

**SPECIAL ISSUE COSWORTH DFV HITS 50**

 **AUTOSPORT**

# FORMULA 1's **UGLY** FUTURE

Halo will change F1 forever, but will it save lives?



PLUS

**ROEBUCK ON THE BEST F1 ENGINE EVER BUILT**  
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# Halo grabs attention but engines are key

**JUDGING BY OUR INBOX, THE NEWS THAT THE** halo cockpit safety feature will be introduced to Formula 1 next season is one of the least popular moves of recent years.

There can be little argument about the halo's appearance: it is ugly. But, as Ben Anderson and Edd Straw investigate in our cover feature (page 14), the FIA felt it had to act. The push for improved safety can never end – arguments that 'the drivers know the risks' are no longer enough and haven't been for a long time – but there is still some doubt that the halo is the right step forward.

Those who say this is the end of F1 and will now switch off are overreacting – we'll get used to it. This is not the first time F1 has given us aesthetically challenged cars. But there are other options and we can only hope they are developed and introduced sooner rather than later.

Arguably more important for F1's future have been the discussions over the next set of engine regulations (p6). The trick will be to keep F1 relevant to the wider world, while at the same time making sure costs are controlled enough so that independent companies such as Ilmor and Cosworth can make a business case to re-enter F1. And have a chance to be competitive if they do.

It's a fitting time to be talking of Cosworth's return as we look back at its iconic DFV. It's 50 years since motorsport's finest engine first appeared and the many people who worked with it still hold it in high regard. One of the clear positives it brought was that it made reaching F1 possible for people such as Ken Tyrrell and Frank Williams, something modern F1 has struggled with in recent years.

Some might think that 'history is bunk', but it can always tell you something. Ignore its teachings at your peril.



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Dean and Emma Wright/  
motorsport.tv

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# NIGEL ROEBUCK

## A step too far in pursuit of safety

**IT WAS ANNOUNCED LAST WEEK THAT** the Lausitzring will close as a race track at the end of this year, having been acquired by the vehicle inspection company DEKRA as 'a testing ground for automotive innovations'. Remembered chiefly as the site of two dreadful accidents in 2001, one costing the life of Michele Alboreto, the other causing disastrous injuries to Alex Zanardi, the place will not be widely mourned.

In future it is to be used as a simulation area for self-driving vehicles, so its fate is very much a metaphor for our times. Together with artificial intelligence (already long prevalent in the political world), driverless cars are coming our way, and some even speak morosely of a time when Formula 1 might be like that. Well, why not? With drivers a thing of the past, it would be way cheaper – and also completely, totally, absolutely, *safe*.

At Silverstone Sebastian Vettel tested the Shield – for now let's keep the upper-case going – but abandoned it after one lap, saying it made him feel dizzy. While not in itself something that would have been welcomed

by fans, it was at least easier on the eye than the halo, so why could not a decision have been postponed – as it was this year – until further research had been conducted? Instead, at a meeting last week of the F1 Strategy Group it was decided that the halo should be made mandatory in 2018.

Actually, when I say 'F1 Strategy Group', I mean sections of it. Although I'm told that all but one of the F1 teams (said to dress in red) were against the halo, their views were of no account, for they were outvoted by the FIA and the commercial rights holder, the F1 Group (Liberty Media).

I was out of my office when the statement was issued, and heard the news when a friend called me. "Well," he said, "Formula 1's been looking at ways of cutting costs – and it's certainly found a way to cut mine. After this year I'm not going to a race again, and I'll be cancelling my Sky Sports subscription – don't need that for MotoGP..."

This is one who has attended at least three grands prix a year for as long as I can remember. The whispering hybrid engine and domination by one team were bad



The DNA of F1 risks being destroyed, reckons Lauda

enough, he said, but the introduction of the halo was the final straw: "Romain Grosjean's right – this is not Formula 1."

If the Grand Prix Drivers' Association, as a body, is in favour of the move, its members appear to be split. It didn't surprise me, though, that Niki Lauda – who knows rather more than most about the dangers of motor racing – wasted no time in making his feelings clear: more than once we have talked at length about it.

"If we keep on inventing what are – for me – too many safety issues," he said, "we're slowly going to destroy the DNA of Formula 1. If you go too far with these things, it's no wonder that fewer people are watching these days."

"Because of improvements in the cars, including wheel-tethers, and because all these modern tracks have been designed so there is nothing you can hit because the runoffs are so wide, generally speaking Formula 1 has never been as safe as it is today, so now the question for me is how



Halo is another  
barrier between  
fans and drivers



 motorsport.tv

far do we want to go? In the end the attraction of any sport – like Formula 1, like downhill skiing – is how far can we go on safety issues without losing the interest of the people?

“Given the speeds in Formula 1 of course there is still a danger involved, but I think – in a very respectful way – that its DNA should be maintained and this thing with haloes, started by the FIA, has gone too far.

“We need to keep a sense of proportion, and my worry is that we go over the top. The racing on its own is interesting, but there is also the aspect of what these guys are really doing, in the end risking their lives – and without that people are going to lose interest. This halo... if you can't see the drivers' helmets anymore, how do you know who's sitting in the bloody car! It's ugly, and it's another layer between the fans and their heroes, and we should leave it.”

In a previous conversation Lauda had made the point that in his day Formula 1 had a gladiatorial aspect that had now

## “Of course safety matters, but so also – to those who pay to watch – does the whole *perception* of Formula 1”

been greatly reduced.

“I stand by that,” said Niki. “The drivers know what risks they are taking – other people worry more about them than they do themselves! They have to decide, ‘Do I want to take the risk or not?’ But if someone says he wants to make \$40 million a year, with an easy car to drive, and no risk... I'm sorry, but this is not reality. I understand why some of them want this halo thing – but in the end it's not only the drivers who are involved with this sport.”

Lauda's last point is unarguable, and if the FIA and some drivers are in favour of the halo, they should not be surprised if the fans

hate it. Of course safety matters, but so also – to those who pay to watch – does the whole *perception* of Formula 1. No-one ever put it better than Ken Tyrrell: “Yes, we need to pay attention to safety – but at the same time we have to be careful not to finish up with something no-one wants to watch anymore...”

Some time ago, it was announced that the unsightly T-wings are to be banned for 2018, and I was much heartened to learn – given that the look of the cars has always been important to fans – that this had been decided entirely on aesthetic grounds. In light of what's coming, I doubt that anyone will notice. ❧



FORMULA 1

## Cosworth closes on F1

FIFTY YEARS AFTER THE DFV ENGINE arrived in Formula 1, the prospect of its creator Cosworth returning to the top level of the sport in 2021 is moving closer.

Cosworth has been out of the sport since its last season with Marussia under the old V8 regulations in 2013. But, along with its long-time competitor Ilmor, it has been an integral part of discussions about the post-2020 engine rules.

The FIA and F1's new owners are trying to finalise a technical package that both regard as the cornerstone of the future of grand prix racing – and a twin-turbo V6 with KERS is currently the most likely option.

All parties have agreed that there must be room for independent suppliers to compete with the established manufacturers. To that end the issues that are being addressed revolve around keeping a lid on costs, simplifying the technology, and ensuring that there is a level playing field – and that the big players cannot simply buy performance.

The momentum for change is not just coming from a desire to help smaller teams or potential new entrants to source an affordable engine supply. Significantly, major players such as Red Bull and McLaren have also made it clear that there must be alternatives.

The bottom line is that big teams do not want to play second fiddle to their engine suppliers' works squads, and risk not having access to the same performance parameters, which is why McLaren switched from Mercedes and

followed the Honda route in the first place.

Red Bull found that its options were limited when it tried to part with Renault, and could not conclude a deal with Mercedes, while McLaren has also faced compromises as it explores a possible future without Honda.

Ilmor boss Mario Illien stresses that addressing costs is essential if an F1 project is to make sense for independent suppliers.

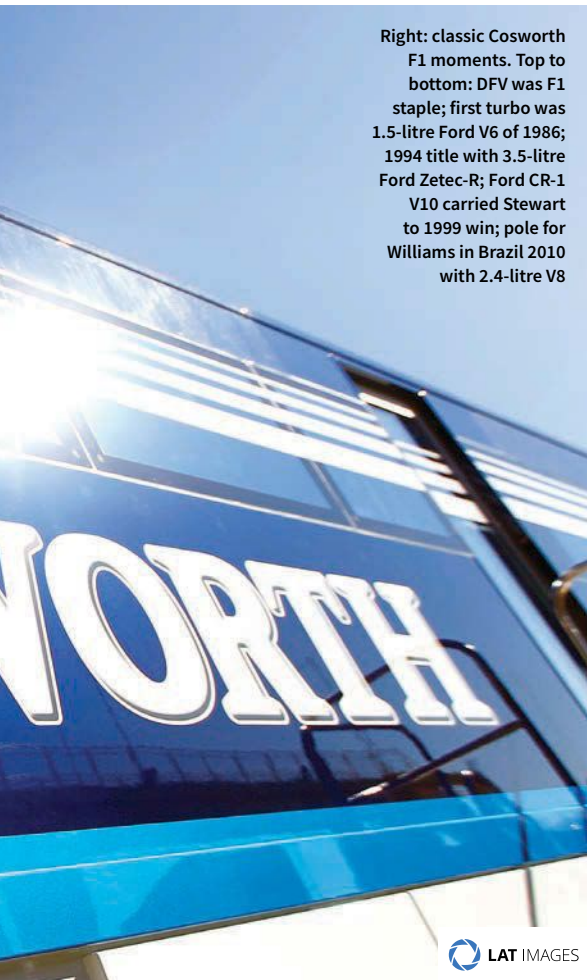
"That would be a necessity for independents to have a chance," he told Autosport. "It's not only the initial costs, it's also the development costs. I think everyone will develop and make progress, but the rules should be written in such a way that there is a relatively small gain that you can make with a lot of development."

Illien has made it clear that he cannot afford to spend the next three years developing a new engine and rely solely on future payments from customer teams in 2021 and beyond. As such he's looking for potential partners who could fund development and perhaps badge the engine, just as Ford underwrote the R&D costs of the DFV in 1967.

Cosworth appears to be more open minded, and CEO Hal Reisiger has indicated that his company could commit to a new engine on the basis of future supply agreements. But he has not ruled out the idea of finding a partner.

One company that is actively studying such a role is Red Bull sponsor Aston Martin. CEO Andy Palmer, who has also taken part in the FIA discussions, is adamant that the numbers have





Right: classic Cosworth F1 moments. Top to bottom: DFV was F1 staple; first turbo was 1.5-litre Ford V6 of 1986; 1994 title with 3.5-litre Ford Zetec-R; Ford CR-1 V10 carried Stewart to 1999 win; pole for Williams in Brazil 2010 with 2.4-litre V8

LAT IMAGES

# comeback

to make sense for a small-volume manufacturer.

"For a company that's only just moved to making a profit, we don't have the 350-400million a year that you have to spend on F1," Palmer told Autosport. "If – and it really is the big if – there is a cap put on the number of people or the amount of money that you can spend on developing a new engine, and it's at a reasonable level, we have a good reason to study it. At the moment there are lots of opinions, and it's still morphing into whatever the final idea will be."

Aston already has a relationship with Cosworth and Red Bull through its Adrian Newey-designed Valkyrie road-car project. Palmer admits that an F1 collaboration is possible, but he says that there are other options.

"We obviously have a good relationship with Cosworth, and if you're trying to create a relationship which says 'Valkyrie, F1, by the way when you buy your £150,000 Aston there's something in the bloodline', then obviously it makes sense to try and bring it all together.

"That doesn't mean that we wouldn't consider for example Ricardo [supplier of the Valkyrie gearbox], who were at the meeting, or Ilmor, who were at the meeting. We were all listening. We've talked about what might be with various parties, but we haven't decided. Hopefully it will be clearer in September, and that will allow us to make a proper decision."

ADAM COOPER

➔ P19 COSWORTH DFV CELEBRATION



FORMULA1

## Young talent joins Kubica in F1 testing

ROBERT KUBICA'S RETURN TO THE COCKPIT of a current Formula 1 car for the first time in over six years with Renault will likely grab the headlines at next week's Hungaroring test, but many of the brightest young talents outside F1 will also get the opportunity to bask in the refracted limelight.

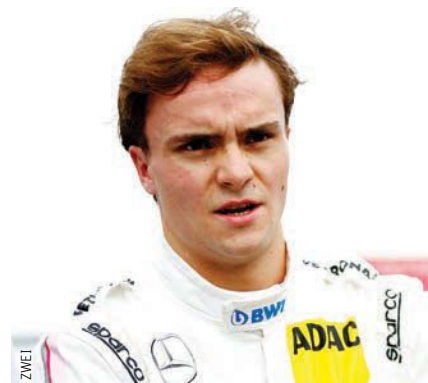
Renault finally admitted on Monday that the Pole, whose F1 career ended as a result of his serious rally crash in Italy in early 2011, will drive on the second day of the post-Hungarian Grand Prix runout, which takes place over Tuesday and Wednesday.

It comes after private tests at the wheel of 2012 machinery, as Renault aims to evaluate whether Kubica is ready for an F1 race return. "The upcoming session with the RS17 at the Hungaroring will allow us all to obtain detailed and precise data in a current car and representative conditions," said team boss Cyril Abiteboul. "After this test, we will carefully analyse the collected information to determine in what conditions it would be possible for Robert to return to competition in the upcoming years."

But the focus of many fans will be on the young talent nestling in the cockpits for other teams. Of those definitely in a holding pattern for potential future F1 stardom, Formula 2 dominator Charles Leclerc will get his second proper F1 test with Ferrari and Super Formula exile Pierre Gasly could continue his work with Red Bull, while two of the most exciting Brits get their first tests in 2017 machinery: GP3 Series leader George Russell is out with Mercedes, while European Formula 3 starlet Lando Norris helms a McLaren, as part of his prize for winning last year's McLaren Autosport BRDC Award.

From slightly left-field, DTM Mercedes star Lucas Auer (below) gets an opportunity with Force India – don't forget the Austrian was good enough on his day to beat Esteban Ocon and Max Verstappen in F3. Others from the junior ranks include Luca Ghiotto (Williams), Nobuharu Matsushita and Gustav Malja (Sauber), Nicholas Latifi (Renault), Sean Gelael (Toro Rosso), Santino Ferrucci (Haas) and Nikita Mazepin (Force India).

MARCUS SIMMONS





DTM/FORMULAE

## SHOCK AS MERC QUITS DTM FOR FORMULA E ENTRY

MERCEDES' DECISION to leave the DTM at the end of 2018 in favour of joining Formula E will likely have enormous repercussions around the motorsport industry.

The Stuttgart manufacturer declared the move on Monday evening, leaving the whole future of the DTM unclear. Mercedes has been the most loyal of the series' participants – indeed, the founder of works team HWA, Hans Werner Aufrecht, is renowned as 'the father of the DTM' as he played a key role in its revival in 2000 after a three-year hiatus.

Aufrecht, of course, was part of the exodus from the board of DTM promoter the ITR during the winter, when Gerhard Berger took over as chairman. Since Berger has been at the helm, reports are that his influence has been extremely positive.

But will that be enough to encourage Audi and BMW to stay? DTM manufacturers are in the series for marketing reasons, and the competition with Mercedes plays a very important role in this.

One glimmer of hope could be that the DTM has earmarked 2019 as the season for possible introduction of the new two-litre turbo formula, as used in Japan's Super GT series. If, say, Lexus could be persuaded to join the DTM with the same car as it uses in

Japan, would this be an acceptable Mercedes substitute to the executives in Munich and Ingolstadt?

Along with the serious doubts over the future of LMP1, this leaves a potential glut of top-level drivers, teams and staff fighting for work within an ever-diminishing market. After all, Formula E caters only for two (or four with the current car swaps!) cars and drivers per team.

Formula 3 in its present form is also inextricably linked to the DTM, with the European championship organised on behalf of the FIA by a subsidiary company of the ITR.

Mercedes' Formula E entry had initially been slated for 2018-19 but has been delayed until the 2019-20 campaign. It is understood that HWA will run the team, and that there could be a tie-up with the existing Venturi squad for the 2018-19 season.

Mercedes sports boss Toto Wolff said: "In motorsport like in every other area, we want to be the benchmark in the premium segment and to explore innovative new projects. The combination of F1 and Formula E delivers that. Electrification is happening in the road car world and Formula E offers a platform to bring this technology to a new audience."

MARCUS SIMMONS

IMSA SPORTSCAR

# Mazda seizes Joest chance

Sports-prototype racing's talisman team has joined IMSA to help Mazda take on Cadillac – and Acura

**T**he chance to work with 15-time Le Mans 24 Hours winner Joest Racing was "a once in a lifetime opportunity" that Mazda couldn't refuse. Those words from the manufacturer's North American motorsport boss, John Doonan, explain why it has decided to end its long-running partnership with SpeedSource and recruit Joest to run its Daytona Prototype international programme in the IMSA SportsCar Championship with immediate effect. Mazda has withdrawn from the remainder of this year's series and Joest is set to begin testing with its RT24-P DPis before the end of August in preparation for a two-car 2018 campaign.

"This is an important moment in Mazda motorsports history as we align our brand's top-level racing programme with one of the best sportscar teams of all time," said Doonan. "What the entire Joest Racing organisation has accomplished is not likely to ever be matched."

The deal with Joest comes after a season in which the SpeedSource-run Mazda DPis have failed to match the dominant Cadillacs in IMSA. SpeedSource notched up three third positions with the car – which is designed around the Riley Mk30 LMP2 and the AER-built Mazda MZ-2.0T powerplant – in the first seven IMSA rounds this season.

The German team has a rich heritage in US sportscar racing that stretches beyond its American Le Mans Series campaigns starting in 2000. It won the Daytona 24 Hours in 1991 and ran a programme of IMSA events in '93 with a Porsche 962, which yielded a victory at Road America.

Joest will be working closely with Multimatic Motorsports, Riley's partner in the Mk30 project. The Canadian organisation has now taken over full development of the design. "We want to bring all the experience that we have gathered in endurance racing into this project, and therefore I expect a really close relationship with Multimatic," said Joest boss Ralf Jüttner. "We expect to start testing as soon as August – in the next month we expect to have the car rolling."

Joest will begin testing with the current Mazda driving roster of Jonathan Bomarito, Tristan Nunez, Joel Miller and Tom Long. The 2018 line-up has yet to be determined, however.

The team will be known as Team Mazda Joest and will be re-establishing a base in the Atlanta area in Georgia, from where it masterminded its previous successful US campaigns.

The news that Mazda is joining forces with Joest comes hot on the heels of the confirmation that Acura will be joining the DPi ranks in 2018 with Penske. IMSA boss Scott Atherton said he was thrilled to welcome what he described as "a benchmark example of a top-level prototype endurance sportscar racing team" to the series.

GARY WATKINS



LAT IMAGES





**INDYCAR** While Formula 1 heads off on its latest mission to make its cars as ugly as possible, aesthetes among motorsport fandom can rejoice that the IndyCar Series has moved in the opposite direction with its new universal aero kit for the Dallara IR-12 (nee DW12), unveiled on Monday. The kit, refined by Dallara and UK concept designer Chris Beatty, is an attempt to hark back to the classic lines of the early-1990s CART racers. The increase in underbody downforce from 47 to 66% should make the cars easier to race and allows for the loss of the aero flicks from the existing bespoke kits produced by engine suppliers Chevrolet and Honda. Testing begins next week at Mid-Ohio, with Juan Pablo Montoya representing Chevy for Team Penske, and Oriol Servia driving Honda's car run by Schmidt Peterson Motorsports. **Photograph by IMS**

## WORLD RALLY CHAMPIONSHIP

# Expensive Ogier could find himself out of drive

SEBASTIEN OGIER COULD FIND himself out of a drive in next year's World Rally Championship, despite the fact that he's fighting for his fifth title.

The Frenchman has already stated his preference to remain in a Ford Fiesta WRC in 2018, but for that to happen he needs Ford to return to the WRC as a manufacturer or for the M-Sport team to find a substantial backer.

M-Sport team principal Malcolm Wilson is determined to keep Ogier, who he signed on a single-season deal for this year. Wilson told Autosport: "I'll do everything I can for as long as I can to keep him with us. It goes without saying we want Sebastien with us next season."

Should Ogier leave M-Sport, Wilson's preference is for an Ott Tanak-Elfyn Evans team. But he will have to fend off attention from Toyota to keep Tanak. Toyota's focus on Tanak is an indication of lukewarm interest in putting Ogier in a Yaris WRC. Undoubtedly, Tommi Mäkinen's squad would be the only one

able to meet Ogier's wage demand, but the Finn is reportedly concerned about a potential shift in emphasis within the Puuppola-based team if Ogier joined.

Hyundai team principal Michel Nandan has ruled Ogier out of his team next season, saying he doesn't have room. A move back to Citroen would make sense, but the French manufacturer is struggling to put together the necessary budget to sign Ogier — just as it was 12 months ago, when a return was first rumoured after Volkswagen's pullout.

Ogier said he was talking to everybody and wanted the deal done sooner rather than later. 'Sooner' for him is September or October at the outside.

If he can't find a suitable deal in the WRC, racing has always been on Ogier's horizon and he further demonstrated his circuit ability when he tested a Formula 1 car for the first time last month. Ogier drove a Red Bull RB7 (right) for 60 miles at the Red Bull Ring in Austria.

**DAVID EVANS**





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## IN THE HEADLINES

**ROWLAND GETS F1 RUN WITH RENAULT**

Formula 2 race winner Oliver Rowland will get his next taste of F1 power at the Dutch Assen circuit next week. Rowland will test Renault's 2012-spec Lotus on August 5 as part of a sidecar-superkart-car racing weekend.

**FORMULA V8 3.5 STAYS WITH WEC...**

The World Series Formula V8 3.5 has extended its deal to support the World Endurance Championship to cover the 2018 season. Series promoter RPM, run by Jaime Alguersuari Sr, is working on an upgrade to the Dallara-Gibson chassis. Its parent company Dentsu Aegis Network has appointed Carlos Sainz Jr's former manager Borja Ortiz-Echague as its motorsport manager.

**...AS RUSSIAN ACES MAKE ELMS DEBUTS**

FV8 3.5 points leader Matevos Isaakyan and fellow series frontrunner Egor Orudzhhev made their sportscar debuts in last weekend's European Le Mans Series round at the Red Bull Ring. The Russian duo piloted the SMP Racing Dallara and led while off-strategy, but technical issues put them out of contention and they took sixth place.

**BOWMAN REPLACES EARNHARDT**

Two young guns of NASCAR have secured plum drives for 2018. Alex Bowman will replace the retiring Dale Earnhardt Jr at Hendrick Motorsports, after impressing as a stand-in during 2016. Erik Jones steps up to the Joe Gibbs Racing squad in place of Matt Kenseth.

**STONEMAN OUT, LOTTERER IN**

British motorsport nomad Dean Stoneman has stood down from the Strakka Racing McLaren line-up for the remainder of the Blancpain Endurance Cup after a string of disappointing results. Stoneman's seat alongside Jazeman Jaafar and Andrew Watson for this weekend's Spa 24 Hours will be taken by Pieter Schothorst. Meanwhile, Porsche LMP1 racer Andre Lotterer has been given a late call-up for Spa, and will share a WRT Audi with Marcel Fassler and Dries Vanthoor, in place of Will Stevens.

**MIKE TREW 1939-2017**

Mike Trew, who headed the Autosport advertising team from 1970-82 in a halcyon period, has died at the age of 78. Trew's first contact with Autosport came when he tried to sell his Renault and Lotus Cortina, then phoned to point out mistakes in the resulting ad. He soon joined the team and became a much-loved member of staff who will be missed by his ex-colleagues.

**BMW'S NEW WEC CONTENDER ON TRACK**

BMW's new M8 GTE contender for the WEC hit the track at the Lausitzring last week for a three-day test. DTM ace Maxime Martin and IMSA racer Martin Tomczyk handled driving duties. It is scheduled to make its race debut in the Daytona 24 Hours next January.



## F1 PREVIEW

# Hungarian Grand Prix

## July 28-30

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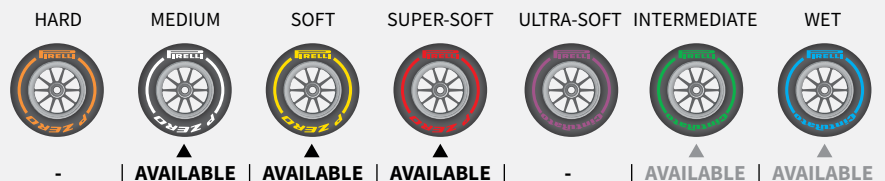
2016 POLE POSITION Nico Rosberg 1m19.965s

POLE LAP RECORD Sebastian Vettel 1m18.773s (2010)

RACE LAP RECORD Michael Schumacher 1m19.071s (2004)



## TYRE ALLOCATION



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**SATURDAY**

FP3 1000 QUALIFYING 1300

**SUNDAY**

RACE 1300

BBC RADIO 5 LIVE 1300

HIGHLIGHTS ON CHANNEL 4

RACE SUNDAY 1715

## PREVIOUS WINNERS

2016	Lewis Hamilton	Mercedes
2015	Sebastian Vettel	Ferrari
2014	Daniel Ricciardo	Red Bull
2013	Lewis Hamilton	Mercedes
2012	Lewis Hamilton	McLaren
2011	Jenson Button	McLaren
2010	Mark Webber	Red Bull
2009	Lewis Hamilton	McLaren
2008	Heikki Kovalainen	McLaren
2007	Lewis Hamilton	McLaren

## THEMES TO WATCH

**FERRARI FIGHTBACK?**

Destroyed by Mercedes at Silverstone, Ferrari should find the lower-speed Hungaroring playing to its strengths. A defeat here would be a disaster.

**RED BULL RISING**

This is a circuit where the Renault engine disadvantage won't be so powerful, so Red Bull will be looking to bother Mercedes and Ferrari.

**KUBICA'S RETURN**

While not part of the weekend, Robert Kubica will have his first run in an official F1 test since 2011 in the post-event test. Is the comeback really on?



# Safety fast(er)

The halo safety device has been pushed through the regulatory process in the face of tough opposition – for a compelling reason

By Dieter Rencken, Special Contributor

[@RacingLines](#)

**NEXT YEAR'S AUSTRALIAN GRAND PRIX WILL BE THE** first race to feature the entire Formula 1 grid running the halo cockpit ring now that the FIA has made the controversial safety system mandatory. It is happening in spite of many reservations, not least those expressed by the teams – of which, we understand, nine out of the 10 said they were opposed to the introduction of the device.

Over three years in the making – and already delayed by a year – the halo was developed by Mercedes in reaction to a sequence of deaths and injuries in single-seaters. Thus it is particularly ironic that the team's non-executive chairman, Niki Lauda – himself the victim of a grisly accident during his driving career – is one of the most vocally opposed figures, calling the device “the wrong one” and an “overreaction”.

Much has been written about the respective pros and cons of the halo versus the canopy-style ‘shield’ that was (briefly) evaluated during the FIA's quest for improved head protection. Regardless of advantages, proven or assumed, the aesthetics of both polarised opinions, though the shield seemingly caused less offence among drivers, team personnel and fans than the halo.

On that basis alone, the halo always was going to face massive opposition within and without the F1 paddock, regardless of its advantages over the shield. Strangely, despite one of its three ‘prongs’ being in the forward line of sight, there were no complaints on that score; the objections seem to be founded on the look of the halo rather than the actual view through it.

However, given some of the teams' penile front-nose designs in recent times and rather gawky wings before that, one does truly wonder whether F1 engineers are at all qualified to judge aesthetics in the first place. Still, F1's overriding mantra appears to be that if it works, it's beautiful; if not, it's ugly. Tests by the FIA show the “halo currently represents the best solution to the issue of frontal cockpit protection”, so there...

The debate recalls the saga surrounding another driver safety device, the Head and Neck Support (HANS), introduced at the 2003 Australian Grand Prix. HANS was brought in after a number of drivers suffered fatal basal skull fractures; the deaths of Roland Ratzenberger at Imola and NASCAR legend Dale Earnhardt at Daytona were among the highest-profile.

Another to suffer BSF death was Indy driver Scott Brayton, and thus it is little wonder that CART/Indycar (initially for oval circuits, later for road courses) and NASCAR were among

the first racing categories to adopt the HANS device, in 2001 (though they'd been trumped by drag racing five years earlier). Thus, for once, F1 did not take the lead in motorsport safety.

Originally scheduled for introduction in 2002, HANS was delayed a year after numerous F1 teams and drivers protested. Sound familiar? Rubens Barrichello, who blamed his 2003 Australian GP crash partially on discomfort caused by his HANS, was one of its biggest critics; another was lanky Justin Wilson, who suffered pinched nerves.

Barrichello was granted a one-off exemption from using HANS for the following race (Malaysia) and, intriguingly, his team executives at the time were Jean Todt and Ross Brawn, now FIA president and managing director of FOM, the sport's commercial rights holder, respectively. Guess who voted in favour of halo?

Both drivers, though, subsequently assisted with further development of HANS, and it is now mandated for various series, including ‘roofed’ categories such as the World Rally Championship and World Touring Cars. Indeed, it's

impossible to imagine drivers racing without HANS, just as it is impossible to visualise drivers without full-face helmets, yet 60 years ago some still drove in leather caps, and for a while asbestos masks were *de rigueur*.

Arguably the most interesting aspect of the halo affair is that the FIA played the safety card to force it through after the 100% team consensus (required to introduce rule changes for the following year after the April 1 cut-off point) failed to materialise. Under such circumstances F1's regulator is permitted to override teams and the F1 Commission, but only where bona-fide safety issues are at stake.

Given that this represents the sole instance of Todt's regime playing the safety card during his well-nigh eight years as president, the saga illustrates just how seriously the FIA views the question of cockpit/head protection.

The fact is that the halo has been pushed through for 2018 – further delays could have left the governing body open to legal challenges should a death occur through head injury while the halo remained in limbo. The Grand Prix Drivers' Association supported the move, while admitting “the halo might not be the most aesthetically pleasing for everyone”.

And, as with HANS, helmets and flameproof garb, in a decade F1 cars without halos will be unimaginable – unless, of course, said devices are replaced by something better. ✖

**“Formula 1's mantra appears to be that if it works, it's beautiful”**



# FEEDBACK

## Formula 1 plunges to a new low with halo

OK, everybody hates the hideously ugly halo, it's sure to harm the image and popularity of Formula 1, and it's going into effect anyway. Great. I'd thought the era of inane, impetuous rules-making had ended when Liberty Media and Ross Brawn came aboard, but apparently not.

I gather this madness is due to fear of lawsuits if something isn't done to follow up on F1's earlier statement-of-intent to look into protection from head injuries.

Here's your out, FIA and FOM: let it be known that the halo is inadequate because it does very little to protect against injury from small, flying objects and blocks driver vision in several angles, and something better is needed, something like a development of the (infinitely more attractive) shield, without the vision problems.

Declare it would be foolish to rush forward with an inadequately safe design, and instead require the 2018 F1 cars to be built in a way that can incorporate an improved-visibility shield as soon as one can be devised (which should not take that long since all kinds of closed racing cars already have windshields that work just fine).

Then get some of the brilliant F1 tech guys to work on an improved shield and get it on the cars as soon as possible. Soon enough to ward off the hideous halo. Please. It's — I'll say it again — hideous.

**Steve Bieler**  
Trumansburg, NY, USA

### Let teams and drivers decide

Despite the obvious protection the halo may offer to the driver, it's a really, really ugly solution to the problem. It just does not look right on a grand prix car.

My suggestion would be to not make it compulsory and let drivers and teams decide whether they want to adopt it or not, at least until a better concept can be designed. Please don't make it mandatory.

**John Marsh**  
Byemail

### Lauda's verdict is spot-on

I agree with Niki Lauda that the inane introduction of the ugly halo under dodgy safety grounds will be destructive for Formula 1.

I wonder what the FIA will do once there is an accident where the halo compromises safety, or, heaven forbid, aggravates any injuries. Withdraw it on 'safety grounds'?

**Guy Dormehl**  
Garden Route, South Africa

### Bin it, or F1 loses another fan

The nanny-state culture has finally caught up with F1 with the ghastly halo. At a time when F1 is trying to reinvent itself, this is the last thing it needs. The look and feel of any product is critical to its success, and the halo ruins F1 — with no guarantee of safety.

Already bought my tickets for the



Halo: vital aid to safety or monstrous carbuncle on the face of Formula 1?

2018 British GP. Fit that thing and I won't be back in '19, for the first time in 35 years. Bin it, Mr Todt.

**Clive Drake**  
Langham, Essex

### Here's how to bolster WEC grid

If the FIA, World Endurance Championship and Le Mans want more manufacturers, the obvious step is to welcome the Daytona Prototype International (DPI) teams. They could have nine new cars from Cadillac, Mazda, Nissan, and (starting in 2018) Acura.

This would give them two years to figure out the new regulations. Problem solved; except that once the DPis are in, it will be hard to kick them out again.

**Bruce Merchant**  
Big Sur, California, USA

### One rule for Lewis...

As a flag marshal at Club corner, I made many spontaneous decisions during the British GP meeting in regard to drivers 'hanging back' to start fast laps. Despite my vigorous display of a waved blue flag, Lewis Hamilton suggests he was 'given no warning' and was 'unaware' a driver on a fast lap was approaching.

"Two types of decision," suggests Romain Grosjean. I can't help but agree.

**Bob McEwan**  
Rochford, Essex

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# Is the **halo** right for Formula 1?

Will the safety gains be enough to win over fans, drivers and teams?

By Ben Anderson and Edd Straw

🐦 @BenAndersonAuto and @eddstrawF1







LAT IMAGES

**F**ormula 1 cars will feature bespoke cockpit protection in 2018 come what may, following the FIA's decision to mandate the controversial halo concept to run on all grand prix cars starting from next season. Cockpit protection in F1 has been inevitable since early 2016, when the FIA began testing halo prototypes on F1 cars, but adoption of the halo was deferred so testing of an alternative 'shield' idea – similar to Red Bull's own 'aeroscreen' concept – could take place.

Initial track testing of that alternative was deemed a failure, after Sebastian Vettel reported feelings of sickness and dizziness during one lap with it fitted to his Ferrari in practice for the recent British Grand Prix at Silverstone. Development work will continue, and it's possible that an evolution of the shield concept could one day supercede the halo.

Nine of the 10 teams apparently voted against adopting the halo for 2018 at a meeting of F1's strategy group in Geneva last week, but the FIA has pushed it through on safety grounds. The FIA issued a statement last Friday explaining why the halo has been adopted, citing the areas in which it has performed well in testing.

"Centring on three significant risk types, car-to-car contact, car-to-environment contact and external objects, tests revealed that

in the case of car-to-car incidents the halo was able to withstand 15 times the static load of the full mass of the car and was able to significantly reduce the potential for injuries.

"In car-to-environment tests it was established that the halo was able to prevent helmet contact with a wall or a barrier in many cases, using a selection of previous incidents as a reference.

"Finally, in the case of external objects the halo was found to successfully deflect large objects away from the cockpit environment and also demonstrated an increased net level of protection against small debris."

So here we are. F1 cars will feature extra head protection next season, whether we like it or not. There is no doubt that the halo will prevent a repeat of the tragedy that befell Henry Surtees in an FIA F2 race at Brands Hatch in 2009, where an errant wheel struck the driver on the head and killed him. It would also likely have saved the life of IndyCar driver Justin Wilson – who was struck on the head in '15 by flying car

bodywork – but the halo's benefits are otherwise dubious.

The FIA's own earlier studies calculated a 17% improvement in deflection of small objects, such as the errant lateral damper spring from Rubens Barrichello's Brawn that severely injured Felipe Massa at the 2009 Hungarian Grand Prix, but what about the potential problems created for driver visibility, not to mention driver extraction from the cockpit, especially in the case of an overturned car?

The FIA has simulated Fernando Alonso's 2016 Australian GP crash – where the Spaniard ended up inverted after a collision with Esteban Gutierrez's Haas – with halo attached to the McLaren. The pilot can extract himself unaided, but drivers were not impressed by the time this took.

What if fluids were spilling from the car, creating a fire risk? In this instance, the case for an overall safety improvement is not clear-cut. While advances in fuel-cell technology mean F1 has not suffered from a fire worsened by a breach since Gerhard Berger's Tamburello shunt at Imola in 1989, there have since been fires caused by uncontained fuel escaping.

Whether or not it compromises visibility depends on who you ask. The consensus is that, while the halo is far from

invisible, it doesn't pose a massive problem, even through a steep corner such as Eau Rouge.

"My biggest concern was visibility; visibility is not a problem," said Carlos Sainz Jr after trying a dummy halo during free practice

for last year's Belgian Grand Prix. "Through Eau Rouge, you don't have to go like this [ducks] to see where the corner goes.

"Obviously, when you leave the box you have this thing in the middle, which disturbs you a bit, but at the end of the lap you don't even notice it's there anymore. The eyes get used to it."

And then there are the aesthetics. The halo is ugly, without doubt. As Mercedes non-executive chairman Niki Lauda points out, this is a backwards step for F1 at a time when it has just started an attempt to reconnect with fans by employing faster cars, with more aggressive aerodynamics and tyres, and consequently better looks.

"We tested the halo, the Red Bull aeroscreen and the shield as a cockpit protection, but none convinced 100%," Lauda told German publication *Auto Motor und Sport*. "You have to make the right decision in such a situation. The halo is the wrong one.

"We are trying hard with faster cars and getting closer to the spectators to attract new fans to the sport, but this now >>

**"This is a backwards step for F1 when it has started to reconnect with fans"**

is destroyed by an overreaction.

“The FIA has made F1 as safe as it gets. The danger of flying wheels is largely eliminated, because the wheels are always more firmly attached. The risk to the drivers has become minimal.

“There is a better solution than the halo, otherwise we would not have tried three ideas. It would have been more sensible to go in the direction that, if we find something that does not destroy the looks of the car, it be introduced in 2019.

“It’s as simple as that. The halo destroys the DNA of an F1 car. There is no reason to do something we will regret later.”

The latest version of the halo has yet to appear, and it’s likely that a slightly more refined version of what we saw last year will arrive. But that will only slightly mitigate the unsightliness. Teams will also be able to paint the halo to match the car, as Williams did last year, which should also help to better integrate it within the overall look.

While drivers have gradually become more cocooned within the cockpit over the years — look back 25 years and drivers’ shoulders still protruded — there has never been so dramatic a step as this one. In 1996, the raising of the cockpit sides did

**“There has never been so dramatic a change to F1 cockpits as this”**

make a significant difference on certain cars, although the less drastic interpretation of the rules by Williams and Jordan mitigated this.

But you have to ask whether the adoption of the halo is so dramatic a change that it would be logical simply to go the whole hog and enclose the cockpit. The halo and shield concepts maintain grand prix cars as nominally open, but to all intents and purposes they are attempting to gain the safety benefits of being enclosed. On the flip side of that coin is that tests of the fully enclosed cockpit did lead to concerns about how dramatic the deflection of a flying wheel is, raising questions about crowd safety.

It’s interesting there is disagreement about cockpit protection, even within the Grand Prix Drivers’ Association, which represents driver interests in F1. The group’s chairman Alex Wurz is clearly in favour, while director Romain Grosjean is against.

“I’ve made myself clear since the beginning: we don’t



need anything,” said Grosjean after Vettel sampled the shield at Silverstone. “I tried the halo last year, I hated it, it made me sick, so we haven’t yet found a good solution.

“The drivers are very divided [on cockpit safety]. We’ve actually stopped discussing it. We are up for better safety, but it’s not up for us to come up with a solution, or say we want this or this — we don’t make the rules. I’m against every halo or shield or whatever — it’s not Formula 1.”

That said, drivers are not necessarily always the voices to listen to in circumstances such as these. History is littered with examples of drivers being dubious about safety improvements that have gone on to save lives. For example, there was widespread criticism of the HANS device when it was made mandatory in F1 in 2003, but today most drivers wouldn’t consider getting into a grand prix car without one, even if it wasn’t compulsory.

The FIA is of course right to do everything in its power to improve safety in F1, but rather like a government that comes

The halo design may yet change before its appearance on cars next season







up with a good policy idea but ploughs on regardless even when faced with legitimate obstacles, it seems the FIA has backed itself into a corner where it feels it must implement cockpit protection next season regardless of whether F1 is ready for it.

It's also likely that, with the Jules Bianchi legal case fresh in the memory, the FIA is aware of the potential consequences of a serious injury or fatality occurring that could have been prevented by the halo being used now that its benefits have been demonstrated. It's all well and good arguing that drivers know the risks and should be willing to pay the price if the worst happens, but that argument has limited value in court.

But surely F1 would be better served by waiting until it has defined an unambiguous solution to the issue. The governing body would not have countenanced development and testing of the shield if it was utterly convinced by the benefits of the halo, so why now persist with a concept that, while offering a net gain, is a long way short of meeting all the challenges set?

The halo seems to be the worst of all worlds – maintaining an open cockpit without dramatically improving safety but certainly ruining the aesthetics of the cars. For the sake of instant gratification, F1 is in danger of yet again shooting itself in the foot by implementing the sort of rushed-out solution that FOM's Ross Brawn is so keen to prevent. ❄

**Vettel complained of dizziness and sickness after testing the shield concept at Silverstone**

## Q&A

### NICK CHESTER RENAULT F1 CHASSIS TECHNICAL DIRECTOR



#### **What's your view on the FIA's decision to adopt the halo for 2018?**

It's tricky because we've been designing for shield. We're at the point where, at this time of year, we like to define the chassis surfaces,

so we've now got a lot of work to do to hop back to halo. There are some benefits with halo – it's much better for deflecting wheels, so for any big bits of debris it will be much better than the shield. The shield unfortunately, although a very good idea, looks just a little bit too tricky for visibility.

#### **What are the challenges with the shield, and why is it so difficult to get right?**

It's tricky because it's very low-rake, so the driver is not looking through a perpendicular piece of Perspex, he's looking through it at a very oblique angle – and that gives you a lot of reflection and distortion and curvature issues. I think that's what Vettel struggled with – the curvature, particularly when the screen's vibrating a little bit, just meant he couldn't focus properly. I think one could work, but it might have to be a steeper angle. At the moment, it looks very nice, but maybe it has to be steeper, and there's probably a lot of work around anti-reflection coatings. It can work, but it's a much bigger development programme.

#### **Will the halo affect the aerodynamics of next year's car?**

A little bit. I know when it was discussed before that the wake from the top structure – from that top boom, effectively – can affect what goes on to the rollhoop, so there will be an amount of work on how to cope with the [aerodynamic] wake from the halo.

#### **Do you think cockpit protection is a direction F1 is right to go in?**

I think it is a direction we need to go in because there have been enough examples of near-misses and of course the Henry Surtees accident, where he was killed in F2 with a tyre, so you can't ignore that. We've got to introduce something. Halo's not perfect but it's a step forward.





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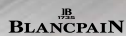
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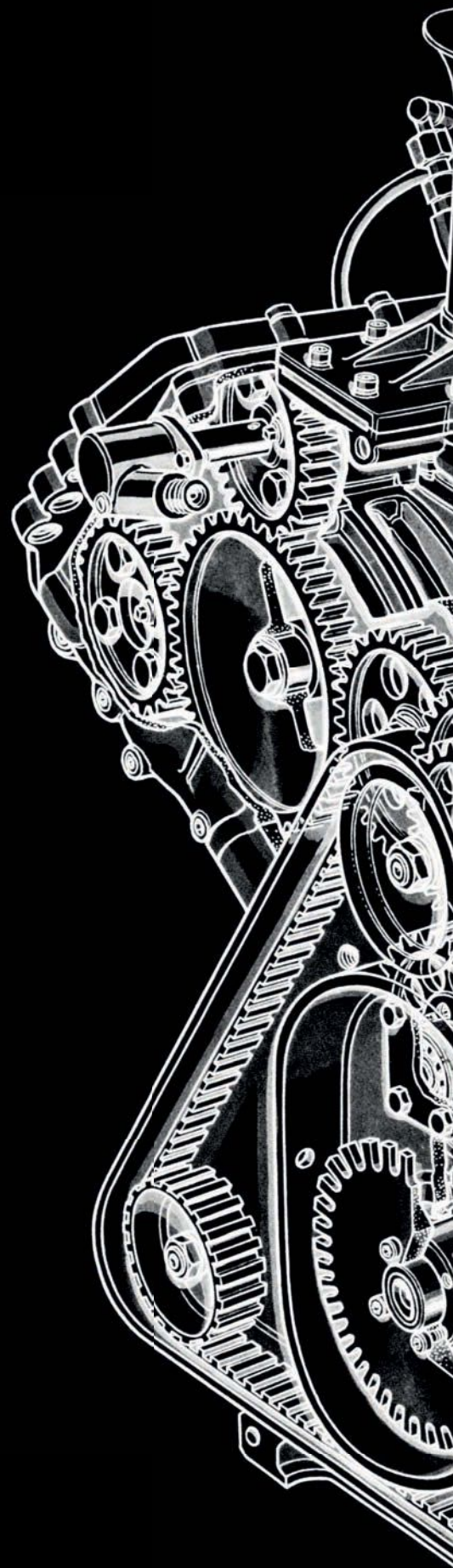


# “That engine made careers, and so many champions”

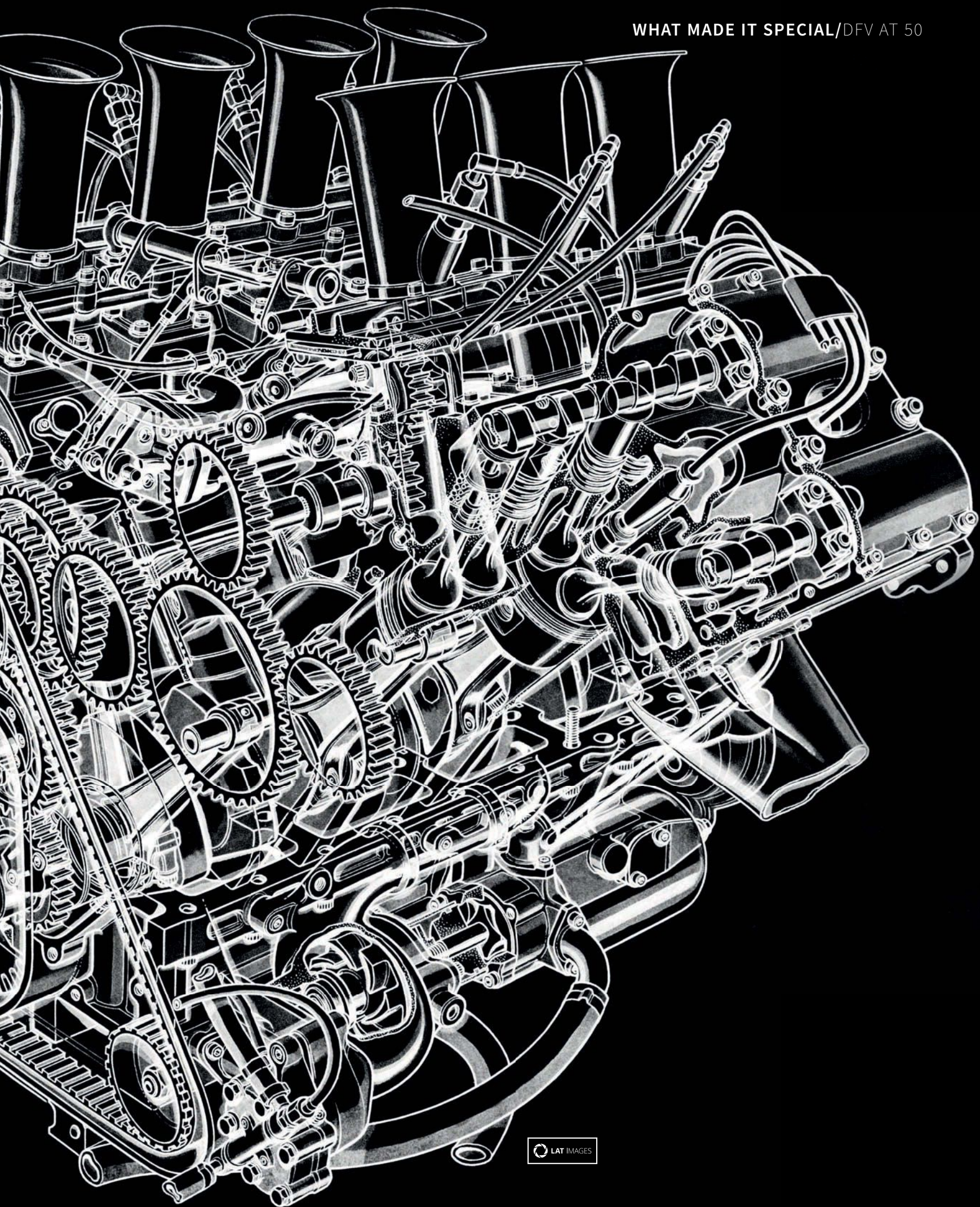
So says Mario Andretti, one of nine men to win the Formula 1 title with the Ford Cosworth DFV powerplant. Here's how it changed the face of the sport

By Nigel Roebuck

🐦 @autosport









“**I** left Ferrari at the end of 1969,” Chris Amon said, “and always regretted it, but at the time it seemed like something I had to do. The cars always handled well, but the V12 *sounded* way more powerful than it was, and you could never convince the Italians of that.”

“At Brands Hatch in 1968, for example, I started from the front row, and finished second after a long fight with Jo Siffert’s Lotus. Mauro Forghieri and the others were annoyed I didn’t win, but I was absolutely balls out the whole way: it was the same old story — out of the slow corners the Ferrari was simply blown off by the Cosworth.”

“The following year was even worse, but we had the flat-12 coming for 1970, and I was impressed by it in testing. Trouble was, it kept breaking after only a few laps, and one day I just thought, ‘I’ve had it — I’ve got to have a DFV...’”

Like ‘D-type’ and ‘250F’, ‘DFV’ has gone into the lexicon of motor racing; nothing else need be said. Yet when I think back now to the mid-1960s, when it became known that Ford was to have a grand prix engine, I was horrified, and so were all my friends. *Ford* — in *Formula 1*?

Half a century on it seems barely credible that we reacted that way, for was not Ford already deeply involved in motor racing, not least with a very serious sportscar programme? Having failed to buy Ferrari, the US company had resolved to take on Enzo at Le Mans, and in 1966 it beat him. As well as that, everyone was accustomed to the sublime sight of Jimmy Clark flinging a Ford Lotus Cortina around Silverstone or Oulton Park — even if we preferred to think of it as simply a ‘Lotus Cortina’.

Formula 1, though, was a different matter — sacrosanct, if you like. Exclusive. Somehow ‘Ford’ didn’t belong at the very summit of the sport, as Jackie Stewart, for countless years synonymous with the company, remembers.

“Cosworth had been working with Ford engines for a long time, in the junior formulas and saloon cars and so on, and Keith Duckworth and Mike Costin had also worked for years with Colin Chapman — but none of that registered with the doctor or lawyer, whereas Formula 1 did. The times were very different then, and — however you want to put it — what the DFV did was allow Ford to come from being ‘a working man’s car’ to something a doctor or a lawyer might drive.”

“Winning Le Mans went a long way to transforming the image of the company, and winning grands prix with the DFV took it a stage further — it sort of made Ford socially acceptable. Trust me, the Ford Dealer Group knew very well that racing sold cars.”

Had Coventry-Climax, for so long the mainstay of British

grand prix teams, opted to build an engine for the new three-litre Formula 1 in 1966, the DFV might never have seen the light of day, but it decided otherwise, at which point Chapman proposed that Duckworth design an engine, and he would find the money for it. It could have been an ‘Aston Martin’ or even an ‘Esso’, but ultimately both companies turned it down, at which point Chapman put the idea to Walter Hayes, Ford’s UK head of PR.

“Without Walter,” says Stewart, “the DFV would never have happened, simple as that. He agreed in principle to the designing and building of the engine, but of course it needed Henry Ford II to commit to it, and he convinced him to do that.”

So it was that the project went ahead, a simple document — written by Duckworth, signed by Ford — agreeing to the provision of £100,000 to Cosworth: £75,000 for the F1 DFV, £25,000 for the F2 FVA. It was also decided that Lotus would have the DFV exclusively for one year, 1967, after which it would be sold to anyone who wanted it. Plenty did.

Mario Illien, who worked at Cosworth in the 1970s and remembers Duckworth as a genius, describes the DFV thus: “A relatively simple engine, with a fantastic cylinder head, four valves per cylinder, good combustion — mechanically just a very sensible piece of engineering, and torsionally very stiff because it was designed from the start to be used as a fully stressed member, integrated into the Lotus 49 as a part of the chassis. At the time that was a novel idea.”

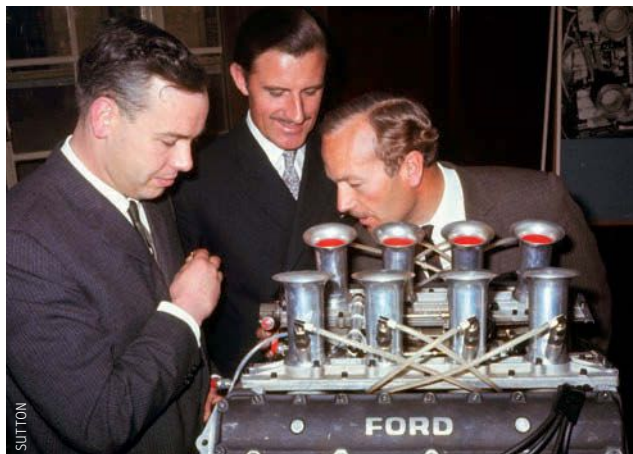
The new car and engine appeared for the first time at the Dutch Grand Prix in 1967. Graham Hill had given it a shakedown at Snetterton, but Clark, then living in Parisian tax exile, had not so much as seen the 49 until he arrived at Zandvoort.

The bare facts of the race are that Hill took pole position, and led before retiring, and that Clark won. It was a little like Reims in 1954, when Mercedes returned to racing, and suddenly every other F1 car was obsolete. The 49, in its early guise, was by no means an easy car to drive, and neither was the power delivery of the DFV as smooth as Jimmy and Graham might have wished, but these were shortcomings great drivers could surmount: plainly the lovechild of Chapman and Duckworth was instantly quicker than anything else.

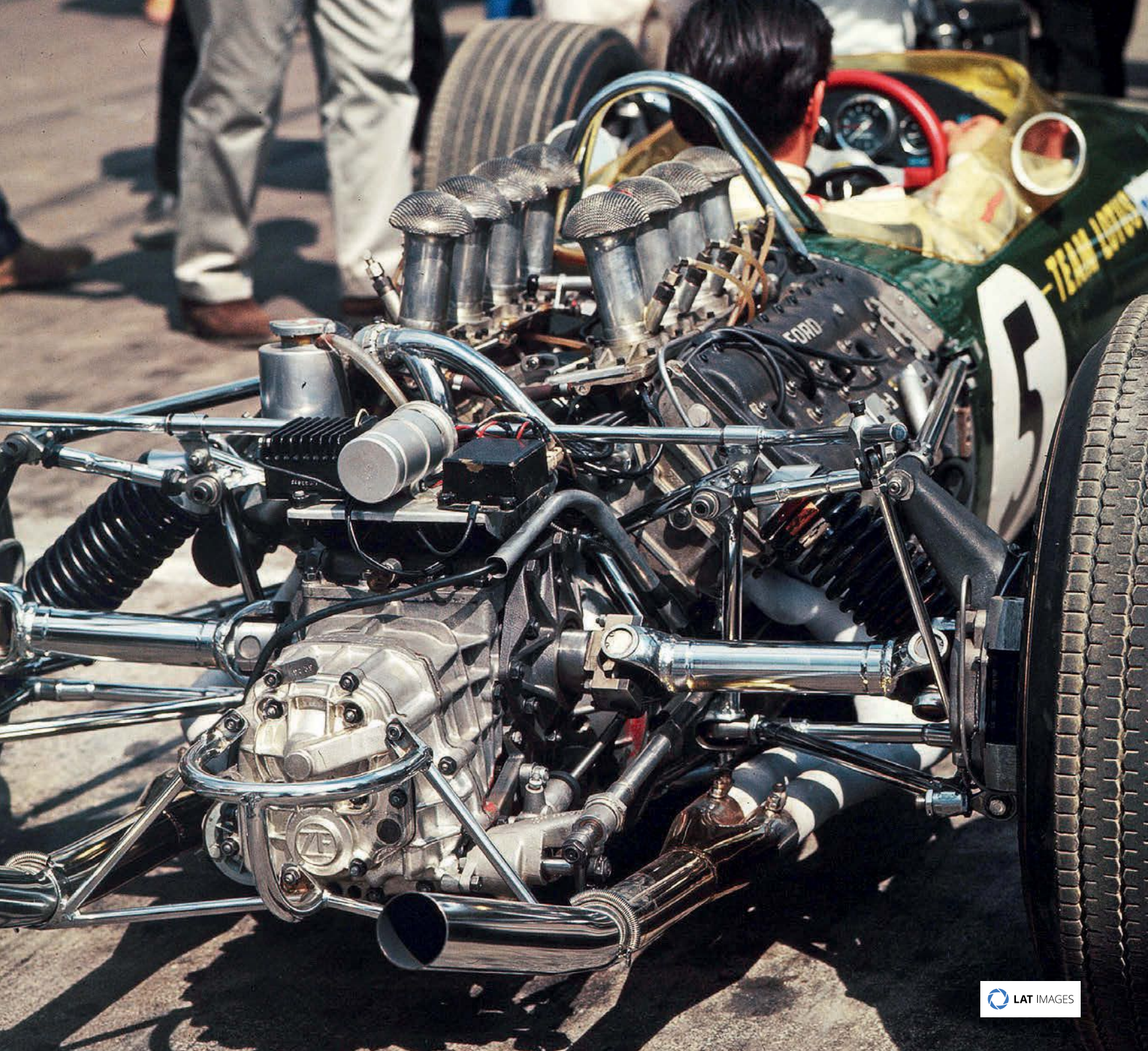
Small and light, the DFV gave around 400bhp, a figure approached only by the prodigiously heavy Honda V12. A Ferrari V12 of the time produced around 370, but sat in a weighty car, and the same was true of the Eagle-Weslake and the Cooper-Maserati. While Brabham’s Repco V8 was worth little more than 340, in terms of power-to-weight ratio it was probably closer to the Lotus than anything else, and on handling had a definite edge.

Part of the problem with the 49 stemmed from a combination of the early DFV’s characteristics and the fact that Lotus was

Below left: Clark’s victory at Zandvoort on DFV’s debut was a gamechanger for F1; middle: Duckworth shows off his creation to Hill and Chapman; right: McLaren signed up to run DFV at first opportunity in 1968







LAT IMAGES



using what was essentially a fixed-ratio gearbox from ZF. It wasn't that ratios could not be changed, more that it was a complex and hugely time-consuming task, and therefore the drivers invariably had to make do.

"The DFV is much more powerful than any Formula 1 engine I've driven before," Clark commented. "That's not a problem in itself – except that it comes in with a bang at 6500 revs. All right, ideally we shouldn't be down at those revs, but sometimes – because we can't change gear ratios – it's unavoidable."

In 1967 Jimmy and the Lotus 49 won four grands prix, twice as many as any other driver, but the team's reliability was no match for Brabham's, and Denny Hulme took the world championship. While Jack continued with Repco engines in '68, Denny joined Bruce McLaren, whose team would be running the DFV.

Chapman was less than thrilled when the engine became available to teams other than Lotus, but that was the deal that had been struck. And if, following the death of Clark early in

1968, Hill went on to take the title in a Lotus, his major opposition came from a team new to Formula 1.

The previous year Ken Tyrrell, running a Formula 2 team, had been entertaining thoughts of moving up, and that first victory for the DFV at Zandvoort made up his mind.

"I flew over for the day to watch," he remembered, "and it was clear that the DFV was the *only* engine in the race. Everything else was just old-fashioned rubbish. If you wanted to do Formula 1 in the future, this was the engine you had to have. The DFV made it viable not only for me, but also for Bruce [McLaren], Frank [Williams], and so many others.

"You went up to Northampton, you gave them £7500, and you came away with an engine that could win you grands prix. All you had to do was put it into a reasonably competitive car, with a good driver, and you could win the next race. Almost impossible to believe now, but that's how it was.

"The timing for me was perfect. I'd been running Matras in >>



Right: DFV-powered Tyrrell took Jackie Stewart to his second drivers' title in 1971; below, clockwise: Cosworth engine on display in the back of a Lotus 78 at the '77 Argentinian Grand Prix; DFV's arrival was what convinced Ken Tyrrell to move up into F1; Andretti (pictured celebrating Zolder '78 win ahead of Lotus team-mate Ronnie Peterson and Ferrari's Carlos Reutemann) remembers DFV with "great affection"



Formula 2, and they were keen to make an F1 car, Ford had the engine – and Jackie wanted to drive for us. He came to see me, and he said, 'You can't afford me.' I asked how much he wanted, and he said, 'Twenty thousand pounds.' I didn't have twenty thousand pence! I went to Walter Hayes, and said, 'I think I can find the money, but I need to get Jackie sewn up, so we can sort things out with Matra, and so on.' And Walter didn't hesitate – didn't have to get on the phone to Detroit – he just said yes.

"In fact, I got £80,000 from Dunlop, and gave Jackie the 20 – which left me £60,000 to run the team – so I never needed the money from Walter, and I only found out later that he gave it to Jackie!"

I remember asking Tyrrell if, through all those years of using the engine, there was a single 'DFV moment' that more than any other stuck in his mind. He didn't hesitate. "Yes, the Nurburgring in 1968, where the conditions were appalling. It's true that we were with Dunlop, who made the best wet tyres, but I'll never forget the end of the first lap – the sound of a single DFV, and we didn't know who it was. Jackie came by in a cloud of spray – and then there was silence!" Already eight seconds ahead, Stewart ultimately won the German Grand Prix by four minutes.

"Before I went to drive for Ken," he said, "I'd been with BRM, and using their H16 engine. Of course, with 16 cylinders, it was as smooth as silk – but silk is bloody slow! It was heavy, and there was no snap to it.

"By contrast the DFV had its rough edges – there was quite a lot of vibration, which you'd expect with an eight-cylinder – but it was a revelation, particularly in terms of torque. As soon as you stepped on it you knew you had performance. In its first year Jimmy and Graham found it 'peaky', but obviously Cosworth sorted that – by the time it came my way it was fine."

In the autumn of 1968 another driver experienced a DFV for the first time: if for Chapman no driver could ever take the place of Clark, in Mario Andretti he saw a potential Lotus number one. After practising at Monza, Mario was barred from the Italian Grand Prix (having raced in America the day before!), but then started his first Formula 1 race at Watkins Glen – and from pole.

"I can't say the power of the DFV startled me," Andretti said, "because we already had turbocharged engines in Indycars, and they had a lot of horsepower, but what I loved about the DFV was that, in the Lotus 49, the whole package was so driveable. I always loved the 49 and the engine was a perfect match for it.

"This was my first time in a Formula 1 car, and it was much lighter than I was used to, so the power-to-weight ratio was impressive, and the power seemed quite plentiful. My introduction to Formula 1 was stellar, because I had the

good fortune to drive one of the very best cars of the moment."

At that time Andretti's focus was firmly on Indycars, and for several years he competed only in the Formula 1 races that didn't clash. "In 1970 Andy Granatelli put together a programme for me with a March 701, which was not a great car, but you couldn't fault the engine, which was a Cosworth.

"Then, in 1971 and '72, I drove occasionally for Ferrari, who had their flat-12, and of course its characteristics were very different from a DFV. Obviously it had much smoother power delivery, but when you went to an 'eight' with the DFV, you had way more torque, so at lower revs it had much more punch.

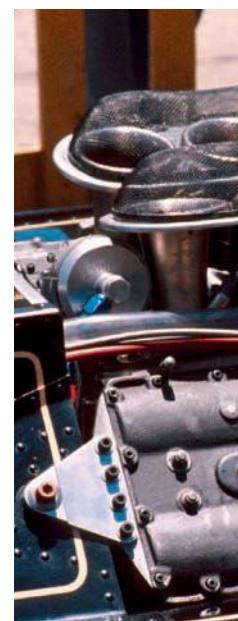
"It was all about getting used to the power delivery, and compensating for it in the way you drove. In that respect there was a huge difference between a DFV and a 'twelve' – it was an entirely different rev range, and if you didn't use a DFV properly, it could have an upsetting effect on a car's behaviour.

"I know it's stating the obvious, but to go quick in a racing car, the whole objective is to be able to apply throttle as early as possible coming off the corner. Using a 12-cylinder engine, you'd get a third of the way through, and then you could flat-foot it to the exit; with a DFV, though, you could not do that – if you did you got too much torque when you didn't need it. You had to adjust to it, that's all."

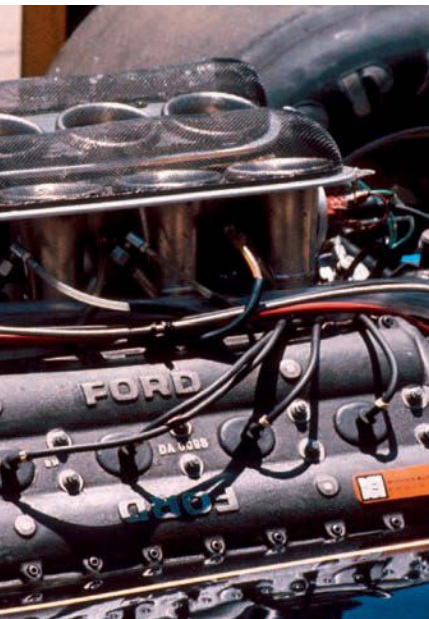
Stewart was always a huge admirer of Matra – to this day the MS80 with which he won the title in 1969 remains his favourite car – and both he and Tyrrell were keen to continue with the marque. If they were to have a chassis for '70, though, Matra was insistent that it should be powered by its own V12, and Stewart agreed to test it.

"This was at Albi, the day after the Formula 2 race – and at 5.30 in the morning, so nobody would know! The engine was nice in many ways – beautifully smooth, and it made a lovely noise – but it didn't have any horsepower! Matra were desperately keen that we should use it, but Ken and I were adamant that we wanted to stay with Cosworth – even though it meant that, without Matra, we didn't have a car for the 1970 season. That's how crucial we thought the DFV was, and why we finished up with the March 701 – a poor car, which of course in turn led to Ken becoming a constructor in his own right."

As Stewart says, the DFV utterly changed the world of Formula 1: "Apart from being affordable, and available to anyone, what it meant was that for a number of years nearly all of us had the same horsepower, and no-one had a huge advantage, so in that respect it couldn't have been more different from today. And what you have to remember, too, is the absolute integrity of Keith and Mike, in terms of producing engines of equal horsepower.







I don't remember any difference between one and another. The DFV brought Formula 1 to a new level — a level it had never reached previously, and I don't think it has ever reached since."

World champion for the third time, Stewart retired after the 1973 season, having won 27 of his 99 grands prix, all but two of his victories coming with the DFV.

At that point Andretti was still three years away from committing to F1, but in 1976 he finally made the decision. The following year, in the ground-breaking Lotus 78, he missed the championship but won more races than anyone else, and in 1978 achieved his life's ambition with the beautiful 'ground effects' 79.

"When I went back to Lotus full-time, they started experimenting with a variety of things that I wish they hadn't, trying to get 15 or 20 more horsepower. In one way I loved that — you always want more power — but at the same time we lost on reliability, especially in 1977, and part of me wished they'd put the 'experimental' engines in Gunnar Nilsson's car, rather than mine! Of course another part of me wanted to have the most horsepower — and sometimes I suffered for it. In Canada, for example, they diminished the amount of piston rings, to reduce the friction, but the engine was using an extreme amount of oil, and with three laps to go — when I was leading by a lap! — I blew up.

"I should have won the championship easily that year but looking back I have no regrets: I always wanted to have the best, and the most, that I could possibly have, and if sometimes I suffered for it, so be it. I remember the DFV with huge affection, as well as admiration — it made careers, that engine, made so many champions.

"Everything about it, the size, the compactness, the packaging... for a race car designer, it was a dream engine — and, Jesus, it was so *versatile*! They took it to Le Mans, and it won; they turbocharged it into the DFX, and it won Indy. After my last race, at Laguna Seca in 1994, Cosworth rebuilt my engine, and then sent it to me for Christmas — as a table! I have it in my sports bar at home to this day.

"I remember the DFV with great affection — it was such a generous engine, in that it gave you everything you asked of it. Wouldn't it be wonderful if today you could go to Mercedes, get the very best engine from them, and put it in your own chassis? With the DFV, you knew that if you got everything else right, you'd win races."

If Hill was the first driver to win the world championship with a DFV, many others — Stewart, Rindt, Fittipaldi, Hunt, Andretti, Jones, Piquet, Rosberg — followed. For 17 consecutive seasons it won grands prix, with a final tally of 155. The greatest racing engine of all time? Jackie and Mario have no doubts. ❧



# Inside

## Cosworth's gem

By Gary Anderson [@autosport](#)

**1** The sump, with the main bearing caps for the five main journal bearings for the crankshaft

**2** The five main bearing crankshaft with double-width journals for the conrods, and just below it the flywheel

**3** The main block casting with the other half of the main bearing journals

**4a** Four of the pistons showing the crown and combustion chamber

**4b** Four of the pistons showing the skirt section

**5** The eight connecting rods

**6a** A cylinder head showing the valve seats

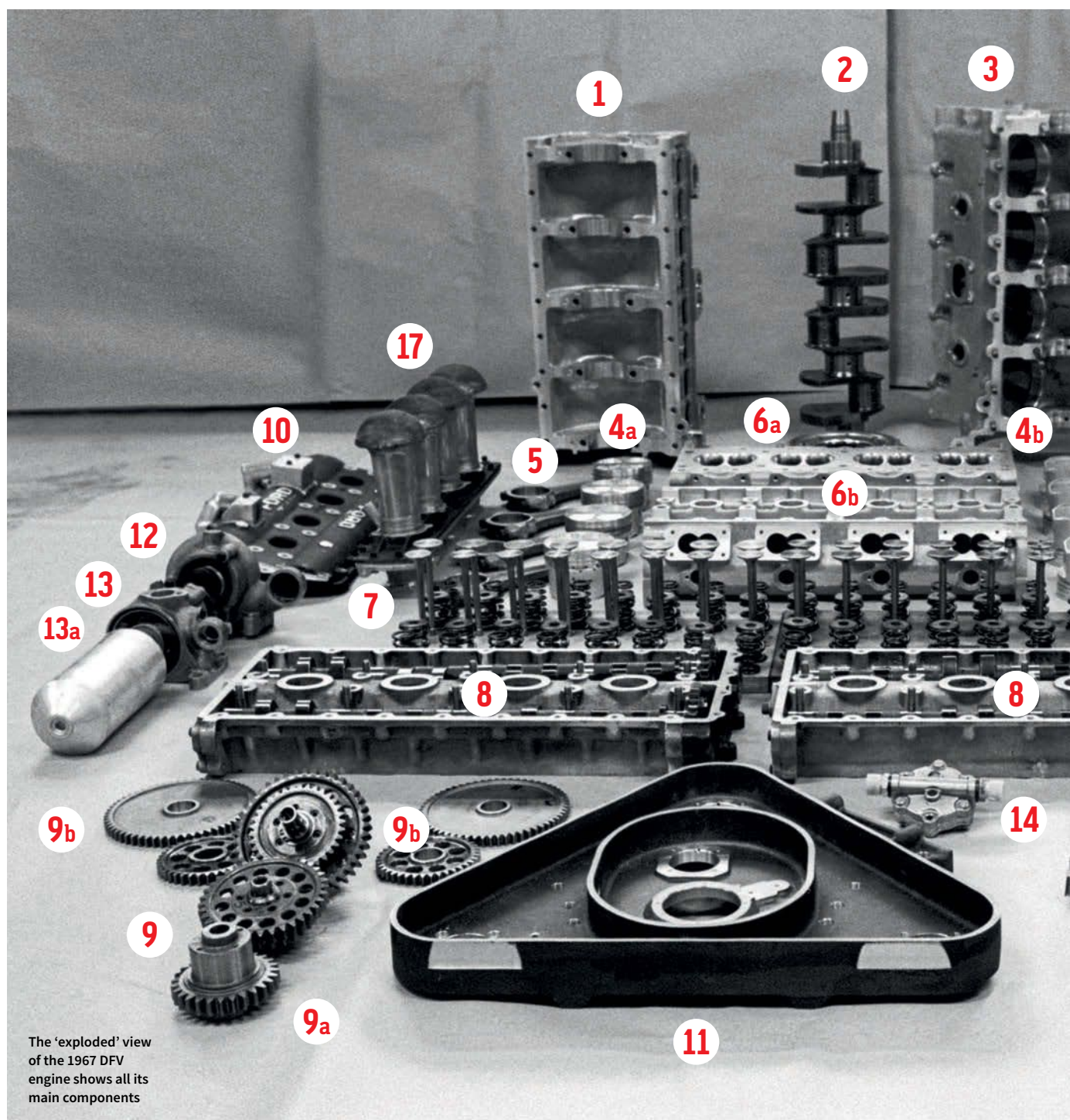
**6b** A cylinder head showing the camshaft mounting recess

**7** The 32 valves – 16 exhaust and 16 inlet – and the 32 double valve springs and top collets

**8** The upper half of the cam carrier with camshafts in position

**9** The crankshaft to camshaft gears. The journals of these were mounted in the front of the block, starting at 'a' on the crankshaft, through the idler gears, for the required speed reduction to 'b', which drove the small gears on the ends of the camshafts

**10** Cam covers on left and right



The 'exploded' view of the 1967 DFV engine shows all its main components



**T**he Cosworth DFV brings back many great memories for me; it was actually the main reason I got involved in Formula 1 in the first place.

I was working at Brabham at the time, building F2 and F3 cars, and one day Bernie Ecclestone came to me and asked if I would be interested in joining the F1 team. I asked him which arm he wanted, but he said, “No, just lift that DFV into the back of that Transit van”. Being a young, eager Irishman I needed no second invitation. Job done and I was off F1 racing!

The DFV was one of the most compact engines being used in F1. It acted as a fully stressed chassis member and everything was so well integrated with everything else. This meant that fitting it in a chassis was very simple.

At the bottom, on the back of the chassis, there were two

studs that fitted through holes on a mounting plate fastened to the sump. On the top, it had plates coming off to the chassis. These were about 3mm thick to allow for any difference in engine-to-chassis expansion.

At the back of the engine, there were six fasteners that fitted through holes in the then-common Hewland gearbox, so basically the engine was a ‘plug-and-play’ unit. How McLaren wishes we were back to those days now...

So you could basically borrow engines from another team. Other than a few oil or water connections, you could simply bolt it onto your chassis. This sort of thing did actually happen – I can remember Bernie loaning engines to Frank Williams.

The engine was and still is the driving force for any engine design and build company. I’m pretty sure that somewhere at Mercedes, Ferrari, Renault, Honda and many other engine manufacturers there is an exploded view of a Cosworth DFV hanging proudly on the wall.

## DEVELOPING A LEGEND

DURING ITS F1 LIFE, the DFV’s power output increased from just over 400bhp to nearly 550bhp, while driveability also improved. How was that possible?

The engine was not initially easy to drive, but that problem was solved quickly. “Jimmy Clark said you had to get it round the corner, get it pointing in the right direction and then floor it,” says former Team Lotus manager Dick Scammell of the 1967 units in the Lotus 49. “Fairly quickly, all the throttle linkage was modified to make it more progressive.”

Increasing the power was a longer process. Geoff Richardson, official supplier of the DFV to historic racing, points to subsequent tweaking as to why the engine was able to stay competitive for so long. “There’s no one reason for it,” he says. “It was a commercial venture and there were a lot of engines out there, so it made sense to continue development – it was a natural progression.

“They were working on it all the time, changing the cams and everything. But it was the same engine – the cylinder block stayed essentially the same. Changes to the ignition system made a big

difference and over time they increased the rpm – which increased power output – from 9000 to 11,300rpm.”

Cosworth also tried many different iterations with experimental engines. “They were learning at a hell of a rate,” says historic racer and preparer Simon Hadfield. “The early engines were conservative. When they tried a few experimental engines in 1977 – Mario Andretti had several and should have won the championship in the Lotus 78 – they had failures. The tools to find out what was happening were empirical – ‘we’ve done this and it’s broken’. Now you can do a lot of that on computer before building an engine.”

Judd also worked on increasing power for Williams in the early 1980s, while the first DFV, which Michele Alboreto used to win the 1983 Detroit Grand Prix for Tyrrell, was done by Mario Illien (co-founder of Ilmor) and featured a new top end. It was also a short-stroke unit and it was decided that the same approach in the original DFV architecture could produce the same gains. It was this unit that ended up in the last DFV F1 racers and early F3000 cars.

**KEVIN TURNER**

**11** The front cover, which also mounted the other side of the crankshaft to camshaft idler gears. Inside the triangular shape, a toothed belt drove the water and oil pumps, which were mounted low on the sides of the sump

**12** The water pump. There were two versions of this: one large one on one side of the engine for a single large water radiator; or two smaller ones, with one on each side of the engine to allow for a twin water-cooler system

**13** Main oil pressure pump  
**13a** Oil filter

**14** Mechanical fuel pressure pump running the fuel system at 120psi

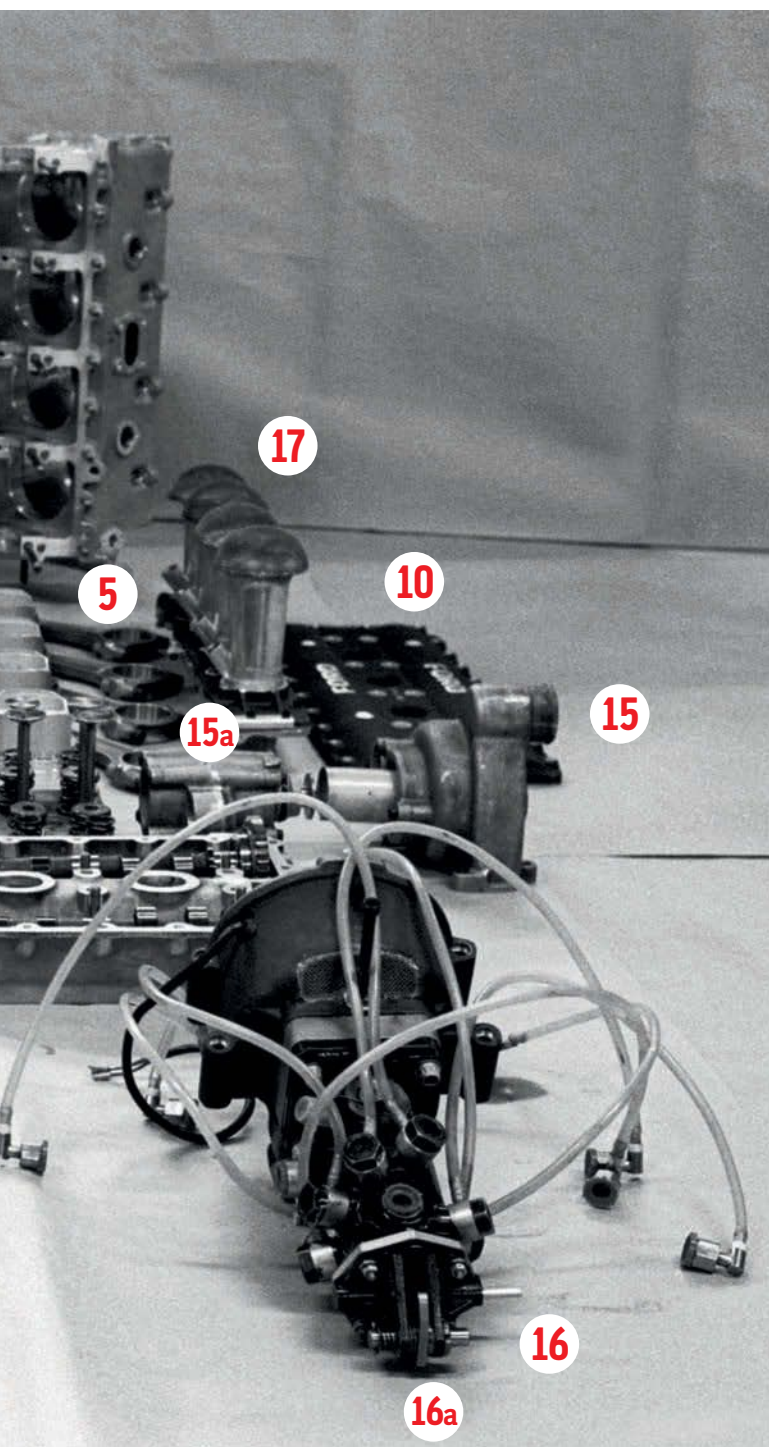
**15** Air/oil separation pump. This was basically a centrifuge to separate the air from the oil, which improved the cooling and lubrication systems

**15a** Oil scavenge pumps

**16** Lucas mechanical fuel metering unit. This was mounted deep in the ‘V’ of the engine

**16a** The small cam at the end was what each team played around with to alter the engine fuelling characteristics

**17** Engine inlet trumpets with fuel injectors mounted low on the sides. The gauze on the inlets prevented stones entering the inlet tracts





# Stories of F1's greatest engine

From its early days half a century ago to its use in historic competition, the DFV has left many with happy memories. Here are just a few

## JACKIE STEWART

### Three-time F1 world champion, all with the DFV

The DFV was the best Formula 1 racing engine that's ever been built. It created the best platform in respect of equality. There was nothing between the engines. Keith Duckworth and Mike Costin were the most honest people in motorsport. I thought the world of them and the way they went about their business. If Autosport had bought an engine and wanted the leader in the championship to run it, I would have. And so would Ken Tyrrell.

Everyone had the same engine and the racing was fantastic. Domination just did not happen in those days. There was nobody that had a dominant engine. It was maybe the best period of topline drivers at the same time and almost all had the same engine. It was a halcyon era.

The company had a brilliant group of people. Nobody did it like Cosworth. The DFV had an easy window – it was not

off and on. It was very driveable, no big empty holes in the rev range, and I can't remember blowing a Cosworth engine.

There was a tyre war at the time and we'd go to South Africa and do two race distances a day, tyre testing. Had we not had a Cosworth engine we wouldn't have done anything like the tyre development we did. Without a Cosworth, we'd have been there weeks rather than days.

Stewart had faith in the abilities of Duckworth and Costin, and took three titles with DFVs







LAT IMAGES

## BOB DANCE

### Lotus chief mechanic

The DFV was a very straightforward engine to operate. Keith Duckworth and Mike Costin were great people to work with. Keith had such a vision, of things being simple.

It was designed specially for the Lotus 49. When you say to people it was held on by four bolts on the back of the monocoque, they can't believe it. It's a fantastic design and a great car.

In 1967 I was doing an F2 season and we were away a lot, so we didn't keep up with what was happening with the Indy team or on the F1 cars. I didn't join the F1 team until late '67.

At Team Lotus we were always in with a chance of winning because of a combination of Colin Chapman and his designers, the drivers and the mechanics. It was worth going the extra mile – or rather the extra night – to make sure everything was up to spec. Great times.

We had exclusive use of the DFV for 1967. I suppose we were disappointed other teams had access to it after that, but it became a household name, didn't it? Where would we be if we hadn't had all those other teams and cars running with that engine, and the competition that came from it?

I suppose one can say it's the most important F1 engine, simply because of the volume of manufacture and the number of teams and drivers who used them. It's a long history and I don't think companies like Ferrari and BRM had the continuous support from their engines like we did from Cosworth.



## MIKE COSTIN

### The 'Cos' in Cosworth

I met Keith Duckworth through Lotus when he came for his work experience while at university. I really got to appreciate how clever he was and we became friends, then we became business partners and created Cosworth in 1958.

The idea for the DFV came from Colin Chapman because he wanted a Formula 1 engine. He approached a few people and finally the one who came good was Walter Hayes, and he got the board of Ford to agree funding of £75,000 to design and develop the engine. The quoted figure was £100,000, but £25,000 of that was for the Formula 2 engine and we built the FVA, which was really half of a DFV.

We put that in our Brabham chassis and I did the testing. I did the first day of evaluating the DFV engine in a Lotus 49 at Hethel, but that wasn't very successful. Then we went to Snetterton but I didn't do more than two or three sessions of five laps at a time. We had to stop because the top radius-arm brackets on the rear suspension put a crease in the monocoque.

We reckoned that 400bhp should do the job, and all seven engines we built for 1967 were over 400bhp. Mechanically we thought it would do the distance at Zandvoort [for the DFV's debut in the Dutch GP] but we didn't know about the gear problem, which persisted until Keith redesigned the gear hub.

We had all sorts of problems initially with the breathing of the crankcase, but we got over that in the first year with some pretty dreadful modifications to the breathing system, which half-worked. Apart from those two items, it was pretty reliable. That was down to Keith's design. He didn't do things without thinking very deeply before he made a final decision.

It very soon became apparent that we were doing very well with the DFV and we decided to build 25 engines a year – and that went on for several years.



## BOB SPARSHOTT

### Veteran engineer

The engine was an absolute godsend, because it had some degree of reliability. In those days it was a bonus that you knew it could do a few hundred miles without blowing up. It was a very clever engine and very easy to install and look after. It was quick to change too.

We didn't have to do very much. I think the hardest thing was [managing] the metering-unit diaphragm – it had mechanical fuel injection. You had to be very careful with the little quill shaft that drove the metering unit and keep an eye on the ambient temperature and whatever temperature the engine was at, because sometimes you'd get a twist on it and that would put all the metering and the timing out. It was about the most worrying thing, but taking precautions and warming up the fluids when it was cold would look after that.

Later electric fuel injection replaced the mechanical unit, which was better and more reliable. It was much smoother and gave a whole new lease of life to the engine again.

I can remember Keith Duckworth coming into the Team Lotus workshop at Cheshunt one evening, it might have been with Mike Costin, when we were messing about with the H16 BRM in the interim period [1966], and he laughed. He said, 'That thing will never work'. It used to destroy itself. You had to start it up and immediately run it at a fairly high number of revs, because below that it was terrible. A mis-design, I would say. You could never tell if it was on all 16 cylinders – perhaps 14 or even 13. You'd touch the exhausts and notice one was out there, and one was out over there...

The DFV was wonderful from the start, and they improved it over the years, the power curve and the driveability. More horsepower, more revs. The first time we ran it, it only went to 7000rpm or something. And by the end it was up to 12,000. >>





Oliver ran at the front of F1 with DFVs as a driver, then became a team boss, using the Cosworth engine for Arrows

## JACKIE OLIVER

### F1 driver and Arrows founder

The first thing that comes to mind about the DFV is it gave me my first opportunity to drive an F1 car with the engine as a stressed member. That was in 1968. It was a '67 car of Jimmy's [Clark], but in Gold Leaf colours.

The other thing about the DFV was it allowed me to become a team owner. I could decide to stop driving, turn from actor to director and get around the other side of the camera. I could buy a factory, hire some guys with a pop rivet gun, make a chassis and head down the road to buy the engines – and be competitive at our second outing in South Africa. I spent £300,000 and started an F1 team because of the Cosworth DFV.

It did have longevity, although unfortunately when we were leading the South African GP with Riccardo [Patrese] in the Warsteiner livery it didn't last long enough! That would have been one for the record book: new team, second race, one car, Warsteiner livery, DFV...

When I sold the team to Morgan Grenfell Deutsche Bank, with Tom Walkinshaw in full control, I took all the historic cars, some of which I've since sold. They were original with the original people, and sold to people who wanted to do the historic F1 series.





## MIKE WILDS

### F1 and sportscar racer

My first experience of driving a DFV was at Silverstone in a March 731 and I was very excited. It was spitting and banging and I struggled to drive it out of the pitlane. Then I started to accelerate and it burst into life. I didn't wear ear plugs then and the sound was incredible – I thought it was going to explode so I changed up. But that was at 9500rpm and I'd been told I could go up to 11,200rpm! It frightened me at 10,000, but after a few laps I got used to it.



It was the most wonderful engine I ever sat in front of, but it cost me my BRM F1 drive. I did the first two GPs for BRM in 1975 and both times the V12 car [right] broke. After it failed in Brazil I told team boss Louis Stanley he should put a DFV in the P201 – the chassis was quite good – and go testing. He sacked me on the spot; that was the end of my BRM relationship.



## MARK WILLIAMS

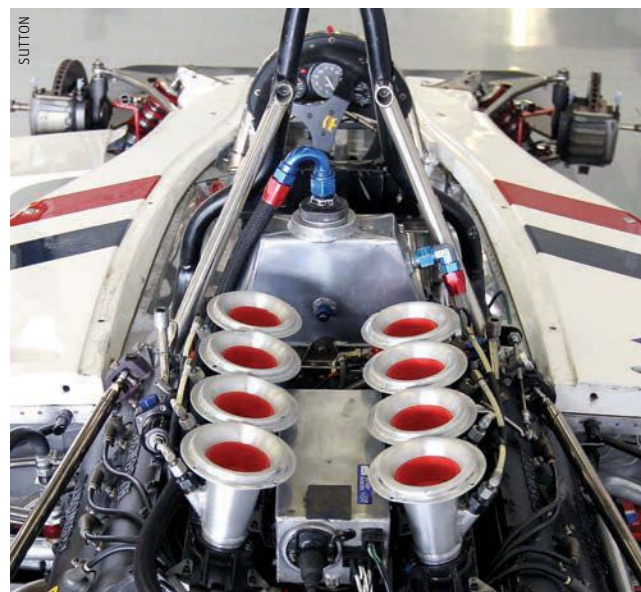
### Lola F3000 designer

One winter morning [Lola founder] Eric Broadley sidled up and said: "You've probably heard about this new F3000 that's replacing F2. Well, we are going to build a car for it. I realise we've only three months but I can always lend you a hand and you can use the Toleman F2 running gear to get us going quickly." Well, that's quickly in terms of design time, not lap time. That running gear turned out to be our Achilles' heel.

There was a glut of DFV engines at that time, and Bernie Ecclestone decided to create a series to use them up. So F3000 was born, using the three-litre DFV, rev-limited to 9000rpm. From a design perspective this was an easy engine to install. Everything was contained within its confines. The spark box, fuel injection and distributor all sat in the V of the engine. It had an oil/air separator on the oil scavenge so the oil tank was exactly that; oil went in one side and out the other. You were trying to cool froth.

Operationally the early rev limiter was a challenge as it was a hard limiter: hit 9000rpm and the engine died for one second, a significant period of time. It was all about how close could you run the soft limiter to 9000 to avoid hitting the hard limiter. Then the first ECU arrived for testing – it wasn't large but we hadn't allowed for it. Fortunately our driver had a thick seat insert so we made a cutout in it and slipped it behind his seat.

The great thing about this engine was it could be started by one guy. A very simple procedure: ignition on, squirt a load of fuel down the trumpets and hit the start button while manually opening the throttle slides. Unlike today where you have a bank of computers, a 'pit rat' (remote activated throttle), and several thumbs in the air to signify that the car can leave the garage.



## SIMON HADFIELD

### Historic racer and preparer

My first win with a DFV car was in Michael Schryver's Lotus 72 at Brands Hatch. To drive a car that had been on my bedroom wall was amazing. The DFV was a closed-loop product – you bought it and it worked. It was an incredibly neat, tidy system and Cosworth told you how to do things. You didn't have to worry about inventing stuff so you could improve reliability. Things only went wrong when people thought they knew better.

The engines you can buy now for historics are probably better than they had in F1. The 10,000rpm limit [in FIA Masters Historic F1] means the engines are optimised to that. They're so much more user friendly, with a bigger rev band, and they last longer. ✽



Lola took the DFV-powered F3000 plunge in 1985



# DFV

## The winners

### DRIVER WINS AND TITLES

**25**  
WINS

**1 Jackie Stewart**  
1969, '71 and '73 world champion



**14**  
WINS



**2 Emerson Fittipaldi** 1972 and '74 world champion

**12**  
WINS



**3 Alan Jones**

1980 world champion

**11**  
WINS



**4 Mario Andretti**

1978 world champion





**=5 James Hunt** **1976 world champion**



**=5 Ronnie Peterson**



**=7 Carlos Reutemann**



**=7 Jody Scheckter**



**=9 Denny Hulme**



**=9 Nelson Piquet** **1981 world champion**



**=9 Jochen Rindt** **1970 world champion**



**=12 Jim Clark**



**=12 John Watson**



**14 Graham Hill** **1968 world champion**



**15 Jacques Laffite**



**=16 Michele Alboreto**





=16 Patrick Depailler



=16 Jackie Sticks



=16 Niki Lauda



=16 Peter Revson



=16 Keke Rosberg

1982 world champion



=22 Elio de Angelis



=22 Jack Brabham



=22 Vittorio Brambilla



=22 Francois Cevert



=22 Jochen Mass



=22 Bruce McLaren



=22 Gunnar Nilsson





=22 Riccardo Patrese



=22 Carlos Pace



=22 Didier Pironi



=22 Clay Regazzoni



=22 Jo Siffert

## CONSTRUCTOR WINS

**LOTUS** 47 wins  
1968, '70, '72, '73 and '78  
constructors' champion

**McLAREN** 30 wins  
1974 constructors' champion

**TYRRELL** 23 wins  
1971 constructors' champion

**WILLIAMS** 17 wins  
1980, '81 constructors' champion

**BRABHAM** 15 wins

**MATRA** 9 wins  
1969 constructors' champion

**LIGIER** 5 wins

**MARCH** 3 wins

**WOLF** 3 wins

**HESKETH** 1 win

**PENSKE** 1 win

**SHADOW** 1 win

\*Includes the DFV development engine used in Michele Alboreto's 1983 Detroit-winning Tyrrell

## DFV DRIVER POINTS

Jackie Stewart	302	Derek Daly	15
Emerson Fittipaldi	281	Patrick Tambay	14
Carlos Reutemann	217	Reine Wisell	13
Ronnie Peterson	206	Rolf Stommelen	13
Alan Jones	202	Hector Rebaque	13
Jody Scheckter	193	Marc Surer	11
James Hunt	179	Jackie Oliver	10
Denny Hulme	172	Eddie Cheever	10
Mario Andretti	157	Johnny Servoz-Gavin	9
Patrick Depailler	141	Mark Donohue	8
John Watson	135	Tim Schenken	7
Nelson Piquet	104	John Surtees	6
Graham Hill	90	Andrea de Adamich	6
Francois Cevert	89	George Follmer	5
Jacques Laffite	87	Alain Prost	5
Keke Rosberg	75	Dan Gurney	4
Jochen Mass	71	Henri Pescarolo	4
Jochen Rindt	67	Brian Redman	4
Peter Revson	61	Arturo Merzario	4
Jacky Ickx	59	Stefan Bellof	4
Bruce McLaren	54	Richard Attwood	3
Didier Pironi	53	Vic Elford	3
Elio de Angelis	53	Wilson Fittipaldi	3
Jim Clark	50	Eliseo Salazar	3
Riccardo Patrese	50	Thierry Boutsen	3
Carlos Pace	45	John Miles	2
Niki Lauda	42	Gijs van Lennep	2
Clay Regazzoni	41	Manfred Winkelhock	2
Jack Brabham	39	Mauro Baldi	2
Michele Alboreto	35	Danny Sullivan	2
Jean-Pierre Jarier	31.5	Silvio Moser	1
Gunnar Nilsson	31	Peter Gethin	1
Mike Hailwood	28	Derek Bell	1
Jo Siffert	27	Howden Ganley	1
Chris Amon	25	Tony Brise	1
Jean-Pierre Beltoise	23	Renzo Zorzi	1
Tom Pryce	19	Andrea de Cesaris	1
Hans Stuck	17	Slim Borgudd	1
Piers Courage	16	Chico Serra	1
Nigel Mansell	16	Johnny Cecotto	1
Vittorio Brambilla	15.5	Lella Lombardi	0.5



# How Cosworth became a reluctant Le Mans winner

The DFV added sportscar success to its impressive CV, but the road to glory was a rocky one

By Gary Watkins,  
Special Contributor

[@gazzasportscars](#)

**K**eith Duckworth wasn't a fan of the Ford DFV racing at the Le Mans 24 Hours. When legendary sportscar team boss John Wyer told him of his plan to put the Formula 1 engine into a new prototype bearing the Mirage name for 1972, the straight-talking Cosworth man told him not to bother.

The story is recounted by five-time Le Mans winner Derek Bell, who would remain on Wyer's books after team sponsor Gulf stepped up to the plate to fund a new car in the wake of Porsche's enforced withdrawal from the top flight of world championship sportscar racing at the end of 1971.

"John said, 'I say Keith, I'm thinking of taking the Cosworth to Le Mans,'" recalls Bell. "Duckworth's reply was, 'I wouldn't go, lad'."

John Horsman, Wyer's able subaltern since 1960 and who had now become managing director of the newly created Gulf Research Racing operation, doesn't remember Duckworth's damning indictment of his own engine. But he does recall his doubts about the endurance prospects of an engine that would become known as the 'Ford Vibrator'.

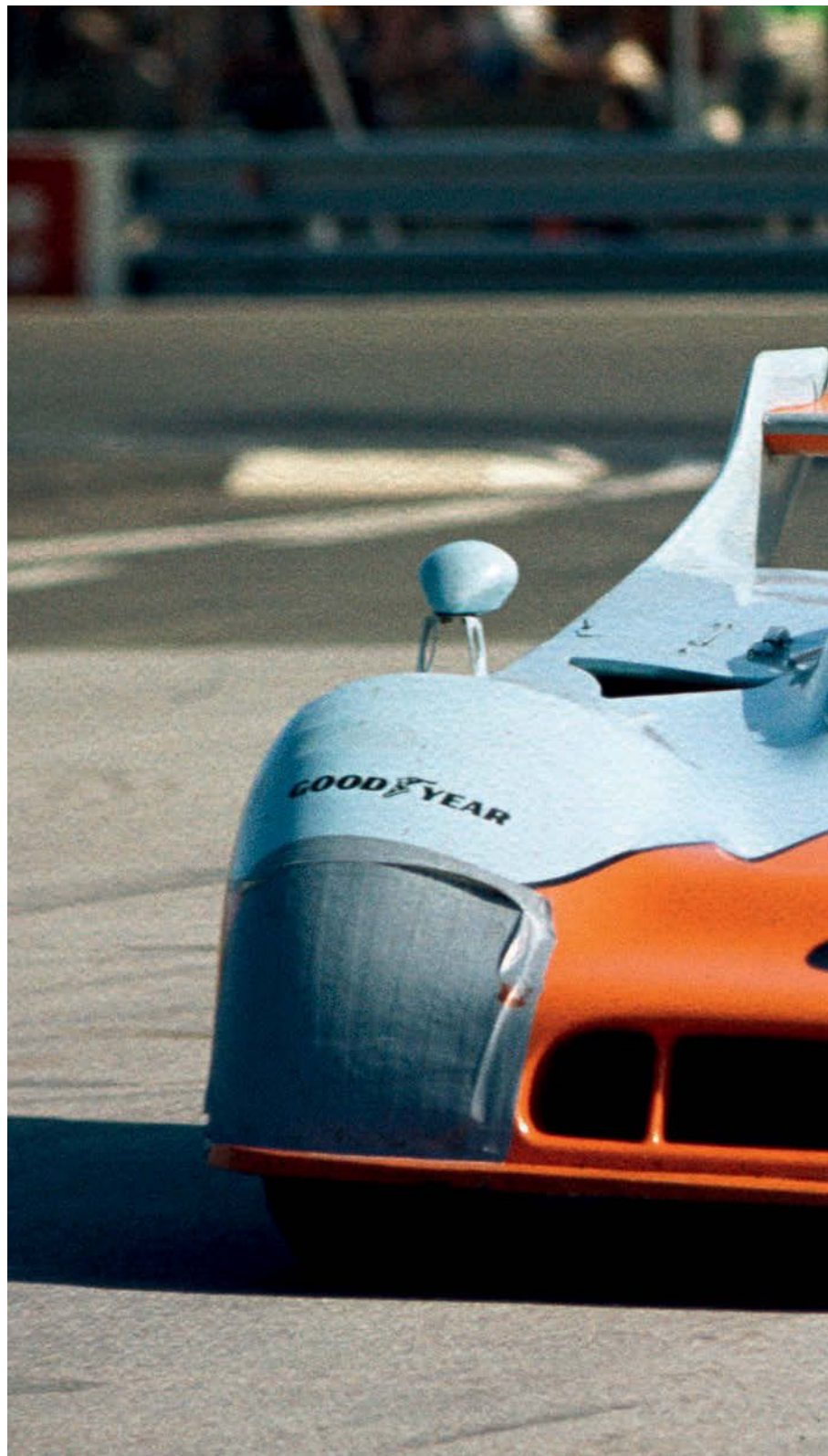
"He might have suggested more than once that we shouldn't waste our time," says Horsman. "He certainly knew the shortcomings of the engine. I wouldn't say he was against the DFV being used in sportscars, but he wasn't very keen on it."

But Wyer and Horsman reckoned they didn't have much of a choice. Gulf's name had replaced JW Automotive above the door at their Slough workshops and the oil company was funding a new Group 5 prototype to be known as the M6.

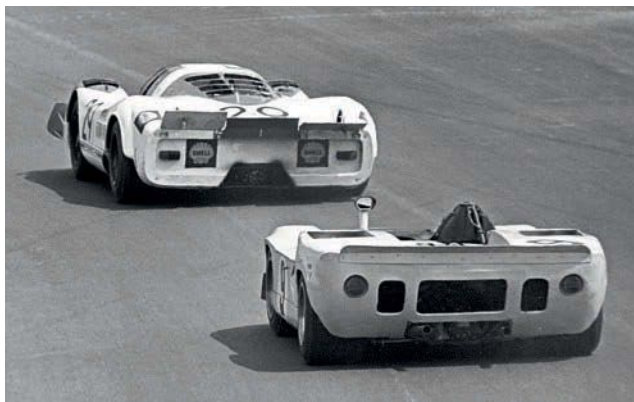
"Grady Davis, vice-president of Gulf Oil, wanted it, and what he wanted, he got!" says Horsman. "Gulf had actually had a cheap couple of years with Porsche, but he was ready to pay whatever it took."

Len Bailey was commissioned to design a new chassis, but what engine to put in the thing? Using the Cosworth, says Horsman, was "needs must — there was no other choice".

Wyer and Horsman knew all about the DFV. They had run one at the back end of 1969 in the Mirage M3. JWA had been the second team to get its hands on a Cossie >>







Far left: Ford F3L was the first sportscar to race with a DFV; left: Mirage M3 (#9) was set to win in Austria in 1969 until engine vibrations broke the steering; below: Derek Bell en route to '75 Le Mans win in Gulf GR8





## INDYCAR DOMINATION FROM FRUSTRATION

THE ALL-DOMINATING COSWORTH engine that would become known as the DFX was born of frustration. But its conception was made possible by an Indycar rule change in the mid-1970s.

Vel's Parnelli Jones Racing had grown tired of blowing up the Offenhauser in-line fours and wondered if there might be a turbocharged future for the Cosworth DFV sitting in the back of its new Formula 1 car that had debuted in late 1974. That was, coincidentally, the year the United States Automobile Club introduced a turbo-boost limit for the first time.

"We were blowing up engines left and right – we weren't getting any satisfaction with the Offy," recalls US racing legend Parnelli Jones, who'd established VPJ with Vel Miletich in 1969. "But if USAC hadn't cut the boost, it still would have been the engine to have. The reduction in the turbo pressure put everything in place to use the Cosworth."

Everything bar a positive working relationship with the builder of the engine over in the UK, whose founder Keith Duckworth told VPJ their idea wouldn't work. Not only that, but he informed VPJ that if they wanted a supply of parts, they'd have to buy ready-to-go F1 engines.

"Duckworth wasn't helpful at all," continues Jones. "The only thing we used were the head and the block, so we had to buy complete engines and throw the rest away."

That fits with the memories of British designer John Barnard, who had joined VPJ ostensibly to design a new Indycar around the base of its VPJ4 F1 car, but got pulled into the engine programme.

"I remember drawing pistons, conrods, inlet manifolds, oil pumps and things like that," says Barnard.

What isn't clear is if VPJ had call on a crankshaft, necessary to reduce the capacity to 2.65 litres, that had been designed at Cosworth for an earlier but stillborn project undertaken at Penske in late 1973.

The first VPJ Cosworth turbo – still, at this stage, being called a DFV – ran briefly at Indy during May 1975. Drivers Al Unser Sr and Mario Andretti were complimentary about an engine-chassis package that Jones was billing as "our 1976 car", though they raced Eagle-Offys.

Barnard's car, the VPJ6B, raced at Phoenix before the end of the year and

### **"That sonofabitch started his own programme with our employees"**

then scored its first USAC victory with Unser at Pocono in June 1976. The team had flown Duckworth over to try to forge a business relationship. The win certainly convinced Duckworth of the potential for business in the Indycar market and he promptly set about developing his own unit. He even poached the two VPJ employees who'd led development of the turbo.

"We paid to bring that sonofabitch over and he stole our employees and started his own programme," says Jones. "I had no use for him, you can probably tell that."

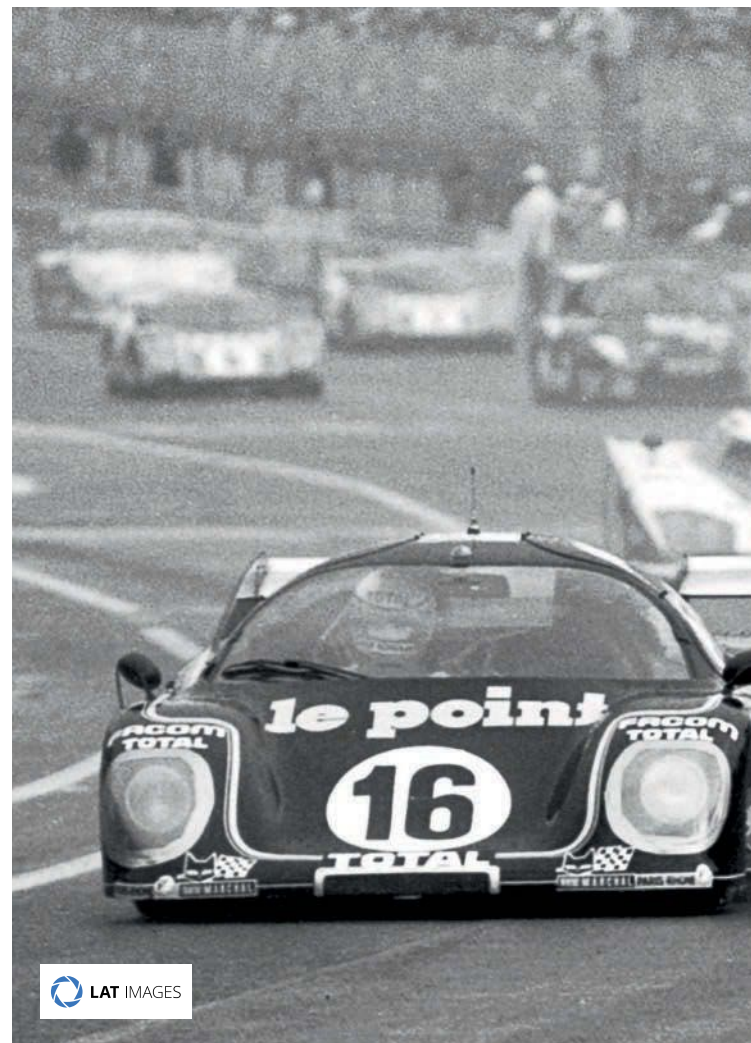
But Jones had started something big. The DFX would dominate Indycar racing for the next decade.



in sportscar racing after Alan Mann Racing, which had used the engine in the back of its unsuccessful (though occasionally rapid) Ford F3L in 1968 and '69. But JWA had been the first to win with it in sportscars.

Jacky Ickx triumphed in the rain in a non-points 500km race at Imola in September 1969. It had also been on course to win the championship race at the Osterreichring the previous month with the Belgian star and Jackie Oliver. A failed steering-column bracket – a part borrowed from the Ford GT40 with which JWA had twice won at Le Mans – deprived the new car of a clear shot at victory.

"We should have won in Austria but for the steering-column problem – we were well in the lead when it



LAT IMAGES



Cosworth turbo made first Indy 500 start in 1976





From far left: DFV's vibrations once made Bell throw up; Cosworth power never beat the Ferraris in 1972 (this is the Nurburgring); Ligier's JS3 gave DFV its Le Mans debut; Bell and Ickx dominated the 24 Hours in '75

Below: Rondeau beat the factories at Le Mans in 1980



broke," recalls Horsman. "It was actually a GT40 part that had done tens of thousands of miles, but of course the Cosworth vibration did it in. That engine would break everything if you ran it long enough."

The vibration issue with the Cossie was all too apparent when the engine went into the M6 for 1972. There's a story of the car shaking the spindles off its gauges on its shakedown at Silverstone early that year. Bell remembers the foam being shaken from the insert of his seat at the Osterreichring world championship round later in '72. He had to brace himself against the side of the monocoque and eventually threw up.

By then, Gulf had already skipped Le Mans, deciding that the Mirage-Ford DFV wasn't ready for the challenge. "The car was too new for the 24 Hours," says Horsman. "It would have been a waste of time and money."

There were Cosworths on the grid at Le Mans that year, just as there had been one the previous season. The 'honour' of bleeding the DFV at the 24 Hours fell to fledgling constructor Guy Ligier and his hastily built JS3 prototype.

Gulf and Horsman did have a Plan B of sorts for an engine to go in the back of the M6. Yet there were even bigger doubts about it than the DFV. Ford had commissioned a new V12 sportscar engine from British builder Weslake in the summer of 1970 and Gulf would have first call on it for '73. Yet the engine would never race in the back of a Mirage, or anything else. At least, not until morphing into a 3.5-litre Group C powerplant bearing the badges of the reborn BRM marque nearly 20 years later.

"Dan Gurney had, of course, won the 1967 Belgian Grand Prix in his Eagle with an earlier Weslake engine, but he told me they couldn't build two engines the same," recalls Horsman. "We gave the Weslake a fair shot and did a lot of testing with it."

That included taking a car to the Daytona 24 Hours, then a world championship round, at the start of the season. It didn't race and when the Weslake-powered car, now with coupe bodywork, failed to run cleanly at the Le Mans test in April, the decision about what car to run in the race was made easy.

"Coming back on the plane I sat next to Walter [Hayes, the Ford man who'd signed off both the DFV and the Weslake V12] and he asked what I was going to do for Le Mans," recalls Horsman. "My reply was, 'Two open cars with DFV engines'. I didn't have much choice."

It looked like a good one, too, after Bell and Mike Hailwood won the Spa 1000Km in May 1973, the first world championship sportscar win for the DFV. It turned out to be a false dawn. Bell and Howden Ganley only got 29 laps into the 24 Hours before the transmission failed, though they would return to the track after four hours' worth of repairs. The second entry, shared by Hailwood, John Watson and Vern Schuppan, crashed out of the race.

Gulf had swapped from a Hewland transmission to the ZF for Le Mans in the name of reliability, but it turned out to be another victim of the vibrating Cosworth.

"We never had any problems with the ZF 'box before, but put it behind a Cosworth and it broke input shafts," explains Horsman. "John and I went to ZF to talk to them about it. They asked to be given a moment, went into a huddle and then came back and said they would make the shaft smaller. They told us it would allow it to twist and flex, and they were exactly right."

A revised version of the M6, now dubbed the Gulf GR7, did make it to the finish at Le Mans 1974, and in fourth place. But the car driven by Bell and Hailwood was 20 laps behind the winning Matra. One year on, and the French manufacturer was gone. Alfa Romeo, which dominated the world championship with its T33/T12, opted to say away again, too, frightened off by a new rule that dictated that every car must complete 20 laps between fuel stops.

"There was definitely a window of opportunity for us," reckons Horsman. "Alfa could easily have taken the win, but they said they couldn't get down to the fuel restriction."

The Gulf team's response to the rules was the 'new' GR8 built around the existing chassis, but with new bodywork that slashed the drag coefficient from 0.53 to 0.35. Power

from the Cossie was reduced too, with the engine pushing out well under 400bhp with a rev cut in the region of 2000rpm.

The British team dominated Le Mans in 1975. Bell and Ickx,

who'd written to old team boss Wyer asking to drive alongside a man with whom his name is forever linked, took a lead they would never relinquish after the first round of fuel stops. At half distance, they were a whopping six laps up.

The 'Ford Vibrator' still had a part to play, however. A broken exhaust late in the race meant its lead over the chasing DFV-engined Ligier JS2 was slashed. Bell was also disconcerted to be told after the race that an engine mount had failed.

The Cosworth ran in the GR8 as a stressed member, but Bailey had also designed in a rear subframe around the engine. "It didn't carry any stress until the chassis broke," explains Horsman, "but it ended up holding the car together."

Gulf axed its sportscar programme at the end of 1975. The cars were sold to US entrant Harley Cluxton and would return to Le Mans in '76 and take the runner-up spot to Porsche. A year later, the cars had Renault V6 twin-turbo power, but the Cosworth remained a staple of sportscar racing.

Rondeau, another privateer fighting against the factories, would give the Cosworth another victory in 1980, and the engine would race in 3.3 and 3.9 and later 3.5-litre form into the 1990s. Not bad for an engine that its creator reckoned had no business competing in long-distance racing. ❧

## "The Cosworth vibration would break anything if you ran it long enough"

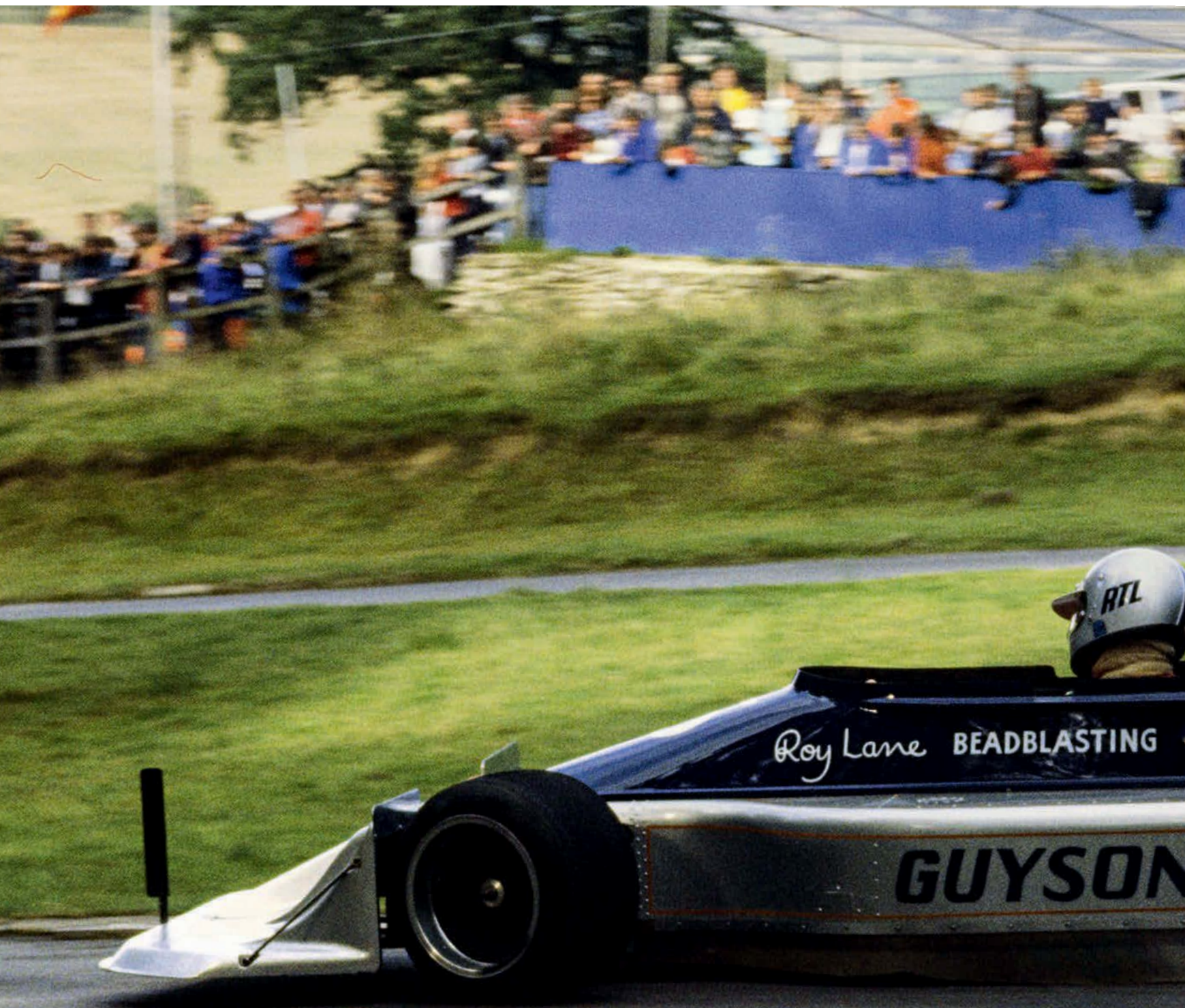


# DFV on a national hunt

The DFV wasn't just the lifeblood of Formula 1 teams. It also filtered down to enliven the top levels of national motorsport

By Marcus Pye, Special Contributor

[@autosport](#)





**I**f the immortal Cosworth DFV engine's pre-eminence on the Formula 1 World Championship stage was fuelled by availability, the longevity of Keith Duckworth's V8 was down to continuous development. As 400bhp and 9000rpm in 1967 grew to around 530bhp and 11,000rpm from short-stroke derivatives in the early 1980s, each new series of engine rendered its predecessor obsolete. As they filtered down the food chain, early DFVs thus found new homes in other arenas of motorsport.

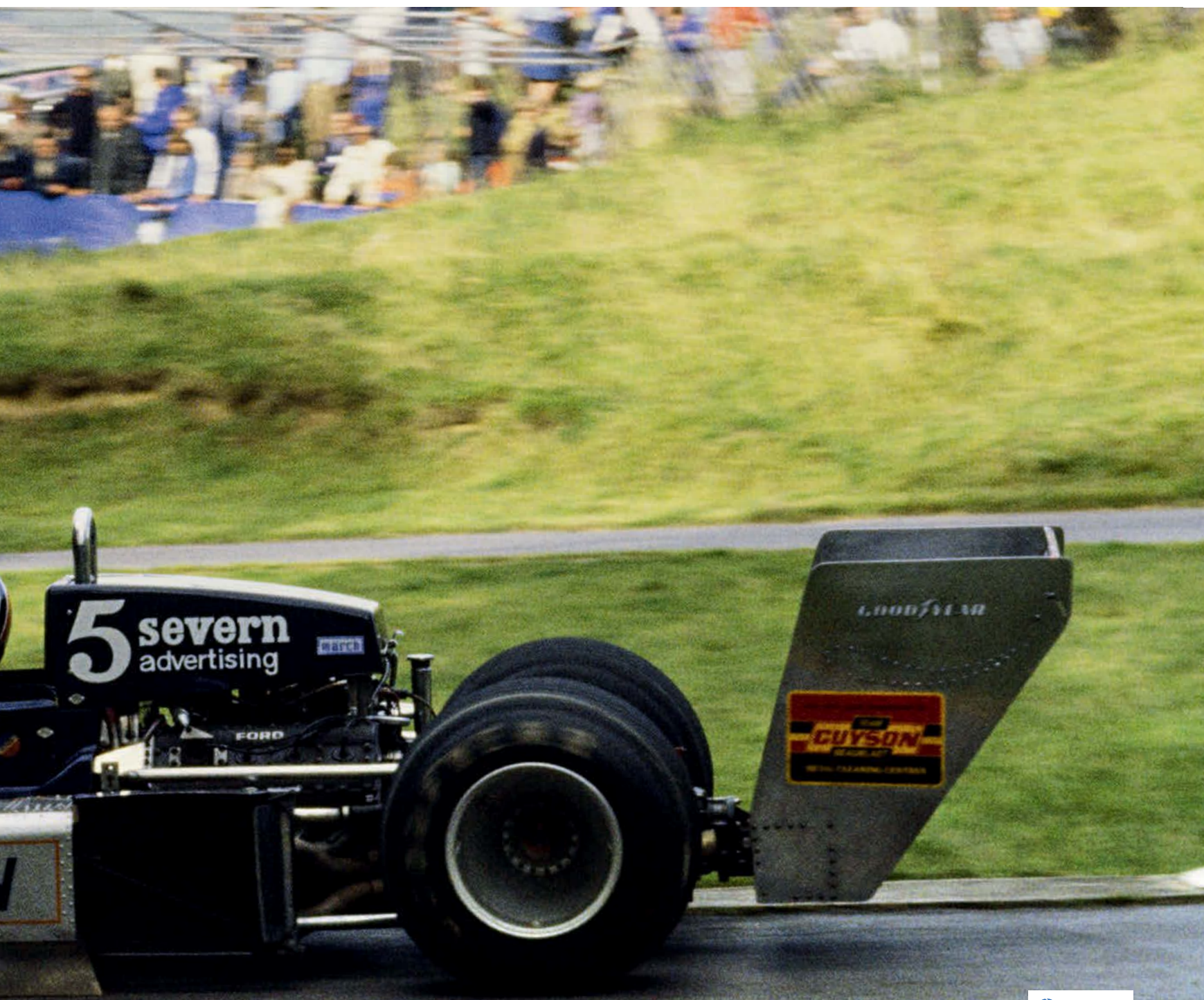
Pecunious one-armed dairy executive David Good recognised the light-and-compact DFV's potential for speed hillclimbing, where his 'hobby career' had started in the 1950s and he'd won the RAC British championship title in '61, at the wheel of an 1100cc Cooper-JAP vee-twin. Having pioneered the use of

Formula 5000 Chevrolet stock-block power (in his case stretched to 5.5 litres to obviate gearchanges), the ever-competitive Good was ready for one final push in '73.

Good thus acquired two Cosworth DFVs, commissioning Martin Slater of Lyncar Engineering to build him a bespoke hillclimb chassis, the MS4, based on the Formula Atlantic cars in which Kiwi John Nicholson would win circuit titles in 1973 and '74. Slater shoehorned the second engine into the March 712 in which Good's Berkshire baronet chum Sir Nicholas Williamson had won his second crown in '72 with a two-litre Hart BDA engine. It re-emerged as the 'Marlyn', the combo winning on its RAC debut at Loton Park, at Barbon's blast in Cumbria and Doune's finale in Scotland. Second in the title race was a promising result.

Good's best finish, meanwhile, was second to the record- >>

Roy Lane's March 771, seen here at Prescott in 1979, at one point sported six wheels





shattering Chris Cramer (2.0 March-BDA 723) at Great Auclum, his local venue. I recall the day well. David finished seventh in the table, just behind Tony Griffiths in the other DFV-powered challenger, the ex-Rolf Stommelen/Tim Schenken/Graham Hill Brabham BT33/3 raced by Wilson Fittipaldi at Monaco the previous year. For 1974, the trio was joined by Geoff Rollason in the ex-Carlos Reutemann Brabham BT37/2, but Sir Nick was the solus winner, at Prescott. He finished fourth in the standings, Good sixth in his swansong season.

Rising star Alister Douglas-Osborn moved the game to a new level. Driving the Pilbeam-DFV R22 (MP22) evolved from an F2 Brabham BT38 by former BRM F1 designer Mike Pilbeam, for Manny Cussins's very professional Waring & Gillow furniture team, the swashbuckling Midlander won six rounds en route to P2 in 1976 and the Cosworth V8's first British Hillclimb championship with another six in '77.

While ADO won 37 rounds in crowd-pleasing balls-out style – scoring prolifically in Pilbeam chassis powered by DFVs progressively stretched to 3.6 and ultimately 4.2 litres until 1984 – further titles eluded him. Indeed, despite bold efforts by Roy Lane, who succeeded his double title-winning F5000 McRae-Chevrolet GM1 in a trio of Marches – the ex-Williamson 741, the briefly six-wheeled 771 2-4-0 and

a one-off 782-based 79S project – Alister was the only national hillclimb champion powered by a Double Four Valve.

Cosworth's influence on the hills was far from over though. Three times a British champion in four-cylinder Pilbeam-Harts, Martyn Griffiths added more in 1990 and '91, saddling Max Harvey's nimble MP58, motivated by a fabulous 3.5-litre DFR previously used by the Benetton F1 team. Veteran Lane, who won his first rounds in '69 with his own Tech-Craft Buick confection, went to a torquier four-litre long-stroke DFL sportscar engine and returned to the top of the tree in '92. David Grace (in Harvey's DFR car) took the next two, before Andy Priaulx bagged the '95 title with 10 wins – a maximum score – in an MP58-DFL.

Thereafter, Judd V8 engines enjoyed their moment, but David Grace, piloting a Gould Ralt GR37, took Cosworth V8 power back to the top in 1998, '99 and 2000. Gould drivers have won the title every year bar one subsequently, the majority with later Cosworth units developed by Nicholson-McLaren Engines, which started building DFVs in '72 and powered Emerson Fittipaldi and James Hunt to F1 world championships in '74 and '76. On the flat, British Sprint titles fell to a number of discipline stalwarts with DFV/DFL power.

Circuits were, of course, a more natural habitat for the DFV family of engines, and again the pace of chassis development among the top teams meant that rolling chassis, especially for the less well-funded equities, were usually sold at the end of the season, often to aid cash flow and fund the next design. This provided a ready supply of kit to relatively well-heeled individuals for Formule Libre (literally free formula or run-what-ya-brung) races or speed events fought against the clock. Some went through quite a number of chassis...

Following the demise of Formula 5000, after a decent run, the

## “For three years Aurora provided a playground for a host of drivers”

Motor Circuit Developments (Brands Hatch Group)-promoted ShellSport Group 8 series of 1976-77 paved the way to the British F1/F2 championship. The vastly experienced Tony Trimmer won the Aurora-backed title, driving a McLaren M23 provided by Kent businessmen under the Melchester Racing banner. A brilliant third place in the extraordinary BRDC International Trophy race at Silverstone, behind Keke Rosberg (Theodore) and Emerson Fittipaldi (Fittipaldi F5A), rewarded TT's mentors' faith, although the F1 regulars scooped most of the prize pot!

For three drama-laced years the Aurora championship provided a playground for a host of drivers either aspiring to F1 or struggling to qualify for world championship rounds, and a decent income for teams who could operate the DFV cars. Irishman David Kennedy (Wolf WR4 and WR6), Spaniard Emilio de Villota (Lotus 78/1) and Briton Rupert Keegan (Arrows A1) slugged it out for the 1979 crown. Their fight went down to the finale at Silverstone, where ill-fated American Gordon Smiley won the battle in the works-run Surtees TS20+ and Keegan the war in controversial circumstances.

The following season's championship was not as strong at the sharp end, where, re-armed with a Williams FW07, de Villota – the Madrid banker who three years previously had won ShellSport rounds in the unique Lyncar he now owns again – claimed the title from Chilean team-mate Eliseo Salazar in a sister car, with five victories to three in a RAM Racing rout. Sponsorship guru Guy Edwards (Arrows A1) and Jim Crawford, who wrung a two-litre F2-spec Chevron B45's neck at Oulton Park to beat a slim DFV pack, were the other winners.

Withering support, against the backdrop of an oil crisis-triggered recession, saw the colourful series discontinued for 1981, but the concept reappeared – albeit a shadow of its

Thundersports was a crowd-pleaser: Mike Wilds's Lola T286 at Brands Hatch in 1985







former self – in '82 when Scotsman Crawford, a mechanic who had kick-started his career driving team owner Steve Choularton's Formula Atlantic March indecently quickly in '73, had no difficulty in thrashing slim opposition in a year-old Ensign, which doubled as a centre-seat Can-Am contender on the opposite side of the Atlantic.

The 'Super Libre' school of racing thrived for a while in Thundersports, a later MCD initiative that from 1983-89 embraced pretty much any two-seat prototype, from humble Ford Pinto-powered Sports 2000 cars with longer-range fuel tanks to Group C/C2 bolides and full-blown late-model Can-Am monsters, via production-based GT cars.

At its height Thundersports delighted spectators, even supporting F1 grands prix at Brands Hatch. While many races fell to circuit owner John Foulston and John Brindley in the former's mighty Lola-Chevrolet T530, a number of Cosworth DFV and DFL-engined cars appeared, including the Lola T280 run by Marsh Plant for Ray Mallock (which caught fire spectacularly), the Giuseppe Risi/Ian Dawson-inspired GRID, the ex-Edwards/Villota Lola T610 and Martin Birrane's Ford C100, which crashed through mechanical failure at Brands. While pickings were slim outside the main protagonists, Tim Lee-Davey and Australian Neil Crang won the 1985 Oulton Park Gold Cup in TLD's Tiga-DFL C284.

Cosworth DFV-engined cars also appeared in BARC Sports

GT championship events (when Jeremy Lord graduated from a Lola T212 to a T280), the Super Saloon era of the mid-1970s (Colin Hawker's magnificently prepared Ford Capri and DFVW), and the BRSCC Open Series in which indefatigable Irishman Alo Lawler often exercised his McLaren M30 following its inauspicious F1 career.

These days fans look to historic racing for a DFV fix. Originated (as Thoroughbred Grand Prix) in 1995, the FIA Masters Historic Formula 1 championship – and its younger North American offshoot – for three-litre cars of 1966-84 has fulfilled the aspirations of resourceful competitors all over the world, placing them on F1 World Championship support bills. It has also sustained a cottage industry of car preparers and engine builders, such as Geoff Richardson and Nicholson McLaren, who have huge experience with the V8s, restricted to 10,000rpm by the regulations.

Half a century after that victorious debut at Zandvoort, DFVs can still be heard wailing through the streets of Monaco in alternate years and appear in the FIA Masters Historic Sports Car championship – which features an Ecurie Evergreen McLaren M8 – and the Classic Endurance Racing arena promoted by Peter Auto in Paris. These retrospectives celebrate period world championship and Inter-serie action, the latter seeing howling Chevron, Lola and TOJ chassis from the mid-1970s running at the head of each field. Long may the music ring out. 🎵

Clockwise from top: Historic Formula 1 entertains at big events, like the Silverstone Classic; Jeremy Lord's BARC Sports GT Lola T280; Colin Hawker's extraordinary Cosworth-powered 'DFVW' wowed in Super Saloons; Gordon Smiley (Surtees TS20) wins final round of 1979 Aurora championship at Silverstone





# Stars and celebrations

The Silverstone Classic extravaganza takes place this weekend and there are plenty of potential highlights to anticipate

By Kevin Turner, Editor

🐦 @KRT917

**“T**here’s something there for everyone that attends. When you think about it, it’s pretty special.”

As one of the world’s leading historic racers and preparers, Simon Hadfield has competed (and won) at many major events. And the Silverstone Classic, which hosts more than 1000 entries for 22

races this weekend, is one of the highlights of his calendar. One of the elements that helps the Classic stand out, compared to other meetings such as the Goodwood Revival, is the broad range of machinery on track. From pre-war sportscars to Super Tourers, via Historic F1 and Group C, almost the whole history of the sport is represented.

The track itself is also appealing, not only as the home of the British Grand Prix. “Silverstone is one of the greatest tracks in the world,” adds Hadfield. “If you have something like a three-litre F1 car, it’s a place you can really let it off the reins.

“The secret to it is not Copse, Stowe or Maggotts/Becketts, though they are great challenges. The lap time is made in the tight corners – the Loop and Village. Once you know how to do those, keeping it neat and tidy, you can find 1-1.5 seconds. It’s a circuit that rewards thought.”

Hadfield and Wolfgang Friedrichs will be hoping that approach can help them to a hat-trick of RAC Tourist Trophy wins for pre-1963 GT cars. Appalling weather and safety cars have helped the duo to success in the past, but this year they

have an improved weapon in the form of Aston Martin Project 212, which replaces the DB4GT they’ve used previously.

“It’s wonderful that Wolfgang is still prepared to race it,” says Hadfield. “Project 212 is one of those cars that is greater than the sum of its parts.”

Nevertheless, Hadfield and Friedrichs will have plenty of opposition. As well as its phalanx of Jaguar E-types, the Halusa family will bring its rapid Ferrari 250 GT ‘Breadvan’, and the AC Cobra of Patrick Blakeney-Edwards and Martin Hunt is usually in the mix.

## Super single-seaters

It’s fitting that, as the Cosworth DFV celebrates its 50th birthday, the FIA Masters Historic F1 field is a strong one. Last year’s dominator Nick Padmore (who will also drive a Nissan NPT90 in the Group C field) returns and is likely to set the Williams pace, along with multiple historic race winner Michael Lyons. The Tyrrell challenge also looks formidable, with 2015 Silverstone victor Martin Stretton (012), Katsu Kubota (012) and Andy Wolfe (011) all entered, while Joaquin Folch-Rusinol saddles his Brabham BT49C.

Also celebrating its half century is Formula Ford and a predictably large field – 54 entries plus 12 reserves – will flock to Northamptonshire. Among those likely to be competing in the leading swarm are Merlyn maestros Callum Grant, Sam Mitchell, Benn Tilley and Michael O’Brien. Also likely to be up there are the Jomo of Benn Simms, Michael Mallock’s Mallock Mk9, the Jamuns of Will Nuthall and Richard Tarling, and TV





presenter Tiff Needell in his Lotus 69F. Bill Cowing is also entered in an unusual Ginetta G18.

It'll be interesting to see whether the Kent-engined machines can topple the Formula Juniors from their usual position as provider of the closest contest of the weekend.

## Tin-top legends

Super Touring invariably attracts a fine field to the Classic and this year is no exception. Although usual front man James Dodd (Honda Accord) will be tough to beat, a number of star names should be battling behind.

New Zealand legend Jim Richards won the 1985 Australian Touring Car Championship in a BMW 635CSi and will race the JPS-liveried machine at Silverstone. He will be joined by 1985 European Touring Car Champion Gianfranco Brancatelli and versatile Welshman Karl Jones in Ford RS500s.

The U2TC field is packed, with Ford Lotus Cortina aces Richard Meaden/Wolfe and Steve Soper likely to be up near the sharp end. Also worth watching are historic ace Chris Ward, teaming up with Jones in a Cortina, and Andy Middlehurst, sharing both a Mini (with son Chris) and Cortina (with Kubota).

## Celebrities and demos

Demonstrations have increasingly become part of the Classic in recent years. This time around, high-speed runs by the 1992 F1 world championship-winning FW14B (in the hands of German Porsche Carrera Cup race winner Nick Yelloly) will help celebrate 40 years of the famous British team. Another anniversary – the Jaguar XJ220's 25th – will be marked by a special gathering, including four TWR racing examples.

Star names from outside motorsport will be part of the Celebrity Challenge Trophy for Austin A30/A35s on Saturday evening. The line-up features no fewer than five gold medal-winning athletes: cyclist Jason Kenny, skeleton racer Amy Williams and rowers Jonny Searle, Greg Searle and Mark Hunter. Famous musicians Howard Donald (from Take That) and AC/DC's Brian Johnson also join the fray.

With plenty of attractions off-track as well, the challenge will be to catch all of the highlights. 🍷

Richards will drive stunning BMW (top), while Formula Ford returns for the first time since 2013



Can Hadfield and Friedrichs triumph in 212?

## TIMETABLE

Qualifying takes place on Friday July 28

### Saturday July 29

0900-0920	Historic Formula Junior race one
0940-1000	Formula Ford 50 race one
1020-1110	Stirling Moss Trophy (pre-1961 sportscars)
1130-1220	John Fitzpatrick Trophy (for Under 2 Litre Touring Cars)
1240-1320	Kidston Trophy (for pre-war sportscars)
1340-1400	Historic Formula Junior race two
1405-1420	World GP bike legends demo
1420-1426	Williams FW14B high-speed demo
1520-1540	FIA Masters Historic F1 race one
1640-1700	Maserati Trophy (for pre-1966 GP cars) race one
1720-1740	Super Touring Trophy race one
1840-1900	Celebrity Challenge Trophy race one
1920-2010	International Trophy (for pre-1966 GTs)
2030-2100	Group C race one

### Sunday July 30

0900-0920	Formula Ford 50 race two
0940-1030	RAC Tourist Trophy (for pre-1963 GTs)
1030-1036	Williams FW14B high-speed demo
1050-1140	RAC Woodcote Trophy (for pre-1956 sportscars)
1240-1300	FIA Masters Historic F1 race two
1320-1340	Celebrity Challenge Trophy race two
1400-1440	Jaguar Classic Challenge
1500-1550	FIA Masters Historic Sports Cars
1610-1630	Maserati Trophy (for pre-1966 GP cars) race two
1650-1720	Group C race two
1740-1800	Super Touring Trophy race two





Rast kept Rockenfeller at bay by 0.7s for his second win of 2017

## Rookie Rast rockets into

**DTM**  
**MOSCOW RACEWAY (RUS)**  
**JULY 22-23**  
**ROUND 5/9**

SINCE MOSCOW RACEWAY WAS ADDED TO the DTM calendar in 2013, all three of the series' manufacturers have enjoyed sporadic success at the Russian venue. Mercedes, BMW and Audi have all won races but none of them has managed to score back-to-back wins.

This remains true after the most recent visit, yet Audi – its car made lightest on the grid last weekend thanks to performance-weight adjustments – came up just 0.376 seconds short of a sweep, significantly bolstering the Ingolstadt marque's title hopes in the process.

Each of the round's two qualifying sessions were topped by BMWs, but reigning champion Marco Wittmann's grid penalty, carried over from Norisring where he had picked up a third reprimand of the season, handed Audi's René Rast a third pole of what is effectively his rookie campaign in the series.

Rast, dubbed "clearly the best qualifier in the whole field" by Audi boss Dieter Gass, then duly converted that first-place starting spot into victory in a rather straightforward Saturday race, and took the points lead as a result.

A one-two for Audi was completed by Mike Rockenfeller, who was moving about the paddock on crutches outside of the car after

his heavy Norisring accident. The 33-year-old shadowed Rast for much of race one but only after incurring a warning at the very start of the 38-lap event, when his robust defence into the left-hand final corner took BMW's Augusto Farfus out of contention.

Behind the leading Audi pair, there were lots of twists and turns in the scrap for third place, with Mercedes' top runner Robert Wickens mounting an unlikely challenge from 11th on the grid, in the heaviest car. He eventually had to settle for fourth after being overtaken by Wittmann late on.

On Sunday, another qualifying pacesetter was denied pole. This time it was Tom Blomqvist who was disqualified, for having insufficient fuel in his BMW. But aside from that aspect, the second race of the weekend was nothing at all like the first.

Mercedes' DTM returnee Maro Engel started last but one on the grid and gambled by taking his mandatory stop at the end of the first lap, along with Wittmann, Blomqvist and Loic Duval. By lap six, that strategy had been completely vindicated by a safety car, with all cars ahead of the quartet yet to stop. The interruption was caused by Maxime Martin, who ended up in the barriers with his brakes on fire.

Most of the rest of the pack did come in soon after the race resumed, but Audi's Nico Müller stayed out until there were just three laps remaining. While he kept the four early stoppers





# title fight

at bay, the rest of the pack, headed by Muller's team-mate Mattias Ekstrom, was catching up.

Wittmann, who ended up off the podium, said Audi and Muller "destroyed" his race, a charge vehemently denied by the accused. Engel, for his part, also felt he was held up by Muller, but there was little for him to be frustrated about. He had overtaken Wittmann, waited until Muller came into the pits and eventually took the chequered flag just ahead of a charging Ekstrom and BMW's Bruno Spengler.

Despite missing out on the win in race two, Ekstrom returned to the top of the standings, with Rast now just one point behind. Their closest challenger, Mercedes man Lucas Auer, picked up valuable damage-limitation points in both races with a sixth and an eighth, but he has lost ground nonetheless and Audi's chances to score its first drivers' title since 2013 are looking good indeed.

**VALENTIN KHOROUNZHIY**

## RESULTS

**Race 1 1 Rene Rast (Audi RS5)** 38 laps in 57m50.085s; 2 Mike Rockenfeller (Audi) +0.770s; 3 Marco Wittmann (BMW M4); 4 Robert Wickens (Mercedes C63); 5 Timo Glock (BMW); 6 Lucas Auer (Mercedes); 7 Gary Paffett (Mercedes); 8 Mattias Ekstrom (Audi); 9 Jamie Green (Audi); 10 Maro Engel (Mercedes). **Race 2 1 Engel** 36 laps in 56m41.087s; 2 Ekstrom +0.376s; 3 Bruno Spengler (BMW); 4 Rast; 5 Green; 6 Wittmann; 7 Tom Blomqvist (BMW); 8 Auer; 9 Wickens; 10 Edoardo Mortara (Mercedes). **Points 1 Ekstrom 113;** 2 Rast 112; 3 Auer 99; 4 Green 87; 5 Martin 78; 6 Rockenfeller 73.

# Kovalainen and Hirate on top

**SUPER GT  
SUGO (J)  
JULY 23  
ROUND 4/8**

**REIGNING CHAMPIONS HEIKKI** Kovalainen and Kohei Hirate scored their first victory of 2017 in their Team Le Mans Lexus after Hirate survived a thrilling final-lap fight with the MOLA Nissan of Satoshi Motoyama.

It was the fourth successive win for Lexus, but Honda's NSX dominated qualifying with Tomoki Nojiri clinching pole for ARTA.

On race day, damp weather left the teams facing difficult choices over starting tyres, and Naoki Yamamoto's Team Kunimitsu Honda led much of the first half of the race. But co-driver Takuya Izawa dropped down when they missed the right time to pit between two mid-event safety cars.

Kovalainen, who had started seventh,

made up positions in the wet first stint, Hirate moving into the lead after switching to slicks just before the second safety car.

Hirate came under late pressure from Motoyama and, when it rained again on the final lap, they touched after running off the track in the closing corners. But Hirate held on to win by just over a second, as TOM'S Lexus pair Kazuya Oshima and Andrea Caldarelli took third and the points lead.

**JIRO TAKAHASHI**

## RESULTS

**1 Heikki Kovalainen/Kohei Hirate (Lexus LC 500)** 81 laps in 2h09m13.878s; 2 Satoshi Motoyama/Katsumasa Chiyo (Nissan GT-R) +1.022s; 3 Kazuya Oshima/Andrea Caldarelli (Lexus); 4 Tsugio Matsuda/Ronnie Quintarelli (Nissan); 5 Tomoki Nojiri/Takashi Kobayashi (Honda NSX-GT); 6 Hideki Mutoh/Daisuke Nakajima (Honda). **Points 1 Caldarelli/Oshima 41;** 2 Nick Cassidy/Ryo Hirakawa 37; 3 James Rossiter 36; 4 Hirate/Kovalainen 35; 5 Yuji Tachikawa/Hiroaki Ishiura 30; 6 Kazuki Nakajima 30.

# Fenestraz vaults to points lead

**FORMULA RENAULT EURO CUP  
RED BULL RING (A)  
JULY 22-23  
ROUND 7/10**

**SACHA FENESTRAZ** LEFT THE RED BULL Ring with a comfortable championship lead after taking one second and a victory from the two races, while his title rivals Robert Schwartzman and Will Palmer collided in the first event.

That race was won by Max Fewtrell, who took his first win in the category after taking the lead from polesitter Max Defourny — the eventual third-place finisher — at the exit of the uphill Turn 1.

The 2016 British Formula 4 champion led throughout, but his advantage was cut in the final five minutes as his Tech 1 Racing car

came under pressure from the Josef Kaufmann Racing machine of Fenestraz, who could not find a way by.

On the fourth lap of the 25-minute race, Palmer, who had been running fourth, made contact with the back of Schwartzman's car as they went through Turn 1 close behind Arden's Dan Ticktum. Palmer sustained front-wing damage in the incident and was swallowed up by the pack on the run up the hill to Turn 3, eventually finishing 12th, with R-ace GP team-mate Schwartzman sixth.

In race two, Fenestraz converted pole into his third win of the season, surviving two safety-car interruptions without trouble.

Palmer finished second after passing Gabriel Aubry and Defourny early on, with Aubry completing the podium.

Schwartzman finished ninth in race two and is now 27 points behind Fenestraz.

## RESULTS

**Race 1 1 Max Fewtrell** 18 laps in 27m04.761s; 2 Sacha Fenestraz +0.463s; 3 Max Defourny; 4 Tom Randle; 5 Gabriel Aubry; 6 Robert Schwartzman. **Race 2 1 Fenestraz** 16 laps in 26m38.672s; 2 Will Palmer +1.214s; 3 Aubry; 4 Fewtrell; 5 Dan Ticktum; 6 Randle. **Points 1 Fenestraz 235;** 2 Schwartzman 208; 3 Palmer 206; 4 Aubry 153; 5 Defourny 150; 6 Ticktum 112.



Fenestraz was the only driver to pick up two podiums

GREGORY LENORMAND / DPPI



The Pilet/Werner  
Porsche moved  
into first place  
at the pitstops



LAT IMAGES

# Porsche scores first win for new 911

**IMSA SPORTSCAR  
LIME ROCK (USA)  
JULY 22  
ROUND 8/12**

AFTER COMING CLOSE TO WINNING on several occasions — on both sides of the Atlantic Ocean — the new-for-2017 'mid-engined' Porsche 911 RSR finally broke its duck on Saturday in a typically hotly contested, all-green-flag, GT-only IMSA race at the short but demanding Lime Rock Park in rural Connecticut.

Patrick Pilet and Dirk Werner piloted the winning car, while team-mates Gianmaria Bruni (who snared the pole on just his third start for the German marque since jumping ship from Ferrari) and Laurens Vanthoor underscored the car's potency by finishing second.

Tasked with qualifying duties for the first time, Bruni set the bar high during an intense 15-minute session. The top six cars all eclipsed the lap record, and the Italian veteran edged Richard Westbrook's Ford GT by 0.136 seconds.

Bruni set a demanding pace from the start of the 160-minute race too,

extending his lead over team-mate Werner to almost four seconds before the margin shrank as the leaders worked their way through GTD traffic.

Westbrook settled into fourth during the early stages, behind the BMW M6 GTLM of John Edwards, although it was immediately apparent to trackside observers that the frugal Briton was on a fuel-saving mission, lifting off the throttle far in advance of the braking area for the first corner, Big Bend.

Bruni made just one mistake, but it was costly, since his car's radiators filled with grass during an off-course excursion that forced him to pit after 57 laps. Werner stayed out for two more laps before handing over to Pilet, who took advantage of a significantly faster stop to emerge ahead of Vanthoor. Edwards led for 10 laps before taking on service, leaving Westbrook out in front until lap 87 — almost exactly half-distance — when he stopped for fuel, tyres and a change to Ryan Briscoe. Was it conceivable that the Australian could go the distance on just one stop?

No, as it turned out. The car would

have required just a single caution to take advantage of its bold strategy, but, surprisingly, none was forthcoming.

The two-stopping Porsches were untroubled out in front — after the Jan Magnussen/Antonio Garcia Corvette led for a while, by virtue of a long middle stint — and ended up 14.5s apart.

Briscoe held third until stopping for a splash of fuel with just five minutes remaining, whereupon the focus for the final podium spot switched to Martin Tomczyk (BMW), who just managed to keep a charging Garcia at bay.

Porsche also led the way in GTD. An impressive first stint from Patrick Lindsey set the stage for a hard-earned victory for himself and Jorg Bergmeister, who fought off the attentions of Bryan Sellers (sharing the Paul Miller Racing Lamborghini with polesitter Madison Snow) and Patrick Long, who made a welcome return to IMSA alongside Canadian Daniel Morad.

**JEREMY SHAW**

Lindsey and  
Bergmeister made  
it a Porsche double



## RESULTS

**1 Dirk Werner/Patrick Pilet (Porsche 911 RSR)**

181 laps in 2h40m18.956s; 2 Gianmaria Bruni/Laurens Vanthoor (Porsche) +14.500s; 3 John Edwards/Martin Tomczyk (BMW M6 GTLM); 4 Jan Magnussen/Antonio Garcia (Chevrolet Corvette C7.R); 5 Richard Westbrook/Ryan Briscoe (Ford GT); 6 Bill Auberlen/Alexander Sims (BMW). **GTD 1 Patrick Lindsey/Jorg Bergmeister (Porsche 911 GT3-R); 2 Madison Snow/Bryan Sellers (Lamborghini Huracan GT3); 3 Patrick Long/Daniel Morad (Porsche). Points GTLM 1 Magnussen/Garcia 211; 2 Auberlen/Sims 204; 3 Dirk Muller/Joey Hand 196; 4 Westbrook/Briscoe 195; 5 Pilet/Werner 194; 6 Vanthoor 183. GTD 1 Christina Nielsen/Alessandro Balzan 228; 2 Ben Keating/Jeroen Bleekemolen 211; 3 Katherine Legge/Andy Lally 206.**





EBREY/ELMS

## United Autosports beats G-Drive

**EUROPEAN LEMANS SERIES**  
**RED BULL RING (A)**  
**JULY 23**  
**ROUND 3/6**

In a repeat of the Silverstone season opener, United Autosports got the better of G-Drive Racing.

Starting third, United's Hugo de Sadeleer tracked Leo Roussel's polesitting ORECA in the opening stint, then the Ligier took the lead when Roussel handed over to Memo Rojas. The cars swapped places again when Nicolas Minassian (in for Rojas) managed to close in on and pass Will Owen after the third round of stops, but

once Filipe Albuquerque got in the United car he would not be denied.

With 65 minutes remaining, the Portuguese chipped away at Roussel's advantage and jumped ahead at the final stop. Eric Trouillet, Paul Petit and Enzo Guibbert completed the podium in their Graff ORECA.

In LMP3, a post-race penalty for John Falb cost UA a double victory. Giorgio Mondini and Davide Uboldi inherited the win, despite a late spin. Matt Griffin, Aaron Scott and Duncan Cameron took a first GTE win of the year aboard their Spirit of Race Ferrari.

**JAMES NEWBOLD**

### RESULTS

**1 Hugo de Sadeleer/Will Owen/Filipe Albuquerque (Ligier JSP217)** 169 laps in 4h00m57.876s; **2 Leo Roussel/Memo Rojas/Nicolas Minassian (ORECA 07)** +4.554s; **3 Eric Trouillet/Paul Petit/Enzo Guibbert (ORECA)**. **LMP3 1 Giorgio Mondini/Davide Uboldi (Ligier JSP3)**; **2 Sean Rayhall/John Falb (Ligier)**; **3 Alexandre Cougnard/Antoine Jung/Romano Ricci (Ligier)**. **GTE 1 Aaron Scott/Duncan Cameron/Matt Griffin (Ferrari 488 GTE)**; **2 Jonny Cocker/Jody Fannin/Rob Smith (Ferrari)**; **3 Nicki Thiim/Euan Hankey/Salih Yoluc (Aston Martin Vantage)**. **Points 1 Rojas/Roussel 62**; **2 Owen/Albuquerque/de Sadeleer 58**. **LMP3 1 Falb/Rayhall 45**; **2 Matthieu Lahaye/Francois Heriau/Jean-Baptiste Lahaye 45**. **GTE 1 Hankey/Thiim/Yoluc 59**; **2 Smith/Fannin 53**.

## Kahne wins delayed Indy crashfest

**NASCAR CUP**  
**INDIANAPOLIS (USA)**  
**JULY 23**  
**ROUND 20/36**

FOLLOWING A THREE-YEAR win drought, Kasey Kahne returned to Victory Lane as darkness set in following a heavily disrupted race at the Indianapolis Motor Speedway last Sunday.

Kahne regained the lead during the second period of overtime and, when another multi-car wreck erupted behind him, the ensuing caution clinched his 18th NASCAR Cup Series race win and

his first Brickyard 400 triumph.

The race featured 14 cautions, a delay of nearly two hours due to rain, and had three red flags over its near six-hour total duration.

At the start of the second overtime segment, Kahne dove under Brad Keselowski to take the lead through Turn 1. As they exited Turn 2, the final crash took place behind them but NASCAR officials elected not to throw the caution until after Kahne's Hendrick Motorsports Chevrolet had reached the overtime line, which finally sealed the victory.

Keselowski therefore came

home second in his Team Penske Ford, followed by Ryan Newman's Childress Chevy. "It was good to get to Victory Lane," Kahne said. "It shows people what we can do when things go our way."

Playoff leader Martin Truex Jr crashed out at the 167-lap race's 111 lap mark when he lost control at Turn 1. The ensuing fiery incident also eliminated long-time leader Kyle Busch.

**JIM UTTER**

### RESULTS

**1 Kasey Kahne (Chevrolet SS)** 167 laps in 3h39m00s; **2 Brad Keselowski (Ford Fusion)**; **3 Ryan Newman (Chevy)**; **4 Joey Logano (Ford)**; **5 Matt Kenseth (Toyota Camry)**; **6 Kevin Harvick (Ford)**; **7 Daniel Suarez (Toyota)**; **8 Matt DiBenedetto (Ford)**; **9 Chris Buescher (Chevy)**; **10 AJ Allmendinger (Chevy)**. **Playoff qualifying 1 Martin Truex Jr 780/3 wins**; **2 Jimmie Johnson 564/3**; **3 Kyle Larson 732/2**; **4 Keselowski 601/2**; **5 Ricky Stenhouse Jr 443/2**; **6 Harvick 683/1**; **7 Denny Hamlin 612/1**; **8 Ryan Blaney 516/1**; **9 Kurt Busch 463/1**; **10 Newman 462/1**; **11 Kahne 383/1**; **12 Austin Dillon 379/1**; **13 Kyle Busch 673**; **14 Jamie McMurray 599**; **15 Chase Elliott 588**; **16 Kenseth 566**.



It was Kahne's first victory since Atlanta 2014

## IN BRIEF

### NASCAR XFINITY

William Byron duelled with series veteran Paul Menard to win Saturday's race at Indianapolis Motor Speedway. The win is Byron's third of the season, and all have come in the past five races. Byron took the lead for the final time after passing Elliott Sadler with 16 of the 100 laps remaining. Joey Logano finished third, with Sadler fourth and Cole Custer fifth.

### BRAZILIAN STOCK CARS

Felipe Fraga scored a first victory of the season in the Curvelo double-header main race, while Gabriel Casagrande claimed his first series win in race two. Fraga completed a lights-to-flag win over series leader Daniel Serra – who left the weekend with an increased advantage of 21 points – in race one. Casagrande also led from start to finish for his victory.

### MICHELIN LE MANS CUP

Norma drivers Alex Toril and Jean Glorieux extended their title lead with a 13-second win over Colin Noble and Tony Wells at the Red Bull Ring. Glorieux moved past the polesitting Ligier of Alvaro Fontes to take the lead on the second lap of the 76-lap encounter, and the pair held on to score their second win of 2017. In GT3 Emanuele Busnelli and Fabio Babini won from pole in their Lamborghini Huracan.

### ADAC GT MASTERS

Renger van der Zande claimed a home win at Zandvoort with victory in race one alongside his team-mate (and current points leader) Jules Gounon, which gave the Callaway Corvette team its second win of the season. In race two, the Land Motorsport Audis scored a one-two as Connor de Phillippi and Christopher Mies, the reigning series champions, triumphed ahead of Jeffrey Schmidt and Christopher Haase.

### JAPANESE FORMULA 4

Ukyo Sasahara and Takuya Otaki shared the wins across the fourth round of the 2017 season, which took place at Sugo last weekend. Sasahara scored his third win of the season in dry conditions on Saturday, while fellow Honda protege Otaki took his maiden win in the wet second race, which was started behind the safety car, on Sunday. Sasahara leads the standings, with reigning champion Ritomo Miyata 20 points adrift.



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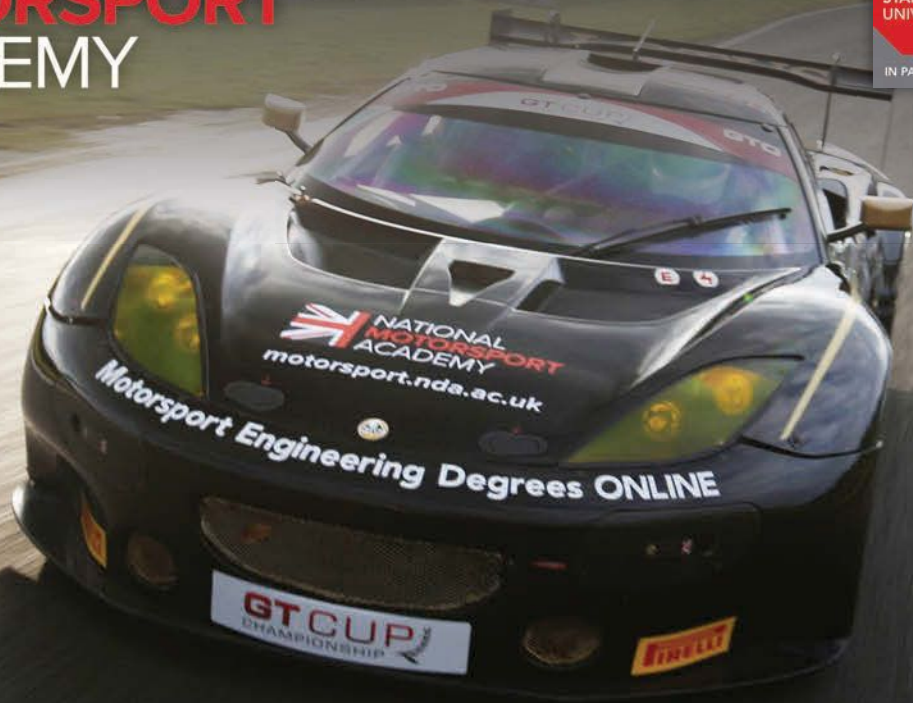


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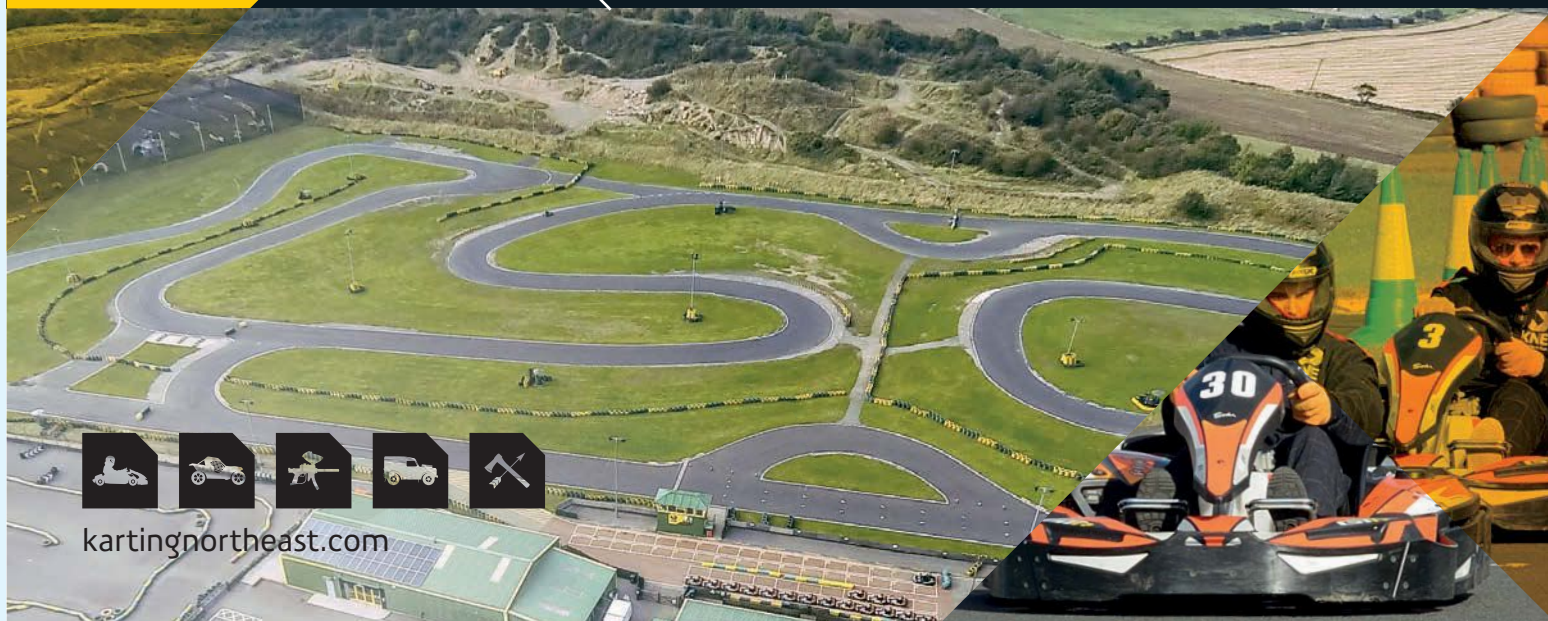
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Whilst responsible for the workshop productivity and alignment to plan, this role will still require a 'hands on' approach to daily tasks, and it will be the intention that this position leads by example rather than pure delegation.

The successful candidate will have a broad knowledge and experience of all areas of composites technology, with a good understanding of mechanical assemblies supporting systems. It is essential for this role to offer competent IT skills with the ability to manipulate and interrogation of CAD software being an advantage.

Excellent verbal and written communication skills are essential along with a strong sense of self-motivation, exemplary time keeping and a focus on delivering results. The ideal candidate will have a flexible attitude towards the working hours required to hit event deadlines.

**CLOSING DATE FOR APPLICATIONS – FRIDAY 25TH AUGUST 2017**





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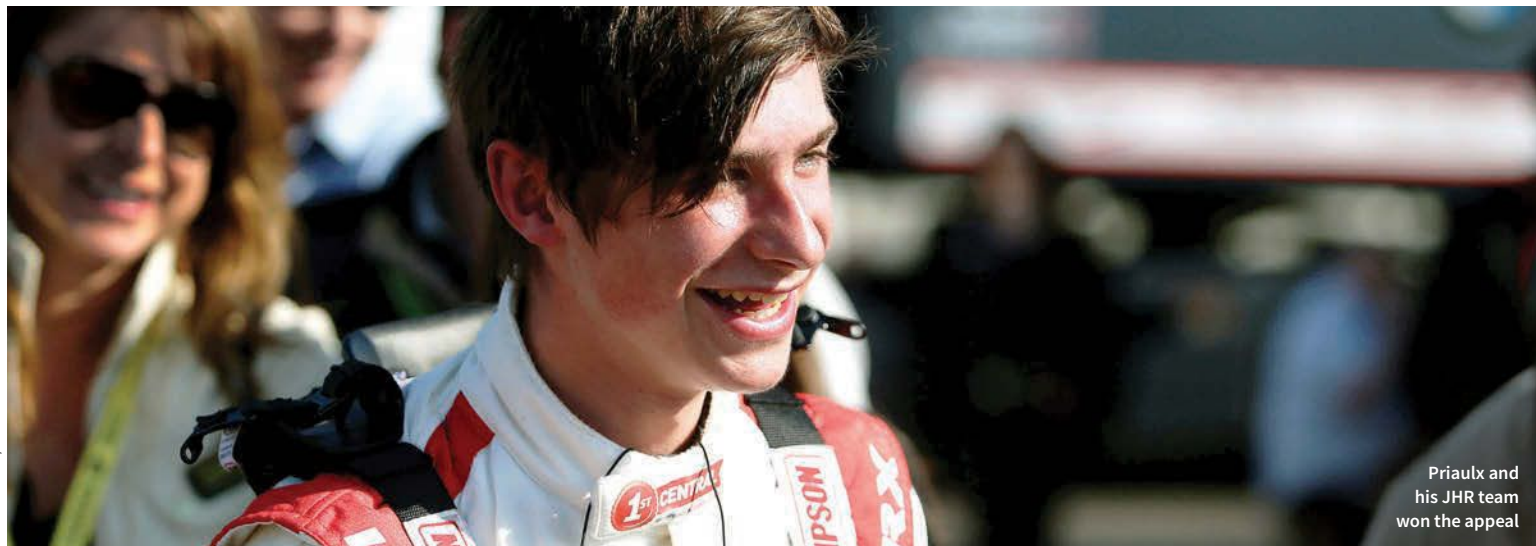
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Priaulx and his JHR team won the appeal

GINETTA JUNIOR

## Priaulx reinstated as Ginetta leader

SEB PRIAULX HAS RECLAIMED the Ginetta Junior points lead after a successful appeal against his exclusion from the Thruxton races in May.

Priaulx was one of three JHR Developments drivers to be excluded after the Thruxton event for engine irregularities. As well as losing points from the Hampshire weekend, Priaulx, Harry Dyson and Matt Luff were also deducted points equivalent to two race wins.

But the MSA National Court determined on appeal that JHR had not broken any rules. All drivers will receive their points back and the appeal fee will be reimbursed.

The Ginetta technical report alleged that “material had been removed from the cylinder heads of all three engines” and that a seal on the cam covers “was not as it should be”.

But the court ruled the evidence presented by the technical eligibility scrutineer was “woefully inadequate and late”. No log details from any of the three



engines were given from 2017, and mentions of previous seal changes did not specify which seals these were.

Ginetta bulletins confirmed that Priaulx’s engine had been examined during the course of the season – which would involve the seals being removed.

Chair of the MSA panel Guy Spollon said in his report: “The National Court has no hesitation in allowing each one of these three appeals, not least because of the totally inadequate documentation in these matters.”

Spollon recommended “appropriate

Since the exclusion, Priaulx has won four out of five races

steps are thereafter taken to ensure that the relevant logs and records as to work undertaken and seals applied and removed on these engines are conscientiously recorded and maintained”.

The court decision promotes Priaulx from sixth in the standings to the top – 16 points clear of team-mate Tom Gamble.

Despite the uncertainty, Priaulx won four of the five races after the exclusion. He believes that reconciling himself to the penalty, and pushing on regardless, was the catalyst for the success.

“You have got to keep believing and it really helped me – it made me more determined,” Priaulx said. “It was hard, I found you have got to really focus on what’s ahead of you and put the past behind you. You can’t let it linger around or you would be at the back of the grid.”

Priaulx’s father, three-time World Touring Car champion Andy, added: “It seemed very strange from the beginning. I’m happy for Seb, and what really impressed me was the way he handled the pressure. He went to another level.”

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**FORMULA 5000** The bitter feud over the creation of a modern Formula 5000 category in Australia is over after the two competing series agreed to join forces. Supercars announced its Super5000 concept in June (picture 4), sparking controversy given its likeness to the privately run Formula Thunder 5000 concept that was already in the works (pictures 2 and 3). The two sides are now working together to have a single V8-powered category up and running for next season. According to a statement, the idea is to “incorporate beneficial technical elements from the FT5000 and S5000 to create a single ‘5000-style’ car”. V8 Supercar drivers Garth Tander (picture 1), Lee Holdsworth and Alex Davison have tested the Super5000 car.

## VW CUP/TCR

# Lines looks for VW Cup TCR tie-in

STEWART LINES, THE BOSS OF THE Volkswagen Racing Cup, wants to align his series with the new TCR UK Championship when it begins next season.

Maximum Motorsport boss Lines said he thought the VW Cup was perfectly positioned as a feeder category to TCR, and he had already been in touch with the prime movers of the UK version. He said his British Touring Car Championship team, which fields a Ford Focus, would remain unaffected.

Maximum Motorsport has fielded a SEAT Leon TCR car in Britcar this season, and Lines is keen to add another to his stable to step into the new-for-2018 contest.

“The cars are great, and TCR has a lot of appeal,” said Lines. “And, with the projected budget for TCR, it seems like it will be the perfect stepping stone for drivers who want to graduate from the VW Cup. We will keep our BTCC arm too, so there could be a natural progression through to that as well.

“We will look to buy another TCR car and run a two-car team there. It seems like a very accessible series and a combination of the VW Cup on the TCR race day bill is just a natural fit.”

Lines will return to the British Touring Car Championship for the remainder of the season, starting at Snetterton this weekend.



## C1 CHALLENGE

# Dalton stars in Citroen return

MULTIPLE 2CV CHAMPION RICHARD DALTON won on his return to racing after more than a decade away during an appearance in the Citroen C1 Challenge.

Dalton, who hung up his helmet after his seventh 2CV 24 Hours win in 2007 at Snetterton, returned to the cockpit at Pembrey where he, Louis Tyson and Peter Rundle claimed victory in the two-hour race.

Dalton has spent the past few years helping his son, Jake, rise up the motorsport ladder. Dalton Jr finished as runner-up in the BRDC Stars of Tomorrow MiniMax championship in 2008.

“He’s won a lot of races, but no championships. He usually ends up as the bridesmaid,” said Dalton Sr.

Former multiple Mighty Mini and Locost champion Declan McDonnell also joined the Citroen C1 Cup grid at Pembrey.

“I am building my own car for the 24-hour race at Spa later in the year, so thought it would be a good idea to have a go in one,” he said, after taking seventh and ninth from his two outings over the weekend.



## Clio Juniors to race in Seniors instead

TWO OF THE DRIVERS WHO INITIALLY signed up to contest the inaugural season of Renault UK Clio Cup Junior will now compete in the final three meetings of the senior series instead.

Fiesta Junior runner-up Bradley Burns and one-time Ginetta Junior racer Zak Fulk will both join the British Touring Car support series at the Rockingham round in August.

Both drivers had planned to race in Clio Junior, but when this was postponed and

then reduced from six to four meetings with a September start date, they elected to switch to the senior category instead.

Burns – who will drive for the Jamsport team – said: “We were planning on doing the Juniors. We got the car and then they [the series organisers] cancelled it.

“I wanted to do Clios anyway, so I thought we might as well just go and do it. It’s just about getting experience on track and then more about next season.”



## CARRERA CUP

## Championship ‘reset’ for Cammish

PORSCHE CARRERA CUP GB points leader Dan Cammish believes the championship battle will be reset after this weekend’s races at Snetterton.

Cammish holds a 23-point lead over Charlie Eastwood and is 36 points ahead of third-placed Dino Zamparelli after winning the most recent round

at Le Mans last month, but will miss the Norfolk races because of the clashing Hungarian round of the Porsche Supercup.

“It will practically be like resetting the championship,” he said. “From my maths, I think it’s going to be quite a good run in to the finish.”

Zamparelli claimed that,

despite knowing this would be an important weekend in the title battle, he won’t approach it any differently.

“Dan is missing it,” he said, “which gives me a chance to come back because we had an issue at Donington Park with a disqualification [for running incorrect camber].”



## Golden celebrations set for Oulton

FIFTY YEARS OF THE 1600cc FORMULA 2 category will be marked during the Oulton Park Gold Cup (August 26-28).

The 1600cc and later two-litre Formula 2 cars from 1967 to 1978 will return to Cheshire for the first time in a decade. A special award will be presented for the best performance by a 1600cc car, while the

overall aggregate winner across the two races will be presented with a trophy in the style of the famous Gold Cup.

The final period race for F2 at Oulton Park was in September 1972 when Ronnie Peterson beat Niki Lauda and James Hunt (all in Marches) to crown a podium of future Formula 1 stars.

## IN BRIEF



### HARRISON DEBUTS EX-WARWICK TOLEMAN

Mark Harrison ran his ex-Derek Warwick Toleman TG280 Formula 2 car for the first time at Shelsley Walsh last weekend. Monoposto and F3 Cup racer Harrison has owned the car for around seven years and finally completed a rebuild in time for a shakedown run last week at Blyton Park. The car isn’t eligible for historic Formula 2 but could appear in all-comers and the Walter Hayes Trophy meeting.

### MONGER PAL ‘JUST DRIVES’ DONATIONS

A former team-mate of Billy Monger has created a special version of Sky Sports F1’s ‘Just Drive’ theme tune to raise money to support the injured British Formula 4 driver. Music student Cameron Roberts drove for JHR Developments in Ginetta Junior in 2016 while Monger was at the team in F4. The song will be available to download from July 31.

### WAX ON, WAX OFF FOR CHARITY

Ford Anglia racer Neil Duke raised the sum of £1000 for The Children’s Trust charity by having his back waxed after Saturday’s CSCC Special Saloons & Modsports races at Croft. Fellow competitors, officials and spectators generously emptied their pockets to help youngsters with brain injuries.

### JUNIOR SCHOLARSHIP FILLING FOR ’18

The Ginetta Junior scholarship is half full for 2017. Thirty drivers so far have applied to be rewarded with a fully funded drive in the series next season. Those who apply – which costs £392 – will take part in assessment days at Blyton Park to decide the winner on October 23-25. Sennan Fielding and Stuart Middleton are past winners.

### WITT BACK TO GT CUP AT OULTON PARK

Reigning GTO and overall GT Cup champion Jordan Witt will return to the championship for the next round at Oulton Park this weekend. Witt will drive the same Bentley Continental GT3 he steered to last year’s title. “We want to challenge at the front and we’ll see what happens,” said Witt. “I’m really looking forward to racing on my home circuit.”







Miloudi is one of many drivers celebrating Formula Vee's 50th

## FORMULAVEE

# Star entry for Formula Vee Fest

NAMES PAST AND PRESENT FROM THE WORLD OF Formula Vee will compete at Cadwell Park this weekend to celebrate 50 years since the series started in the UK.

Drivers who will take part in the non-championship Formula Vee 50th Festival include former title winner Daniel Hands and current points leader Ben Miloudi. Also racing are Andy Storer, the historic racer who ran Scarab cars, and Kevin Sheane, one of the largest producers of Vee chassis.

"We have 40 entries for it and many current and recent drivers will take part," said Giles Groombridge, competitions manager at the 750 Motor Club. "It's more than we would normally get at Cadwell, but with it being the 50th anniversary interest is quite high.

"We had 32 at Anglesey and 32 at the Brands Hatch GP circuit, so we've been quite fortunate."

For this weekend's action, the field will be split into two qualifying sessions followed by three heats, in

which all competitors will take part in two. A repechage will be held on Sunday morning, where a selected number will make it through to the grand final.

"Fundamentally the cars are simple, easy to maintain and take on for an amateur," added Groombridge. "But as racing cars evolved and switched away from spaceframes they became more difficult to maintain.

"The Formula Vee chassis are rugged and easy to repair when damaged, as well as cheap overall. They are pretty quick, with very close racing and I think that keeps people involved. You don't get many people come in for just one season."

The 750MC had hoped to attract other drivers who had raced in the series, including Ian Flux and Tiff Needell, but neither were able to attend the event owing to prior commitments at the Silverstone Classic.

## ➔ P72 FORMULAVEE TRACK TEST

## CLASSIC NOSTALGIA

# HARRIS DOUBLES UP AT SHELSLEY WALSH

KEITH HARRIS TOOK A brace of fastest times in two different cars in last weekend's Classic Nostalgia event at Shelsley Walsh.

The local ace, who lives three miles from the celebrated Worcestershire venue, set the overall pace on Saturday with a 31.43s best in his Chevron B19 sports-racer.

He then switched to his Formula Atlantic Chevron B25 single-seater for Sunday's competition, in which he was the only driver to break the 30-second mark with an opening run of 29.53s.

"That's not a bad way to celebrate being 60 a couple of weeks ago," said Harris.

The life of land speed record breaker Donald Campbell was celebrated with a replica of his Napier Bluebird car conducting demonstration runs.

The event also marked the Group A and early World Rally Car periods. Kristian Sohlberg provided a highlight, driving the Mitsubishi Lancer WRC04 he rallied in period. He was beaten only by Harris on his runs up the hill.

Local Simon Durling chose the weekend to run a recently acquired Lotus 7 from 1961. The car will complement Durling's Lotus 18 Formula Junior, which he races regularly. He lives at the top of the hill.

## SPECIAL SALOONS & MODSPORTS

# Winning debut for Southcott's Midget

POLE POSITION, A RACE WIN and the lap record capped a dream debut for Andy Southcott's new MG Midget Special Saloons & Modsports contender, which turned a wheel in anger for the first time in testing last Friday on the eve of last weekend's CSCC Northern Classic event at Croft.

An evolution of Mike Johnston's 2004 design, in

which Southcott's son Chris won Saturday's race, the pushrod/rocker front-suspended machine carries its two-litre 295bhp Vauxhall engine and Elite sequential gearbox an inch lower than its predecessor's. As a result the longer, lower, Lenham-style nose brings drag and downforce benefits.

"The only thing Midget

about it is the tail lights," grinned renowned Banbridge, Northern Ireland-based engineer Johnston, who also built William Smallridge's all-conquering Sunbeam Tiger and a low-line Vauxhall Tigra for personal use.

Both Southcott Midgets are heading across the Irish sea to thrill onlookers at Kirkistown's race meeting next weekend.







# Old-school racers bring Croft to life

By Marcus Pye, the voice of club racing

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PERUSING THE PIT GARAGES AT CROFT LAST WEEKEND was a joy for anybody with fond memories of the heyday of club racing's Special Saloons and Modsports categories from the mid-1960s to late-'80s at the north eastern outpost and elsewhere. Packed with extraordinary machines – some beautifully engineered – the vista took me back to my youth when the imagination and ingenuity of impecunious competitors knew no bounds.

These days, of course, it's far simpler and more cost-effective to buy an outmoded high-performance one-make saloon for relative peanuts. As quick, competent and strong as a modern 200bhp fully-caged tin box is, however, the genre has zero soul in comparison with something individual – whether a rejuvenated relic from a bygone era or freshly built, incorporating current technology.

Classic Sports Car Club principals Hugo Holder and David Smitheram have embraced both schools of thought for several years, providing the stage on which diverse bolides compete in time-honoured style. The swashbuckling Special Saloons & Modsports series is attracting different cars, some more early '80s Donington GT-inspired than traditional.

Among its staunchest supporters is 85-year-old CSCC safety car driver Tony Sugden (veteran of hundreds of period races in potent Ford Escort, the Tony Hazlewood-originated DAF 55 V8 shell – later rebranded Volvo – with two-litre BDX motivation, Lotus Esprit and Skodas, the last with ferocious Cosworth YB turbo power). On Sunday he was joined by Gerry Taylor of Swish Anglia fame, another indefatigable enthusiast.

Croft was one of 'Suggy's old stamping grounds, where he

faced the likes of Jim Evans (father of current historic ace Richard) in Escorts and Skoda-bodied sports-prototypes, Border Reiver Doug Niven (Boss Escort and ex-Mick Hill VW Beetle-Chevrolet), Jeff Wilson (in the Beetle), Andy Barton in his March-based AC ME3000, the late Richard Simms in Skodas and Scottish raiders who made the trip down from Ingliston, outside Edinburgh.

The quality of racing was excellent on the current 2.125-mile track, a tremendously challenging layout that incorporates half of the ultra high-speed airfield course I recall from the early 1980s. Many, including Dave Coyne of FF1600/FF2000/F3/F3000 fame, I was amazed to discover, had not experienced it before. Modsports MG Midget man Tim Cairns, meanwhile, was back after a 32-year break!

Facilities at Croft are ever-improving and new circuit manager Cat Lund's initiative to shift the pre-session assembly area to the opposite end of the start straight – exiting into the Complex rather than onto Clervaux – did wonders for the efficiency of last weekend's event, for which all races had rolling starts.

But it was the spirit of the competitors across eight categories that again impressed me as much as anything mechanical or logistical. The willingness of mechanics and drivers to help each other with the inevitable problems, from dismantling damaged engines to patching up tattered bodywork, harked back to the amateur values I remember from spectating and marshalling as a teenager. That around 212 racers turned out for the CSCC's venue debut suggests that the exercise will be repeated. ✨



## SUBARU HYBRID FOR CRABTREE

CSCC Special Saloons stalwart Wayne Crabtree is looking forward to next season when mentor Dave Abrahams' new Subaru-powered Ford RS2000 hits the tracks. "I'm very excited. It's something different and with 600bhp on tap I'm targeting outright wins," said Crabtree, who finished second at Croft last Saturday in ABE-Speed's Ford Escort BDT.

## COLIN HOLT: 1936-2017

Lotus twin-cam owners worldwide, particularly 1600cc Formula 3 racers, owe debts of gratitude to Colin Holt, who developed and built the Ford-blocked engines for more than 40 years.

A mechanic on the Hon Richard Wrottesley's Elva-BMW GT160 at Le Mans in 1965, he also looked after Emerson Fittipaldi's engines in the '71 F2 Temporada series.

A fill-in job at Lotus, driving Elans round the Hethel test track for 12 hours a day (for £20 per week) for US emissions work resulted in Holt being appointed to work alongside Colin Bennett. He subsequently joined Steve Sanville at Norvic Engines, rebuilding Novamotor twin-cams and the Vauxhall-based unit that powered the Lotus 62, before establishing his own business in '74.



## EATON DEBUTS HOLDEN COMMODORE

Paul Eaton, who last raced regularly 20 years ago, joined the CSCC Special Saloons throng at Croft with a five-litre Holden Commodore imported unseen from Australia. The Yorkshireman – father of GT racer Abbie – has rebuilt the trackday car to race spec and plans to develop it into a clone of Peter Brock's famous machines of yore.





**CROFT**  
CSCC JULY 22-23

## Croft plays host to Northern Classic

ANDY SOUTHCOTT'S STUNNING new Mike Johnston-built MG Midget silhouette challenger ran for the very first time at Croft on Friday, yet the combo qualified quickest and emerged triumphant in an extraordinary Special Saloon and Modsports finale, which topped the CSCC's inaugural Northern Classic event.

Having encountered problems in Saturday's races, Southcott and son Chris – who won the opener in his 2004 Midget clone, powered by a larger 2.4-litre Vauxhall engine – missed Sunday's race call. Despite starting late from pit lane, they were soon carving through the pack, which was missing race-two victor Ian Hall's Darrian-Wildcat, out with engine problems.

Wayne Crabtree's Ford Escort-BDT, Tom Carey's Honda CRX-BDG and Ian Stapleton's burly Alfa Romeo Alfetta GTV all led, and Ricky Parker-Morris's long-serving Peugeot 309 turbocar enhanced the squabbling quartet before Southcott Sr charged ahead into Tower on lap eight.

Having demoted Parker-Morris there a lap previously to annex fourth, Southcott Jr homed in on the scrapping Carey and Stapleton – who grabbed second on the lunge to the line – as his father punched his own lap record into the 1m27s.

Neil Claxton's Suzuki-Ford (which tripped Southcott Jr up in a race- two bottleneck, delaying Danny Morris in the Peugeot), Dave Brewis's smart Vauxhall-

engined Darrian, Craig Percy's Morris Minor-Chevrolet and novice Lee Barnard's MGB GTV8 were impressive. Regular winner Paul Sibley's fabulous Lotus Elan was out in race one.

Dunboyne's Connaire Finn took New Millennium enduro gold in the remnants of a Ginetta G50. He had just regained the lead from Lee Frost (BMW M3) after the stops when he swiped its nose off diving ambitiously inside a queue of BMWs at the hairpin. Delayed but unfazed, Finn re-caught and passed Frost. Lucky Khera's later M3 howled home third, but novice Alistair Scott's similar E46 wiped out Dave Coyne after an off at Sunny, earning an exclusion.

When Sunday's forecast rains came, perfect tyre choice and four-wheel drive enabled a delighted Richard Thurbin to win the Future Classics race at his Lancia Delta Integrale's second meeting. Sadly, poleman Tony Blake's Porsche 911 RSR

Andy Southcott's new 'Midget' (left) and trusty steed of son Chris (right) each won

hit the tyre wall exiting the chicane in the chase, but son Aston claimed third on his 944 S2 debut, after a duel with Paul Dingle's example. Sam Smith revelled in grim conditions, shooting his humble Mazda MX-5 from 15th to third.

Mugged into Clervaux at Saturday's start, reigning Jaguar champion Tom Butterfield couldn't stop Colin Philpott from landing his fifth win of the year in a more-powerful XJS. Having seen Patrick Doyle rotate in his mirrors at Turn 1, Philpott spun to the back at Tower on Sunday's opening lap, but recovered to second behind Butterfield and left with the points lead. Tom Robinson bagged a fine third in his supercharged XJR, having outfoxed Adam Powderham on day two.

Caterhams dominated the Open and Magnificent Sevens contests. Simon Smith and his 330bhp CSR topped Saturday's Open feature, beating Tim Davis and lad-and-dad Martin and Bill

Finn had a dramatic outing to win New Millennium



ALL PICS: STALLARD





Addison. Smith was hounding top 'Mag 7' qualifier Gary Bate — who started on P5, rather than the pitlane, per revised series rules — when he ran onto the grass in the Complex avoiding a lapped car and spun, whereupon his battery died. Bate thus screamed his CSR to victory, clear of Colin Watson and Ross Murray.

Heavy rain before Sunday's Open finale prompted Smith to pit on the green-flag laps, and Bate joined him having fizzled down the order. Addison Sr caught sometime TVR Tuscan wrestler Davis and the duo duly aquaplaned to the chequer in unison. "Flat-shifting through the puddles was more fun than anything else I've done," beamed the jubilant Davis.

Mark Campbell (Triumph TR5) aced the Swinging Sixties race, which finished under yellows after pursuer John Pringle's Lotus 7 S4 careered off, fortunately without serious injury. Period Special Saloon racers Martin Sledmore (Ford Mustang) and Rick Belcher (Lotus Cortina) were second and fourth, split by Scot Bruce Weir (Datsun 240Z), who had initially chased Wil Arif in Dean Halsey's sister car.

Without third gear, Paul Mensley patiently jostled his Ford Fiesta to second in the fraught Tin Tops pack, but was elevated to an improbable victory when a jump-start penalty bumped William Hardy (Vauxhall Corsa) to fourth.

MARCUS PYE

## PEMBREY BARC JULY 22

# Triumph for Dalton after decade away

RICHARD DALTON RETURNED TO racing for the first time in 10 years at the Pembrey BARC meeting, taking victory in the Citroën C1 Challenge two-hour endurance event.

Dalton and team-mates Louis Tyson and Peter Rundle stormed from last on the 15-car grid in the second race, taking advantage of a mid-race safety car.

Emerging from the pits in fourth place, Rundle was 33.5 seconds behind leader Chris Davison. But after quickly dispatching Frank Claydon for third and Caryl Wills for second at the Esses, he began to reel in Davison at nearly two seconds per lap. By the time Davison dived for the pits the gap was less than 10s. This comfortably allowed Rundle to take the chequered flag, 54s ahead of Davison, who in turn was 28s clear of Wills in third.

In Saturday's four-hour event, Wills's team-mate Philip Myatt completed a mammoth two-hour opening stint, but the duo was given a drive-through penalty because Myatt exceeded the maximum driving time by 30s. Myatt also had to contend with some frustration at the hands of Michael Hart. Fresh out of the pits, Hart refused to let Myatt past.

Hart eventually brought his car home in third place, with Myatt and Wills winning by 29.8s from Grant Hatfield, Andrew Stacey and Paul Roddison.

Will Dyrdal dominated the Junior Saloons encounters, making superb starts from the second row in both races.

In the first, held in damp conditions, he was into the lead at Spitfires and held a comfortable gap to Gordon Mutch, who ran wide at the Esses on lap four. This

allowed Sam Kirkpatrick and Ross Connolly through, while Dyrdal enjoyed a 4.5s buffer to the tightly bunched pack. Championship leader Ethan Hammerton, whom Dyrdal said he "needed to beat" this weekend, passed Connolly late on to take third.

There was a safety car in race two caused by Lydia Walmsley and Thorburn Astin coming together at the Hatchets Hairpin, which undid Dyrdal's good work at the start. But the 17-year old judged the restart perfectly and went on to win.

In an eventful pair of Welsh Sports and Saloons encounters, the spoils were shared between a dominant Jason Davies in a Ford Sierra Cosworth in the red-flagged first race and Chris Everill in his Ginetta G50 in race two.

Davies had built a 9.7s lead over Bradley John (Mitsubishi Evo), before Nick Rocke (Ford Fiesta) tried a move up the inside of Mike Williams's VW Polo into the Hairpin, which failed and stopped the race.

Davies was on course to make it a double in the second stanza, but some rear bodywork came loose, forcing him into the pits. This handed Everill the win and moved the shocked pair of VW Corrado pilot Fabio Luffarelli and Loco Hornet exponent Ken James to second and third.

Paul Roddison had prudently decided to withdraw from the two-hour Citroën race to focus on the Mazda MaX5 Championship, and was rewarded by being relatively untroubled in both races, taking a brace of wins in his Mk4.

Jonathan Halliwell was forced to limp home third after his gearbox failed, and he missed out on the second race.

JAKE NICHOL

## RESULTS

### CITROËN C1 CHALLENGE (160

**LAPS) 1 Caryl Wills/Philip Myatt;**

2 Grant Hatfield/Andrew Stacey/Paul Roddison +29.825s; 3 Jacques

Jensen/Chris Davison/Michael Hart;

4 Neil Garner/Peter Fisk/Will Rayson;

5 Jonathan Cool/James MacIntyre-

Ure/Paul Dickinson; 6 John Moon/

Adam Cunningham/Gary Prebble/

Adam Norris. **Fastest lap** Cool/

MacIntyre-Ure/Dickinson 1m25.685s

(62.65mph). **Pole** Wills/Myatt.

**Starters 16. RACE 2 (80 LAPS)**

**1 Richard Dalton/Louis Tyson/Peter**

**Rundle;** 2 Jensen/Davison/Hart

+54.002s; 3 Wills/Myatt; 4 James

Matthews/Frank Claydon; 5 Chris

Dear/John Faux; 6 Moon/Prebble/

Norris. **FL** Dalton/Tyson/Rundle

1m25.762s (62.59mph).

**P** Wills/Myatt. **S** 15.

### JUNIOR SALOON CARS (12 LAPS)

**1 Will Dyrdal;** 2 Sam Kirkpatrick

+2.653s; 3 Ethan Hammerton;

4 Ross Connolly; 5 Gordon Mutch;

6 Lucas Nannetti. **FL** Hammerton

1m20.554s (66.64mph). **P** Kirkpatrick.

**S** 14. **RACE 2 (10 LAPS) 1 Dyrdal;**

2 Kirkpatrick +3.323s; 3 Hammerton;

4 Mutch; 5 Connolly; 6 Alicia Goundry.

**FL** Dyrdal 1m17.987s (68.64mph).

**P** Hammerton. **S** 14.

### WELSH SPORTS AND SALOONS

**(9 LAPS) 1 Jason Davies (Ford**

**Sierra Cosworth);** 2 Chris Everill

(Ginetta G50) +24.088s; 3 Damian

Longotano (Westfield SE); 4 Fabio

Luffarelli (VW Corrado); 5 Ken James

(Loco Hornet); 6 Dave Scaramanga

(VW Scirocco). **Class winners** Everill;

F Luffarelli; Scaramanga; Tyrone

Luffarelli (Peugeot 106 GTI); Richard

Francis (Citroën Saxo VTR); Darren

Orsborn (BMW 3 Series).

**FL** Bradley John (Mitsubishi Evo)

1m06.157s (81.15mph). **P** Davies.

**S** 18. **RACE 2 (14 LAPS) 1 Everill;**

2 F Luffarelli +26.142s; 3 James;

4 Daryl Radford (Honda Civic);

5 T Luffarelli; 6 Scaramanga.

**CW** F Luffarelli; James; Radford;

T Luffarelli; Scaramanga; Francis.

**FL** Davies 1m07.042s (80.07mph).

**P** Davies. **S** 17.

**MAX5 (16 LAPS) 1 Paul Roddison**

**(Mk4);** 2 Ian Loversidge (Mk4) +4.449s;

3 Jonathan Halliwell (Mk4);

4 Matthew Tidmarsh (Mk3); 5 Andrew

Pretorius (Mk3); 6 Lee Hollin (Mk3).

**CW** Tidmarsh; Josh Malin (Mk1).

**FL** Halliwell 1m14.173s (72.38mph).

**P** Roddison **S** 9. **RACE 2 (17 LAPS)**

**1 Roddison;** 2 Loversidge +8.471s;

3 Tidmarsh; 4 Pretorius; 5 Hollin;

6 Malin. **CW** Tidmarsh; Malin.

**FL** Roddison 1m13.094s (73.44mph).

**P** Roddison. **S** 7.





# MG Metro Cup title fight gets closer

THREE DRIVERS ARE SPLIT BY JUST five points at the top of the Metro Cup standings after the series provided a highlight of the MG Car Club's first visit to Cadwell Park since 2013.

Mike Williams started well from the front of the grid but soon lost out to a charging Lee Connell, who had missed pole by just 0.051 seconds. The battling pair remained close throughout, with Connell taking the win, and such was their pace that they finished more than 30s clear of recovering brothers Jack and Andrew Ashton, who had collided at Coppice earlier in the race.

Former championship leader Andrew Ashton now sits just two points behind Williams in the title battle, with brother Jack lying in third position.

Andy Spencer's MG ZR 160 dominated the MG Cup in both dry and wet conditions. Despite a late safety car in the dry first race, Spencer still had seven seconds in hand over the MG ZR 170s of Richard Buckley and Ian Boulton, who had both demoted Ashley Woodward (MG ZS 180) after the restart.

Woodward went better in the second race, finishing second as Spencer won again. Alan Brooke's Metro charged from ninth to third.

It was a tense affair in the first BCV8 Championship race, with polesitter Neil Fowler just holding off the similar MGB GTV8 of Ian Prior. It had been a three-way battle, with Russell McCarthy involved before his V8's engine let go, ending his day prematurely. Jonnie Wheeler, also in a B GTV8, rounded out the podium. Prior won the second race, which was truncated owing to wet conditions.

The Midget/Sprite Challenge was dominated by Stephen Collier ahead of Martin Morris and Carl Chadwick. The first non-Midget was sixth – the Austin

Healey Sprite MkII of Richard Bridge.

Phillip Standish (TF LE500) made a good start from fourth on the Cockshoot Cup grid and was leading by the second lap, passing a penalised Ashley Woodward (ZS 180), who had jumped the start. Mike Peters's Midget and Brian Butler's MGF VVC took second and third as Standish claimed his first win of the season to end his run of rotten luck.

The 30-minute Morgan Challenge race was all about father and son Russell and Elliot Paterson. The polesitting dad's +8 lost out to his son's ARV6 on lap one, but age and guile won out as 'senior' snatched the lead again and remained there to the finish. "Aquaplaning" was all Dominic House (Roadster) could utter after a flamboyant run to second place in a sodden sprint segment in which Paterson Jr was dominant from the front.

A three-way battle for the lead in an exciting Triple M encounter was decided on the final lap, as David Seber (Wolseley Hornet Special) ran wide at Mansfield to gift Tom Hardman's MG Bellevue Special the win. Christian Pedersen claimed the win in race two aboard his Austin 7.

Despite the disappointment of missing pole, Connell went on to win in the MG Metro cup

There were only six cars in the Iconic 50s race, but it was close at the front as Bruce Riches and his Elva just held off Peter Eden's MG TB to win by 0.6s. The MGA Roadster of Peter Hiscocks was third.

Sunday's Vintage Sports-Car Club visit produced a memorable hat-trick for Justin Maeers in his 1926 GN Parker. John Holland Trophy leader Tom Walker's retirement aided Maeers's first win over Dougal Cawley's Piglet before a hard-fought win against the Frazer Nash of Julian Grimwade.

Maeers perfected a switchback exiting the Mountain to secure his third win in the Melville Trophy ahead of Eddie Williams, who had started the meeting by adding to his Geoghegan Trophy of last year in his Frazer Nash. Sue Darbyshire's updated Morgan three-wheeler turned heads by narrowly missing out on second, carving through from fifth.

Oliver Nuthall piloted father Ian's Alta to Shuttleworth Trophy honours in the absence of rival Mark Gillies, whose Dick Skipworth ERA R3A fell victim to gearbox woes in practice.

Vintage Formula 3 cars only completed three laps in a race red-flagged twice. Stuart Wright was victorious in his Cooper while gearbox problems left Andrew Turner spinning, and Richard de la Roche was classified third despite watching his right-front wheel overtake him.

The two handicap races were won by Ian Fyfe and David Spence, while monsoon conditions aided second-placed Tony Seber's wet-weather-friendly Wolseley, which also won the Pre-War Scratch race.

**FERGUS REED AND DAN MASON**





# Power retakes control in the Legends stakes

ERSTWHILE POINTS LEADER JOHN Mickel's UK Legends title hopes took a dent – as did his car. A roll at Redgate, coupled with four victories for rival Ben Power, denuded Mickel's advantage and left Power atop the standings once again.

Will Gibson and Jack Parker were the only men to challenge Power's supremacy, while some swift repairs enabled Mickel to take the start – and a podium – in the final race. The momentum between the pair has definitely shifted.

Ben Palmer took the spoils in a wet opening Clio Cup Series race after polesitter and title rival Anton Spire suffered a broken driveshaft off the line. Westbourne driver Spire struck back in controlled fashion to win from the front the following day in drier conditions, breaking Palmer's five-race winning streak in the process. Shanel Drewe took her first victory in the Road Series on Saturday, while Nic Harrison visited the top step of the podium the following day.

Ryan Smith seems all but clear in the British Truck Racing Championship fight after another triumphant performance to stretch his advantage to 31 points, including a double victory.

Guest competitor and European Trucks



racer Anthony Janiec matched Smith on two wins along with a pole position, before being wiped out in the final by Mat Summerfield, who had speared off the track. Dave Jenkins completed a clean sweep for MAN by fending off a late surge from Smith en route to the winner's circle. Michael Oliver's improvement continued with his first two career podiums – the second a result of fending off a combined 15 titles in the chasing pack.

A hat-trick of class successes for Mika Makinen in his Sisu SL250 moves the Finn closer to the Division Two truck title, while Simon Cole made it three class victors in his Mercedes along with Luke Garrett's MAN.

Adrian Tuckley took his first triumph of the Super Mighty Minis season in race one, with championship leader Scott Kendall emerging victorious in race two. Alice Hughes took advantage of Damien Harrington's absence to top the Mighty standings. She took a second and a third,

**Power's four Donington Legends victories have put him back to the top of the standings**

while Lee Poolman and Stuart Coombs both claimed their first wins of the season.

Paul Rose dominated both Sports/Saloons races in his Saker RAPX S1-400 to take a pair of wins and fastest laps, while Rockingham winner David Mellor took both MGOC victories in his ZR.

Lea Wood scored a double pole and victory in the opening Pickups race to rejuvenate his title aspirations, with Michael Smith the other winner, denying Wood a clean sweep by 0.2 seconds at the flag.

Adriano Medeiros extended his Classic Formula Ford 1600 points lead with a win and a second in his Van Diemen RF80. He chased Simon Hadfield across the line in a wet opening race, finishing just 2.5s behind the Royale RP24. The pair spent Sunday's race swapping places at the front, with Ben Tinkler joining them in the fight until a mistake dropped him out of contention. Medeiros finished less than a tenth of a second ahead of Hadfield.

**DAMIAN MEADEN AND BETHONIE WARING**

## RESULTS

**LEGENDS (10 LAPS) 1 Ben Power;** 2 Will Gibson +0.178s; 3 John Mickel; 4 Sean Smith; 5 Jean-Michel Poncetlet; 6 Rickie Leggett. **Fastest lap** Gibson 1m22.785s (86.06mph). **Pole** Smith. **Starters 28. RACE 2 (10 LAPS) 1 Power;** 2 Mickel +4.258s; 3 Jack Parker; 4 Gary Whitelegg; 5 Nathan Anthony; 6 Stephen Whitelegg. **FL** Power 1m22.553s (86.30mph). **P** Mickel. **S 28. RACE 3 (10 LAPS) 1 Parker;** 2 Power +0.817s; 3 Guy Fastres; 4 Thomas Grainger; 5 Marcus Pett; 6 Gibson. **FL** Power 1m39.988s (71.25mph). **P** Zac Hughes. **S 29. RACE 4 (10 LAPS) 1 Power;** 2 Grainger +4.000s; 3 S Whitelegg; 4 Mickel; 5 Parker; 6 Fastres. **FL** Grainger 1m22.605s (86.24mph). **P** Power. **S 27. RACE 5 (12 LAPS) 1 Power;** 2 S Whitelegg +0.305s; 3 Gibson; 4 Grainger; 5 Smith; 6 Anthony. **FL** Grainger 1m22.477s (86.38mph). **P** Power. **S 26. RACE 6 (14 LAPS) 1 Gibson;** 2 Parker +3.513s; 3 Mickel; 4 S Whitelegg; 5 Daniel Budd; 6 Robert King. **FL** Gibson 1m37.365s (73.17mph). **P** Gibson. **S 21. CLIO CUP SERIES (10 LAPS) 1 Ben Palmer;** 2 Simon Freeman +5.981s;

3 Ben Colburn; 4 Tyler Lidsey; 5 Sarah Franklin; 6 Shanel Drewe. **Class winner** Drewe. **FL** Palmer 1m30.239s (78.95mph). **P** Anton Spire. **S 12. RACE 2 (12 LAPS) 1 Spire;** 2 Palmer +0.415s; 3 Freeman; 4 Lidsey; 5 Colburn; 6 Franklin. **CW** Nic Harrison. **FL** Spire 1m18.632s (90.60mph). **P** Spire. **S 12. BRITISH TRUCK RACING DIVISION 1 (11 LAPS) 1 Anthony Janiec (MAN TGS);** 2 David Jenkins (MAN TGX) +0.529s; 3 Shane Brereton (MAN TGX); 4 Ryan Smith (MAN TGA); 5 Stuart Oliver (Volvo VN13); 6 Mat Summerfield (MAN TGS). **FL** Smith 1m26.730s (82.14mph). **P** Janiec. **S 12. RACE 2 (4 LAPS) 1 Smith;** 2 Janiec +4.407s; 3 Michael Oliver (Scania); 4 Brereton; 5 S Oliver; 6 Jenkins. **FL** Smith 1m31.498s (77.86mph). **P** M Oliver. **S 12. RACE 3 (11 LAPS) 1 Jenkins;** 2 Smith +0.279s; 3 Simon Reid (IVECO); 4 Brereton; 5 Terry Gibbon (MAN); 6 Summerfield. **FL** Brereton 1m27.252s (81.65mph). **P** Reid. **S 12. RACE 4 (11 LAPS) 1 Janiec;** 2 Smith +1.573s; 3 M Oliver; 4 Summerfield; 5 Jenkins; 6 S Oliver. **FL** Brereton 1m27.054s (81.84mph). **P** M Oliver. **S 12. RACE 5 (8 LAPS) 1 Smith;** 2 S Oliver

+5.359s; 3 Oly Janes (Buggyra); 4 Jenkins; 5 Brereton; 6 M Oliver. **CW** Mika Makinen (Sisu). **FL** Smith 1m33.017s (76.59mph). **P** Smith. **S 22. DIVISION 2 (10 LAPS) 1 Mika Makinen (Sisu);** 2 Simon Cole (Mercedes) +15.881s; 3 Steve Powell (ERF); 4 Joanne Eason (Foden); 5 Adam Bint (Volvo); 6 John Bowler (Foden). **FL** Makinen 1m32.215s (77.26mph). **P** Makinen. **S 15. RACE 2 (5 LAPS) 1 Tony Smith (Sisu);** 2 Powell +2.236s; 3 Luke Garrett (MAN); 4 Makinen; 5 Bint; 6 Cole. **FL** Powell 1m50.935s (64.22mph). **P** Trevor Martin (Scania). **S 14. RACE 3 (10 LAPS) 1 Cole;** 2 Makinen +1.273s; 3 T Smith; 4 Powell; 5 Eason; 6 Brad Smith (DAF CF). **FL** Makinen 1m32.272s (77.21mph). **P** Andrew Fulcher (MAN). **S 16. RACE 4 (8 LAPS) 1 Garrett;** 2 Makinen +0.011s; 3 Paul McCumisky (Volvo); 4 T Smith; 5 Powell; 6 Bowler. **FL** Makinen 1m48.987s (65.37mph). **P** Fulcher. **S 16. SUPER AND MIGHTY MINIS (7 LAPS) 1 Adrian Tuckley;** 2 Scott Kendall +0.710s; 3 Alex Comis; 4 Joshua Young; 5 Dave Rees; 6 Steven Rideout. **CW** Lee Poolman. **FL** Kendall 1m43.077s (69.11mph). **P** Tuckley. **S 24. RACE 2 (14 LAPS) 1 Kendall;** 2 Tuckley +0.158s;

3 Rees; 4 Young; 5 Comis; 6 Rideout. **CW** Stuart Coombs. **FL** Tuckley 1m30.026s (79.13 mph). **P** Connor O'Brien. **S 23. SPORTS/SALOONS (13 LAPS) 1 Paul Rose (Saker RAPX S1-400);** 2 Raul Woolfitt (Lotus Exige) +8.414s; 3 Steve Harris (Saker RAPX S1-400); 4 Luke Armiger (Vauxhall Tigra); 5 Garry Watson (Westfield SEW); 6 David Harvey (Locosaki). **CW** Woolfitt; Harvey; Garry Wardle (Porsche 997); Graeme Laslett (Lotus Elise); Iain Gorrie (Raw Striker). **FL** Rose 1m08.869s (103.45mph). **P** Watson. **S 40. RACE 2 (18 LAPS) 1 Rose;** 2 Watson +23.137s; 3 Joe Spencer (Locosaki); 4 Danny Bird (Spire GTR); 5 Harris; 6 Harvey. **CW** Watson; Spencer; Wardle; Piers Grange (Ford Escort RSR); Gorrie. **FL** Rose 1m09.641s (102.30mph). **P** Watson. **S 38. MG OWNERS CLUB (12 LAPS) 1 David Mellor (ZR);** 2 Alan Forster (ZR 160) +5.565s; 3 Simon Kendrick (F WC); 4 Phil Walker (ZR); 5 Mark Baker (F); 6 Steve Williams (ZR). **CW** Kendrick; William van Vuuren (B Roadster). **FL** Mellor 1m38.786s (72.12mph). **P** Williams. **S 17. RACE 2 (14 LAPS) 1 Mellor;** 2 Williams +2.255s; 3 Forster; 4 Stuart Philips (ZR); 5 Nick

Golhar (ZR); 6 Kendrick. **CW** Kendrick; Jim Baynam (B). **FL** Williams 1m25.765s (83.07mph). **P** Forster. **S 18. PICKUP TRUCK RACING (BOTH 15 LAPS) 1 Lea Wood;** 2 Michael Smith +1.313s; 3 Lee Rodgers; 4 Mark Willis; 5 Paul Tompkins; 6 Paul Jones. **FL** Wood 1m17.382s (92.07mph). **P** Tompkins. **S 15. RACE 2 1 Smith;** 2 Wood +0.210s; 3 Willis; 4 Scott Bourne; 5 Tompkins; 6 Mel Collins. **FL** Wood 1m31.722s (77.67mph). **P** Rodgers. **S 15. CLASSIC FORMULA FORD 1600 (13 LAPS) 1 Simon Hadfield (Royale RP24);** 2 Adriano Medeiros (Van Diemen RF80) +2.613s; 3 Ghislain Genecand (Crossle 25F); 4 Alexander Fores (Royale RP21); 5 Tom Brown (Van Diemen RF79); 6 Mark Armstrong (Van Diemen RF80). **CW** Genecand; James Hadfield (Hawke DL2B). **FL** Medeiros 1m22.136s (86.74mph). **P** S Hadfield. **S 30. RACE 2 (15 LAPS) 1 Medeiros;** 2 S Hadfield +0.079s; 3 Armstrong; 4 Fores; 5 Rick Morris (Royale RP26); 6 Nigel Lingwood (Van Diemen RF80). **CW** Fores; Stuart Kestenbaum (Crossle 16F). **FL** S Hadfield 1m17.092s (92.41mph). **P** S Hadfield. **S 30.**





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# RESULTS ROUND-UP

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### SPECIAL SALOONS & MODSPORTS

**(ALL 10 LAPS) 1 Chris Southcott (MG Midget-Vauxhall);** 2 Ian Hall (Darrian-Wildcat T98 GTR) +12.394s; 3 Tom Carey (Honda CRX-BDG); 4 Ian Stapleton (Alfa Romeo Alfetta GTV); 5 Wayne Crabtree (Ford Escort-BDT); 6 Ricky Parker-Morris (Peugeot 309-Cosworth YBT). **Class winners** Carey; Crabtree; Neil Claxton (Suzuki-Ford SC100); Lee Barnard (MGB GTV8). **Fastest lap** C Southcott 1m28.981s (85.97mph). **Pole** Andy Southcott (MG Midget-Vauxhall). **Starters** 20. **RACE 2 1 Hall;** 2 Crabtree +8.737s; 3 Carey; 4 Danny Morris (Peugeot 309-Cosworth YBT); 5 Stapleton; 6 C Southcott. **CW** Crabtree; Carey; Tim Cairns (MG Hexagon Midget); Barnard. **FL** A Southcott 1m29.625s (85.35mph). **P** Hall. **S** 19. **RACE 3 1 A Southcott;** 2 Stapleton +5.461s; 3 Carey; 4 C Southcott; 5 Parker-Morris; 6 David Beatty (Honda Prelude). **CW** Stapleton; Parker-Morris; Barnard. **FL** A Southcott 1m27.893s (87.03mph). **P** Crabtree. **S** 18. **NEW MILLENNIUM/MODERN CLASSICS/PUMA CUP (25 LAPS) 1 Connaire Finn (Ginetta G50 Cup);** 2 Lee Frost (BMW M3 E36) +4.437s; 3 Lucky Khara (BMW M3 E46); 4 Nick Olson (Lotus Esprit S3); 5 Dave Griffin (BMW M3 E36); 6 Paul Livesey (Porsche 968 CS). **CW** Frost; Olson; Griffin; Richard Thurbin (Lancia Delta HF Integrale); Ashley Woodman/Keith Hemsworth (Lotus Elise S1); Jon Attard (Ford Puma); Charandiv Singh Khara (Mini Cooper S). **FL** Finn 1m32.512s (82.69mph). **P** Finn. **S** 34. **FUTURE CLASSICS (20 LAPS) 1 Richard Thurbin (Lancia Delta HF Integrale);** 2 Aston Blake (Porsche 944 S2) +43.329s; 3 Sam Smith (Mazda MX-5); 4 Mark Luccock (Ford Escort RS2000 Mk1); 5 Paul Dingle (Porsche 944 S2); 6 Martyn Adams (Triumph TR7 V8). **CW** Blake; Smith; Luccock; Geoff Beale (Talbot Sunbeam Lotus). **FL** Thurbin 1m40.140s (76.39mph). **P** Tony Blake (Porsche 911 RSR). **S** 18. **JAGUAR SALOON & GT (BOTH 12 LAPS) 1 Colin Philpott (XJS);** 2 Tom Butterfield (XJS) +3.684s; 3 Patrick Doyle (XJS); 4 Adam Powderham (XJR); 5 Tom Robinson (XJR); 6 Chris Boon (XJS). **CW** Butterfield; Doyle; Michael Holt (XJ40). **FL** Philpott 1m40.035s (76.47mph). **P** Butterfield. **S** 13. **RACE 2 1 Butterfield;** 2 Philpott +4.150s; 3 Robinson; 4 Powderham; 5 Boon; 6 Holt. **CW** Philpott; Robinson; Holt. **FL** Philpott 1m38.836s (77.40mph). **P** Philpott. **S** 13. **OPEN SERIES (26 LAPS) 1 Simon Smith (Caterham CSR);** 2 Tim Davis (Caterham C400) +9.088s; 3 Martin & Bill Addison (Caterham R400); 4 Robert Singleton/Graham Charman



The Open Series finale was hit by heavy rain

(Caterham C400); 5 Ashley & Steve Boyles (Caterham R300); 6 Lewis & Gary Tootell (Caterham R300). **CW** Davis; Lucky Khara (BMW M3 E46); Tony Blake (Porsche 911 RSR); Stephen Riley (MK Indy R); Keith Hemsworth/Ross Woodman (Lotus Elise S1); James Alford/Blair Roebuck (Honda Civic). **FL** Smith 1m28.679s (86.26mph). **P** Smith. **S** 29. **RACE 2 (9 LAPS) 1 Davis;** 2 B Addison +0.874s; 3 Singleton; 4 Charman (Caterham Superlight); 5 Colin Watson (Caterham C400); 6 Ross Murray (Caterham C400). **CW** B Addison. **FL** Davis 1m43.546s (73.88mph). **P** Smith. **S** 11. **MAGNIFICENT SEVENS (24 LAPS) 1 Gary Bate (Caterham CSR);** 2 Colin Watson (Caterham C400) +21.882s; 3 Ross Murray (C400); 4 Rich Webb (Caterham Blackbird); 5 Tim Davis (C400); 6 Aaron Head (Caterham R300). **CW** Murray; Webb; Davis; Stephen & Ashley Boyles (R300); Stephen Storey/Andy Tidy (Caterham Blackbird). **FL** Bate 1m26.938s (87.99mph). **P** Bate. **S** 23. **SWINGING SIXTIES (17 LAPS) 1 Mark Campbell (Triumph TR5);** 2 Martin Sledmore (Ford Mustang) +11.699s; 3 Bruce Weir (Datsun 240Z); 4 Richard Belcher (Ford Lotus Cortina); 5 Mel Taylor (Lotus Elan); 6 Wil Arif/Dean Halsey (Datsun 240Z). **CW** Belcher; Taylor; Charles Marriott (Turner-BMC Mk2); Chris Pearson (Austin Cooper S). **FL** Campbell 1m37.428s (78.52mph). **P** Campbell. **S** 37. **TIN TOPS & FORD ENDURO SERIES (24 LAPS) 1 Paul Mensley (Ford Fiesta ST);** 2 Kenny Coleman/Rhys Jones (Honda Civic Type R) +2.484s; 3 Carl Chambers (Peugeot 306 Rallye); 4 William Hardy (Vauxhall Corsa SRI); 5 Andrew Windmill (Honda Civic Type R); 6 Steve Papworth (Ford Fiesta ST). **CW** Coleman/Jones; Glen Copeland/Paul Clothier (Renault Clio 197/172 Cup); Lisa Selby/Toby Harris (Ford Puma). **FL** Hardy 1m37.083s (78.81mph). **P** Hardy. **S** 19. **CADWELL PARK MGCC/VSCC METRO CUP (12 LAPS) 1 Lee Connell (Rover Metro);** 2 Mike Williams (Rover Metro) +1.746s; 3 Jack Ashton (GTi);

4 Andrew Ashton (GTi); 5 Richard Garrard (Turbo); 6 Dick Trevett (Turbo). **FL** Connell 1m47.041s (73.55mph). **P** Williams. **S** 19. **MG CUP (10 LAPS) 1 Andy Spencer (ZR 160);** 2 Richard Buckley (ZR 170) +7.157s; 3 Ian Boulton (ZR 170); 4 Ashley Woodward (ZS 180); 5 Lewis Anderson (ZR 170); 6 Peter Burchill (ZS 180). **CW** Buckley; Woodward; Henry Sharpe (Montego). **FL** Spencer 1m44.474s (75.36mph). **P** Spencer. **S** 20. **RACE 2 (8 LAPS) 1 Spencer;** 2 Woodward +9.410s; 3 Alan Brooke (Rover Metro GTi); 4 Buckley; 5 Burchill; 6 Dave Nixon (Rover 220 Tomcat Turbo). **CW** Buckley; Darren Harris (ZR 160). **FL** Spencer 1m58.767s (66.29mph). **P** Spencer. **S** 16. **MGBCV8s (10 LAPS) 1 Neil Fowler (B GTV8);** 2 Ian Prior (B GTV8) +0.368s; 3 Jonnie Wheeler (B GTV8); 4 Ollie Neaves (B GTV8); 5 Ben Barker (B Roadster); 6 Babak Farsian (Roadster). **CW** Neaves; Barker; Simon Tinkler (B GT). **FL** Russell McCarthy (B GTV8) 1m39.752s (78.92mph). **P** Fowler. **S** 14. **RACE 2 (8 LAPS) 1 Prior;** 2 Neaves +0.492s; 3 Barker; 4 Wheeler; 5 Fowler; 6 Farsian. **CW** Neaves; Barker; Tinkler. **FL** Neaves 1m58.499s (66.44mph). **P** Fowler. **S** 11. **MG MIDGETS/SPRITES (12 LAPS) 1 Stephen Collier;** 2 Martin Morris +22.634s; 3 Carl Chadwick; 4 Edward Reeve; 5 David Morrison; 6 Richard Bridge (Austin-Healey Sprite Mk2). **CW** Chadwick; Morrison; Dean Stanton (Sprite Mk1). **FL** Collier 1m38.696s (79.77mph). **P** Chadwick. **S** 17. **COCKSHOOT CUP (11 LAPS) 1 Phillip Standish (MG TF LE500);** 2 Mike Peters (Midget) +6.796s; 3 Brian Butler (F VVC); 4 Mark Bellamy (ZR 170); 5 Philip Bowden (ZS 180); 6 Peter Burchill (ZS 180). **CW** Peters; Butler; Ian Wright (Midget). **FL** Standish 1m45.093s (74.91mph). **P** Ashley Woodward (ZS 180). **S** 18. **MORGAN CHALLENGE (17 LAPS) 1 Russell Paterson (+8);** 2 Elliot Paterson (ARV6) +0.944s; 3 Tony Lees (+8 Sports); 4 Andrew Thompson (ARV6); 5 Dominic House (Roadster); 6 Tony Hirst (ARV6). **CW** E Paterson; Tim Parsons (4/4 SuperSport); Phillip St Clair Tisdall (+8); Paul Bryan (4/4); Tom Dailey (+8);

Richard Thorne (4/4). **FL** R Paterson 1m37.983s (80.35mph). **P** R Paterson. **S** 25. **RACE 2 (10 LAPS) 1 E Paterson;** 2 House +44.61s; 3 Thompson; 4 Parsons; 5 James Sumner (4/4); 6 Alex Laidlaw (Roadster). **CW** Parsons; Sumner; Kelvin Laidlaw (+8); St Clair Tisdall; Thorne; R Paterson. **FL** E Paterson 1m54.92s (68.52mph). **P** E Paterson. **S** 23. **TRIPLE M (10 LAPS) 1 Tom Hardman (MG Bellevue Special);** 2 David Seber (Wolseley Hornet Special) +2.354s; 3 Harry Painter (MG PA); 4 Mike Painter (MG Kayne Special); 5 Charles Jones (MG L); 6 Rod Seber (MG PB Lund Special). **CW** Painter; Jones; Fred Boothby (MG J2); Hamish McNinch (MG PA). **FL** Seber 1m57.379s (67.07mph). **P** H Painter. **S** 24. **RACE 2 (3 LAPS) 1 Christian Pedersen (Austin 7 Special);** 2 Hardman +2.56s; 3 H Painter; 4 M Painter; 5 Jones; 6 Mark Elder (Austin Sports Special). **FL** Pedersen 2m00.37s (65.42mph). **P** Pedersen. **S** 20. **ICONIC '50s (10 LAPS) 1 Bruce Riches (Elva Mk5 Sports);** 2 Peter Edney (MG TB) +0.629s; 3 Peter Hiscocks (MGA Roadster); 4 Graham Coles (MGA Coupe); 5 Bob Lines (MGA Twin Cam); no other finishers. **CW** Edney; Hiscocks. **FL** Riches 1m55.649s (68.07mph). **P** Lines. **S** 6. **SPERO & VOITURETTE (6 LAPS) 1 Christian Pedersen (Austin 7 Special);** 2 Nick Hayward-Cook (Riley 9 Monoposto) +18.14s; 3 Mark Elder (Austin Sports Special); 4 Rodney Seber (MG PB); 5 John Skeavington (Austin Ulster Replica); 6 Nicholas Powell (Austin/MG LA Special). **CW** Elder; Seber. **FL** Pedersen 2m02.44s (64.31mph). **P** Pederson. **S** 12. **HANDICAP (3 LAPS) 1 Ian Fyfe (Alvis 12/70 Special);** 2 Tony Seber (Wolseley Hornet Special) +22.71s; 3 David Morley (Riley Special); 4 John Gillet (MG K3); 5 Colin Wolstenholme (Riley Racing Mph); 6 John Seber (MG PB). **FL** Christian Pedersen (Austin 7 Special) 1m57.41s (67.07mph). **S** 22. **RACE 2 (6 LAPS) 1 David Spence (Austin 7 Special);** 2 Robert Moore (Austin 7) +12.92s; 3 Charles Gillett (Austin AD Tourer); 4 Dennis Bingham (Riley Falcon Special); 5 Rodney Seber (MG PB); 6 David Seber (Wolseley Hornet

Special). **FL** Justin Maeers (GN Parker) 2m00.68s (65.25mph). **S** 10. **VSCC SCRATCH RACE (6 LAPS) 1 Tony Seber (Wolseley Hornet Special);** 2 Julian Grimwade (Frazer Nash Single Seat) +5.52s; 3 Robert Cobden (Riley Falcon Special); 4 Christian Pederson (Austin 7 Special); 5 Richard Iliffe (Riley TT Sprite); 6 Terry Crabb (ERA R12C). **CW** Grimwade; Cobden; Pedersen. **FL** Seber 2m13.85s (58.83mph). **P** Grimwade. **S** 8. **JOHN HOLLAND TROPHY (7 LAPS) 1 Justin Maeers (GN Parker);** 2 Dougal Cawley (GN/Ford Piglet) +1.01s; 3 Chris Hudson (Bugatti T35B); 4 Mark Walker (GN Thunderbug); 5 Nick Hayward-Cook (Riley 9 Monoposto); 6 Bruce Stops (Bugatti T35/44). **FL** Cawley 2m04.27s (63.36mph). **P** Maeers. **S** 10. **FN/GN (7 LAPS) 1 Justin Maeers (GN Parker);** 2 Charles Gillett (Frazer Nash Super Sports) +9.69s; 3 Julian Grimwade (Frazer Nash Single Seat); 4 Dougal Cawley (GN/Ford Piglet); 5 Mark Walker (GN Thunderbug); 6 Jo Blakeney-Edwards (Frazer Nash Supersports). **FL** Grimwade 1m52.57s (69.94mph). **P** Maeers. **S** 19. **MELVILLE TROPHY (7 LAPS) 1 Justin Maeers (GN Parker);** 2 Edward Williams (Frazer Nash Super Sports) +18.55s; 3 David Seber (Wolseley Hornet Special); 4 Richard Iliffe (Riley Elf); 5 Mark Gillies (Aston Martin Speed Model); 6 Mark Brett (Ballamy-Ford). **CW** Williams; Seber. **FL** Maeers 1m54.92s (68.52mph). **P** Maeers. **S** 19. **GEORGEGAN TROPHY (8 LAPS) 1 Edward Williams (Frazer Nash Super Sports);** 2 Andrew Mitchell (HRG 1½ Litre) +36.28s; 3 Sue Darbyshire (Morgan Super Aero); 4 Mark Brett (Ballamy-Ford); 5 Jonathan Sharp (Riley 12/4 TT Sprite); 6 Jo Blakeney-Edwards (Frazer Nash Super Sports). **CW** Brett; Richard Lake (Aston Martin 15/98 Speed); John Gillett (MG K3); Simon Edwards (Morgan Aero Supersport); John Polson (Talbot AV 105). **FL** Williams 1m58.83s (66.27mph). **P** Williams. **S** 23. **SHUTTLEWORTH/NUFFIELD/LEN THOMPSON (8 LAPS) 1 Oliver Nuthall (Alta F2);** 2 Duncan Ricketts (ERA E-type) +44.74s; 3 Robert Cobden (Riley Falcon Special); 4 Julian Wilton (Cooper-Bristol); 5 Terry Crabb (ERA R12C); no other finishers. **FL** Nuthall 1m49.83s (71.70mph). **P** Nuthall. **S** 8. **FORMULA 3 (3 LAPS) 1 Stuart Wright (Cooper Mk11);** 2 Mike Fowler (Cooper Mk5) +1.89s; 3 Richard de la Roche (Cooper Mk5); 4 George Shackleton (Cooper Mk11); 5 Darrell Woods (Cooper Mk12); 6 Roy Hunt (Martin). **CW** de la Roche. **FL** de la Roche 1m57.86s (66.81mph). **P** Andrew Turner (Cooper Mk6). **S** 10.





# Fifty years of Formula Vee

The Volkswagen-based single-seater series arrived in the UK half a century ago. Autosport marked the occasion with a special track test

By Ben Anderson, Grand Prix Editor  
and ex-Vee exponent

🐦 @BenAndersonAuto

**F**ormula Vee is arguably the ‘ugly duckling’ of UK motorsport’s single-seater racing scene. With its throwback spindly, treaded tyres, bizarre Beetle ‘beam’ front suspension (which looks akin to a towel rail with wheels attached), and rudimentary bodywork, it carries the look of a poor man’s Formula Ford. In many ways, that’s exactly what

Formula Vee is — a way to enjoy the cut and thrust of Formula Ford racing at a fraction of the cost. The cars don’t look much from a distance, but many of them are brilliantly engineered. Formula Vee is a rarity in modern motorsport: a single-seater category that still encourages people to design and build their own cars. They are faster than they look too.

It can be an enormously frustrating place to go racing (where isn’t?! ) — the 1300cc air-cooled engines are infamously unreliable, the mandated period VW Beetle suspension parts





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confuse logical approaches to car set-up, and the freedom afforded to engine builders creates a very unlevel playing field at times. But at its best, Formula Vee creates utterly brilliant racing.

Rudimentary aerodynamics offer slipstreaming wheel-to-wheel combat that can rival anything you might see in Caterhams, while the eccentric technology, low-grip tyres and drum brakes make the cars loose to handle and tricky to get the most from – particularly in wet conditions.

I competed in Formula Vee from 2009 until midway through

'13 and often spent miserable February days at Silverstone testing the latest set-up breakthrough we thought we'd found over the winter. I thought I'd left that all behind, but here I am again – back at Silverstone to test a Formula Vee. Several, in fact. Junior single-seater racing's ugly duckling reached its half century this year and, to celebrate, series organiser the 750 Motor Club arranged a special Autosport track test.

This is Formula Vee 'through the ages', from the 1960s right up to the present day. Let's start at the beginning... >>





## APAL (1960s)

“You’ll need your sense of humour when you go out in this,” says the Apal’s owner, Erle Minhinnick. “In fact, that’s all you’ll need. Just laugh – it’s more like rowing than driving.”

This car is Belgian-born and pre-dates the inaugural British Formula Vee race by two years. It never actually raced in the UK in period either, but it does provide a genuine example of Formula Vee’s earliest days as a racing category. The class originated in the United States and then spread.

First impressions are that this car looks much like a big red bathtub with wheels attached, so imagine my delight when Minhinnick explains that, as a fibreglass company, Apal was involved in making baths!

Minhinnick has raced this car around Europe in historic races. It features ancient ‘kingpin’ suspension, a steering box (rather than rack and pinion), and has drum brakes

all round (modern Vees have discs on the front axle).

The engine has a belt generator and fan, only a single carburettor and is started by turnkey ignition. There’s even a horn on this car, just for added comedy value.

The age of the Dunlop tyres on the Apal are unknown, so Minhinnick has added some softener and hoped for the best.

This doesn’t help the trepidation I feel when I first head out of the pits, in a car that I do not fit. My left knee is practically up to my ear, my right leg touches the steering wheel, and I must reach underneath my right leg to change gear.

This requires some inventive acrobatics to get the car around the track and it’s impossible to heel-and-toe, but by holding third gear between Copse and Maggotts/Becketts I can make it through a lap with only two downshifts.

You have to set everything up well before the corners,

**Top right:** Formula Vee trio ready to provide a history lesson.

**Above:** “It’s more like rowing than driving”





PICTURE: EBREY



Above: early car's comedy value is immediately apparent.  
Left: primitive Beetle underpinnings

but the drum brakes respond surprisingly well and the tyres provide decent grip, despite their fossilised state and the terrible conditions.

The steering feels very light and a noticeable lack of rear grip makes the Apal very 'tail happy', but the car responds well on the throttle, and a gentle cam in the engine makes it easy to control the progressive slides that are typical of such old cars.

By the end of the session I'm powersliding out of the corners and thoroughly enjoying myself, despite getting blown across the Wellington Straight by one of Silverstone's nasty crosswinds.

I return to the pits to applause from Minhinick – mainly for returning his pride and joy to him in one piece. This car may look like a bathtub and I've got soaking wet driving it too, but thankfully that's where the similarities end. >>





## SCARAB Mk2 (1970s)

As Formula Vee came to the end of its losing battle with Formula Ford in the 1970s and VW withdrew official support, the category tried to modernise to save its own skin, adopting the 1300cc engine, rather than the 1200cc version, disc brakes (on the front), torsion-bar front suspension, and rack-and-pinion steering.

The Scarab Mk2 was a product of this attempt at modernisation, within a climate of dwindling support and a shortage of available chassis before the 750 Motor Club stepped in to save the day at the end of the decade. Stuart Rolt's steel-monocoque design — based on the Formula Ford Festival-winning Van Diemen RF78 — was designed as a customer car.



One of the first batch of four went to Vee stalwart Andy Storer, who went on to build Scarabs himself.

By the time I came into Formula Vee in the late 2000s, the only Scarab worth worrying about was the Mk5 driven by 2009 runner-up John Hughes. The early models were outmoded and consigned to the championship's B-class. But the great thing about Formula Vee is that even an ageing car, in the right hands and with the right engine and set-up, can still run competitively.

Storer is at Silverstone to oversee my laps in Anglesey track manager Andrew Crighton's Mk2, and recounts a story of former Vee frontrunner James Birch putting one on pole at Cadwell Park after crashing his regular mount in testing.

These damp conditions are the perfect environment in which to discover the Scarab's talents. The car feels very surefooted, and is so easy to drive I feel I could go all day and never get tired. I don't have to think about what I'm doing in the same way I did with the Apal and, of course, the Scarab feels much closer to what I remember from my own days in Formula Vee.

The track is still treacherous, but dry spots are appearing and I'm able to experiment with my lines. The car inspires confidence. It responds well when I attack the corners, but doesn't give me too much to worry about when I overstep the mark.

"It's a great car for novices because of its forgiving nature," says Storer. "But if you're quick you can really go well in them."

Scarab (above) is based on Formula Ford Van Diemen. It's easy to drive and forgiving, but also a decent weapon in the right hands. GAC (top right) is set up for dry conditions, so is a bit of a handful, but still gives Anderson a nostalgic buzz



## GAC (2000s)

Slotting into a modern GAC Formula Vee brings the memories flooding back: spinning out of sixth place on my category debut in the inaugural Formula Vee Festival at Brands Hatch in 2008; finishing fifth on my championship debut at Snetterton in '09; taking my first win at the same venue a year later.

It's fitting that my championship rival of 2010, Martin Farmer, is at Silverstone for this test, so we reminisce about the 'good old days'. The usual well-worn jibes come up – he chastises me for 'taking him out' at the Esses to win that Snetterton race in '10; I rib him about being useless in the wet.

It's all good-natured stuff. I had great respect for Farmer as a rival. In my opinion, there were few better over a single lap. He deservedly won the 2010 title using one set of tyres for the whole season, and there were many occasions when he would rock up to a race meeting without testing and put his car on pole.

We enjoyed some outstanding races together. The second race of 2010 at Snetterton was a slipstreaming slugfest that was settled by only 0.02 seconds in Farmer's favour; and in the second part of '12's season-opening double-header at Silverstone, Sam Oliveira, Farmer, Hughes and I engaged in an epic scrap for second (which Oliveira won), blanketed by just 0.37s at the finish.

It's apt for me that Silverstone is the setting for this test, though it rains again while we're circulating slowly for pictures. The car is set far too stiff for the conditions and it's super-twitchy, even with some rear damper adjustments mid-session.

Greater chassis stiffness, modern springs and dampers, and improved aerodynamic efficiency are the hallmarks of the most modern Formula Vees – allied to an endless quest to extract more power from the 1300cc air-cooled engines. The unit in this Bears Motorsport GAC, originally designed by Alan Woodward and Graham Card using modified Swift Formula Ford bodywork – has quite a wild cam in it, so the power comes all in a rush within a narrow rev band, leading to wheelspin in a straight line along the Wellington Straight in the wet.

This car would undoubtedly be very potent in the dry on such a high-speed circuit, with open corners that make it easy to keep the revs up.

Turning laps in a GAC again reminds me of all those past races – the slipstreaming battles, the endless quest to find a set-up to eliminate excess understeer, the desperation to eke more power and reliability from a gasping engine. Formula Vee doesn't look much on the surface, but the fact that the category has endured for 50 years shows it must be doing something right. 🍀



## The modern answer to Formula Super Vee



FORMULA SUPER VEE WAS Formula Vee's equivalent of Formula Ford 2000 in the 1970s and early '80s – bigger engines, higher-tech cars, and slicks and wings.

The category is long defunct, but counts 1982 Formula 1 world champion Keke Rosberg, one-time grand prix and Le Mans winner Jochen Mass, double Indy 500 winner Arie Luyendyk, and 1990 Le Mans 24 Hours winner John Nielsen among its most illustrious alumni.

Those days are long gone, but the class lived on in its native Germany, and even in the last decade it was possible to

race in the European 'Formel Vau' championship, for which several UK Formula Vee manufacturers built cars.

Scarab ace Martyn Donn won the championship in 2001 and '02, and the 'Scarab Euro' also bagged titles for Formula Vee and Sports 2000 hotshot Patrick Sherrington and James Birch.

That championship has gone now too, but the car lives on in German monoposto events and, with its Dunlop slicks, wings, 1300cc water-cooled Polo engine, full disc brakes, Hewland Mk9 gearbox and massive diffuser, offers a clear technological step up from Formula Vee, while retaining the

foundations of the original.

The car feels very capable on track (left), particularly at low-speed corners like Luffield, even on the wets I'm using. The aerodynamic appendages invite you to commit enormously at Copse, but the car still slides progressively if you try too hard.

In truth, it has too much grip for the power (130bhp) as the track dries out, and feels rather like a draggy Formula Ford 1600, but it's very enjoyable to handle, and has a gearbox/engine combination that Formula Vee should consider migrating to, before spare Beetle parts become harder to find than dinosaur fossils.



# WHAT'S ON

## Walter Hayes archive goes online

RICHARD HAYES, THE SON OF DFV backer Walter Hayes, has set up a website to honour his father's legacy, which features a personal archive and showcases a portion of Ford's motorsport history.

In 1967, the impending introduction of the upcoming three-litre Formula 1 regulations led Team Lotus founder Colin Chapman to seek a new engine. Together with technical expertise from ex-Lotus engineer Keith Duckworth at Cosworth and funds from the Ford Britain public relations executive, the DFV was born and between 1967 and 1982 it would power nine drivers to 12 F1 championships.

Hayes Jr created the website to provide historically accurate information, as Hayes Sr, a modest man, never wrote an autobiography. The fact everyone approached by the younger Hayes was happy to contribute towards the archive is a testament to his father, as an individual and for his career achievements. Contributors who provided material included author Graham Robson, who delivered previously unseen photographs relating to the DFV.

The website is worth visiting alone for its reports of 1960s sportsmanship, such as in 1967 when Hayes asked Chapman if he was OK removing their initially agreed two-year exclusivity agreement, to which Chapman agreed, allowing March, Ken Tyrrell and McLaren to begin using the DFV. "Using a Cosworth engine, March chassis and Hewland gearbox, a team could have a championship-contending car for



Images on the website include Walter Hayes and Sir Jackie Stewart celebrating at the DFV's 30th anniversary in 1997

WALTERHAYES.CO.UK

around £30,000," says Hayes Jr.

Other highlights include the original DFV contract draft, which runs to just six pages of A4, compared to the hundreds no doubt needed in 2017, with the actual description of the engine being only a few lines. Hayes Jr recounts discussing the contract with Duckworth at his father's funeral: "Father kept sending his draft sent by the Ford lawyers and Keith kept taking issue with various things and the way things were expressed. Father then said, 'Well, you write the contract,' so it was actually drafted by Keith."

Motorsport fans should care about what Hayes Sr brought to F1. "Father was the first person, through Ford/DFV,

to bring manufacturers in, and that's what sustains F1 now, but my father pioneered that," according to his son.

Modern day F1 could also look back 50 years for inspiration on the sound of its next engines, and for many, the noise of the DFV is an event highlight at many historic events each year.

While some fans may think Hayes Sr merely got the money from Ford and took credit for the DFV's success, Hayes Jr recounts that his father greatly supported Chapman and Duckworth in the ambitious project, one that could have negatively affected their respective careers in various ways.

"If Duckworth had done a bad job then he'd have been in trouble, but father provided every support and opportunity and they went away and made a hell of a lot of it," he says.

The website, [www.walterhayes.co.uk](http://www.walterhayes.co.uk), with its many personal recollections, shows those who raced with one of F1's most successful engines in a previously unseen light. The series was much smaller in the 1960s than it is today, so Hayes Sr, a gifted amateur photographer, was able to capture a unique view of the close relationships between many of the key figures on the grid at the time.

JAMES PEASE

Hayes Sr photographed Jim Clark and Colin Chapman play-fighting at the 1967 German Grand Prix





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## HOT ON THE WEB THIS WEEK

**YouTube** **OGIER TAKES TO THE TRACK**

**Search for:** WRC champion Sebastian Ogier tests a Red Bull Formula 1 car

Four-time World Rally champion Sebastian Ogier fulfils a childhood dream to drive a Formula 1 car, in this instance a howling RB7 at the Red Bull Ring.

## INTERNATIONAL MOTORSPORT

### HUNGARIAN GRAND PRIX FORMULA 1 WORLD CHAMPIONSHIP

**Rd 11/20**

Hungaroring, Hungary

**July 30**

#### WATCH ON TV

**Live** Sky Sports F1, 1230;  
Radio BBC Radio 5 Live, 1300

**Highlights** Channel 4,  
Sunday 1715

### FORMULA 2

**Rd 7/11**

Hungaroring, Hungary

**July 29-30**

#### WATCH ON TV

**Live** Sky Sports F1,  
Saturday 1455; Sunday 0915

### GP3 SERIES

**Rd 4/8**

Hungaroring, Hungary

**July 29-30**

#### WATCH ON TV

**Live** Sky Sports F1,  
Saturday 1630; Sunday 0805

### PORSCHE SUPERCUP

**Rd 5/8**

Hungaroring, Hungary

**July 30**

#### WATCH ON TV

**Live** Sky Sports F1, Sunday 1030

### RALLY FINLAND WORLD RALLY CHAMPIONSHIP

**Rd 9/13**

Jyvaskyla, Finland

**July 27-30**

#### WATCH ON TV

**Live** BT Sport 2, Friday 1830;  
BT Sport ESPN, Saturday 1400;  
BT Sport 1, Sunday 0800, 1100.

**Highlights** Motorsport.tv,  
Friday 2235; Saturday 2130;  
Sunday 2235

### INDYCAR SERIES

**Rd 12/16**

Mid-Ohio, USA

**July 30**

#### WATCH ON TV

**Live** BT Sport ESPN,  
Sunday 2000

### INDY LIGHTS

**Rd 8/10**

Mid-Ohio, USA

**July 29-30**

### FORMULA E

**Rd 9/9**

Montreal, Quebec, Canada

**July 29-30**

#### WATCH ON TV

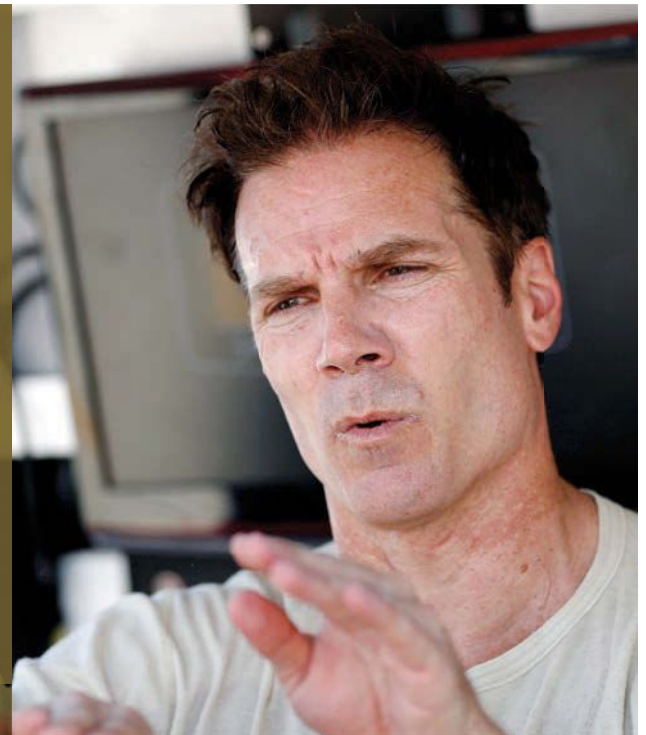
**Live** Channel 5, Saturday 2030  
**Highlights** Monday 0035

## PICK OF THE WEEK

### MOWLEM'S RACING TRAVELS

**Sky Sports Action  
Thursday 1800**

Johnny Mowlem's behind-the-scenes series returns with the first of three programmes documenting his work with aspiring gentlemen drivers. The episode also features action from the International GT Open championship at Spa and the Britcar Endurance series at Silverstone.



### SPA 24 HOURS

Blancpain Endurance, Rd 4/5

Spa, Belgium

**July 29-30**

#### WATCH ON TV

**Live** Motorsport.tv,  
Saturday 1500

### EUROPEAN FORMULA 3

**Rd 6/10**

Spa, Belgium

**July 28-29**

#### WATCH ONLINE

**Live** fiaf3europe.com

### NASCAR CUP

**Rd 21/36**

Pocono, Pennsylvania, USA

**July 30**

#### WATCH ON TV

**Live** Premier Sports,  
Sunday 1930

### AUSTRALIAN SUPERCARS

**Rd 8/14**

Queensland Raceway, Australia

**July 29-30**

### SUPER TC2000

**Rd 7/12**

Obera, Argentina

**July 30**

### JAPANESE FORMULA 3

**Rd 7/9**

Motegi, Japan

**July 29-30**



## UK MOTORSPORT

### SILVERSTONE CLASSIC

**July 28-30**

FIA Historic F1, FIA Historic Sports Cars, U2TC, Pre-'63 GT, Pre-'66 Grand Prix Cars, Group C, Classic GT, Super Touring, Jaguars, Woodcote Trophy, Moss Trophy, Historic FF1600, Formula Junior, Pre-War Sports Cars, Celebrity Challenge

### OULTON PARK MSVR

**July 29**

GT Cup, Lotus Elise/Lotus Cup, Monoposto, SsangYong

### KIRKISTOWN 500MRCI

**July 29**

Road Sports, Fiesta Zetec, FF1600, Irish Ginetta Junior, Stryker Sportscars

### SNETTERTON TOCA

**July 29-30**

BTCC, F4, Carrera Cup, Renault Clio, Ginetta GT4, Ginetta Junior

#### WATCH ON TV

**Live** ITV4, Sunday 1045

### BRANDS HATCH BARC

**July 29-30**

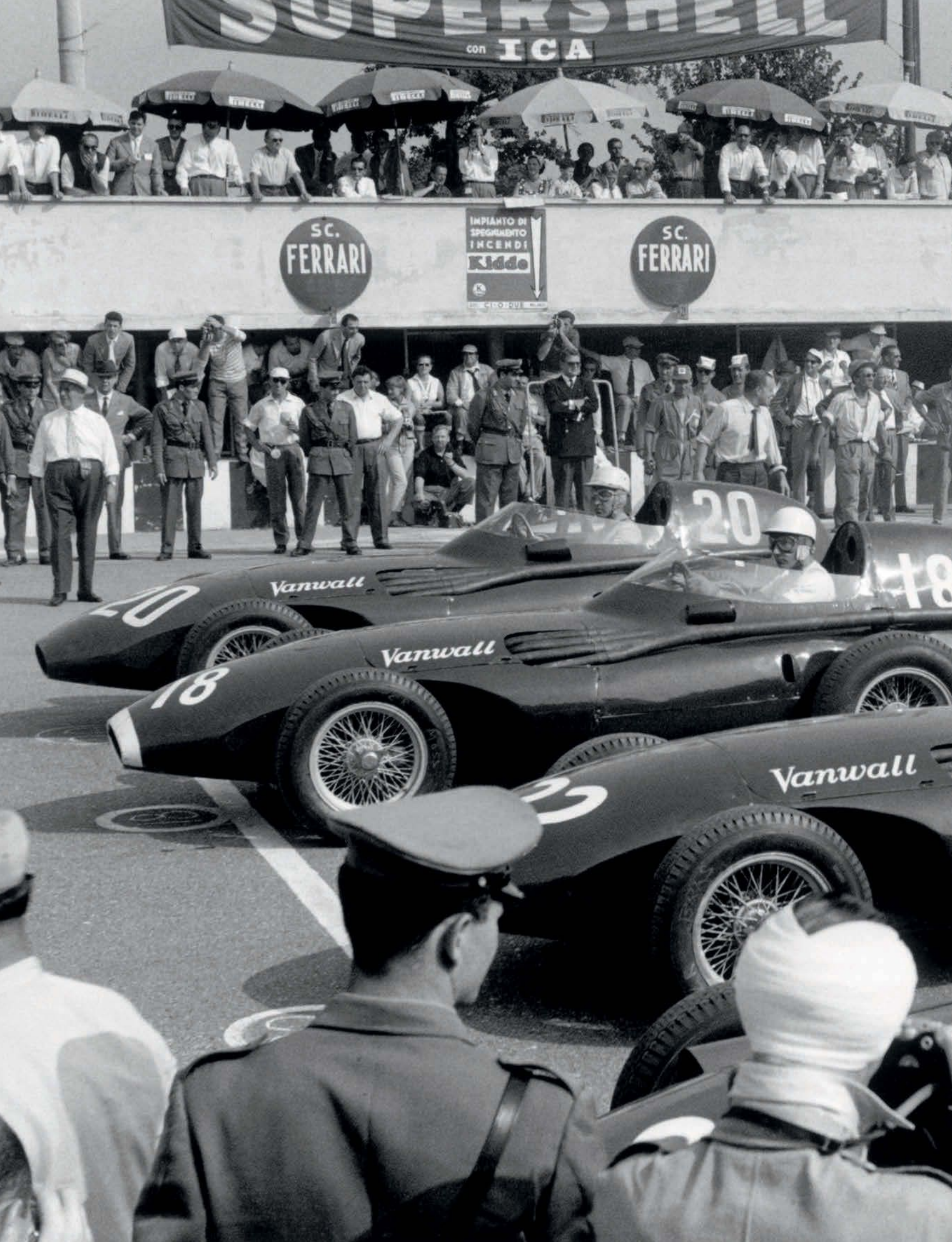
Britcar, 2CV, Pre-'66 Touring Cars, Group 1 Touring Cars, Pre-1993 and Pre-2003 Touring Cars, Pre-'05 Production Touring Cars, Blue Oval Saloons, Thunder Saloons, Pre-'03 VWs, Honda VTec, Smart Cars 4Two, Modified Saloons, Tin Tops, Intermark

### CADWELL PARK 750MC

**July 29-30**

Clio 182, Formula Vee, Toyota MR2, Roadsports, 750 Formula, Historic 750 Formula, Classic Stock Hatch, Hot Hatch, 5Club MX-5, M3 Cup, Armed Forces race









## FROM THE ARCHIVE

The three Vanwalls of polesitter Stuart Lewis-Evens (VW7 #20), Stirling Moss (VW5 #18) and Tony Brooks (VW6 #22) line up alongside the Maserati 250F of Juan Manuel Fangio at the start of the 1957 Italian Grand Prix at Monza. The Maserati of Jean Behra is just visible on the second row of the 4-3-4 grid. The race was won by Moss ahead of Fangio and Wolfgang von Trips (Lancia-Ferrari D50). Lewis-Evens retired after 49 laps of 87, his engine succumbing to a cracked cylinder head.



**LAT IMAGES**

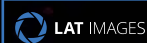
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## BOBBY UNSER

TRIPLE INDY 500 WINNER RECALLS HIS ONE AND ONLY F1 START

**B**obby Unser is famous for his three Indianapolis 500 victories and pair of Champ Car titles, but he did briefly dabble in grand prix racing in 1968. After winning Indy for the first time earlier that year, with the help of Mario Andretti he landed an entry in a second BRM for the Italian Grand Prix.

Like Andretti, he ran in practice and then dashed across the Atlantic to contest the Hoosier 100 at the Indiana State Fairgrounds dirt track. When he got back to Monza with Andretti, who had put his Lotus on the provisional front row, both were told they could not start because of a rule preventing a driver contesting another race within 24 hours.

Fortunately, a month later there was another chance. While Andretti's famous pole position for the United States Grand Prix at Watkins Glen is celebrated, Unser's one grand prix start is forgotten.

After crashing heavily in practice, forcing him to switch to the car that was initially driven by team-mate Pedro Rodriguez, Unser started 19th. But he wasn't impressed with either the team or the BRM P138.

"I went over to England to test it, but there was just no people and no money to try and make the car go fast," said Unser. "At Silverstone, there was this long back straightaway and there was a little shithouse over there that was my marker for shifting. If you are shifting later than that, it's bad, and it was getting worse and worse. I kept telling them the engine was losing power and they just said, 'It can't be'. They had some old chassis dynos in the race shop, so they finally believed me and it was. But they didn't like this American telling them what to do."

Unser's practice shunt meant he only started ahead of Lucien Bianchi. Autosport's report described Unser as turning in a "spirited" drive as he climbed to 11th before retiring with an engine problem.

"I didn't know much about the handling of F1 cars because I hadn't driven any, but there was a lot that wasn't right with the BRM," says Unser. "I had no desire to go back even though there was a possibility with Roger Penske. I had Indycar races to win in a team where I had everything I needed." ❧

EDD STRAW



Unser's one F1 start, which came in the same year as his first Indy 500 win, ended in retirement

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