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F1 SHOCK

Ferrari flukes it!

How Merc's dodgy calculations created heartbreak for Hamilton







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MERCEDES GAFFE AND FERRARI WIN GIVE F1 A BOOST

Nobody expected that! The pace of the Mercedes in pre-season testing and, more crucially, Lewis Hamilton's shatteringly fast pole lap in Australia indicated that the reigning Formula 1 world champion was going to win comfortably in Melbourne last Sunday. But a Mercedes blunder and Ferrari opportunism meant it was Sebastian Vettel who ended up on the top step of the podium.

As Edd Straw shows in our report on page 20, the result owes something to the restrictive nature of the current regulations, but starting the 2018 campaign with a Mercedes defeat is not a bad thing for F1. The Silver Arrows' troubles in '17 helped create a more interesting championship fight than we'd seen for several years, at least until Ferrari imploded after the summer break.

Mercedes — and Hamilton in particular, given Valtteri Bottas's troubled weekend — is clearly going to be tough to beat this year. Seeing them lose a few points while Ferrari tries to get on top of its new design philosophy and Red Bull awaits improved Renault power could make the fights we're likely to get later in the season more meaningful. But Hamilton remains the favourite.

• This issue contains our first free Autosport Karting supplement. Karting's place in motorsport has long since been established, but more often than not we've had to leave it largely untouched. We're not suddenly going to be in kart paddocks every week, but we hope this will be the first of many such supplements. Along with our Autosport Engineering, Performance and Historics specials, we also hope this will help widen our remit and provide insights into even more parts of the sport.







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FREE INSIDE

KARTING SUPPLEMENT



Our new supplement looks at the key role karting plays in motorsport and includes a guide to the current ladder.

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LIBERTY UNDER PRESSURE

FORMULA 1

Formula 1 owner Liberty will present its blueprint for the future to the teams, as well as current and potential engine manufacturers, at next week's Bahrain Grand Prix — and it's bound to signal the start of what promises to be an intense period of lobbying, politicking and positioning in the build-up to 2021.

Detailed new engine rules and proposals for cost savings and budget cuts are expected to be at the heart of the Bahrain presentation. It's not yet clear if Liberty will also address the commercial arrangements that it hopes to adopt when the current bilateral agreements between F1 and the teams run out at the end of 2020. But financial negotiations will be inextricably intertwined with the rules package, and in particular the engine format.

That was underlined last year when provisional proposals for a simplified power-unit package were quickly shot down by both Ferrari and Mercedes. Their frustration led to a threat from Ferrari president Sergio Marchionne to withdraw from F1, and subsequently talk of a breakaway series in 2021, which Mercedes team principal Toto Wolff did not dismiss.

Just before last weekend's Australian GP Bernie Ecclestone stoked the breakaway fire by saying that Liberty has to offer the teams the right deal — and should take Marchionne's threats seriously. "Talking to people like Sergio and Toto, they are not idiots," Ecclestone told Autosport. "They will weigh up whether it's better for everyone to leave and do their own series, or do we need the FIA to look over things? So people will start to think what to do.

"The trouble now is that Sergio has come out and said, 'The next time I see you, I'm going to punch you in the face.' And when he sees the people he's got to be sure that he's going to punch them in the face. And Sergio is not the guy that makes threats as a joke and then runs away from it."

It's been apparent for some months that Ferrari and Mercedes are now aligned in terms of their views on the future, and that the on-track rivals have formed an unlikely alliance as they try to obtain the best possible deal from Liberty.

That was clear to see in an FIA press conference in Australia with the bosses of

"SERGIO IS NOT THE GUY WHO MAKES THREATS AS A JOKE AND RUNS AWAY"



AS BREAKAWAY LOOMS

the top three teams. Red Bull's Christian Horner was vocal on the Laurent Mekies affair, and accused Ferrari of breaking a gentleman's agreement over the length of gardening leave for ex-FIA personnel. In stark contrast Wolff, sitting between Horner and Maurizio Arrivabene, declined to criticise the Italian team.

The Mekies case was arguably just a trigger that exposed simmering tensions beneath the surface as the top teams jockey for position, and Red Bull – which can no longer benefit from the special relationship that Horner and owner Dietrich Mateschitz both enjoyed with Ecclestone - clearly feels that it may lose out. "It's no secret to anybody that there's a very close working alliance between Ferrari and Mercedes," said Horner. "They are positioning themselves regarding the next Concorde Agreement, which obviously dictates finance, regulations, etc. It's an unusual position for two extreme competitors. They have tremendous influence through engine supply over customers. That's an issue for F1 to deal with."

Frustrated by Ecclestone's comments on the breakaway and Ferrari's unsubtle attempts to wield its power, Damon Hill weighed in on Twitter on the morning of the Australian GP, saying "the sooner Ferrari and Mercedes breakaway the better as far as I'm concerned. These massive industrial complexes are ruining the sport." That triggered a brief war of words with the Brackley team's Twitter account.

Later Hill expanded on his views, underlining his distaste for the way he feels that F1's two biggest players are working in tandem. "Ferrari and Mercedes are acting in concert to try and create conditions under which they would stay in the sport," he said. "If you would have accused them of working together in the past they would have denied it, but now here they are paired up nicely to try and get conditions under which they would continue to stay at the front of the pack.

"My argument is that it's a sport that should be trying to create at least the opportunity for all of the competitors to have a reasonable chance of competing. That's always been a difficult problem for our sport, because it rewards the dominant disproportionately."

The Bahrain presentation will be a critical test of Liberty's resolve. "The key thing is they've now got to start delivering a bit," said Force India deputy team principal Bob Fernley. "We've had this nice build-up, we've now got to get it over the hump. It's going to be an important year for them."

ADAM COOPER

Haas 'Ferrari knockoff' row at Oz GP

FORMULA 1

Fresh questions have been asked about the Haas Formula 1 team's technical relationship with Ferrari, as Force India labelled the squad's performance as "magic" and McLaren called for the rulemakers to look at it "closely".

Haas was on course to beat Red Bull to fourth and fifth in last Sunday's Australian Grand Prix before pitstop mistakes put Kevin Magnussen and Romain Grosjean out of the race.

Ferrari supplies Haas with parts and also allows Dallara — Haas's chassis builder — to use its windtunnel.

F1's sporting regulations strictly forbid passing on or receiving information on the parts that teams are supposed to produce themselves.

Force India chief operating officer Otmar Szafnauer wants the issue discussed in the next meeting of F1's Strategy Group. "It's never been done before in Formula 1," he said. "I just don't know how it can be right that someone who's been in the sport for a couple of years with no resource could produce a car... does it happen by magic? If it does, I want the wand."

McLaren executive director Zak Brown said: "We all know they have a very close alliance with Ferrari and I think we just need to make sure it's not too close."

Haas chief Gunther Steiner responded to Fernando Alonso's weekend jibe that the Haas was a "Ferrari replicate" with: "We are not doing anything we shouldn't be doing or not allowed to do."

And Haas driver Grosjean said that the use of Ferrari's front suspension naturally influenced the major aerodynamic design points of the rest of the car.

SCOTT MITCHELL





Maldonado's back! Team boss tells why he can win in LMP2

WORLD ENDURANCE

DragonSpeed boss Elton Julian has made no secret of his determination to win the 2018-19 World Endurance Championship LMP2 title. Which explains why grand prix winner Pastor Maldonado will be joining the team and why there's another big name in the pipeline for later in the year.

The signing of the ex-Williams and Lotus driver (above) for the superseason follows a long chase by Julian in his quest to put together a top line-up around Roberto Gonzalez in the team's LMP2 ORECA 07. He's been talking to the Venezuelan, who hasn't raced since his second season with Lotus in 2015, for more than a year.

"We have a mutual friend, and every six months I've been dropping Pastor a line saying, 'Ready to come back to play?," explained Julian. "The deals I had before didn't fit, but now the time is right. Pastor is talking and thinking like a sportscar driver."

Maldonado might have been teamed with another ex-F1 driver in Esteban Gutierrez, though his deal went south when the Mexican opted to focus on an F1-simulator role. But Julian has promised more big news in the near future.

"We're going all-out for the championship," said Julian, whose team won the European Le Mans Series last year under the G-Drive banner. "Why else would vou leave the house?"

In the meantime, Nathanael Berthon will keep the third seat warm for the first two WEC rounds at Spa and Le Mans.

Maldonado may not be the only big-name ex-F1 driver on the LMP2 grid over the course of the superseason. United Autosports has revealed that it has opened a dialogue with ex-Williams and McLaren driver Juan Pablo Montoya, a threetime Daytona 24 Hours winner who this year is racing for the Penske Acura IMSA team, about filling one of the vacant seats in its two-car squad of Ligiers at the Le Mans 24 Hours. Paul di Resta, who raced for the team at the Daytona and Sebring IMSA rounds, is also in the frame.

Sauber F1 reserve Antonio Giovinazzi has emerged as a contender for a Le Mans drive with Ferrari. The Italian manufacturer has confirmed that the former GP2 runner-up, who has been on the books of its F1 team since the end of 2016, is in the frame for one of the remaining seats in its three-car squad of 488 GTEs.

Meanwhile, Jackie Chan DC Racing will field an all-Malaysian line-up for the WEC in one of its ORECAs. Jazeman Jaafar will likely be joined by fellow single-seater graduates Nabil Jeffri and Weiron Tan.

GARY WATKINS

Castroneves on form on return

INDIANAPOLIS 500

Three-time Indianapolis 500 winner Helio Castroneves returned to the cockpit of an IndyCar last week as he gears up for his two races in May: on the Indy Grand Prix road course and in the 500 itself.

Relying on "muscle memory", the Brazilian veteran made the most of the morning's ideal running conditions in a Barber Motorsports Park test to go third quickest in a Team Penske 1-2-3. And the return to form for a driver who is now focusing on his IMSA SportsCar programme with Penske was enough to embolden him into running in the afternoon's wet conditions, the only driver to do so.

"I've missed it, it was great fun," Castroneves (below) told Autosport. "It was about using muscle memory. So, sure, I'm a sportscar driver now, but you cannot take away the open-wheel roots. I have an IndyCar mentality. The first run was about learning the new car. It's very different from the last IndyCar I drove, and it's very quick. I had to adjust a little bit of my driving style compared with last year."

Josef Newgarden was fastest in the Barber test, and team-mate Will Power thought he'd gone quickest when the teams decamped later in the week at the Indy GP circuit. But then it was discovered that Andretti Autosport's Alexander Rossi had pipped the Australian by 0.06 seconds — a feat initially hidden from the timing screens by an ECU glitch.

Castroneves leads a succession of one-off entries for the Indy 500, with the latest signings of two Britons in the forms of Pippa Mann (Dale Coyne Racing) and Jay Howard (Schmidt Peterson Motorsports) taking the field to the maximum starting-grid size of 33.

IndyCar is still expecting further entries to instigate the return of bumping, as reported by Autosport earlier this month. But preparations for the Indy 500 have been delayed thanks to poor weather, with the manufacturer, open and Indy 500 rookie orientation/refresher tests on the oval postponed.

The tests have since been rescheduled for April 30 through to May 2.

TOM ERRINGTON





NASCAR CUP Too late to take up its traditional slot in our race-reports section, the NASCAR Cup field was out at Martinsville on Monday after snow caused the race to be postponed. Clint Bowyer broke a 190-race victory drought to take the honours in his Stewart-Haas Racing Ford. Kyle Busch (Joe Gibbs Racing Toyota) was in hot pursuit to finish second for the third time in four races, with Ryan Blaney and Martin Truex Jr next. **Photograph by NKP/LAT**

Gunther pace tickles the F2 field pink

FORMULA 2

Formula 3 graduate Maximilian Gunther topped the times at the final Formula 2 pre-season test, which took place over three days in Bahrain last week.

The Arden International-run Bavarian set his best lap during the morning on the (right, top) final day to end up 0.023 seconds clear of Trident's Arjun Maini (right, below), whose overall best topped the running on the second morning. Renault Formula 1 reserve Jack Aitken made it three F2 rookies in the top three.

"It seems that ART Grand Prix have put down a solid car from the start — it's tricky to drive the new F2 car, but we were happy," said Aitken. "[On the third morning] I had to stop on the track because I caught a plastic bag in the radiator. The next thing I knew the engine temperature was sky-rocketing, so I just had to stop. Luckily it was in time to save the engine."

Aitken also completed the most laps of the circuit, which hosts the season opener at the Bahrain Grand Prix on April 6-8. He drove one more lap than team-mate George Russell, who ended up sixth overall.

Louis Deletraz was fourth fastest for Charouz Racing System, which is making its F2 debut in 2018. "When you consider we set the team up from scratch in only 75 days and we've come to our second F2 test and performed so encouragingly, we have to be pleased with the progress we've made," said Charouz team principal Bob Vavrik.

ALEX KALINAUCKAS

TOP 10 TIMES								
POS	DRIVER (TEAM)	TIME						
1	Maximilian Gunther (Arden)	1m42.756s						
2	Arjun Maini (Trident)	1m42.779s						
3	Jack Aitken (ART)	1m43.003s						
4	Louis Deletraz (Charouz)	1m43.058s						
5	Nyck de Vries (Prema)	1m43.080s						
6	George Russell (ART)	1m43.109s						
7	Luca Ghiotto (Campos)	1m43.111s						
8	Sergio Sette Camara (Carlin)	1m43.149s						
9	Tadasuke Makino (Rus Time)	1m43.209s						
10	Lando Norris (Carlin)	1m43.212s						







BTCC

Rory Butcher is to contest his first full British Touring Car Championship season with the AmD Tuning MG team.

Butcher, the brother-in-law of three-time BTCC champion Gordon Shedden, stepped into a Motorbase Performance Ford for four rounds at the end of the 2017 campaign.

"My move into the BTCC last season was all a bit last-minute and I was thrown in at the deep end for my debut at Knockhill, so I was determined to try and get a place on the grid this year to build on what I learned from the final round rounds of 2017," said the 31-year-old Scot.

Butcher said that a deal to return had looked unlikely before last-minute discussions with AmD, which has taken over the running of the ex-factory-backed MG6 machines. He will line up alongside BTCC returnee Tom Boardman in the team.

AmD boss Shaun Hollamby said: "Since announcing the MG programme, a huge amount of work has gone in to preparing and upgrading the cars. Bringing in the drivers

has been the final part of that jigsaw."

The grid was filled on Monday when Team BMR confirmed that it will retain Josh Price in one of its factory-supported Subaru Levorgs. He will line up in the team alongside Ash Sutton and Jason Plato.

"Last year was always going to be hard not having driven the car," said Price. "This year, having had the time, you know from what you've learned. At debriefs, we're all together and I'm with two of the best drivers on the grid, which helps massively."

STAT

MATT JAMES

Morbidelli joins Giovanardi in Alfas

WTCR

The Team Mulsanne Alfa Romeo squad obviously prefers maturity: Gianni Morbidelli has joined Fabrizio Giovanardi in the line-up for the World Touring Car Cup.

Morbidelli, a Formula 1 podium finisher, has tin-top experience stretching back to 1989 and won Superstars titles in 2009 and '13. He has competed in the World Touring Car Championship, and from 2015-17 scored six wins with WestCoast Racing in the TCR International Series.

Morbidelli, 50, tested a Giulietta alongside Giovanardi and Kevin Gleason at Monza earlier this month before the deal was confirmed last Friday.

But there was more bad news for Honda's Tiago Monteiro, who has again been forced to postpone his comeback from injury.

Monteiro has not raced since he was knocked out in a high-speed testing shunt at Barcelona last September. Despite announcing a deal to compete in WTCR and testing his Boutsen Ginion Civic twice, he has now put a return on hold indefinitely.

He will be replaced by Benjamin Lessennes, who won the 2017 TCR Benelux title with Boutsen Ginion.

JACK COZENS





Bernard Boyer 1934-2018

OBITUARY

A mainly self-taught engineer, Bernard Boyer, who has died at the age of 83, designed the chassis of Sir Jackie Stewart's favourite Formula 1 car.

Born in Orleans, Boyer cut his mechanical and competitive teeth on motorbikes — he finished fifth 250cc on a Peugeot in 1956's Bol d'Or at Montlhery — before switching to four wheels at that decade's end. He scored his first victory — in the quirky front-wheel-drive Monomill single-seater — in 1959 and two years later became national Formula Junior champion in Ecurie Edger's Lotus 18 and 20.

Boyer also contested the Le Mans 24 Hours twice with Guy Verrier as co-driver – in CD Dyna (1962) and Alpine ('63) – but retired both times.

But he was much more effective with a spanner or pencil in hand. After collaborations with Deutsch et Bonnet and Chappe et Gessalin, plus a two-year spell



from 1963 at Alpine — where he did not see eye to eye with boss Jean Redele — Boyer was picked by the ambitious and astute Jean-Luc Lagardere as a key member of his new Equipe Matra Sports.

Three seasons of success in the junior formulas convinced it to tackle F1 in 1968, and its MS10 won three grands prix that first year. Though there was a strong British element to this — championship runner-up Stewart, team boss Ken Tyrrell, Cosworth V8 power and Dunlop rubber — its backbone was Boyer's superb monocoque.

Stewart went one better in 1969 and took the title - thanks to six victories and a second place in the first eight rounds mainly in Boyer's MS80 (above). "Bernard was mild and courteous but above all tremendously talented and highly skilled," said Stewart, "He adapted to the Tyrrell culture and MS80 was my most comfortable racing car to drive. Lagardere was probably the most successful French businessman ever and he chose his people well. Their attention to detail gave me utter confidence in the durability and performance - something that I had never previously had with a grand prix car." Matra won the '69 constructors' title too.

Its focus thereafter was Le Mans. A smooth in-house V12 had been insufficient to persuade Stewart to stay with Matra in F1, but it was well suited to endurance racing. Boyer's handsome and sonorous MS670 series not only ended France's 22-year wait for victory in 1972, but also sent Scuderia Ferrari packing from sportscar racing in '73 and completed a 24 Hours hat-trick in '74 (left).

PAUL FEARNLEY

IN THE HEADLINES

BERNIE FACES CIVIL TRIAL

Bernie Ecclestone is facing a civil trial in London connected to the Gerhard Gribkowsky bribery case, following previous actions in the UK and Germany in 2014.

A starting date of October 1 2019 has been set for a High Court action launched against Ecclestone by investment concern Bluewaters Communications Holdings LLC. Bluewaters claims its attempt to buy a controlling stake in F1 in 2005 "was derailed by a corrupt agreement reached between Mr Bernard Ecclestone and Dr Gerhard Gribkowsky".

F1 2018 DOC FOR NETFLIX

A new F1 documentary series based on the 2018 season will air on Netflix early next year. Production company Box-to-Box Films has been granted full access to the F1 paddock, teams and drivers for the 10-episode series.

IT'S STILL 'FORCE INDIA'

Force India will not change its name for the 2018 F1 season, but admits it was approached by a British energy drinks company seeking a stake in the team. "It's a shareholders' decision, and they've got to take their time to get it right," deputy team principal Bob Fernley told Autosport.

SCHUMACHER TOPS IN F3

Mick Schumacher set the fastest time of last week's two-day Formula 3 European Championship test at the Hungaroring. The Prema Powerteam-run son of seven-time world champion Michael Schumacher headed the first day. Alex Palou (Hitech GP) topped day two from team-mate Enaam Ahmed and Prema's Ralf Aron. Palou was second on day one, with Marcus Armstrong (Prema) third. Testing was continuing this week at the Red Bull Ring as we went to press.

FRIJNS BACK IN GT3 AUDI

Audi DTM newboy Robin Frijns will continue in the Blancpain GT Series this season. Frijns, who won last year's Sprint title with Briton Stuart Leonard, will share a WRT-run Audi R8 LMS with Leonard and South African Sheldon van der Linde – a graduate of the German Audi TT Cup – in the Endurance Cup. He will race with Leonard for three rounds of the Sprint Cup, replaced by Frederic Vervisch for the two events that clash with the DTM.

BOYD GETS LMP2 BREAK

Formula Ford star and latter-day LMP3 ace Wayne Boyd will step up to United Autosports' LMP2 line-up for the European Le Mans Series, sharing a Ligier with Hugo de Sadeleer and Will Owen in an all-silver line-up. Oliver Turvey tested for the seat but his Formula E and McLaren F1 commitments meant he had to rule himself out.



TIMEPIECES



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THE CATCH-22 OF MERCEDES' COOLING

Cooling a Formula 1 car is no easy task, and with the introduction of the hybrid power units it has become even more complicated.

Every team pushes cooling to the limit. The reason for this is fairly simple: any airflow you use to cool cannot be used for producing downforce, because all its energy is used soaking up heat, so it becomes very hot and travels too slowly.

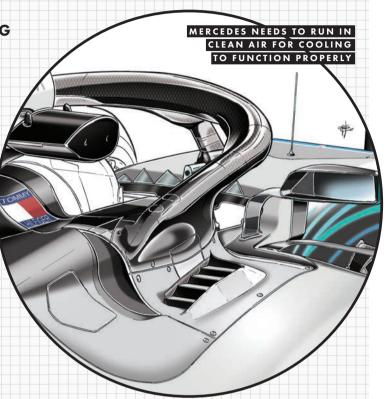
Other than if there is a significant change in weather conditions, the regulations do not allow cooling changes after qualifying, so if your package is designed around qualifying on pole and leading the race, if – like Valtteri Bottas – you crash in qualifying and start 15th, following another car in its turbulence leads to overheating, losing downforce and overheating

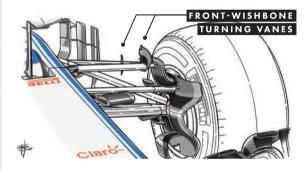
the tyres because of sliding around with less downforce.

When Lewis Hamilton was behind Sebastian Vettel, he also suffered the same problem, as did Daniel Ricciardo and Max Verstappen – they were all pulling out into the cleaner airflow so not benefiting from the tow available to them from the car in front.

If you push the limits you will suffer the consequences. The Mercedes is a very fast package, but if we get a tighter season where it doesn't always qualify at the front, then it will have to allow a bigger margin for cooling. That in turn will mean producing less downforce, which in turn will mean not qualifying on pole so often. It's basically a Catch-22 situation.

GARY ANDERSON





SAUBER'S SUSPENSION TWEAK LIKELY TO BE QUESTIONED

Sauber is running some turning vanes on the upper part of the front wishbone, which is something I've not seen before. What you want to do here is pull air into the low-pressure area behind the front tyre, because it's a very turbulent area and the more you fill up that hole created by the tyre, the less work the parts in front of the sidepod have to do.

The brake ducts also work towards this. Also, when the tyre is rotating and the airflow is

navigating it, you create a bit of lift on the tyre's upper surface, so this also helps to eliminate some of that negative.

For this to be legal, you have to comply with the regulation requiring an aspect ratio of no greater than 3.5:1 in suspension components. I suspect some people will question this part's primary purpose, as this is clearly an aero component and not part of the wishbone's structure.

GARY ANDERSON

FORCE INDIA'S 'BLOWN' T-WING

Force India added a small T-wing to the trailing edge of the engine cover just above the radiator cooling exits, as part of its major Melbourne upgrade. There is also a small gurney flap at the outer end of this component to make this area of the T-wing work harder.

This T-wing will produce a small amount of downforce, but more importantly will help tidy up the airflow going to the underside of the rear wing. Most of this airflow will have gone through the radiator core, then passed by a very hot exhaust system, so will

arrive at the rear of the car fairly hot and very confused with life. Anything that can be done to tidy up this airflow will improve the rear wing's performance.

To this end, Force India has also added a small saddle wing just above the exhaust outlet to help tidy airflow to the underside of the rear wing, and also help redirect the exhaust gasses coming out of the tail pipe – all to improve performance of the rear wing.

We will see lots of development in this region very soon, I'm sure.

GARY ANDERSON



FIFTH COLUMN

A MISSED OPPORTUNITY

Sebastian Vettel won the first round of the season again — but should he have gone on to win the world championship last year?

NIGEL ROEBUCK

hrough Formula 1's hybrid era Lewis Hamilton has averaged 10 victories a season, and his imperious pole position in Melbourne suggested Sunday would tick off yet another. Not so, though: although Hamilton led from the start, a virtual safety car period, together with a miscalculation by Mercedes, left Sebastian Vettel in the lead, and — despite a recent visit from the Ministry of Silly Haircuts — the Ferrari driver won his second Australian Grand Prix on the trot. "We were lucky today," Seb said, and he was right.

One doesn't know what Lewis said to his team behind closed doors, but his outward post-race demeanour — calm and easy — did him credit: presumably he took comfort from the thought that yet again Mercedes starts a season with the car to beat.

The weekend before Melbourne, in the midst of a blizzard at Goodwood, I chatted to David Coulthard about the coming year, and his opening remark was on the money: "Based on testing, it's encouraging that Ferrari are quick — but I do have to believe that Mercedes have more up their sleeve.

"It seems, though," DC went on, "that Ferrari are as competitive as they were last year — which was good enough to win the world championship, had they been a bit more together. Martin [Brundle] reckons that if Fernando Alonso had been in the Ferrari, he'd have won the title, and I think that's a fair comment.

"This is not to say that Vettel isn't a great driver — of course he is — but when things don't go right, he's got to control his 'throwing toys out of the pram' behaviour, which you don't really see from a Lewis or a Fernando. Seb definitely has a problem with that — and Baku last year was a case in point. What I found interesting was not so much the incident when he nudged into Lewis as the fact that the absolute emotions of the individuals came out.

"Seb's instinctive response was, 'I'm right, and everyone else is wrong', rather than, 'I got too close to the car in front...' I would have automatically thought it was my fault — but maybe that's the difference with these guys who win championships!

"As for Lewis, in Baku I remember him saying something along the lines of, 'We should have this conversation, face





to face, out of the car'. It was said in a very calm way, but with absolute commitment."

Very similar, I suggested, to how — in difficult moments — Mika Hakkinen used to deal with Michael Schumacher.

"Yes," said DC, "absolutely the same thing. There was no bravado in the way Mika did it, and Lewis was the same — it was just a firm statement.

"Pushed absolutely to his raw racing instincts, Lewis is a fighter, while Seb, pushed to his backstop, is emotional and reactive. You could argue that both of those characteristics are what makes them great, but equally for Seb it was undoubtedly a weakness last year, and it's been like that throughout his career — remember the coming-together with Webber in Turkey [in 2010]? He blamed Mark, but it was entirely his fault — he moved over — and it was the same in Singapore last year, when he was the catalyst that led to that whole series of events at the start.

"Michael has always been Seb's idol, and in many ways he's like him, not least in never admitting to being at fault. I once said to Michael, 'Surely you must be wrong sometimes', and he thought about it, then said, 'Not that I remember...' I said,

"MAYBE IT'S ONLY NOW WE APPRECIATE JUST HOW GOOD NICO ROSBERG WAS"

'Well, surely when you're at home with your wife, you're sometimes in the wrong...' and he said, 'No.'

"I always found it fascinating that some of these people had a trait that I just didn't have — like anyone, I had my defence mechanisms when things weren't going well, but these guys... despite their soft exterior, there's a really hard core there."

Looking to the year ahead, Coulthard unsurprisingly anticipated a repeat of 2017, with Red Bull thereabouts, but the world championship fight essentially confined to Mercedes and Ferrari — and, more particularly to Hamilton and Vettel. That said, did he think Valtteri Bottas could worry Lewis more this year?

"He has to – otherwise it's goodbye. Definitely there's

a fast racing driver there, but sometimes last year he seemed to be in a spiral of self-doubt — which you never see from the Alonsos and Hamiltons. This is a telling year for Valtteri. He knows the team now, and if Lewis has one of his off weekends, he has to be winning — which wasn't always the case last year."

It struck me in 2017, I said, that maybe it was only now — in his absence — that we began to appreciate just how good Nico Rosberg had been.

"Yeah, that's true — you can't deny he kept Hamilton honest. OK, you always felt that, wheel to wheel, Lewis would come out on top, but still there were plenty of weekends when Nico plain beat him.

"He told me recently that you never knew which Lewis was going to turn up at a race — and you always knew on Thursday whether you'd got the beating of him that weekend. Because Valtteri didn't really bother him, he always looked really strong last year.

"Nico also said that sometimes Lewis would be nowhere in practice, but come qualifying he could deliver a lap out of nowhere, and that was so annoying! It was the same for me with Mika, and it's that Federer thing, that *je ne sais quoi* that separates the great from the rest — if I knew what it was, I'd have bottled it!"

On we moved to the other Ferrari driver: surely, I suggested, this has to be Raikkonen's last year.

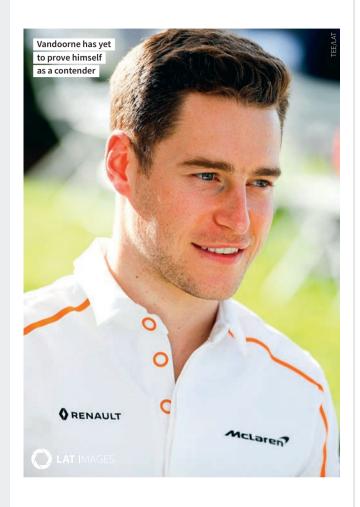
"Well, you'd think so - I mean, last year was his last year, and the one before that! Kimi remains a great talent, and in his younger years was one of the quickest out there, but when he and I were together at McLaren, I never felt he put in as much effort as I did, or any of my other team-mates.

"Kimi was always pretty detached — in those days we had tyre wars, and I'd pick a tyre, and he'd go with that, on the basis that that was the best choice, and he could drive it a bit more quickly. You could see that as being either energy-efficient — or just a bit lazy.

"All the evidence is that Kimi is past his best, but he can still win races. There's nothing to suggest he can worry Seb over the whole season — that's one of the reasons he's still in the team — but Nigel Mansell won a championship at 39, didn't he?

"Personally, I would like to have seen Charles Leclerc in the Ferrari this year, because he really is a rising star, and I worry that at Sauber he'll just get lost in the noise. >>

PIT + PADDOCK OPINION



Having said that, it does seem that Sauber are now on a trajectory — they've got investment and they've got serious Ferrari support.

"Leclerc has to beat Marcus Ericsson consistently — and he should do that without much trouble. You think back to how Ayrton Senna stood out at Toleman, and Alonso at Minardi — whatever they're driving, the really special ones stand out immediately."

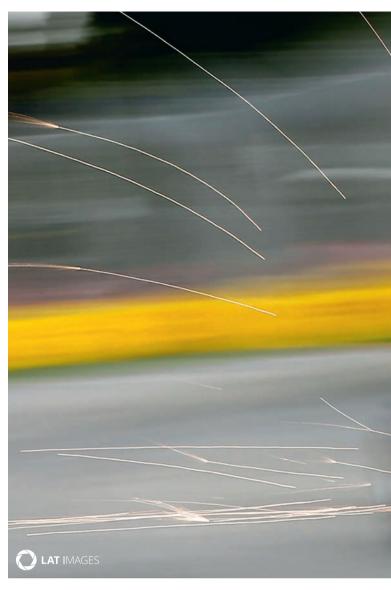
On to Red Bull, the team in which Coulthard spent the last four years of his career. Max Verstappen, we know, is a prodigy, but still it amazes me, I said, that some appear almost to be writing Daniel Ricciardo off.

"Yes," David said, "and that's a big mistake. OK, last year it did look as though the tide was turning towards Max, but Daniel, too, has great speed, and he's the best overtaker in the business — sometimes he comes from so far back it's unbelievable.

"Daniel's contract is up at the end of this year, and I do wonder if he's already signed a pre-contract somewhere else, which is common practice in Formula 1 — a year or two ahead someone'll buy an option on first right of refusal. I wouldn't be surprised if he ended up staying at Red Bull because someone else had an option and couldn't make a decision."

In a way, I said, Ricciardo is in an invidious position: logically, after all, you would consider leaving Red Bull only for Mercedes or Ferrari, where it seems that Esteban Ocon and Leclerc, respectively, are already being lined up.

"Yes, it's true. On the other hand, the tide, relative to your



team-mate, can suddenly turn. There were seasons when I did OK against Mika — but they weren't the key seasons, so maybe it's when the chance of the championship really is there that these special drivers find that little extra.

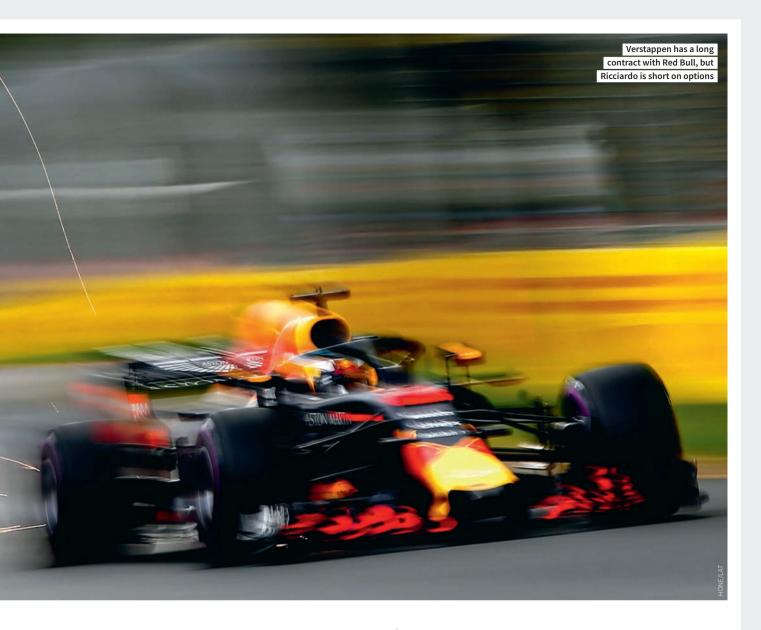
"Undoubtedly there are periods when a car suits one driver more than the other. Look at Mark Webber's last year at Red Bull with Seb — because he was heavier, he couldn't get the weight distribution as far forward as Seb. What I'm saying is, maybe this year's Red Bull will be Danny's car.

"In my opinion, Red Bull has the strongest driver pairing in the paddock. I think there's a super league, which is Fernando, Lewis, Daniel, Max and — putting aside all the emotional flaws — Sebastian. They're the exceptional drivers, and then — either waiting to get into that group, or having stepped out of it — there's Kimi, Valtteri, Hulkenberg, Sainz, Ocon, Leclerc..."

And Vandoorne?

"Well, yes, Stoffel — to be defined. He had a tough year in 2017, although I know he was up against Fernando. The thing is, with Honda the way it was, we don't know, for example, how many times the McLaren drivers qualified without the right settings, because they just couldn't be used...

"Now, with Renault engines, the spotlight is really on McLaren. The enigma of the team is that they go from high-level dominance to mediocrity and confusion. The PR machine has been putting out that they had one of the best cars last year — but now it's show-and-tell, because they've got the same engine as Red Bull.



"It's terrible that for four seasons Alonso has not been a factor in Formula 1. When we look back on his career, they'll be defined as 'the lost years', won't they? Just absolutely wasted.

"I'm a massive fan of Fernando — I think he's incredible, and it's a crying shame that in recent years we've missed him having the opportunity to show how great he is. It's funny, you know... I've got all his numbers, but somehow I don't talk to him in the same way I talk to other drivers because quite honestly I feel a bit over-awed — a fanboy."

Testing suggested that Renault and, particularly, Haas have taken a significant step since last season, and Melbourne confirmed it.

"Renault," said DC, "have two good — potentially great — drivers. From the start I believed in Nico Hulkenberg — he's a big lad, and gets some disadvantages from that, but I've always rated him — and Carlos Sainz definitely deserves to be in a factory team. I hope they move forward — it would be a reward for Renault's investment in the sport, buying the team back from Genii and so on."

In Australia the Haas team — now campaigning what Alonso only half-jokingly describes as 'last year's Ferrari' — impressed everyone by qualifying its cars in the top 10, and it was painful that, after running strongly in the race, both were eliminated by botched pitstops.

"Haas have clearly gone up a gear," said Coulthard.
"I haven't seen Kevin Magnussen enough to really get a feel for him, but he's a confident guy, that's for sure, doing things

on his own terms, and Romain Grosjean... we know he has reasonable speed, but these days he's got such a reputation as a moaner, hasn't he? One of those guys needs to be regularly beating the other, or otherwise they'll just become known as journeymen."

Through winter testing the Honda engine — now in a Toro Rosso, of course — ran virtually trouble-free, and all in the team raved about the new relationship.

"Yes," said David, "and the thought occurs that it would just

"IT WAS PAINFUL THAT BOTH HAAS CARS WERE ELIMINATED BY BOTCHED PITSTOPS"

be Alonso's luck for Honda now to start coming good. In the tests the engine certainly ran reliably — I can't really understand how they've been able to turn it around that quickly from where they were, but the Honda story is interesting because it will influence what happens to Red Bull in the future.

"Brendon Hartley is getting a second chance, and he knows he's got one year to really show something — maybe one day we'll see he was just a bit too nice a guy, I don't know. >>

PIT + PADDOCK OPINION

Pierre Gasly is also a lovely young man, so it's a battle between two good guys, both fast racing drivers — but if one of them is regularly in front, we'll probably lose the other, and the Red Bull system will bring in someone else."

After several impressive seasons, Force India — as ever working with loaves and fishes — appears to have taken a downward turn in 2018. Wherever the team should be in the pecking order, I said, for the sake of his apparently glittering future Ocon needs to bury Perez this season.

"Yep, he does. Sergio has great talent in certain circumstances, but he doesn't have those moments all the time. Esteban's a really nice kid, with great speed — and when you've got someone fast, and coming from a humble background, you just want them to do well, don't you? Force India have done an amazing job, but it might be difficult for them this year with a car that hasn't really been developed much, because of budget constraints — I hope I'm wrong about that."

And last, Williams, with whom Coulthard's F1 career began. The new car, more adventurous than those of the recent past, proved off the pace during testing, and in Melbourne failed to make an impression.

"Of course I've always had tremendous respect for Williams, but beyond that they've always been seen as

"IN BAHRAIN, ROSS BRAWN IS TO PRESENT A TEMPLATE OF THE NEXT FORMULA 1"

a great engineering outfit, and they've been given a lot of credit by the paddock and press — everyone wants to see Williams do well. At the moment, though, they seem to have some difficulties, and what might be considered a... financially-motivated driver line-up..."

Claire Williams, I said, has told us it's 'inappropriate' to say things like that.

"Oh, don't get me started! There are so many things that are considered 'inappropriate' these days, aren't there?

"I'm starting to feel that the paddock may be losing... not its affection for Williams, but... I know they run a very tight ship, and they have a nice business — but this is motor racing, and Frank's a racer and Patrick Head was a racer.

"I suppose what I'm trying to say is that I'd like to see them go all-in with the money to come up with something — a double-diffuser type of thing — rather than simply doing a nice engineering job, and making a bit of profit for the shareholders at the end of the year.

"It'll be interesting to see how Lance Stroll and Sergey Sirotkin get on — I'm hesitant in my words because I'm so affectionate about Williams, but I hope the team has a year where they can look at people like me who are having a moment of doubt, and say, 'Don't ever doubt us...'"

Having talked through the teams and drivers, we went





on to the state of play in the sport. In Bahrain, Ross Brawn is to present to the teams a template of the next Formula 1, and I thought it encouraging that FIA President Jean Todt recently said he believed Ferrari should lose its right of veto over rules.

Sergio Marchionne has, of course, threatened to withdraw the team if 'the DNA of Formula 1 is not respected', by which he means, of course, if the hybrid engines in their current state are jettisoned, and if a cost cap is imposed to end a financial arms race in which only Ferrari and Mercedes can compete.



This hybrid era, I said, has spawned what are to me remarkably silly cars, terrifyingly expensive, carrying all manner of unsightly 'aero' guaranteed to damage racing, weighing the same as an Auto Union from 80 years ago...

"I couldn't agree more," said Coulthard. "As Adrian Newey said, 'In my McLaren years the car weighed 605kg — and had 20-odd kilos of ballast.' Those cars *felt* like grand prix cars — now we're at more than 740kg.

"This is a consequence of all the hybrid, 'save the planet', 'road-car relevant' bullshit that attaches to Formula 1 these days. Yes, the engines, with all the attendant bits and pieces, produce a lot of horsepower — but they need to, because of the weight of all the bloody bits and pieces. And in the end you finish up with the same performance you had before all this nonsense started!

"It's absolutely ridiculous — like giving everyone a backpack of 20 kilos to carry all the time, because it contains something that makes your heart live longer, but the downside is that now you need extra muscles in your legs, so you need more blood pumped to them, which makes your heart work harder... I'm not putting that terribly well, but you get the gist.

"The thing is, I don't like lying to our fans — fundamentally I'm a fan myself. We've got 743-kilo cars, with all that hybrid technology that people want to celebrate — and in the meantime we've lost a lot of what Formula 1 is supposed to be. When my son arrived at Goodwood this morning, and heard the cars being fired up, he said, 'Daddy, why are they all so <code>loud?'</code> I said, 'Well, that's what a racing car was — and should be:"

In considering the rules for 2021, Brawn and his colleagues could do worse than look at the latest Indycars, now shorn of much of the downforce they had before. While the Australian Grand Prix produced precisely five overtaking moves, the opening race of the IndyCar season at St Petersburg was a delight, with greatly improved racing — and cars actually *sliding*.

"I don't see many IndyCar races," said DC, "because I'm away so much, but I watched the race from St Pete, and thought it was brilliant — the cars looked great, and, as you say, they were sliding around, which fans always love to see. In F1 we've got greatly *increased* downforce — what the hell were we thinking? Of course it made the cars quicker — but are we surprised there's no overtaking? What struck me the other weekend was that IndyCar still has a raw quality that Formula 1 has lost — and needs to get back.

"When it comes to the next Formula 1, Liberty and the FIA together should say, 'These are the rules — whether or not you compete is up to you...'" **



PROMISES, PROMISES

It's time for McLaren to adopt the customer-service mantra of underpromising and overdelivering, lest its racing credibility vanish entirely

EDD STRAW

chadenfreude is great fun provided you aren't on
the receiving end. After three years of McLaren
blaming Honda for all its ills, many revelled in
the once-great team's troubles during testing
in Barcelona last month. From the moment the
wheels started to come off its pre-season (literally in the case
of Fernando Alonso's embarassing off on day one of running)
the narrative predictably turned to one of McLaren being no
better off than it was with Honda.

This was always nonsense. It was clear the car was at least brisk enough to be in or around the front of the midfield battle, and while the mileage the Toro Rosso-Honda partnership covered during the test seemed a miracle of such magnitude that it suggested McLaren had been the problem all along, the Australian Grand Prix disabused those notions. But McLaren has still been found out in a very different way.

During the 'great car, duff engine' years, the contention was that the McLaren chassis was a very good, or sometimes even great one. At times this conjecture drifted into suggestions that it would be as strong as Red Bull with Renault propulsion. When the Renault deal was announced, McLaren executive

"THE INTERNAL OBJECTIVE FOR THIS SEASON HAS ALWAYS BEEN FOURTH IN THE CHAMPIONSHIP"

director Zak Brown held up Red Bull as its yardstick. On the evidence of Australia, McLaren's chassis doesn't measure up.

But this was always going to be the case. Whatever the public pronouncements during the politically charged days when McLaren was extricating itself from the Honda deal, the internal objective for this season has always been fourth in the constructors' championship.

The public objective now is to get up to Red Bull's level by the end of the season, but the first stage of that is for McLaren to rise decisively to the front of the midfield. That means breaking clear of Renault and Haas, both of which had cars ahead of McLaren on the Melbourne grid. This seems to be a realistic and achievable objective, particularly considering some of McLaren's major upgrade package for the Australian Grand Prix has been pushed back to race two in Bahrain, thanks to the travails the team endured during testing. In fact, it probably

won't be until the Spanish Grand Prix in May that McLaren catches up with its development plan.

As for taking on Red Bull by the end of the year, that's a huge ask. The deficit to the fastest Red Bull in qualifying was 1.8s. This is a serious chunk of time to make up. It's certainly not impossible, and McLaren can legitimately claim the challenge of adapting to a different power unit package means it was always going to be playing catch-up. But by setting that target, McLaren is expressing enormous confidence in a technical team that has made some missteps over the past decade.

After all, while McLaren is seen as a powerhouse team thanks to its glorious history, it really isn't that today. It does not operate on the scale of a Mercedes, Ferrari or Red Bull — and even before the ill-fated switch to Honda that seemed like such a great idea at the time, it was creaking.

This is why we must not deceive ourselves into assuming McLaren producing a top car is a given. The last definitively competitive McLaren was on track six years ago, and the technical team at Woking has much to prove and no longer has the free pass for failure provided by Honda.

The real challenge begins now, from this zero-point of being a team that can fight at the front of the midfield. What happens over the next eight months will tell as a lot about whether McLaren's objective to bring back the glory days is realistic or hubristic. And that's going to depend on sheer hard graft.

There are no magic technical bullets in F1 anymore, and McLaren must show its technical leadership is robust, self-critical and focused by delivering that performance.

The Australia upgrade package worked well, although the car on track still looks a little tricky at times and stability gains must be made. For Bahrain, the all-important bargeboard updates that should deliver significant performance are due, having been delayed due to the testing troubles.

But on the positive side, the team is justifiably confident that its factory-to-track correlation is strong and that this, combined with the recent gains it has made in signing off, producing and getting parts on the car, means its development rate can be rapid enough.

We are going to learn a lot about McLaren's strength in depth during the course of 2018. While Honda was certainly the chief architect of the team's recent woes, McLaren still has much to do to prove it is operating at anything approaching the level of the big three teams with which it aspires to mix.

Nobody can fault the ambition. But we have now found out for sure where McLaren really stands, and right now it's as a handy midfielder rather than a frontrunner. This is a solid start, but now, with no more excuses, it's time to deliver. **



It can't be right that fans who pay a great deal of money to attend grands prix see cars going round nowhere near flat-out to protect the engines for the next race

MICHAEL SKEET

Save Formula 1, not the engines

'Save the engine.' These three words from Lewis Hamilton on the podium after the Australian GP sum up one of the major things currently wrong with F1. Having to turn down the settings to protect the engine so it can last multiple races robs the fans of an exciting finish.

This should be a massive wake-up call to the teams, the FIA and Liberty to make sure the next generation of engine is significantly cheaper, so if it blows up on the cool-down lap after the race it won't matter for the next weekend.

Each race weekend should be its own standalone event for engines. It can't be right that fans who pay a great deal of money to attend grands prix get to see cars going round nowhere near flat-out to protect the engines for the next race, and so on.

With multi-millions of pounds swilling around F1, being seen to scrimp on engine numbers to keep costs down is embarrassing. Come on F1, come together, think of the fans, and let's get the 2021 engine regulations correct. Your future is riding on it.

Michael Skeet Lordswood, Southampton

Who'd want to be beaten in a breakaway series?

It's unlikely that Ferrari and Mercedes will start a new championship. They would need to persuade other F1 teams to join them, and attract new ones too, and as they outspend and dominate in F1, who's going to be willing to put themselves forward to be similarly outperformed in a new formula?

Current and new teams would instead prefer F1, because they'd have a much-improved chance of winning motorsport's most prestigious championship in Ferrari and Mercedes' absence.

Richard Hayes Oxford

Catch the marshalling bug on a taster day

I am the national secretary for the British Motorsports Marshals Club (BMMC) and read with interest the letter (February 22) regarding how to get closer to the action. Many thanks for mentioning the orange brigade, and I thought it would be remiss



of me not to encourage readers to get involved with the sport.

Marshalling is one of the faw activities that bridges the gap.

Marshalling is one of the few activities that bridges the gap between spectator and active participator. We regularly hold marshal taster days at all forms of motorsport meetings so that you can get a feel for what is required without having to commit to the sport — although the bug will bite after a taster day.

Contact me at nat.secretary@marshals.co.uk or through our website www.marshals.co.uk.

Stephen Woolfe By email

Thanks for a job well done

I would like to take this opportunity to thank the marshals and the recovery crew at Goodwood who took care of me (and Patrick Watts) after my off at Madgwick at the start of the Gerry Marshall Sprint — their approach and efficiency was exemplary. It was a shame to end what was already a challenging weekend under those circumstances, but that's motor racing. Having suffered quite extensive damage, we are already working on plans to return Auntie Rover to the track this season.

Peter Mallett Leighton Buzzard, Beds

HAVE YOUR SAY, GET IN TOUCH

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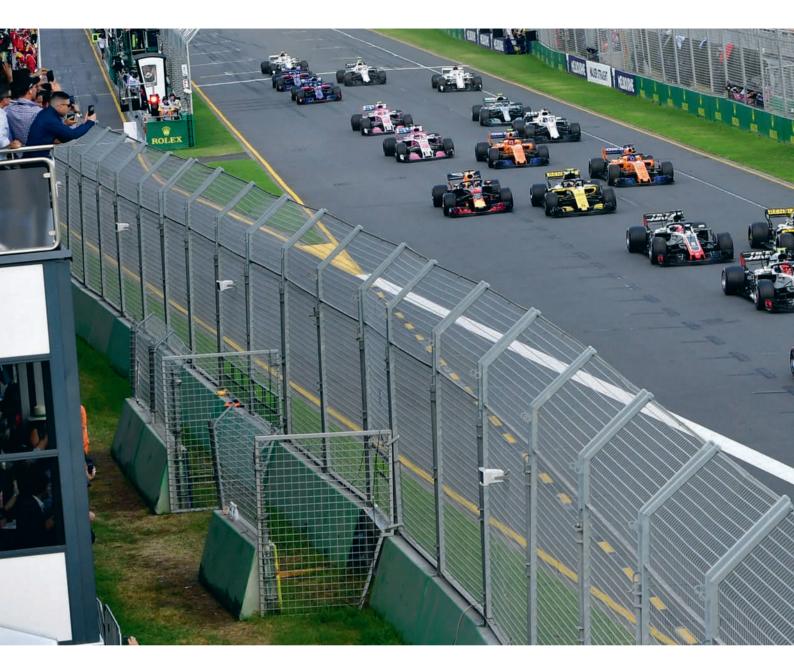
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JUAN MANUEL FANGIO'S FAMOUS ADAGE ABOUT WINNING BY THE SMALLEST POSSIBLE margin has never been truer than in modern grand prix racing. And that's even though he never had to deal with the complex hybrid technology and component limits that force races to be stage-managed by driver and team for fear of consuming too much engine life — with consequences for results downstream — or fuel. And he never encountered a safety car, let alone one of the virtual kind that cost Lewis Hamilton and Mercedes certain victory in the Australian Grand Prix.

Sebastian Vettel and Ferrari's win owed more to good fortune than to pace, as the man himself admitted, for without the deployment of the virtual safety car on lap 26 of 58 to allow the recovery of Romain Grosjean's stricken Haas with its wobbly front-left wheel, they would not have won. But there's another saying about making your own luck, and had Mercedes not incorrectly calculated how much of a lead Vettel would need to make a pitstop under neutralised conditions and stay ahead, Hamilton would still have won.

But he would also have won had Mercedes taken a different, less conservative, approach to manage the risk posed from laps 19-26 when Hamilton had sacrificed track position to Vettel by making a pitstop. Even with the computer saying no and indicating, erroneously, that he was more than close enough to Vettel not to lose out, had Hamilton

been able to use his pace advantage to close the gap to Vettel more during that phase of the race by way of insurance, he would have rendered the timing error moot.

Hamilton, like most racing drivers, would rather not have to take the paint-by-numbers approach to winning races. Had he gone at his natural pace, he'd have been plenty close enough to negate Ferrari's strategy of delaying Vettel's pitstop and leaving him out front in case of just such a scenario.

"It's so hard," said Hamilton when asked if he would rather rely on his racing instincts than algorithms. "It's a team effort, but when you're relying on so much data, so much technology to come out with the strategy or whatever it may be... I wish it was down more to personnel. I just wish it was more in my hands, because I feel



like I was driving as good as ever today. Really, really happy with how I was driving."

And rightly so. While the Mercedes Woo was the class of the field, there's no doubt Hamilton was getting the best out of it. During qualifying, he had looked under serious threat from both Ferrari and Red Bull prior to a stunning lap on his second Q3 run that gave him pole position by almost seven tenths of a second from Kimi Raikkonen.

Fittingly, it was a struggle with management that had made things look closer than they were earlier in qualifying. Hamilton had been hit and miss in ensuring the sensitive rear tyres were not overheating, which can be particularly costly in the final sector of Albert Park, but having closed on Daniel Ricciardo's Red Bull on his final out-lap, he was forced to back off dramatically between Turns 13 and 14 prior to his flier.

This meant he started the lap with the rear tyres, if anything, slightly below temperature. But it also resulted in the rears being bang in the window when he needed the grip most. The consequence was a brilliant lap on which Hamilton had complete control over his machine at a circuit where he has always, even by his standards, flown.

Errors both for Vettel and Max Verstappen at the rapid Turn 13 right-hander allowed Raikkonen to nick second. Aside from a brief moment when it seemed the Finn might have got the jump on

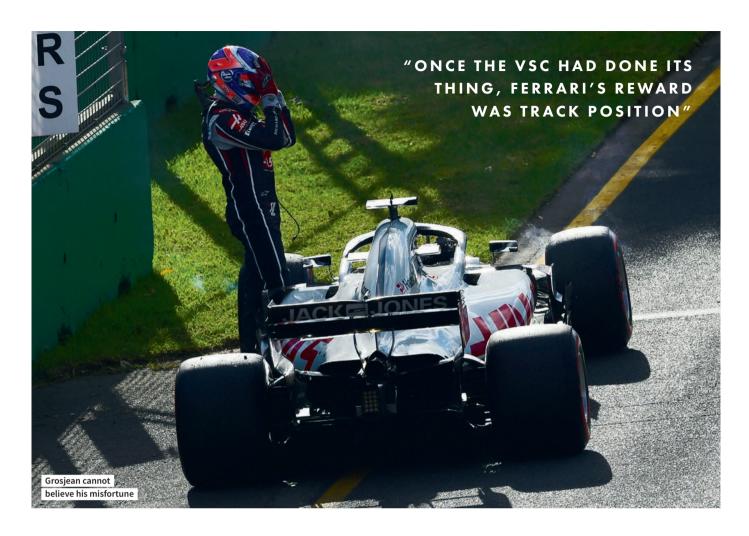
Hamilton off the grid before picking up a dab of wheelspin in the second phase of the start, there seemed no doubt of the race result.

The Mercedes plan went well during the first stint. As is customary, Hamilton ensured he pulled out of DRS range by the time the overtaking-assist became available on lap three of the race before sitting on his lead. Raikkonen did everything he could to peg him back, particularly before making his pitstop on lap 18, at which point Hamilton had inched 3.9 seconds up the road.

Mercedes, correctly, responded and Hamilton was called into the pits to cover the undercut. Hamilton bolted on a set of softs and his nine-second advantage over Vettel, who had run third in the first stint but was not exactly hanging on Raikkonen's heels, turned into a 14s deficit. Hamilton's gap to Raikkonen was largely preserved, the undercut only costing him around half a second.

By the end of the out-lap, the gap to Vettel had closed to 13.0798 and it was clear Hamilton had a potentially big pace advantage. But over the four complete laps that followed, he took only 0.4178 out of Vettel per lap.

Then, for the second time in two laps, a Haas that was effectively running fourth ground to a halt with a wobbly wheel thanks to a cross-threaded wheelnut. The virtual safety car was deployed to allow the recovery of Grosjean's car when Vettel had 11.614s over Hamilton. This put Lewis very comfortably inside the 15s window Mercedes >>>



had calculated to cover the need to stay above the minimum allowable time for each of the 20 marshalling sectors.

So when Vettel pitted for softs and emerged around six tenths in front of Hamilton, there was shock. It wasn't that Mercedes hadn't considered the scenario, it thought it had it easily covered.

"We calculated the VSC gap that was needed and our computer said 15s was the necessary time in order to jump us," said Mercedes team boss Toto Wolff. "We were always within this, [with a] three-to-four second margin and then suddenly the cameras showed us the pit exit and Sebastian came out in front of us."

The precise reason for this miscalculation has yet to be revealed. But whatever the cause, Mercedes made a serious error. It's easy to be a Monday morning quarterback, but you can argue that it would also have made racing sense for Hamilton to close the gap more. After all, even if the required gap was calculated correctly, this would have minimised the risk further.



What if something had happened on track that had delayed Hamilton, or he had made a mistake that cost a few seconds, and coincided with a VSC? Winning F1 races today is all about using your pace when you most need it, and Mercedes didn't take out enough insurance. While that made sense during the first stint when Hamilton didn't pull away from Raikkonen by anywhere near as much as he could have, once the stop had been made you can make a stronger argument for pushing.

"I had extra tools, I could have been further ahead by the first pitstop," said Hamilton. "There were so many good things we could have done, but if one thing is telling you one thing and you think you're doing it to the book, within the limits, then there's nothing you can do."

Hamilton didn't take the attitude that there was nothing he could do in the remaining 27 racing laps. He mounted an attack on lap 46, setting what was then the fastest lap of the race and using the DRS to try to latch onto the back of Vettel. But he overdid it into the Turn 9/10 right/left, rattling over the kerb and dropping 2.7s behind his rival.

Even then, he did not give up. With five laps to go, he was on the brink of getting back into DRS range. But he'd asked too much of the sensitive rear tyres and lost time in Turn 13, dropping to 2.2s behind. Game over.

Realistically, it was always a long shot. Hamilton had a pace advantage, but even in a Ferrari that was not as competitive as the team had hoped, Vettel was never going to let him have a sniff at victory. Good fortune, and a dash of sensible strategy, had given Vettel track position and a driver of his calibre was never going to relinquish it — especially with a seven-lap tyre-life advantage as they both ran to the end on softs.

"I was able to manoeuvre the car and get relatively close," said Hamilton. "It was like a magnet — you can't get the magnet past a certain region. I was able to follow a lot closer than I remember in the past, but I couldn't get any closer than that.

"The engine was overheating and I've got to do seven races with this engine, preferably more if I can. I was on the limiter, and I was too hot,





but I was pushing, I was [thinking], 'I'm just going to keep going'. I cooled it down and then it started coming back. I got relatively close.

"I was like, 'Can I fight, can I go?' And they [the pitwall] were taking their time. So I was like, 'I'm going for it', and I gave it everything. I was quite close behind him in his tow and just locked the right front, didn't make the corner.

"I should probably sit back, save my engine and use the life of it for the next ones. That goes against my spirit of racing, because I want to race right down to the last. The way this sport is set up with fuel saving and all these different things, three engines, you have to think about that and back off. So it's probably not exciting for the fans to have seen, but I want to finish my season on those three engines, I don't want to have to have a fourth."

Ferrari and Vettel deserve plenty of credit for capitalising on the situation. Knowing that Mercedes could not cover both cars, as Valtteri Bottas was down the grid after his qualifying crash, it was logical to force Hamilton to pit to cover Raikkonen then leave Vettel out there. And once the VSC did its thing, Ferrari's reward was track position. While the Ferrari chassis still isn't working as hoped, the engine was strong — in qualifying on the straights combined it was gaining around three tenths on the Mercedes, albeit partly thanks to running lower downforce levels — and Vettel had the race in the bag.

"The car has huge potential, but I'm still struggling a bit," said Vettel. "If we compare to where we're still a bit weak [on the data], it's where I also feel that the car is not there yet. When you talk about something that you miss as a driver, the car doesn't respond the way you like and it's still sliding in places you don't want to slide. I want the car to be spot-on when I hit the brakes and turn in, and in that window I'm not yet happy."

The positive thing for Ferrari is that having made major changes to its car concept, extending the wheelbase, changing the front wing philosophy and adopting high rear rideheight, there should be more to come once it fully understands its design. >>



FOR A FEW BLISSFUL MINUTES, FORMULA 1 DARED TO dream. After the first runs in the Q3 top 10 shootout, Lewis Hamilton was on his customary provisional pole position, but just 0.034 seconds behind was Sebastian Vettel. To make it even more tantalising, Max Verstappen was just 0.027s further back. Could the 2018 season really have opened up with the three-team dogfight we all dreamed of?

Sadly, it was an illusion. Hamilton went out and banged in a stunning Albert Park qualifying record lap of 1m21.164s – nine-tenths faster than his first Q3 run. That gave him his 73rd pole position by a margin of 0.664s from Kimi Raikkonen. All the talk was of the qualifying engine settings, dubbed "party mode" by Hamilton himself earlier in the month,

but this wasn't the reason for that step. To understand why, you just have to listen to what Hamilton said after taking pole position.

"Getting out and getting the tyres working optimally and staying in the right zone

"Getting the tyres in the right zone was difficult"

Lewis Hamilton

through the whole lap was definitely difficult – it always is here, particularly with the rears," said Hamilton. And to solve that problem, he had a little help from Red Bull driver Daniel Ricciardo.

Hamilton had been struggling with overheating rears through much of qualifying, but when he headed out for his final run he closed on Ricciardo on his out-lap. He backed off dramatically between Turns 13 and 14 in the third sector to build a gap, ending up with an out-lap slower than any of his previous ones – it was 12s off the one on his first Q3 run. If anything, backing off that much meant his rears were too cold, but as the lap went on they hit the sweet spot and, rear planted, Hamilton did his thing.

Those weren't the only circumstances that played into the hands of Mercedes and Hamilton. His two closest challengers both lost time in Turn 13, exaggerating the gap and allowing Raikkonen, who had shown a good turn of pace but not quite the same speed as Vettel, to steal second. Both Verstappen and Vettel knew they could have been on the front row.

With Valtteri Bottas crashing out of the pole fight on his first Q3 lap, and Ricciardo stymied by a grid penalty for a red-flag infringement during Friday practice (see page 28), the two Haas drivers locked out the third row.



seasons working at Formula E, free practice was my first opportunity to experience the latest era of F1 car first hand, thus what I learned initially was that the sound is nowhere near as awful as I'd feared.

While the engines are not as shrill as the V8s, nor as brutal as the V10s of recent generations, the sound is aggressive and purposeful, while at the same time not requiring ear plugs or ear defenders, which always seemed to me to be the antithesis of the F1 experience in the first place.

The Honda is the most throaty, the Renault the most sharp, and all four motors are easy to identify with your eyes closed. With eyes wide open, it is almost instantly apparent from watching on the inside of the fast entry into the Turn 11 left-hander that the Mercedes is a beautifully balanced car.

Its turn-in is sharp, in mid-corner it is poised and in Lewis Hamilton's hands it's audibly back on the throttle quicker than anything else. From the moment he hits the track the world champion seems perfectly at ease.

During the early laps of the session, the Haas looks composed here, the McLaren too, with its

TRACKSIDE VIEW

front-end nicely responsive and carrying good speed into the apex.

Moving round to the tighter Turn 13 and Sebastian Vettel's Ferrari isn't turning in as he wants. The car looks lazy and unwilling at these speeds. Both Red Bull drivers are able to get the car to the apex nicely, but mid-corner they are working hard to keep it under control. It looks quick, but erratic. Likewise, the Renault initially turns in well, but wants to break loose thereafter, and

in one instant it catches Nico Hulkenberg out and he's forced into a brief trip across the gravel.

The short walk down to Turn 14 is an opportunity to watch the cars exit the fifth gear right-hander. Hamilton's car is just planted through here. He's visibly faster, yet using less of the track. The Red Bull mid-corner wash-out is forcing Max Verstappen way out onto the astro-turf where he regularly kicks up the dust. He's carrying the

speed, but he's far closer to the ragged edge than Hamilton is.

motorsport.tv

TO WATCH

The balanced neutrality of the Haas's chassis – especially in Romain Grosjean's hands – is apparent here, while the Ferrari looks much stronger than it did in the slower stuff. Both Williams and Sauber drivers are taking big lifts mid-corner as they attempt to settle their cars, lacking the confidence to nail the throttle.

ANDREW VAN DE BURGT





Team-mate Raikkonen also suffered from the VSC, having had the edge over Vettel during the first stint when both were on the ultrasoft tyres. But once on the softs, he struggled a little more, in particular during the early stages of the stint. This left him vulnerable to attack from Ricciardo, but once the order was shuffled by the intervention of the VSC and then the actual safety car, the near-impossibility of overtaking meant there was little chance of a change of order.

Ricciardo, who had made one of the few overtaking moves of the race to pass Nico Hulkenberg into Turn 13, a move completed into the following corner, could do nothing more than shadow Raikkonen, setting fastest lap along the way. After his three-place grid penalty and running eighth early on, Ricciardo emerged as the lead Red Bull driver when Verstappen spun while running fifth having suffered some floor damage clouting the kerb at

"A NON-MERCEDES VICTORY IN THE SEASON-OPENER WAS THE SHOT IN THE ARM F1 NEEDS" the exit of the ultra-fast right/left Turn 11/12.

Verstappen also lost track position, by the narrowest of margins, to Fernando Alonso's McLaren thanks to the VSC, spending the rest of the race pursuing the slower orange machine but unable to make a move. This completed a frustrating weekend for Red Bull, which remains confident it will have the edge over Ferrari at less powersensitive tracks thanks to the strength of its chassis. Of course, all four of the drivers who finished fourth through seventh had a lot to thank the Haas team's pitstop disasters for, as without that Kevin Magnussen and Grosjean would have finished fourth and fifth.

Despite Ferrari's victory and Hamilton's defeat, the form of Mercedes is still ominous. But no matter what the circumstances, a non-Mercedes victory in the season-opener was the shot in the arm the 2018 season needs. And if Ferrari can get on top of a car that's currently proving tricky, Australia proved it can be close enough to give Mercedes something to think about.

And if Ferrari, or Red Bull, can do so more strongly later in the season, Mercedes might have some tough calls to make on exactly when to use its pace. After all, as Australia showed, it can be all too easy to misjudge just how big a cushion you need — even in this data-driven era of grand prix racing. **

Force India struggles despite upgrade

Force India had pinned its hopes on a substantial upgrade package to launch it back into contention for fourth-best team after a characteristically unflashy pre-season. But despite the changes, which included upgrades to the floor, turning vanes and the introduction of a lower T-wing, it was deep in the midfield in Australia.

Neither Sergio Perez, who was 13th fastest, nor Esteban Ocon, 15th and who reached Q2 by just 29 thousandths of a second over the Toro Rosso of Brendon Hartley, were ever a threat for Q3. In the race, despite stronger long-run pace, they finished 11th and 12th, with Ocon's race compromised by debris from a bin liner becoming caught in the front wing.

"The package did bring a performance gain," said Ocon. "Now, we need some more to fight with the ones in front. On our pure development, we did a good job this weekend. We just need a bit more.

"It's not over, it's only the first race. Last year, we were not great here either; there will be some tracks that will suit us more and last year it did come more towards us later in the season."

But the improving form of Renault and the resurgence of McLaren is a concern for the team that has finished fourth in the constructors' championship for the past two years.





Haas blames double pitstop disaster on poor preparation

Fail to prepare, and you are preparing to fail. For two days and 22 laps the Haas Formula 1 team was one of the stars of the season-opener (well, unless you're one of the teams angered by its performance, see Pit and Paddock). Then, in quick succession, it imploded.

Botched pitstops for Kevin Magnussen and Romain Grosjean robbed the team of probably fourth and fifth-placed finishes, given the relative ease with which they were keeping the Red Bulls at bay in the opening stint.

Team boss Gunther Steiner put the pair of "heartbreaking" unsafe pitstops, which left both cars out of the race and cost Haas a €10,000 fine, down to a lack of practice.

"This weekend was very tense for us — we had some issues in FP1, FP2, we didn't have a lot of spares, so we didn't do a lot of pitstop practice, and that could be one of the reasons," Steiner told TV crews after the race. "It was just a bad pitstop. The wheelnut got on wrong and it was cross-threaded. We couldn't catch it early enough.

"You work in a 2.5-second window to do this and we were very unlucky. We had the same guys on the wheelgun as last year, which never missed it, so it is one of these things."

The mistake from Haas had a huge impact. First, the team lost out on a probable 22-point haul. This would likely have put it second in the constructors' championship, as Mercedes (which eventually

scored 22 points) would not have benefited from Valtteri Bottas's leap up the order into eighth.

It also gave Haas's midfield rival McLaren a huge boost. Fernando Alonso was promoted from ninth to fifth thanks to the double retirement and the ensuing virtual safety car, which came at the perfect time for him. Haas only trails McLaren, the lead midfielder, by 12 points — but it should have had (at least) a 20-point advantage, and that could have bigger consequences later in the year in terms of the final constructors' championship positions and the financial prizes that come with them.

Steiner said the team needed to "keep the confidence" and insisted the double error was "a freak incident".

"We need to keep our heads up," he said. "We know we have a good year in front of us, we need just to analyse what happened and how can we make it that it doesn't happen again.

"It is unbelievable — the same problem at two stops, one on the front wheel, one on the rear wheel, but it

happened, it's real.

"A very disappointing end to the day for us, but the pace was good, the car was running strong — that's the thing that keeps the spirits up." The likely haul of points
Haas would have scored
without pitstop woe

Alonso predicts 'big points', rides his luck and delivers

Fernando Alonso's opportunistic fifth place in the Australian Grand Prix meant McLaren was best-of-the-rest behind the big three, but his result owed much to good fortune.

While he put in a characteristically strong drive, Alonso's race was compromised from the start thanks to lining up 10th on the grid, a consequence of a mistake on his second Q2 lap that prevented him from advancing to the top 10 shootout. Nevertheless, he predicted "big points" for McLaren in the race.

Like most of the rest of the field, Alonso was unable to make an overtaking manoeuvre, but owed almost as much as Sebastian Vettel and Ferrari to the Haas team's problems. Not only did he pick up two places thanks to the retirements of Kevin Magnussen and Romain Grosjean, but thanks to extending his opening stint on ultrasofts he also gained from pitting under the virtual safety car.

Having already capitalised on Carlos Sainz having an off-track moment and pitting, Alonso (below) then jumped the Renault of Nico Hulkenberg and Max Verstappen's Red Bull to run fifth — a position he held to the end.

The difference between fifth and sixth had been just a tenth of a second, by which he was judged to have beaten Verstappen out of the pits. Initially, Verstappen ran ahead, but the Red Bull driver was permitted to cede the position without a penalty for passing under yellow-flag conditions.



Q&A ZAK BROWN Executive Director of the McLaren Technology Group

McLaren matched its best result of its three-year alliance with Honda in its first race with Renault propulsion thanks to Fernando Alonso's fifth place in the Australian **Grand Prix. After struggling** for reliability during pre-season testing, completing fewer miles than any other team, McLaren's weekend started with what initially appeared to be an exhaust problem that turned out to be caused by some flammable material that wasn't supposed to be there catching fire. From that point, it was a relatively smooth weekend.

So do you consider McLaren to be back now?

It's only one race but we are on our way. It's a good result, good to get both cars in the top 10, Fernando driver of the day, the cars ran flawlessly. It's the start of the journey back.

Results in the first race are always important, but given McLaren's position for the previous three seasons, does that make it doubly so?



decision [to part company with Honda]. Today was the type of result that showed everyone we had made the right decision.

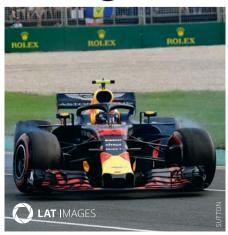
The result was good, but the pace wasn't stunning and the virtual safety car helped you. You are in the midfield pack, but not as strong as you should be... No, we've got to go faster but

it's a good start. There's plenty of room for improvement and we will improve, but we wanted to just get a nice result under the belt.

Reliability was the big question and it was embarrassing to have so many problems in testing. Good to prove you can get two cars to the finish? It wasn't an ideal winter,

but after free practice one everything ran flawlessly. We expected to come here and be respectable and show we are on the journey back. I think we accomplished that.

Damage (and desperation) hold Max back



Diffuser damage played a part in the off at Turn 1 that ruined Max Verstappen's Australian Grand Prix early, but the Red Bull driver needs to shoulder some of the blame.

He was already looking lairy behind Kevin Magnussen, who had mugged Verstappen around the outside of Turn 1 at the start to get his Haas into fourth place. Thereafter, Verstappen (left) was ragged in pursuit, desperately trying to get back ahead quickly before his tyres (and his race) were ruined. When a slide through the fast left-right Turn 11-12 complex hurt the rear of his car on the kerb, he did not calm down.

After that error, which dropped him to

eighth, Verstappen recovered reasonably well. He thought he had got back up to fifth thanks to the two Haas drivers dropping out, but was 0.1s behind Fernando Alonso's McLaren across the line under the virtual safety car and had to give the position back. He gave chase to Alonso until the end, but Melbourne is the new Monaco and thus Verstappen's supposed title challenge begins with sixth.

Team-mate Daniel Ricciardo was fourth and unable to pass Kimi Raikkonen in the closing stages. This was after being hit with a three-place grid penalty for speeding under red-flag conditions that stewards were reluctant to issue but had to.





Airborne detritus plays havoc with the midfield runners

Plastic bags proved to be an unexpected enemy for two teams in the lower midfield. Sergey Sirotkin's Formula 1 debut for Williams came to a premature end on lap five when he retired with overheating brakes, believed to be a consequence of a duct ingesting a bag.

Sirotkin started 19th and ran there early on before losing retardation and heading up the Turn 13 escape road.

"You would not believe what happened: it was a plastic sandwich bag, which went into the rearright brake duct," said Sirotkin. It made [the brakes] overheat massively. It caused massive temperature spikes and destroyed all of the brakes."

Williams chief technical officer Paddy Lowe, speaking after the race, stressed that the team had not established 100% confirmation that this was the cause. But it was very likely.

"We lost all the sensors from that corner progressively as they got burned, and eventually the seal has probably gone on the caliper because there was a fluid leak and the pedal went to the floor," said Lowe.

Esteban Ocon also suffered from a bin liner getting caught in his front wing, slowing him in the second half of the race on his way to 12th.

Sickly Sainz hampered by water woe Carlos Sainz clung on to score

Carlos Sainz clung on to score the final point in Melbourne, but he was sick of the sight of his Renault by the end of the race — almost literally.

The Spaniard ceded a place to Fernando Alonso shortly before pitting when he made a mistake at Turn 9 and ran across the grass, then was shuffled back to 10th thanks to drawing an unfavourable lot in the virtual safety car gamble.

He was relieved just to make

it to the end after reporting feelings of nausea over the radio.

LAT IMAGES

"We had a problem with the water pump [drinks bottle] and during the first 10 or 15 laps it was squirting water on my face, so I was drinking too much

water," Sainz explained. "When the safety car came out I had a lot of water in my stomach.

"I was feeling it a lot in the corners. I don't know if it was a stomach cramp or what, but I wasn't comfortable."

Bottas takes eighth after 27G qualifying accident

Valtteri Bottas salvaged eighth place after a 27G impact with the Turn 2 wall at the start of Q3.

Bottas carried too much speed into Turn 1, hits the inside kerb and was forced slightly wide mid-corner. He touched the grass, which was damp after heavy rain earlier in the day, and lost the rear as he attempted to take the second part of the right/left sequence.

His car backed into the wall, sustaining damage that forced a gearbox chang and triggered a five-place grid penalty.

"I was carrying a lot of speed and went wider than ideal," said Bottas. "It was a bit damp and I got sudden wheelspin and couldn't catch the rear or lift any more. It was my mistake, I just pushed too hard."

Bottas started 15th and passed Lance Stroll and Esteban Ocon in the first nine laps to run 13th. The timing of the virtual safety car enabled him to pit as it was deployed and jump Carlos Sainz and Sergio Perez. He then passed Stoffel Vandoorne's McLaren into Turn 3 at the restart, running eighth to the finish.

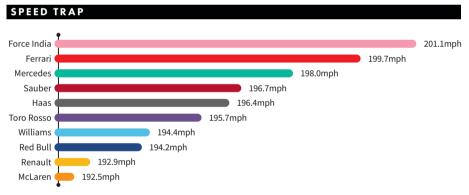
Bottas then battled cooling problems that stymied his recovery, meaning he was unable to push consistently.

"I could only do about two laps and then I had to back off and try again," he explained.





FRE	E PRACTICI	1	FRE	E PRACTI	CE 2	FRE	E PRACTI	CE 3
POS	DRIVER	TIME	POS	DRIVER	TIME	POS	DRIVER	TIME
1	Hamilton	1m24.026s	1	Hamilton	1m23.931s	1	Vettel	1m26.067s
2	Bottas	1m24.577s	2	Verstappen	1m24.058s	2	Raikkonen	1m28.499s
3	Verstappen	1m24.771s	3	Bottas	1m24.159s	3	Ericsson	1m28.890s
4	Raikkonen	1m24.875s	4	Raikkonen	1m24.214s	4	Verstappen	1m31.680s
5	Vettel	1m24.995s	5	Vettel	1m24.451s	5	Sainz	1m33.172s
6	Ricciardo	1m25.063s	6	Grosjean	1m24.648s	6	Ricciardo	1m34.043s
7	Grosjean	1m25.730s	7	Ricciardo	1m24.721s	7	Bottas	1m34.174s
8	Alonso	1m25.896s	8	Alonso	1m25.200s	8	Hamilton	1m34.225s
9	Sainz	1m25.922s	9	Magnussen	1m25.246s	9	Vandoorne	1m34.233s
10	Vandoorne	1m26.482s	10	Vandoorne	1m25.285s	10	Alonso	1m34.298s
11	Gasly	1m26.494s	11	Sainz	1m25.390s	11	Gasly	1m34.990s
12	Sirotkin	1m26.536s	12	Perez	1m25.413s	12	Hartley	1m35.438s
13	Hulkenberg	1m26.583s	13	Hulkenberg	1m25.463s	13	Sirotkin	1m35.589s
14	Ocon	1m26.605s	14	Stroll	1m25.543s	14	Stroll	1m35.828s
15	Stroll	1m26.636s	15	Ocon	1m25.888s	15	Grosjean	1m36.171s
16	Perez	1m26.767s	16	Hartley	1m25.925s	16	Leclerc	1m36.448s
17	Magnussen	1m27.035s	17	Gasly	1m25.945s	17	Magnussen	1m36.807s
18	Hartley	1m27.745s	18	Sirotkin	1m25.974s	18	Hulkenberg	1m38.482s
19	Ericsson	1m27.964s	19	Ericsson	1m26.814s	19	Ocon	notime
20	Leclerc	1m28.853s	20	Leclerc	1m26.815s	20	Perez	notime
WEATH	ER 25C Sunny		WEATH	ER 25C Sunny		WEATH	ER 27C Damp	



U/	ALIFYING	1	QUA	LIFYING	2	QUA	LIFYING	3
POS	DRIVER	TIME	POS	DRIVER	TIME	POS	DRIVER	TIME
1	Hamilton	1m22.824s	1	Vettel	1m21.944s	1	Hamilton	1m21.164s
2	Raikkonen	1m23.096s	2	Hamilton	1m22.051s	2	Raikkonen	1m21.828s
3	Vettel	1m23.348s	3	Bottas	1m22.089s	3	Vettel	1m21.838s
4	Verstappen	1m23.483s	4	Verstappen	1m22.416s	4	Verstappen	1m21.879s
5	Ricciardo	1m23.494s	5	Raikkonen	1m22.507s	5	Ricciardo	1m22.152s
6	Sainz	1m23.529s	6	Ricciardo	1m22.897s	6	Magnussen	1m23.1879
7	Alonso	1m23.597s	7	Sainz	1m23.061s	7	Grosjean	1m23.3399
8	Grosjean	1m23.671s	8	Magnussen	1m23.300s	8	Hulkenberg	1m23.532s
9	Bottas	1m23.686s	9	Grosjean	1m23.468s	9	Sainz	1m23.577s
10	Hulkenberg	1m23.782s	10	Hulkenberg	1m23.544s	10	Bottas	notime
11	Magnussen	1m23.909s	11	Alonso	1m23.692s	WEATH	ER 25C Sunny	
12	Vandoorne	1m24.073s	12	Vandoorne	1m23.853s		,	
13	Perez	1m24.344s	13	Perez	1m24.005s			
14	Stroll	1m24.464s	14	Stroll	1m24.230s			
15	Ocon	1m24.503s	15	Ocon	1m24.786s			
16	Hartley	1m24.532s						
17	Ericsson	1m24.556s						
18	Leclerc	1m24.636s						
19	Sirotkin	1m24.922s						
20	Gasly	1m25.295s						

SEASON STATS

DRIVERS' CHAMPIONSHIP						
1	Vettel	25				
2	Hamilton	18				
3	Raikkonen	15				
4	Ricciardo	12				
5	Alonso	10				
6	Verstappen	8				
7	Hulkenberg	6				
8	Bottas	4				
9	Vandoorne	2				
10	Sainz	1				
11	Perez	0				
12	Ocon	0				
13	Leclerc	0				
14	Stroll	0				
15	Hartley	0				
16	Grosjean	0				
17	Gasly	0				
18	Magnussen	0				
19	Sirotkin	0				
20	Ericsson	0				

CONSTRUCTORS'CHAMPIONSHIP

1	Ferrari	40
2	Mercedes	22
3	Red Bull	20
4	McLaren	12
5	Renault	7
6	Force India	0
7	Sauber	0
8	Williams	0
9	Toro Rosso	0
10	Haas	0

QUALIFYING BATTLE

Hamilton	1	0	Bottas
Ricciardo	0	1	Verstappen
Vettel	0	1	Raikkonen
Perez	1	0	Ocon
Stroll	1	0	Sirotkin
Vandoorne	0	1	Alonso
Gasly	0	1	Hartley
Grosjean	0	1	Magnussen
Hulkenberg	1	0	Sainz
Ericsson	1	0	Leclerc





RAC	E RESULTS 58 lap	s – 191.13 miles				FA S	TEST LAPS			
POS	DRIVER	TEAM	FINISHTIME	LED	TYRES	POS	DRIVER	TIME	GAP	LAP
1	SebastianVettel(D)	Ferrari	1h29m33.283s	40	USu,Sn	1	Ricciardo	1m25.945s	-	54
2	Lewis Hamilton (GB)	Mercedes	+5.036s	18	USu,Sn	2	Raikkonen	1m26.373s	+0.428s	57
3	Kimi Raikkonen (FIN)	Ferrari	+6.309s		USu,Sn	3	Hamilton	1m26.444s	+0.499s	50
4	Daniel Ricciardo (AUS)	Red Bull-Renault	+7.069s		SSu,Sn	4	Vettel	1m26.469s	+0.524s	53
5	FernandoAlonso(E)	McLaren-Renault	+27.886s		USn,Sn	5	Verstappen	1m26.880s	+0.935s	54
6	Max Verstappen (NL)	Red Bull-Renault	+28.945s		SSu,Sn	6	Vandoorne	1m26.958s	+1.013s	57
7	$\textbf{Nico Hulkenberg}(\mathbb{D})$	Renault	+32.671s		USu,Sn	7	Alonso	1m26.978s	+1.033s	57
8	Valtteri Bottas (FIN)	Mercedes	+34.339s		USu,SSn	8	Bottas	1m27.019s	+1.074s	54
9	StoffelVandoorne(B)	McLaren-Renault	+34.921s		USn,SSn	9	Hulkenberg	1m27.081s	+1.136s	57
10	CarlosSainz(E)	Renault	+45.722s		USu,Sn	10	Ocon	1m27.600s	+1.655s	57
11	Sergio Perez (MEX)	Force India-Mercedes	+46.817s		USn,Sn	11	Perez	1m27.633s	+1.688s	51
12	EstebanOcon(F)	Force India-Mercedes	+1m00.278s		USn,Sn	12	Sainz	1m27.944s	+1.999s	51
13	Charles Leclerc (MC)	Sauber-Ferrari	+1m15.759s		SSn,Sn,USn	13	Hartley	1m28.176s	+2.231s	57
14	Lance Stroll (CDN)	Williams-Mercedes	+1m18.288s		SSn,Sn,USn	14	Stroll	1m28.511s	+2.566s	55
15	Brendon Hartley (NZ)	Toro Rosso-Honda	-1lap		SSn,Sn,USn	15	Leclerc	1m28.759s	+2.814s	56
R	RomainGrosjean(F)	Haas-Ferrari	24 laps-wheel nut		USu,SSn	16	Grosjean	1m28.805s	+2.860s	23
R	Kevin Magnussen (DK)	Haas-Ferrari	22 laps-wheel nut		USu,SSn	17	Magnussen	1m29.534s	+3.589s	21
R	Pierre Gasly (F)	Toro Rosso-Honda	13 laps-engine		USn	18	Gasly	1m30.649s	+4.704s	13
R	Marcus Ericsson (S)	Sauber-Ferrari	5 laps-power-steering		SSn	19	Ericsson	1m32.210s	+6.265s	4
R	Sergey Sirotkin (RUS)	Williams-Mercedes	4 laps-brakes		SSn	20	Sirotkin	1m32.573s	+6.628s	3

WEATHER 25C Sunny

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

WINNER'S AVERAGE SPEED~128.045 mph~FASTEST LAP AVERAGE SPEED~138.024 mph

RACE BRIEFING

GRID PENALTIES

RICCIARDO Three-place penalty for failing to stay above minimum time set by FIA ECU under red flag BOTTAS Five-place penalty for replacement gearbox

RACE PENALTIES

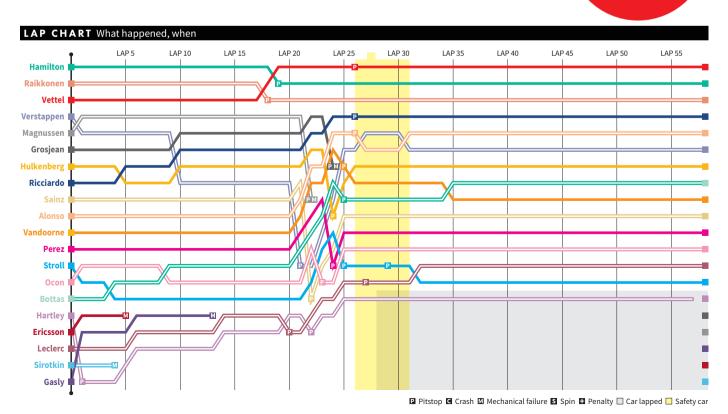
HAAS fined 10,000 Euros for twice releasing cars in unsafe condition



STAT

100

Vettel scored his 100th
F1 podium in his
199th start



Magnussen is top dog as favourites fall short

Lewis Hamilton dominated the weekend but it wasn't quite enough to earn a 10 out of 10, while the Williams duo picked up the wooden spoon

EDD STRAW

MERCEDES



Hamilton delivered a stunning pole lap, albeit helped by Daniel Ricciardo backing him up on his second Q3 out-lap and aiding rear-tyre preparation. He would have won without the team's VSC blunder, although he has to be marked down for minor errors during the near-impossible chase of Vettel afterwards.



Bottas never looked as hooked up with the Mercedes as Hamilton around Albert Park, particularly on corner entry in the mediumspeed turns. That perhaps explains his Q3 crash, when he overdid it into Turn 1. His recovery drive was unspectacular, limited by overheating issues and the difficulties in overtaking here.

FERRARI



So what if the VSC gifted him the lead; since Vettel was in a car that wasn't the equal of the Mercedes, he needed assistance to get the Ferrari's nose in front. But it was far from a perfect weekend, and Vettel is marked down for his Q3 error and not being as close to Raikkonen in the first stint as he could have been.

o B



There was a lot to be positive about; Kimi capitalised on Vettel's Q3 error to outqualify him and then ran comfortably more strongly than him in the first stint. But he didn't go so well on the softs, and was vulnerable to Daniel Ricciardo in the early phase of the second stint. Ultimately a solid start to the season.

RED BULL

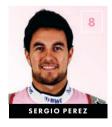


Conservatism in Turn 1 and a slight lack of power compromised his qualifying, and Ricciardo also has to accept the blame for a pace misjudgement in Friday practice under the red flag, which earned him a grid penalty. Made up for it with a strong drive, and was one of the elite few to pull off an overtaking move.

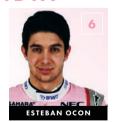


A scruffy weekend.
Max was quick, but a
mistake in qualifying
cost him a place on the
front row. Overdrove
after losing out to
Magnussen at Turn 1,
overworking the rears
and damaging the
floor at Turn 12,
leading to his spin.
Bad luck cost him a
place to Alonso, but
the damage was
already done.

FORCE INDIA



It's hard to be sure how quick the car was, but it didn't appear Q3-worthy so it seems reasonable to assume Perez was relatively close to its potential, even though he didn't string together his ideal lap. Outpaced Ocon in qualifying and the race, so did about as much as could be expected with the equipment.



Had a difficult time in qualifying with the front end, abandoning his first Q2 run then delivering a lap eight-tenths off Perez. In the race, he restarted right behind Perez and finished 13.5s down, but gets the benefit of the doubt for losing front downforce because of debris lodged in the wing.

WILLIAMS



Stroll described the Australian GP weekend as one of survival. Overheating after a practice start on Friday meant that he went into the race without access to the usual array of engine modes in order to preserve engine life. The race was inconclusive, but there was no sign of

anything exceptional.

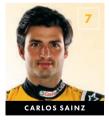


Became the first recorded instance of a driver retiring on his grand prix debut thanks to a plastic bag causing his brakes to overheat, long before he had the chance to show what he could do in race conditions. But it is fair to say he didn't get the most out of what was an admittedly tricky car in qualifying.

RENAULT



Beat Sainz in the qualifying battle despite an off on his first Q2 run that jeopardised his place in Q3 (though Sainz set the quickest single Renault lap in quali). Maybe could have been harder in battle with Ricciardo, but would have been fifth without the VSC that allowed Alonso and Verstappen ahead.



There were hints that Sainz was the faster of the two Renault drivers, but he didn't deliver that pace when it mattered in Q3. Race was compromised by an off at Turn 9 on what proved to be his in-lap, but he was battling nausea as a result of having to swallow excess water being pumped by his drinks system.



TORO ROSSO



Qualifying hinted that Gasly had the pace to shade Hartley, but he was too aggressive at Turn 3 on his final Q1 lap and ran through the gravel. There's little definitive to conclude from his race performance, since he drove around in the line like everyone else before an engine problem forced him to retire early on.



Hartley would have made Q2 but for underestimating grip into Turn 1, and even then he was only 0.029 seconds off advancing. The biggest lock up of his life into the first corner forced an early pitstop, and any chance of recovering was eliminated by subsequent floor damage that caused a puncture.

HAAS

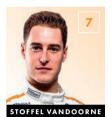


Like his team-mate, found the car a little understeery on entry in qualifying, but joined Magnussen in putting the two Haas cars ahead of the rest of the midfield. Was stringing together a good race under pressure until he was forced out. He only gets marked down for being the second-best Haas driver.



A great weekend from Magnussen, who deserved better than the cross-threaded wheelnut that ended his race. Nailed it in qualifying and shaded Grosjean, no easy task when his team-mate is at one with the car, and then showed his racecraft by passing Verstappen at Turn 1 and then holding off the Red Bull with ease.

McLAREN

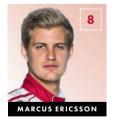


The true qualifying deficit to Alonso didn't show on the timing sheets thanks to Alonso's mistake. But Vandoorne's race pace was decent, and although he lost ground to Alonso because of it, the safety car helped him jump Sainz. Did what the team needed him to do and ensured a double-points finish.

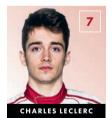


Alonso won driver of the day, but he can't get away from the fact that good fortune played a big part in his strong result. An error in qualifying cost him a place in Q3, and he couldn't make ground in the first stint before pitting under the safety car helped him jump two cars. But he still had to be there to capitalise.

SAUBER



Ericsson showed a good turn of pace in a car that has taken a step forward since testing, and came very close to sneaking into Q2 after a strong quali performance. He had little chance to show what he could do in the race before retiring with a power-steering failure, but sat in the midfield queue easily enough.



For a rookie weekend, this was a decent performance from Leclerc up against an underrated team-mate who has experience. Qualifying could have been a little better, but he had a good race even factoring in an iffy start and his struggles with fuel saving. Passing Stroll at the restart was the highlight. A solid start.





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2018: Stuart Middleton

2018 Points Score: 78.10 2018 Rolex 24 At Daytona finishing 2nd Overall 2017 Highlights:

• British GT4 Champion



2019: It could be you



2016: Jonny Adam

2016 Points Score: 92.58 2016 Rolex 24 at Daytona finishing position 6th overall

2017 Highlights:

- GTE Pro winner 2017 Le Mans 24 Hrs
- Woolf Barnato Trophy winner for highest placed British car and driver combination at Le Mans
- BRDC Fairfield Trophy winner
- 3rd British GT Championship



2017: Seb Morris

2017 Points Score: 80.06 2017 Rolex 24 at Daytona finishing position 6th in class

2017 Highlights:

- British GT3 Championship winner
- International GT Open
- 2017 BRDC Superstar
- 2013 McLaren Autosport BRDC Award Finalist
- 2012 BRDC Rising Star



2014: Bradley Smith

2014 Points Score: 115.71 2014 Rolex 24 at Daytona finishing position 10th in class

2017 Highlights:

- Radical Challenge race winner
- Radical North American Masters race winner



2015: Phil Keen

2015 Points Score: 89.61 2015 Rolex 24 at Daytona finishing position 4th in class

2017 Highlights:

- 2nd British GT Championship
- 3rd Michelin Le Mans Cup



2012: Felipe Nasr

2012 Points Score: 72.25 2012 Rolex 24 at Daytona finishing position 3rd

2017 Highlights:

• Signed with #31 Whelen Engineering to race in the 2018 IMSA WeatherTech SportsCar Championship



2013: Ivan Bellarosa

2013 Points Score: 124.38 2013 Rolex 24 at Daytona finishing position DNF

2017 Highlights

• Campionato Italiano Sport Prorotipi Champion



2010: Derek Johnston

2010 Points Score: 77.50 2010 Rolex 24 at Daytona finishing position 10th overall

2017 Highlights:

• 3rd British GT Championship



2011: Ross Kaiser

2011 Points Score: 107.50 2011 Rolex 24 at Daytona finishing position DNF

2017 Highlights:

• European Le Mans Series

2018 MSV SEASON HIGHLIGHTS

MotorSport Vision (MSV) is gearing up for a superb season in 2018, with an outstanding programme of major national and international race meetings at its five famous race circuits. Discounted advance tickets and the best grandstand seats are available online from our website.

31 March-2 April	Bennetts British Superbike Championship	Donington Park
31 March-2 April	British GT and BRDC British F3 Championships	Oulton Park
1/2 April	British Truck Racing Championship	Brands Hatch
7/8 April	British Touring Car Championship	Brands Hatch
13-15 April	Bennetts British Superbike Championship	Brands Hatch
28/29 April	British Touring Car Championship	Donington Park
4-6 May	Donington Historic Festival	Donington Park
5-7 May	Bennetts British Superbike Championship	Oulton Park
5/6 May	Blancpain GT Series Sprint Cup	Brands Hatch (GP)
12/13 May	Mini Festival	Snetterton
19 May	Vintage Motorsport Festival	Oulton Park
19/20 May	Historic Wolds Trophy	Cadwell Park
25-27 May	Motul FIM Superbike World Championship	Donington Park (GF
26/27 May	Masters Historic Festival with Historic F1	Brands Hatch (GP)
26/27 May	British GT and BRDC British F3 Championships	Snetterton
27 May	Family Funday	Oulton Park
9/10 June	American SpeedFest VI	Brands Hatch
9/10 June	British Touring Car Championship	Oulton Park
15-17 June	Bennetts British Superbike Championship	Snetterton
17 June	Deutsche Fest	Brands Hatch
24 June	Vintage Motorsport Festival	Donington Park
30 June - 1 July	Legends of Brands Hatch Superprix	Brands Hatch (GP)
20-22 July	Bennetts British Superbike Championship	Brands Hatch (GP

21/22 July	Convoy In The Park (featuring Truck Racing)	Donington Park
21 July	Mini Festival	Oulton Park
22 July	Vintage Motorsport Festival	Cadwell Park
28/29 July	British Touring Car Championship	Snetterton
4/5 August	British GT and BRDC British F3 Championships	Brands Hatch (GP)
4/5 August	Donington Classic Motorcycle Festival	Donington Park
11/12 August	DTM (German Touring Cars)	Brands Hatch (GP)
17-19 August	Bennetts British Superbike Championship	Cadwell Park
19 August	Festival Italia	Brands Hatch
25/26 August	Mini Festival	Brands Hatch
25-27 August	The Oulton Park Gold Cup	Oulton Park
2 September	Festival of Porsche	Brands Hatch
8/9 September	British Truck Racing Championship	Snetterton
14-16 September	Bennetts British Superbike Championship	Oulton Park
22/23 September	British GT and BRDC British F3 Championships	Donington Park
23 September	Vintage Motorsport Festival	Snetterton
29/30 September	British Touring Car Championship	Brands Hatch (GP)
12-14 October	Bennetts British Superbike Championship	Brands Hatch (GP)
3 November	Neil Howard Stage Rally and Fireworks	Oulton Park
3/4 November	British Truck Racing and Fireworks	Brands Hatch
18 November	North Humberside Stage Rally and Fireworks	Cadwell Park

^{*} All events and dates subject to change

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AUSTRALIAN SUPERCARS ALBERT PARK (AUS) MARCH 23-25 ROUND 2/16

Although Jamie Whincup won the inaugural Larry Perkins Trophy, it was an emotional first victory for Scott Pye that highlighted a history-making Supercars weekend.

The series competed for championship points on the Australian Grand Prix support bill for the first time in history, with four different winners across the four races.

There were a number of significant firsts, led by Pye taking a stunning maiden win in the Saturday evening 25-lap twilight race. It was not only his first victory, but the first for the restructured Walkinshaw Andretti United squad.

Bathurst 1000 winner David Reynolds scored his first solo Supercars honours since joining Erebus Motorsport with a dominant performance in Sunday's sprint race.

Earlier in the weekend, it was Scott McLaughlin that made history by claiming the first ever championship Supercars race victory at an Australian Grand Prix.

The Penske Ford driver engaged in an epic battle with Whincup in the opening 25-lap pitstop race, both drivers enjoying stints in the lead before McLaughlin barged his way in front with a three-corner, side-by-side move at two-thirds distance.

Whincup struck back in the second

race of the weekend by dominating the 13-lap sprint on Saturday.

The reigning champion was unstoppable in wet conditions, leading McLaughlin home by 4.2 seconds despite two separate trips across the grass at Turn 1.

Wet weather returned for the second 25-lap race on Saturday evening, but in much more dramatic style. After the first two-thirds of the race had been run in the dry, a late storm made for a hectic finish.

That meant Pye had to survive the last nine laps struggling with slick tyres. A half-spin with two laps to go allowed Whincup to close in for a grandstand finish.

In the end Pye hung on to win by just 0.3s after a drag race to the flag, the race practically ending in the dark.

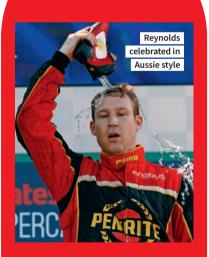
Polesitter McLaughlin endured a race to forget. He initially handed the lead to Pye by running off at Turn 1 on lap two and then threw away a top-six finish by opting to pit for wets. That left him down in 15th.

In the finale Reynolds made the most of polesitter Whincup's sluggish start to jump into a lead he wouldn't relinquish. Nick Percat also passed Whincup to grab second.

Shane van Gisbergen's 13th ensured he retains the points lead by 49 over Reynolds, with McLaughlin in third.

Whincup, still recovering from his tough season opener in Adelaide, is sixth – 107 points off his team-mate.

ANDREW VAN LEEUWEN



AUSTRALIAN SUPERCARS

Race 1 Scott McLaughlin DJR Team Penske

Ford Falcon FG X
Race 2 Jamie Whincup

Triple Eight Race Engineering Holden Commodore ZB

Race 3 Scott Pye

Walkinshaw Andretti United Holden Commodore ZB

Race 4 David Reynolds
Erebus Motorsport

Holden Commodore ZB

ERC - AZORES RALLY Alexey Lukyanuk/Alexey Arnautov Ford Fiesta R5

6 Solution of the second second



Formula E's battle of the streets

Racing in and around cities makes the electric series more accessible and distinctive, but brings plenty of challenges

ALEX KALINAUCKAS





CITY CENTRE EVENTS ARE "VERY IMPORTANT FOR FORMULA E'S DNA", according to series boss Alejandro Agag, and fans tuning in to watch the action from the all-electric championship will see 12 days of racing across the 2017/18 season.

But the task of planning and implementing the races is a complex and ever-evolving process. It ranges from picking suitable cities and countries to race in, to building tracks and recreating the Formula E experience at each one. But before any barriers can be installed or team tents erected, an exhaustive planning and consultation phase kicks into gear.

"In the beginning, we were approaching cities and trying to get in contact with the mayor, and that was the first year — or even year minus one," says Formula E's events operations director, Manolo Ortiz-Tallo, who has put on meetings in Formula 1, the World Rally Championship and MotoGP. "It was how we began to evaluate the interest of each city — nowadays, there is a department in the company that manages our relationship with existing and new cities."

Formula E has also previously worked with intermediaries when it comes to putting on events in new locations. The championship's preferred policy is to talk directly with central governments or city mayors. "Normally we receive a request that a certain city or government is interested in hosting one of our races," says Ortiz-Tallo. "And then we need to do a first feasibility study."

Each study is compiled by a team that comprises two track designers — over the years Formula E has used Hermann Tilke's

company, British designer Simon Gibbons and other engineers local to North and South America — one of the series' events managers and an internal designer. They go to each city for two to three days to visit the area where a race could take place and to see if the reality of the urban environment matches what they have seen from satellite software.

"It all starts with basic work using satellite software and GPS imagery," explains Ortiz-Tallo. "Following this process we conduct on-site visits to check that all surroundings match with our records. Often a tree or a lamppost will appear differently, which is a normal occurrence."

Each feasibility study is typically 60-70 pages long and is put together when the designers return. Although studies for cities joining the most recent Formula E calendars will have been conducted several years ago, future studies will take in additional details such as local investment and regulations.

"[They will] take into consideration not only the track, and the viability of the track, but also the viability of the project itself," says Ortiz-Tallo.

Once an agreement with a city is reached, the process of implementing the actual event can get underway. Every local arrangement is different, with a mix of local operators and promoters — who pay to hold the event — making up the calendar. These agreements are complicated by the viability of finding suitable local teams to build each track, but there is now a three-four-month tender process to negotiate.







In its three-and-a-half season history, Formula E has had a different calendar line-up each time. As a start-up championship, the series does not have the historical ties to permanent circuits enjoyed by established competitions such as F1 and MotoGP - although by racing in city centres it is of course going a completely different route.

The schedule is something that Ortiz-Tallo highlighted as a particular difficulty when he joined Formula E in 2013: "First of all because the rest of the [motorsport] calendars are done," he explains, "they are much older championships than ourselves. So, the only thing that MotoGP or F1 does is one week earlier or one week later — but this is the most that they do — and probably they add one new race. The basics, 90% of the rest, is absolutely the same.

"In our case, we have to play with this but our calendar is already seeing many of the same cities year on year as a positive consequence of the championship's continued growth. We are trying to establish a calendar that is at least 80% is fixed and then 20% can be new cities."

In the championship's fourth season, Santiago became the 17th city to host a Formula E event, with Rome and Zurich set to bring that total up to 19 before the end of the current campaign.

When it comes to building the tracks, the championship's preference is for the walls and fences to be sourced locally because transportation costs of the heavy blocks are prohibitive. This might seem tricky on the face of it, but at Punta del Este and Buenos Aires, which hosted races in the first three Formula E seasons, those locations already possessed the necessary equipment because they also host Super TC2000 street events.

The preferred system for installing the walls that line Formula E circuits allows for a certain degree of installation flexibility — especially up and down — to help with building around the typical street furniture sprawled across urban areas.

"For a city centre, you need this flexibility because sometimes you have a sidewalk and you have to put the walls on top of the sidewalk — so if you have a system that is completely fixed and you cannot move anything, it's very difficult to do a track correctly in the middle of a city," explains Ortiz-Tallo.

The walls are also multi-purpose and Formula E is happy for them to be retained for use by the host cities, so long as they return them in their original condition. In Berlin, they were even redeployed to help protect Christmas markets following the terror attack in the city in December 2016. >>>

THE DRIVER'S VIEW

The city-centre and one-day nature of Formula E race events present unusual challenges for the drivers.

While most of the field is familiar with the three-day set-up of typical single-seater series, Formula E's comparative lack of track time makes things complicated.

"It's a very unusual weekend, especially because of the limitation of time," says reigning champion Lucas di Grassi. "[Before the race] you go to the sim, you analyse some data, analyse some onboard – you watch the race from the year before."

After arriving in the host city on the Wednesday before the race to acclimatise and get familiar with the venue, the drivers often spend Thursdays taking part in PR

commitments before attention switches to the track walk, engineering meetings and shakedown running on the Friday. But Saturday is the main event with eSports competitions, autograph sessions and a track parade crammed in alongside two practice sessions (only one on the Sunday of a double-header),

"Here you have 20 flat-out laps before qualifying"

Lucas di Grassi

qualifying and the race. Time is precious.

"In the World Endurance Championship or F1," continues Audi Sport driver di Grassi, "you have so much time to study – meetings here and there – and it's really about optimisation, especially in F1, up to the very fine details.

"Here, you have about 20 flat-out laps before qualifying. You have to figure out everything – race energy, set-up – and we don't have the data of the track because the track changes. The time limitation and constraints with the walls make it very difficult to extract the limit of the car in every condition. You have to have experience of optimisation back in the factory – simulation – and also a little bit of gut feeling in the way you go around the track.

"That's in one way the beauty of Formula E. Because then it creates a bit of a randomness effect. It's very difficult to be consistent because you need to make good decisions all the time. If you have time and data to make a decision, it's much more likely you make the right one. When you have to make it very quickly, you end up having this effect."



"THE CALENDAR IS DESIGNED WITH TRANSPORT COSTS IN MIND, BUT SOME TRIPS ARE UNAVOIDABLE"

To help protect historic areas of certain cities — in particular when racing in Paris and Santiago — Formula E installs removable asphalt over cobblestones, and has become adept at fitting the circuit around the tight confines of buildings and parks.

"We have done this in several countries — to remove one thing and then to put it back again," says Ortiz-Tallo. "Nowadays we have improved solutions and apply the same quality standard to any city which is also simpler to protect the heritage of each city."

All the kit for each E-Prix is shipped around the world using a mixture of sea and road freight options provided by DHL, with the aim of limiting air freight to minimise carbon emissions and keep costs low. Certain items — such as the zero-emission glycerine generators that charge the cars — are doubled-up, with one set travelling while the other is in use. Next year, when the I-Pace Jaguar eTrophy support series joins the Formula E bill, the freight capacity will expand significantly. The calendar is therefore designed with transportation costs in mind, but some longer trips between events are unavoidable.

"We tried from the very beginning to begin [the season] in Asia, go to Africa, South America, Europe and finish in North America," explains Ortiz-Tallo. "This makes sense regarding the economy for the transportation."

Formula E sends around 85 people to each race, with that number rising to 400 when local workers are taken into account, and then to 600 when the volunteers and marshals are added on race day. The record for setting and dismantling a race is 17 days, but three



weeks to one month is standard: "If you have more resources you can do the things in less time," adds Ortiz-Tallo.

With preparations accelerating as race days approach — public roads often remain open until the Friday of an event — the teams arrive and build the garage set-ups. They are not allowed to start work at the track until 12pm on the Wednesday before the race.

"There's a particular challenge if you have a crash at the previous race," says Techeetah team boss Mark Preston. "If you have a non-eventful race, then it's really just going through all the job lists and making sure everything is rebuilt, checked, measured."

The 'lights out' moment is typically set for 4pm on race day, which is also usually a Saturday, so time is tight.

Putting on a Formula E race event is a busy and bustling process — full of twists and turns, drama and challenges. Just like the cities that are intertwined in its DNA. **



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BUTTON TO RACE AT LE MANS CLASSIC AND GOODWOOD

HISTORICS

Jenson Button will make his historic racing debut this year, dovetailing his Japanese commitments with Le Mans Classic and Goodwood Revival outings.

The 2009 Formula 1 champion will drive JD Classics-run cars in both meetings. At the Le Mans Classic (July 6-8), Button will compete in an ex-Tom Walkinshaw Racing Jaguar XJR-9. He will race chassis #688, the last of the Le Mans-winning models to be built. It was second in the 1988 Spa 1000Km world sportscar round, where Martin Brundle joined Johnny Dumfries and Jan Lammers on his way to the drivers' title.

It has not yet been revealed which JD Classics car Button will race at the Goodwood Revival in September.

JD Classics founder Derek Hood said: "It's an absolute pleasure for us to have Jenson racing with us twice this season. I know the talented engineers working in our race shop in Maldon are some of the best in the world, so Jenson will have all the technical support he needs.





"IT'S AN ABSOLUTE PLEASURE TO HAVE JENSON RACING WITH US THIS YEAR"

"We're proud sponsors of both the Le Mans Classic and Goodwood Revival because we believe they deliver some of the best historic motorsport action on the calendar."

Button is returning to full-time racing this season in the Japanese Super GT series at the wheel of a Honda NSX-GT, having formalised what had begun as a "sabbatical" from Formula 1 at the end of 2016 into actual retirement.

Last year, besides making his Super GT debut, he contested the Monaco Grand Prix with McLaren as a stand-in for Fernando Alonso, when the Spaniard was away competing in the Indy 500.

STEPHEN LICKORISH

Past winners can re-enter for Sunoco prize drive

SUNOCO WHELEN CHALLENGE

The Sunoco Whelen Challenge will be open to past winners for the first time this year, to celebrate the 10th anniversary of the prize.

The challenge winner has previously been given the chance to race in the Daytona 24 Hours endurance classic. Last year's victor, Stuart Middleton, took second overall in an Action Express Cadillac DPi-V.R.

The prize is open to Pro drivers in British GT, BRDC British F3, UK LMP3 Cup and Radical European Masters.

"As it's the 10th anniversary we thought we'd try and spice it up to get some of the past winners in and see if they can win it



again," said Anders Hildebrand, managing director of Anglo American Oils. "Jonny Adam, Phil Keen — they can do it [again].

"I thought it would be an amazing battle because they know what they have to do to win, with fastest laps and pole positions. It just adds another dimension to it and I thought it would be fun."

Points are awarded for race results, pole positions and fastest laps. In a two-driver team, both drivers get points for race results but the pole position and fastest lap points are given to the driver who achieved them. The points are divided between the number of races in a season to create an average score for each driver.

JACK BENYON



BRDC BRITISH F3

Billy Monger will make his racing return in the opening round of the BRDC British F₃ Championship at Oulton Park this weekend.

The 18-year-old will appear on the grid with Carlin having spent several weeks testing with the team.

It will be the first time he has raced competitively since a horrific British Formula 4 accident at Donington Park last year led to both his legs being amputated.

Monger received worldwide support, including from F1 stars Lewis Hamilton and Jenson Button, after his accident. A crowdfunding drive to assist his rehabilitation reached almost £850,000.

He currently operates the car using a

paddle on the steering wheel with his right hand to accelerate, while using his left to upshift and downshift. He uses his right prosthetic leg to operate a brake pedal.

A team spokesperson said: "He will absolutely be on the grid this weekend.

"He helps motivate the team, he is competitive as well and has the potential to do a lot more. We want to be able to help him achieve his potential."

• Fellow British F3 driver Josh Mason contested four Formula Ford races at two different venues last weekend in order to get the necessary licence signatures to compete in F3. He raced in Northern Formula Ford Pre-90 category at Oulton Park and Classic FF1600 at Silverstone.

STEFAN MACKLEY

BTCC winner Moffat to TCR UK

TCR UK

British Touring Car Championship race winner Aiden Moffat will combine a full-time campaign in the series this year with an attack on the new-for-2018 TCR UK Championship.

Moffat, who races a Laser Tools Racing Mercedes in the BTCC, will drive an Alfa Romeo Giulietta TCR in a two car team with ex-BTCC racer Derek Palmer.

"I briefly tested the car [Alfa Romeo] in Italy some months ago and I'm happy that we will be running the Alfas in TCR — it really is a very good car," said the 21-year-old Scot.

"With my BTCC commitment, it looks like I am going to be racing most weekends this year. It's exciting that I've been asked to take part in the very first TCR Championship in the UK and I'm confident that I can do really well for the team."

The opening round at Silverstone this weekend has garnered 13 entries, although it is unclear how many of those will continue on to the second round at Knockhill.

Alongside Moffat and Palmer, another ex-BTCC racer and TCR International driver Dan Lloyd is likely to be a frontrunner with WestCoast Racing and its Volkswagen Golf.

"I'm really excited about TCR UK and joining one of the most professional teams in the field," said Lloyd. "It's a one-off entry at present because of the budget situation, but I really hope it'll become a full-season campaign as I had a good time in TCR International last year and I've had good sponsors in the UK in the past, so it'll be great to build up a UK programme again."

JACK BENYON





RENAULT UK CLIO CUP JUNIOR

Renault UK Clio Cup Junior organisers remain fully committed to the series despite it only attracting five drivers for the season opener at Silverstone last weekend.

The category has had a difficult birth since it was launched last season. It was originally due to begin in June 2017, but was postponed because series bosses felt it was not ready. A four-weekend series then began in September and attracted a peak entry of nine drivers.

Championship manager Will Fewkes has said "a very challenging set of regulatory circumstances" has affected the promotion of the series ahead of this season.

"We're proud of what Clio Cup Junior offers for 14-16-year-olds in terms of development, safety and value for money," said Fewkes. "However there have been numerous changes to junior formula

requirements at short notice that have impacted the number of entrants this year. Any requested changes have been done and paid for by Renault and not the teams.

"We have remained loyal to our customers and provided the junior racing marketplace with a high-performance, safe and extremely reliable racing product."

Fewkes insisted that the remaining five rounds of the series will still go ahead as planned, starting at Rockingham on April 14-15. "Renault UK and the British Automobile Racing Club have both agreed to commit to this calendar because they believe in the potential of this championship," he added.

Westbourne Motorsport entered a single car in the Brands Hatch finale last November with an eye to a full year, but has not had any drivers come forward.

The team's James Colburn said: "It's very hard to promote because of the unknown regulations, but we have got cars available if people are interested in it."

Nick Reeve, who won both Silverstone races, said the situation was familiar for any new championship: "The Fiesta Juniors had five or six in their first season — and this is their [Clio Juniors] first real season.

"For what the car is, it's an amazing championship but it's going to have to take time to grow."

STEPHEN LICKORISH

Murray makes Formula Ford comeback

NATIONAL FF1600

Niall Murray will return to the National Formula Ford 1600 Championship this year aboard his titlewinning car from 2016.

The 23-year-old won the National title, Formula Ford Festival and Walter Hayes Trophy two years ago at the wheel of his Van Diemen RF99.

"I've grown up over the past two or three years and the dream of being a professional driver and going to Formula 1 is gone," said Murray. "The percentage that go on and do well, the majority have paid for it. I have done British GT and USF2000, and none of that compares to the Formula Fords."

With three-time Festival winner Joey Foster and 2014 National champion Stuart Gough returning to the series this year, Murray believes the field is strong.

"Without doubt it's going to be really tough,

but I'm looking forward to it," he added. "It was tough in 2016, but I can put a bet on that I won't win the same number of races this year.

"It's by far the most competitive year there has been for a while."

Joining Murray at
Team Dolan — the squad
run by 1989 RAC British
FF1600 champion Bernard
Dolan — this year will be
Jack Wolfenden and Matt
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STEFAN MACKLEY



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IN THE HEADLINES



M3 rivals unite in Ginettas

GINETTA GT4 SUPERCUP

M₃ Cup runner-up Carl Shield will join champion Adam Shepherd in switching to the Ginetta GT4 Supercup this year.

Shield finished 24 points behind Shepherd in the 750 Motor Club category last year in just his second season of car racing, having previously competed on bikes, and will run as a privateer in the Supercup.

"It's all looking very good," said Shield. "It's a high-profile series and Adam Shepherd, who I've been battling with, is moving up with Team Hard. I had a look at the cars at the Autosport show and it seemed more affordable

than I thought it ever could be.

"Ginetta put me in a car at Donington Park for a test and I gelled with it straight away. I had never driven on slicks before or with aero and after 20 minutes in the car I was on the pace.

"I'm doing it on a very tight budget -I just want to go out and have fun. Adam is a great racer, very fair, and it will be nice to carry on battling with him.

"I'd like to thank Ginetta for working so hard getting me in a car. They've been so helpful."

Shield won the John Miles Novice Driver award in 2016 after impressing during his debut season.

STEPHEN LICKORISH

Classic Team Lotus.

Japan's top historic racer Katsu Kubota has switched cars, from a Lotus 78-4, in which he won Masters USA events supporting last year's US and Mexican GPs, to a Lotus 91. A huge marque enthusiast, Kubota also competes in a Lotus Cortina and a 23B sportscar. He will continue to be run in FIA Masters events by Clive Chapman's

LOTUS 91 FOR KUBOTA

JOHN LORD: 1956-2018

We regret to record the death of Formula Jedi-turned-Historic racer John Lord last week. While battling a particularly aggressive cancer, John won the FIA Lurani Trophy's Class C Formula Junior Championship for the second time in three years in 2017, at the wheel of his Lotus 18. He had already entered this year's opener at Hockenheim.

GLOVER ROLLS... AGAIN

Tim Glover's return to the British Racing & Sports Car Club Fiesta Championship at Brands Hatch last weekend was short-lived. Glover, who spent most of last season on the sidelines after a multiple roll at Cadwell Park in May. crashed his Fiesta ST in the weekend's first race. He was nudged onto the wet grass exiting Druids hairpin and the car rolled after hitting the barriers. Glover was uninjured but expects his repair bill will force him to miss the championship's next two meetings.

MORLEY'S KART DEFENCE

Reigning F125 Open Superkart Champion Liam Morley started his defence with a win at the opening round at Oulton Park last weekend, beating Sam Moss. He looked to be heading for another victory in race two, but his battery went flat, causing a misfire. The third race was truncated by two red flags and declared void. All drivers involved in the incidents were able to walk away.

GT CUP CLASS SWITCH

GT Cup stalwarts Tom and James Webb will switch classes for 2018. The brothers will once again race a BMW M3 E46 GTR, in which they claimed the GTB group title in '16, but this time in group GTA. Last season they took seven class wins, but a puncture in the final round at Snetterton cost them the crown to Neil Huggins. "We were disappointed to just fall short of catching Neil for the championship last year, but it gives us a reason to come back and try again this time out," said Tom Webb.

Sumpter/Jordan reunite

HISTORICS

Porsche expert Mark Sumpter will renew an old partnership with Mike Jordan in the new 2.0L Cup for classic Porsche 911s this season.

Sumpter and Jordan shared Porsches in FIA GT Championships 20 years ago, and British GT in which they won races overall. Now the duo will race a pre-'66 911 in the European one-model series being organised by Peter Auto.

Sumpter has been racing a 968 in the Porsche Club Championship in recent years.

"It's an ex-rally car I bought in an auction," said Sumpter of the base 911, which has been taken back to its original slate-grey colour and is now immaculate. Sumpter gave the car

a debut race at the Goodwood Members' Meeting, finishing fifth in the Ronnie Hoare Trophy.

The 2.oL Cup visits the Spa Classic (May 18-20), Dijon (June 8-10) and the Dix Mille Tours at Paul Ricard (August 31-September 2). An event in the UK is under consideration for the 2019 season.

PAUL LAWRENCE





Briggs returns to McLaren

FIA MASTERS HISTORIC

Warren Briggs enjoyed his first singleseater drive since 1983 at Brands Hatch last Thursday when he gave his ex-Patrick Tambay/John Watson Formula 1 McLaren M29C its first proper run-out on the Indy Circuit in preparation for the FIA Masters Historic opener at Imola next month.

It has come full circle for the New Zealander, who joined McLaren as a fabricator on arriving in Britain in 1978. "I was there at the beginning of the M29 process, while it was being built, but left before it raced," he said.

Former McLaren colleagues Dave Ryan and George Langhorn assisted in restoring the M29C, rebuilt in WDK Motorsport's Hampshire workshop. Ryan worked on Watson's car when he finished fourth in the US GP West and Canadian GP in 1980.

Briggs has recently been racing and

rallying Ford Mustangs, but previously contested the Formula Ford 1600 Champion of Brands series in 1980, then FF2000 in a Ray, which he reverted to Kent spec for the '81 Festival. After F3 outings in Mick Cook's Ralt RT3 in '82, his last single-seater run was to shake down an Anson designed by ex-McLaren man Gary Anderson.

"It was a great day, very exciting," Briggs said about the test. "The corners come up so fast after what I'm used to, but the brakes are unbelievable. I've got a heck of a lot to learn."

Briggs said the car ran perfectly in the test after the first systems check, at Blyton Park, was blighted by rain. "That was the first time I'd been wet in a racing car for 35 years," he said.

The Kiwi also plans to contest the Brands GP Masters and British Grand Prix support races.

MARCUS PYE

Pescarolo and Attwood Cobra to race

HISTORICS

AC Cobra COB 6042, first raced 50 years ago by second owner Derek Ridler, will return to the tracks in prestigious events with Jason Yates its new custodian.

Registered CLA 3B in December 1964 and sold to London barrister Peter Sheridan, its competition career began in '68 when Ridler raced alongside his cousin David Purley's sister car under the family LEC Refrigeration/ AVS Racing banner.

Also raced by Yorkshireman Bill Wood, before spending a period in the US, the 4.7-litre Ford V8-engined car was subsequently repatriated to the UK and was raced by Le Mans winners Henri Pescarolo and Richard Attwood at Goodwood during Robs Lamplough's long patronage.

Returned to Ridler's gunmetal warpaint by Yates's preparer Twyman Racing, the very original car will be shared in Masters Gentlemen Drivers and other events by Ben Mitchell, who has regularly shared Yates's Lotus 11.

• David Smithies enjoyed his first run in a Gary Spencer-built Shelby Daytona Cobra Coupe evocation at Brands Hatch last Thursday. Stunningly liveried per Ford France's entry for Andre Simon/Maurice Dupeyron on the 1964 Tour de France, the monster was "a 70th birthday present to himself", beamed co-driver Chris Clarkson.

MARCUS PYE

Ex-rally Falcon back out

CLASSIC THUNDER

Andy Wilson debuted his ex-works Ford Falcon in the Classic Thunder race at Silverstone last weekend.

After finishing seventh out of the Classic Thunder runners in the opening race, he completed only two laps in the second as the car was not suited to a damp Silverstone.

"I hadn't driven it before last Friday's test," said Wilson. "But in the damp, greasy conditions it was a real handful.

"It was one of the original Falcon rally

cars built for the 1964 Monte Carlo Rally. During 1969-70 Terry Sanger raced it in British Group 5 Saloons, and after it was outlawed it became one of the original Super Saloons in '73 and later raced in the ICS Series. "It's got a 6.1-litre Windsor NASCAR engine, but handles really well," said Wilson. "It's really brutal though, like a grenade."

• The decision to split the Classic Touring Car Racing Club's Pre '66 and Pre '83 series for Silverstone proved popular, with each attracting 20 entries.

PETER SCHERER





RACING IN THE SNOW

The winter's final vindictive spasm nixed the 750 Motor Club's season opener, but that isn't the first time early spring events have been touched by inclemency

MARCUS PYE

rance's Andros Trophy icemen competitors aside, is it only Scandinavians who relish the prospect of racing in the snow? At Goodwood earlier this month it was a novelty, an unwelcome one, when the second bout of white precipitation inside a fortnight threatened to wipe out the 76th Members' Meeting.

As it panned out, many drivers, particularly those in closed cars, rose boldly above the wintry conditions. They put on a wonderful show for hardcore spectators who had paid their money and were turning out regardless, rather than taking the soft (sensible) option of staying at home and watching the action on live streaming. Not the same, but pragmatic.

With the lightest of touches on their steeds' controls—throttles, brakes, clutches and steering—some of the world's finest historic racers also entertained the army of track marshals upon whom the event ultimately depended. They braved exposure to the elements, especially on the Sunday when the easterly winds were relentlessly savage, risking hypothermia so that everything bar the motorcycles (always untenable) ran.

The scenario in West Sussex was far from unprecedented. While my father remembers setting out for a Boxing Day Brands

"THE PREFERRED ANTI-ICING OPTION IS TO SPRAY THE CIRCUIT WITH URIC ACID"

Hatch meeting that was snowed off in the early 1960s and I recall another being abandoned in '77, some big events went on despite the British weather's vagaries. Even at times of the year in an era when the climate was more seasonal and the likelihood of white-outs was thought to be minimal.

That said, Silverstone has long been renowned for surprises. Its microclimate certainly upset the applecart during the 1973 International Trophy when snow — in early April — descended at three-quarters' distance, catching pacesetter Ronnie Peterson out at Becketts. As the JPS Lotus 72 slithered off, early leader Jackie Stewart pounced for Ken Tyrrell. A proper blizzard after the chequered flag muted celebrations.

Two years later, in late March 1975, heavy snow wiped out Thursday practice for Good Friday's second round of the European F5000 championship at Oulton Park. I vividly remember Autosport's photograph of cars buried in the paddock in those pre-pit garage days. Amazingly, following overnight salting and with qualifying rescheduled for race morning, the event went ahead. Gordon Spice bagged a surprise victory in his Reed Racing Lola-Chevrolet T332, the only frontline single-seater he drove. A month later he wrecked it, and a leg, at Mallory Park. Sturdier Ford Capris beckoned.

I've witnessed the occasional meeting being abandoned through inclement conditions over the years and others being run when they should not have been countenanced. In pre-mobile phone, internet and email days I even recall Silverstone calling off an F3 event pre-weekend due to snow — because it would have been impossible to warn competitors and officials — only for it to have thawed almost without trace by the day in question.

Prior to Goodwood, the last time I saw a fair smattering of snow en route to a racing event may well have been Thruxton's 40th Anniversary celebration in 2008, although I've experienced icy blasts and glorious summers' days there since. On that occasion I called my eldest daughter, skiing with her grandfather in Norway, to remark that it was -1C and blowing a gale. "That's nothing, it's -23C here," she said. The event at the BARC's HQ — which marks its 50th birthday with a special weekend on June 2-3 this year — went well, especially for Bill Coombs who won the opening F2 race in an FAtlantic spec March 712.

Too often it's not the snow itself but the measures to combat it that cause more problems. Salt is perhaps the harshest natural enemy of the racing car, an agent virtually impossible to clean out once it's permeated every nook and cranny of monocoque or spaceframe chassis and viciously corrosive to aluminium and magnesium components. No wonder numerous single-seater entrants withdrew immaculately prepared cars (some 1000cc F3s fresh from restoration) from their Sunday morning race slots at salt-gritted Goodwood, despite its surface being swept.

At Silverstone, I'm told, the preferred anti-icing option is to spray the circuit with "pig pee" (uric acid), which is water soluble and non-harmful to man or machine. Something for Goodwood to ponder as the natural by-product must be plentiful on the estate's organic farm. Unless a date change for the Members' Meeting is viable — although recent history tells us that the 21st century's calendar is an increasingly unreliable guide to temperature. In any month.

As I look forward to the Easter weekend, which in my youth marked the start of the frontline racing season — and particularly Castle Combe's Howard's Day on Monday — meteorologists warn of a third slug of snow in the north of England. That traditional racing cars do not work in such conditions was proven by Ferrari's 312B2'spazzaneve'(snowplough) of 1972, an abject failure even in the dry. **



Morris evokes memories of Senna battles

SILVERSTONE (BARC) CLASSIC FORMULA FORD 1600 MARCH 24-25

Early afternoon on Sunday, March 25 2018, Brooklands corner on the Silverstone National circuit. The familiar backfire of period Formula Ford 1600 engines rattles by. In among the throng is a yellow-and-white-liveried Royale RP26 being hustled through the complex with a lairy zealotry that makes these cars so gripping in a way the narrow tyres could only dream of being.

The ragged driving, full of energy and fervour, doesn't belong to a young gun out to prove a point. It belongs to FF1600 legend Rick Morris — the man who went toe to toe with a young Ayrton Senna in 1981 and clinched an FF1600 title a year later. As Morris enters his 47th season behind the wheel of a race car, the 71-year old explains with a gentlemanly humility befitting the series that the way he hustles a car hasn't changed.

"I've never thought of myself as talented, but I do try to persevere with every aspect of the car, and make sure the car is how I want it, that's what I try to do," he says.

"I've always been good with cars that slide. It's handy with Formula Ford generally because if you watch these things at somewhere like Becketts or Stowe they are continually sliding."

Remarkably, the popular Hertfordshire racer was one of the few amateur drivers able to battle with professionals at the front of FF1600 during the late 1970s and '80s.

In 1981, a young Brazilian by the name of Ayrton Senna da Silva was his main championship rival, and although Senna took two titles that year it was Morris who threatened him for a long time in the points in the RAC British series.

Morris's part-time effort is said to have roused Senna to much chagrin. But running part-time is what has helped Morris continue racing — and, significantly, at a high level — into his seventies. It's what keeps him coming back year after year. "Over the years I have been lucky I haven't had to pay for my racing; it's only this past year I've had to pay for it, and I'm also

lucky I'm able to do that," he says.

"I've never become a professional racing driver. All through the late 1970s and early '80s virtually everyone at the front was a professional racing driver, but I had a job, which meant I was able to get a mortgage, start a business and have some money when I'm 70 to go racing. And it's pure racing — as soon as you put wings and slicks on it you mess it up."

Morris has a fitness regime that would put most people half his age to shame — something that is also helping keep him sharp on the race track. "I am very keen on being fit," he admits. "I do a lot of cycling and swimming — in a scientific way as well, with heart rate monitor and everything else."

That fitness has helped him quickly bounce back from injury. His run at last year's Formula Ford Festival at Brands Hatch — which began well with a pole lap in the wet — was marred by a crash "head on into the bank at 43mph" that destroyed the front of the car.

The experience didn't put him off — he went on to race in South Africa and New Zealand over the winter while waiting for his repaired chassis to arrive just a week before the Silverstone opener.

Watching his efforts trackside, you wouldn't know he was still getting to grips with his ex-hillclimb RP26. Duelling with the likes of Mark Armstrong, Mike Gardner and debut Classic FF1600 winner Benn Tilley through Brooklands and Luffield, Morris demonstrated a savvy racecraft.

During a phenomenal opening race he progressed from sixth to first in just two laps, thanks partly to a searing round-theoutside masterclass on Gardner at Copse.

He may not have finished first, but his



close-but-fair dicing for the podium positions throughout showed Morris's class and talent. A gyration at Brooklands with Gardner on lap five admittedly wasn't his finest hour, but the recovery back up to third was very neat when all could have been lost following the spin.

With such a strong track record and a fine standing in the racing community, there must be a secret he has mastered to cracking Formula Ford.

"No wings, no aerodynamics," he says. "If you look over the years at people that have come through Formula Ford - my team-mate in '79 was Tommy Byrne, and Tommy is regarded as being a very good driver. He was good in FF1600, Senna was good in FF1600.

"If you can drive Formula Fords fast at the front consistently, you will be a good driver. Nobody would argue with that."

JASON NOBLE

WEEKEND WINNERS

CLASSIC FORMULA FORD 1600

Race 1 Benn Tilley (Merlyn Mk20 1600) Race 2 Mike Gardner (Crossle 30/32F)

MIGHTY MINI

Race 1 Scott Kendall

Race 2 Jo Polley

HYUNDAI COUPE CUP

Race 1 Steve Kite

Race 2 Steve Kite

JUNIOR SALOON CAR CHAMPIONSHIP

Race 1 Ben Kasperczak

Race 2 Ben Kasperczak

MICHELIN CLIO CUP SERIES

Race 1 Ben Palmer

Race 2 Ben Palmer

RENAULT UK CLIO CUP JUNIOR

Race 1 Nick Reeve

Race 2 Nick Reeve

CLASSIC & HISTORIC THUNDER SALOONS/ BLUE OVAL SALOONS

Race 1 Dale Gent (Subaru Impreza)

Race 2 Dave Cockell (Ford Escort Cosworth)

PRE '66 CLASSIC SALOON & HISTORIC **TOURING CARS**

Race 1 Jonathan Lewis (Mini Cooper S)

Race 2 Jonathan Lewis (Mini Cooper S)

PRE '83 GROUP 1 TOURING CARS

Race 1 Stephen Primett (Ford Escort Mk1)

Race 2 David Howard (Jaguar XJ12)

PRE '93 TOURING CARS/PRE '03 TOURING CARS/PRE '05 PRODUCTION SALOON CARS

Race 1 Steve Barden (Honda Civic Type R)

Race 2 David Hunt (BMW M3 E36)

POLLEY TAKES NARROW WIN IN MIGHTY MINIS

It may have been the first day of school for the Mighty Mini Championship, but the boisterous activity throughout the field was more akin to the last day of term.

Both 20-minute contests featured plenty of charging drives, not least the courageous performance of race-one winner Scott Kendall.

Starting on the fourth row, Kendall essayed a charging opening lap, which culminated in a dive inside Greg Jenkins for second into Brooklands. The reigning Super Mighty Mini class champion hounded David Kirkpatrick for the lead and snatched it a lap later at Luffield.

Jenkins kept himself in the mix, trading the lead throughout, although Kendall ultimately prevailed.

Kendall was again in contention for race two before Jo Polley made her presence felt, having overcome a nudge on the pit straight and a wide moment at Becketts.

She crossed the line first in a four-wide run to the finish thanks to an excellent final exit from Woodcote. "I went through every place from first to sixth - that's why Mighty Minis is so good," she said.

The Hyundai Coupe Cup was all about the renewed rivalry between Steve Kite, who took five wins last season, and Alex Cursley, who took seven.

A lights-to-flag run in race one was good news for Kite, but he had to hold off early pressure from Cursley in the second. A surge from Wayne Rockett in third required Cursley to focus on his mirrors, allowing Kite to escape with a 3.7-second gap to Rockett in second.

Jemma Moore began from pole in the first Junior Saloon Car Championship encounter, doing well to outpace Lewis

Saunders and Ben Kasperczak.

Kasperczak made a daring lunge into the lead at Brooklands just seconds before a heavy impact between Moh Ritson and Charlie Mann in the main pack brought the safety car out, reducing the number of laps available for Moore to challenge. Kasperczak had the restart under control and eased to a 3.6-second victory.

The second race again featured early leader Moore being mugged by Kasperczak - this time at Becketts early on. A staunch attack from Steven Chandler on Moore allowed Kasperczak to win by more than 7s this time.

If drivers taking a brace of victories in the weekend's single-make series hadn't been established as a trend by late Sunday afternoon, it certainly was when Ben Palmer picked up his second win from two in the Michelin Clio Cup Series.

The Race-class champion was challenged only by Anton Spires last year, but with Spires not competing it freed the shackles from Palmer, who eased to a 20s victory over Simon Freeman in race one. He followed it up with a second lights-toflag cruise over John Hamilton and Freeman in the final race.

A meagre five-car grid contested the Renault UK Clio Cup Junior events. Series debutant Nick Reeve led much of the opener until Gustav Burton got his elbows out for an inside lunge at Luffield for the on-the-road victory. The stewards deemed Burton to have been overly aggressive, handing out a 1s penalty that restored Reeve's debut win. A second victory on Sunday afternoon puts Reeve at the top of the standings.

JASON NOBLE





BRANDS HATCH BRSCC MARCH 24-25

Three proved to be the magic number at Brands Hatch as Danny Harrison, Will Blackwell-Chambers and Michael Watton all claimed hat-tricks in the opening rounds of their respective championships.

Harrison proved unstoppable in the trio of Ford Fiesta Championship encounters, despite the best efforts of Harry Gooding. After the first race had been delayed by two stoppages, Harrison took the spoils by pulling off a superb opportunist move at

Paddock Hill Bend when pacesetter Gooding was held up by a backmarker. In the battle for third, Tom Hutchins appeared to have lost out to Charles Plumley on the final lap, but a post-race time penalty for exceeding track limits reversed the result in his favour.

Harrison's success was more comfortable in race two, taking a lights-to-flag victory from Gooding and Plumley.

Plumley briefly led race three until being pushed wide at Graham Hill Bend, enabling Gooding and Harrison to battle for glory once more. Gooding initially held the advantage, but Harrison made a decisive move mid-race and never looked back.



Moore heads pack in Formula Vee scrum

KIRKISTOWN 500MRCI MARCH 24

There's something about Kirkistown that brings out the best in Formula Vee, and something about FVee that keeps the wily Ray Moore at the head of the pack. But this time, only just.

Moore started the 'A' race from pole, and history will record that he led for most of the two-part affair, although history also has a habit of glossing over the details. Part one lasted just four laps, with Moore's black Leastone just ahead of the squabbling field when Colm Blackburn was ejected from the train, leading to a red flag for barrier repairs.

At the restart, Moore resumed his position in front, but his pursuers were in no mood to settle for podium positions. For the remaining laps, the seven-car battle behaved more like a high-speed rugby scrum, running three or more abreast into the Hairpin at times.

Moore held on for victory but only by

o.1 seconds from Lee Newsome's Sheane, with Anthony Cross, Stephen Morrin and Gavin Buckley in close attendance. Each had had a shot at the lead at some point, but Moore was in front when it mattered.

A 10s penalty for an out-of-position start dropped Buckley to the tail of the pack post-race, allowing Luke O'Faolain and Shane McBride to complete the top six.

Buckley had earlier incurred the same penalty in the 'B & C' race, where he would otherwise have been credited with second spot rather than fifth. Ken Browne was the winner from McBride and O'Faolain.

By contrast, the Formula Ford 1600 races were almost gentlemanly. Matt Round-Garrido started his Medina from pole but was overwhelmed in the early stages by Alan Davidson's Mondiale and the



Former British Touring Car racer David Nye completed the podium after a fine tussle with Ryan Faulconbridge.

A clean sweep of victories in the Mazda MX-5 Championship contests helped Blackwell-Chambers make the perfect start to his title defence, although Samuel Smith never allowed him time to relax.

Smith led early in race one until fading tyres ultimately meant he had to give best to both Blackwell-Chambers and Oliver Allwood. In races two and three, Smith provided Blackwell-Chambers with his strongest opposition, but the reigning champion did enough on each occasion.

In the three 'B' races, run for slower qualifiers, Paul Tucker took a convincing victory in the opener ahead of Simon Woods and Charlie Rawles. Race two was won by Clive Powles, passing Marcus Bailey late on, while Rawles emerged victorious in an entertaining four-way squabble for the race-three honours.

Watton staked his claim for successive F1000 Championship titles with a crushing treble success. Paul Butcher, runner-up in the standings for the past two years, took advantage of a slide at Graham Hill Bend by Dan Clowes to snatch second in race one, but was beaten to that position by Adam Walker in race two. Walker also took second in the third event, ahead of Clowes.

One driver to narrowly miss out on treble glory was Josh Jackson in the Mazda MX-5 Super Series, although two wins was still an impressive return. Jackson had twice fought off Jake Bailey's attentions to claim victory in the opening two races, but Bailey refused to be denied in the third encounter. After relentlessly hounding Jackson, Bailey powered ahead on the approach to Paddock with four laps remaining, holding on to win by just 0.2 seconds. Richard Breland claimed a pair of third places, with Mazda racing stalwart Paul Sheard taking the final rostrum spot in the finale.

Starting this season as he ended the last, Scot Steven Dailly was another double winner in the pair of packed BMW Compact Cup races. The highlights of both events were the race-long duels for second between Owen Hunter and Ian Jones, battles that Hunter edged each time.

James Waite was uncatchable in both Fiesta Junior encounters. Isaac Smith impressed on his debut with two solid drives to second, while Josh Steed and Oliver Turner secured a third position each.

MARK LIBBETER

Van Diemens of David McCullough and Will Herron. A clip from Herron at the Hairpin dropped Round-Garrido back behind Jake Byrne's Ray.

McCullough eventually stretched away to win by a length from Herron, with Byrne finishing third on the road. But Herron — who had struggled in the closing stages with low oil pressure — was disqualified after post-race scrutineering for a technical infringement, lifting Byrne into second and Round-Garrido into the final podium position. Davidson faded to sixth place.

Round-Garrido started from pole in race two and, although initially swamped by McCullough and Davidson, he took just a handful of laps to regain control, stretching away to win by more than 7s. McCullough claimed the runner-up spot ahead of Byrne, while Davidson again had problems, eventually finishing ninth.

Jim Larkham (Radical) withstood massive pressure from Mike Johnston in his Opel Tigra to win both Roadsports encounters, earning himself the Driver of the Day award in the process.

Mark Braden and Conor Farrell were victorious among the Global GTs that ran concurrently. Their second race proved almost as hectic as the FVee encounter, but without the red flags.

Mark Stewart beat Craig Brown in a brace of entertaining Fiesta tussles, while Robbie Parks twice topped the Ginetta Junior results ahead of newcomer Seog Martin. James Turkington (SEAT) also scored a double in a tiny field of Saloons.

RICHARD YOUNG

WEEKEND WINNERS



BRANDS HATCH

FIESTA CHAMPIONSHIP

Race 1 Danny Harrison (Fiesta ST)

Race 2 Danny Harrison (Fiesta ST)

Race 3 Danny Harrison (Fiesta ST)

MAZDA MX-5 CHAMPIONSHIP
Race 1A Will Blackwell-Chambers (MX-5 Mk1)

Race 2A Will Blackwell-Chambers (MX-5 Mk1)

Race 3A Will Blackwell-Chambers (MX-5 Mk1)

Race 1B Paul Tucker (MX-5 Mk1)
Race 2B Clive Powles (MX-5 Mk1)

Race 3B Charlie Rawles (MX-5 Mk1)

F1000 CHAMPIONSHIP

Race 1 Michael Watton (Jedi Mk6)

Race 2 Michael Watton (Jedi Mk6)

Race 3 Michael Watton (Jedi Mk6)

MAZDA MX-5 SUPER SERIES

Race 1 Joshua Jackson (MX-5 Mk3)

Race 2 Joshua Jackson (MX-5 Mk3)

Race 3 Jake Bailey (MX-5 Mk3)

BMW COMPACT CUP

Race 1 Steven Dailly (BMW E36 Compact 318Ti)

Race 2 Steven Dailly (BMW E36 Compact 318Ti)

FORD FIESTA JUNIOR

Race 1 James Waite (Fiesta ST)

Race 2 James Waite (Fiesta ST)

TRACK ATTACK, TRICOLORE TROPHY & MULTI MARQUES

Race 1 Rich Hockley (Honda Civic)

Race 2 Clive Haynsford (Mazda RX-8)

KIRKISTOWN

FORMULA VEE

Race 1A Ray Moore (Leastone JH004)

Race 1B&C Ken Browne (Sheane FV)

FORMULA FORD 1600

Race 1 David McCullough (Van Diemen RF01)

Race 2 Matt Round-Garrido (Medina JL17)

ROADSPORTS

Race 1 Jim Larkham (Radical PR06)

Race 2 Jim Larkham (Radical PR06)

FIESTAS

Race 1 Mark Stewart (Ford Fiesta)

Race 2 Mark Stewart (Ford Fiesta)

GINETTA JUNIOR

Race 1 Robbie Parks (Ginetta G20 Junior)

Race 2 Robbie Parks (Ginetta G20 Junior)

SALOONS

Race 1 James Turkington (SEAT Leon)

Race 2 James Turkington (SEAT Leon)

Higher status, bigger quota

An influx of factory drivers and more cars means that reigning champion Rick Parfitt Jr will have his work cut out this season, which kicks off at Oulton this weekend

ROB LADBROOK

It's unusual for a champion to look so pensive. But Rick Parfitt Jr cuts a more reserved figure ahead of this year, strange for somebody whose day job is quite literally to be the star of the show.

Last year musician Parfitt was the star of the show on track too. He dominated British GT3's gentleman-driver set to land the title with Seb Morris. But that was last year. And things have changed significantly over the winter.

"I reckon it's pretty obvious that we're going to be up against it," says Parfitt, who will share his title-winning Team Parker Racing Bentley Continental GT3 with Welshman Ryan Ratcliffe this year after co-champion Morris opted to move on to Europe. "Just look at the entry. It's probably the best entry British GT3 has ever had. The downside of that is we really do have our work cut out to try to hold onto this title."

The key reason for Parfitt's reservations is the influx of factory drivers to the category this year, with seven of the 13 GT3 entries boasting a works racer. The entry list reads like a mini-Blancpain field, which signals a real step up for British GT and flies in the face of talk that GT3 racing in Britain was on the verge of collapse.

Last year the field hit a low of nine cars, and many had already begun preparing

their GT3 eulogies. But those that didn't were the teams and the organiser, SRO. All the major players from last year — Barwell Motorsport, TF Sport and Team Parker Racing — are back with multi-car entries. And then the new brigade arrived, which has upped the quality even more.

The Aston Martin Vantage GT3 is due to be replaced by a new model in 2019. It is British GT's most successful car, and Aston Martin Racing wants to give it one final flourish, so it has placed five of its factory drivers into machines for the domestic campaign. After all, they've not got a lot on, with the World Endurance Championship only holding five rounds this calendar year.

Darren Turner, Marco Sorensen, Nicki Thiim and Maxime Martin will all join British GT regular Jonny Adam to form Aston's quintet. The speculation has already begun that, with so many drivers on the payroll of a single brand, they could conspire to work together and lock out the races.

Martin is of a different mind: "Yeah there are a lot of Aston guys here, but how can we fix things when we're all here with different teams and different customers who all want to win? It won't work. We're all here to do the best we can, and mostly we're all out to beat

Maxime Martin is just one of the works Aston drivers in British GT



each other. But hopefully we won't all crash into each other in the first corner!"

Aston's loading has meant other teams have also adopted the 'fight-fire-with-fire' approach. Mercedes man Yelmer Buurman has been called in to share with the returning Lee Mowle, while McLaren ace Rob Bell is in alongside Shaun Balfe. The net result of this is that reigning champion Parfitt, who's a bronze-graded driver, forms one half of the lowest-rated driver pairing on the grid, with Ratcliffe a silver.

But don't begin to think that just having a big name will get the job done this year. The international stars also have to learn about British GT, namely some of the tracks and the format. Only Adam knows the British circuits intrinsically, with the rest relying on learning as they go or tapping into single-seater campaigns from earlier in their careers. Even AMR veteran Turner feels he's lacking.

"I've tested on pretty much all the major tracks, but I haven't raced on them for donkey's years," he says. "I reckon we all have a lot to learn in that respect, especially when the Pro has less driving time than the Am. The pressure's on."

Understanding the Pro-Am format is also important. One driver can't win British GT on their own, they must work with and nurture their co-driver to ensure that they too are performing. Most of



the works drivers start with unfamiliar team-mates, which isn't a problem for pairings like Ratcliffe/Parfitt, who won the GT4 title together in 2013, or Callum MacLeod/Ian Loggie, who are entering their second season together in the sister Bentley.

Then there's the other factor — works drivers will have a nice target on their backs this season.

Barwell doesn't have a single factory racer across its three Lamborghinis, but feels it doesn't need one. Former champion Jonny Cocker knows his way around, Finn Patrick Kujala is promising, and then there's Phil Keen, who will likely be the guy to beat alongside Jon Minshaw.

"I don't really care about all of the works guys coming in this year — in my mind it just makes us look way better when we beat them," says Keen. "We've still got one of the best GT3 cars around, and the team is one of the best out there. Qualifying will be so important this year, and I expect the races to be very tight. But we've still got our eyes on the title."

SRO's efforts to save British GT3 have been well rewarded and, while it's not a heaving grid numbers-wise, the quality and strength in depth are better than ever. Regardless of whether it's boom-or-bust this year, the fact remains that GT3 isn't dead yet. >>

GT3 ENTRY LIST DRIVERS TEAM/CAR CLASS Ryan Ratcliffe/Rick Parfitt Jr Pro/Am Team Parker Racing · Bentley Continental GT3 Callum MacLeod/Ian Loggie Team Parker Racing · Bentley Continental GT3 Pro/Am Patrick Kujala/Leo Machitski Barwell Motorsport · Lamborghini Huracan GT3 Pro/Am Phil Keen/Jon Minshaw Barwell Motorsport · Lamborghini Huracan GT3 Pro/Am Jonny Cocker/Sam De Haan Barwell Motorsport · Lamborghini Huracan GT3 Pro/Am Nicki Thiim/Mark Farmer TF Sport · Aston Martin Vantage GT3 Pro/Am Marco Sorensen/Derek Johnston Pro/Am $TFSport \cdot Aston Martin Vantage \,GT3$ Maxime Martin/Graham Davidson Jetstream Motorsport · Aston Martin Vantage GT3 Pro/Am Jonny Adam/Flick Haigh Optimum Motorsport · Aston Martin Vantage GT3 Pro/Am Darren Turner/Andrew Howard Beechdean AMR · Aston Martin Vantage GT3 Pro/Am Silver Devon Modell/Struan Moore RJN Motorsport · Nissan GT-R NISMO Rob Bell/Shaun Balfe Balfe Motorsport · McLaren 650S GT3 Pro/Am YelmerBuurman/Lee Mowle ERC Sport · Mercedes-AMG GT3 Pro/Am

CALENDAR		
DATE	EVENT	
March 31-April 2	Oulton Park	
April 28-29	Rockingham	
May 26-27	Snetterton	
June 9-10	Silverstone	
July 21-22	Spa (B)	
August 4-5	Brands Hatch	
September 22-23	Donington Park	



Boom time for GT4

This is the year that GT4 comes of age in Britain. And that age is rather young. This season marks a swing in momentum for the category, with a real feeling of 'out with the old and in with the new'.

For 2018 there's a bigger grid than ever -23 cars - as well as a host of new manufacturer offerings, bringing the number of marques up to eight. And to go along with that, there's a very youthful look to the line-ups.

SRO's silver-silver concept has been a slowburner in GT3, but in GT4 it seems to be bang on. Silver drivers are career-focused, usually with experience of professional junior categories such as Formula 3 or F4 single-seaters. As that career path has become more costly, many younger drivers have made the jump to GT4 early, as it's an ideal learning ground for the higher echelons of professional racing.

The lure of the class has been boosted hugely by the swing towards prestige brands, with McLaren, Mercedes, BMW and Jaguar joining the regulars such as Ginetta. This trend is shown best by the move towards McLaren becoming

the most popular manufacturer. The 570S GT4's prodigious straightline pace last season made it a hot favourite, and this year there will be six, with half of that contingent coming from the now-factory-supported Tolman Motorsport team.

All four of the Woking firm's new junior drivers will compete, with Michael O'Brien sharing with Charlie Fagg, and Jordan Albert pairing with Lewis Proctor. All four are on intensive training and testing programmes and must be tipped among the championship favourites.

Ginetta used to dominate the GT4 ranks, but will now have just four cars across two teams. Reigning champion squad HHC will field two G55s, as will Team Hard. HHC's dominant pairing of Will Tregurtha and Stuart Middleton has moved on, but this duo has been replaced by reigning Ginetta GT4 Supercup champion Callum Pointon and Patrik Matthiesen in a partnership that has much potential. The Ginetta is a pure race car, as opposed to a converted road machine, so will likely enjoy an edge when things get twisty and on its tyre life during longer races.

Another race-orientated car is the new BMW M4 GT4 from Century Motorsport.

Nathan Freke's team has two for this year, but so far only one is filled, with Ginetta graduate Ben Green sharing with ex-Caterham man Ben Tuck. While the roadgoing M4 doesn't stack up performancewise against a McLaren or a Mercedes-AMG GT, it has the advantage of benefiting from a wider scope of development.

"The car's amazing," says Freke. "GT4 has a development cost cap and, because the M4 costs a lot less than something like a McLaren in base form, BMW has been able to go deeper into the development. Everything about it feels sharp and racey. It's a proper bit of kit and both Bens are brilliant to work with. They're easily capable of fighting for the title."

While the all-silver pairings will likely enjoy the lion's share of race wins this year, the traditional Pro-Am division is still the heart of the class. New McLaren factory men Joe Osborne and Ben Barnicoat headline the entry for this, with Tolman and Track-Club respectively. Osborne and David Pattison starred last year and would have won races had it not been for untimely punctures. Ex-F3 racer Barnicoat will share with Adam Balon and will be using British GT to gain mileage



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alongside a European GT3 campaign.

"This won't be easy as it's all new to me," says Barnicoat. "It's my first British campaign since karting, so I've got a lot to learn."

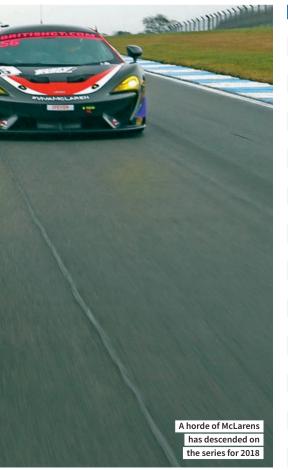
Former GT4 champions Graham Johnson and Mike Robinson are now fully bedded in with their McLaren after a mid-season switch last year, and will be keen to get back on top with Balfe Motorsport.

Jaguar is a welcome addition to the grid. Invictus Games Racing, run by James Appleby, will feature four amateur drivers from the Invictus community — which supports wounded, injured or sick

ex-military personnel through sport — alongside two professionals. The Ams will do half a season each before swapping. The new F-type SVR has been developed exclusively for the team, and it sounds as good as it looks. For at least the start of the year, the team is aiming more at intra-team competition than outright results, but it will likely develop as each Am progresses into their campaigns.

Three of the new Mercedes-AMG GT4 chargers are also set to run. Scott Malvern and Nick Jones have one, run by Team Parker, while Fox Motorsport will field another for Michael Broadhurst and newcomer Mark Murfitt.
Richardson Racing has one too but
has yet to announce its drivers. "The
Mercedes is a great endurance car," says
Malvern. "It's been aimed at the amateur
drivers, so it's very approachable and the
technology in it is just next-level. But
you can tell Mercedes has worked hard
with its factory teams and drivers to
make it as the balance is impressive. It's
got brilliant power and handles well too."

The blend of youth versus experience across both the car selection and driving strength should mark this year out as one to remember. **



GT4 ENTRY LIST		
DRIVERS	TEAM/CAR	CLASS
Michael O'Brien/Charlie Fagg	Tolman Motorsport · McLaren 570 S GT4	Silver
Jordan Albert/Lewis Proctor	Tolman Motorsport · McLaren 570 S GT4	Silver
Finlay Hutchison/Daniel McKay	Equipe Verschuur · McLaren 570 S GT4	Silver
Joe Osborne/David Pattison	Tolman Motorsport · McLaren 570S GT4	Pro/Am
Ben Barnicoat/Adam Balon	Track-Club·McLaren 570S GT4	Pro/Am
Mike Robinson/Graham Johnson	Balfe Motorsport · McLaren 570S GT4	Pro/Am
Jason Wolfe/Ben Norfolk & Basil Rawlinson	Invictus Games Racing · Jaguar F-type SVR	Pro/Am
Matthew George/Steve McCulley & Paul Vice	Invictus Games Racing · Jaguar F-type SVR	Pro/Am
Scott Malvern/Nick Jones	Team Parker Racing · Mercedes-AMG GT4	Pro/Am
Michael Broadhurst/Mark Murfitt	Fox Motorsport · Mercedes-AMG GT4	Pro/Am
TBC/TBC	Richardson Racing · Mercedes-AMG GT4	TBC
Will Burns/Mike Newbould	HHC Motorsport · Ginetta G55 GT4	Pro/Am
Callum Pointon/Patrik Matthiesen	HHC Motorsport · Ginetta G55 GT4	Silver
Callum Hawkins-Row/Anna Walewska	Team Hard · Ginetta G55 GT4	Pro/Am
Benjamin Wallace/Nick Worm	Team Hard · Ginetta G55 GT4	Silver
Ben Green/Ben Tuck	Century Motorsport · BMW M4 GT4	Silver
TBC/TBC	Century Motorsport · BMW M4 GT4	TBC
Martin Plowman/Kelvin Fletcher	UltraTek Racing Team RJN · Nissan 370Z	Pro/Am
Jesse Anttila/Stephen Johansen	UltraTek Racing Team RJN · Nissan 370Z	Pro/Am
Tom Wood/Jan Jonck	Academy Motorsport · Aston Martin Vantage GT4	Silver
Will Moore/Matt Nicoll-Jones	Academy Motorsport · Aston Martin Vantage GT4	Silver
Sennan Fielding/Tom Canning	Steller Performance · Toyota GT86	Pro/Am
Alex Quinn/Dean Macdonald	Steller Performance · Toyota GT86	Silver

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ARCHIVE ERRARI EXHIBITION . HAVE-A-GO HER



DESIGN FOR LIFE: GETTIN

EXHIBITION

FERRARI: UNDER THE SKIN

There's a beautiful 1973 Ferrari 365 GTB/4 'Daytona' awaiting visitors in the main hall of London's Design Museum. The Group 4 racer in its striking yellow livery makes it clear that there's something out of the ordinary going on in the museum. That something is an exhibition dedicated to Ferrari — and a celebration of the 70th birthday the manufacturer reached last year.

The Daytona is the perfect appetitewhetter, drawing attention and leaving you impatient to start the journey through decades of passion and glamour, and endless pursuit of engineering excellence.

The first thing you hear after hitting the 'welcome' button on a multimedia guide is the roar of a V12 engine, a nice little touch that will surely put a grin on the face of everyone with a soft spot for cars.

The experience starts with the very first Ferrari-badged car - the 125 S. At this stage it becomes obvious that the

exhibition is something more than just an assortment of vehicles sporting a Prancing Horse. In this section we not only learn about the eventful life of Enzo Ferrari, but we also see items such as his driving licence, passport and handwritten reports in his favourite purple ink, all adding up to form a broad collection.

From here we move on to dive under the skin of the legendary supercar manufacturer, discovering how it evolved over the years, from the early phase ("I don't sell cars; I sell engines. The cars I throw in for free since something has to hold the engines in") through decades of sometimes grudgingly getting to grips with new technologies to eventually becoming a design icon.

"THE FIRST THING YOU HEAR ON THE MULTIMEDIA GUIDE IS THE ROAR OF A V12"

Dainty 125 S was

HOT ON THE WEB THIS WEEK



the first car to carry Ferrari badge

BOTTAS COMES A CROPPER IN OZ

Search for Bottas Crashes Out in Australia Qualifying 2018: All The Angles

Valtteri Bottas loses it in Q3 at the Australian GP and hits the wall at the exit of Turn 2. 'All the angles' includes a camera mounted on the front suspension that offers an interesting perspective. Cue a multitude of 'the halo saved his life' jibes below the line...



UΚ MOTORSPORT

SILVERSTONE BRSCC

March 31-April 1

TCR UK, FF1600, VW Cup, Mazda MX-5s, Alfa Romeos, Civic Cup, HRDC Allstars, Pre '66 Touring Cars

OULTON PARK MSVR

March 31 & April 2

British GT, British F3, Ginetta GT5, Ginetta G40s, Northern Saloons/Sports

BRANDS HATCH BARC

April 1-2

Trucks, Pickups, Legends, Kumho BMWs, Modified Saloons, Tin Tops, Intermarque

CASTLE COMBE CCRC

April 2

FF1600, GTs, Saloons, Hot Hatches, BMW Car Club, Formula Vee, Locosts

G UNDER FERRARI'S SKIN

There are full-size wooden models. aluminium body shells and wireframes as well as running chassis and engine components on display. There's a section dedicated solely to windtunnel research. with a range of models, from road cars to Formula 1 racers such as the 1989 640 and the 1996 F310 in 1:30 scale, and even the unusual and interesting Sigma F1 concept car designed by Pininfarina.

It's also here where we learn about the art of clay modelling and its importance – every new Ferrari is modelled at full size in clay before being signed off for production. What the production process is like at Maranello is also covered, along with how it has changed over the years, from the days of craftsmanship and traditional engineering techniques to the rigorously robotic assembly lines of today.

Obviously there would be no Ferrari without racing. In fact, Enzo's treasured philosophy that "most car companies race to sell cars, Ferrari sells cars to go racing" is omnipresent during the tour. A variety of race cars is represented, from



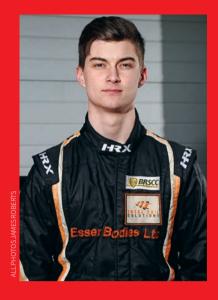
the 1952 Formula 2 Tipo 500 to Michael Schumacher's title-winning F1-2000.

There are also overalls worn by Schumacher and Gilles Villeneuve on display, and a number of crash helmets arranged in chronological order. The collection begins with the very basic head protection worn by the man who gave Ferrari its first grand prix victory, Jose Froilan Gonzalez, and runs all the way to the lid used by Kimi Raikkonen in his championship-winning campaign in 2007.

The tour ends with a look at where Ferrari stands today and what its future prospects are. This part is highlighted by the opentop hybrid supercar LaFerrari Aperta, of which 210 will be made.

Whether you're a Ferrari fan or not, this exhibition is definitely a well-spent £16.30 (plus an additional £3.50 for the multimedia guide) since it offers a fascinating and comprehensive insight into the world of one of motorsport's most famous names.

PIOTR MAGDZIARZ



PROFILE

AGE 18 **NATIONALITY British**

RESULTS

2018 **TCRUK**

2017 **BRSCC Ford Fiesta** Championship, second in class with two wins and 10 podiums. Sports 2000 Spa Summer Classic, second and fourth place finish in class.

2016 **BRSCC Ford Fiesta** Junior Championship, fifth overall.

2015 **BRSCC Ford Fiesta** Junior Championship, sixth overall. Fourth place in Senior

2014 Junior X30, Kartmasters **British Grand Prix, East** Anglian Cup winner.

X30 winter series at PFI.

2013 Junior X30, Super One

2012 Junior Rotax, **Formula Kart Stars**

2008-11 Cadet/Minimax karting

IN ASSOCIATION WITH **MAUTOSPORT**



Lewis Kent

"We're aiming to go out there, do well in the championship and make a name for myself."

There's no question that Lewis Kent is setting his sights on being at the front of the grid in the new-for-2018 TCR UK series, which begins this weekend at Silverstone.

The 18-year-old will compete in the championship aboard a Hyundai i30N in his ongoing quest to become a British Touring Car driver.

The TCR brand has already taken off in Europe and Asia, and Kent hopes that both he and the series can establish themselves in the UK.

"This year is a taster year for what we can do and what the series can do," says the Ford Fiesta race winner.

"I absolutely love the car, I think it's brilliant. The amount of money and development Hyundai has put in has paid off very well. It suits me so well. I'm pretty confident I can be at the front – I just need a bit more seat time.

"In the Fiesta you're getting about 170bhp, so it's not slow but it's not the quickest thing.

"The TCR car was a bit overwhelming at first. You put your foot down and get instant power. Down the straight it can get skittish, but in the corners you can feel everything. We were doing the same times in a TCR car on a damp track with slicks as a BTCC car."

Kent's progress to potentially

becoming a BTCC driver is already impressive for such a young driver.

He graduated from the British Racing and Sports Car Club's Ford Fiesta Championship, where he finished second in class last year.

Standout performances included a win and two third places, plus fastest lap, on his debut at Brands Hatch.

Another win followed on the Silverstone National layout, as well as podiums at Cadwell and Snetterton.

"I was over the moon. It went quite well, all told, and better than we expected," he says.

"We thought maybe top 10, so to get second place was pretty amazing."

Kent is the fourth generation in his family to go racing, having started out in 2008 competing in Comer Karts at Ellough Park, Red Lodge and Rye House.

He honed his racecraft in various karting series, including Minimax, Junior Rotax, Junior X30, Senior X30, Formula Kart Stars and Super One, as well as racing in the Supernationals in the US, European and World X30 rounds.

His car racing career began in the Fiesta Junior Championship, and he finished sixth and fifth in the standings in 2015 and '16 respectively.

Kent still has the pinnacle of his chosen profession in mind heading into this season: "I'd like to make my way up to the WTCR and still want to be a BTCC driver when I'm older."

CONTACT DETAILS









hristian Lundgaard is a
young man with a growing
reputation. The Dane only
started racing cars last May,
but he's now in his second
year as a member of the Renault Sport

Academy and won both championships he entered last year.

Lundgaard's father Henrik is a former European Rally champion whose first attempt at introducing his son to karting didn't go according to plan.

"I didn't really like it the first time because it was scary and very noisy," Lundgaard Jr recalls. "But the first time we got out on a serious track to have a proper test, everything was just awesome. Since then I haven't really questioned myself."

After a successful karting career, Lundgaard made an instant impact following his step up to single-seaters in 2017, scoring a brace of wins on his debut race weekend at the Sochi Autodrom in

"I DIDN'T REALLY
LIKE KARTING THE
FIRST TIME BECAUSE
IT WAS SCARY AND
VERY NOISY"

the SMP Formula 4 NEZ championship. He followed that success with eight more wins, and a further seven victories in Spanish F4 as he collected both titles.

Lundgaard admits that his career progress would have stalled had it not been for the support he's received from Renault. "I wouldn't have been able to drive last year if it wasn't for them," he says. "Maybe I would have been back in karting if I was lucky, but the budget wasn't really there. They've helped me to get where I am now, which I'm really grateful for."

This year Lundgaard will enter the Formula Renault Eurocup as the next step on his career path, and he'll be staying with MP Motorsport, the team that guided him to the two titles in his debut season.

"I'm looking forward to getting into a new car, a new season," he says. "It's the same team so I know all the people, which is quite important. Everyone knows each other, and where to improve each other, which is a benefit instead of having to start over."

Ahead of the championship's first race at Paul Ricard next month, Lundgaard's goal for the year ahead is clear: to beat fellow RSA member Max Fewtrell "because he's been there already last year and won the rookie championship". "If I beat him then I am up in front because for sure he will be there." **



Age 16

2018 Formula Renault Eurocup,

MP Motorsport

2017 Spanish F4, champion, 7 wins

SMP F4 NEZ, champion, 10 wins

2014-16 Karting, 2015 CIK-FIA Euro KFJ champion

champion



FROM THE ARCHIVE

Michele Alboreto (Ferrari 156/85) caresses the barriers at the 1985 Monaco Grand Prix. The Italian, who qualified in third place, played a starring role in the principality: he was leading the race when he slid off on oil left by the spectacular lap-17 crash between Nelson Piquet (Brabham-BMW BT54) and Riccardo Patrese (Alfa Romeo 185T), losing the position to Alain Prost (McLaren-TAG MP4/2B). Alboreto battled back past Prost, then fell to fourth after picking up a slow puncture. In a charging fightback he recovered to second place, taking chunks out of Prost's lead, but the flag fell before $he \, could \, re-engage \, the \, Frenchman.$





TEST YOUR KNOWLEDGE

QUIZ



WHO AM I?

This prickly thistle started out on the conventional route to the top before taking an Italian holiday destination to success. After setting up on his own, he was winning at home and abroad, taking a Big Cat to European glory and rattling the locals down under.

He captained a Viking boat to great success, while keeping the felines purring by adding the king of the jungle to the fold. When he finished behind the wheel he enjoyed his greatest success as he returned a legendary marque to its place at the top of the world.

He donned some Italian knitwear for a stint in the big time, before he went all of a quiver and out on his own.

A Sheriff set up the school that created his other true love, and his own cherry and whites would sweep all before them on pitch as his cars did on track.

ON THIS DAY

- Which F1 minnow claimed its only fastest lap on this day in 1981?
- 2 Today is Marc Gene's birthday. How many different F1 teams did he test for?
- **3** Today is 1987 Daytona 24 Hours winner Chip Robinson's birthday. Who were his team-mates in that enduro classic win?
- **4** Which current F1 driver started from his highest qualifying position on this day in the 2015 Malaysian GP?
- Which F1 fairytale began with a win on this day in 2009?

NAME THE HELMET

E PLANTING

LAST WEEK'S ANSWERS

Who, what, where, when Marco Andretti, Formula E, Buenos Aires, January 10 2015 Who am I? Jacques Laffite On this day 1) Michael Schumacher 2) 10. McLaren, Alfa, Ligier, Minardi, Brabham, Rial, Scuderia Italia, Jordan, Tyrrell, Sauber 3) 8th 4) 12th 5) Canada, 1972 Name the helmet Jean-Pierre Jarier

IN NEXT WEEK'S ISSUE THE FERRARI FOIBLES THAT COULD THWART VETTEL

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YOUR RACE CAREER **STARTS HERE**

We all believe that we could be the next Lewis Hamilton when we're sitting in a kart, racing our friends or work colleagues on an evening of entertaining Arrive-and-Drive action at our local circuit.

The reality, however, is somewhat different. It takes time, dedication, and most of all the right approach to rise to the top. Drivers are starting their careers from the age of eight years old, or even younger in some cases. Juggling the pressures of schoolwork and social lives with their fitness regimes, testing and racing: it really is a test of one's will to succeed.

In this new supplement we shine the spotlight on the many reasons karting is of such paramount importance to a driver's early career, with insight from racers on the FIA ladder from Formula 4 up to Formula 1. As the 2000 Formula A World Cup and European champion, Hamilton points out the advantages of wheel-towheel racing and unlimited testing in karting. They provide a great foundation for the more limited track time young drivers will get in car racing.

A karting family tree (page 16) attempts to provide a clear pathway – from getting one over on a friend at your local circuit, through to high-intensity, professional racing in the national and international paddocks, then further into the world of car racing.

PF International is one of the leading kart circuits in Britain, and hosted last season's CIK-FIA World

Championship for junior and senior karting. McLaren GT factory driver Ben Barnicoat, who has lapped the Lincolnshire track since he was young, provides his tips on how to set a quick time around his local circuit on page 20.

The unsung heroes of the paddock are those who dedicate their days to guiding the early careers of future star drivers. You can read about the great lengths of preparation and mentoring that go into a race weekend with the Mick Barrett Racing squad on page 22.

A child can step into a kart from the age of six years old in the Bambino class. But in the face of declining levels of active participation at grassroots level, Motor Sports Association chairman David Richards explains what he intends to do to break down parents' entrenched perceptions that the sport is complicated and hard to get into (page 25).

To rise above even the best drivers in a karting paddock, a youngster must possess the complete package from an early age.

can be limitless.



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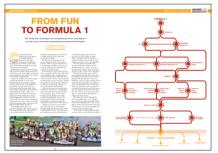
WHY KARTING IS SO IMPORTANT

This is where you learn

Getting the lowdown from some of the top youngsters in the sport on how karting has benefited them. Oh, and we've got Fernando Alonso to chip in with his observations too!

How to get to F1

From turning up at your local circuit as a little kid, here's our guide on the routes through karting to reach the top of the sport



PF International

Ben Barnicoat knows his way around the Lincolnshire circuit blindfolded – so who better to ask to pass on his advice?

A WEEKEND WITH A KART TEAM

Mick Barrett Racing

Karting isn't just a case of turning up and jumping in. There's a whole build-up of preparation that goes into the big day

BAMBINO **KARTING**

Starting them young

Why racing with the little ones needn't break the bank - and MSA chairman David Richards' thoughts on making it more accessible

KARTING

SALES MANAGER Don Rupal
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It's where all the Hamiltons and Verstappens come from. Young stars including Lando Norris and George Russell explain why karting is so important

RUSSELL HAYES



hat do Lewis Hamilton, Vitantonio Liuzzi, Giedo van der Garde, Jerome d'Ambrosio and Max Verstappen all have in common? The answer is that each has won a world karting title before

each has won a world karting title before graduating into car racing and ultimately competing in Formula 1. Long gone is the old route of stumbling into the job by way of alternative competition, such as John Surtees's bike racing and Jim Clark's early efforts in road rallying and hillclimbing.

The traditional path followed by the modern-day racing driver is to begin by honing their skills at a young age around the tight, twisty layouts of karting circuits. It's where they first learn what is required to compete, all the while having fun in the bustling paddocks with the reverberating sound of two-stroke engines being warmed up in the background.

From there, the youngster will have demonstrated their first signs of promise, and begun working their way up the karting ladder to senior classes. If the required funding is available, they could also compete on the international stage, further enhancing their development.

At the age of 15-17, the karter takes their first steps into single-seater racing; the FIA has blessed 13 national/regional Formula 4 championships around the world since that category's inception in 2014. Thereon, possibly via an excursion into two-litre Formula Renault, the driver has access to a ladder leading to Formula 3, F2 and ultimately F1.

But without the foundations being firmly built in their formative racing years, the prospect of our young driver being able to climb that ladder to the top could well be bleak. After all, the last driver to make it to F1 without beginning their career in karting was Vitaly Petrov in 2010.

Alex Quinn, a former British karting champion, secured the British F4 Championship Rookie title in 2016, taking three overall race wins in the process. Now with two years' car-racing experience and stepping into British GT this season, Quinn explains that data analysis, learned in karting, has been key to his success in the short time since his graduation.

"What I found helped my transition most was already understanding how to analyse my data throughout a race weekend," he says. "Qualifying is obviously such a key factor in all types of racing, but karting teaches you so much of this. It's all about setting the best lap time, not beating the guys around you just yet. You learn that it's about gaining the ideal track position. You pair this up with the understanding of the data that you've run through with your mechanic after the weekend's earlier practice and heats.

"To anyone else, it's just scribbly lines. But if you can understand that you can brake later into a corner and by how much, you can then take that knowledge onto the track, saving yourself a tenth of a second, which could put you several places higher on the grid for the race."

At all levels of car racing, a driver works closely with their engineer to extract the maximum performance. "You have to understand just how to push the car to its limits without going too far," says Quinn. "You do push over the limit in karting, but you learn how to control it when it tries to go away from you. Understanding how a vehicle, whether it's a kart or car, acts when on the limit is extremely important. It's not easy to find the limit immediately in a car. It's not a toy; it's a highly powered machine so you have to act sensibly.

"Karting particularly prepared me for working closely with my engineer. You have to have a feeling and understanding of the kart beneath you to be able to then understand why something is being changed, and what reaction that will have on the performance of the kart. In car racing, you need to already understand what is needed to go faster."

Having taken the Super 1 British Comer Cadet title in 2012, Enaam Ahmed claimed the dual CIK-FIA World and European junior championship crowns in '14 before graduating directly to British F4 in '15. Now the reigning BRDC British Formula 3 champion, the 18-year-old will continue his progression in the FIA F3 European Championship this season.

"Top-level karting in Britain is the best in the world I believe, because it has the best standards of driving at a national level," says Ahmed. "That's why so many British drivers do well in car racing. You have to be very tough and fight, because anything can happen, and you have to take that mentality into cars.

"As there are so many drivers in karting, the sport teaches you to push your limits ▶



"It teaches you to push your limits further than you thought possible"

Enaam Ahmed

further than you thought possible. On an international level, not only does it teach you how to race, but how to push yourself while on track as you're up against the best guys in the world, so you have to dig deep to find that something extra."

Former British karting champion George Russell went on to claim the CIK-FIA European junior karting title in 2012. Upon graduation into single-seater racing, he took the BRDC Formula 4 Championship title in '14 and won the McLaren Autosport BRDC Award. He continued his progression into the FIA F3 European Championship, finishing third in '16. His debut campaign in GP3 was his most successful to date, as he claimed the title with the ART Grand Prix squad. Russell will graduate to F2 this season and has been named as the Mercedes F1 team's reserve driver for '18.

Russell says that the track time available in karting means it's essential in developing racecraft. "I believe that no driver without any karting experience would be able to compete in single-seaters with another driver who has raced from the age of eight to 16 in karting," Russell attests. "In no category of car racing do you get the same sort of overtaking opportunities and type of racing as you do in karting. It's certainly the purest form of motorsport. When I competed, we used to take part in the heats from the start, middle and back of the grid, so every weekend you were handed opportunities to overtake, attack and defend. You learned how to put your kart in the best position.

That's invaluable for every single rung on the future car-racing ladder.

"We would take part in at least three heats and two finals per weekend, so you're getting a lot of track time. In car racing, that time is much more limited so you have to be clinical in taking your opportunities. If you don't have karting experience, taking those opportunities can be more difficult."

Russell reckons that the level of professionalism at the top rung of British karting means that a driver finishing in the middle of the field should not be put off, but should continue to aspire for a motorsport career. "National karting, particularly in Britain with the Super 1 Series, is at such a high level and teams are so professional," he says. "Karting is extremely important in your development as a driver, but whether you win everything there is in the sport, or you win nothing, that's not going to be a make-or-break factor as to whether you're a success further up the ladder. It's important for people to understand that. Drivers who don't have the budgets for international karting must realise that it's not the be-all and end-all. You can still learn everything you need to in Britain.

"Karting is fundamental to starting your racing career. But karting is very different to car racing. And you may have been the best karter out there or a midfield runner, but you still may go to cars and be a totally different driver. It's very important to realise that karting isn't going to decide whether you become a Formula 1 driver

"National karting is at such a high level and teams are so professional"

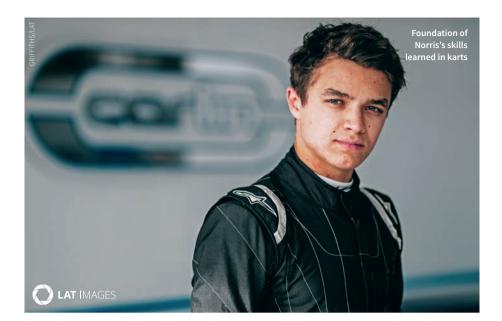
George Russell

or not. But you first need those skills that you learned in karting to help you into your first steps in car racing."

Lando Norris was crowned the CIK-FIA World senior karting champion in 2014 before graduating into single-seaters. He won the MSA Formula (now British F4) crown in his debut season in '15, and claimed the Formula Renault Eurocup and NEC titles, as well as the Toyota Racing Series, a year later. After winning the '16 McLaren Autosport BRDC Award and becoming part of the McLaren F1 programme, his graduation to European F3 didn't faze him either: Norris won the title as a rookie. Now promoted to become McLaren's F1 test-and-reserve driver this season, the 18-vear-old is contesting F2 with Carlin.

"Karting primarily teaches you how to drive and ensures that you learn basic racecraft," he says. "The majority of my skills and abilities were learned there. That then felt like a smooth transition when I moved into car racing. It would have been more difficult had I not been karting."





Norris says that gaining experience of abnormal situations during testing in his early karting days was beneficial. "After school I used to head to Llandow on a Wednesday, go round and test for a few hours," he says, "I was doing that for many weeks in a row, developing in different conditions and testing things that you wouldn't ordinarily do - just to get more experience and learn more things than others would, so if that situation pops up again in karting or cars, you have more of an idea of how to overcome that issue.

"Karting helps you to understand how and when to be aggressive, or save tyres, how to overtake. You're then able to develop that in cars, but if you've not got that solid base it will be a struggle. You have to have very good feedback for your engineer, and be able to develop both yourself and the team as the weekend goes along. Feedback was one thing that I knew I had to improve on when I was younger."

Norris says that the main difference between domestic and international karting is the increase in pressure to perform: "Particularly in qualifying when you have Super Pole, with 12 drivers on track and you'd only have a couple of laps to set your quickest time. There are also fewer on-track opportunities, it's a bigger race and you're under more pressure to do a better job. In the UK, when I was younger and didn't know as much about racing, it [qualifying] was just another practice session to go out and learn more. International competition helped me to learn how to put everything together."

The final words go to a man who has gone from karting to becoming a four-time F1 world champion. "Karting was where I learned my skill in combative racing," says Hamilton. "You learn the discipline and racecraft. If I didn't have that, I wouldn't be here today.

"Karting helps you understand when to be aggressive, or save tyres"

Lando Norris

"Every single session, whether it's a heat or a race, is wheel-to wheel. It's not too often that you get to have that in car racing, whether it's F1 or elsewhere. You also can't regularly practice [test] in F1, you're in it and the price and pressure are so high. There's no pressure in karting, you can attempt trial and error. You're allowed some contact and the size of the kart means you can find your way around other drivers. You learn to be confident of where to position your kart in your surroundings.

"My tip for an aspiring young driver who wants to use karting to have a future motorsport career, is to work hard at school. What you learn at school are the key foundations that set you up for a potential future career. If you don't have those, you can never be a complete driver." ×

Alonso Karting is the purest racing

love to go back to karting," Alonso says. "It keeps you mentally on the perfect winter preparation.

levels the playing field, but also makes it easier for the real talent every single corner to be able

door on the driver behind, and somebody. You need your head





KIERN JEWISS: TAKING THE LEAD

The likeable Kent youngster has continued his immense karting success Having made the step up to the motor racing ranks and, supported by Mark Blundell, Jewiss is determined to follow in his mentor's footsteps.

Having notched nearly 200 trophies across a glittering karting career, the decision over when to leave the karting ranks behind and make the step-up into cars was always going to prove to be a pivotal one for Kiern Jewiss.

The youngster reflects on the period with wisdom well beyond his years. At the time, Kiern was just 14 and faced with the choice between targeting the World Championship title or to progress into the Ginetta Junior category in the UK.

"I've always been a big supporter of proper planning and preparation but I think those who make it to the top know when to trust a hunch as well," says Jewiss. "You can sit around and plan for days on end but if your instinct is telling you that something is wrong, then the likelihood is that it probably is.

"I was all set to contest my second season of European karting and I took part in the first two rounds but I left each weekend wanting more. I wasn't sure what more I could learn from karting and I have always felt the need to properly challenge myself in everything I do."

Also involved in the decision-making process was Kiern's management company, MB Partners, led by former Formula 1 driver and Le Mans 24 Hours winner, Mark Blundell. It was the company's trust and belief in Kiern that helped the teenager follow his own convictions and step into car racing. Blundell knows more than most how a single decision can have far-reaching effects well beyond the racing season in question.

"There's no doubt the easiest thing for Kiern to do would have been to follow the status quo," says Blundell. "With many of his peers remaining in the karting ranks, it was a brave decision for a young driver to take but it was done for the right reasons – Kiern was determined to stretch and challenge himself."

"If 99% of the young drivers who wish to be a professional driver fail to make it, then where is the logic in following the same well-trodden path that that 99% take?"

Having served his racing apprenticeship on two wheels rather than four through motocross, Blundell could speak with authority about an unusual route to the top and, for Kiern, having a close mentor such as Mark and the whole MB Partners team behind him has made a world of difference.

"I'm very lucky in the support I receive and the team of people I have around me," adds Jewiss. "Not many people can catch up with a former Le Mans winner whenever they need a bit of advice or benefit from the whole teams support. They've played a massive role in securing the support of FM Conway for last year and the coming season and that has been massive in giving me the platform to succeed on the track."

Against the odds and despite a limited amount of preparation time, a whirlwind racing season followed as Kiern stormed to the Ginetta Junior rookie title with the Douglas Motorsport team, claiming a record number of 17 rookie race wins in the process.

Heading into the 2018 season, Kiern has taken another upward step on the ladder progressing to British Formula 4 with Double R Racing. Having topped the timesheets in pre-season testing, the youngster is preparing himself for a fierce championship battle.

"Moving into single-seaters is another big step for me and one I have always wanted to take," says Jewiss. "It's a difficult championship with some very talented drivers all across the grid but I've got an excellent relationship with Double R and hopefully we can put ourselves in the fight in the year ahead."

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TAKING ON THE EUROPEAN ELITE



The international karting paddock has witnessed its fair share of talented British drivers in recent years. George Russell, Lando Norris and Enaam Ahmed all impressed in British championships before going on to win major international honours. But all have had the support of major karting teams to help in their development and rise to the top.

The step up from British to international racing shouldn't be underestimated, though. A sufficient budget is one necessity, but it wouldn't be worthwhile if the young driver is going to be simply running around at the back of the field.

With a season's experience of IAME Cadet racing in Britain under his belt, during which he won races against fierce competition, Cian Shields is stepping up to the X30 Junior class in 2018, taking on the big boys in the European karting arena as a privateer. It sounds a daunting prospect: a 13-year-old, competing alone against the big, professional teams with big budgets, in the sprawling European paddocks.

But early-season results are proving that preparation is the key for Shields' first venture outside the UK. After beginning his career taking part in club championships stretching from his local Larkhall circuit to PF International, Shields is determined to prove that you don't have to be part of a multi-driver, high-cost team to get success.

Shields' 2018 schedule is a packed one: he'll be competing in the four-round IAME Euro Series, the five-event Spanish X30 Junior championship, X30 O-Plate in Mariembourg, Belgium and, if time allows, the odd round of the British-based Little Green Man series.

Alongside Shields is trusted mechanic Jim Baillie, and driver coach — and karting ace — Dean Macdonald to finetune his knowledge of the European circuits. Macdonald, who will continue into his second year of British GT this year in a Toyota GT86, was the 2012 MSA British Cadet and 2014 Super 1 MiniMax champion. He also competed on the European scene.

Shields' early-season form has already given a demonstration of his abilities, and boosted his growing reputation. Up against a grid of almost 50 other drivers, Shields took third place in the final of the recent Valencia Winter Cup in Spain, a

warm-up to the opening round of the IAME Euro Series.

"The racing in Valencia was a really exciting challenge," Shields says. "I was up against more experienced international drivers from throughout Europe and it was my first major competitive race in the Junior X30 class. Making the final was a success from such a big grid, but I was confident that I could make a good impression. I was on the outside on the grid in each outing so I needed to make some moves to get past drivers to make my way up towards the podium places in the final laps."

Macdonald, who has coached Shields for over 12 months, was impressed with how quickly and easily his fellow Scot made the step up into the 125cc, two-stroke Junior X3o. "Cian quickly adapts to every kart and circuit that he races on," Macdonald says. "We began at Larkhall on his first day in an X3o kart. We started him out

in a Mini X30 machine to gradually build him up and get used to the size, power and grip differences from a Cadet kart. He was very comfortable and settled extremely quickly; nothing fazed him.

"When we go testing, he doesn't need telling twice. He'll pick up your advice and immediately put it into action. He's a very intelligent driver. He's not been karting too long, but Cian is just a naturally fast racer. He's already mixing it with kids who have been competing for more years, so in my opinion he's a very promising driver."

As the youngster grows and matures, they must focus on their physical fitness to meet the demands of higher g-forces upon their body. Shields uses boxing as a way of maintaining and building his fitness levels as he grows. "I've been very impressed with Cian's physical fitness," Macdonald explains. "Most drivers struggle with this when they

move up and out of Cadet racing. Their neck in particular is the part of the body that needs to be strengthened the most as the X30 has more grip in the middle of the corner, so you have to hold on a little more. That does mean that you have to have a strong neck and upper body.

"This is even more important in European karting as the tracks have a more fast-and-flowing nature, so you're able to keep to a higher average speed, whereas the British circuits are much tighter, producing a stop-and-go type of racing using more of the brake. In Europe, it's more about set-up and keeping your foot on the gas; you're able to carry much more speed into corners than at home."

Macdonald doesn't believe that competing as a privateer will affect Shields' ability to regularly race at the front of the field this season, and has high expectations of his driver: "I've tried to instil in him that whatever you do, you

PREPARING FOR THE PRIVATEER CHALLENGE

"The grids are bigger and the paddock seems to be more professional and organised," Cian Shields notices soon after he enters a European paddock for the first time. "The facilities such as clubhouses and grandstands are far bigger and better than the majority of tracks in the UK. There are strict cut-off times on the timetable which if you miss, you lose track time or the whole race itself. But it's a relaxed atmosphere, albeit a very busy one."

Living so close to Larkhall in Scotland has had its benefits for Shields. He soon became acclimatised to wet-weather driving, and is now seeking to gain experience in drier conditions on the testing tracks around Europe.

"I've been able to get used to racing in torrid weather from an early age," he says. "So now going overseas, where the weather is generally better, will help me to gain more experience of racing and tyre management.

"Learning and understanding the circuits will be one of the biggest tasks this year. The British tracks are very tight and you're focusing on getting the kart into and out of each corner in the best way

possible, whereas in Europe it's all about keeping the kart smooth because there are many long straights."

One of the most appealing prospects for Shields is the large grid numbers, which he sees as positive motivation to improve his racecraft and confidence. "The grids are much bigger and they're much more competitive than in the UK, because you're coming up against more experienced drivers," he says. "Because of the bigger grids, though, some sessions are shorter. That means I've got to be focused all the time, not miss a session and make every second of track action count.

"As it's more competitive, it brings you on as a driver at a quicker rate. The tracks are a lot bigger and more technical. Some of the corners flow better, with others being tight so you have to adapt pretty quickly."

Shields explains that, compared to its British equivalent, the X30 Junior engine used in Europe is quite different. He will also gain further experience with differing tyre compounds this season. "The engines are much quicker in Europe as the engine and some parts are

different to the UK model," he says. "In Europe, the restrictor on the X30 exhaust bend is fixed at 29mm rather than 26mm in Britain, which enables you to have a lot more power down the straight, and out of the corners so you can accelerate quicker.

"The tyres in the IAME Euro





can always do better. Even the things he's very good at, we can always improve. He can always be faster, or more consistent.

"As long as you have experienced drivers around you who have been there and done it, then all I and his mechanic can do is prepare him before he goes on to the track, and the rest is then up to him. I don't think being part of a team matters.

"Judging by his result in Valencia and his testing ahead of the start of the IAME Euro Series, I think he'll find that success comes rather easily, to be honest. Consistency is the key. If you're regularly towards the front of the field, staying out of trouble, you're going to collect points. He needs to stay with the quickest drivers who don't always go all-out for a heat win, but keep it all for the final.

"My target for Cian is for him to be inside the top three to five drivers in each championship he's competing in this season. That's more than possible."



Series are the same Kometproduced rubber as in the UK. But the Spanish X30 championship uses Vega tyres, which are much grippier. I'm therefore going to get a lot of experience racing on different compounds of tyres, which will set me up well for whatever I do in future motorsport."

Shields' performance at Valencia, as well as his pre-season testing, has boosted his confidence. He says that competing as a privateer has not made him feel overawed by the bigger teams. "We've constantly been on the leading pace and not really struggled, so I've not felt

subdued by the bigger teams," he says. "We've managed to test at certain tracks beforehand, which helped me to get used to them before the race weekend. The set-up of the kart has also been important and having Dean Macdonald as my coach, giving me his experience, has really helped me to progress.

"Dean has raced at most of the tracks before, knows the lines to take and the braking points. After each session, Dean and I will review my data and discuss where I think I should be, and he'll then show me where I can improve."

Confidence will be one of the

key elements in steering Shields on an upward trajectory as he takes on some of Europe's best tracks for the first time, against stiff opposition. The youngster is under no illusions as to the challenge that lies ahead this season: "This year is certainly a learning one for me as I've not raced on any of the European circuits before. My target, though, is that 2019 will be my year." If that target is met, he will soon join the increasing list of successful British drivers who have tamed the international karting elite. And all on his own terms.







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EFFECTIVELY USING THE TOOLS AT YOUR DISPOSAL

Arriving and competing at a circuit for the first time is like riding a bike when the stabilisers are removed: at first you're unsure of how to pedal and place the wheel, but the more you practise, the easier and more familiar it becomes.

As well as onboard camera footage, modern motorsport provides access to split-second, intricate data that drivers use to seek out any possible advantage. It's one of the key aspects that Cian Shields and driver coach Dean Macdonald have worked closely together on as Shields makes his European debut this season.

"Having access to video games and simulator work can be good preparation, but it's not until you turn up at the track for the first time that you can really get to understand what to expect," Macdonald says. "It's difficult and virtually impossible to replicate the pressure of racing at those tracks in the middle of a competitive grid compared to just testing too.

"Looking at data will give a rookie a good idea of the points at which they're braking, and when they're getting back on the power. The data will back up a driver's feedback as to whether certain aspects of the kart's set-up or engine need changing, which increases the driver's confidence levels. For example, Cian is very good at feedback. Virtually every time he returns to the awning, he's spot-on with whatever needs changing.

"Even if the driver isn't sure of what

the cause is, by downloading the data it will tell you and saves a lot of time. But it's also useful in telling you when to change parts on the kart: sprockets, carburettor, exhaust and engine. As a team we don't just use data to improve the driver; it's used as a maintenance tool too."

Macdonald acknowledges that a rookie such as Shields will be on the back foot as he competes against second-year and older drivers this season. Hailing from Scotland and its colder climes will be a further test as he seeks experience of higher ambient and track temperatures.

"Cian will have been used to racing in colder conditions," Macdonald says, "where there's not much grip and certain things change such as racing lines, braking points and when you can get back on the power. In the warmer European temperatures, there will mostly be more grip so you can attack the corners harder, carrying more speed around them,



and put your foot down quicker. As a driver, you'll have to adapt to the track temperature each time you go out and make the best of what you have."

Adjusting to a higher track temperature could mean that a rookie overheats their tyres as they work too feverishly at the wheel in search of a positive result. Macdonald explains that he is coaching Shields in a way that will constantly manage his rubber.

"The way in which we're attempting to get Cian to drive will ensure that he manages his tyres well so it becomes second nature to him," he says. "A driver will have to constantly change their driving style over the course of a lap to gain the best time, because each corner is different. Some drivers naturally have a more aggressive or smoother style, but the set-up of their kart will help to make that style work positively for them on the track.

"As Cian is young, we can mould his technique so he drives smoothly and preserves the life of his tyres, while also understanding when to push and be aggressive.

"Learning how to manage the conditions, tyre management and driving style over the course of a weekend is helped by studying data, but the biggest key is experience: nothing beats it. But Cian is setting himself up to ensure that he's in the best position to challenge for top honours this season."

FROM FUN TO FORMULA 1

The 'family tree' of karting to car racing takes you from a top day out as a kid at your local track to potentially becoming world champion

RUSSELL HAYES

ommonly defined by professional racing drivers as the purest form of motorsport, karting is the preferred modern-day stepping stone to a future career in the sport. Yet it's also accessible for a simple evening of fun with friends.

Karting doesn't just have to be for those who are serious about making motorsport their living. Look at the graphic on the next page: compared to the single-seater ladder, it's relatively straightforward.

Despite the introduction of new engines at international level in recent years, front fairings to promote fairer racing, and the continued rise of the IAME X30 powerplant, the path towards the top of national and international karting is rather simple. The graphic shows a clearly identifiable path up the middle, from dipping a toe in the water in Arrive and Drive series to becoming more serious and gaining greater experience in club racing. Off to the side we have the popular club-based series such as Little Green Man, and the progression then continues to the British championships in Super 1.

If the budget allows, but is not necessarily required, this can be twinned with international racing, where drivers can test themselves in the CIK-FIA-

regulated championships, or the Rotax or IAME-powered series, before the move into car racing.

But the base of the pyramid is the Arrive and Drive series. Some, such as Daytona, offer the simple experience of rental karting, in which you pay for your track time and the rest is provided for you with no further outlay.

Daytona director Jim Graham says the success of Arrive and Drive karting is due to its simplicity and cost-effectiveness, without worrying about bills afterwards. "All you need is to be the required age and have the funds to pay to compete, whether it's practice or a race," he says. "Daytona provides the suits, gloves, helmets, as well as all marshals and briefings.

"If you're the parent of an eight-yearold who wants to become a racing driver, they can try the junior category. If they really get into it, they can move into the race school and then a 10-round monthly championship. You race the same standard of driver, similar age and weight, in evenly matched karts. All the driver has to do is arrive and race.

"When you're over 16, you can then go further into our 10-round DMax Championship, which travels the country to eight different tracks. For about £200 per month, you can race in that weightcontrolled championship in a Rotaxpowered 125cc kart against 30 other drivers. You gain so much experience without having to worry about the cost of buying the kart, tyres or damage bills."

The next jump is into club racing. Your local kart club will host its own championships for a variety of classes and age groups. And for more experience, drivers can race at other clubs' meetings.

The Little Green Man series, which runs alongside selected club events, has been hugely successful over recent years, helped by the introduction of the 125cc IAME X30 engine. It began running at club weekends one week prior to each Super 1 event, and quickly became used by many drivers as preparation and a competitive test before the national round, but has now become a popular series in its own right. The X30 Tour became such a success that Super 1 created its own national-level junior and senior classes.

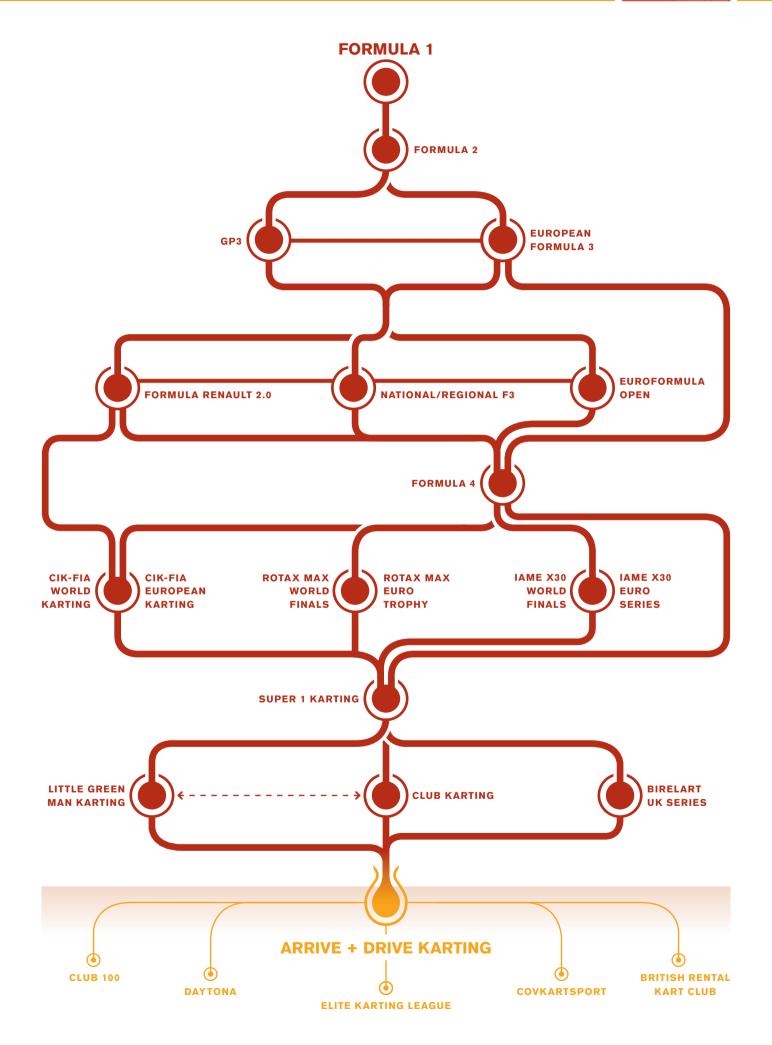
Elliot Harvey has risen through the club-racing ranks since 2012, winning the recent Trent Valley Kart Club Winter Series and finishing fourth in last season's Super 1 Senior X30 class. Harvey says that club karting is a necessary step before the move into national-level racing.

"Club racing is fundamental in helping you learn your racecraft and how to make >



ALKER/KARTP







SYNERGY'S RAPID RISE TO THE TOP

Since its launch in 2014, the Synergy kart has quickly established itself as the leading Cadet chassis in British racing. In its debut season, it carried Teddy Wilson to the MSA British IAME Cadet Championship title. More success followed, as Jonny Edgar won the '15 Little Green Man series.

The honours continued to flow. In 2016, it took drivers to the title in every major series, including

SYNERGY KART IS EASY TO USE OUT OF THE BOX

the Little Green Man and Super 1 Cadet titles with Harry Thompson, and the MSA Kartmasters Grand Prix crown with Zak O'Sullivan.

Homologation rules allowed the chassis to be redesigned in 2017, twinning it with components that, for the first time, were produced specifically to match the chassis. "It became a completely different kart in '17," explains Synergy director Dan Hazlewood. "The first kart evolved from just producing a frame that was different to anything else, but a lot of the components were similar to other karts on the market. Over the three-year period to '17, those components changed to our own bespoke version, so that when the homologation time came, we were able to change the shape of the frame and match it to the components to suit the new harder compound of Dunlop-produced Cadet tyre that was also introduced to the class."

The changes clearly worked. Taylor Barnard took all available Cadet crowns in 2017 on the new 'Synergy Platinum' chassis, scoring titles in the MSA British Cadet and Little Green Man

series, as well as the Kartmasters GP plate.

Since its debut season, when it was run by leading British Cadet squad Fusion Motorsport, the Synergy kart has proven a success, with various teams and drivers in both IAME and Honda-powered classes. It was last year chosen as the preferred kart by former double British Cadet champion and FIA Formula 2 race winner Oliver Rowland as he set up his own kart team. The Synergy chassis has also been developed for British Bambino karting.

"It's important to focus on our strengths within UK karting," Hazlewood says. "Cadet racing in the UK is quite a niche class due to the type of tyre and engine that is used compared to on the continent. It requires a particular type of kart for it to work, which is why Synergy has the upper hand over larger, worldwide brands as we understand and focus on the specifics of the British Cadet classes.

"The kart works out of the box and is extremely easy to use. You're not having to change different aspects of set-up. It has been designed to easily handle and work well in the variable British climate too. It's very easy to drive."

Hazlewood says that the kart allows the team to focus less on mechanical set-up and more time on preparing the driver for the weekend's racing. "The strength of the drivers in the Fusion team has really helped to push the development drive of the kart," he explains. "But the quality of the kart still has to be good enough for them to achieve top results. As a team, you can then focus on getting the best out of the driver."

Following another new update to the kart, the third-generation 'Synergy Platinum X' immediately motored to race wins and propelled Freddie Slater to victory in the 2018 British Open Championship. For more information about Synergy visit www.synergykart.com

Synergy roll of honour

YEAR	TITLE	DRIVER
2014	MSA British IAME Cadet	Teddy Wilson
	British Open Champion	Jonny Edgar
2015	Little Green Man	Jonny Edgar
	British Open Champion	Jonny Edgar
2016	Little Green Man	Harry Thompson
	MSA British IAME Cadet	Harry Thompson
	Kartmasters Grand Prix	Zak O'Sullivan
	British Open Champion	Harry Thompson
2017	MSA British IAME Cadet	Taylor Barnard
	Little Green Man	Taylor Barnard
	Kartmasters Grand Prix	Taylor Barnard
	British Open Champion	Taylor Barnard
2018	British Open Champion	Freddie Slater



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the most of your equipment," he says. "It provides you with so much practice that you can get to a level in which you can become genuinely competitive. That increases your confidence levels before you consider the next jump up to Super 1.

"You can race at club meetings almost every weekend. That's not the case in Super 1. You're also racing against new drivers at each club, rather than just sticking to the same grid at your home club meeting. And you're learning new circuits and how to adapt to them too. That's a vital preparation tool, especially if you're looking to race there in Super 1 soon afterwards."

Harvey says that in most rounds, club racers are competing against the majority of those drivers regularly turning out in Super 1: "If you're unsure of whether to make the move up, you can therefore judge what that level would be, and without the added cost of national-level racing. If you didn't bide your time in club racing and jumped straight into Super 1, there's the possibility that you could drop out halfway through and lose your confidence. You'll have wasted money and your time."

With confidence in the bag, the next jump is into national karting and the Super 1 Series, the top package in British karting. Alongside the numerous classes for different age groups and engines, Super 1 hosts the MSA IAME British Cadet Championship for youngsters aged eight to 13 years old.

Super 1 boss John Hoyle says the level of competitiveness in national-level racing is the key reason why it prepares drivers well before they successfully graduate into car racing. "The standard of competition is so high and it's done on a level playing field," he says. "Everyone is racing on the



"The standard of competition is so high and it's on a level playing field"

same equipment so it comes down to the actual skill of the driver. If you're not that experienced when entering for the first time, once you've completed a season of Super 1 you'll be far more prepared because of the level of the drivers you're racing against.

"The key to success for drivers in Super 1 is the amount of track time it provides compared to car racing. If you take part in a car race, you may get two 15-minute races after a short practice and qualifying session. Whereas in Super 1, you're probably on the track for 90 minutes around shorter, tighter tracks. It's intense racing."

With such a high quality of racing, Hoyle says some drivers falsely believe that they will be unable to achieve positive results in Super 1. "Some people are possibly put off because they believe it's so competitive

that they won't be able to win," he explains. "But we had one driver enter last year who later said he wished he had entered Super 1 earlier because he'd thought he couldn't compete. But he was actually on the podium for most races."

With years of experience under your belt in club and national-level racing, if you're 15 years old the time may have come to look to move into car racing, with the numerous national and regional FIA Formula 4 championships the favoured category. But if budgets allow, you may look to divide your time in Super 1, or devote it fully to international racing. There are three options at this point, powered by three different engines: the official CIK-FIA European and World championships; Rotax Max Challenge Euro Trophy; or the IAME Euro Series. Some karters who exit these championships skip F4 and head directly to European two-litre Formula Renault series.

Lando Norris was crowned the CIK-FIA World senior karting champion in 2014 and lines up as McLaren Formula 1 reserve driver for 2018. He says that international karting gives graduates more of a competitive edge when they progress into cars.

"Going up against better drivers in bigger races, there's more pressure on you to perform with more eyes on you," reckons Norris. "You get less track time in international races, so you have to make your performances and results count. That helps you adapt easier when you move to cars."

Whether you plan to use it as a form of entertainment, or the beginnings of a long career, karting provides everything that you're looking for. You may just find it becomes more than a hobby. **

PF INTERNATIONAL

McLaren GT factory driver who keeps his skills sharp in a kart is your guide to the Lincolnshire circuit

BEN BARNICOAT



This begins the lap with a right-to-left corner that's fairly easy and flat-out in all classes in which I've raced. The key is for your hand movements to be nice and smooth, and to keep off the kerbs so that you don't upset the kart and scrub speed off as you go underneath the bridge.

There's a slight right kink here after the bridge before a long left-hander. It requires only a small dab of brake as the gradient of the banking is quite high. You can smoothly throw the kart in and let the banking catch you at the apex. Again, you want to be as close to the inside kerb as you can without running over it. As you hit the apex, you're then back hard on the power. You don't want to run too wide on the exit. The trick is to actually stick more to the inside kerb to keep the distance as short as possible as Turn 3 approaches quickly.

This corner is all about setting up for Turn 4 to get a good run down the back straight. There's a small brake on entry and a fairly late apex. You need to get as close as you can to the kerb, which allows you to stay to the left side of the track over the bridge and in prime position for the entry to Turn 4.

TURN 4

Once again you only need a very light bit of braking for this corner. Some drivers don't brake at all, but I prefer to as you can get the kart turned quicker and be back on to full throttle just before you hit the apex to maximise your speed down the back straight. This also helps you to overtake into the track's first hairpin, which is the best opportunity to do so on the whole lap.

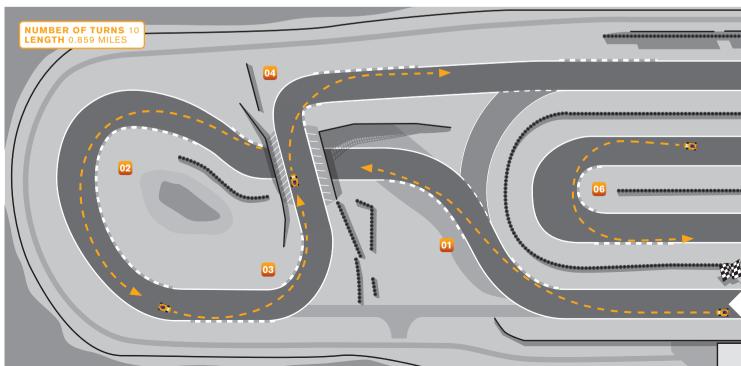
TURN 5

The braking is the hardest and most crucial element to this corner. You brake for a long time, making sure that you get the kart stable before turning into the hairpin as it's a fairly slow corner. You hold the brake until the apex as you start to turn in. You've also got to use your body a lot here. It's hard to get the kart down to the optimum speed before you turn in. So as you press hard on the brake and begin to turn, you have to put a lot of pressure on your outside arm to make the outside front wheel dig in and produce more grip and better speed through the corner. This technique makes the inside rear wheel lift off the ground and makes the kart rotate faster, working as a differential would in a racing car.

TURN 6
This is one of the easier corners on the track. Similar to the previous hairpin, except you're not approaching this at the same high speed. This allows you to brake that little bit later and you're not relying on your body as much to help turn the kart inwards. You also get a slightly later apex here than in Turn 5, which allows you a better exit and a run down to the Turn 7 chicane.

BRUNO FERRARI ESSES

This is one of the toughest corners at PF International; you can gain or lose a lot of time here. Having exited Turn 6 with a lot of speed, it's a quick corner that requires quite hard, but short, braking before turning left for the first part. As in Turn 5,







PF International circuit is a leading CIK-FIA-accredited karting circuit in the UK, having hosted the single-round World OK junior and senior championships in 2017. Based at PFI, Trent Valley Kart Club hosts one of the largest grids for club racing in Britain. As well as providing high levels of competition on-track, it also provides top-class facilities for drivers and spectators off it.

Volunteers are what make a race meeting happen, and TVKC is always delighted to welcome new members to help as scrutineers, lap scorers, timekeepers and on-track flag marshals.

A great way for young children to experience karting between the ages of six to eight years old is by driving a Bambino. Having held its first successful 'Bambino Experience' at PFI in 2017, the club plans to run a second during this summer's school holidays. It will also host a round of the MSA Bambino Championship in June.

WWW.TVKC.CO.UK

you use your outside arm to push on the kart and make it get up and over the apex kerb. This allows you to stay over to the left side of the track and opens up the second part of the chicane, the right-hander, which you can take flat-out. This gives you a better run towards the 90-degree Turn 8.

BOBBY GAME CORNER

This is a very tricky corner as it leads directly into Fletcher's Loop and the final section of the track. If you make a mistake here, it really does ruin your lap. You brake and turn in slightly earlier than you would expect. It's very important that you get to the apex kerb so that you don't run too wide on your exit. Once you're at the apex, it's hard on the throttle. You want to use as much of the track as possible, but you really don't want to run onto the exit kerb otherwise it compromises your entry into Fletcher's Loop.

O FLETCHER'S LOOP

The hardest corner on the track. You have to enter smoothly with a lot of speed, and rely on the front of the kart to slow you down. With the corner being so long, you don't want to brake too much and

kill the speed immediately; you can let the kart slow itself down. After a dab of braking, you clip the apex kerb at the start of the corner and then let the kart drift out slightly so you have room to rotate it as the corner tightens up. It's very important that you again force your outside arm onto the steering wheel to turn smoothly inwards as the kart will want to straighten up here. Make the kart do what you want it to do, rather than be lazy. You then exit the Loop with a smooth, flat-out flick left-hander where you keep as close as possible to the apex and let the kart flow out onto the exit kerb.

TURN 10

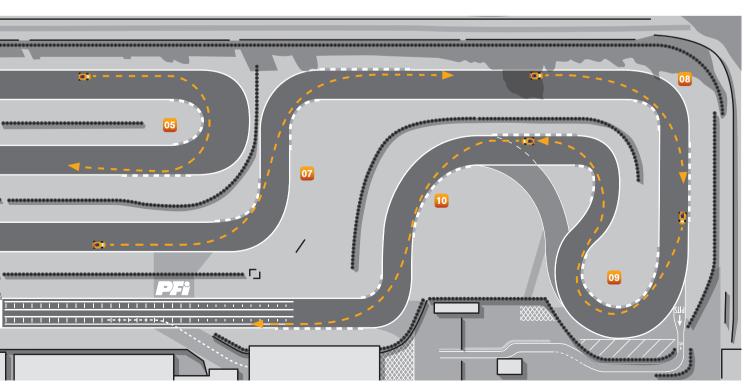
As you enter the final corner, it's all about preparation. You have to again ensure that your steering action is smooth as you take the penultimate left-hander. You guide the kart up the inside kerb to give yourself an extra foot of track before coming off the kerb, lifting aggressively and using your body to turn the kart to the right for the final corner and have it pointed towards the final straight. This opens up your exit and allows you to carry more speed at full throttle onto the straight to complete the lap.



Rain secrets

Once rain hits, grip levels severely reduce. With only four small tyres and no suspension, the grip level that a kart provides is incredible. The biggest challenge for many drivers is to have the confidence to allow the kart to be out of control. This is the key to unlocking a quick wet lap. You have to be comfortable with the kart moving underneath you. That's where you rely on the feeling from your backside and lower back to know when the kart has the grip and when it doesn't.

Braking is generally done earlier and you can never get the kart slowed down enough, meaning you intentionally run wide. The racing lines are different than in the dry. You have to keep off the traditional racing line, which is full of wet, slippery, ingrained rubber. Braking is done in the middle of the track rather than on the outside. Once you've exited the corner, you'll come back across the dry racing line and turn in later from the outside of the track, missing the slippery inside kerbs.





INSIDE A KART RACING TEAM

A race weekend in the life of a karting team begins weeks beforehand. We drop in on the squad of Mick Barrett Racing at Whilton Mill

RUSSELL HAYES

t's a brisk late-November morning, the temperature gauge reads three degrees above freezing, while the sun shines brightly over the picturesque Northamptonshire countryside following a night of intermittent rainfall.

These are some way off the optimum conditions for any type of on-track racing, yet they are perfect as a learning tool for the youngsters competing in the final round of the 2017 Whilton Mill Kart Club Championship. The Daventry track glistens as it is prepared to host its season finale, with 172 drivers

registered to take part in six separate classes from Honda Cadet to Senior Max.

From a small dad-and-lad outfit with their van in tow, to large, professional teams housed in areas big enough to host a multitude of karts, all are hoping to end the year on a high and learn more about what it takes to race in such tricky conditions.

The Mick Barrett Racing team is an averagely sized squad, with its two-kart awning by no means taking up the most square feet in the paddock. Yet the team, now run by Barrett's son Dan, has been

established for over 20 years and has contributed to the early careers of recent stars Lando Norris, Charlie Robertson and Alexander Albon under the MBR banner.

Two new hopefuls are competing over the course of this weekend, both racing in the X30 Junior class: London-based Sean Butcher and Singapore racer Alexander Huang, coached by former MBR driver and now McLaren GT factory racer Ben Barnicoat. While the drivers turn their morning focus to the weekend's opening practice session, the team's work already began 24 hours earlier, when it arrived at





"The front fairing has stopped lots of scary first-lap accidents"

the track and started preparation.

Barrett Jr explains that a team's race weekend begins days or even weeks beforehand. "After the last meeting, the karts were totally stripped down and the chassis checked for any bends or cracking that could have occurred," he says. "We have a flatbed jig to ensure the karts are straight, and caster angles are correct. Engines will be cleaned and carburettors checked to ensure they're holding the correct pressure. Tyres and rims are also checked for wear and any potential cracks that could lead to punctures. Each driver owns a single kart and we carry a second for emergencies. Each driver also has two scrutineered engines.

"We arrive at the track generally 24 hours before the track action begins, or even the night before that, and begin to set up the awning and equipment and finally the bare chassis before attaching all the bodywork, engines and fluids required. When the drivers arrive, I will then go out on a track walk with them to get them adjusted to their surroundings."

Barrett explains that the first practice session of the weekend is all about shaking down both the kart and the driver as they begin to focus on their racing and not their schoolwork. "It's about getting them back into the swing of things," he says. "On their return I always then ask for their

feedback before delivering my own to see how they can improve. We'll then go through their data; if we have more than one driver per class, we'll overlay the data to see who can improve compared to their team-mate and also compare it to previous weekends at the same track. We can team this with the onboard camera footage to check their lines and approaches.

"During testing, we're also allowed to run exhaust-temperature sensors so we can see where and how much the driver is applying the throttle, and look to adjust this if necessary before the racing begins."

After Saturday's full day of testing, the team strips down each kart once again, giving it a thorough service before the serious business takes place on Sunday. Following each of the day's three Junior X30 heats, each driver sits with Barrett to debrief, with Barnicoat providing further advice as they run over the data and camera footage.

Butcher explains that feedback at this point of the weekend is not just about improving his own results, but also learning that this is a crucial part of his racing journey. "Data analysis is so important in modern car racing," he says, "so we need to have a thorough understanding and be able to provide good feedback now before we reach that stage. It's reassuring to know that modern technology provides you with all the tools to help you improve, there's no guesswork, and having people within the team who have been at your level and experienced it adds to that."

Between the heats, the kart's set-up will be tweaked according to how the driver feels and what the data shows. But after a full day's testing and honing the set-up, only minor changes are required on Sunday.

"Tyre pressures are the biggest thing on race day, setting them so that the driver is able to push early or later in the race," says Barrett. "Also crucial is ensuring the drivers look after the condition of the tyres. Some, such as Alex [Huang], have a harsher driving style and so tyre wear is more of a concern. Alex hasn't raced in the UK much so pushes that much harder because he wants to do well, overheats the tyres, and they wear quicker."

Butcher begins the weekend well, finishing second in his opening heat, while Huang is 11th after a 10-second post-race penalty for an incorrectly positioned front fairing. This occurs if the kart's front bumper makes sufficient impact with another kart. The same penalty is handed to Butcher and others in heat two, before the duo's opening-heat positions are repeated in the day's third and final heat.

"The front fairing has stopped lots of scary first-lap accidents where drivers bunch up too much," says Butcher, "but if you're in the middle of a train of karts and get hit from behind, you're bound to hit the kart in front and be penalised for it. But it teaches you to drive fairly."

Huang suffers another fairing penalty in the final, dropping him out of contention for the top 10. Butcher remains just clear of a tight skirmish behind to narrowly miss out on second place, so settles for the final spot on the podium.

The team's job is only partly done, however. As the drivers and families depart the circuit, they leave the team in the middle of stripping the kart to its chassis once again, before equipment and awning are deconstructed and, under chilly moonlight, loaded into the truck to be rechecked at base.

When praising the efforts of those teams at the pinnacle of the sport, spare a thought for the passionate individuals at its purest form, without whom our next superstars could not emerge, develop and demonstrate their finest abilities. **



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KARTING WORKING HARD TO WELCOME NEWCOMERS

MSA promises 'back to basics' approach to bring more youngsters into the sport

WILL POWELL

ooooff, that'll cost you," came the pessimistic response from a mate at work when I said my daughter Naomie had taken an interest in karting. We've all heard it; the easy dismissal that motorsport is too expensive, too exclusive and too much hassle. This was a couple of years ago, we were just starting out, and I wish I'd been able to put him right at the time.

The truth is that, as an industry, karting is offering more options than ever to make the sport accessible to newcomers, girls, and novice mum-and-dad mechanics. It's a fact we should shout about and build on.

In our case, in less than two years motorsport has become Naomie's favourite hobby and it's been fantastic to show her the industry I work in and love. Of course, my mate had a point: karting can be costly, as

the multiple chassis, engines, tyres, spare bits and a trailer that accumulated in my garage as Naomie moved from Bambino to Cadet indicates. But it's delivered great value, given quality time together and a sense of pride in seeing my daughter develop the determination and skills needed to race, along with a budding passion for motorsport. She's learned to drive fast, boosting her confidence, while her hand-eye coordination has been developed racing for real, not on the Xbox. I'd much rather be taking her to the circuit at weekends than sugar-laden kids' birthday parties.

As a result, I've recommended karting to dozens of local parents with daughters and sons of similar age, even offering to help them try it. Far too many dismiss my offer out of hand, seeing the sport as too complicated and hard to get into.

These perceived barriers are something

David Richards, newly appointed chairman of the Motor Sports Association (MSA), is determined to tackle head on: "There's a dichotomy that while British motorsport is enjoying unprecedented success at the highest levels globally, there is a declining active participation in grassroots motorsport, evidenced by a 30% drop in karting licence holders in the past decade.

"I recall from my own days as a karting dad that the sport appeared overregulated, costs were escalating, 10-year-old kids were faced with paperwork, bureaucracy and officialdom. Unfortunately, it appears that nothing much has changed, save that the decline in participants has continued.

"It's time to call a halt, to take stock and redress the balance. Without a healthy grassroots category, how can we hope to find the next Jenson Button or Lewis Hamilton? With this in mind, I have set up an MSA



board-level working group focused on addressing the problems facing karting.

"It's our job at the MSA to get it back to basics, ensuring that it is not tainted by red tape, benefits from common sense, quick decision-making, has healthy, competitive grids, and above all else it should be fun!"

Series such as the entry-level MSA Bambino Championship are oversubscribed. But the overall dip in licence holders isn't surprising given the number of circuits that have gone independent, creating divergent racing formats that vary between two and four-stroke, time trials and full racing.

Paul Janes, director of youth karting team Ambition Motorsport, set up his business to help navigate the market: "Parents are often intimidated by all the championships, red tape, costs of buying or just running a race kart — that's before their child gets out on circuit. It needs simplification. We offer trial days in a rental Bambino or Honda Cadet to get the ARKS [tests] done, catering for all budgets, and that often evolves into buying a kart and going racing with our support."

This seems an easy enough way in. But you can understand why parents may be put off when, even at Bambino level, used outfits with dyno-proven and race-legal Comer C50/Dellorto carb combinations are advertised for thousands of pounds above the odds.

Not necessarily, says Janes: "Going high-level karting will always require financial commitment, but I encourage parents not to get carried away in the early days. It's often better to buy cheap or hire, put the time into practice and get the kids

"We need to make it clear to parents where you start and what it'll cost"

to love the sport for the long term. Some changes would help — the Bambino class should be about having fun on a level playing field and we should progress some kids into novice Cadet at seven — but in general youth karting is on the rise."

New 'arrive-and-drive' options that go beyond traditional leisure karting are also providing a cost-effective entry point. The prestigious Buckmore Park circuit has gone the whole hog, axing its loss-making owner-driver racing to focus on hire karting only, particularly Bambino and Cadet academies, with costs from £69 per session leading to local racing at the club.

Meanwhile initiatives such as Susie Wolff's Dare to be Different (D2BD) are spearheading the accessible motorsport charge by inviting hundreds of 8-11-year-old girls to workshops at kart circuits around the country. Ambassador Alice Powell



says: "A typical D2BD event consists of an introduction to karting and the chance to drive a Cadet kart, with a host of fun activities. Some of the girls are very nervous before hitting the track, but every one I've met comes off with a big smile on their face and many want to visit another track to have another go." D2BD says it supports anything (MSA or otherwise) that can help keep karting costs down, especially to those who may want to take up the sport afterwards.

Some have suggested an MSA-backed arrive-and-drive national series to make the step into racing easier and lift licence-holder numbers. It's an idea that John Vigor, boss of adult arrive-and-drive pioneer Club 100, thinks could work: "There's a gap in the market between leisure karting and ownerdriver racing. Many parents don't have the time to read books of regulations or the skill to prepare karts, so we need to cater for them. We need simplification and deregulation from the MSA. We need to make it clear to parents where you start and what it'll cost. Many kids will then get the bug and go into the world of owner-driver, which helps the whole industry."

Away from the MSA, the Cadet division of Andy Cox Racing's independent birelART Series (formerly Easykart) is also growing. To maintain this, ACR has launched a Cadet Academy which, for £99, offers 7-11-year-olds the chance to try the two-stroke Cadet 60 before moving to ownership. ACR says this isn't aimed at newcomers, more at youngsters with Bambino or arrive-and-drive experience looking at the next level. It says its championship for over seven-year-olds is a straightforward cost-controlled national series with karts on a level playing field, so should appeal to many parents.

As for us, this season Naomie is looking forward to racing in the Benelux Cadet series in France and Belgium and, later in the year, the local UK Honda Cadets championship. If the promise of simplification and lower cost of entry means more of her friends can try karting, our experience of racing will be all the better for it. *

Where can my child get advice?

AMBITION MOTORSPORT

(ALL CHAMPIONSHIPS)
Tel: 07951 831236

BUCKMORE PARK ACADEMY, KENT

Tel: 01634 201562

BIRELART CADET ACADEMY (NON-MSA) Tel: 01527 889595

DARE TO BE DIFFERENT
(GIRLS ONLY!)

Web: www.daretobedifferent.org

MSA BAMBINO
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Tel: 01327 855310

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