McLaren (Cooper-Climax T53) was the only one to come away with anything to show for his efforts, collecting three points for a fourth-place

finish, a lap behind winner Jack Brabham's similar car, while Hill (BRM P48) spun out of the lead on lap 72 of 77 and Clark (Lotus-Climax 18) was classified 16th and last, hobbled by broken front suspension.



TEST YOUR KNOWLEDGE

QUIZ

WHO, WHAT, WHERE, WHEN?



LAT
motorsport
IMAGES

WHO IS THIS?

This trailblazing prodigy was rewriting the record books when he was cut down in his prime.

After starring on two wheels, he took a Mickey Mouse route into four-wheeled racing, where he became a national hit. Despite his youth, he quickly moved onto the international scene where he crossed a beetle with a spyder to make his mark.

Despite being declared too young to race from dusk 'til dawn at his first request, he was picked up by Il Commendatore and given his big break. Belying his years, he took the fight to the established regulars and did more than enough to get a full-time role.

His programme was limited, but he impressed near the Pyrenees and won the great race around an island.

His blooming flower was tragically cut down, leaving a nation in mourning and for his name to be applied to its greatest track.

ON THIS DAY

1 Five years after his first attempt to qualify, Roberto Moreno made his F1 race debut on this day in 1987. For which team?

2 Which Japanese driver scored his first F1 points on this day in 2009?

3 Today is Toro Rosso FP1 driver Sean Gelael's birthday. Where did the Indonesian score his only GP2 podium?

4 Which track hosted its first Formula 1 grand prix on this day in 1987?

5 It's ex-single-seater battler Christian Murchison's birthday today. Which nation did he represent in A1GP?

NAME THE HELMET



LAST WEEK'S ANSWERS

Who, what, where, when Scott Dixon, Lola-Zytek B05/52, Dubai, December 11 2005. **Who is this?** Denny Hulme.

On this day 1) Clay Regazzoni. 2) Minardi-Lamborghini. 3) Lorenzo Bandini. 4) Connaught and Vanwall. 5) 4th.

Name the helmet Carlos Reutemann.

IN NEXT WEEK'S ISSUE



HAMILTON: A FIVE-TIME CHAMPION TALKS

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VOICES ARE NOW BEING HEARD AND THE DOORS ARE OPENING

As a disabled petrolhead and writer, I am honoured to have been involved in such an enlightening project and feel very proud that Autosport has taken

the lead in focusing on what is now a fast-growing element of motorsport.

Through the incredible stories of people such as Billy Monger and Nathalie McGloin making mainstream news, it's impossible to ignore the achievements and successes of disabled drivers today. But it wasn't always the case, as many racers are limited more by discrimination than their disabilities.

It's a testament to the 'never-give-up' attitude of the disabled community within motorsport, and not just drivers, that their voices are now being heard. Doors that were once firmly shut are being unlocked by those who dare to ask, 'why is it closed?' rather than accept it won't open.

It's a much overused word, but it truly has been inspiring meeting and learning about the pioneering, and dare I say stubborn, people who changed the face of disabled motorsport, and those who continue to do so for future generations.

There are now more than 300 licence holders with disabilities cleared to compete in the UK. That number continues to grow as technological

advances make adaptations better, and barriers are pulled down. Spectating is improving too, with facilities at tracks coming on in leaps and bounds as people's needs are finally being recognised. There's still a lot of room for improvement of course, but the fact that it's even on the agenda now is progress.

Living with a disability myself, it's been interesting to see that the rather dark sense of humour I use as a coping mechanism is present with many, if not all, of the people involved in this supplement. Even some of my heroes, without whom I wouldn't be doing this now. All too often disability is portrayed in a negative light, and yes, it can be hard. But, as you will hopefully see in the following pages, with the right attitude and help it can also be turned into a great positive.

Motorsport has been ever-present in my life and has served as my biggest motivator and inspiration. I'm immensely proud to be championing disability in motorsport and I look forward to the inevitable day when we crown a disabled world champion.



Johanna H

JOHANNA HUSBAND
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AUTOSPORT

ENGINEERING
Mobility Special

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A HISTORY OF DISABLED MOTORSPORT

It's through the pioneering work of club competitors up to the stars of the DTM, IndyCar and Formula 1 that motorsport can focus on ability over disability

BY JOHANNA HUSBAND

A

s a beaming Billy Monger put his BRDC British Formula 3 car on pole at Donington Park back in April, it was hard to believe that barely a year had passed

since an accident at the same circuit had cost him both legs. It's incredible to comprehend not only the 19-year-old's courage but also the technical innovation on his adapted car, giving him the ability to continue showing his talents. It's perhaps even more incredible to realise that only 50 years before, Monger could have been denied any opportunity to race. Not just because of the technology, but, rather shockingly, because many disabled drivers were banned from racing.

Although disabled motorsport is still very much a 'work in progress', we've thankfully come a long way since those dark days of

the 1960s. And it's down to the stubborn determination of some extraordinary people, who simply wouldn't accept no for an answer, that drivers such as Monger and Nathalie McGloin have the opportunity to shine today.

In many ways Scotland's Archie Scott Brown was the first disabled racing hero, overcoming his severe limb deformities to enjoy success on many levels (see page 8). Sadly, he also came up against prejudice and objections, constantly being denied an international racing licence and often disqualified from races after qualifying. In 1958 Scott Brown succumbed to injuries suffered in an accident at Spa, aged just 31. The powers that be attributed his fatal crash to his disability and brought in discriminatory rules that made it all but impossible for disabled drivers to race – in effect a widespread ban.

Despite this turn of events, the growing

number of disabled racers today have much to thank Scott Brown for, as he was a huge inspiration to the person who would go on to change the face of disability motorsport. As a boy, David Butler suffered horrendous injuries after finding an unexploded bomb, losing both legs and his left hand. While Butler was recovering, a great family friend, Frank Goldsworthy, who was a reporter with the *Daily Express*, took him on a trip that would change his life forever.

"Frank came into the ward with a wheelchair and whisked me off to Silverstone where the paper was sponsoring the annual Formula 1 International Trophy meeting," explains Butler. "He also arranged for me to be lifted into an F1 car – you can imagine the thrill. One whiff of burning Castrol R and I was hooked for life, determined to find a way to go racing myself. Competing that day was Archie Scott Brown, whom I obviously learned had severe



MAGIC MOMENTS

FEEL THE NOISE

Caleb McDuff

Deaf Super 1 Cadet karter

From the age of nine months, Caleb McDuff suffered chronic ear infections that never cleared, causing irreversible damage to his hearing. He was successfully fitted with cochlear implants, before he was given a 35cc Bambino kart aged four. Unable to wear his ear processors under his helmet (something Arai is working on), Caleb races in silence. Race starts, in particular, he describes as "disorientating", though his senses are adapting rapidly. Now aged 10, he aims to emulate his Formula 1 heroes.



Nannini (7) enjoyed success with Alfa Romeo in the DTM during the 1990s

limb deformities. It was amazing seeing him drifting the Lister-Jaguar around Woodcote, and although I didn't meet Archie that day, I felt an immediate empathy with him. I now had a new hero and a new goal."

Butler first applied for a racing licence aged just 17, but was repeatedly refused as the rules introduced following Scott Brown's death insisted that a driver had full use of both hands – something he could not comply with: "I steered my road car with a ball bolted to the wheel and a cup which was fixed into the palm of my artificial hand. I never lost contact with the steering wheel and for motorsport I made an especially deep cup so there was never a chance it would jump off the ball, even when I clipped a chicane kerb."

Though he proved time and again that he could safely control the car, with some supporters admitting he was more in control than most 'able-bodied' drivers, his

applications continued to be denied. Given an MSA 'Speed' licence, he was able to take part in non-wheel-to-wheel, time trial-like events, running a Jack Brabham-modified Singer Gazelle in more than 100 autocross, sprints, hillclimbs and rallies. But the desire to gain a full racing licence burned deeper with each refusal.

In 1987, the British Motorsport Association for the Disabled was formed to help drivers with medical conditions and disabilities obtain a racing licence, following the ban on disabled drivers being expanded to rallying. Butler joined the BMSAD in 1991 as chief executive officer and, alongside chairman Tony Reynolds, played an integral role in changing legislation, breaking down three decades of injustice.

Rather than face a legal challenge for discrimination under the Treaty of Rome, the MSA asked Butler to create assessment procedures giving disabled drivers the ►

MAGIC MOMENTS



AGAINST THE ODDS

Alex Tait

Taking on myotonic dystrophy

Alex Tait inherited congenital myotonic dystrophy, a rare and severe form of muscular dystrophy, from his mother. He was diagnosed at the age of 11, shattering his dreams of racing. Then, at a Get Going Live! event at Donington Park for disabled youngsters, he was introduced to autotests. He entered his first event aged 14, and became the youngest winner of the series' scholarship. Despite his condition, he has since raced in various club touring car and hot hatch series, scoring podium finishes. His dream, in spite of the wasting effects on his muscles, is to build a career in endurance racing.

opportunity to prove they were safe in and around the car, and of course to other drivers and marshals. He organised, and took part in, the first assessment session at Silverstone in 1991. Exactly 30 years after first applying, Butler finally received his racing licence aged 47. He's now competed in over 600 events, proud to be the only disabled driver worldwide to have qualified for both an International Race and Rally Licence. But you get the distinct feeling it's his work as BMSAD president that gives him the greatest pride. Especially when he sees how far disabled motorsport has come over the past 20 to 30 years as a direct result of his dogged determination.

Given the discrimination suffered by disabled drivers in the early decades of F1, it's understandable that some did their best to hide any afflictions. One notable example is legendary driver, designer and constructor Bruce McLaren, who had one leg considerably shorter than the other due to contracting Perthes disease as a child. He spent two years in traction at a medical facility and had to learn to walk again, starting high school on crutches. But the New Zealander never let his disability stop him from focusing on following his father into racing, going on to become a fierce competitor and create one of the most successful F1 teams in history.

As time progressed, and rules changed, disability slowly became more visible, if maybe not yet fully accepted. In the late 1980s Alessandro Nannini was Italy's most promising F1 driver, winning the '89 Japanese GP with Benetton. In '90, he impressed by largely matching his teammate, three-time world champion Nelson Piquet, and was already on Ferrari's radar as a replacement for Nigel Mansell. Sadly, his F1 career was brought to a premature end in October that year, when a helicopter

crash left him with a severed right forearm. His arm was reattached using microsurgery, but he only regained partial use. Both Ferrari and Benetton honoured promises of a test drive, but Nannini instead went on to drive successfully for Alfa Romeo in the DTM and ITC championships, using a specially adapted semi-automatic gearshift and wearing a protective 'sleeve' on his damaged arm. The Italian's disability certainly didn't hinder him on track.

There are of course many parallels between Nannini's accident and Polish F1 driver Robert Kubica's. The then-Renault ace had signed a pre-contract to move to Ferrari for 2012, but while competing in the Ronde de Andorra Rally in February 2011 a devastating crash left him with multiple injuries, including a partially severed right arm. That Kubica went on to return to competition in rallying and endurance racing on a world championship level is extraordinary. That he came so close to returning to F1 this year, being a strong contender for a Williams race seat and going on to be reserve driver, is even more so – fully highlighting just how far disabled motorsport has progressed since the 1980s.

It's interesting that Kubica would go on to work with the Williams F1 team after his injury, as for many people its team boss, Sir Frank Williams, represented their main image of disability in motorsport. Having already won the F1 world championship twice with his own team, Williams was left tetraplegic by a car crash early in 1986. Although profoundly disabled, the former runner channelled his competitive spirit and 'never-say-die' attitude into building on his squad's success. As team principal, he went on to win a further five drivers' and seven constructors' titles – an achievement his daughter Claire, now



Butler received his international rally licence at the age of 47, 30 years after first applying



Team boss Frank Williams is the figurehead for disability in motorsport



Robert Kubica came close to a 2018 F1 race seat, despite injuries to his arm

deputy principal of the team, speaks about with great pride.

"Frank is such an icon in F1 and I'm very fortunate to have grown up in the family I did," she says. "I've always been incredibly proud of my dad, not only for his achievements in motorsport, but what he's been able to achieve from a wheelchair. I don't think people quite understand what an impact disability can have on your life. The very fact he gets up every day, and does what he does, despite his level of injury, is amazing. But winning 12 world championships since being injured is quite extraordinary. His success is a credit to his perseverance and belief that being in a wheelchair is no hurdle to what people can achieve, and has been a big inspiration to many people, including me. But for him being in a wheelchair has always been secondary. It doesn't matter – what matters is going racing."

Frank Williams became a familiar, even iconic, sight in the team garage. His steely, determined gaze belied his disability and reliance on others for even the simplest of tasks. His presence has been a catalyst for much-needed change over the years, but there is still much work to do, as Claire Williams, who is vice-president of the Spinal Injuries Association, explains.

"I think when my dad had his accident the world was a very different place, not necessarily catered towards people in wheelchairs, and certainly not to the extent it is today," she says. "Most businesses and venues are better equipped now, and certainly at our HQ and motorhome we've made adaptations for wheelchair users."

"The paddock is a pretty accommodating place, and that has been inspired by Frank, but there's so much more people can do to make life easier. We do need to do more. Venues need to do more. Williams provides

MAGIC MOMENTS

ENDURANCE HERO

Frederic Sausset

Quadruple amputee with no limits

If Frederic Sausset's story was a film script, far-fetched would not begin to describe it. In July 2012, the Frenchman was struck by a bacterial toxin that led to narcotic sepsis and the amputation of both arms and both legs. Three months into his 10-month hospital stay, he decided he wanted to compete in the Le Mans 24 Hours. Encouraged by former F3000 racer Christophe Tinseau, his dream became a reality in 2016, with the Garage 56 'technical innovation' entry. His dream is not finished yet: plans for a Le Mans 2020 shot with three disabled drivers have already been accepted by the ACO.



a workplace environment that is flexible to people's physical needs. Two years ago, we started a work-experience programme and have employed truly inspirational people through that scheme. Growing up with dad has taught me to look beyond the wheelchair and provide whatever tools people need to enable them to succeed."

The impact Frank Williams has had on motorsport expands well beyond F1, quite a legacy for one of the world's longest-surviving tetraplegics. In early 2000, IndyCar race winner Sam Schmidt was taking part in off-season testing at Walt Disney World Speedway in Orlando. Losing control on the oval, he endured a massive rearward hit into the wall, sustaining a C3-4 fracture and severe spinal-cord injury that left him on a respirator for five months. When Schmidt left hospital and began coming to terms with life as a quadriplegic, he decided he needed a new passion to focus on. Just 14 months after his accident, and inspired by a meeting with Williams, the Nebraska native created what is now known as Schmidt Peterson Motorsports. Despite it taking him two hours just to get up each day, Schmidt has steered teams to success in Indy Lights, IndyCar race wins and pole position at the Indianapolis 500.

The inspirational wheelchair user is a much loved and respected part of American open-wheel racing and, through his Conquer Paralysis Now foundation, has helped countless people with spinal-cord injuries. Though unable to move from the neck down, with determination and technology he was heavily involved in developing, the 52-year-old has been granted a road licence – the first of its kind – that allows him to drive a semi-autonomous vehicle. Proving that the attitude of 'no fear' never really leaves, Schmidt wasn't satisfied with merely 'driving', and has since raced Mario ►

Andretti at Indianapolis Motor Speedway and completed the Pikes Peak hillclimb – all just by using sensors on his head for steering and a mouth tube to control his speed. He's an exceptional human being who is opening doors for disabled people worldwide, not just in racing.

It's impossible to talk about disabled motorsport, or exceptional people, without a certain name appearing. Alex Zanardi needs little introduction, but his role in the progress and visibility of disabled athletes can't be overstated. Although he never quite fulfilled his potential in F1, the Italian had become a racing icon for his spectacular Indycar race wins and championship titles with Chip Ganassi Racing in the late 1990s. Returning to the series in 2001 with Mo Nunn's team, Zanardi was once again evoking memories of those glory days by leading the American Memorial race at the Lausitzring. The freak accident that followed, causing traumatic amputation of both his legs and massive blood loss, left everyone just hoping he would survive, let alone walk or drive again. That he was walking with prosthetics so quickly and returned to Lausitz in '03 to complete the laps he'd missed after his accident is testament to the double Paralympic champion's astonishing strength of character and spirit.

Zanardi was always determined to return to racing as soon as possible, never seeing his disability as a major problem – calling

his missing legs a 'technical issue'. But to his surprise, he had to overcome much more than the physical hurdles, becoming a trailblazer for drivers who have followed in his tracks. "When I applied for my licence I wasn't expecting to have any problems, just to go through the normal physical tests, heart and brain etc, which I was sure I would pass," he says. "Instead I found myself in front of a commission of several doctors who were very sceptical about my ability and seemed to be searching for a reason to say, 'No, Alex we can't let you drive,'" laughs the Italian.

"It was certainly more difficult than it is today. I was one of the first, kind of a pioneer from this point of view. These days, now that we've fought and banished a lot of ignorance, people almost expect that a disabled person can drive. Obviously, it still takes a lot of technicians to adapt the controls, and a lot of money too, but people are more inclined to believe it's possible."

The possibilities Zanardi speaks of have opened doors for many disabled racing drivers since, but it's not just behind the wheel that the progress has been felt. From mechanics and crew chiefs to marshals and photographers, the boundaries have been broken down across motorsport over the past 20 years. Indeed, throughout the following pages you will see images taken by Gary Hawkins, who lost a leg while covering a race. He perfectly summed up

RAISING THE PROFILE

Bootie Barker
Paralysed NASCAR crew chief

Having been paralysed from the waist down in a road accident while at high school in the US, Bootie Barker was already in a wheelchair when he began studying mechanical engineering. He quickly rose through the NASCAR Cup ranks to become crew chief at teams run by Gene Haas and Joe Gibbs, working with drivers including Casey Mears, Max Papis and last year Ty Dillon. Barker, already prominent because of his wheelchair, added to his profile by becoming a regular fixture as a pundit on US TV. He also writes weekly columns and is still with Joe Gibbs Racing's ARCA team today.



ARCHIE SCOTT BROWN

William Archibald Scott Brown wasn't a great driver despite his physical problems – he was simply a great driver.

His mother, Jeanette Watson, contracted German measles during pregnancy and the result was significant underdevelopment of three limbs: Scott Brown, born in 1927, had no proper right forearm, with just a thumb and palm below the elbow. His parents decided on surgery; his legs were straightened by being broken and reset, and he had extensive operations on his feet, which included bringing out some 'internal' toes. The young Scott Brown went through more than 20 operations and was finally able to walk by the age of six.

Father Bill taught him how to drive and built him a special car for his 11th birthday. Scott Brown also took part in many sports, building up the strength on the left side of his body.

Scott Brown joined the Eastern

Counties Car Club and drove his own MG TD on his racing debut, but perhaps more significant was his move to Cambridge, where he met Brian Lister and Don Moore.

Lister developed and raced a Tojeiro-JAP, in which Scott Brown immediately proved successful when he drove it in 1952. The trio thus joined forces to go sportscar racing. Lister, working out of his family's engineering company, would build the chassis, Moore supplied the engines and Scott Brown – not technically minded – was the driver.

The combination proved formidable, but Scott Brown had trouble competing at certain events on 'medical grounds'. Other drivers intervened and sometimes got him into the race, but there was no success at the 1956 Italian Grand Prix, where he was prevented from driving after taking part in practice.

Fortunately, he still racked up an impressive CV in Britain and did start the 1956 British GP. The following season was arguably his best. Scott Brown and the Lister-Jaguar became the dominant force on the UK sportscar scene, scoring victories

against works opposition.

He was challenged in 1958 by Masten Gregory and Ecurie Ecosse's Lister-Jaguar, and it was while battling with his rival at Spa that his story came to an end. At the high-speed kink between Blanchimont and La Source, Scott Brown slid onto the verge and struck a road sign. The car then rolled and caught fire. Scott Brown was rescued and remained conscious, but would soon succumb to his injuries.

"He was extremely good and his car control was phenomenal," says commentator Ian Titchmarsh, who saw Scott Brown race several times. "He was certainly a match, if not for Stirling Moss, for pretty much everyone else. He had the speed, but never really had the chance because he rarely raced abroad. In those days there perhaps wasn't the understanding that those with disabilities could be so capable."

KEVIN TURNER



the widespread attitude of disabled people working in motorsport by stating that, despite the frustration the many rules and bureaucracy can create, it's still a "great privilege to be there and we're lucky to be doing what we do".

As the number of disabled drivers competing has increased, limitations that once seemed insurmountable are being overcome. Advances in technology play a huge role in turning the seemingly impossible into the possible. Nobody perhaps epitomises this more than Frederic Sausset, who became the first quadruple amputee to contest the Le Mans 24 Hours in 2016 with the help of a team of technical innovators.

"Being in motorsport can only be fuelled by passion," says the French driver. "Competing at Le Mans was not easy, especially as I had no prior experience in competition before 2015 and there was obviously a big challenge related to my condition. We overcame these obstacles by training hard and developing appropriate technology for our car. There were never any issues with acquiring a licence so long as I showed I could operate safely; I had to perform like a 'valid' driver. Racing at Le Mans was an incredible dream come true and hopefully paved the way for other disabled drivers."

That really encapsulates the journey of disabled motorsport. Each of the drivers



Zanardi drove a modified Indycar to complete the 'missing' laps at Lausitz

LAWRENCE/LAT

motorsport
IMAGES

mentioned, and many others, have in their own way been instrumental in paving the way from those dark days of discriminatory rules. As Butler steps down from the MSA Medical Advisory Committee, he must surely feel immensely proud seeing the growing number of disabled racers continuing to push the boundaries of possibility. And with talented ambassadors such as Monger and McGloin, through to 10-year-old deaf karting star Caleb McDuff, the future finally seems to be more focused on ability over disability. ■

MAGIC MOMENTS



Scott Brown's Lister-Jaguar leads the Aston Martin DBR2 of Stirling Moss at Oulton Park

"HE BECAME THE DOMINANT FORCE ON THE BRITISH SPORTSCAR SCENE"

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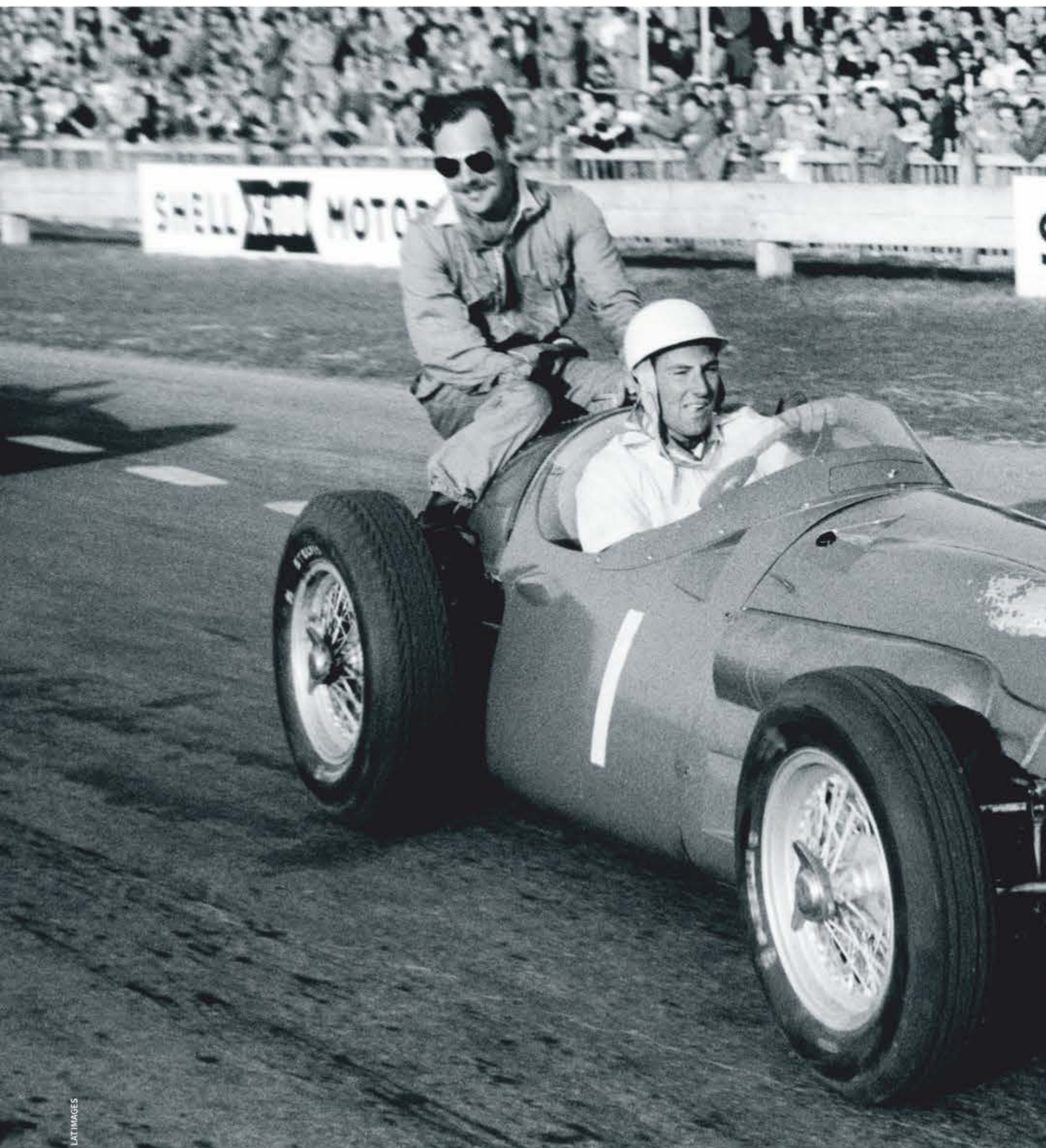
BRUNO DIAS

TIN-TOP CHAMPION

Jason Watt

Raising funds and awareness

Jason Watt seemed destined for Formula 1, having been runner-up in the 1999 F3000 championship. But that winter he was left paralysed from the chest down after a motorcycle accident in his native Denmark. What followed was, in his words, a "speedy recovery", and a return to racing to become the 2002 Danish Touring Car champion. Since then he has been a big support for others with disabilities as manager for Team Wounded Racing to help injured war veterans. Earlier this year he took delivery of a Ford GT – the first in Europe – and had it adapted for hand controls (and roof rack!) to run passenger rides and raise funds for the Danish Children's Cancer Foundation.



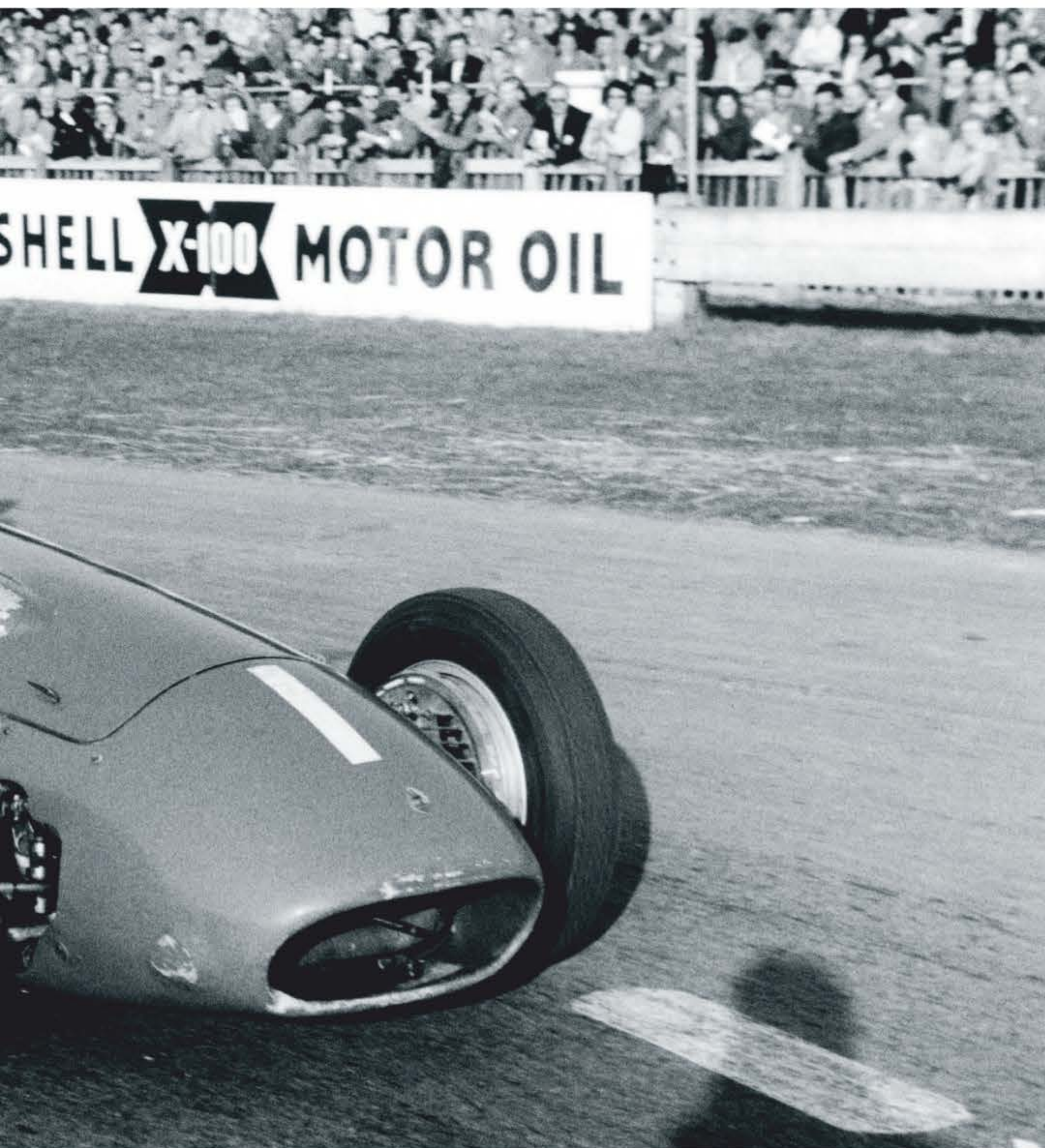
LATIMAGES

Stirling Moss, in his trusty Maserati 250F, gives Archie Scott Brown a lift back to the pits after winning the 32-lap Glover Trophy thrash at Goodwood on April 2 1956. Scott Brown was born severely disabled as a

result of his mother contracting German measles during pregnancy. Some rivals jibbed against being beaten by a man with one hand and his competition licence was revoked; Autosport founding editor Gregor

Grant was among those who supported his appeal. At Goodwood in '56, Scott Brown led the away, ahead of Moss and Mike Hawthorn (BRM) until his Connaught failed him at half distance.

FROM THE ARCHIVE



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DRIVING CHANGE NATHALIE McGLOIN

MAKING PROGRESS

The UK's first female tetraplegic licence-holder reflects on the first year as president of the FIA Disability and Accessibility Commission



I was appointed to this role a year ago with the overarching aim of making motorsport a more inclusive place for disabled competitors, officials and spectators – how time flies! I am delighted by the massive leap forward we've made in the short space of time and I am positive that we're going in the right direction.

My appointment came as a total surprise; I wasn't aware that I was seen as a role model or anything like that. I had never followed motorsport before I started doing trackdays and I've got the worst general knowledge of motorsport history of anyone you could ever speak to, but I think other people within the FIA had been planning it for a year or so.

The Commission has had excellent support from the word go, which has made things a lot easier. People ask me, 'Who is bringing about the change?', but the reality is we're all working together. Jean Todt at the FIA and new MSA chairman David Richards are two very important figureheads in motorsport who have been very proactive, but the most encouraging thing is that they haven't just rolled over and said, 'Let's go with everything.'

They have really considered the ideas we put forward and asked questions: 'why do you think these changes are needed?' and 'why should we do it this way?' They're not going into it blindly because they are worried about discriminating – they've got the balance right between being inclusive and ensuring safety.

Non-disabled people who work with disabled people can be wary of saying the 'wrong' things, but the most important thing is to be open in discussions. I am trying to discourage treading on eggshells around these subjects.

The Commission is global in its scope and has both disabled and able-bodied members. We had three chief aims when we started, which are well under way. These were to create a Global Disabled Licensing Process, introduce a Back to Racing programme and formulate a document on approved adaptations for competition vehicles.

From my own experience of getting my racing licence and subsequent conversations with other disabled drivers around the globe who only got one through sheer persistence, I was keen to get the process standardised. It will also be helpful for when disabled drivers go to race in other countries, because the organisers will know exactly how they achieved their licence.

Back to Racing is to provide support for people with life-changing injuries in

the third-place trophy to Kimi Raikkonen at the British Grand Prix from people asking about which grands prix are accessible for them to visit globally and what the access requirements are. We are planning to create an information page to show if a circuit has been accredited with disability and accessibility access and exactly what it has had to do to meet that requirement, so they know what will be available for them.

I still have several things I want to accomplish in my own racing too. I'm no different from any other racer in that I have many more ambitions than my financial status can accommodate, but I would like to become the first female with a spinal-cord injury to be granted a rally licence in the UK and I want to do some endurance racing.

If I go out to do something, I want to be

"The most important thing is to be open in discussions and not tread on eggshells"

whatever way they need, from ensuring the national sporting authorities have the right information to assess whether the person is safe to compete, to putting them in touch with people who have been in a similar situation.

Homologating hand controls will pose problems for individuals who fall outside certain categories, but we're looking to create a database of information not only for championships and scrutineers, but also for people starting out in motorsport who don't have a clue about what might be competitive or suitable for their disability.

We want to take this beyond competitors by improving the level of accessibility at circuits for spectators and officials. I had an incredible response after presenting

the best at it. I do what I do because I love it – there's no ulterior motive. I enjoy racing and I enjoy trying to get other people to do this, so it's not a chore for me and I would like to stay in the role for as long as I can.

I'm also really passionate about speaking to our young disabled generation, who have never even considered motorsport and who perhaps have been told in school that sports day is not for them. I want to show them that they can compete in motorsport alongside able-bodied people, get them into karting and change people's perception of what a racing driver is. If we can get more of these people involved, then that's going to be something to be proud of.

The next Lewis Hamilton could be disabled – we just don't know. ■

THE A TO Z OF A HERO'S DTM CAMEO

Alex Zanardi's guest outing for BMW at Misano was about much more than his drive to an emotional fifth position. It represented a big step in technology for disabled racers

BY MARCUS SIMMONS

A

lex Zanardi never won at Misano in his Italian Formula 3 days, but this would surely be a nice, simple, back-to-his-roots venue on which to compete in a one-off

DTM event for BMW. Or so thought the manufacturer's sports chief Jens Marquardt. Not so. You see, not only has the layout been changed since the 51-year-old (who has since turned 52) Indycar champion, Paralympic gold medallist and all-round sporting hero battled his way around there in the late 1980s and early '90s, it has also switched from anti-clockwise to clockwise...

"When Jens called, one of the first things he said was, 'This will all happen on a friendly, familiar circuit for you, because I know that you know Misano very well,'" laughs Zanardi. "And I said, 'Yeah, I've raced there a thousand times, but they changed it'. So that wasn't a point in our favour – but better going to Misano than doing a race on the Nurburgring Nordschleife, for example!"

The plan had been hatched at Easter. Zanardi, who lost his legs in that shocking Indycar crash at Lausitzring in 2001, has a long association with BMW dating back to his international racing comeback in the World Touring Car Championship, in which he notched up four wins during the 2000s for the Munich firm. More recently, he has taken part in GT3 competition – including

the Spa 24 Hours – with the BMW Z4.

"I thought Jens was just calling up to give me his wishes," continues Zanardi, "because he's normally very kind. But he had a proposal. And because I'm a race car driver, to ask me whether I want to drive a car is like asking a cat if he likes a mouse. My first reaction was like, 'Wow, are you sure?' We had been talking several times about the Daytona 24 Hours in 2019, which had already been announced, and so when he just dropped DTM into the conversation I wasn't sure that I'd understood correctly. DTM is a championship in which you

"To ask me whether I want to drive a car is like asking a cat if he likes a mouse"

don't have any 'old glories', or let's say gentleman drivers like you normally find in GT racing. We're talking about DTM: it's only professional race drivers.

"It was going to be tough, I knew, but Jens said, 'No Alex, we have total confidence that you can get the job done. This will be an opportunity for us to go a little further in what we're doing, developing the new set of instruments that will hopefully allow you to drive the car better. If we can achieve this, then I have no doubts that you won't look like an idiot. You will do your job.'"

Even with a pedigree such as his, that was a real risk for Zanardi. There is no championship anywhere in the world outside Formula 1 with a better field of drivers than DTM. How would a driver with his disabilities, just a bit-part racer in recent years, cope with the challenge? The BMW crew set to work.

"Over the distance of a single lap, I think I was pretty close to being given the opportunity to deliver my talent to the best of my abilities," says Zanardi of his old method of using his prosthetic legs to operate the pedals, "but it was very tiring

for me to have to stay in the car for longer than a lap. This is down to the fact that your limbs are completely trapped into a couple of sockets, which does not allow the transpiration and temperature exchange, so my body temperature keeps rising and rising to the point where it becomes very hard for me to stay in the car.

"Driving the BMW 320 in WTCC, that car did not even have a sequential gearbox – just an H-pattern. So of course, approaching the turns I had to use my right hand to downshift onto the gearstick. That's why



TRIENITZ/LAT
motorsport
 IMAGES

it was really necessary for me to use my leg, because I could not do everything with my hands – it was too much. But with these modern cars, you have a semi-automatic gearbox, so it's very easy to just put a button or trigger somewhere to control the downshifting action. It was the end of 2015, with one of the engineers Sebastian Meyer, who works in Munich. I said, 'Sebastian, I need to step into the car without my legs'. That's why I immediately suggested the BMW M6 or M8 – at the time I didn't even think about the DTM car. I said it should be quite easy to design a brake lever, and put a trigger behind it to downshift. Whether I'm going to be able to brake efficiently, or too much because pressure is needed to slow the car down, is a question mark.

"So they went home and designed the bits. There was no need to do it for 2016 because I was engaged with the Paralympic games, and the project was placed on hold a little bit. But then in 2017 we picked it up again, we went to test the parts in an M6, and from the very first test I realised the choice was right. Immediately I was able to stay in the car much longer than I imagined. I completed 700km in one day, which is not just remarkable, it's beyond expectations."

Now it was a question of getting Zanardi comfortably into the M4 DTM, a task that was led by BMW DTM chassis chief Gordan von Schoning. "We were very happy when Jens asked us to help him implement Alex ►



Zanardi's upper-body strength is such that there's no need to use his artificial legs in the car

BMW

in the car,” says von Schoning. “We started with making a bespoke seat because this is very important. From then on we started to find a position where he could reach everything easily.

“Alex came here to our facility and we made an imprint of his butt and his body and his back. The main target is that he had almost no clearance. Normally you try to fix the driver in the car, no movement, and this is what we did here. Alex came to us and he was already spreading his good ‘atmosphere’, his funny mood, and everybody loved him and it was easy to convince other people to work with him, even if it was beside our normal workload.

“At first we were thinking about the main topic: can he still use his artificial legs for anything? And he said, ‘No I don’t really need them; I have the power in my arms and in my upper body’. And this brought us to a situation where we said, ‘OK, we need to find a way in which he can brake and implement the pedal box into his arms’.

“When we designed the parts, we

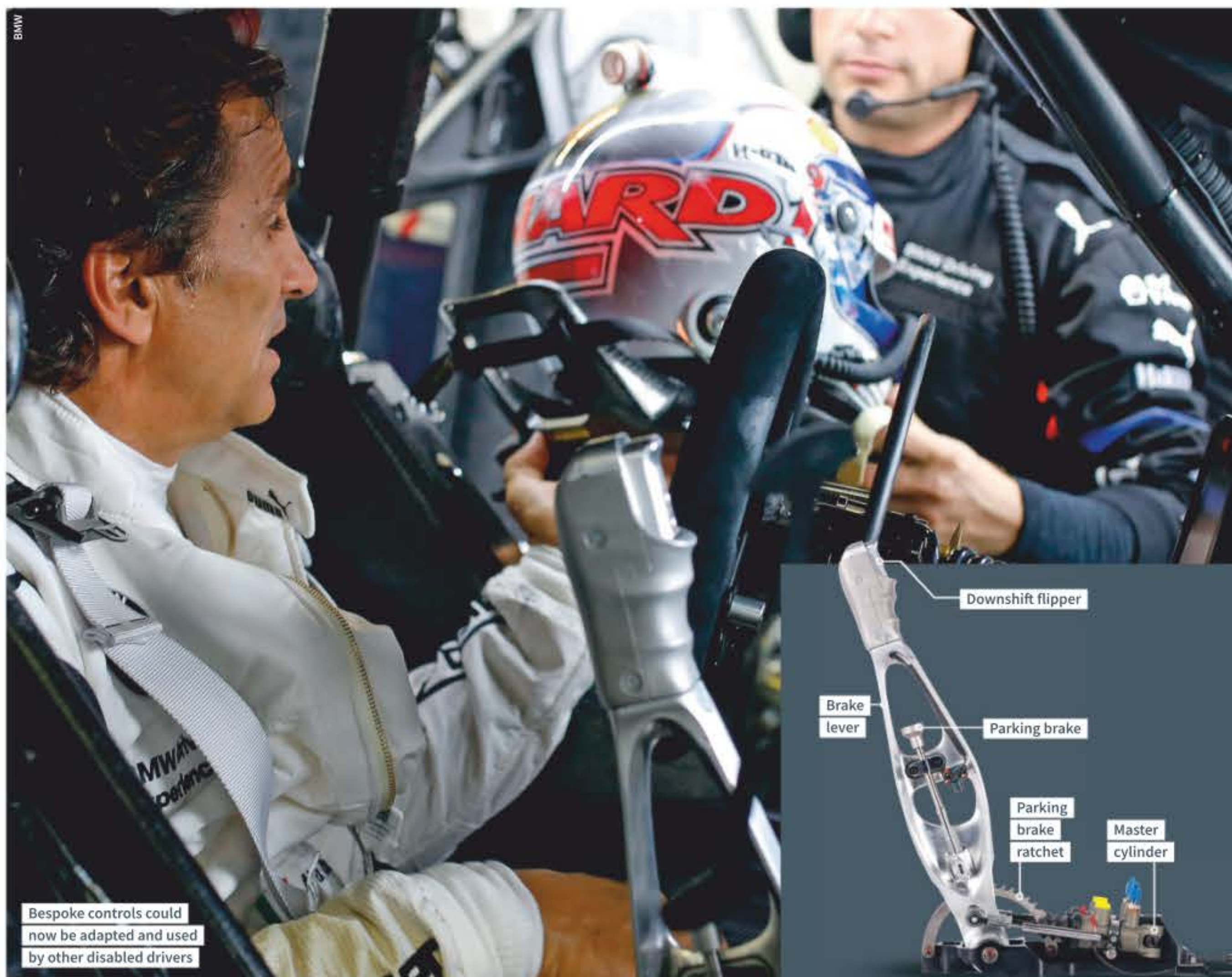
figured out that he was really strong in his upper body and his arms, but we really had to make sure that he could use the normal DTM brake system because we didn’t want to change that. We made a measurement of how much pressure he can put on the brake system, and how long should be the lever, and all these kind of things. At that time we already knew that he had to do a race, and you have to keep the power for one hour. So worst case: if it’s too much power in his arms, you have no brakes at the end of the race.

“He was extremely strong – it was almost 70kg [of pressure], which was easy for him. Maximum power was 120kg [with both hands]. I also tried it and I could hardly reach 90kg! He said, ‘I feel comfortable with 70kg’, and then we said, ‘OK that’s a good thing’, otherwise we had to make a huge lever and he would have to shift it a long way. From then on we designed the lever using topological optimisation – the best mixture of materials for his maximum strength.

“We made an imprint of a wax model of

his hand. We asked him to grab a stick out of wax and we blueprinted his hand in this stick, and skimmed the stick and dropped this into the cast again, so the lever itself had the imprint of Alex’s hand – just to reduce the force on his hand.”

These systems were fitted into a BMW test car – a factory warhorse with a monocoque dating back to 2013 – that would be Zanardi’s Misano weapon. “But that doesn’t mean it’s not good,” points out von Schoning. “The car was in good shape, with proper lifing of the parts.” Zanardi would be run under the banner of BMW Team RMR, the ‘fictional’ squad – mainly for the purposes of scoring points in the teams’ championship – that supposedly fields Timo Glock and Philipp Eng, although their cars are actually operated by RMG and RBM respectively. Zanardi’s car would be put on track by MTEK, which runs the manufacturer’s World Endurance Championship programme with the M8 GTE that he will race at Daytona in January. The mechanics were a mixture



of RMG and RBM personnel.

Training-wise, Zanardi asserts that "I didn't do anything extra to prepare specifically", thanks to his main sporting activity: handbike racing. "Bear in mind, training for me is a daily exercise," he says. "With my handcycle you can basically train every single muscle of your body. It's a unique instrument, which should really be the perfect instrument for a race car driver. Then on top I swim a lot, I do cross-country skiing in the winter. For the level of fitness that can be reached at 51 years of age, I'm not far from the best I can do."

Before the race weekend at Misano, BMW took Zanardi a little further south to Vallelunga to get some testing in and try out the new systems. "A DTM machine is pretty demanding from a physical point of view, but I was basically able to wear the car out," says Zanardi. "I did a couple of days, covering 1200km – and I would never have been able to do that with the old set of equipment."

Was he fast enough though? "We still



Wily Zanardi's racing smarts ensured he made right tyre call in the rain



Zanardi "wore the car out" during two-day, 1200km Vallelunga test



BMW's Jens Marquardt pitched DTM idea to a taken-aback Zanardi

"Alex came to us and was already spreading his good 'atmosphere'. Everybody loved him"

couldn't really figure out his performance," says von Schoning. "We had tested before at Vallelunga with the same car, but that test was very short and we had some problems with rain. That was a bit of a problem. He was happy with the car, but we still didn't really know if he had the pace or the possibility to be competitive."

Zanardi recalls a time when the inverse happened, when his old mate Vincenzo Sospiri joined Dan Gurney's Eagle team for some late-season Indycar races in 1998, the year of Zanardi's second title. "I felt as

prepared for Misano as you can be, without considering my disability, my age, my lack of specific experience," says Zanardi. "I've been in the opposite situation. Vincenzo was an excellent driver. We had dinner together, and he thought he could take the opportunity to boost his career into a new direction. I didn't want to tell him, but I feared that for him to come to a championship towards the end of the year, with everybody up to speed and so specialised in what they are doing, would be an obstacle too big for him to overcome."

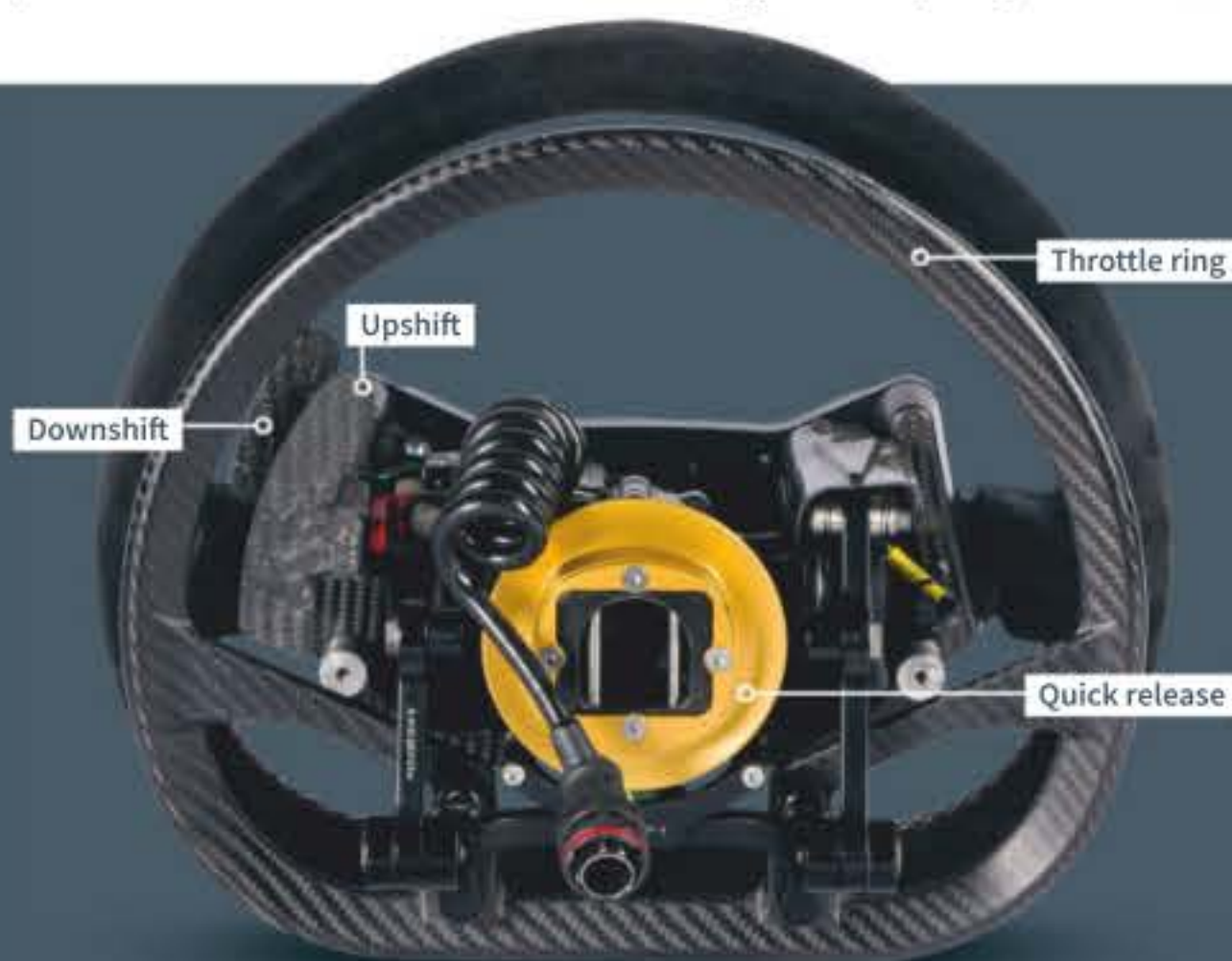
"The day after qualifying at Surfers Paradise, where I was over four seconds faster than him, he looked at me like he'd seen a ghost. 'How the hell do you go this fast?' There was no magic, other than knowing exactly what to do with that machine, with 1000bhp on the track, negotiating the car around tight walls and a difficult circuit. As good as I was, he had no specific experience and he

was completely lost in that field.

"That was the thing I was fearing the most. I hadn't been in a race in nearly two years, I didn't know anything about DTM, and I was a little bit prepared for a nightmare for those reasons. Not to mention my disability, my age, and I have to say the weather on top didn't help... Every single session we had different conditions, which for me was a big obstacle."

Ah yes, the weather. It was said that part of the lure of Misano, and night-time racing, for the DTM was the attraction of nearby Rimini, a very popular resort with German holidaymakers. (A bit like a BTCC race in Benidorm – how about it, Alan Gow?!) But that was counting without an uncharacteristic burst of late-August Adriatic rain.

"When you know everything and you have a new weather condition, it's quite easy to switch strategy and adapt, if you're one ►



with the car you're driving," explains Zanardi. "But I was everything but at one with my car. I was a passenger most of the time, and with everybody coming in my mirrors very rapidly it was a bit of a nightmare."

Zanardi finished at the back of the field in Saturday's wet-dry race, but then came a breakthrough in free practice on Sunday, when the weather finally improved. Amazingly, he was fifth quickest – and faster than all six of the regular BMW drivers. OK, he finished fifth that night in the race, which began in streaming wet conditions, dried out a bit, and then finished amid further rain. But that was down to circumstances. It was the free practice performance that really impressed.

"For me that was the highlight of the weekend," he says, "because I have to admit the race result came with a little bit of luck. Frankly, I was surprised to be the fastest of the BMWs – I know how competitive these drivers are. Don't get me wrong, I know I'm a good driver, I know I've been good enough to win races at nearly every level, but it was kind of unexpected to be able to compete that well with that type of machine."

He then explains that, bearing in mind his background in high-downforce single-seaters, he never felt truly comfortable in the old WTCC or GT3 machinery. Pure-bred racing machinery such as DTM is much



"I could extract joy out of every corner, every lap; pure pleasure from driving the car"

Back-of-the-field finish in first race was followed by stunning fifth in next day's free practice



more his thing... "I had to torture myself a little bit driving a GT, even worse a touring car. You're driving a machine which is quite similar to an old car, which in some ways is easier to drive, but for me it isn't. I'd been driving single-seaters all my life, cars with a lot of downforce. I've learned that technique to take advantage of the downforce, when very often you have to roll the car into the corner and take as much speed as possible.

"That extra aerodynamic pressure on the back of your car produces more grip. When you try to drive a GT car in that way, you're just wasting time because the car simply

won't do that – she doesn't know how to. Going back into a DTM car, which handles very similar to a Formula 2 car I would say, wow – it was like going back to my usual office. Right from Vallelunga, I could extract joy out of every corner, every lap; pure pleasure from driving the car. I didn't have to force myself to be fast in that machine – it was very natural."

There was also a bit of good old Zanardi canniness – a throwback to his days as a two-time Indycar champion, where the driver influences strategy as much as the team. Recall that BMW rookie Joel Eriksson

won that Sunday-night race: he was the only driver to start on slick tyres, so when it began to dry out he stayed out on track. Then, when it rained again, he was able to dive pitwards and make his mandatory stop onto grooved wet-weather Hankooks. Zanardi was one of just four who stayed out on their wets, and simply had more wets fitted when it rained again. The others all went wets-slicks-wets, got lapped in the process, and then got well and truly hammered by an ill-timed safety car. That was why Zanardi took a comfortable fifth place – that, and his intuition.



Zanardi's enthusiasm was infectious among makeshift BMW crew

"I was supposed to stop [for slicks], and I radioed the team that I was going in," he recalls. "There is a big floodlight on the outside of Turn 14 and I could see a huge kind of fog around the lamp, and I could see it was raining down there. It was enough to stay out another lap, so I radioed again and said, 'I'm staying out', and that was it."

"That was my call – it saved us an extra pitstop, which would have killed my race. I knew that I had finished well, although I didn't know the exact position because of all the chaos on the final lap. In reality, I was talking with a little bit of irony [when he expressed shock over the radio about his result]!"

Watching the on-track action at Misano was Billy Monger, the BRDC British Formula 3 frontrunner who has raced with prosthetic legs this year after sustaining terrible injuries in April 2017. "He came and met me while I was preparing for the World Paralympic championships,"

says Zanardi. "We had a whole day there and we had the time to hang around together and talk. I'm very impressed by his maturity, his determination – not so much to overcome what happened to him, because that in my view is already behind him, but more in trying to take advantage of all that happened to boost his career."

"He has better instruments than I do, because he has one knee. It makes a big difference, but it's like a metaphorical team relay: I believe every disabled person who tries to do things is basically changing people's perceptions and proving once more that we are all limited somehow. We all are – it's just more evident when you've lost a part of your body."

"With our intelligence we've been able to fly, to think well beyond the imaginable. One of the people who has been able to reach furthest into the universe is Stephen Hawking, a guy who had nothing other than his sight. With his mind, he was able to

overcome his disability and discover stuff, and the whole of mankind owes him a great deal of gratitude. I think the perfect life is not a collection of amazing results, but a collection of amazing attempts. This is what you have to do: sit down and work out a plan; get off your butt and do what you can. This is the type of guy Billy Monger is."

And also the type of guy Alex Zanardi is. Thanks to his recent exploits culminating in the DTM, BMW has come up with a system whereby "with these new set-up solutions, anybody with good hands and arms can step into my car and drive it. We've been able to develop a set of instruments which could be a fantastic starting point for a disabled driver, or even an able-bodied driver with just their hands."

And perform well. A genius as he was, Professor Hawking likely wouldn't have been able to steer a DTM car around Misano at Zanardi's rate – either clockwise, or anti-clockwise. ■

AN UNSHAKEABLE DESIRE TO REMAIN

Photographer Gary Hawkins and marshal Steve Tarrant were both injured while working in the sport they loved. Rather than turn their back on racing, they've worked to improve it for all

BY ANDY HALLBERY



JAMES MANN/GARY HAWKINS

If you've been at club races in the UK – and especially Goodwood events – over recent decades, it's likely that at some point you'll have crossed paths

with two dedicated guys just getting on with their work with a passion that hasn't dimmed over time. You'll also have noticed that both – one a marshal, the other a photographer – go about their days, in their own words, “in spite of disability”.

Both suffered life-changing injuries at events in their lines of work, and both took a while to recuperate as much as medically possible. Gary Hawkins, an Autosport photographer since the late 1980s, lost his leg in a freak racing accident working at Silverstone in October '90, but has been able to continue in his work and is still a regular contributor to this magazine's pages.

Steve Tarrant was a finish-line marshal at Goodwood's Festival of Speed in 2000, when he was badly hurt in an incident that claimed the lives of driver John Dawson-Damer and fellow marshal Andy Carpenter. After receiving CPR and being blue-lighted by ambulance to hospital, he not only lost part of his leg but still endures the consequences of serious internal injuries. He made 2017 his final year as a marshal, bowing out at the Goodwood Revival 17 years after almost losing his life.

Both, obviously, have had to adapt their day-to-day existence over the years, but at no point did either consider racing events not being a major part of their lives. Both threw everything at never giving up on life, nor their love of racing. There was never a time for bitterness or resentment, as Tarrant explains: “What happened in my case was an accident, and I'm sure Gary feels the same about his. You were doing a job; you knew where you were, and you knew what you were doing. For me it was just a case of trying to reclaim what I had before the accident, and work with it



Hawkins' car is vital for maintaining mobility around circuits

JACKIE SKELTON/GARY HAWKINS PHOTOGRAPHY

afterwards. If I'd had any resentment, I wouldn't have gone on to have done what I did for the next 15-plus years. It was an accident, pure and simple, not deliberate, not intentional.”

Through this, Hawkins nods and then adds his own take: “I wouldn't have gone down the route of feeling resentment towards anyone, or anything like that, because that's not why I'm here. I was just happy to be around. I never really looked at it that I wasn't going to come back. I just looked at it as, ‘Well, you've got to find a way back...’”

The biggest obstacle, as anyone who goes to race tracks around the world knows, is that they're not the easiest places to get around, even for those not suffering medical issues. Hawkins has to grapple with that and his awkward camera gear, as well as taking on terrain that isn't always user-friendly.

“I rely as much as possible on using my car to get from A to B,” says Hawkins, who has a prosthetic leg and walks with a stick. “The car enables me to get to as many angles as possible without killing myself. Distance is the biggest issue, with carrying heavy camera gear and getting tired with my leg.”

Some circuits are easier than others to get on with, they both agree. “Steve and I were talking about this,” adds Hawkins. “It's really difficult to say what is perhaps a difficult circuit to work, because they've all got issues. For me, it can be purely from climbing down banks or getting through fences, just enabling myself to get around fast enough when a race is on.”

Tarrant, as a marshal, mostly has had one location to get to, and that would largely be it for the whole day. It seems simple enough, but presents its own problems, although the fact that the example he uses is Le Mans shows the lengths he went to just to continue in the sport. “You are basically either parked on grass, or you're parked on asphalt and you work on asphalt,” says Tarrant. “So the only difference is distances. At Le Mans, the actual campsite where I was staying [he camps in his own specially adapted motorhome] to where I was working in the pitlane was about a mile. That's where I was lucky that I had the mobility scooter as well as my wheelchair. I could carry one aboard the other to do the long distance and then transfer to my wheelchair to actually then do my role. A lot of the race circuits I can actually park quite close to wherever I'm going to be working, so there's limited ‘rolling’, if you like, to my position.”

Both Tarrant and Hawkins agree that none of the UK circuits today are perfect, but some are better than others. “Photographically, they've got different aspects of being difficult,” says Hawkins. “Getting the right pictures is one thing, getting around with a disability is always going to be difficult because you've got hills and fences etc. I wouldn't like to say any one circuit is more difficult than another. They're all difficult – it's just what you make of it.”

That's not to say the circuits aren't accommodating too. Hawkins smiles with a memory: “When Brands Hatch and MSVR first had DTM at the circuit in 2006, some of the track was revised, including extending the runoff at Druids with new debris fencing for crowd safety. I'd seen ▶



Tarrant on duty at Petit Le Mans

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RISK VERSUS REWARD

As well as working as a marshal at UK events, Steve Tarrant has also taken part in the Le Mans 24 Hours, as well as Petit Le Mans at Road Atlanta. Both endurance races are events he cherishes, as is the warm welcome and team spirit he has been embraced by. One tradition for Tarrant came through these

endurance events and extended worldwide: Daniel Poissenot, who was Le Mans 24 Hours race director for 13 years, would always make a point of stopping the course car at Tarrant's post on the reconnaissance lap to shake his hand as a thank you.

"Daniel was the one who gave his permission for me to be a marshal

at Le Mans, and worked with me every year I did it," says Tarrant. "It became a habit. Then when I did Petit Le Mans over in America, he was at Road Atlanta, and again came out to my turn, which was actually right at the back of the circuit, just to say hello. He also came out to meet me at the WEC at Silverstone too!

He and I had quite a good understanding for the years that he was in charge."

Such was the appreciation that in 2015 Tarrant was awarded the long-standing ACO award for Services to Endurance Motorsport, presented by FIA president Jean Todt. "It was lovely to be decorated



"THE LE MANS RACE DIRECTOR WOULD ALWAYS STOP THE COURSE CAR AT TARRANT'S POST TO SHAKE HIS HAND AS A THANK YOU"

by them, especially at Le Mans," smiles Tarrant. "They make an award at each 24-hour race for long service, and I was the first British marshal ever to be awarded this, and as far as I know the first with a disability, so that's an honour on several fronts."

the work going on and I suggested it might be good to put in a pedestrian gate, to give all [press, marshals and maintenance staff] who needed trackside access a simple way to get over the new fences. MSVR are always good at taking on possible ideas, and they did. Not only did a new gate go up, but it was named in my honour! Maybe I should have suggested a coin-operated turnstile... I guess that may have been one false leg step too far? But I was just pleased we had good access once more."

Tarrant agrees that some circuits have aged better than others, but still leave much to be desired: "From a disabled-spectator perspective, the one that had the right facilities, but sadly the one that is no more, is Rockingham. It had all the ramps, it had all the asphalt. It was obviously built to modern standards and therefore incorporated everything that was necessary."

It isn't just the actual facilities at circuits that have undergone change in recent times; mindsets and attitudes have too. This was highlighted in the immediate aftermath of Hawkins' 1990 injury. Following his accident, he went on to deal closely with insurance companies and organisers to try to overcome kneejerk reactions and ease things for others in similar situations trying to work with a disability. Things have changed now, certainly, and with drivers

such as Billy Monger helping to give the competition rules a rewrite, eyes are being opened in many other areas of the sport too.

"When I got smashed up, there were many doors shut in my face," explains Hawkins. "There were three of us in the media who got hurt in the early '90s and people were being excluded from working events on the basis of being disabled because the insurance was changed. I was advised to go and see the MD of an insurer that worked with the circuits, so I did, and finally convinced them to change all the small print that had been introduced. I helped to rewrite it with them, and they began to let disabled people back into working in the sport. I don't believe these days that the situation would have even

"From a disabled-spectator perspective, the one that had the right facilities, but sadly the one that is no more, is Rockingham"

Steve Tarrant

arisen in the first place, because it would just be discriminatory to the point where it would have been completely slated."

That's not to say it's all straightforward now, and the new era of political correctness has probably generated as many PC-useful rules as PC-unhelpful ones.

"Back then it was, 'No no, we can't help you because it's down to insurance...'" continues Hawkins. "Obviously it's different now. I'm not saying that people aren't helpful. They are as helpful as they can be. But now they are genuinely stymied by things like health-and-safety rules that say you can't do a lot of things that should be common sense."

As well as their passion for motorsport – and an unshakeable desire to do whatever it took to remain in the sport – one trait their accidents left Hawkins and Tarrant with is what most would call the black humour of their situations. Both know they were incredibly unlucky to be involved in their respective incidents, and both were clear before, and after, how dangerous motor racing can be.

"You always know it's dangerous," smiles Hawkins. "But in all honesty, I've stood in so many places that were *really* dangerous... And the day I got hit I'd have been more likely to have been run over by a Jumbo Jet landing on the circuit!" ■



BILLY THE SKID

With an increasing number of single-seater drivers using rallying to hone car control, Autosport enlisted an adapted rally car for a BRDC British F3 driver to get his chance

BY JACK BENYON

Billy Monger goes rallying. We know what you're thinking: Autosport has a disability supplement, so let's get the most famous disabled British driver out there at the moment and thrust him shamelessly into the limelight. But there's far more to it than that.

He wasn't chosen for his fame or because of his disability, but in spite of it. After his crash at Donington Park in April 2017, Monger lost both of his legs. No-one can prepare for that and few can begin to understand what the Monger family must have gone through.

But Monger is the perfect person to show what this supplement is all about – he doesn't think of himself as disabled. He returned to racing this year in BRDC British Formula 3 with Carlin and, as long as his car has parity, when the helmet is on and the

cockpit encloses his body, he's a racer, just like anyone else.

No Paralympics or segregation – just one kid with a dream of making it to F1, like many others. His disability is secondary; an afterthought. Even in his hospital bed he was speaking of a racing return, which shows the hunger he has for competition.

He's still going to need a lot of luck and spades of hard work to reach his goal, in and out of the car, and is hoping to step up to European competition next year if he can find the budget.

Earlier this year Autosport saw reigning BRDC F3 champion Enaam Ahmed – then making a similar European move stepping up to F3 – get a taster of a rally car, which got us thinking: can it *really* help single-seater drivers to improve their craft? Famed driver coach Rob Wilson certainly seems to think so (see Autosport Performance, October 11) and Monger was an enthusiastic candidate to try to answer the question.

On a sunny afternoon at the Gloucester Rally School – home of the spectacular rally wedding episode of *Don't Tell the Bride* – Monger has the chance to find out the answer to that question.

It's a flat school, similar to a skidpan but coated in gravel, with an intricate and tricky course laid out with tyres. It's not Sweet Lamb, but it serves to provide training for people at the grassroots – perfect for Monger to get his first taste.

Inspecting the car, he's impressed and undaunted. The Citroën C2s are a staple of the school, whose owner Andy Gwynne also runs the GwynneSpeed Rally Challenge, a championship for C2s competing all over the country.

Having suffered from mobility-limiting injuries at different points in his life, Gwynne is eager to help people with disabilities get involved in motorsport, and that was the reason for building the car with hand controls that Monger will use today.

Ingram and Monger
(opposite) share mutual
respect and love of speed



Ingram has offered
to co-drive Monger
on a rally...

"I spent time in hospital thinking, 'Am I ever going to race again?' That made me want to build a car for as many people out there to be able to drive," explains Gwynne, who has broken his back, neck and the back of his head in no fewer than five places during his life. "Anyone out there we can help to drive and have fun, we try and do it."

After the usual pleasantries are out of the way, there's a worrying admission from Monger. He's driven a car with hand controls in similar conditions before, and it hadn't gone as expected.

"My friend Jamie Caroline's dad owns a scrapyard near our way and he had a Honda Accord with hand controls come

in," explains Monger with his dad, Rob, laughing in the background. "After I had my accident, that was a car we used for a bit."

"Me and Jamie were hacking around the field in that for a while, but eventually we broke it. It was good fun to drive a car because at that point it was a month after coming home from hospital."

When he says "broke it", Monger Sr adds: "There was a hidden log and Billy hit it square on and launched into the air."

At this point, a few nervous faces turn to Gwynne, wondering if Monger will now be allowed in the C2. A nervous smile from Gwynne is followed up by lung-busting laughter and the ice is

broken. We're ready to go.

Although Gwynne is a rapid pilot and brilliant instructor, Autosport brings in 2017 Under 27 European Rally champion Chris Ingram, probably best known for his onboard videos that have gone viral, with over a million views online. Much like Monger, he's a young driver aiming for the top and determination is a trait they share. This is proven on the day as he fought through M25 traffic to make it to the venue...

On arrival, Monger says: "Are you by any chance sponsored by 11 Degrees?" mocking the Manchester driver for his hat, tracksuit and trainers, all sponsored ▶

Passenger seat isn't Monger's comfort zone, but there are lessons to learn



by the clothing firm. The banter has already begun.

Time to inspect the car. Gwynne shows Monger the system and it's similar to his road-car set-up. It's fairly rudimentary, but for rally training anything more complicated would be a hindrance rather than a strength.

Investigation complete, Monger's eager

shy away from trying something new and different," says Monger. "It's so different to single-seater circuit racing.

"In single-seaters you have to be really disciplined with everything. You have to be neat and tidy. If you slide, you kill the tyres and lap time. It's a lot more strict. There are still techniques you need in the rally car to be quick, but in

"I'd hope that I've convinced at least one other disabled person to get involved in motorsport. That's the aim" *Billy Monger*

to go. He's used to waiting around on long race weekends, but today the excitement is clearly too much.

Gwynne gives him a sighting lap, and then switches to the passenger seat and we're good to go.

Five minutes later and there's mud everywhere: "He's giving it some, fair play!" says Mat Wheeler, GwynneSpeed rally champion, instructor at the school and an ex-M-Sport mechanic. "Didn't take him long to get up to speed, did it?" adds Holly Robinson, Gwynne's partner who runs the school and the Rally Challenge.

Back in and it's time for a debrief. "It's a bit different to what I'm used to, but I don't

terms of today I'm having fun and I can just throw it in however I want.

"The rally car is very similar to the hand controls I have in my road car, so it's a little lever on the right-hand side of the steering wheel that you pull towards you to accelerate and push away to brake. In the race car obviously it's a lot more refined. It's all little carbonfibre paddles – it feels more like a PlayStation."

On the mention of PlayStation, Monger is asked if he's been interested in rallying before, to which he responds that *Colin McRae Rally* was a repeat offender in his games console, while he'd seen videos of Ingram online.

At this point Monger Sr adds: "My wife rang me from the airport – she's just watched some videos of Chris in a rally car and she wants to come back and take Billy home!"

On that note, time to get Ingram in the car. He's not a passenger-seat kind of guy, but today he'll have to be. We want to know how Monger is getting on, and he's under strict instructions to be honest.

After five runs, they pull back in. But there's an issue. The C2 is shrouded in smoke, barely visible, and the two grinning youngsters emerge from the car as if they've just pulled a handbrake turn in a McDonald's car park.



Monger keeps an eye on his dad, who couldn't resist taking the C2 for a spin



Gwynne built specially adapted car to broaden rallying's appeal



Monger has got the rally bug, and expanded his driving databank

Wheeler gets under the bonnet and luckily it's just a hose that's come off the radiator. "You've broken it already?" says Monger Sr with a grin. "Didn't take long, did it!" comes the reply.

But this C2 won't go the way of *that* Honda Accord. This car is too important for giving disabled people a taste of motorsport.

"I'd hope that I've convinced at least one other disabled person to get involved in motorsport. That's the aim," adds Monger when asked if he sees himself as a role model. "If I got one person to try it who wouldn't have otherwise, then that would be cool."

The car needs to cool down, so it's time to talk racing. Just when you forget how tough Monger's journey has been, little nuggets of information come out that make you realise how hard he's had to work for podiums and poles in BRDC British F3 this year, taking sixth in the standings.

"Obviously there were a lot of things I had to get my head around at the start of the season; when I first started doing simulator work with Carlin, I could only hit 30bar brake pressure, which is not much at all," he says. "To be competitive you need to hit 80bar and, if you want to win races, around 100bar is where you need to be."

"When I got to the first round I was able to hit 80bar, so I was competitive,

but there was still a lot of strength I needed to gain. I probably did more testing than the other drivers, but to learn a whole new system, it's no easy feat."

Monger brakes with his stump, using a special set-up to raise the pedal. Generating 100bar brake pressure isn't easy.

His determination is on display today. We've banned a stopwatch, given the rate the conditions are improving in the baking sun. But he's constantly searching for new lines, and after two or three runs he's already started mentally redesigning the car to make it quicker. One issue is the handbrake.

"My right hand is either operating the throttle or brake, and when I was doing that my other hand was steering, so I needed a third hand for the handbrake!" he adds with a smirk.

In fairness, Gwynne is used to amateurs – the car wasn't designed for someone with Monger's talent/experience level. Gwynne has now decided he wants to build a new car based on Monger's feedback.

Approaching the back end of the day, it's time to get the pro's thoughts. What has he made of Monger's performance?

"I really wanted to come and meet Billy – he's a great lad who has inspired so many people – but I've seen today he's an incredible talent," says Ingram.

"Immediately in the rally car with him I could see his car control and commitment is mega. I think this is a raw driving experience and I hope it's given Billy another feeling of driving the car."

After begging for long enough, and under encouragement from Monger, Ingram's allowed to have a go in the driving seat too, taking Monger for a spin.

Afterwards, in answer to who was the quickest, Ingram adds: "Definitely Billy," before admitting: "I chickened out of the hand controls! It was way too much to get my head around to be honest..."

So, the burning question, has it been worth it for Monger?

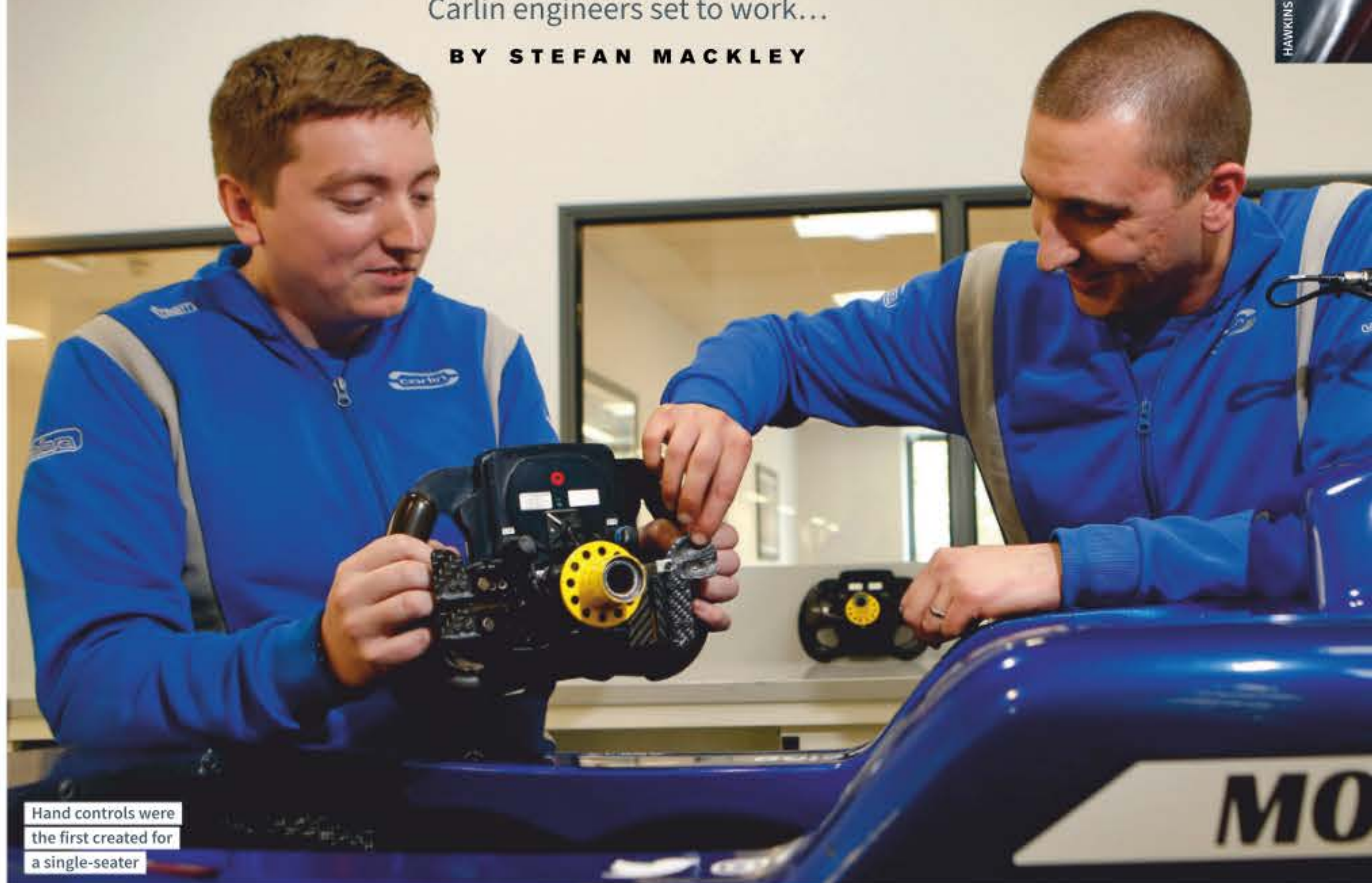
"I think I've learned a few things today," he says. "For car control, there's nothing really better than rallying. Chris and those guys who are doing rallying, that's another level of commitment out there – you really do see that in the way he drives. Everyone thinks with rallying you can just flick it in and see where it goes, but there's a lot more behind it and a lot more that goes into it than that – it was cool to watch."

So, he's taken. Single-seaters are his future, but for fun a rally could be on the cards. Ingram has promised to co-drive. Look out for Monger in a rally next year. ■

HOW TO CONVERT AN F3 CAR FOR A DISABLED RACER

Billy Monger's racing comeback in BRDC British F3 began taking shape late last year. Then the Carlin engineers set to work...

BY STEFAN MACKLEY



Hand controls were the first created for a single-seater

The seemingly impossible happened at the opening round of the 2018 BRDC British Formula 3 Championship at Oulton Park back in March – less than a year after his horrendous Formula 4 accident at Donington Park, which resulted in a double leg amputation, Billy Monger was on the podium fighting back tears after finishing third on his racing return. It was a fairytale moment, not only for him but his family, friends and the Carlin team that had got him there. But how had a driver whose racing career seemed all but over been able to drive a single-seater competitively again? “I know that the podium at Oulton Park

was quite amazing, emotionally for the team and for him to actually think we’ve managed to get to that point together,” says Sam Waple, Carlin’s British F3 team manager and one of the brains behind the hand-control system created for Monger. Waple and Neil Hoddinott, Monger’s race engineer, began developing the pioneering system in November 2017 that would allow the teenager to compete in a single-seater again. It was ground-breaking stuff, and Monger himself had to lobby the FIA to overturn a rule that prevented disabled drivers from racing single-seaters. Taking inspiration from the entirely hand-operated Fun Cup car Monger drove 11 weeks after his accident in order to retain his racing licence, the left paddle on the back of the wheel was used for the throttle. “I could tell that the throttle



Hoddinott (l) and Waple (r) developed system for Monger



A number of changes have been made to the British F3 Tatuus-Cosworth car: **1** raised brake pedal Monger uses with prosthetic; **2** left-hand paddle on wheel is for the throttle, right paddle for up/down gears; **3** clutch lever is used for launching the car from standing start



“It was a big sigh of relief because we realised actually we can work with this. It wasn’t a matter of strength” **Sam Waple**

brake-trainer software up and running and we got him to brake as hard as he could and we were barely registering,” adds Hoddinott. “We’re talking about a few bar of brake pressure, and that was without a prosthetic or anything on at all. The immediate observation was he hasn’t got what every other driver has, which is a hard sole on a boot.”

With the bone in Monger’s remaining right leg being so close to the end of his amputation, it meant applying any pressure was painful, but by wearing the socket of his prosthetic it created a crude but hard surface. “He put that on and pretty much immediately hit 30 bar and it was a big sigh of relief because we realised actually we can work with this,” says Waple. “It wasn’t a matter of strength, it was actually what he had to press the pedal with.”

The brake master cylinders normally housed at the very front of the car were brought further towards Monger in a standalone pedal box, which avoided the need for longer extensions that would have been placed under greater pressure than normal. It also freed up space behind for the clutch mechanism, which was the most difficult piece to incorporate into the Tatuus-Cosworth car.

“That was really tricky – that was actually harder than the brake I think for me to get my head around,” admits Waple. “Not only do you not have a great deal of space, but it needed to be out of his way all the time that he was driving and then also be used for starts, which obviously is pretty fundamental. Also, not knowing how hard and how much room he’d have to be able to hold it, it’s no good having the room but it being so hard to pull that he couldn’t actually comfortably pull away.”

“In the end we have a clutch lever up the front [on Monger’s right], which pivots onto an original master-cylinder mounting

hole, which has options for different levers so we can make it easier but longer or shorter and harder.”

The brake and clutch configurations were put together in-house by Carlin, which meant Waple and Hoddinott could test on the team’s simulator as and when needed with Monger to refine the systems.

The move to use standard parts already available rather than create bespoke equipment also proved crucial for a number of reasons. “We minimised what we changed, partly from a simplicity and cost point of view, but also it simplified the matters for the championship because we needed to green-light less stuff because less was different,” says Hoddinott.

In a one-make championship, making sure that any changes to the car weren’t going to provide an advantage – or a disadvantage – was imperative. Tony Kent, systems manager for BRDC F3 operator MotorSport Vision, did the electrical work surrounding the steering wheel and ECU to make sure everything worked and that it remained legal.

Championship technical director Chris Murphy believes that despite the differences with Monger’s car compared to the rest of the field, there is no performance advantage. “All of that aspect I’m happy with, and that is part of my remit as technical director – to make sure that the cars have parity, as well as being safe and reliable,” he says.

With controls in place that satisfied Monger, Carlin and MSV, as well as the FIA – which attended the first test to make sure that the system was fundamentally safe – it was then a case of getting the most out of them.

“In terms of the peak [brake] pressures we’re looking for over a qualifying lap, he [Monger] typically can hit them,” adds Hoddinott. “What he’ll often struggle to

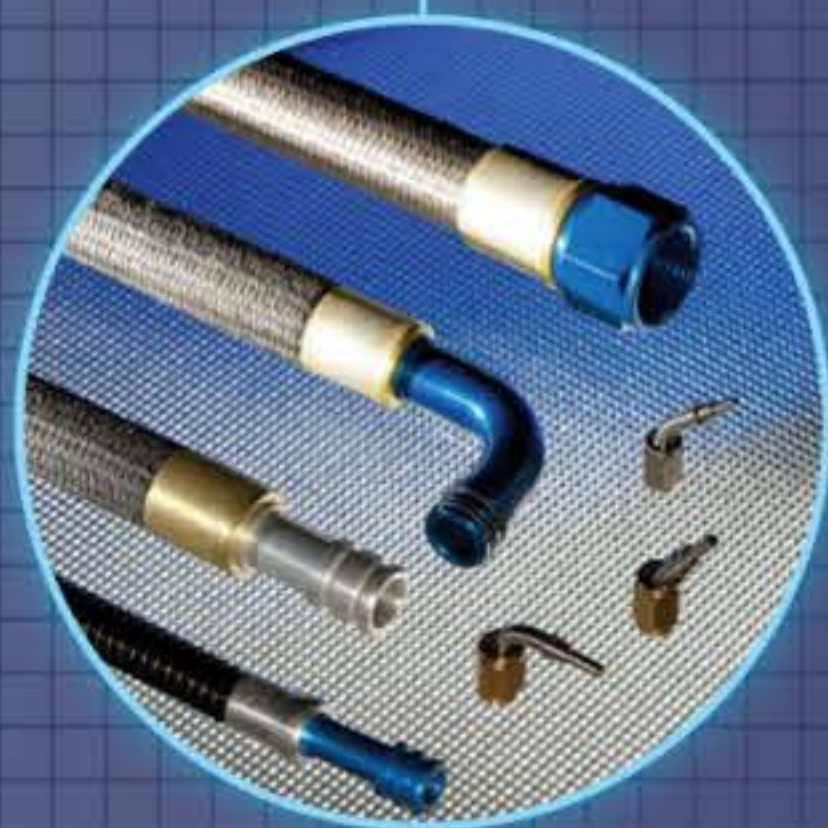
would be better on the left because most tracks are clockwise, so it’s easier to be reaching above the steering wheel for the throttle than underneath it when you’re a bit more cramped for space,” says Monger.

Buttons on the front of the wheel were considered for changing gears but longevity, cleanness of contact and also the need for a consistent grip on the wheel meant the right-hand paddle became a shift up/down mechanism.

But then came the question of how Monger would stop the car. “Straight from the start we decided that he needs to try to use what leg he had left to brake with, only because going up the categories it would be better for him – he’ll have more freedom if he can learn how to brake [with his right stump],” says Waple.

“The first thing we did was get a

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do is hit them over the course of a race distance, but he can hit a brake hard enough and we've worked on brake shape, making the most use of the strength we've got that he can stop the car effectively for a race distance."

There have been other problems to overcome, such as being able to effectively modulate the throttle paddle, which has much less travel than a conventional pedal and proved especially tricky early in the season in wet conditions. There were also the hurdles of memory reflex and general fatigue to overcome. "I found that circuits like Spa, by the end of the 20 minutes my hand was actually tired, which is obviously something you don't really expect to have when you're driving a race car – it's definitely building up that muscle

"I found that, at circuits like Spa, by the end of the 20 minutes my hand was actually tired, which you don't expect to have" **BILLY MONGER**

memory," says Monger.

But as he has adapted to his new controls and gained greater physical strength, it's shown in his results. In the last two rounds of the season at Donington and Silverstone, Monger recorded two pole positions, one fastest lap and a brace of podiums. It's a system that works for Monger, and the FIA has shown an interest in the controls. But could it be used by all disabled drivers or even transferred to a different car?

"I'm sure if other people are looking for a

system to use in single-seaters, it could probably be transitioned to any sort of racing series across the board," says Monger. "The amount of work we've put into it, I don't see why we'd want to use anything else. Obviously they're going to have to adjust it for what works for them, but in terms of the whole base idea of how it works, it sounds stupid but it's not that complicated."

Indeed, perhaps the most surprising aspect about this unique system has been the simplicity and lack of changes made since the concept was first conceived in November last year. "I think there was certainly a cutoff time with Billy from when we were trying things and where he just got more comfortable with the controls to the point where he didn't really feel them as a benefit," says Waple.

"It's one of the things I'm most proud of – how quickly we got to the [end] stage. OK, we'd try a different paddle, we'd try a different throttle spring, but we weren't talking about massive changes to the system," adds Hoddinott. "It was just, 'There are your controls, get on with it', and we were quickly at the stage where we were just working on the driving. At that point he was no different to any other driver. How quickly we got to that stage was frankly remarkable." ■



CHANGING LIVES WITH 'HIGH OCTANE MINDFULNESS'

Colin Duthie hit rock bottom after losing a leg, but his love of motorsport inspired a charity that focuses on the remarkably therapeutic benefits that a race track can offer

BY JOHANNA HUSBAND

W

hen Colin Duthie's father bought him a 250 Testa Rossa toy, his first look at the shiny red car started a lifelong love affair with racing. Though

describing himself as a dedicated Tifosi and total petrolhead, the Scot could never have known then just how important a role the sport would go on to play in his life – and in helping others through Disability Motorsport Scotland.

At 20 years old Duthie was hit by a lorry, suffering horrendous injuries, including an above-knee amputation. Spending over a year in hospital recovering, he admits that he underestimated the impact of his injury and disability until he was allowed home.

"In the hospital you're cosseted and protected from it, because you're being

cared for and made to feel special. You almost feel normal. Then I was discharged, and I was lost. I became reclusively stuck in my room, as I couldn't walk then. I hated being disabled, and everything that meant. Basically, I couldn't be bothered with life," explains Duthie.

As he started to heal physically, the emotional toll of his injuries took hold, leading to a breakdown. At his lowest ebb he drove to a bridge, ready to end it all. "I still don't know to this day why I didn't do it. But I remember saying to myself, 'You son of a bitch, if you don't jump you'd better do something with your life'."

And do something he did.

Encouraged by his wife, Duthie became a sports development officer, specialising in inspiring people with disabilities to become more active and live their best life. Through his work with South Ayrshire Council, he

helped develop and run an impressive number of sports clubs, organisations and charities. He also started horse riding as therapy, going on to become a British Para-dressage team member and chairman for the local Riding for the Disabled Association.

But it was a bucket-list item involving a different sort of horsepower that would lead to the development of Disability Motorsport Scotland. Seeing the vast difference sport makes to people, Duthie combined his desire to help others with his passion for motorsport to establish DMS with three other trustees, which ultimately became a Scottish charity (SCIO) in 2016 and now boasts rally legend Jimmy McRae as patron.

"We bought an Audi A3 Quattro and with the help of a company here in Scotland called R&J Motorsport



Duthie (right) says he doesn't have time to be disabled when he's racing

FLAT OUT PHOTOGRAPHY



Jimmy McRae is proud to be a patron of DMS

2 FAST 2 PHOTO



KAREN CRAWFORD



we turned it into a full race car, which we called DMS1. The bucket-list dream for me was getting my race licence aged 52. I'm incredibly grateful that DMS gave me the opportunity to go racing and in 2017 I became the first disabled driver to compete in Super Lap Scotland. I finished fourth in the championship, which I think was a wee wake-up call for some people, but it was extremely humbling for me. In the car I practice what I call 'high octane mindfulness', and I find when I'm driving I don't have time to be disabled."

That 'high octane mindfulness' is now the ethos that underpins the whole charity, with Duthie going on to become the first, and at present only, disabled person in the UK to qualify as an MSA Level 2 coach. It concerned him greatly that there seemed to be no disabled coaches and felt it was a natural progression with his love of



DMS guests of all abilities sign on for action

motorsport, taking the attitude of 'the best coaches coach people, not sport'. Since its formation DMS has run 'come and try' sessions, giving more than 100 disabled individuals the chance to experience motorsport, whether as a driver or passenger.

"Being disabled doesn't make you an expert on disability," explains Duthie, "but it does make you appreciate the important

in 2019, and Duthie is developing a disability inclusion training programme, in partnership with Scottish Disability Sport and Scottish Motor Sports, to assist coaches and volunteers across motorsport in Scotland.

"It's important that people know how to not only handle and help, but also behave, especially around different types of disabilities," he adds. "I'm creating

"Being disabled doesn't make you an expert on disability, but it does make you appreciate the important things more" Colin Duthie

things more. The greatest gift you can give anyone is time, and that's what I'm trying to do. I give my time, so our guests can have a better day and life experience. I've had the privilege of seeing the real difference this makes to people many times now, not just physically but emotionally too. We got special permission to adapt our rollcage and make the seat adjustable to allow people with all manner of disabilities to participate.

"We've had people at our track days who have mental health issues too. I've seen people go from sitting anxiously and not talking to anyone, to having a passenger ride in DMS1 and tucking into a burger with the team afterwards! We've coined the phrase 'DMS on track to good mental health' and the NHS is now interested in the effect it has, releasing endorphins and adrenalin."

Duthie's work with other sports has been vital in the development of DMS, and he feels strongly that the future must centre on getting the right people into the right roles to keep things moving forward. There are ambitious plans to expand the charity

scenarios for coaches to learn the best approach — from assisting someone into a car, to communicating with a deaf or blind guest. Even something as simple as kneeling to make eye contact with a wheelchair user. It's important we train people in disability awareness. I'd love to see a coalition in motorsport to look at all areas of access for disabled participants."

Asking Duthie what he's most proud of, without hesitation he answers: "Helping people, 100%. We're on this planet for a short time and you can't waste it being selfish. I get more out of life being able to give something back."

It's a view shared by charity patron McRae: "The enthusiasm of everyone involved is very heart-warming. To see the smiles on people's faces when they get out of the car after a high-speed run is great. Who wouldn't want to be involved?"

And that sums up the work DMS is achieving: putting smiles on faces. As Duthie, one of its proud owners, makes clear, they're not just changing gears, they're changing lives. ■



HOW TO BE AN ACE ENGINEER

Henri Durand looks back on the human value of F1

BY MATT KEW



Henri Durand hasn't relied on any kind of silver bullet during a career that's now well into its fourth decade. Instead, his approach has always been that

maintaining focus and a strong work ethic can overcome any challenge.

Sharing the name of his father, an amateur racer in Ferraris and Bugattis, Frenchman Durand studied aeronautical engineering. It was a path that he hoped "would give me some credibility in the eyes of the Formula 1 teams".

Now 58 and working as chief chassis engineer at Toyota Racing Development USA, Durand has achieved success across Indycar and NASCAR as well as in F1. But perhaps the most historically significant element of his background is his decade at McLaren, for this was a period of rapid change at the pinnacle of motor racing. Having worked with John Barnard on the radical Ferrari 640, Durand joined the Woking squad in the summer of 1990.

Replacing Mike Gascoyne as head of aerodynamics, he presided over the massive growth of his department as McLaren and its rivals embarked on a technological arms race. The aero team morphed into two parallel groups, one finessing current designs while the other evaluated future concepts. It was this restructure that contributed to back-to-back title success for Mika Hakkinen in 1998 and '99.

Like many other senior aero people of the time, his next move was to take on overall



responsibility for design, and he joined Prost Grand Prix as technical director at the turn of the millennium.

"I was 40 years old, I decided that was worth the risk, and I don't regret it," he reflects. "While it didn't work out [the team scored just four points in 2001], it still gave me a human experience, which I value."

Being an engineer, Durand regards himself as a problem solver first and foremost. Just three years ago, however, he was faced with the kind of potentially life-changing problem no-one anticipates. But losing a limb in a surfing accident is something he now shrugs off as only a "technical detail" – a motivating factor in his life rather than any kind of hindrance.

"I had a little bit of a mishap in 2015," Durand recalls. "I lost my leg after falling in a surfing accident and that was really just a trigger: I had a blood clot and I lost my leg."

"I have a prosthetic leg below the knee but I still surf and I row very competitively. I row with people who don't have a handicap

and frankly it's not a handicap, it's just a technical detail."

Unsurprisingly, Durand's solution to his injury is engineering-led: "My prosthesis, which I wear for rowing, we designed it [at TRD USA] and Joe Gibbs Racing manufactured it out of solid titanium, while my socket is a carbon component. I've got two of them. We made them here because my prosthetist was not able to make one that gave me the comfort. That's the funny part, so I have a racing leg!"

"If you watch me in the street walking, if you don't know [that he's wearing a prosthesis], you can't guess," he continues. "I'm still surfing with a prosthetic leg, it makes no difference. So, it's really a technical detail. It's not a disability, it's a technicality – that's life."

"If you are competitive, you never have that feeling [of being powerless], you always try hard – and in my opinion, that is necessary to be successful in motor racing, or any other sport." ■



Durand left Ferrari for McLaren, enjoying Hakkinen's title success

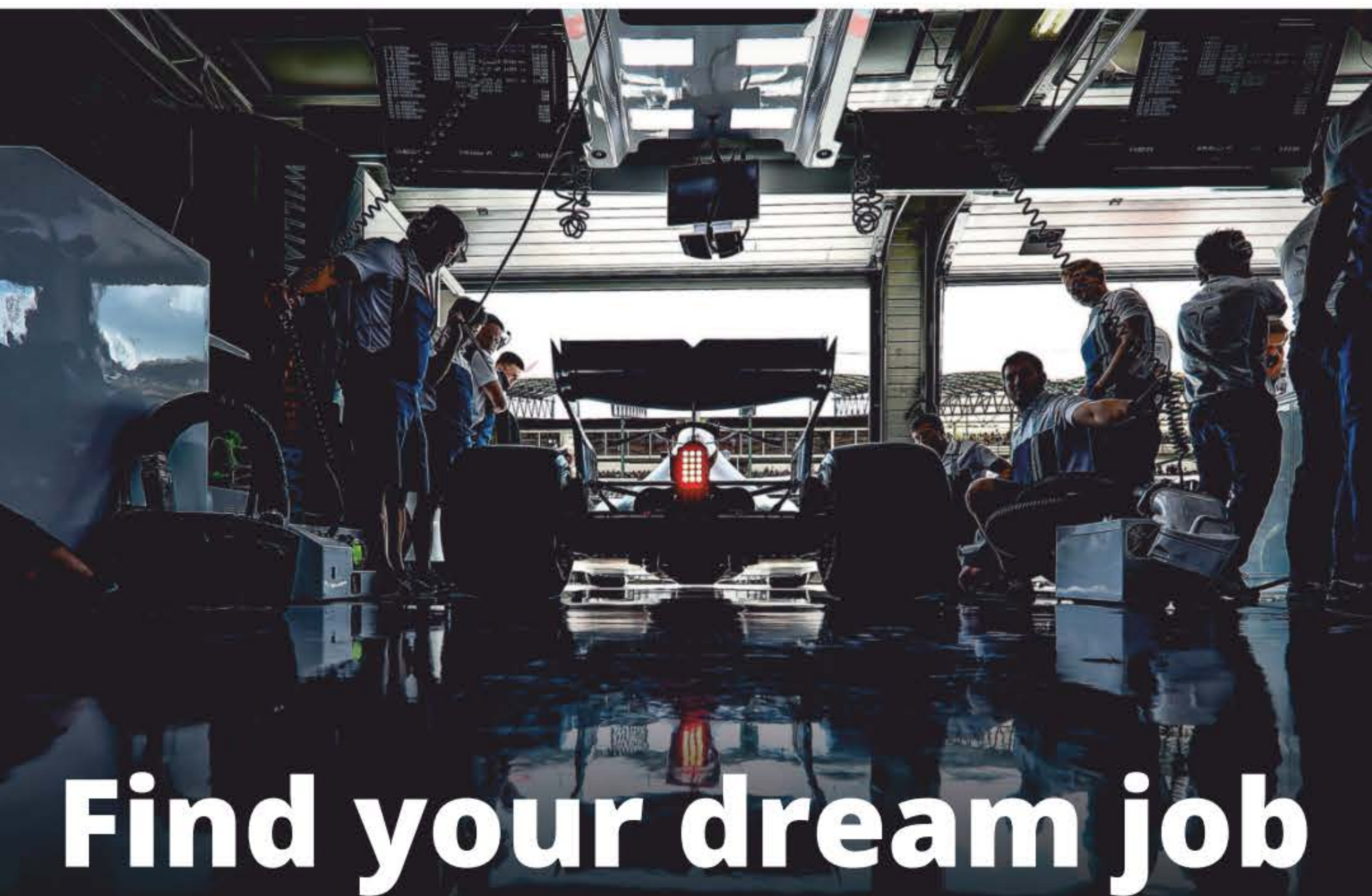
TOP TIPS FOR ENGINEERS

- It's all about beating your rivals so be competitive, or else you have to be a genius. We all have weaknesses but if you're competitive you can compensate.
- Be humble and associate with the right people. It's a team sport, not a solo job, so absorb knowledge and experience from others.
- You need maturity to point your guns in the right direction and decide where the low-hanging fruit is. It takes time and focus to get the best bang for buck.



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