

# NEWSLETTER

GOODWOOD ROAD RACING CLUB

## 10 OUT OF

79TH MEMBERS' MEETING, 9 & 10 APRIL 2022



Former Formula 1 driver Karun Chandhok has driven the Williams-Renault and the Williams-BMW, both propelled by the V10 engines that powered grand prix cars from 1989 to 2005.

"These cars were awesome," he says ahead of the demo in April. "I've driven the Williams cars from 1990, 1992 and 1995 so it was interesting to see the evolution of the Renault V10 that it used. From 1991 to '97 it was the one to beat, utterly dominant. It was a user-friendly engine, very driveable, and very powerful, especially when you consider the weight of the '92 car was only 505kg. That engine produced 750bhp and, impressively, there were no holes in the torque curve.

"I was genuinely awestruck by the power of the 2004 Williams, the BMW engineers told me it was precisely 956bhp and I was pulling 19,000rpm at Silverstone. At the Festival of Speed we had a little bet on how quick we could go on the Hill and on one of the runs I did 159mph past the House. Pretty full on!

"I think 2004 was the peak of F1 performance: really sticky tyres, all the manufacturers spending a lot of money on powerful V10 engines and the cars were light, 605kg, that's 25 per cent lighter than the current F1 car. Formula 1 needs shock and awe and that V10 era really had that. When I lived in Brackley I could hear those cars at Silverstone from my bathroom window eight miles away. I'd go and watch them, hear these things coming round in an unbelievable explosion of noise. They were a little bit scary, but you soon get used to it. If you came into F1 from F3 or F3000 and you drove one of those V10 cars it was an attack on your senses, an awe-inspiring experience, like 'holy cow, what is happening?!' The drivers would go to Mugello for a two-day test and be dreading the second day because their necks would be destroyed.

"It's not the case now, the cars are heavier with more downforce, easier to drive with all the electronics, and a driver coming from F2 can quickly be three or four tenths off the pace."

Don't miss the V10 demonstration at the 79th Members' Meeting!

*The 79th Members' Meeting will celebrate the ear-splitting sounds of Formula 1's V10 era. Karun Chandhok takes us behind the wheel of these amazing cars.*





Firstly, I want to wish you all a very happy New Year and let's hope for a great new season ahead of us in 2022. There is so much to look forward to and I trust you are all as excited as we are as we prepare for the 79th Members' Meeting.

A thrilling celebration of Formula 1's V10 era, from 1989 to 2005, will see these amazing cars at speed on the circuit. As we know from Bruno Senna's laps in the McLaren-Honda last year, the sight, and sound, of grand prix cars unleashed around Goodwood is an opportunity not to be missed.

We will also have a wonderful grid of the mighty Porsche 956s and 962s to remind us of their glory days at Le Mans and, as ever, a fantastic line-up of drivers for both these demonstrations.

Looking further ahead, our theme for the Festival of Speed is 'The Innovators - Masterminds of Motorsport', celebrating the game-changing designers and engineers who find those extra tenths of a second that win multiple world championships. Full details will be announced soon so keep an eye on the website and your newsletters.

Meanwhile, the GRRC team is working hard on a new calendar of exclusive club events including track days, the Spring Sprint, more driving tours in both the UK and Europe and our Summer Ball at Goodwood House.

I much look forward to seeing you all at the Members' Meeting.

THE DUKE OF RICHMOND AND GORDON



FESTIVAL OF SPEED 2022

# CAPTURING THE IMAGINATION

Ahead of this year's Festival of Speed celebrating the great innovators, Gordon Murray looks back at some of his most memorable inventions.

## STRUCTURAL COMPOSITES

In 1974 we did a composite rear wing at Brabham, used it for years until a scrutineer saw me attaching the wing with wood screws! In '76 we had carbon-fibre brakes five years before anyone else. In '78 we had carbon fibre in the BT48 chassis, three years ahead of McLaren, and we made our own autoclave, with some help from a ship's boiler maker. We built the thing into the workshop wall, painted the huge door yellow, and decided to call it the Yellow Submarine.

## RISING-RATE, ROD-OPERATED SUSPENSION

Rocker suspension was horrendous, all steel, with an undamped lead spring, which wasn't nearly stiff enough. On my 750 Formula car, I had rod-operated, rising-rate suspension, front and rear, that was radical. So I put it on the Brabham BT44 and everyone copied it. Then I devised roller-track front suspension, lighter and stiffer, that needed far less space which allowed a narrower monocoque. It was buried in



the monocoque so nobody noticed it for quite a few years.

## AERODYNAMIC DEVELOPMENT

In very simple terms, when air hits the front of a car it decides whether it's going to go over, or under, or round the sides. I needed to move this stagnation point as low to the ground as possible to reduce lift, pushing the air over the top of the car, so we could run far less wing. On the BT42 and 44 people always asked how we could run a small rear wing, that was why.

I designed a rolling-road wind tunnel and we started with composite panels made by a refrigerated truck company!

## STRATEGIC PIT STOPS

This was a 'hot bath' moment. I did some maths on tyre degradation and fuel weights and worked out that if we could do a stop and not lose more than 26 seconds in total we'd win every race. I invented tyre heaters so we didn't lose time on cold tyres and, using beer barrels and huge-diameter tubes, we worked out we could get 30 gallons of fuel in the car in 3.5 seconds. We spent hours videoing wheel changes to get the right nuts, the right guns. Pit stops were born.

## RACE REAR ENDS

On the BT52 we took the practice one off, changed the ratios, and put the race rear end on. Also, attaching the suspension to the engine for the first time, that was in '74 on the BT44.

## THE BRABHAM FAN CAR

It only did one race, so a true one-off, but it really was quite an invention.

79<sup>TH</sup> MEMBERS' MEETING

# THE CHAIN GANG

This year's Members' Meeting will feature a race for pre-war chain-driven cars, which require a certain driving style, as Duncan Pittaway explains.

At the Members' Meeting on 9 and 10 April, pre-war chain-drive cars will assemble for the first ever AFP Fane Trophy. AFP Fane, whose real name was Alfred Fane Piers Agabeg, was born the day that World War One ended.

In 1931, he entered his first race at Brooklands, wearing an unfashionable helmet, and went on to break a record at Shelsley Walsh in 1937 in a Frazer Nash with a doorless TT replica body, beating the record held by Raymond Mays in his 2-litre ERA. Third overall in the 1936 Tourist Trophy, a win at the Bucharest Grand Prix and a Le Mans 24 Hours entry were other career highlights. Perhaps his greatest accolade, however, was rescuing Frazer Nash from financial trouble and ensuring its survival before World War Two.

Duncan Pittaway will be racing Charles Gillett's 1932 Frazer Nash TT Replica in the AFP Fane Trophy come April. Along with Eddie Williams, he slid to a convincing victory in the chain-driven car at the 2021 Revival.



"Frazer Nashes have no diffs so when you turn, the car slides," he says. "The rear wheels have to break away so you have this lovely smooth slide that you don't get with more modern racing cars. Usually, they grip, grip, grip and then suddenly they go. You have to adopt a much more Scandinavian style!"

"The chains are good even if, when you look at a chart of what a chain can do and what it has to do in the Frazer Nash, it shouldn't be possible. A bit like a bee flying. It's all about understeer, you don't want that. With no diff you can have terminal understeer so you make sure the front axle is pretty much solid so you get rid of that.

"The gear change is spectacular - you have no gears, just sliding dogs, so you don't use the clutch. You lift and change gear. You can change as fast as you can move the lever.

"You need to be committed to a corner because of the understeer. You want them to slide. If they're not sliding, you won't stay the right way up as they have a tendency to fall over!"



GRRC DRIVING EVENTS

# ON THE ROAD IN 2022

The GRRC will be hosting both free regional drives as well as driving tours across the UK, Europe and beyond this year. Make sure you book your place on these sell-out trips.



## LAKE DISTRICT

30 April

Take in the beauty of the Lake District, including the Kirkstone and Honister Passes.



## ISLE OF MAN

29 September-2 October

The island of speed that hosts the Isle of Man TT.



## WEST COUNTRY

7 May

The GRRC makes a return to the moors and coastlines of Devon and Cornwall.



## MOROCCO

7-14 October

A luxury off-road experience in the north of Africa.



## ESPAÑA DRIVING TOUR

20-29 May

The stunning scenery and delicious food of Spain.



## PEAK DISTRICT

6 August

The best that the Peak District has to offer, including the Cat & Fiddle and Winnats Passes.



## GOODWOOD DRIVES

26 March and 2 July

Explore the best roads surrounding the estate, starting and finishing at the motor circuit.

**REGIONAL DRIVES**  
Included in your membership, book your place now.

**DRIVING TOURS**  
Amazing GRRC-only adventures. Contact the club for more information.

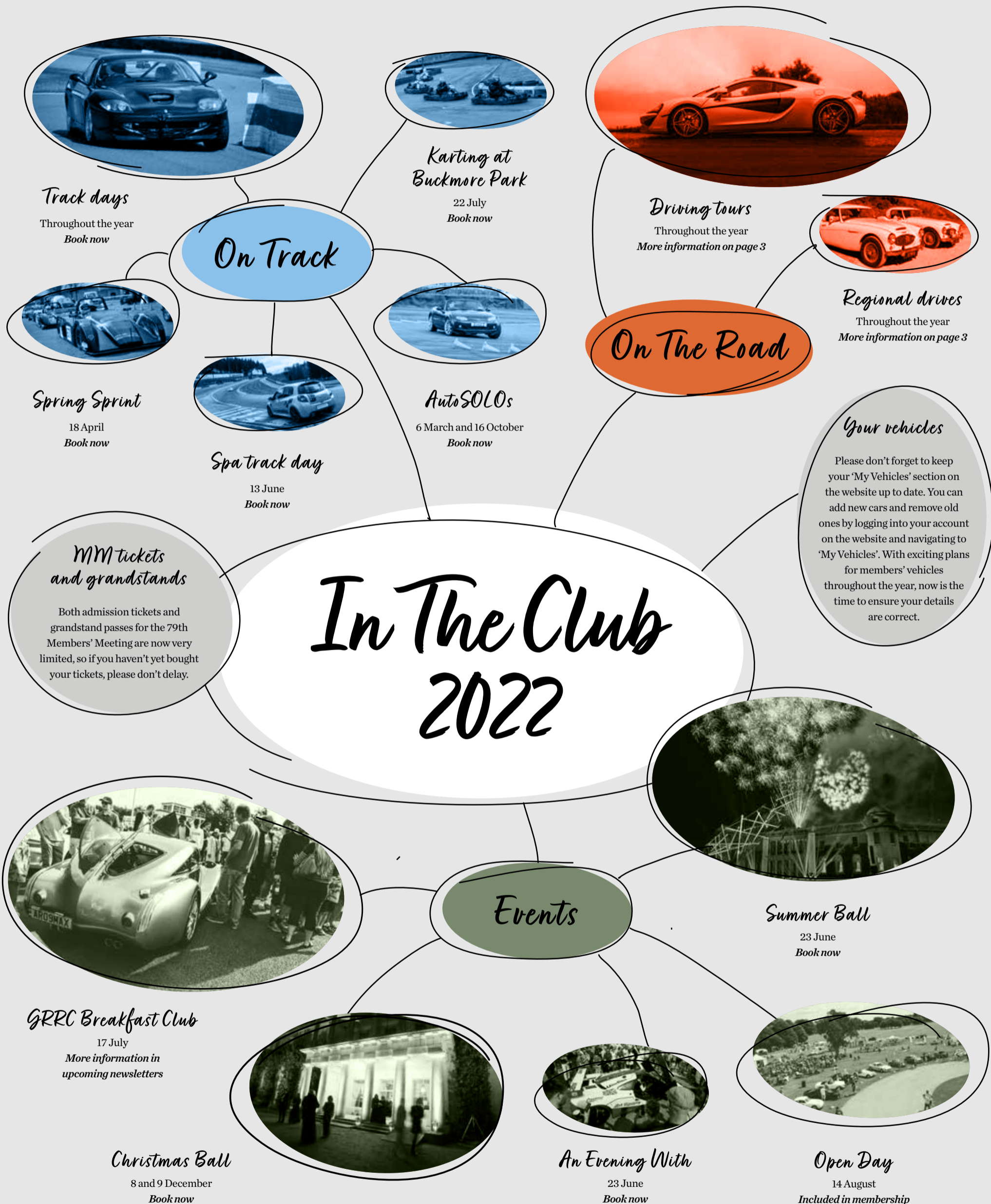


## MONACO HISTORIQUE GRAND PRIX

13-15 May

The glitz and glamour of the south of France's home of motorsport.





To attend, or to register your interest for any of the GRRRC events mentioned in this newsletter, please call 01243 755057, or email [grrc@goodwood.com](mailto:grrc@goodwood.com)