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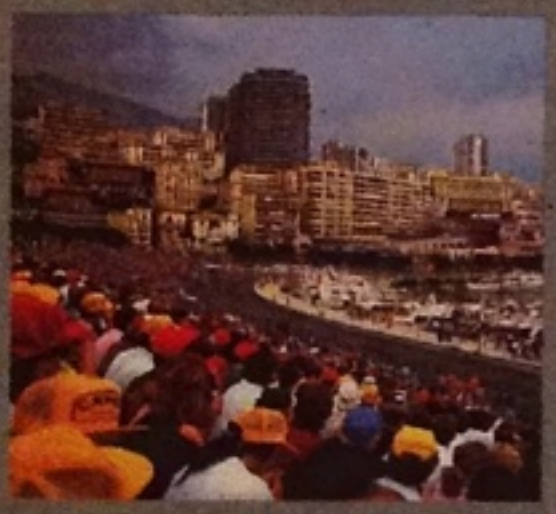

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SPORTING WORLD SERIES 3

Photos: Words and Pictures

news from around the tracks

Rule revisions for 1991

For the first time since 1961, when the reward for winning a Grand Prix was increased from eight to nine points, the sport's governing body has decided to alter the scoring system this season. To put an additional premium on winning, first place now earns ten points, with the remaining top six placings continuing to score on the basis 6-4-3-2-1.

After lengthy debate, it was also decided that all results out of the 16 races could score for a competitor's total, changing the previous 'best 11 out of 16' which meant that drivers could shed their lowest scores and still mount a competitive title challenge.

The FISA Formula 1 Commission initially attempted to modify this proposal, suggesting that 14 out of 16 races should score, but the Plenary Conference and World Motor Sport Council subsequently rejected this idea and confirmed that all results would, after all, be admissible.

Mansell returns to the Williams fold

After retiring his Ferrari from the British Grand Prix at Silverstone, Nigel Mansell promptly announced that he would be quitting Formula 1 at the end of the 1990 season. Thankfully for British fans, he reversed that decision when Williams made him an offer he couldn't refuse.

'Being an Englishman again in an English team means everything to me,' he reflected just before the start of the season. 'I didn't realise what I'd missed during my two years at Ferrari. There isn't a conversation at Williams that you can't eavesdrop. Everybody in the factory has great expectations for the new FW14, but because we're running tight schedules, I should like to have Phoenix and Brazil as wildcards. If we come back from those first two races with some points, I'll be happy.

'I've come back home, now, back to England. I can fly in my private jet from the Isle of Man to Kidlington in only 18 to 20 minutes, then it's 20 minutes in the car to the Williams factory. No language problems, no having to give stickers to the customs officers.'

Talking about the 'commuter run' from the Isle of Man to Italy for Ferrari testing, he remarked: 'Everybody thinks its great having your own jet, but it's not very exciting sitting there on your own. It's quite boring I can assure you. It's also very costly . . .'

With a reputed £7 million retainer for 1991, Nigel can at least satisfy himself that he's being paid handsomely for being bored in five-star comfort!

Michael Andretti on verge of Formula 1 switch

Mario Andretti's 28-year-old elder son Michael took the first step towards following in his father's Grand Prix footsteps over the winter when he reached an arrangement with the McLaren Formula 1 team for a series of test outings during the course of 1991.

Following the counsel of his 50-year-old father, who won the World Championship for Lotus in 1978 and with whom he is currently teamed in the Carl Haas Lola Indy car squad, Michael has established his reputation in America's prestige single seater category before setting his sights on Grand Prix racing. He had his first outing behind the wheel of a Honda V10-engined 1990 McLaren MP4/5 at Estoril during pre-season Goodyear tyre tests in February, but the whole project was spoiled by wet weather and proved largely inconclusive.

Andretti Junior sampled Formula 1 fresh from a successful 1990 Indy car programme, a second generation American affair in which he and Al Unser Jnr. won 11 of the series' 16 races between them. Little Al emerged as Champion with six wins, whilst Michael was second in the final points table with five. During the course of 1990, both men were courted by different Formula 1 teams, but only Michael secured a firm deal.

'In terms of responsiveness, the Formula 1 McLaren felt very different to my Indy car on first acquaintance,' he explained. 'It seemed much more nervous and prone to darting about all over the bumps. I also suspect Estoril was not the most ideal circuit on which to try a Formula 1 car for the first time; I can tell you, as far as safety and run-off areas are concerned, plenty of Indy car drivers would think twice before racing on such a track!' ▶

Mario Andretti's son Michael tests for the McLaren Formula 1 team.

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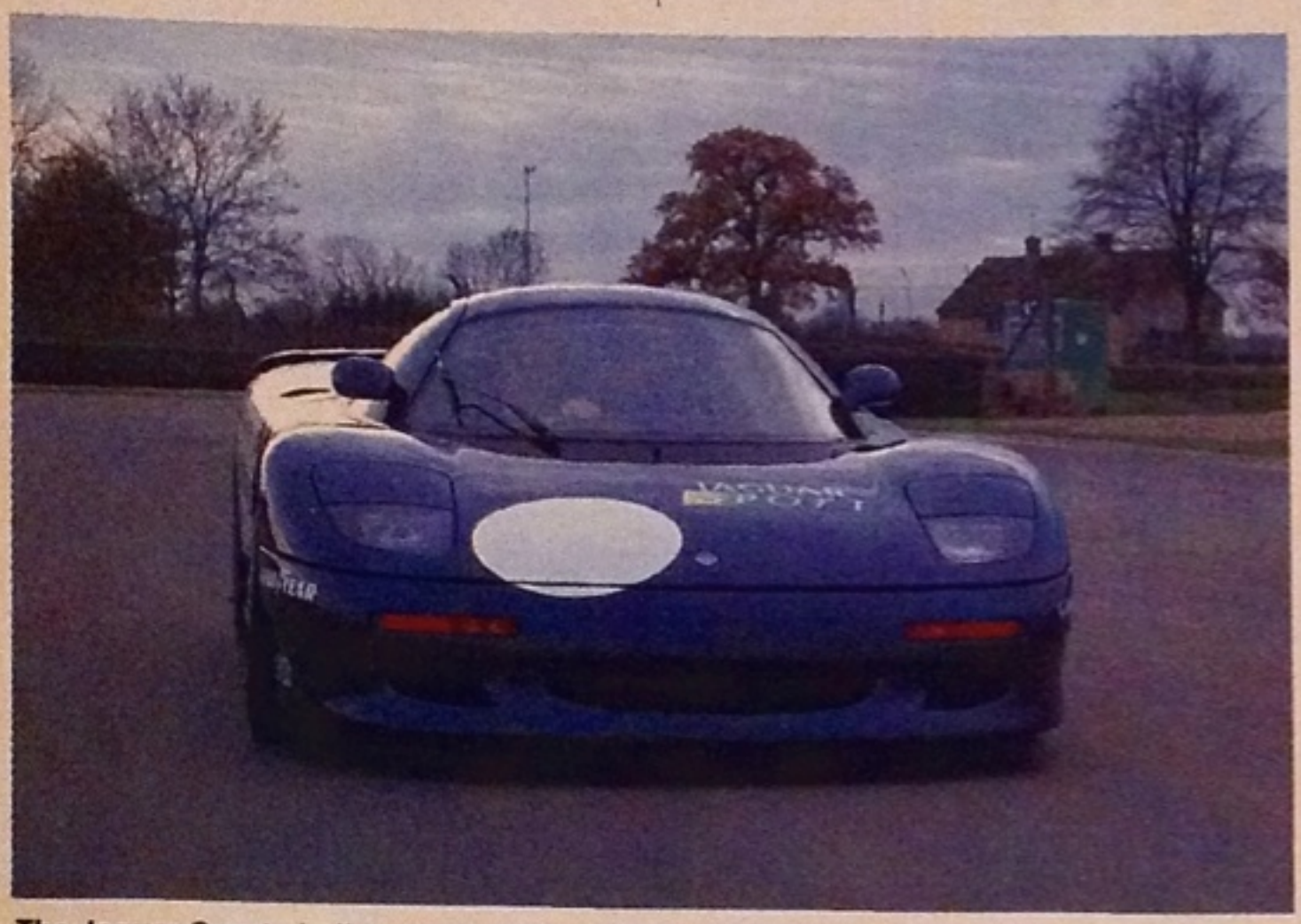
FISA clamps down on dangerous drivers

Following a spate of Grand Prix collisions over the past couple of seasons, caused mainly by sloppy or over-aggressive driving, the sport's governing body FISA has invested its race stewards with increased authority to impose on-the-spot penalties against drivers they deem responsible for dangerous incidents during 1991.

These penalties may be imposed in addition to those already outlined in the International Sporting Code. The car or cars concerned will be stopped for a particular length of time – unless the incident takes place during the final 12 laps of a race, in which case the penalty will be added to the driver's elapsed race time.

In the event of an incident taking place at the start, causing a Grand Prix to be stopped, the stewards also have the power to forbid the driver or drivers deemed responsible for the incident either to use their spare car, or even to re-start at all. The stewards will also have the power to refer any malfeasance to the newly established Special Commission of Inquiry for Safety, which can suspend a transgressor for one or more races and impose fines or withdraw points from the Championship classification.



Zoom

The Jaguar Sport challenge will be taking place at Monaco, Silverstone and Spa-Francorchamps.

Jaguar super-series

Providing prestige supporting events at three of the top European Grands Prix will be a unique one-make racing series for cars with a half-million dollar price tag. Open only to owners of the exclusive JaguarSport XJR-15 sports racer, the races will take place at Monaco, Silverstone and Spa-Francorchamps as curtain-raisers for the Formula 1 events.

A maximum of 30 identical XJR-15 coupés will be competing in the series. The entire grid will comprise privately-owned entries with eight drivers nominated by Tom Walkinshaw Racing – the masterminds behind the series working on behalf of JaguarSport. Two of those drivers will come from Europe, two from America, two from Australia and two from Japan. All remaining drivers, who must hold the relevant international competition licence, will be nominated by the cars' owners.

At each of the first two races, the owner of the outright winning car will receive a £46,000 6-litre V12 JaguarSport XJRS road car as first prize. At the final race in Belgium, a solid silver Challenge Trophy in the form of the XJR-15 will be awarded to the winning driver's national sporting body. The driver of the car will receive a silver replica and the owner of the winning car a $1 million pay-off!

BMW V12 for road-going McLaren

With still more than a year to run before McLaren Cars' new road-going super-car is unveiled, the Woking-based company announced in February that it had finalised a deal with BMW Motorsport for the manufacture of a bespoke, 6-litre V12 engine.

This move ended speculation that Honda, Mercedes-Benz or Porsche might provide the power unit for this ambitious new car which, reflecting the company's reputation for excellence in the Grand Prix arena, has now officially been dubbed the 'F1'. The 6-litre, quad-cam, BMW V12 bears no relation to the 5-litre V12 currently fitted to the German company's 750i and 850i road cars.

However, speculation that such a link might lead to the development of a McLaren-BMW alliance for Formula 1 at sometime in the future have been firmly discounted by the German car maker. Speaking at the Geneva Motor Show in early March, BMW Chairman Eberhard von Kuenheim commented: 'F1 is a fantastic way to spend money and would only help us to destroy our reputation.' He believes such a move would be at odds with Germany's socially responsible political climate.

McLaren and BMW have links which go back a long way. In the late 1970s, McLaren's North American operation ran the BMW 320 saloon car programme in the US-based IMSA series and, becoming involved with McLaren, Ron Dennis's Project 4 organisation fielded the BMW M1 in which Niki Lauda won the 1979 Procar Championship.

Flights of fancy

How many hours have you spent queuing to get in or out of the car park when you go to Silverstone? Isn't it quite ironical that the scene of the world's fastest racing is also one of longest queues (apart from the M25). Well, we have a suggestion. It isn't wildly expensive and could just about make your day. Try visiting the British Grand Prix by helicopter! It's quick, comfortable and increasingly available. The CB Group is just one of several companies which hire out helicopters for sporting events – they can, if you're feeling indulgent, arrange champagne receptions to top off a day's racing. ▶

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news

Senna opens with a win

Reigning World Champion Ayrton Senna upset pre-season predictions with a commanding, flag-to-flag victory in the opening round of the 1991 title chase. At the wheel of the brand new Marlboro McLaren MP4/6, which had not turned a wheel until ten days before the race, he was never challenged throughout the USA Grand Prix at Phoenix to score the 27th victory of his career, a success which matched Jackie Stewart's career total and moved him into equal second place in the all-time winners' stakes.

This was also a maiden victory for the new Honda RA121E V12 engine which powered Senna to the 53rd pole position of his Grand Prix career. Alain Prost's Ferrari 642, which many had tipped as favourite for victory, gave vain chase from second place on the starting grid, but the Frenchman's slim chances received a blow when he stopped for fresh Goodyears on lap 45. A sticking right wheel nut lost him precious seconds and he resumed the race in eighth place, fighting back tenaciously to finish runner-up at the chequered flag.

The Ferrari team leader's delay enabled Senna to make an unflustered tyre stop three laps later, resuming without relinquishing his advantage. Behind Prost, the next three places fell to Pirelli-shod contenders, the Benetton-Ford B190B of Nelson Piquet leading home the Braun Tyrrell Honda 020s of Stefano Modena and Satoru Nakajima, while Aguri Suzuki's Larrousse Lola-Hart completed the set of the top six positions.

The Canon Williams FW14s of Nigel Mansell and Riccardo Patrese both failed to finish. Mansell ran strongly in third place during the early stages, succumbing to problems with the new car's electro-hydraulic gear change after 35 laps. Similar problems pitched Patrese into a spin, his stationary car was rammed by Roberto Moreno's Benetton.

Promising performances were put in by 22-year-old Formula 1 newcomer Mika Hakkinen in the Lotus-Judd 102B and Betrand Gachot in the new 7-Up Jordan-Ford 191, qualifying 13th and 14th respectively, although neither made it to the finish.

Words and Pictures

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news

More joy for Senna as he captures Brazilian title

One of Ayrton Senna's greatest remaining ambitions was to win his home Grand Prix, yet it is unlikely that even he could have anticipated the magnitude of his own achievement when it finally came to the realisation of that long-held dream. Sunday, March 24, 1991 will be recalled by the Formula 1 statisticians as the day on which Ayrton finally secured his 28th career Grand Prix victory, moving ahead of Jackie Stewart to take second place in the all-time winner's stakes.

Words and Pictures

place in the all-time winner's stakes.

To the motor racing congnoscenti, it was arguably the best victory of his entire Formula 1 career. Although his McLaren-Honda MP4/6 started from pole position and led throughout, his progress was blighted with such serious gearbox problems that even he believed that Riccardo Patrese's Williams FW14 would catch him over the final few laps to the chequered flag.

From the start, Senna found himself under intense pressure from Nigel Mansell's dramatically competitive Williams FW14 which had burst through from its third place position on the second row of the grid. Only when Mansell's first tyre stop at the end of lap 25 took an agonising 14.9s could Ayrton build up a slight cushion; he made a pit stop for tyres next time round and was stationary for only 6.9s. Yet the undaunted Mansell relentlessly closed the gap again before being obliged to make a second unscheduled stop, after picking up a cut on one of his tyres, dropping almost half a minute behind the leading McLaren.

By this time, Ayrton's gearbox trouble was so serious that he kept the McLaren in sixth gear for most of the lap, allowing the relentless Mansell to devour his advantage yet again. Then, with only 12 laps to go, Mansell pirouetted to a halt when the Williams's electro-hydraulic gearchange selected second instead of fourth and, when he tried to resume the chase, the car apparently jammed in first gear. There was nothing left for the Englishman but to abandon his car by the side of the track while team-mate Patrese chased Senna home into second place; the Italian took things easy with only slight gearchange problems on a track rendered treacherous in the closing stages by a light rain shower.

Third place went to Gerhard Berger's McLaren-Honda MP4/6, while the Ferrari 642s of Alain Prost and Jean Alesi, which had displayed extremely disappointing form throughout, sandwiched Nelson Piquet's Pirelli-shod Benetton B190B in fourth and sixth places. ■

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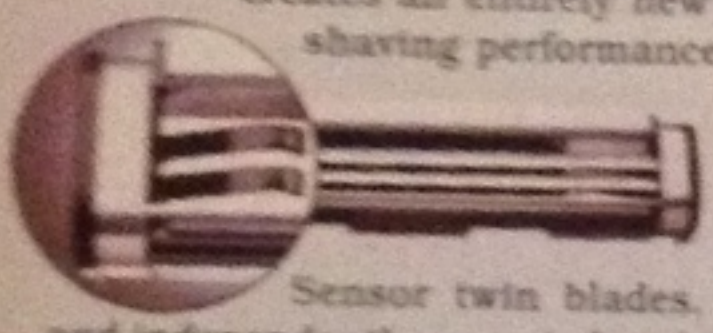

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The Best a Man Can Ge

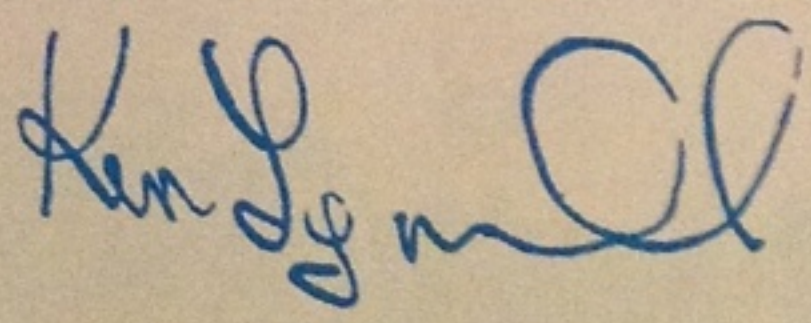
foreword

By Ken Tyrrell

Words and Pictures

Grand Prix racing's popularity has continued to expand throughout the World over the past decade, and the 1991 season promises to be one of the most competitive since our team started in Formula 1 by fielding a Matra-Ford for Jackie Stewart some twenty-three years ago.

This is a business which exerts an almost hypnotic level of commitment over those who work in it. It involves complete singlemindedness, whether in financial, technological or organisational terms. More than anything, Grand Prix racing represents the ultimate motor racing challenge and continues to polish the image as probably the most colourful and spectacular of international professional sports.



Ken Tyrrell
Braun Tyrrell Honda

Alain Prost LOOKS AHEAD

With Alan Henry

All French at Ferrari. Alain and new team-mate Jean Alesi face 1991 together.

For almost a month after the end of the 1990 Grand Prix season, Alain Prost was – in his own words – '100 per cent certain' that he would retire from Formula 1. A career which had begun with a sixth place on his debut outing in a McLaren M29 in the 1980 Argentine Grand Prix at Buenos Aires now seemed set to drift, rather inconclusively, to a halt after a record 44 Grand Prix victories and three World Championship titles.

Yet, after a decade in the fast lane, Prost was not ready to slow down yet. More than anything, he is not prepared to quit the Grand Prix stage in a manner that might give rise to the interpretation that he has been forced into retirement through being undermined by his arch-rival Ayrton Senna.

Prost and Senna were flung together in an uneasy alliance at the start of 1988 when McLaren chief Ron Dennis brought the Brazilian into his team's line-up to drive alongside Prost. Almost within months, as the pit lane cynics will tell you, they were both getting up an hour earlier each day just so that they could dislike each other that much longer. It was a case of oil and water; the two just didn't mix. After two seasons together, Prost quit to join Nigel Mansell at Ferrari for 1990.

Then came the 1990 Japanese Grand Prix where Prost's Championship chances were sluiced down the drain when his Ferrari, which had left the line first, was rammed from behind by Senna's McLaren. It left a legacy of bitterness which Prost has found difficult to erase from his mind; when, after extensive deliberation, he decided to extend his Ferrari contract for 1991 and '92, an element which was to keep Senna out of the Italian team. With Jean Alesi also confirmed as staying with the team until the end of 1992, Prost seems to have been successful in that respect.

'There is no doubt that I would have missed being part of a business for which I am still highly motivated,' muses Prost as he ponders the forthcoming McLaren/Ferrari battle for the Championship. 'During that immediate period after last year's Adelaide race, I realised that I would have missed it more than ever. This is something that people who don't regularly take part in a competitive sport fail to understand – including many journalists.

'The spur of having to get up in the morning, knowing that you have to go running, let's say, to keep in trim – rather than sitting at breakfast having three slices of toast instead of one – is something I enjoy. Stopping now would

DON'T MISS IT. TDK

All photos: Words and Pictures

Prost in profile: can he be the first Ferrari World Champion since 1979?

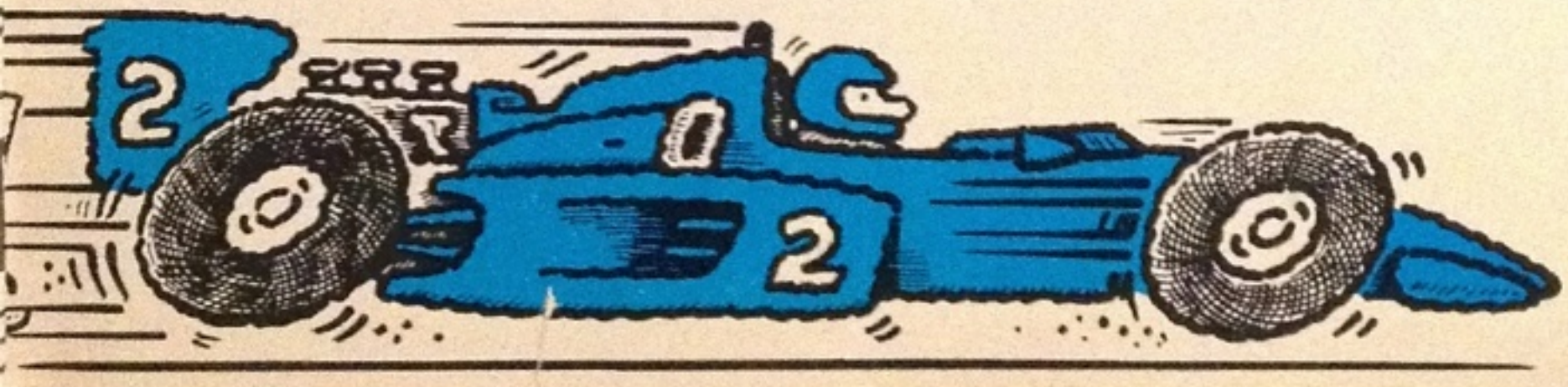
be too early.'

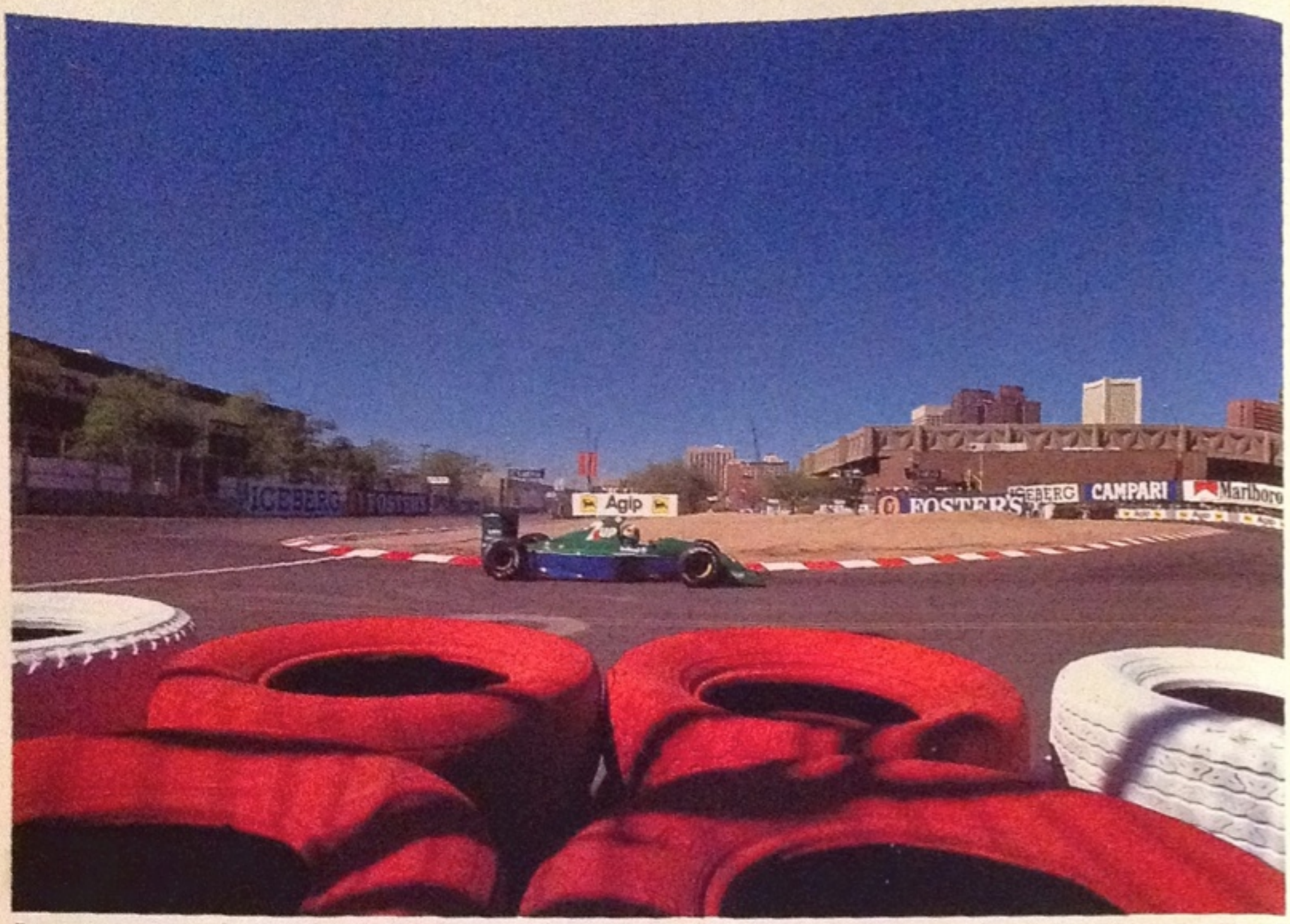
Whatever his personal feelings about Senna – and he clearly doesn't trust him – he believes that the McLaren-Honda squad will be the team to beat in 1991.

'We have done an enormous amount of testing over the winter,' he said at Phoenix, 'and I believe that Ferrari is starting the year in a better competitive situation than ever. But keeping the team's equilibrium in the face of the sort of performance Senna produced in the first race is quite a challenge.

'I was extremely impressed by the competitiveness of the new McLaren MP4/6 from the moment its wheels first touched the ground. It is a good car. It tends to be the case in Formula 1 that a fundamentally good car is always competitive from the start. You never really have a situation where you say: "Well, this isn't a good car yet, but we're going to work on it and everything will come out right". It doesn't work like that.

'The new V12 Honda engine is also very impressive. Following Senna in practice at Phoenix, it became clear to me that it has a wide power band and plenty of torque, even at this relatively early stage in its development. ▸





Prost regards the Jordan team as one of the most promising of Grand Prix newcomers.

'I don't trust Senna's driving, but I won't adopt the sort of tactics he wants to use.'

'You have to admire the way in which McLaren go about their racing. If there was one thing I would change, if I could, at Ferrari, it would be the way in which the team's emotions go up and down so dramatically. McLaren have a far more even temperament as a team in this respect. But I do not believe it would be accurate to read too much into the relative performance of Senna and McLaren at Phoenix.

'You have to be realistic and look beyond the results in order to analyse the true reasons, to draw on your experience. Phoenix was not an ideal track for our Ferrari 642; the more aerodynamic downforce you pile onto the car, the less well it handles. Our engine performance – particularly when it comes to torque and flexibility – is improving all the time, but it is still not the best one.

'Think about it. The Honda engine was much better than ours at Phoenix. I am not the best, for sure, on this kind of track, but Ayrton *is* the best. Their car was certainly the best that weekend and their engine is the best. So it was no surprise when he out-qualified me by one second.

'In this sort of situation I found myself trying to put pressure on our team to calm them down. In Friday qualifying at Phoenix, when my team-mate Jean Alesi was fastest, there was an explosion of emotion. The team was delighted, really on an enormous high. You could sense that they almost felt that we'd already won the World Championship.

'The following day, when I was beaten to pole by Senna, they were in the depths of despair. I had to remind them that this was only one lap, at one race, within the season as a whole. It was nothing to get worried about. I honestly believe that our car will be much more competitive on the faster circuits. Let's hope so, anyway!'

On a personal level, while he believes Senna is the man to beat, his respect for the Brazilian's driving prowess is compromised by the inner belief that their personal relationship has deteriorated to the point that Ayrton w pull manoeuvres on him that he woul think of doing to any other competito on the circuit.

'I don't trust his driving,' Alain concedes, 'but I won't adopt the sor tactics he wants to use.' In that resp Prost is putting a considerable degr of trust in the new FISA rules which have been initiated to penalise

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Tyrrell-Honda should be promising . . .

. . . while John Barnard's forthcoming Benetton B191 is awaited with considerable anticipation. Above, Nelson Piquet drives the old model at Phoenix.

undisciplined Formula 1 driving.

'I have to be confident about this new commission,' he says with a guarded tone to his voice. 'OK, so I'm more relaxed about this because of the very fact that there is a commission in existence. But I'm a little concerned about the way in which these rules might be applied; for example, if I overtake somebody during a race, will I find myself suspended for three months at the end of it. I hope that the commission watch this aspect of the business very carefully.'

Looking beyond McLaren to other potential opposition, Alain has favourable things to say about his first sightings of the Canon Williams FW14 driven by Nigel Mansell and Riccardo Patrese. 'I'm very impressed by the Williams,' he confesses. 'Its chassis is very good, and we knew that the Renault V10 engine was good already. They may have some small problems in the first few races, but it already handles pretty well, of that I'm sure.

'As far as the Benetton-Fords are concerned, while they won the last two races of 1990 on Goodyears, their switch to Pirelli at the start of this season makes it difficult to predict how they will go. But John Barnard has a new design almost ready which Piquet and Moreno will race for the first time at the San Marino Grand Prix. I think everybody knows the high opinion I have of John as a designer and everybody will have to keep a close eye on his latest car.'

Obviously Prost will be keenly observing the performance of his new team-mate, Jean Alesi. He admits that the relationship with his young compatriot has so far been cordial and friendly. But he is shrewd enough to know just how much Alesi regards him as a focal point in his progress through the ranks, a star to be eclipsed, if at all possible. But he also knows that Alesi still has plenty to learn as far as the delicate business of setting up a chassis is concerned.

'There is a difference in style in the way Jean and I set up our cars for Phoenix, for example,' he explains. 'The way he was operating, he could make big adjustments to the chassis set-up and hardly notice any difference to the car's feel. With the set-up that I was using, if I changed something very minor I could feel the difference; even the difference between my driving really well and being a bit off-form translated itself into a change of feeling in the way the chassis reacted.

'Jean obviously has a great future, but there is only a limited amount of input, from a development standpoint, that he can contribute to the Ferrari programme at the present time. Perhaps it's a bit like the situation that Gerhard (Berger) is in at McLaren . . .'

Ultimately, though, does Prost believe that the 1991 season will be a close-fought affair, or simply another follow-my-leader procession, with Senna generally setting the pace at the front of the pack?

'Last year Ferrari demonstrated that McLaren and Honda were not unbeatable,' he says thoughtfully. 'We have worked all through the winter to improve our competitiveness and I hope this will pay off for us in the early races. But there are some other new cars and several new engines – the Tyrrell-Honda and Jordan included – coming into Formula 1 this season. I am confident that several of them will be competitive before the end of the year.'

Those remarks were made in the run-up to Phoenix. Come the first race of the season, McLaren, Honda and – most of all – Senna upset all the predictions and left everybody aghast. If Alain Prost is to become the first Ferrari World Champion in more than a decade, he knows all too well that he has it all to do over the next few months, all the more in view of the Ferrari team's disappointing performances in Brazil. ■

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Ayrton

One day it may become clear whether or not Ayrton Senna's collision with Alain Prost on the opening corner of the 1990 Japanese Grand Prix was totally premeditated, or merely a mind-boggling slice of spontaneous opportunism. Either way, the manner in which the 31-year-old Brazilian shrugged aside any responsibility for the accident which tipped the World Championship into his lap, simply served to consolidate a reputation as the hardest and most unyieldingly competitive driving star Formula 1 has probably ever seen.

Some observers of Grand Prix racing remain convinced that Ayrton's performance at Suzuka was totally deliberate; a way of getting back at Prost, his own personal nemesis, for eliminating him from the same race 12 months earlier, when they were competing as McLaren-Honda team-mates. But, outwardly at least, Senna assumes no blame for the incident and steadfastly refuses to accept it put an indelible blot on his second Championship title.

'Prost left a gap and I went for it,' he shrugged. 'He was the one who couldn't afford to take the risk, so he can't blame me for going for it. As things turned out, the Championship went to the driver who won the most races, led the most laps and had the most pole positions. How can anybody suggest that was in any way undeserving?'

Quite so. Senna has a disarming technique of rationalising events to support his own viewpoint. He is the ultimate competitor, in his own words: 'Not programmed to accept second place,' and seldom takes hostages. With Ayrton, it tends to be win or bust.

Twice last year he finished second. Once, tactically, to Nigel Mansell's Ferrari in the Portuguese Grand Prix at Estoril. Another time, through lack of choice, to Thierry Boutsen's Williams-Renault in the Hungarian Grand Prix at Budapest. In the parc ferme after the

Senna

By Alan Henry

race, a shaken rival engineer heard him say to Boutsen: 'If you ever do that to me again, you're off!' On a clear track Ayrton had been lapping almost three seconds a lap faster than the Belgian driver's Williams, but Thierry didn't make a mistake and Senna got boxed in behind him. Boutsen is probably Senna's closest friend amongst the drivers – so he got off lightly!

Yet there is a gentle side to this cerebral young man. Senna is deeply religious and totally devoted to his parents, brother and sister. He splits his time between the family home in Sao Paulo and a luxury apartment in Monte Carlo, commuting between the two in his £8 million, two-tone grey British Aerospace 125/800 jet – registration number N125AS – as frequently as his racing schedule permits. He is at his best handling children; he makes them feel instantly relaxed, treating them as young adults in a mature manner. To see a youngster's eyes light up when Ayrton engages them in conversation is to bring a smile to even the most cynical Formula 1 face.

Senna began the 1990 season on a tense and uncomfortable note. After his disqualification from the 1989 Japanese Grand Prix, where he rejoined the circuit through the chicane after his tangle with Prost, he made some over-candid observations about Jean-Marie Balestre, President of the sport's governing body FISA. In a nutshell, Senna thought the whole thing was rigged to favour Prost. Expressing such a view dramatically over-stepped the boundaries of tact and propriety. He was summoned to Paris by Balestre to explain himself.

By all accounts, Ayrton may have been true to his own self-belief, but arrived at the Paris meetings with his lawyer and behaved in a sullen manner which was calculated to infuriate the sport's elders. FISA announced that he would not be allowed a licence for 1991 unless he withdrew his remarks unconditionally.

Senna then retreated to continue his off-season relaxation in Brazil. There followed an uncomfortable two months for McLaren chief Ron Dennis who was in almost daily telephone contact with his number one driver. Initially, Ayrton seemed unyielding. He wasn't going to retract; in his view he was being penalised for simply expressing an honestly-held opinion. But as the days passed by to the closing date for World Championship entries, he edged towards an acknowledgement that, well, perhaps things were not as he'd originally seen them. He didn't quite apologise, but edged towards the required retraction. FISA accepted his eventual form of words, and his entry. Honour had been satisfied all round.

At Phoenix, in the first race of the season, Ayrton took the McLaren-Honda MP4/5B to a commanding victory after defeating a strong challenge from the tenacious Jean Alesi in the Pirelli-shod Tyrrell 018. Such a victory would have reconciled a less sensitive soul to those previous difficulties, yet Ayrton still didn't feel comfortable about the course of his pseudo-political exchanges with FISA.

Not until he arrived on his home patch in Sao Paulo, for the first Brazilian Grand Prix to be held at Interlagos for ten years, did he begin to feel truly at ease. The ecstatic enthusiasm displayed by his home crowd tipped the scales. From then on, any doubts about his continued enthusiasm for Formula 1 were swept away. It might have been a bitter disappointment to trail home third after a minor collision with Satoru Nakajima's Tyrrell – particularly with Prost scoring his first Ferrari victory – but at least the die was cast.

The road to Senna's 1990 World Championship was never going to be an easy one. In the second season of Formula 1 to be run under the new 3.5-litre naturally aspirated technical regulations, the opposition to the McLaren-Hondas was hotting up dramatically. Strongest rivals from the outset seemed to be the Ferrari 641s of Prost and Nigel Mansell, with the Williams-Renaults of Boutsen and Riccardo Patrese, the Benetton-Fords of Nelson Piquet and Alessandro Nannini, and Jean Alesi's Tyrrell all offering varying degrees of challenge. And so it proved to be.

Back in Europe, Senna had a disappointing time in the San Marino Grand Prix at Imola. Comfortably ahead from the start, his McLaren slid off the road into a sand trap after a brake calliper scored through a rear tyre rim, allowing the tyre to deflate. He dominated Monaco for the second successive year, making it three wins out of four races through the streets of the fairy-tale Mediterranean principality, then strolled to another easy win in the

Canadian Grand Prix at Montreal.

From then on, although his troubles seemed to multiply, paradoxically, the strength in depth of the Honda Marlboro McLaren team was shown up to dramatic effect in these conditions of technical adversity. Losing the Mexican Grand Prix because of a deflated tyre was bad enough, particularly as Prost ducked through to score his second win of the season, but far more serious was the McLaren MP4/5B's loss of fast circuit form as the Championship battle headed back across the Atlantic for the main rump of the European programme.

Ayrton found the McLaren suffering from a high-speed handling imbalance in both the French Grand Prix at Paul Ricard and the British at Silverstone. The latter event saw him survive an uncharacteristic spin as he sought to hang on to the leading bunch, but he still managed to finish third in both races. Prost, of course, was making hay while the sun shone, strengthening his Championship challenge with two more crucial victories.

McLaren then pulled out all the stops. Subtle, but critical, aerodynamic changes were made to the MP4/5B's undertray in order to render its handling more progressive and manageable. As a result, Ayrton was able to reassert himself in the German Grand Prix at Hockenheim, powering to a well-judged win after displacing Nannini's Benetton from the lead during the second half of the race. But now other considerations entered the equation.

On joining McLaren at the start of 1988, Ayrton had signed a three-year contract. At that time, a long-term commitment suited him admirably. Thus, as the summer of 1990 wore on, the question of examining his future became an increasing priority. McLaren obviously wanted him to stay on, but Ayrton was determined to examine all the alternatives in scrupulous detail.

Earlier in the season, Senna had outlined his requirements to McLaren for 1991 – if he opted to stay. But the chassis's mid-season handling deficiency sharpened his perception that there were other competitive cars on the market. While McLaren looked on, Ayrton played the field.

Early on, Ferrari seemed a potential suitor, but then Prost reeled off a hat-trick of victories and the idea fell through. Alain and Ayrton could not work together in the same team. Benetton briefly made overtures, but it was Frank Williams who romanced Senna most assiduously.

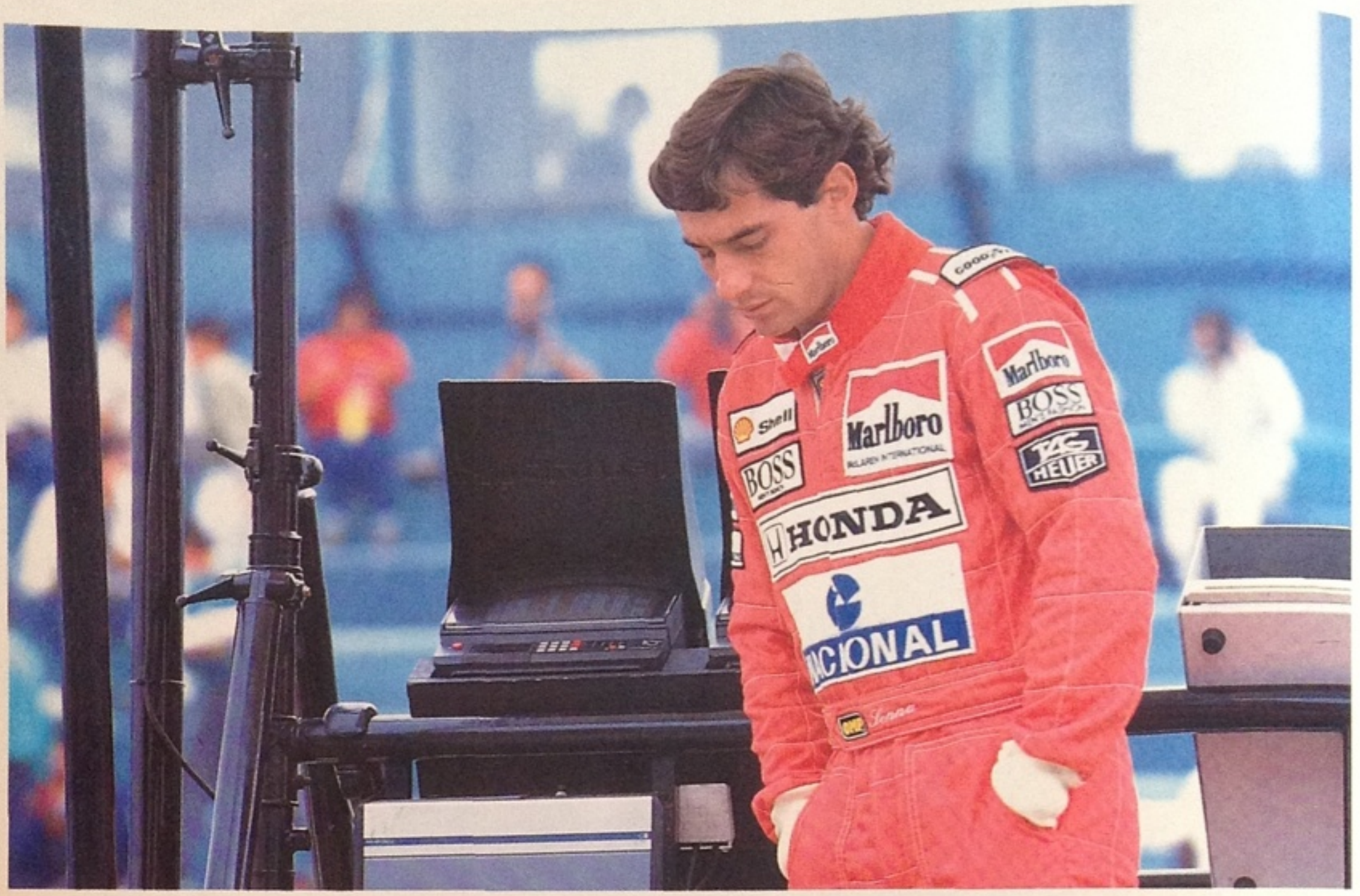
In the end, Frank had convinced Ayrton that the 1991 Williams-Renault could be a competitive proposition. Boutsen's victory in Hungary, and Patrese's earlier success in the San Marino Grand Prix, where the Italian beat off Ayrton's McLaren team-mate Gerhard Berger, testified to that untapped potential.

There was no problem with finance, either when it came to satisfying Senna's reputed $15 million driving fee aspirations, or for the team's overall budget. The Brazilian seemingly came close to signing, but eventually Honda stepped in and helped steer him back into the McLaren enclave.

The weekend of the Belgian Grand Prix saw Senna finally settled with McLaren for at least the 1991 season and possibly beyond. He cemented the renewed relationship with another commanding victory on the high speed Belgian track, then did it again at Monza, beating Prost into second place on both occasions.

The Championship had now developed into a two-horse race. Truth be told, Senna and Prost were moving into a class of their own at the front of the field for McLaren and Ferrari respectively. The Honda still had a slight edge on torque, but as the season moved into its second phase, Ferrari's engine department launched a spirited counter-attack, aided in no small part by special "qualifying fuel" tailor-made to suit the Italian V12's requirements by Agip, the team's official fuel supplier.

However, Ferrari didn't quite capitalise on their increasing advantage



to best effect. Progressively, Nigel Mansell found himself out on a limb within the Ferrari team, steadily isolated by new arrival Alain Prost. Nigel's new team-mate was more committed to testing, spoke Italian fluently and put a crucial first victory under his belt as early as the second race of the season.

Thereafter, Mansell's car seemed blighted by technical unreliability, culminating in his emotional "retirement" from the British Grand Prix at Silverstone with gear selection problems. His immediate announcement that he would retire from the cockpit at the end of the season, made in the heat of the moment following this disappointment, was to be short-lived. However, when he effectively gave up in the German Grand Prix at Hockenheim and the Belgian race at Spa, his cars suffering from repairable nose damage and handling trouble respectively, his position within the Maranello ranks began to slide.

Meanwhile, Prost was pulling everything out of the bag for a final assault on Senna's Championship advantage, so he was not amused when Nigel almost swerved into him on the starting grid at Estoril where the two Ferraris started side-by-side on the front row. That handed an early lead to Senna, the Brazilian eventually finishing second to Mansell, with Alain third, in a race stopped prematurely following an accident to Alex Caffi's Arrows.

In the immediate aftermath of this Ferrari debacle, Prost played a strong hand, roundly criticising team manager Cesare Fiorio and casting doubt on Maranello's ability to mount a serious Championship challenge. A lesser driver might well have been shown the door, but when the statistically most successful Grand Prix driver of all time opens his mouth, people tend to listen – even allowing for the fact that many believe Alain sounds off a little too frequently for his own good.

A week later, in Spain, Prost raced to a commanding victory as Senna retired with engine trouble, stringing out the Championship contest all the way to Japan a month later. Whilst the painful events of that race resolved the title in Senna's favour, leaving Prost understandably disgruntled, there was a McLaren perspective to the Japanese Grand Prix which deserves due acknowledgement.

With a degree of justification, McLaren felt that they were being backed into a tight corner at Suzuka. Not only had overtaking effectively been banned at the corner where Senna lunged inside Prost 12 months before, but the organisers refused to switch pole position to the left-hand side of the circuit, where the racing line ensured much better grip.

In 1989, Prost had out-accelerated Senna away from pole when they were McLaren team-mates and now the two men faced an exact re-run of the situation, Alain now at the wheel of a Ferrari. In the aftermath of the 1990 collision, no action was taken by the FISA stewards, although Jean-Marie Balestre made some ominous comments from far-distant Paris. There were even rumours that French Sports Minister Roger Bambuck might intervene and request FISA not to award the Drivers' World Championship to Senna, so high were feelings running over the manner in which the Brazilian clinched the title.

Mercifully, no such intervention came. Motor racing was left to sort out its own dirty laundry without anybody else's help. That came in the form of stiff new penalties for wayward driving to be introduced for the 1991 season. As things stand at the present time, stewards will be invested with the power to impose a 'stop-go' penalty, loss of points, a time penalty or even enforce an exclusion from a following race. The worry is that such on-the-spot justice is only as good as the individuals who dispense it, so FISA has a major responsibility to ensure that those officials concerned are as astute as they are even-handed. Only time will tell as to the efficacy of these new regulations.

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Nannini's elimination from the Hungarian Grand Prix probably cost the Benetton-Ford team its first victory of the 1990 season. A fortnight earlier, the Italian had proved a tough nut for Senna to crack at Hockenheim, and at Budapest he was pressuring Boutsen's leading Williams when the collision occurred. Even Williams technical director Patrick Head believes that the Benetton would have slipped past into the lead before the finish.

Sadly, when the Benettons finally scored victories at Suzuka and Adelaide, Sandro played no part in the winning equation. A couple of weeks after finishing a strong third behind the Ferraris at Jerez, the Italian driver was involved in a horrifying helicopter accident in the grounds of his parents' home near Siena, in which his right arm was severed above the elbow.

Miraculously, in a ten-hour stint of complex micro-surgery, the limb was re-attached and, at the time of writing, it seems conceivable that Nannini could be back behind the wheel of a racing car – for a gentle test – before the end of 1991. His place in the team was taken by Roberto Moreno, a childhood friend of team leader Nelson Piquet, in whose wheel tracks he duly followed at Suzuka to give the team a well-timed one-two finish.

The burgeoning promise shown by the Benetton-Fords throughout 1990 testified to the reality that a compact, powerful V8 engine, installed in an agile chassis, could still be highly competitive in amongst the V10 and V12 pacemakers. Piquet, after two bruising years with Lotus, enjoyed a happy renaissance with his switch to Benetton, financially bolstered by a bonus system which allegedly paid him $100,000 per Championship point scored. His two victories in Japan and Australia, this earned him $1.8 million in a fortnight . . .

The V8 theme was also exploited by Tyrrell to good effect. Armed with the new type 019, the upswept nose section and anhedral front wings of which displayed designer Harvey Postlethwaite's aerodynamic ingenuity to splendid effect, Alesi followed up his second place at Phoenix with a repeat performance at Monaco, where he split the McLaren-Hondas.

Elsewhere, Alesi's ambitious tenacity tended to write cheques his experience couldn't cash; this dynamic young star flew off the road with worrying regularity and will need to temper his undoubted brilliance when he lines up alongside Alain Prost this year at Ferrari. His route to the Italian team also suggested he was badly advised. After signing a provisional contract with Williams, he changed his mind and accepted an invitation to join the famous Italian team, leaving his lawyers to sort out the terms of his severance at Tyrrell, with whom he had an existing deal for 1991.

The only other V8 to show much form in 1990 was the Leyton House-Judd, and then only fleetingly at Paul Ricard where aerodynamic changes raised Ivan Capelli to the status of potential winner on this surface. He finished second after Prost muscled the Ferrari past in the closing stages of the race.

Lamborghini supplied their V12 engine to both Lotus and Larrousse. The once-famous British team had a hideously uncompetitive year, further blighted by a terrible accident in practice for the Spanish Grand Prix in which Martin Donnelly came within a whisker of losing his life. Thanks to the medical engineering brilliance of the London Hospital in Whitechapel Road, where the Ulsterman spent most of the winter recovering, Martin is now expected to make a full recovery and, eventually, to race again. His team-mate Derek Warwick eventually abandoned Formula 1 at the end of the season, moving off to seek success with the Jaguar sports car racing team.

Larrousse rounded off the year in fine style when their Japanese driver Aguri Suzuki scored a strong third place at Suzuka behind the Benettons. But there was to be an off-season sting in the tail for the Paul Ricard-based team. A matter of weeks before the start of the 1991 season, FISA decreed their Championship points to be forfeit as their 1990 entry form had incorrectly stated the car manufacturer to be Larrousse when, in reality, it was the British Lola company that had built the chassis on a sub-contract basis.

This threatened to drop Larrousse back into pre-qualifying from the start of 1991, but this was later revoked. It also had the effect of moving the rival French Ligier team from 11th to tenth in the final Constructors' Championship placings, earning them valuable concessionary travel benefits in the process.

Williams, meanwhile, dropped from the front-running pace, despite their two victories. For 1991 the Didcot-based team seeks to raise the standard with Mansell back in the fold as number one, partnered by the dutiful Patrese. Nigel now believes, quite rightly, that he has nothing further to prove as far as driving talent is concerned. He must be regarded as a top drawer World Championship contender.

Unquestionably the biggest disappointment of the 1990 season came after Prost and Senna apparently took the first steps towards burying their differences, shaking hands in front of the media following the Italian Grand Prix. The subsequent Suzuka collision destroyed all prospect of a rapprochement between the two most outstanding drivers of their era. To those who still believe motor racing is a sport, it was enormously disheartening.

Yet the episode added a curious lustre to Senna's reputation. Deep down, he still remained the wild card, never quite predictable, playing his own cards strategically close to his chest. Intolerant of personal criticism, and consequently aloof and remote to many people in the business, Ayrton Senna remains a bewilderingly complex personality to many in Formula 1. He also goes into 1991, as he has done for the past three seasons, unquestionably the man to beat. ■

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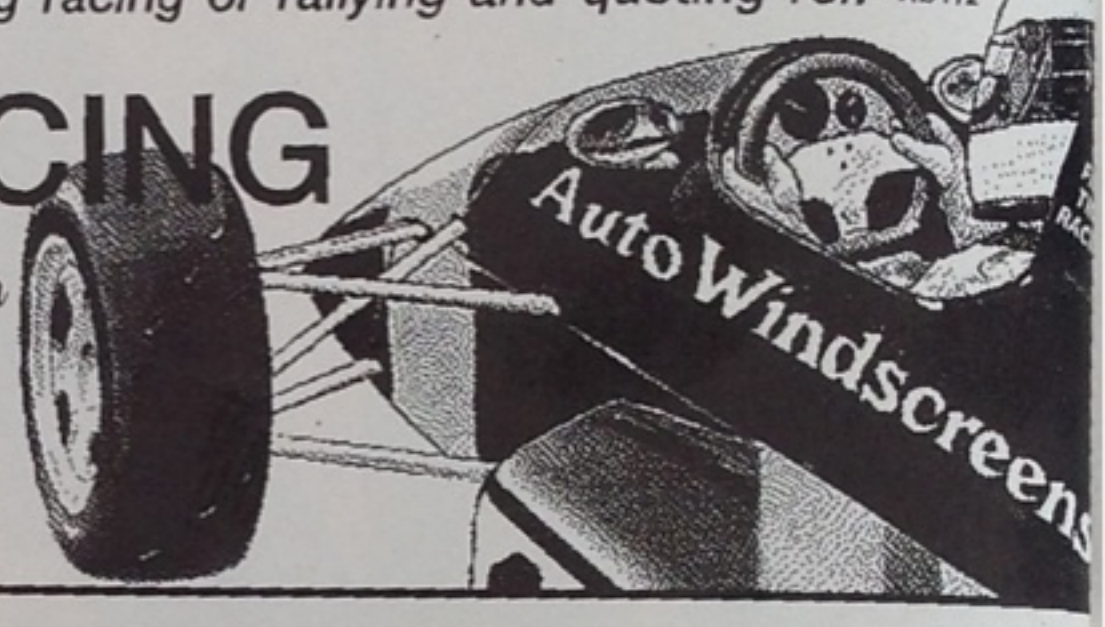

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TECHNICAL UPDATE

Alan Henry describes the tussle between the designers and the rule-makers.

Time was when Grand Prix racing was quite a simple and straightforward affair. Each year the aim of a designer was to produce a car which went quicker than his rivals'. The sport's governing body didn't really interfere in how he did so, apart from periodically changing the engine regulations, so he was generally left to pursue whatever technical avenue caught his fancy.

It is difficult to pinpoint the precise moment in Formula 1 history when this comfortable status quo started to change. My guess is that when Italian hero Lorenzo Bandini burned to death beneath his upturned Ferrari in the 1967 Monaco Grand Prix, the emphasis began to shift. This gruesome and horrifying spectacle gave even more impetus to the safety lobby that had been initiated by Jackie Stewart the previous season, after he'd been trapped in his upturned BRM after crashing on the opening lap of the Belgian Grand Prix. But whereas the main focus of Stewart's attention had been circuit safety and security, the Bandini accident alerted people to the need for safer car construction.

Through the 1970s, car construction was to improve steadily. By 1973, fuel cells had to be protected by external deformable structures in an attempt to prevent spillage in an accident, but matters became more complex the following decade as design technology, aerodynamic knowledge and ever-increasing engine power forced Formula 1 into a competitive spiral the like of which it had never previously experienced.

Grand Prix racing thus became akin to a giant technical chess game, with the rule-makers attempting to arrest lap speeds at the same time as ever more competitive designers were producing cars which cornered faster and braked later, a line of development which threatened to render many circuits obsolete unless matters were more properly contained.

Probably the biggest single breakthrough in chassis performance had come in 1977 when the late Colin Chapman, boss of the Lotus team, harnessed the airflow beneath the car to produce ground effect, the creation of a low pressure area under the chassis which, almost literally, sucked it down onto the track. This development produced the biggest ever tweak to the lap speed spiral.

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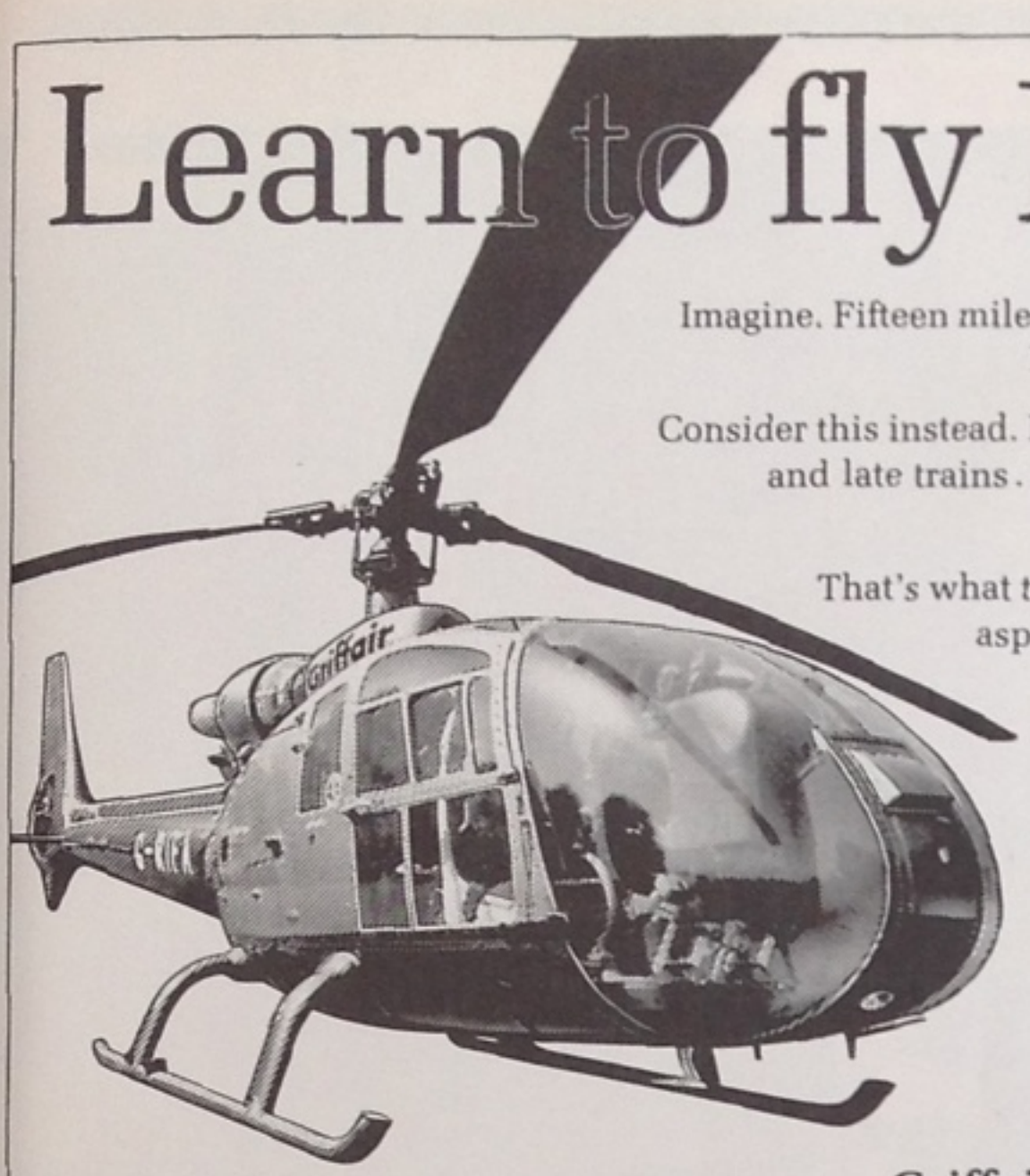

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On the face of it, FISA was concerned about the way in which ground effect dramatically raised cornering speeds. At the end of 1980, the sliding aerodynamic side skirts – which were an absolutely fundamental element in the ground effect equation – were banned by FISA. Unfortunately, this came at a time when Ferrari and Renault were pioneering the development of turbo-charged engine and the British-based teams, aligned within the Formula One Constructor's Association, took the view that the sport's masters were trying to tilt the balance in favour of these two high profile teams whose chassis technology was then crude, to say the least.

FISA has always had the whip hand in these sorts of dealings. Although two years' notice has to be given of a rule change, the governing body can bypass this requirement on the grounds of safety. And the FOCA members believe this provides a loophole for

FISA is regarded as having made a public relations disaster over its reluctance to insist on lead-free fuel in Formula 1 for 1991. Yet, only Agip supported this decision . . .

instant rule changes that FISA sometimes finds all too irresistible.

There followed two years of unpleasantness and confrontation, pirate races and boycotted events, before everything settled down into some semblance of accord. Even so, when FISA totally banned ground effect side pods for the 1983 season, initiating the rule change less than three months before the start of the year, tensions again ran high. Since then, designers have become accustomed to such changes being made at uncomfortably short notice.

Yet at Monza last year, FISA president Jean-Marie Balestre stopped everybody in their tracks. Major rule changes were to be introduced – on the grounds of safety, of course – for 1991, he hinted. These would demand that the flat undersides, currently demanded from the rear of the front wheels to the front of the rear wheels, would now be extended virtually for the full length of the entire car!

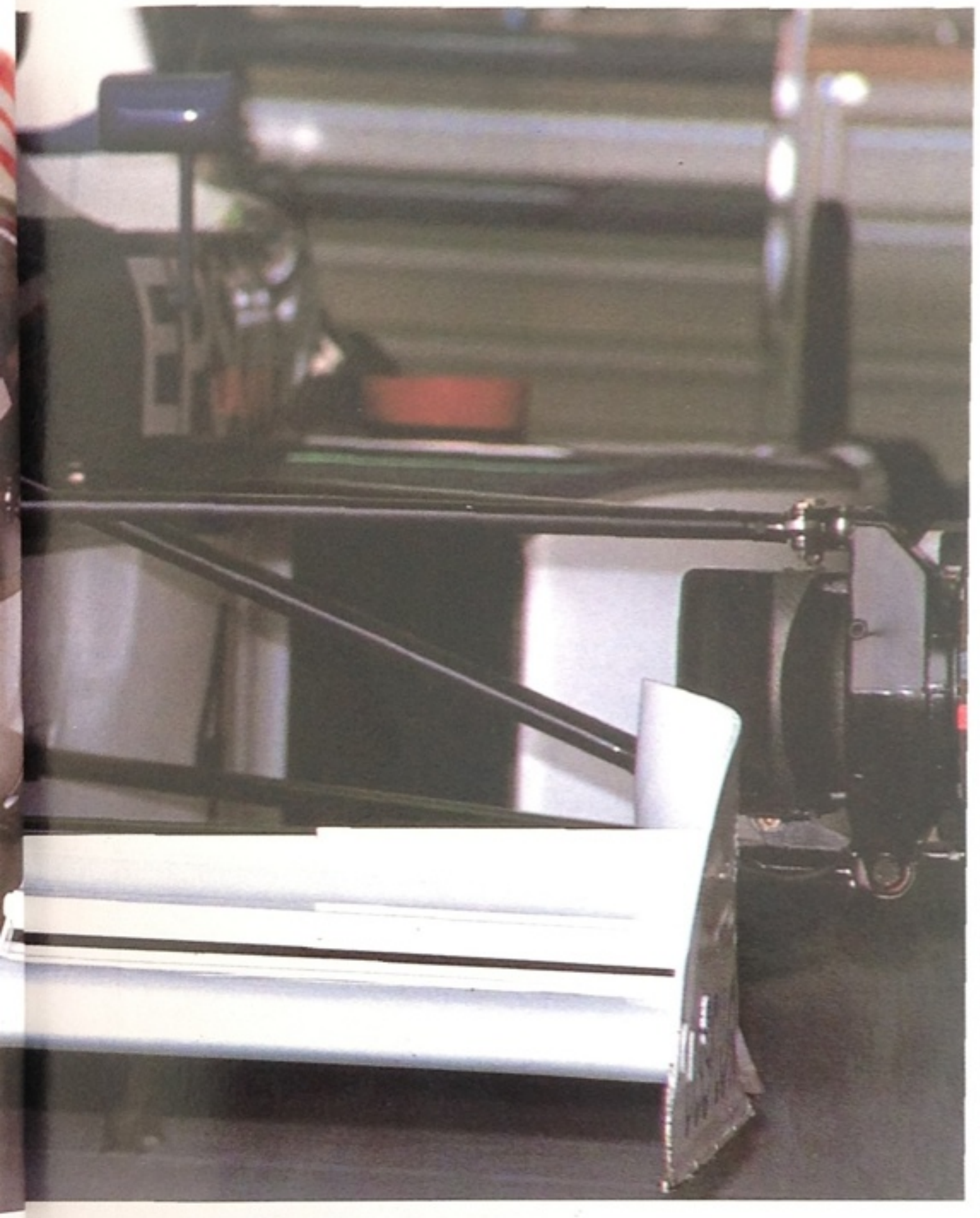
Designers were aghast. Not only

would this rule out the Tyrrell team from continuing its novel line of aerodynamic development, with an upswept underside to the nose section, it would also involve teams such as Williams and Ferrari scrapping developments in the pipeline at the cost of many hundreds of thousands of dollars. In the current economic climate, with many teams struggling to balance their budgets, this just wasn't on. Mercifully, somebody had a word in Jean-Marie's ear and the rules changes were initially deferred until 1992, then shelved indefinitely.

FISA's statement on the matter reads as follows: 'The other proposals for 1992, and in particular those concerning the increasing of the cockpit dimensions, are postponed until a later date, FISA reserving the right to modify the regulations at the time for safety reasons in pursuance of Chapter 15 of the International Sporting Code'.

On the face of it, the wing changes required for 1991 seem trivial, but should result in a reduction of about ten per cent in the car's overall aerodynamic efficiency from the start of the year. In order to reduce downforce, the rear wings have been moved forwards 100mm and the span of the front wings have been further limited. More crucially, the aerodynamic side skirts on those front wings must now be positioned some 25mm higher than they were last year. This will mark, in effect, the starting point for the battle of designers in 1991; by the end of the season, most pundits predict that lap speeds will be higher than they were at the same time last year.

Yet restricting the performance of Formula 1 cars merely by applying constraints to chassis performance is not universally regarded as the answer. 'It is my own belief that engines have become too powerful for the aerodynamics', says Harvey Postlethwaite, technical director of Braun Tyrrell Honda. 'We should really



be concentrating on how to reduce outputs by around 50bhp'.

Benetton team technical director John Barnard is in absolute agreement, feeling that FISA is over-reluctant to legislate against engine-makers, thereby throwing a disproportionate burden on the chassis builders.

'Unless you're going to be racing with at least 700bhp in 1991, you're not going to be in the running,' he explains. 'Most of the increases in lap speeds seen in Formula 1 during 1990 were due to increased engine power. I believe that a power reduction could be made quite easily by changing the fuel specification, although I accept that that is not as straightforward as it may seem.

'The technology stakes in Formula 1 are currently higher than ever and a written definition for a new fuel specification would be very difficult to prepare. But unless engine horsepower is limited, Formula 1 will continue to see a continuing divergence between chassis and engine technology.'

Put simply, FISA has always tended to be rather deferential towards the engine-makers. Having considerably raised the sport's international profile by attracting the likes of Honda, Renault, Ford, Porsche and Yamaha into the fray, they are not going to rock the boat by imposing regulations which might frighten them away.

To the chassis manufacturers, this may seem a trifle unfair, but it is founded on apparent rock-hard logic. Honda, Renault, Ford and the others may benefit from Grand Prix racing, but they don't need it in absolute terms. If times become hard, if there's a change of policy at senior management level, then Formula 1 can go by the board. Their basic business won't be directly and immediately affected.

Benetton, Tyrrell, Williams, McLaren and all their rivals rely on Grand Prix racing for their livelihood. Formula 1 is their business. FISA knows this and appreciates that while the chassis-makers may grumble, they can be made to comply. Even so, the decision to put further major changes to the technical regulations "on hold" indicates that even the sport's masters realise it would be unwise to push too far in an atmosphere of commercial belt-tightening.

One area where FISA is generally regarded as having made a public relations blunder is over its reluctance to insist on lead-free fuel in Formula 1 for 1991. Towards the end of last season, Shell, Elf, BP were all in favour of unleaded which, indeed, McLaren had used in 15 of the season's 16 races – yet Agip held out unremittingly against the tide of opinion.

As Ferrari's fuel supplier, Agip had produced an extremely potent brew which was a major factor in raising the level of the Italian team's game in the second half of 1990. They didn't want to see that advantage dissipated, going into the new season. Surprisingly, FISA sided with the minority view and allowed leaded fuel in Formula 1 through until the end of this year.

The engineering excellence characterised within Grand Prix has advanced to the point where it has become its worst enemy, raising optimistic expectations of driver survival.

Roger Lindsay, Shell International's head of fuels development, counselled that a switch to lead-free regulations was a matter of some urgency: 'Clearly, Formula 1 cannot stand aloof from public concerns,' he explained, 'and Shell's switch to unleaded gasoline for Formula 1 purposes reflects new developments and fresh concerns. People who are involved in, or spectate, Formula 1 events should not be subjected to an environment any poorer than they would encounter, say, in a street or in a workshop.'

The engineering excellence characterised within the Grand Prix environment has accelerated dramatically over the past few years to the point where it has almost become its own worst enemy, raising people's expectations for driver survival to dangerously optimistic levels. There have been two major accidents involving driver injury over the last two ▶

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seasons and, curiously, the overwhelming paddock reaction has been to wonder why the cars concerned fell apart in the impact, rather than rejoicing over the fact that their drivers survived at all.

The first of these incidents occurred in the 1989 San Marino Grand Prix at Imola, where Gerhard Berger's Ferrari plunged off the road into the retaining wall on the flat-out left hander immediately after the pits. The car was destroyed and caught fire, but the conflagration was quickly extinguished by vigilant track marshals. A few weeks later, Berger was back in the cockpit for the Mexican Grand Prix.

The second accident was even more serious. Practising for the 1990 Spanish Grand Prix at Jerez, Martin Donnelly's Lotus suffered a component failure and he crashed into a barrier at an impact speed later estimated to be in the region of 140mph. There was no fire, but the carbon-fibre composite chassis

Rule-makers were attempting to correct lap speeds at the same time as designers were producing cars that cornered faster and braked later.

virtually atomised in the impact and the 26-year-old Ulsterman was hurled out onto the circuit.

Thanks to prompt medical attention, Donnelly survived and is currently on schedule to make a full physical recovery from the multiple fractures and other injuries he sustained. That he survived at all was a tribute to the technology which goes into today's Grand Prix cars.

John Barnard summed up the dilemma: 'In these accidents, absorbing the enormous kinetic energy developed by a racing car at speed is one of the keys to driver survival. In actually breaking up, the chassis were absorbing that energy. Theoretically, we could make the chassis as strong as a tank, but they would have no impact-absorption qualities and the drivers would be killed instantly by the huge deceleration forces.'

In thhe 1950s and '60s, international motor racing killed its participants on a regular basis. It was a risk of the game, to be shrugged aside. Concern extended little further than the obituary in the following week's motor racing magazines. But such a situation would not be tolerated in today's survival-orientated environment.

Had Lorenzo Bandini been driving a contemporary Grand Prix car when he had his accident at Monaco, he would probably have climbed from his upturned machine and strolled back to the pits. That is a measure of how far Formula 1 design technology has come over the past two decades. Grand Prix racing will never be safe, but it's certainly a lot safer in 1991 than it has ever been during its history. ■

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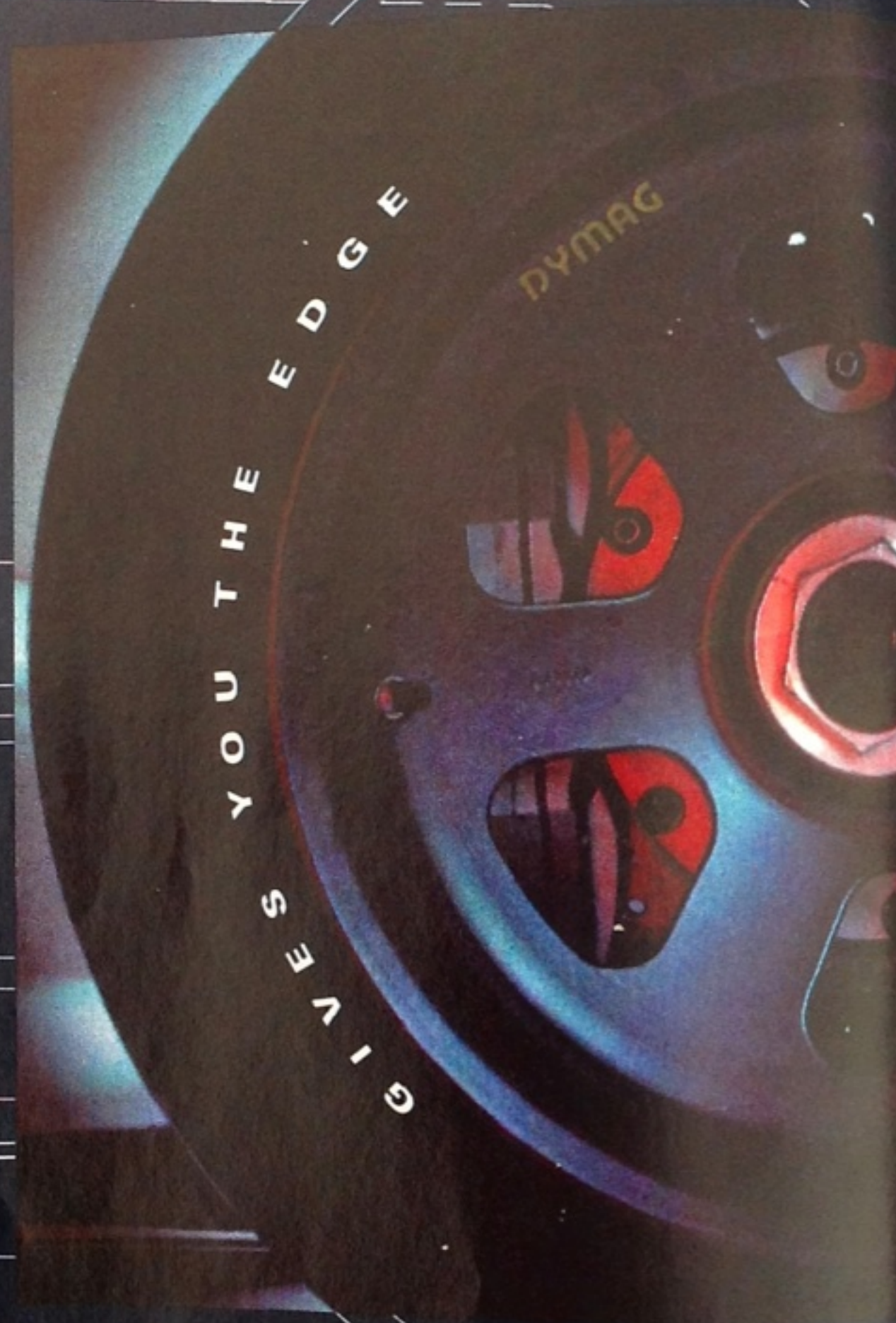

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1991 world championship entry list

No.	Driver.	Car
1.	Ayrton Senna (BR)	McLaren-Honda MP4/6
2.	Gerhard Berger (A)	McLaren-Honda MP4/6
3.	Satoru Nakajima (J)	Tyrrell-Honda 020
4.	Stefano Modena (I)	Tyrrell-Honda 020
5.	Nigel Mansell (GB)	Williams-Renault FW14
6.	Riccardo Patrese (I)	Williams-Renault FW14
7.	Martin Brundle (GB)	Brabham-Yamaha BT60
8.	Mark Blundell (GB)	Brabham-Yamaha BT60
9.	Michele Alboreto (I)	Footwork-Porsche
10.	Alex Caffi (I)	Footwork-Pooorsche
11.	Mika Hakkinen (FIN)	Lotus-Judd 102B
12.	Martin Donnelly (GB)	Lotus-Judd 102B
14.	Olivier Grouillard (I)	Fondmetal-Cosworth
15.	Mauricio Gugelmin (BR)	Leyton House-Ilmor
16.	Ivan Capelli (I)	Leyton House-Ilmor
17.	Gabriele Tarquini (I)	AGS-Cosworth JH26
18.	Stefan Johansson (SWE)	AGS-Cosworth JH26
19.	Roberto Moreno (BR)	Benetton-Ford B191
20.	Nelson Piquet (BR)	Benetton-Ford B191
21.	Emanuele Pirro (I)	Dallara-Judd
22.	J.J. Lehto (FIN)	Dallara-Judd
23.	Pierluigi Martini (I)	Minardi-Ferrari M191
24.	Gianni Morbidelli (I)	Minardi-Ferrari M191
25.	Thierry Boutsen (B)	Ligier-Lamborghini JS35
26.	Erik Comas (F)	Ligier-Lamborghini JS35
27.	Alain Prost (F)	Ferrari 642
28.	Jean Alesi (F)	Ferrari 642
29.	Eric Bernard (F)	Larrousse-Hart L91
30.	Aguri Suzuki (J)	Larrousse-Hart L91
31.	Pedro Chaves (PORT)	Coloni-Cosworth
32.	Betrand Gachot (B)	Jordan-Ford 191
33.	Andrea de Cesaris (I)	Jordan-Ford 191
34.	Nicola Larini (I)	Lambo 291
35.	Eric van de Poele (B)	Lambo 291

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HEADQUARTERS: McLaren International Ltd, Woking Business Park, Albert Drive, Woking, Surrey GU21 5JY
Tel:(0483) 728211.
Managing director: Ron Dennis
Technical director: Neil Oatley
Team manager: Davey Ryan
ENGINES: Honda RA121E V12
TYRES: Goodyear

Founded by the immensely popular New Zealander Bruce McLaren in 1963, originally to race Tasman Formula single seaters and big-engined sports cars, the company continued to grow and flourish under the control of fellow founder director Teddy Mayer after Bruce was killed in a testing accident at Goodwood in June, 1970. Consistently competitive through to the mid-1970s, McLaren's star faded with the onset of ground effect technology, only being revitalised when sponsors Marlboro demanded an amalgamation with the Project 4 team founded by Ron Dennis and Creighton Brown in mid-1980. With John Barnard as technical director, the re-formed company rocketed back to competitive prominence, consistently hitting the jackpot with TAG turbo and Honda-engined cars from 1984 to the present day.

RECORD TO START OF 1991: 346 Grands Prix contested – 86 wins, 67 pole positions. First GP: Monaco, 1966. Constructors' World Championship: 1974, '84, '85, '88, '89 and '90. Drivers' World Championship: 1974 (Emerson Fittipaldi), 1976 (James Hunt), 1984 (Niki Lauda), 1985 and '86 (Alain Prost), 1988 (Ayrton Senna), 1989 (Alain Prost) and 1990 (Ayrton Senna).

1991 DRIVER LINE-UP

AYRTON SENNA – carrying race number 1.
Aged 31. Brazilian, born Sao Paulo, March 21, 1960. Unmarried. Lives in Sao Paulo and Monaco. First GP: Brazil, 1984 (Toleman).
Championship placings: 1984 (Toleman), 9th; 1985 (Lotus), 4th; 1986 (Lotus), 4th; 1987 (Lotus), 3rd; 1988 (McLaren), 1st; 1989 (McLaren), 2nd; 1990 (McLaren), 1st. 110 Grands Prix – 26 wins.

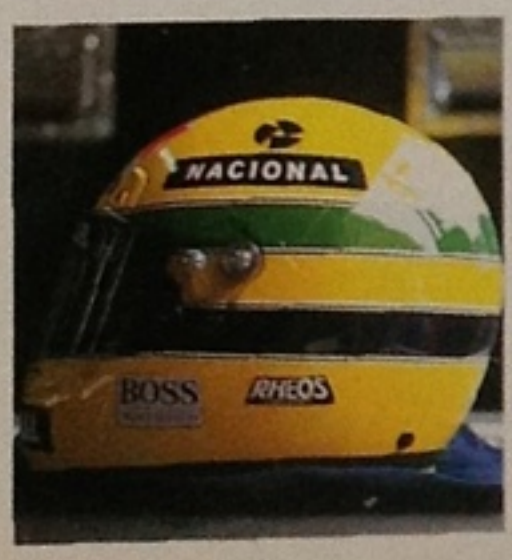
GERHARD BERGER – carrying race number 2.
Aged 31. Austrian, born Vienna, August 27, 1959. Unmarried. Lives in Austria and Monaco. First GP: Austria, 1984 (ATS).
Championship placings: 1984 (ATS), no points; 1985 (Arrows), 17th; 1986 (Benetton), 7th; 1987 (Ferrari), 5th; 1988 (Ferrari), 3rd; 1989 (Ferrari), 7th; 1990 (McLaren), 3rd. 99 Grands Prix – 5 wins

1991 PROSPECTS

Seeking yet again to raise the stakes at the front of the field, aiming for a fourth consecutive Drivers and Constructors Championship with all-new Honda V12 propelling latest MP4/6 chassis. As usual, new car finished less than a fortnight prior to the first round of the Championship, in line with proven McLaren long-time philosophy of "build late, build right." Has strength in depth the like of which few other teams can match. In addition to a very strong driving team of Senna and Berger, has Jonathan Palmer as full-time test driver concentrating mainly on Japanese-based engine development programme, 20-year old Scot Allan McNish being tutored as long-term bet and Indy car star Michael Andretti – son of 1978 World Champion Mario – also under assessment.

Ayrton Senna

Gerhard Berger



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Tel: (04865) 4955
Chairman: Ken Tyrrell
Managing director: Bob Tyrrell
Technical director: Harvey Postlethwaite
Team manager: Rupert Manwaring
ENGINES: Honda RA101E V10
TYRES: Pirelli

Ken Tyrrell's first love was football, but when his local club organised a trip to Silverstone in the early 1950s, he tagged along. Since that day, motor racing has eclipsed soccer as his great passion, although some people reckon by only a narrow margin! He raced in 500cc Formula 3 before appreciating that he had more management skills than driving talent. Gave Jackie Stewart his professional break in Formula 3 Cooper-BMC at the start of 1964, then made it into Formula 1 four years later using French Matras with Ford Cosworth engines and the "wee Scot" behind the wheel. Stewart blazed to World Championships in 1969 with Matra, then 1971 and 1973 with Ken's own cars. Only intermittent success since Stewart's retirement at the end of 1973, but things could change this year.

RECORD TO START OF 1991: 288 Grands Prix contested – 23 wins. 14 pole positions. First GP: South Africa, 1968 (with Matra-Ford), Canada, 1970 (as constructor of own car). Constructors' World Championship, 1971. Drivers' World Championship: (with Matra) 1969, (with own car) 1971 and 1973 (Jackie Stewart).

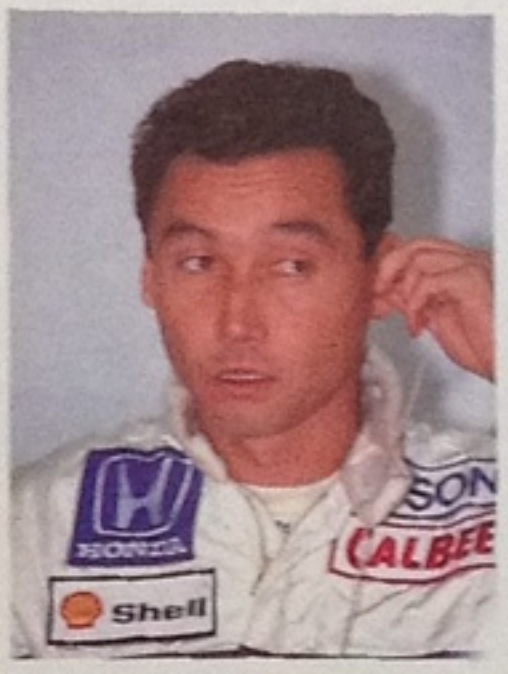
1991 DRIVER LINE-UP

SATORU NAKAJIMA: carrying race number 3.
Aged 38. Japanese, born Okazaki City, Aichi Prefecture, Japan, February 23, 1953. Married to Akemi, two sons (Kazuki and Daisuke). Lives in Okazaki City. First GP: Brazil, 1987 (Lotus). Championship placings: 1987 (Lotus), 12th; 1988 (Lotus), 16th; 1989 (Lotus), 1989 (Lotus), 21st; 1990 (Tyrrell), 9th. Best placings to date: 4th, Britain, 1987, and Australia, 1989.

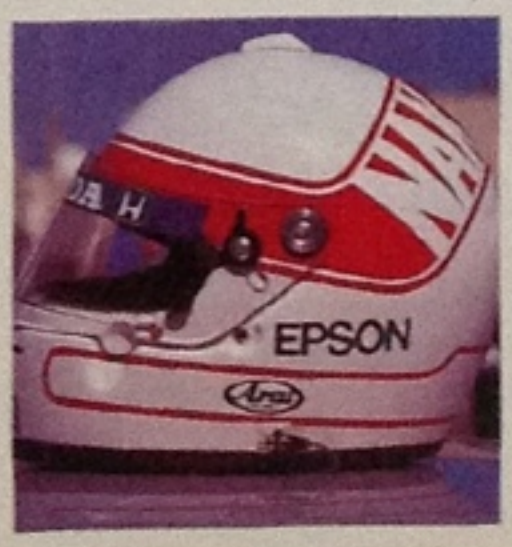
STEFANO MODENA – carrying race number 4.
Aged 27. Italian, born Modena, May 12, 1963. Lives Modena. First GP: Australia, 1987 (Brabham). Championship placings: 1987 (one race for Brabham), no points. 1988 (EuroBrun), no points; 1989 (Brabham), 16th; 1990 (Brabham), 16th. Best placing to date: 3rd, Monaco, 1989.

1991 PROSPECTS

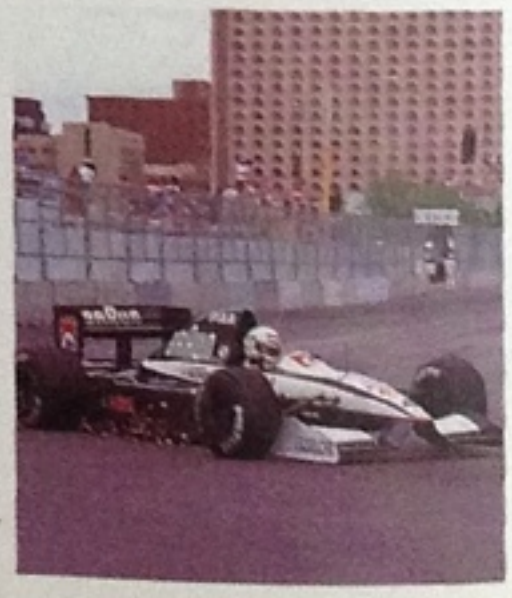
Having lost man-of-the-moment Jean Alesi to Ferrari, Tyrrell is hoping the first season of his contract to use Honda's proven V10 cylinder engine will catapult his team back into the Grand Prix winner's circle for the first time since 1983. Car is development of last year's distinctive aerodynamic theme featuring anhedral front aerofoils and upswept underside to front of monocoque which proved so remarkably effective with Cosworth V8 power in 1990 – and is now being imitated by others. A big chance for ex-Brabham driver Stefano Modena who could now be on the verge of stardom.



Satoru Nakajima



Stefano Modena



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HEADQUARTERS: Williams Grand Prix Engineering Ltd, Basil Hill Road, Didcot, Oxon. Tel: (0235) 815161
Managing director: Frank Williams
Technical director: Patrick Head
Commercial director: Sheridan Thynne
Team manager: Peter Windsor
ENGINES: Renault RS3 V10
TYRES: Goodyear

Frank Williams entered motorsport as an impecunious saloon car racer in 1962, moved into Formula 1 with a private Brabham fielded for brewery heir Piers Courage in 1970 and gradually built his team into one of the most consistently competitive organisations in Formula 1. Along the way, there were plenty of set-backs. Courage was killed in a Williams team de Tomaso during the 1970 Dutch Grand Prix, after which Frank's fortunes spiralled steadily down to hit rock-bottom in the mid-1970s. Losing control of his financially insolvent team in 1976, he brushed himself down and started again from scratch the following year. By 1979 Williams GPE had scored its maiden Grand Prix victory, the following year its first World Championship title. Since then, only the 1988 season failed to yield the team at least one Grand Prix win. Despite being paralysed from the chest down in a car accident in 1986, Frank continues to preside over his team with an enthusiasm absolutely undiminished after thirty seasons in the business.

RECORD TO START OF 1991: 265 Grands Prix contested – 44 wins. 31 pole positions. First GP: (with Brabham) Spain, 1969 (with Williams), Argentina, 1973. Constructors' World Championship: 1980, '81, '86 and '87. Drivers' World Championship: 1980 (Alan Jones), 1982 (Keke Rosberg) and 1987 (Nelson Piquet).

1991 DRIVER LINE-UP

NIGEL MANSELL – carrying race number 5.

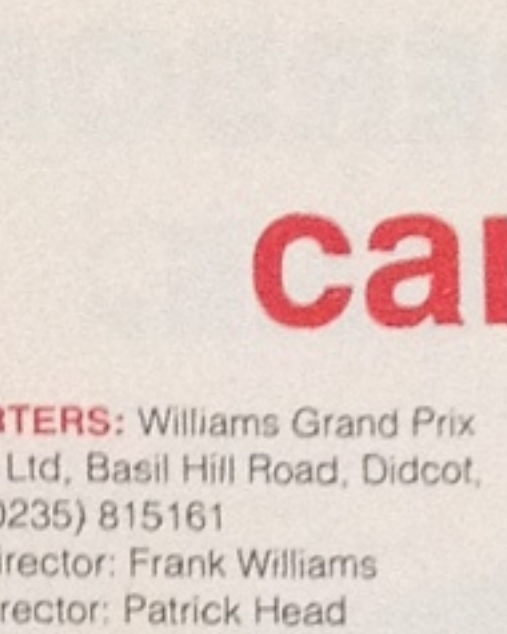
Aged 36. British, born Upton-on-Severn, August 8, 1954. Lives in Port Erin, Isle of Man. Married to Rosanne. Three children (Chloe, Leo and Greg). First GP: Austria, 1980 (Lotus). Championship placings: 1980 (Lotus), no points; 1981 (Lotus), 14th; 1982 (Lotus), 14th; 1983 (Lotus), 12th; 1984 (Lotus),9th; 1985 (Williams), 6th; 1987 (Williams), 2nd; 1988 (Williams), 10th; 1989 (Ferrari), 4th; 1990 (Ferrari), 5th. 149 Grands Prix – 16 wins.

RICCARDO PATRESE – carrying race number 6.

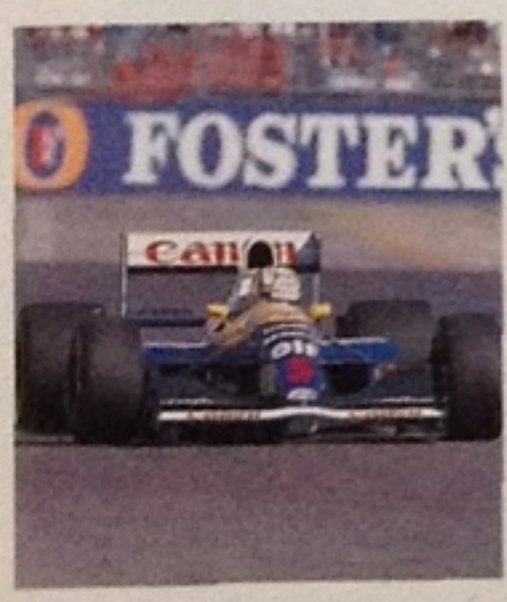
Aged 36. Italian, born Padua, April 17, 1954. Married to Susy, one son (Simone) and twin daughters (Beatrice and Maddalena). Lives in Padua and Monaco. First GP: Monaco, 1977 (Shadow). World Championship placings: 1977 (Shadow), 19th; 1978 (Arrows), llth; 1979 (Arrows), 19th; 1980 (Arrows), 9th; 198l (Arrows), 11th; 1982 (Brabham), 10th; 1983 (Brabham), 9th; 1984 (Alfa Romeo), 13th; 1985 (Alfa Romeo), no points; 1986 (Brabham), 15th; 1987 (Brabham), 13th; 1988 (Williams), 11th; 1989 (Williams), 3rd; 1990 (Williams), 7th. 208 Grands Prix – 3 wins.

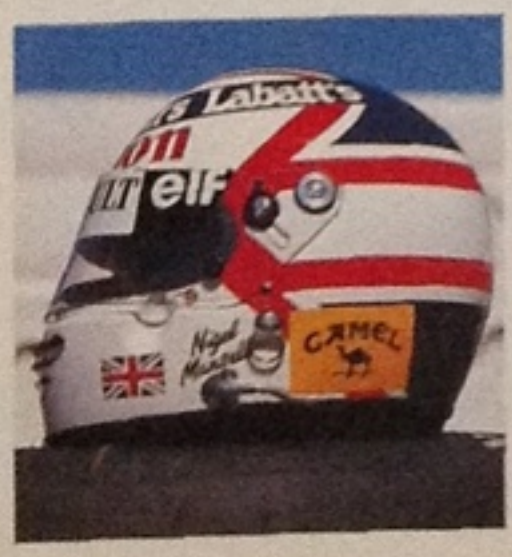
1991 PROSPECTS

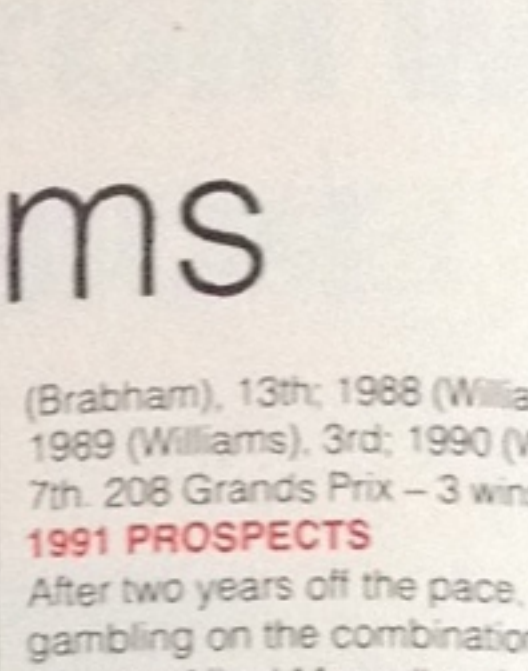
After two years off the pace, Williams is gambling on the combination of returnee Nigel Mansell and the totally new FW14 chassis powered by latest Renault RS3 V10 to reassert its role as World Championship contender for firs time since losing Honda turbo engines at the end of 1987. Mansell professes t be more motivated than ever, but with Championship points from all 16 round counting for overall total this year, an early season unreliability could penalis Nigel heavily.



Nigel Mansell







Riccardo Patrese

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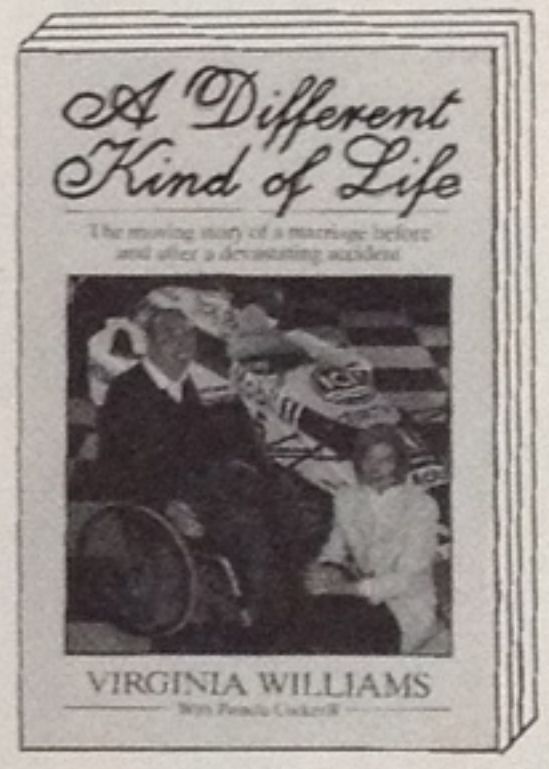

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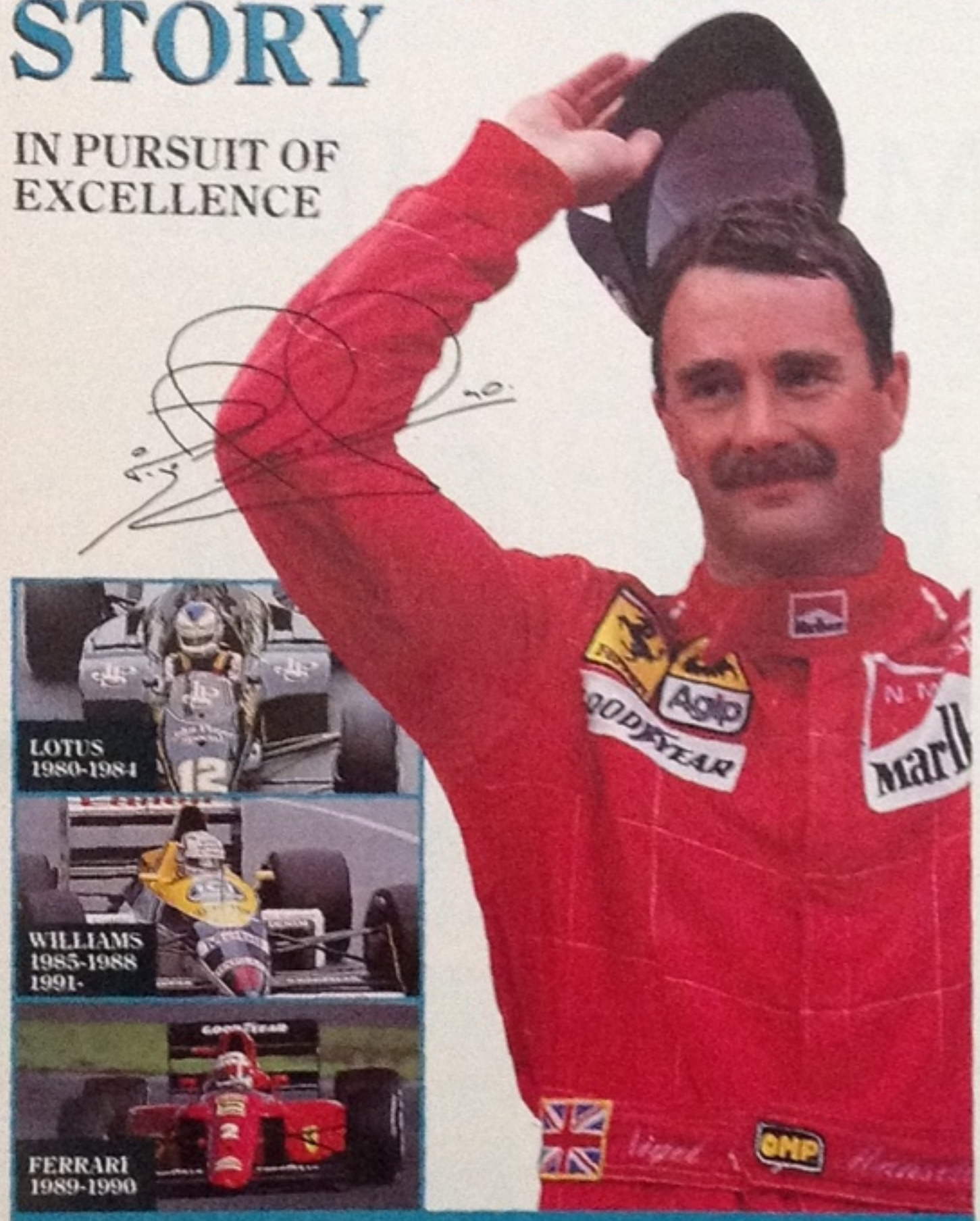

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Tel: (081) 391 0121
Managing director: Herbie Blash
Chief designer: Sergio Rinland
Team manager: Dave Price
ENGINES: Yamaha V12
TYRES: Pirelli

The first Brabham Formula 1 car raced in the 1962 German Grand Prix handled by Jack – now Sir Jack – Brabham who had already won the 1959 and '60 World Championships for Cooper. Using a lightweight Australian Repco 3-litre V8 engine, he took a third title in 1966, thereby becoming the only driver to date to win a Championship in a car bearing his own name. New Zealander Denny Hulme won the Championship in 1967 at the wheel of a Brabham and Jack retired at the end of 1970, selling company to longtime partner Ron Tauranac who quickly re-sold to entrepreneur Bernie Ecclestone.

Thereafter, the team rose spectacularly in stature as Ecclestone consolidated his power base within the sport as president of the influential Formula One Constructors' Association. Nelson Piquet won Championships for them again in 1981 and '83 before Brabham withdrew from Formula 1 at the end of '87, briefly passing into the control of Alfa Romeo – for whom they built 164 prototype for stillborn "silhouette" racing formula. Control then passed to Swiss financier Joachim Luthi, subsequently incarcerated for alleged currency irregularities, thence to Japanese-controlled Middlebridge Group.

RECORD TO START OF 1991: 375 Grands Prix contested – 35 wins. 39 pole positions. First GP: Germany, 1962. Constructors' World Championship, 1966. Drivers' World Championship: 1966 (Jack Brabham), 1981 and '83 (Nelson Piquet).

1991 DRIVER LINE-UP

MARTIN BRUNDLE – carrying race number 7.
British, born Kings Lynn, Norfolk, June 1, 1959. Married to Elizabeth (two children). Lives at Gayton, near Kings Lynn. First GP: Brazil, 1984 (Tyrrell). Championship placings: 1984 (Tyrrell), team's points disallowed; 1985 (Tyrrell), no points; 1986 (Tyrrell), 11th; 1987 (Zakspeed), 18th; 1988 (one race for Williams), no points; 1989 (Brabham), 16th; 1990, did not compete. Best result to date: 4th, Australia, 1986.

MARK BLUNDELL – carrying race number 8.
British, born Barnet, Hertfordshire, April 8, 1966. Unmarried. Lives in Royston, Hertfordshire. New to Formula 1 this season.

1991 PROSPECTS

With a new, all British driving team and a totally new V12 engine from Yamaha, the Brabham team is aiming high in 1991 after a couple of inconclusive seasons struggling with Judd V8 power. Brundle leading team after Le Mans-winning sabbatical with TWR Jaguar sports cars last season, Yamaha returning to fray after a year's absence following catastrophic V8 programme with German Zakspeed team in 1989. New boy Blundell has considerable Formula 1 driving experience as Williams test driver to build on. Japanese manufacturer has set up European engine base in Northampton premises initially established for still-born Proteus/Aston Martin sports car project. ■

Martin Brundle

Mark Blundell

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HEADQUARTERS: Footwork Arrows International, 39 Barton Road, Water Eaton Industrial Estate, Bletchley, Milton Keynes, Bucks ML2 3HW. Tel: (0908) 270047.
Managing director: Jack Oliver
Team manager: John Wickham
Technical director: Alan Jenkins.
ENGINES: Porsche V12
TYRES: Goodyear
Middle-ranking Formula 1 squad who hit the headlines in 1978 when a High Court action from rival Shadow team, from whose ranks the Arrows founders had defected, established that the Arrows A1 was in fact direct copy of Shadow DN9. Despite displaying some intermittent flair over the years, Arrows never quite managed to follow up their early promise with any consistent success. At the end of 1989 the team passed into the control of the Japanese Footwork Corporation whose business interests range from specialist courier and delivery services to catering and hotels. Now well-funded with a well-equipped new research and development centre at their Milton Keynes headquarters.

RECORD TO START OF 1991: 197 Grands Prix – 0 wins. 1 pole position. First GP: Brazil, 1978. Best placing in Constructors' Championship: 4th, 1988.

1991 DRIVER LINE-UP

MICHELE ALBORETO – carrying race number 9.
Aged 34. Italian. Born Milan, December 23, 1956. Married to Nadia. Two children. Lives in Monaco. First GP: San Marino, 1981 (Tyrrell). Championship placings: 1981 (Tyrrell), no points; 1982 (Tyrrell), 7th; 1983 (Tyrrell), l2th; 1984 (Ferrari), 4th; 1985 (Ferrari), 2nd; 1986 (Ferrari), 8th; 1987 (Ferrari), 7th; 1988 (Ferrari), 5th; 1989 (Tyrrell and LC Lola), 11th; 1990 (Arrows), no points. 144 . Grands Prix – 5 wins.

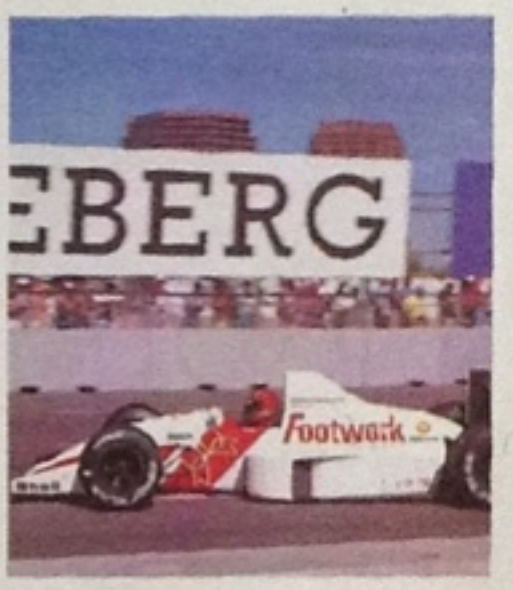
ALEX CAFFI – carrying race number 10.
Aged 27. Italian, born Rovato, March 18, 1964. Unmarried. Lives in Rovato. First GP: Italy, 1986 (Osella). Championship placings: 1986 (Osella), no points; 1987 (Osella), no points; 1988 (Dallara), no points; 1989 (Dallara), 16th; 1990 (Arrows), 16th. Best placing to date: 4th, Monaco, 1989

1991 PROSPECTS

Embarking on ambitious, long-term programme with purpose-built Porsche V12 engine. Arrows have been Formula 1 also rans for more than a decade, but outright race victories have continued to elude them. Initially, testing shows new engine to have development problems and new A12 chassis will not be ready until third race, obliging team to muddle through first two races with unsuitable A11C test car, a throwback to last year's indifferent programme. New Porsche engine significantly over-weight, so success may hinge on whether Arrows will produce a chassis to match Formula 1's proven front runners. Alboreto and Caffi may look jaded, but should pep up well if car eventually proves competitive. ■

Michele Alboreto

Alex Caffi



Photos: Words and Pictures

teamlotus

HEADQUARTERS: Team Lotus International, Ketteringham Hall, Wymondham, Norfolk, NR18 9RS.
Tel: (0603) 811190
Managing director and general manager: Peter Collins
R & D director: Peter Wright
Technical director: Enrique Scalabroni
ENGINES: Judd EV V8.
TYRES: Goodyear

Founded by the legendary Colin Chapman in 1954, initially to race sports cars, Team Lotus's reputation as dynamic technical innovators on the Grand Prix scene evaporated following the death of their inspirational founder in 1982. The 1990 season saw an intended fight-back with Lamborghini engines collapse into disarray and promising new recruit Martin Donnelly grievously injured in Spanish Grand Prix practice accident.

Chapman forged a memorable alliance with the great Jim Clark to dominate the Grand Prix scene from 1962 until the gentle Scottish border farmer was killed at the start of 1968, signalling the end of the era of the great sporting amateur competitor. The early 1970s saw the sensational Lotus 72 dominating the scene, while Chapman later harnessed the airflow beneath the car to produce prodigious aerodynamic downforce in 1977. He died of a heart attack on December 15, 1982, leaving a tangle of controversy surrounding the involvement of Group Lotus with the abortive de Lorean project.

The 1960s also saw Lotus storm the bastions of the US racing establishment when Clark won the prestigious Indianapolis 500 in 1965, at his third attempt. The company has also achieved success in sports car racing.

RECORD TO START OF 1991: 410 Grands Prix contested – 79 wins. 107 pole positions. First GP: Monaco, 1958. Constructors' World Championship: 1963, '65, '68, '70, '72, '73 and '78. Drivers' World Championship: 1963 and '65 (Jim Clark). 1968 (Graham Hill), 1970 (Jochen Rindt), 1972 (Emerson Fittipaldi) and 1978 (Mario Andretti).

1991 DRIVER LINE-UP

MIKA HAKKINEN – carrying race number 11.
Aged 22. Finnish, born Helsinki, September 28, 1969. Unmarried.Lives London. New to Formula 1 this season.

MARTIN DONNELLY – carrying race number 12.
Aged 25. British, born Belfast, March 26. 1964. Unmarried. Lives Attleborough, Norfolk. First GP: France, 1989 (Arrows). Championship placings: 1989 (one drive for Arrows), no points; 1990 (Lotus), no points. Best result to date: 8th, Mexico, 1990.

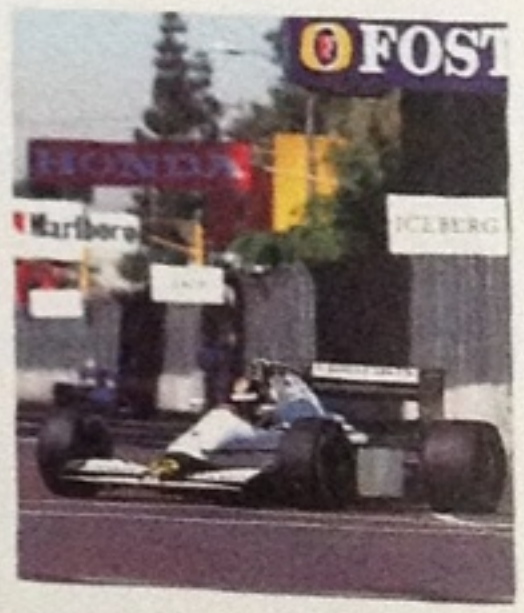
JULIAN BAILEY – carrying race number 12.
Aged 29. British, born October 9, 1961. Unmarried. Lives Cobham, Surrey. First GP: Brazil, 1988 (Tyrrell). Championship placings: 1988 (Tyrrell), no points; 1989 and '90: did not drive in F1. Best result to date: 9th, Detroit, 1988.

1991 PROSPECTS

Team Lotus's ambitious new management team of Collins, Wright and German Formula 3 team owner Horst Schubel face a monumental challenge in rebuilding this once-famous team from its currently depressing state of uncompetitive dereliction. A diet of makeweight Judd V8 engines and a motivated young rising star in the form of Hakkinen should enable them to keep in play through 1991, and to build a platform on which a long-term survival plan can be constructed. Donnelly's return to competitive action may be months away. Julian Bailey will deputise. ■

Mika Hakkinen

Julian Bailey



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HEADQUARTERS: Leyton House Racing, Unit C5, Telford Road, Bicester, Oxon, OX6 OTZ. Tel: (0869) 244747
Managing director: Simon Keeble/Mike Smith
Team manager: Charlie Moody
Technical director: Chris Murphy
ENGINES: Ilmor V10.
TYRES: Goodyear

Leyton House, the brand marketing name used by Tokyo-based millionaire businessman Akira Akagi's multitude of business activities, first became involved in Formula 1 with the March organisation. Following a lengthy, complex and, at times, acrimonious separation in 1989, Leyton House acquired the rights to use the March name exclusively in both Formula 1 and Formula 3000 for a period of ten years, although they subsequently chose to drop this identification. March originally exploded onto the Grand Prix scene two decades ago, building cars for every class from Formula 1 to Formula Ford. Jackie Stewart, Chris Amon and Ronnie Peterson were amongst the great names who lent their credibility to the company's early Grand Prix efforts, but March gradually faded out of Formula 1 towards the end of the 1970s. The subsequent revival under the Leyton House banner initially offered great promise, but the last two seasons have seen their efforts handicapped by poor mechanical reliability and cars that have proved aerodynamically over-sensitive and difficult to set up for differing circuits.

RECORD TO START OF 1991: 198 Grands Prix contested (as March and Leyton House March) – 3 wins. 5 pole positions. First GP (as March), South Africa, 1970; (as Leyton House March), San Marino, 1987. Best placing in Constructors' Championship: 3rd, 1970 and 1973 (as March).

1991 DRIVER LINE-UP

MAURICIO GUGELMIN – carrying race number 15.
Aged 27. Brazilian, born Curitiba, April 20, 1963. Married to Stella. Lives in Esher, Surrey. First GP: Brazil, 1988 (March). Championship placings: 1988 (March), 13th; 1989 (March), 16th; 1990 (Leyton House), no points. Best placing to date: Brazil, 1989, 3rd.
IVAN CAPELLI – carrying race number 16.
Aged 27. Italian, born Milan, May 24, 1963. Unmarried. Lives in Milan. First GP: European, 1985 (Tyrrell). Championship placings: 1985 (Tyrrell), 17th; 1986 (AGS), no points; 1987 (March), 19th; 1988 (March), 7th; 1989 (March), no points; 1990 (Leyton House), 10th. Best placing to date: France, 1990, 2nd.

1991 PROSPECTS

Fourth successive year for current driver partnership, hoping to make the big leap forward after abandoning Judd V8 engines for state-of-the-art V10 produced by Ilmor Engineering, makers of the best engines used today for Indy car racing. Winter testing inconclusive at best, but signs are that the team is still struggling and it will be hard for them to make an impact on Formula 1's established front runners.

Mauricio Gugelmin

Ivan Capelli

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HEADQUARTERS: Automobiles Gonfaronaise Sportive, Zone d'Activité de Circuit di Var, 83590 Gonfaron, France. Tel: 94 609700.
Managing director: Cyril de Rouvre
Team manager: Henri Cochin
Technical director: Michel Costa
ENGINES: Ford-Cosworth DFR V8
TYRES: Goodyear

This small French team began building Formula 3 cars as long ago as 1951, graduating through Formula 2 and 3000 3000 before moving into Formula 1 on a low-key note at the end of 1986. Throughout 1987, with a car built round an old Renault Formula 1 chassis, the AGS proved embarrassingly slow, but enjoyed something of an upsurge when Frenchman Philippe Streiff was signed up for 1988. Sadly, Streiff was paralysed in a pre-season testing accident at Rio at the start of 1989, since when the team has gradually slipped away into the ranks of non pre-qualifiers, more often than not failing to make the field.

RECORD TO START OF 1991: 45 Grands Prix contested – 0 wins. No pole positions. First GP: Italy, 1986. Best placing in Constructors' Championship: 11th, 1987.

1991 DRIVER LINE-UP:

GABRIELE TARQUINI – carrying race number 17.

Aged 29. Italian, born Guilianova Lido, March 2, 1962. Single. Lives Guilianova Lido. First GP: 1987 San Marino (Osella). Championship placings: 1987 (Osella), no points, one race only; 1988 (Coloni), no points; 1989 (AGS), 26th; 1990, no points.

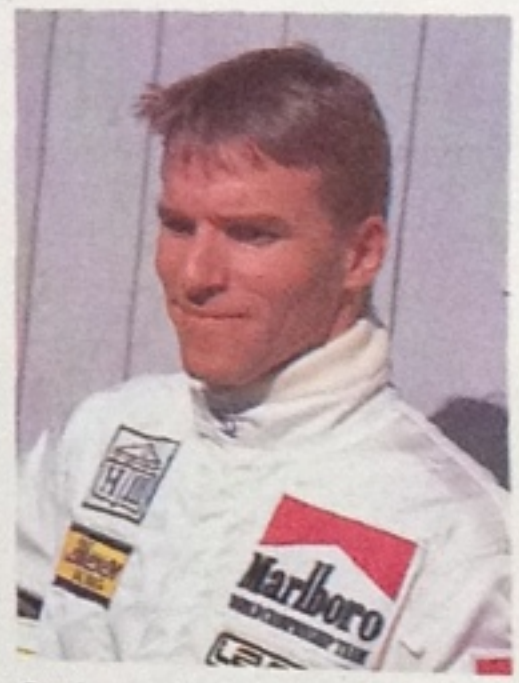
STEFAN JOHANSSON – carrying race number 18.

Aged 34. Swedish, born Vaxjo, September 9, 1956. Unmarried. Lives Monte Carlo. First GP: British, 1983 (Spirit). Championship placings: 1983 (Spirit), no points; 1984 (Tyrrell and Toleman), 16th; 1985 (Tyrrell and Ferrari), 7th; 1986 (Ferrari), 5th; 1987 (McLaren), 6th; 1988 (Ligier), no points; 1989 (Onyx), 11th; 1990 (Monteverdi), no points. Best placings to date: 2nd, Canada and Detroit, 1985, and Belgium and Germany, 1987.

1991 PROSPECTS

After a dismally disappointing 1990 season, unable to hoist itself up from the drudge of pre-qualifying, AGS is continuing to hang on grimly, perhaps significantly aided by a respectable driver line-up. How long they can keep going with only occasional visits to the starting grid is anybody's guess. ■

Gabriele Tarquini



Stefan Johansson

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HEADQUARTERS: Benetton Formula Ltd, Unit 6, Langham Park, Cattershall Lane, Godalming, Surrey, GU7 1DH.
Tel: (0483) 426428
Managing director: Flavio Briatori
Technical director: John Barnard
Team manager: Joan Villadelprat
ENGINES: Ford-Cosworth HB V8s
TYRES: Pirelli

At the start of 1987, Benetton Formula took over as the Ford works-backed Formula 1 team, a positioned strengthened by the recruitment of the highly regarded former McLaren and Ferrari technical director John Barnard late in 1989. The team had its roots in the racing programme started by the Toleman car delivery business which first manufactured its own Formula 2 car used by Brian Henton to win the 1980 European Championship. After four seasons' struggle with Hart turbo four-cylinder engines, the team was sold to the Italian knitwear dynasty whose name it now carries following Toleman's failure to obtain a tyre contact at the start of the 1985 season.

RECORD TO START OF 1991: 137 Grands Prix contested – 3 wins. 3 pole positions. First GP: San Marino, 1981. Best placing in Constructors' Championship: 1988, 3rd.

1991 DRIVER LINE-UP

ROBERTO MORENO – carrying race number 19.
Aged 32. Brazilian. Born Brasilia, February 11, 1959. Married to Celia. Lives in Monaco. First GP: Japan, 1987 (AGS). Championship placings: 1987 (AGS), 19th; 1988 (did not compete); 1989 (Coloni), no points; 1990, 10th. Best result to date: 2nd, Japan, 1990.
NELSON PIQUET – carrying race number 20.
Aged 38. Brazilian, born Rio de Janeiro, August 17, 1952. Unmarried. Lives on yacht in Mediterranean. First GP: Germany, 1978 (Ensign, McLaren and Brabham), no points; 1979 (Brabham), 15th; 1980 (Brabham), 2nd; 1981 (Brabham), lst; 1982 (Brabham), 11th; 1983 (Brabham), lst; 1984 (Brabham), 5th; 1985 (Brabham), 8th; 1986 (Williams), 3rd; 1987 (Williams), 1st; 1988 (Lotus), 6th; 1989 (Lotus), 8th; 1990, 3rd equal. 188 Grands Prix – 22 wins.

1991 PROSPECTS

It wouldn't take much in the way of unreliability amongst the multi-cylinder teams to see Benetton emerging as a strong World Championship contender as the year progresses. Dynamic and forceful technical leadership from John Barnard is working well with seasoned campaigner Nelson Piquet as team leader. Brand new car expected for the third race of the season. Benetton are Pirelli's number one team this season and can be expected to be consistent performers close to the front of the pack.

Roberto Moreno

Nelson Piquet

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HEADQUARTERS: BMS Dallara Scuderia Italia, Via Oberdan 7, 25127 Brescia, Italy. Tel: 3038 1426.
Managing director: Beppe Lucchini
Chief designer: Gianpaolo Dallara
Team manager: Pierpaolo Gardella.
ENGINES: Judd GV V10
TYRES: Pirelli

This small, but determined, Italian came into Grand Prix racing at the start of the 1988 season, using an uncomplicated Ford/Cosworth-engined machine designed by Gianpaolo Dallara. This engineer had been involved in motor racing design consultancy work for more than 20 years, numbering the 1970 Frank Williams team Formula 1 de Tomaso amongst his achievements.

The team is owned by wealthy historic car collector Beppe Lucchini, a great enthusiast who has invested a great deal of his own personal money in the project.

RECORD TO START OF 1991: 46 Grands Prix contested – 0 wins. No pole positions. First GP: San Marino, 1988. Best placing in Constructors' Championship: 1989, 8th.

1991 DRIVER LINE-UP

EMANUELE PIRRO – carrying race number 21.
Aged 29. Italian, born Rome, January 12, 1962. Unmarried. Lives Rome. First GP: France, 1989 (Benetton). Championship placings: 1989 (Benetton), 23rd; 1990, no points. Best result to date: 5th, Australia, 1989.

J.J. LEHTO – carrying race number 22.
Aged 25. Finnish, born Helsinki, January 31, 1966. Unmarried. Lives Monte Carlo. First GP: Spain, 1989 (Onyx). No Championship points scored. Best result to date: 12th, San Marino, 1990.

1991 PROSPECTS

Replacing Cosworth V8s with brand new Judd V10s, for which they have an exclusive supply deal, may help this small Italian team sustain its position within the Formula 1 business, but it is hardly likely to accelerate them far up the grid in these high-tech times. Pirro's driving talent has yet to blossom, but Lehto is a man with a future and the young Finn – a protégé of 1982 World Champion Keke Rosberg – deserves close scrutiny. ■

Emanuele Pirro

J.J. Lehto

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HEADQUARTERS: Minardi Team SpA, Via Spallazani 21, ZI. 48018 Faenza (RA), Italy. Tel: 546 620480.
Managing director: Giancarlo Minardi
Team manager: Tadashi Sasaki/Renato Capucci
Chief designer: Aldo Costa
ENGINES: Ferrari V12
TYRES: Goodyear

Giancarlo Minardi originally set up a private Formula 2 team back in 1974, fielding off-the-shelf production cars from Chevron and Ralt before constructing his own Formula 2 chassis in the early 1980s. Graduated to Formula 1 in 1985, using locally made Motori Moderni V6 engines for three troublesome seasons, then showed more promise after a switch to Ford/Cosworth V8 power in 1988. Only scored first Championship point at Detroit in 1988, but came on well last year as one of the most promising Pirelli-equipped teams.

RECORD TO START OF 1991: 92 Grands Prix contested – no wins. No pole positions. First GP: Brazil, 1985. Best placing in Constructors' Championship: 10th, 1988 and '89; 1990, no points.

1991 DRIVER LINE-UP

PIERLUIGI MARTINI – carrying race number 23.

Aged 30. Italian, born Ravenna, April 23, 1961. Unmarried. Lives in Conselice, nr. Faenza, Italy. First GP: Brazil, 1985 (Minardi). Championship placings: 1985 (Minardi), no points; 1986, did not compete; 1987, did not compete; 1988 (Minardi), 16th; 1989 (Minardi), 14th; 1990, no points. Best results to date: 5th, Britain and Portugal, 1989.

GIANNI MORBIDELLI – carrying race number 24.

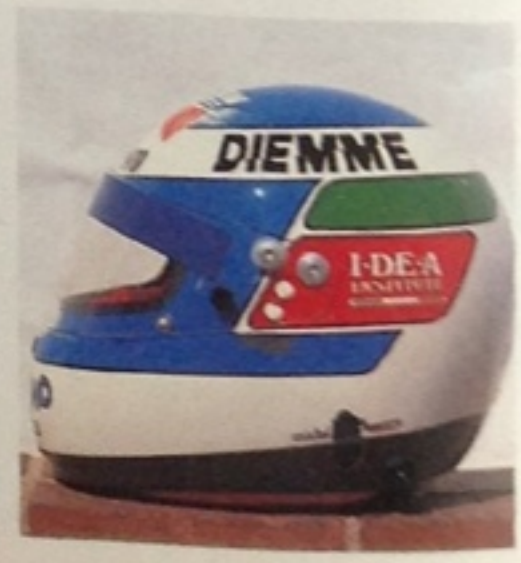
Aged 23. Italian, born Pesaro, January 13, 1968. Unmarried. Lives in Pesaro. First GP: Brazil, 1990 (Dallara). No race finishes to date.

1991 PROSPECTS

Gaining a supply of precious Ferrari V12 engines represents a considerable coup for Minardi, but it could be a double-edged sword, raising a direct comparison between the small team from Faenza and its supplier at Maranello. Will not share Ferrari's electro-hydraulic gear change on the new Minardi M191, but the equipment available this year should be of such quality as to make possible a definitive judgment as to the ability of the team's two drivers. The question everybody wants answered is whether fuel suppl Agip will provide the same demon "qualifying fuel" to Minardi as to the factory Ferrari team.

Pierluigi Martini

Gianni Morbidelli



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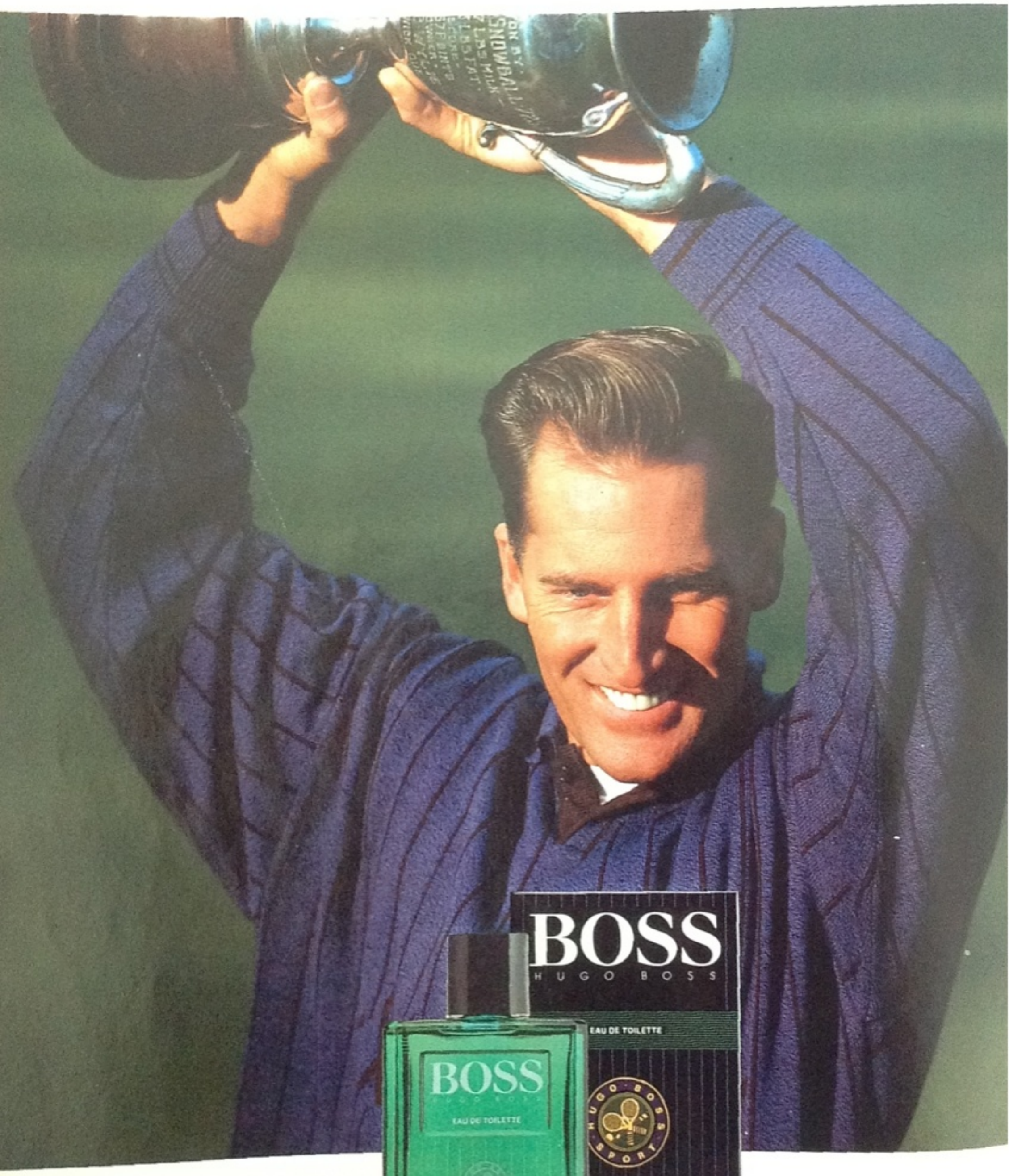

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HEADQUARTERS: Ligier Sport, Technopole de la Nièvre, 58470 Magny-Cours, France. Tel: 86 212011.
Managing director: Guy Ligier
Technical director: Frank Dernie
Team manager: Jean-Pierre Paoli
ENGINES: Lamborghini 3512 V12.
TYRES: Goodyear

Guy Ligier is a former rugby international and amateur Formula 1 driver, racing his own Cooper-Maserati and Brabham-Repco in 1966/67, before establishing himself in the race car manufacturing game. Sometimes irascible and short-tempered, but with a piercing sense of humour, Ligier's earlier foray into the world of civil engineering and road-building resulted in his becoming extremely well connected in French business and political circles, as witness the fact that President Mitterand was a guest at his daughter's wedding. Those connections have enabled his team to retain considerable sponsorship support despite a steady decline in racing form over the last few years.

Ligier originally established his team in 1969 to build sports racing cars, switching to Formula 1 with Matra V12 engines in 1976. A likeable team which has never quite done itself justice, spending much of the past decade bumping along as a midfield runner at best.

RECORD TO START OF 1991: 229 Grands Prix contested – 8 wins, 9 pole positions. First GP: Brazil, 1976. Best placing in Constructors' Championship: 2nd, 1980.

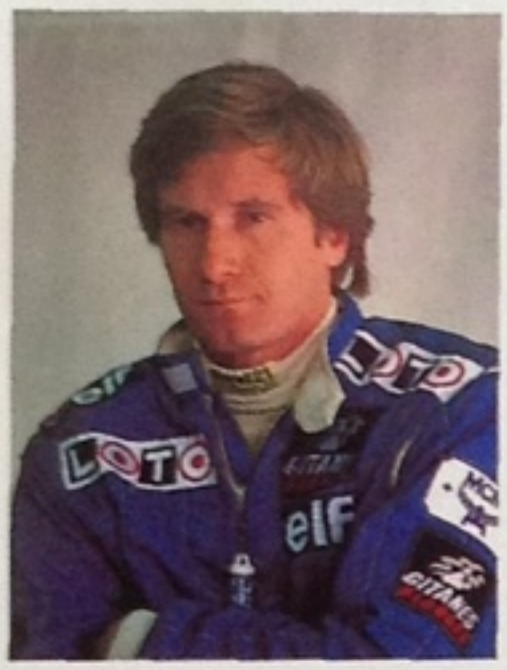
1991 DRIVER LINE-UP

THIERRY BOUTSEN – carrying race number 25.
Aged 33. Belgian, born Brussels, July 12, 1957. Married to Patricia. Lives in Brussels and Monaco. First GP: Belgian, 1983 (Arrows). Championship placings: 1983 (Arrows), no points; 1984 (Arrows), 14th; 1985 (Arrows), 11th; 1986 (Arrows), no points; 1987 (Benetton), 8th; 1988 (Benetton), 4th; 1989 (Williams), 5th; 1990 (Williams), 6th. 121 Grands Prix – 3 wins.

ERIK COMAS – carrying race number 26.
Aged 27. French, born Romans (Drômé), September 28, 1963. Married to Brunella. Lives in Romans. New to Formula 1 this season.

1991 PROSPECTS

Having engineered for itself a supply of Lamborghini V12 engines as a stop-gap prior to receiving Renault V10s in 1992, Ligier can perhaps be grateful that his political machinations have prevented rival French team Larrousse from continuing with the Italian engines. Ligier has been floundering for several years now, despite lavish facilities and considerable sponsorship. Their upgraded driver line-up may help, but there is a great deal of leeway to make up if they are to become fully competitive. ■



Thierry Boutsen

Erik Comas

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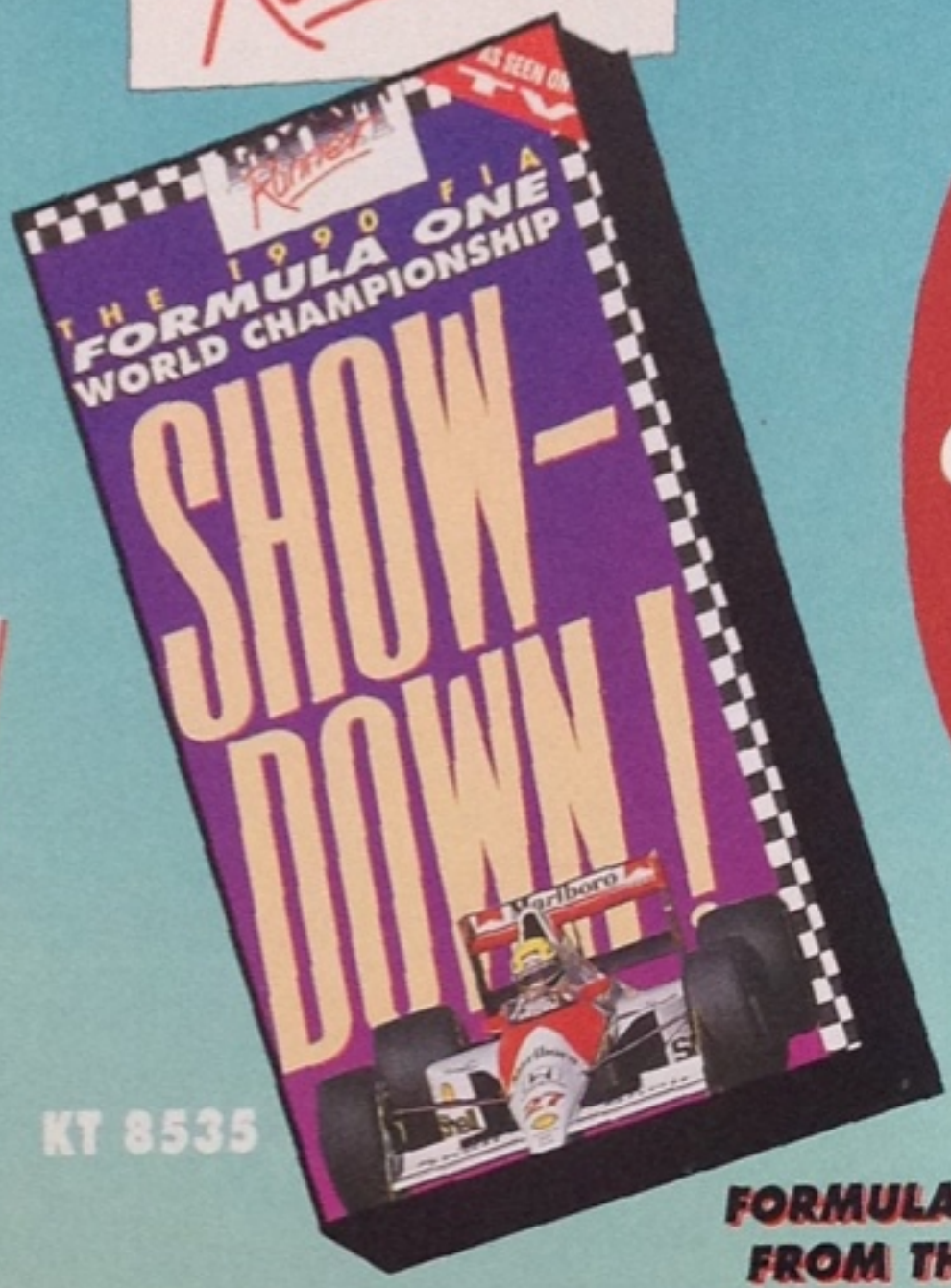

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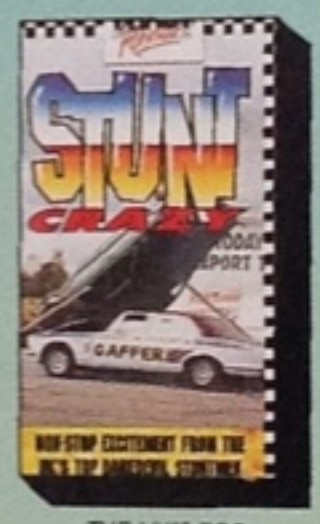

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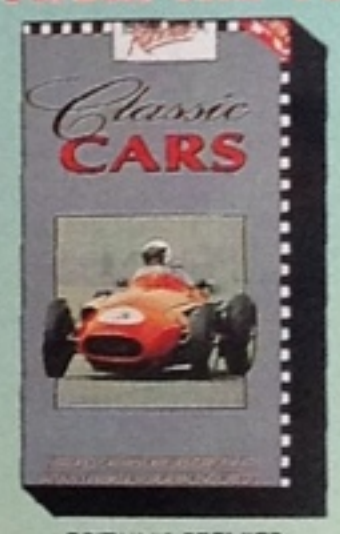

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scuderiaferrari

HEADQUARTERS: Scuderia Ferrari SpA,41053 Maranello, Italy.
Managing director: Piero Fusaro
Team manager: Cesare Fiorio
Chief engineer: Steve Nichols/Pier Guido Castelli.
ENGINES: Ferrari V12
TYRES: Goodyear

The most famous and charismatic team in motor racing history, this famous Italian team was established by the late Enzo Ferrari in 1929 as a private organisation fielding Alfa Romeo cars. Throughout the decade up to the war, the Modena-based outfit expanded to represent Alfa Romeo as a works-blessed factory team, but when Enzo Ferrari fell out with the senior Alfa management in 1939, he started out on an independent and extremely successful route. Carrying the distinctive Prancing Horse emblem of World War 1 Italian fighter pilot Francesco Barracca, Ferrari became a consistent and enduring competitor on the international racing scene.

Enzo Ferrari was a dynamic autocrat whose word was absolutely unchallenged within his own personal domain, but his commitment to motor racing led the company into financial problems by the late 1960s, at which point Fiat stepped in to take control of the road car production facility.

The racing department was to remain Ferrari's personal fiefdom virtually to his death on August 14, 1988. His name is perpetuated by a team which effectively represents a vehicle to demonstrate Italian prestige and engineering capability on the international sporting stage.

RECORD TO START OF 1990: 472 Grands Prix contested – 103 wins. 110 pole positions. First GP: Turin, 1948. Constructors' Championship: 1961, '64, '75, '76, '77, '79, '82 and '83. Drivers' World Championship: 1952 and 53 (Alberto Ascari), 1956 (Juan Manuel Fangio), 1958 (Mike Hawthorn), 1961 (Phil Hill), 1964 (John Surtees), 1975 and 77 (Niki Lauda) and 1979 (Jody Scheckter).

1990 DRIVER LINE-UP

ALAIN PROST – carrying race number 27.
Aged 36. French. Born St. Chamond (Loire), February 24, 1955. Unmarried, two children. Lives in Yens, Switzerland. First GP: Argentina, 1980 (McLaren). Championship placings: 1980 (McLaren), 15th; 1981 (Renault), 5th; 1982 (Renault), 4th; 1983 (Renault), 2nd; 1984 (McLaren), 2nd; 1985 (McLaren), 1st; 1986 (McLaren), 1st; 1987 (McLaren), 4th; 1988 (McLaren), 2nd; 1989 (McLaren), 1st; 1990 (Ferrari), 2nd. 169 Grands Prix – 44 wins.

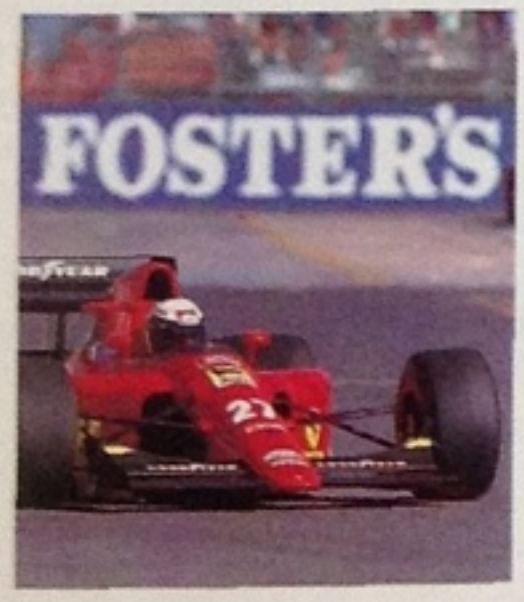
JEAN ALESI – carrying race number 28
Aged 26. French, born Avignon, June 11, 1964. Unmarried. Lives Avignon and Nyon (Switzerland). First GP: French, 1989 (Tyrrell). Championship placings: 1989 (Tyrrell), 9th; 1990 (Tyrrell), 9th. Best placings to date: 2nd, Phoenix and Monaco, 1990.

1991 PROSPECTS

Starts the season as favourite to win from the start, using further uprated version of last year's highly successful machine which was developed to a winning pitch by end of the 1990 season. Latest Ferrari type 642 starts year well tested and quick, aided by controversial leaded Agip fuel. Prost more motivated than ever to even the score with Ayrton Senna; the Frenchman's legendary consistency should be well rewarded by revised Championship scoring system which counts every score. Alesi is a dynamic new talent who should be well capable of winning Grands Prix this year. ■

Alain Prost

Jean Alesi

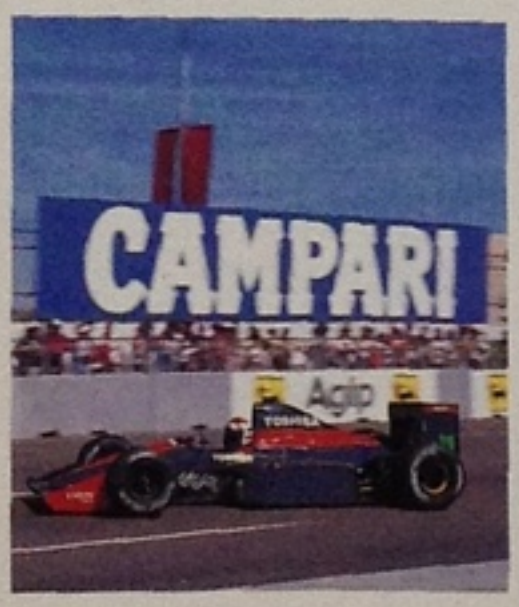


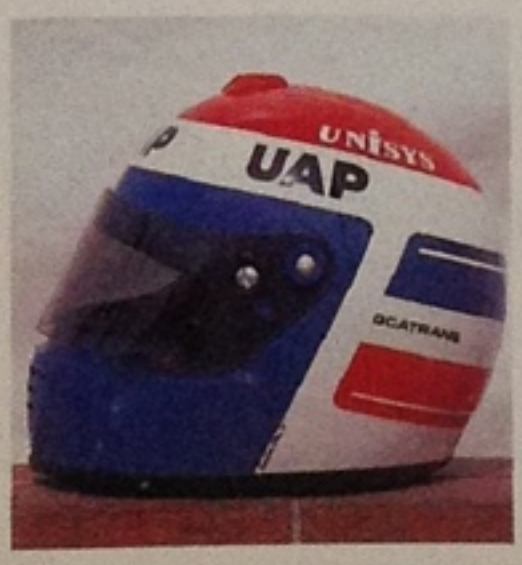
Photos: Words and Pictures

larrousse

HEADQUARTERS:
Equipe Larrousse, Zone d'Activities du Parc de Signes, 838700 Signes, France.
Director: Gerard Larrousse
Technical director: Gerard Ducarouge
Team manager: Frederic Dhainhaut

Eric Bernard





ENGINES: Hart-Cosworth DFR V8.
TYRES: Goodyear.
Only established at the start of 1987, this fledgling team sustained a major setback at the start of 1989 when its co-founder Didier Calmels was arrested following a shooting incident in which his wife died. The racing programme continued under the direction of former Renault and Ligier team director Gerard Larrousse, linking with Lamborghini for the supply of new V12 engines for its Lola-produced chassis after two seasons using proprietary Ford/Cosworth V8s. The Japanese Espo Corporation acquired a controlling interest in the team at the end of the 1989 season, but has since dropped out.

RESULTS TO START OF 1991: 63 Grands Prix contested – no wins. No pole positions. First GP: San Marino, 1987. Best placing in Constructors' Championship: 1990, 6th

1990 DRIVER LINE-UP

ERIC BERNARD – carrying race number 29.
Aged 25. Born August 24, 1964, in Istres. First GP: France, 1989 (Larrousse Lola); 1990 (Larrousse), 13th. Best result to date: 4th, Britain, 1990.

AGURI SUZUKI – carrying race number 30.
Aged 29. Japanese, born Tokyo, September 8, 1960. Married to Akiko. Lives in Tokyo. First GP: Japan, 1988 (Larrousse Lola). No points scored. Did not qualify at all during 1989 with Zakspeed team. Best result to date: 3rd, Japan, 1990.

1991 PROSPECTS

Dealt a body-blow three weeks before the start of the season when FISA ruled that all their 1990 World Championship points were forfeit. Reason given was that Larrousse had made serious 'misdeclaration' on 1990 Championship entry form, saying his team had built the chassis when in fact they were manufactured by Huntingdon-based Lola company – an arrangement which had been in force, quite openly, since the start of 1987. Last moment compromise by FISA saved team from pre-qualifying with its new cars, powered now by highly developed Cosworth DFR V8s from English preparation specialist Brian Hart.

Aguri Suzuki

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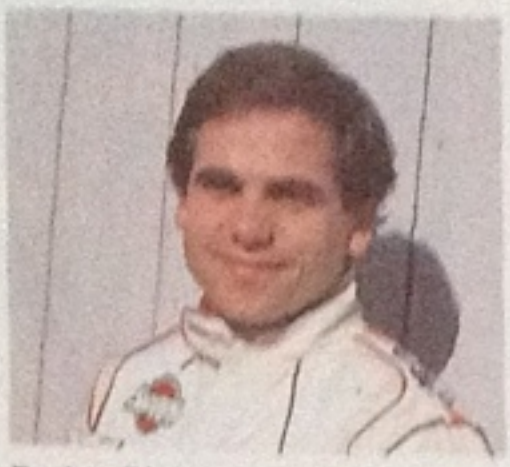


Pedro Chaves

HEADQUARTERS: Coloni Racing., Via dell' Industria 5, 06065 Passignano Sol Trasimento, Italy. Tel: 75 827 684.
Managing director: Enzo Coloni.
Team manager: Dino Luiso
ENGINES: Cosworth DFR V8
TYRES: Goodyear.

After two years struggling to get onto the starting grid, Enzo Coloni sold a controlling interest in his company to the Japanese Subaru organisation which sponsored the Motori-Moderni concern to manufacture a 3.5-litre flat-12 cylinder engine. It proved hideously unreliable and uncompetitive, prompting Subaru to abandon its involvement and cancel plans for a new V12 which was almost complete. Coloni got his team back and continued in his seemingly hopeless attempts to make bricks out of straw.

RESULTS TO START OF 1990: 13 Grands Prix contested – 0 wins. No pole positions. First GP: Spain, 1987. No Constructors' Championship points yet scored.

1991 DRIVER LINE-UP

PEDRO CHAVES – carrying race number 31.
Aged 26. Portuguese, born Oporto, February 2, 1965. Unmarried. New to Formula 1 this season.

1991 PROSPECTS

Hanging on over the edge of the abyss by its corporate finger nails, the Coloni team looks technically out-classed and out-financed by everybody else in the business. With total novice Pedro Chaves attempting to pre-qualify the team's sole entry, Coloni faces a year of packing up its transporter and returning home from Grand Prix outings on Friday morning. ■

fondmetal

Olivier Grouillard

After more than a decade of struggling manfully in Formula 1, the stalwart Enzo Osella has finally sold his organisation to the Fondmetal, manufacturers of specialist alloy road wheels, who initially became involved as sponsors of the team. Osella began building two-litre sports racing cars in the early 1970s, competing in the Italian and European Championships, before moving into Formula 2 with some success. He made the move into Formula 1 at the start of 1980, surviving against the odds until the end of 1990 when he finally called it a day.

HEADQUARTERS: Fondmetal F1 SpA, Via Bergamo 4, I-24050 Palosco (Bergamo), Italy. Tel: 39. 35845130.
Managing director: Gabriele Rumi
Chief Designer: Tino Belli
Team manager: Gianfrance Palazzoli
ENGINES: Hart-Cosworth DFR V8s
TYRES: Goodyear

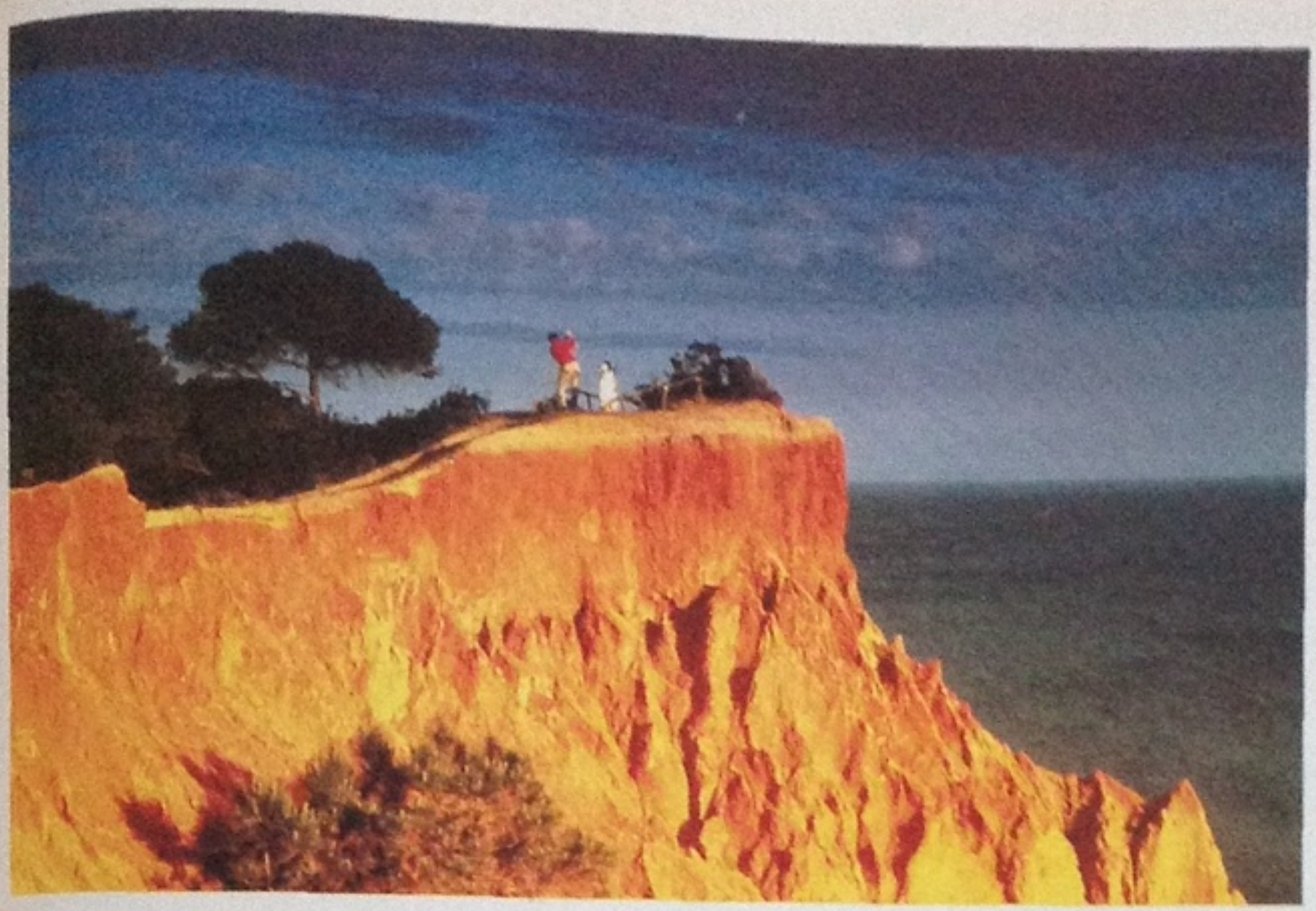
RECORD TO START OF 1991: 132 Grands Prix contested – 0 wins (as Osella). No pole positions. First GP: South Africa, 1980. Best placing in Constructors' Championship: 10th, 1984 (only second and most recent occasion team has scored points)

1991 DRIVER LINE-UP

OLIVIER GROUILLARD – carrying race number 14.
Aged 32. French, born Toulouse, September 2, 1958. Lives Toulouse. Unmarried. First GP: Brazil, 1989 (Ligier).
Championship placings: 1989 (Ligier). 26th; 1990 (Osella), no points. Best placing to date; France, 1989 (Ligier), 6th.

1991 PROSPECTS

Fondmetal boss Gabriele Rumi plans to shake his team into a state of new-found competitiveness in the long-term, aided b 'Fomet 1', a British-based research and development department operating from premises in Bicester. For the moment, however, the challenge is to hoist his one-car team from the rigours of pre-qualifying, a task which won't be easy with just Cosworth V8 to power Grouillard's manful efforts, to a level of competitiveness at the forefront. Switched to Goodyear tyres after roundly criticising the performance and availability of Pirelli's test qualifying rubber towards end of last season. ■



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7-upjordan

HEADQUARTERS: Jordan Grand Prix, 21 Silverstone Circuit, Silverstone, Northamptonshire NN12 8TN. Tel: (0327) 857153.
Managing director: Eddie Jordan
Chief designer: Gary Anderson
Team manager: Trevor Foster
ENGINE: Ford-Cosworth HB V8
TYRES: Goodyear

Over the past nine years, one-time Irish bank clerk Eddie Jordan has expanded from a small private Formula 3 team into one of the fastest developing and most successful operations outside Formula 1. Such rising stars as Martin Brundle and Johnny Herbert won their Formula 1 spurs in Jordan's Formula 3 machinery and the team supported Formula 3000 from its inception in 1985, latest Ferrari Formula 1 recruit Jean Alesi winning the 1989 European F3000 Championship in one of Eddie's cars.

1990 DRIVER LINE-UP

BETRAND GACHOT – carrying race number 32.
Aged 27. Belgian, born Brussels, December 22, 1962. Unmarried. Lives in Brussels. First GP: France, 1989. Championship placings: 1989, no points

ANDREA DE CESARIS – carrying race number 33.
Aged 31. Italian, born Rome, May 31, 1959. Unmarried. Lives in Rome and Monaco. First GP: Canada, 1980 (Alfa Romeo). Championship placings: 1981 (McLaren), 18th; 1982 (Alfa Romeo), 17th; 1983 (Alfa Romeo), 8th; 1984 (Ligier), 16th; 1985 (Ligier), 17th; 1986 (Minardi), 14th; 1987 (Brabham), 14th; 1988 (Rial), 15th; 1989 (Dallara), 16th; 1990 (Dallara), 1990 (Dallara), no points. Best result to date: 2nd, Germany and South Africa, 1983.

1991 PROSPECTS

One of the brightest and most promising new arrivals in the business over the past few seasons, Jordan Grand Prix looks a serious long-term proposition and should start the year as favourites to breeze through pre-qualifying. The team has enjoyed a succession of strong and relatively untroubled test outings over the winter and, although it would be unrealistic to expect miracles from the outset, it is certainly the newcomer to watch from the start of the new season. ■

Betrand Gachot

Andrea de Cesaris

Photos: Words and Pictures

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HEADQUARTERS: Modena Team SpA, Vialle delle Nazioni 97, 41100 Modena, Italy. Tel: 39 59450207.
President: Carlo Patrucco
Technical director: Mario Tolentino
Director of Operations: Jamie Manca Graziedei
ENGINE: Lamborghini 3512 V12
TYRES: Goodyear

After plans to run a Lamborghini-supported, semi-works team in conjunction with a Mexican business consortium fell through in the middle of 1990, the Italian car maker has teamed up with Carlo Patrucco's Modena team, 40 per cent of which is owned by businessman Yoshitoshi Doi, whose family own the Central Parks amusement park chain in Japan. The chassis are manufactured by Lamborghini Engineering on a sub-contract basis and the cars will be known as the "Lambo 291s".

RECORD TO START OF 1990: none.

NICOLA LARINI – carrying race number 34.

Aged 25. Italian, born Camaiore, March 19, 1964. Married to Gabriella. First GP: Spain, 1987 (Coloni). Championship placings: 1987 (Coloni), no points; 1988 (Osella), no points; 1989 (Osella), no points. Best result to date: 9th, Monaco, 1988.

ERIC VAN DE POELE – carrying race number 35.

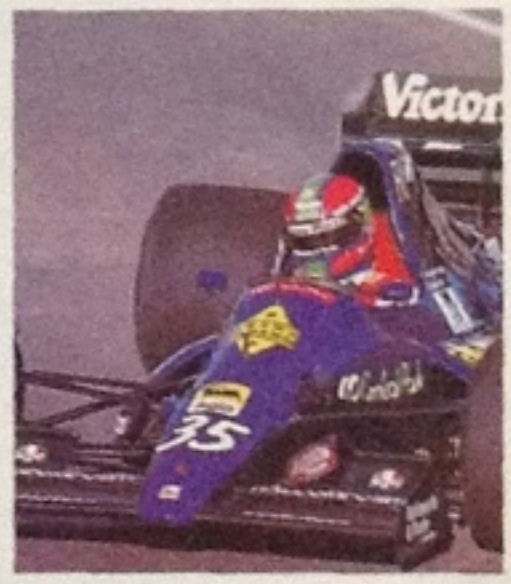
Aged 29. Belgian, born Brussels, September 30, 1961. Married. New to Formula 1 this season.

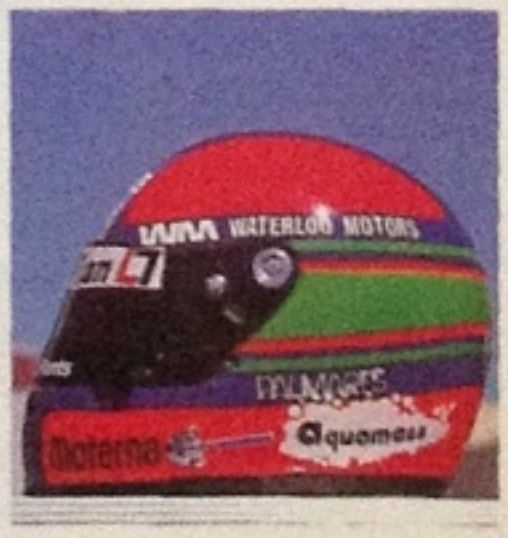
1991 PROSPECTS:

Very much an unknown quantity, but well armed with some quite decent and highly experienced personnel. As, effectively, the works Lamborghini team, it will be interesting to compare their efforts against rivals Ligier who share the same V12 engine. ■

Nicola Larini

Eric van de Poele





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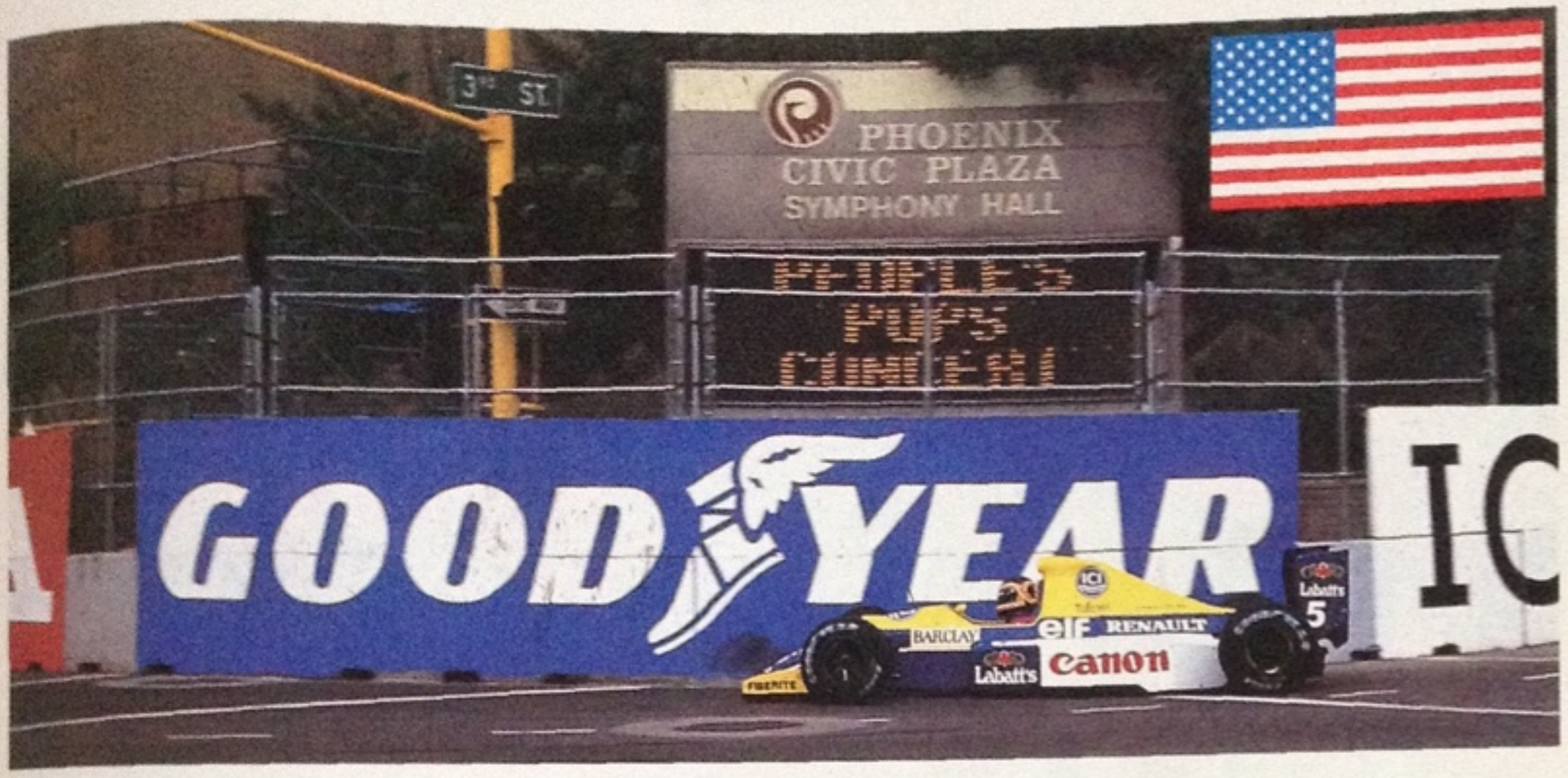
ROUND 1: March 10, Phoenix Grand Prix, Arizona



Words and Pictures

U S A

History

Continuing the recent US tradition for street races set by Long Beech in 1976, Phoenix hosted its first Championship Grand Prix in 1989. General reaction to the event, both in the US and abroad, has been pretty indifferent and the feeling is that America needs a purpose-built Formula 1 venue rather than such a temporary facility. Minor modifications made to track layout for 1991 generally well received.

Viewing Facilities

Ample, if expensive, grandstand facilities. On the experience of the first two races in Phoenix, there is plenty of room for the modest spectator attendance.

Hotels

A wide range of typically efficient top-line US hotels are available within this city as well as smaller motels and guest houses. Attractive resort hotels also available further out towards neighbouring city of Scottsdale.

Access

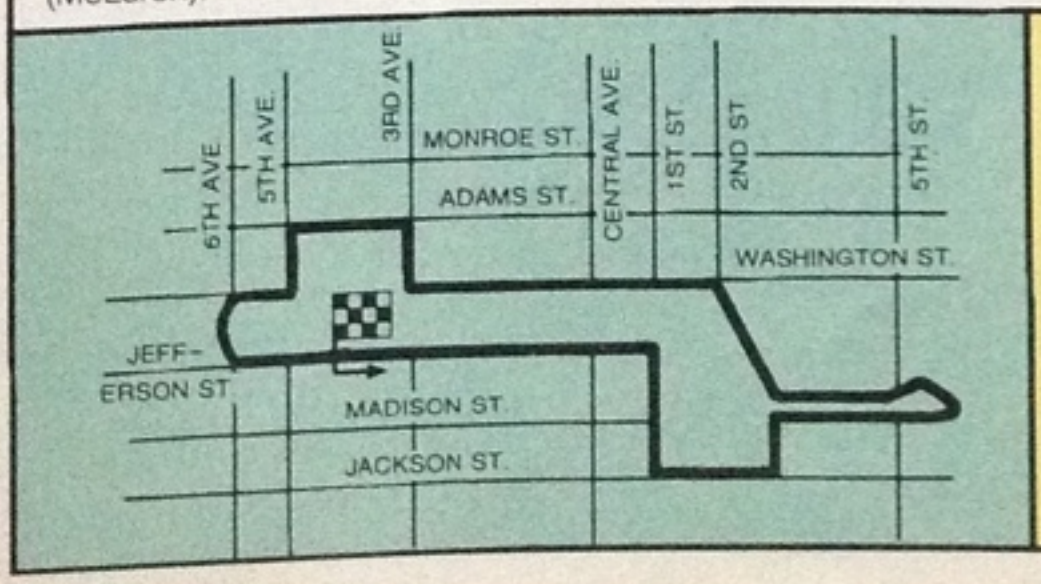
Phoenix is situated some 400 miles inland from Los Angeles, about eight hours' motoring distance. It is served by regular scheduled airlines from LA, flight duration about one hour. Also accessible on through American Airlines flights from Gatwick via Dallas, the route chosen by many of the racing fraternity. It can also be reached from many other US cities by direct flights. Access within the city is easy on foot.

Assessment

A true child of the age of televised Grand Prix coverage, the problem with the Phoenix track is that its bland and featureless concrete corridors do nothing in terms of projecting the city's character. It is an enterprising addition to the Championship trail, but increasingly regarded as not quite the answer if Formula 1 is to consolidate a strong position in the US. If Hungary can provide a brand new, purpose-made Grand Prix track, there shouldn't be too much problem for the USA to do likewise.

TRACK FACTS

Race Distance: 82 laps of 2.28 miles, total 186.896 miles.
Lap Record: Jean Alesi (Ferrari 642), 1 min 26.75 s (93.936 mph). Established during 1991 race.
Location: Street circuit laid out through centre of city.
Past Winners: 1989, Alain Prost (McLaren); 1990, Ayrton Senna (McLaren); 1991, Ayrton Senna (McLaren).



Track diagram: Ford Motor Company

Circuit Comment from Alain Prost

'In the past, I've frequently been critical of American street circuits because I've never been able to understand why a country which has so many splendid purpose-built tracks should have to resort to this sort of event for its Grands Prix. Having said that, Phoenix is far and away the best of its type, in my experience, and I was obviously delighted to win the first race held there.'

ROUND TWO: March 24, Brazilian Grand Prix, Interlagos

Words and Pictures

B R A Z I L

History
After a ten year absence, the Brazilian GP returned to a heavily revised Interlagos in 1990. Those who have fond memories of the magnificent original circuit have mixed feelings about the changes. The Sao Paulo track has played host to international racing since the immediate post-war years, but did not stage the first non-championship Formula 1 race until 1972 on the back of Emerson Fittipaldi's burgeoning Grand Prix reputation. Brazilian Grands Prix were then held at Interlagos from 1973-77 and '79-'80. Race first at Autodromo Riocentro, Rio de Janeiro, in 1978, then from 1981-89.

Viewing Facilities
Spectacular views across natural amphitheatre in which circuit is positioned. Huge grandstand complex on start/finish straight opposite pits is always packed out with bellowing Brazilian Formula 1 fans.

Hotels
Wide variety of international hotels available in Sao Paulo, but none close to the circuit. No accommodation shortages although should book well in advance.

Access
Chaotic and unpredictable with big traffic jams building up early on both practice days as well as race morning. Locals in VW Beetles love dicing with those Grand Prix aces who are not privileged enough to enjoy helicopter access from their downtown hotels. Journey out to the track must be one of the most hazardous in the world.

Assessment
Brazil provides as incongruous a blend of glittering wealth and abject poverty as you're likely to find anywhere in the world. Yet a succession of deprived youngsters have deified the likes of Emerson Fittipaldi, Carlos Pace, Nelson Piquet and Ayrton Senna as national heroes. Irrespective of the privileged background enjoyed by these sporting giants, their celebrity status provides a focal point of national ambition for those fans whose cheers have echoed across Interlagos and Rio since Emerson triumphed in the inaugural 1973 Championship Brazilian Grand Prix. It may be a culture shock to conservative Europeans, but the enthusiasm and sheer passion for Formula 1 is infectious.

TRACK FACTS

Race Distance: 71 laps of 2.687 miles, total 190.807 miles.
Lap Record: Gerhard Berger (McLaren MP4/5B-Honda), 1 min 19.889 s, (121.086 mph). Established in 1990 race.
Location: Situated in sprawling western suburbs of Brazil's industrial second city.
Past Winners: 1986, Nelson Piquet (Williams); 1987, Alain Prost (McLaren); 1988, Alain Prost (McLaren); 1989, Nigel Mansell (Ferrari); 1990, Alain Prost (Ferrari); 1991, Ayrton Senna (McLaren).

Track diagram: Ford Motor Company

Circuit Comment from Riccardo Patrese
"I remember the old circuit was fantastic and I had a great battle with Alain Prost, who was then taking part in only his second ever Formula 1 race. The new track is slightly easier, but still keeps you busy. It makes me realise just how long I've been around that Alain and I are still racing since that race ten years ago!"

ROUND 3: April 28, San Marino Grand Prix, Imola

Words and Pictures

SAN MARINO

History
Originally started using public roads which have now been blended into a permanent circuit offering every facility. Hosted motorcycle races since 1950s and Formula 1 car events intermittently since early 1960s.

Viewing Facilities
Undulating nature of location makes for generally excellent and extremely varied facilities. Wide range of grandstands around the circuit supplemented by sloping areas in public enclosures. Grandstand at Tosa – where Senna passed Prost on the first lap of the 1989 race, thereby demolishing their personal relationship – particularly exciting.

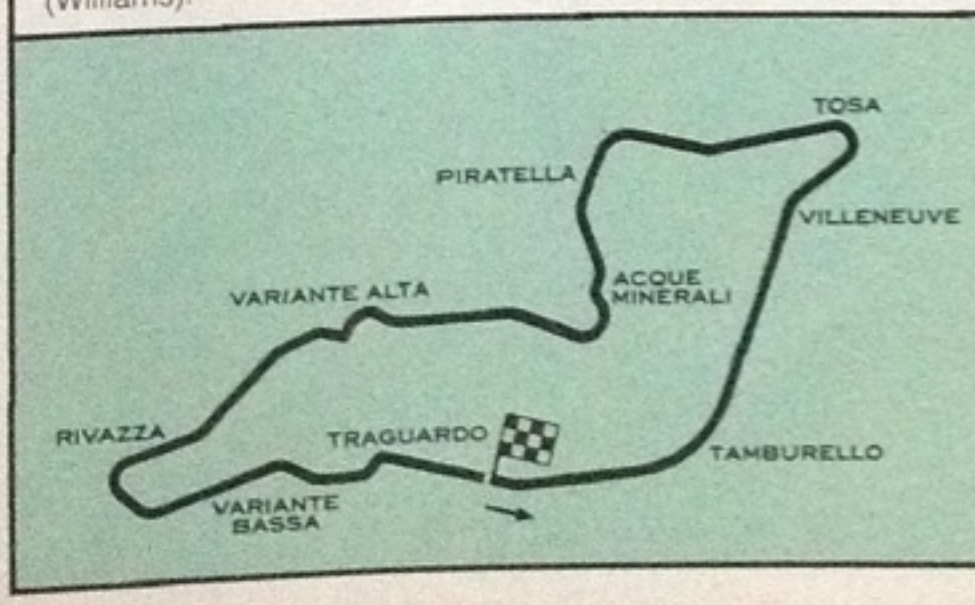
Hotels
Again, a wide range to suit all pockets, from international to hospitable country taverns in the pleasant surrounding countryside.

Access
Chaotic if approached from Bologna via autostrada, less so on smaller roads over mountains from Firenze. Last mile or so to circuit impossible, so best to park and walk. Don't even think about trying to get away quickly after the race unless you've access to a helicopter.

Assessment
A classic Italian motor racing occasion, with crowds who seem more good-natured, less hysterical, than those who populate Monza in September. Wonderfully relaxed atmosphere, excellent pasta and memorable vino rosso. One of the great motor races on the European international calendar.

TRACK FACTS

Race Distance: 61 laps of 3.132 miles, total 191.033 miles.
Lap Record: Alain Prost (McLaren MP4/5-Honda), 1 min 26.795 s (126.786 mph) established in 1989 race.
Location: Just off main Milan to Rimini autostrada, about 30km south-east of Bologna, on fringes of Imola.
Past Winners: 1985, Elio de Angelis (Lotus); 1986, Alain Prost (McLaren); 1987, Nigel Mansell (Williams); 1988, Ayrton Senna (McLaren); 1989 Ayrton Senna (McLaren); 1990, Riccardo Patrese (Williams).

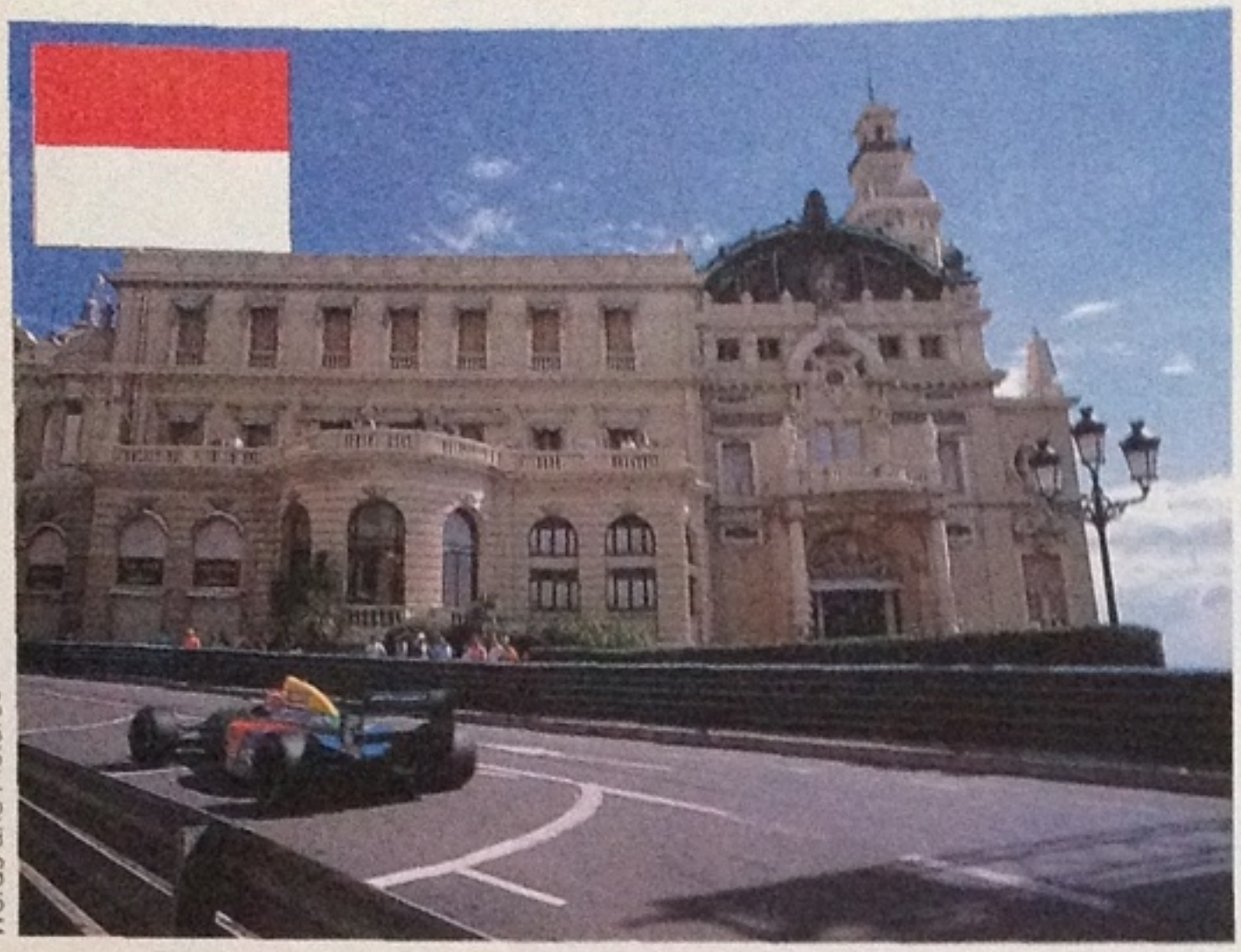


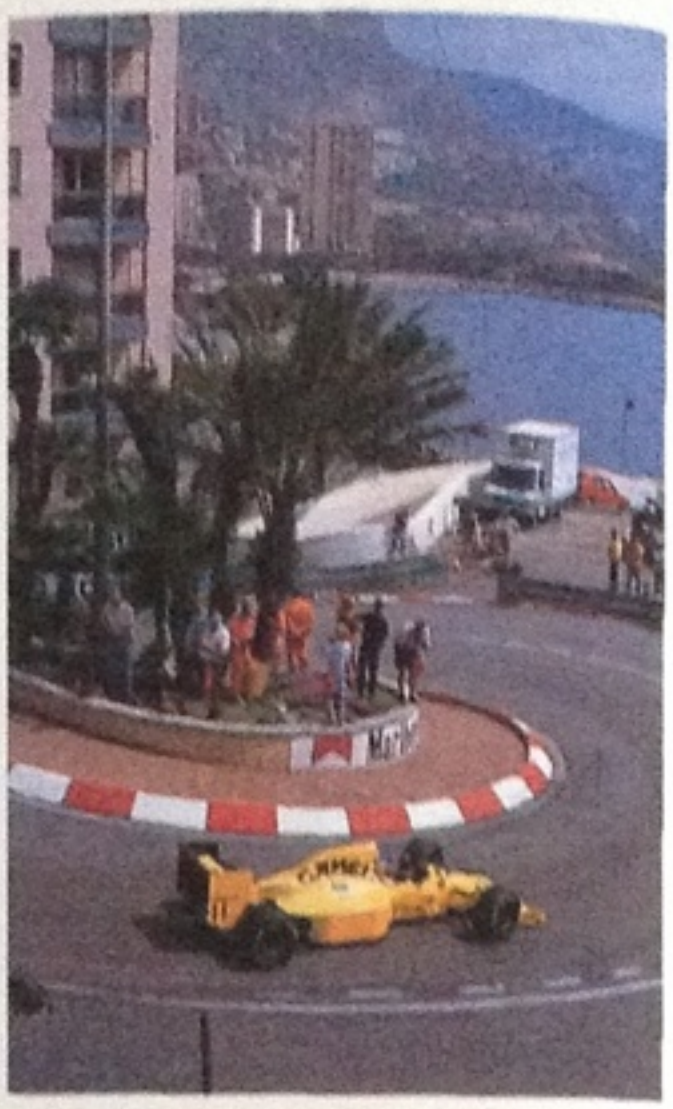
Track diagram: Ford Motor Company

Circuit Comment from Ivan Capelli

'The one thing I've learned about Imola is that if your car goes quickly there, it will also go well at other circuits. That's because getting a well balanced car is really difficult at Imola, because it's a technical circuit. You have to make the front end turn in well, because that's one of the keys to getting a quick lap. I really enjoy Imola. I won there in Formula 3 and finished second in F3000, so I've got good memories of the place.'

ROUND 4: May 12, Monaco Grand Prix, Monte Carlo





Words and Pictures

M O N A C O

History

One of the longest-established classic events on the calendar, first run in 1929. Despite various modifications, race staged on essentially the same circuit to this day.

Viewing Facilities

Grandstands seem to be squeezed into impossibly tight positions all round this little circuit. They all cost an arm and a leg, but if you're making the trip you really must invest in one. Virtually nothing in the way of public spectator areas, apart from bird's eye view from cliff roads overlooking La Rascasse hairpin.

Hotels

Tremendous range and variety, but are heavily booked – some from year-to-year – so make reservations through specialist tour companies as early as possible. Some moderately-priced hotels available in central locations. Restaurants of high standard, but pricey.

Access

Everywhere is within walking distance in Monaco. Don't waste time with a rental car because there is absolutely nowhere to park. Access from Nice airport is via train, bus or costly taxi ride.

Assessment

Steeped in more tradition – and nonsensical razzmatazz – than any other race on the calendar. Great if you're just there for relaxation, a nightmare for those involved in Formula 1 on a professional basis. Overcrowded pit lane must surely lead to a fatal accident. For all its glitter, Monaco must be rated the most potentially dangerous circuit on the Grand Prix trail.

TRACK FACTS

Race Distance: 78 laps of 2.068 miles, total 161.297 miles.
Lap Record: Ayrton Senna (McLaren MP4/5B-Honda), 1 min 24.468 s, (88.133 mph). Established during 1990 race.
Location: Through the streets of the Mediterranean principality, approximately 25 miles east of Nice.
Past Winners: 1985, Alain Prost (McLaren); 1986, Alain Prost (McLaren); 1987, Ayrton Senna (Lotus); 1988, Alain Prost (McLaren); 1989, Ayrton Senna (McLaren); 1990, Ayrton Senna (McLaren).

Track diagram, Ford Motor Company

Circuit Comment from Ayrton Senna

'An incredibly satisfying race to win on a circuit which doesn't allow you to relax for a split second throughout a Grand Prix distance. You have to sustain intensity of concentration to such a degree that, if you ease it even slightly, it's possible to make an error, just as I did when I hit the wall while leading in 1988.'

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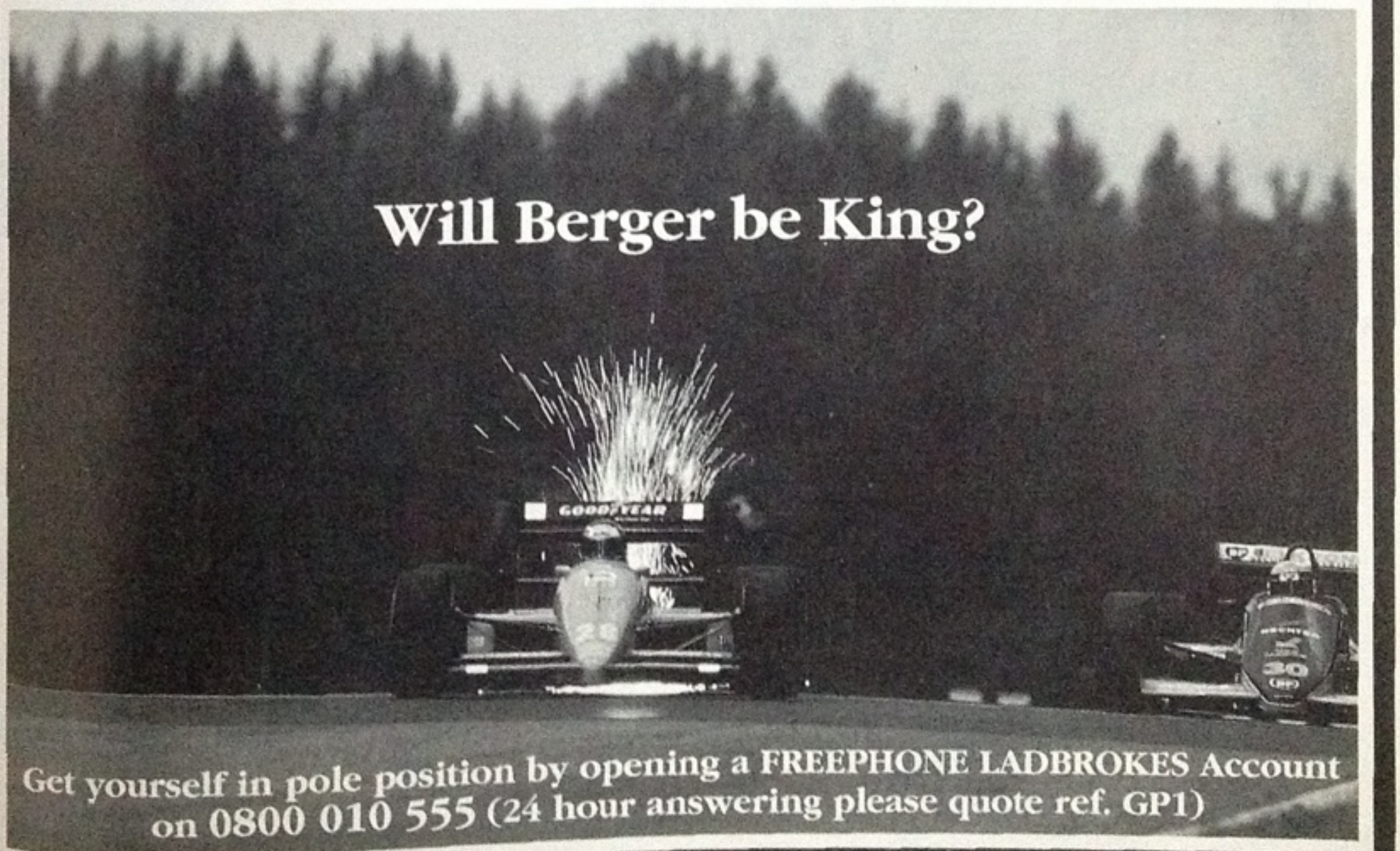

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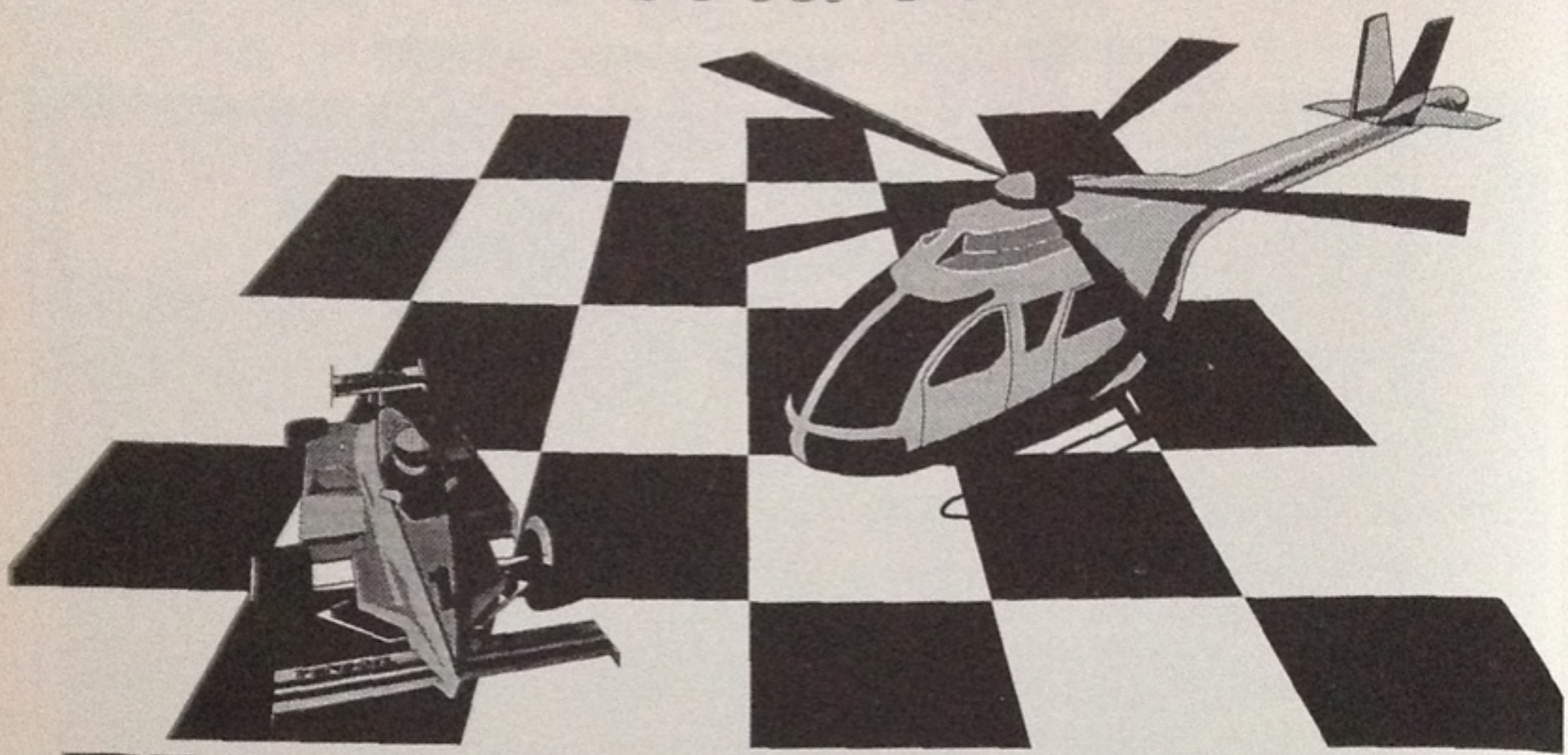

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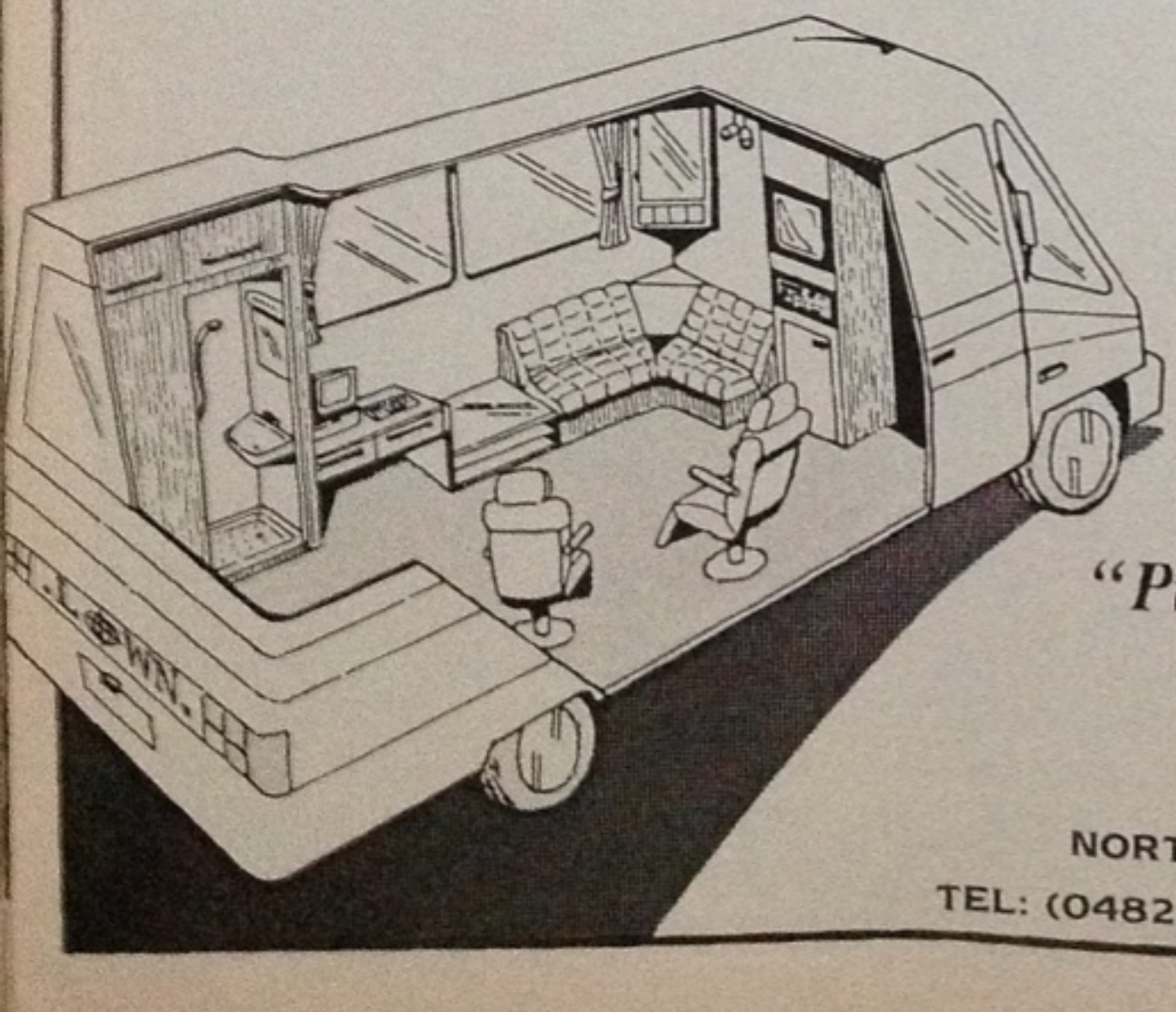

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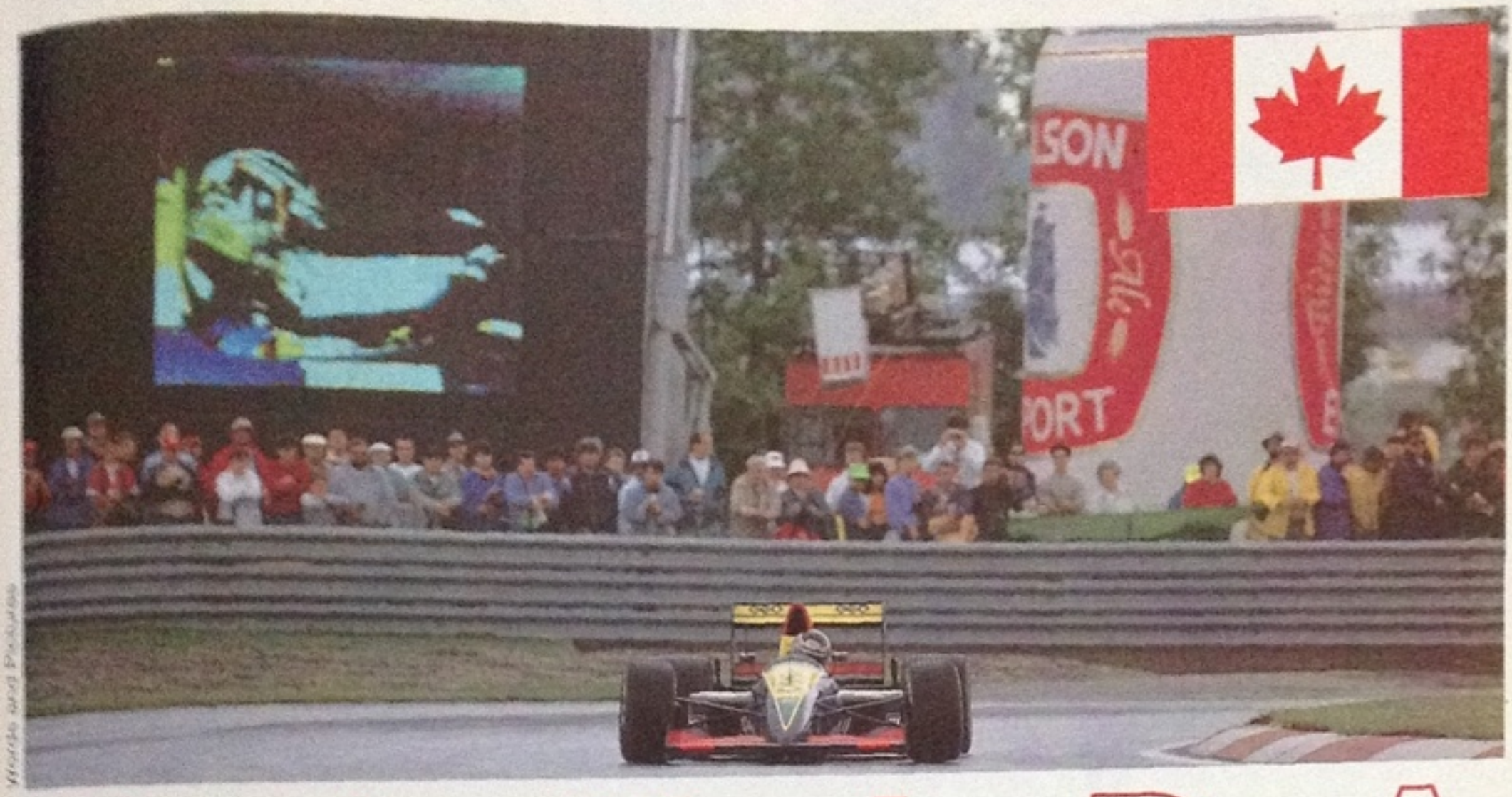
ROUND 5: June 2, Canadian Grand Prix, Montreal



C A N A D A

History
First Championship Formula 1 Grand Prix held at Mosport Park, near Toronto, in 1967. Then Ste. Jovite, near Montreal, in 1968 and '70. Mosport again in '89, from '71-'74 and '76-'77, before switch to Montreal in '78 where reputation for good organisation was quickly established. Cancelled in 1987 due to sponsorship and sanctioning problems, it returned to the calendar in 1988 with new pits and garage area.

Viewing Facilities
A good balance between grandstands and open public spectator enclosures. Stands at two hairpins and fast S-bend just at the start of the pit complex afford particularly exciting views.

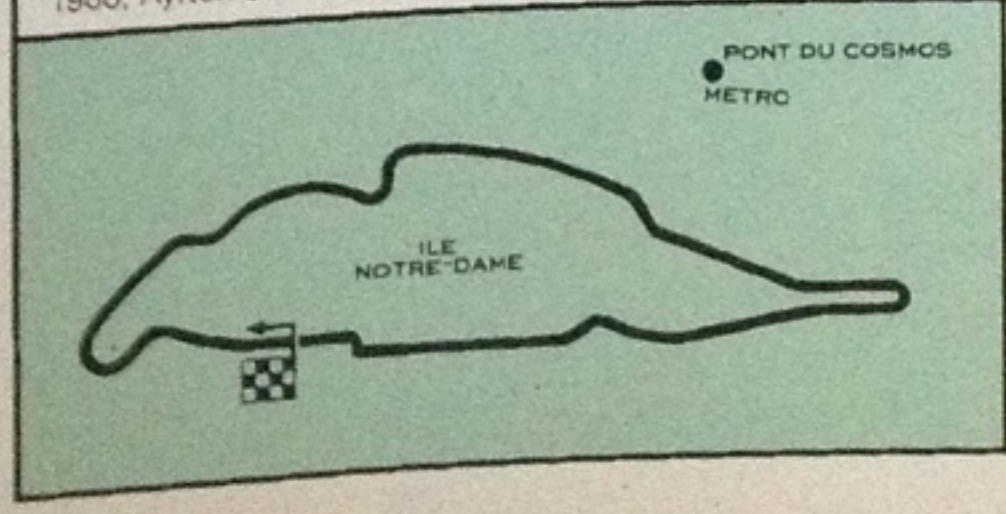
Hotels
Plenty of good hotels in Montreal city centre, but book early as the city always attracts a lot of tourists unconnected with the race itself. Wide range of international status accommodation.

Access
Uncomplicated and without stress. Limited car parking facilities some way from paddock area, but immaculate Montreal subway system is utterly dependable and the only way to move round this crowded city. Alight at Ile Ste Hélène and walk over bridge to track.

Assessment
A thoroughly enjoyable Grand Prix which progressively increases in stature and popularity as the years go by. Infinitely preferable to Phoenix if you're making the trip to the USA and has added attraction this year of taking place only a week before the Indianapolis 500. Why not make a holiday out of the two races?

TRACK FACTS

Race Distance: 69 laps of 2.728 miles, total 188.232 miles.
Lap Record: Gerhard Berger (McLaren MP4/5B-Honda), 1 min 22.077 s (119.645 mph). Established in 1990 race.
Location: On small island in St. Lawrence River, a couple of miles from the Montreal city centre.
Past Winners: 1985, Michele Alboreto (Ferrari); 1986, Nigel Mansell (Williams); 1987, not held; 1988, Ayrton Senna (McLaren); 1989, Thierry Boutsen (Williams); 1990, Ayrton Senna (McLaren).



Track diagram: Ford Motor Company

Circuit Comment from Nigel Mansell
'Absolutely one of my favourite tracks. I had a good race last year with the Ferrari, almost catching Piquet for second place at the finish. It is extremely challenging and very tiring with a wide variety of corners. With two hairpins per lap, it is hard on brakes and tyres, but extremely rewarding when everything comes together well.'

ROUND 6: June 16, Mexican Grand Prix, Mexico City

Photos: Words and Pictures

MEXICO

History
First staged Formula 1 non-title race in 1962, after which regular Championship fixture until 1970 when dropped from calendar following major crowd control problems. Restored to Championship in 1986.

Viewing Facilities
Ample grandstand seating around start/finish area which affords superb view of final corner, a spectacular 180-degree, slightly banked right-hander. Also adequate views from spectator enclosures, access to which assisted by network of internal park access roads.

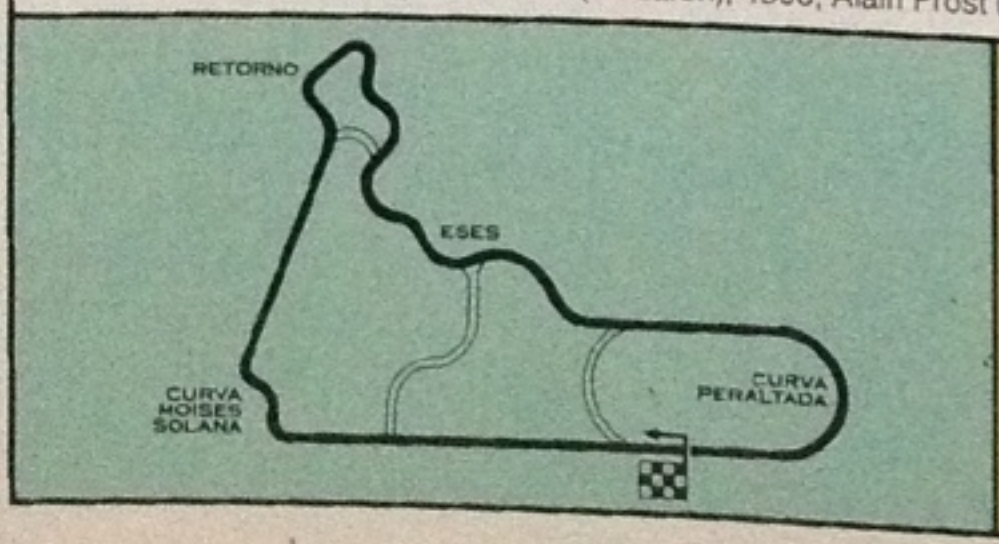
Hotels
There are ample hotels in Mexico City, offering disturbingly varying standards of accommodation and cuisine. You will find that many of them ask for full payment of rooms in advance, often in dollars, payable to an account outside Mexico itself. Clearly they have no more faith in their own currency than visitors have!

Access
Best to make use of relatively inexpensive taxis and close your eyes as traffic in Mexico City is too luridly competitive for any but the most ambitious Europeans to tackle in a hire car. Even the Formula 1 drivers are scared!

Assessment
Mexico is renowned for its attractive Pacific coast resorts, but the country's capital city is just another unattractive urban sprawl, more often than not covered in a blanket of smog. The track is fantastic and as demanding on the drivers as the local culinary delights are to the unexpecting palate!

TRACK FACTS

Race Distance: 69 laps of 2.747 miles, total 189.548 miles.
Lap Record: Alain Prost (Ferrari 641/2), 1 min 17.958 s (126.856 mph). Established in 1990 race.
Location: Tastefully laid out within spacious public park complex a few miles from the international airport.
Past Winners: 1986, Gerhard Berger (Benetton); 1987, Nigel Mansell (Williams); 1988, Alain Prost (McLaren); 1989, Ayrton Senna (McLaren); 1990, Alain Prost (Ferrari).



Circuit Comment from Alain Prost

'A very difficult and demanding circuit indeed. Getting qualifying tyres to work well can be difficult because it is so uneven-surfaced, so it's often better to spend practice concentrating on a race set-up. Wing angles are absolutely crucial: run a notch too much drag and you knock off your top speed all the way down that long main straight beyond the pits.'

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CIRCUITS

ROUND 7: July 7, French Grand Prix, Magny-Cours

Louis Morin

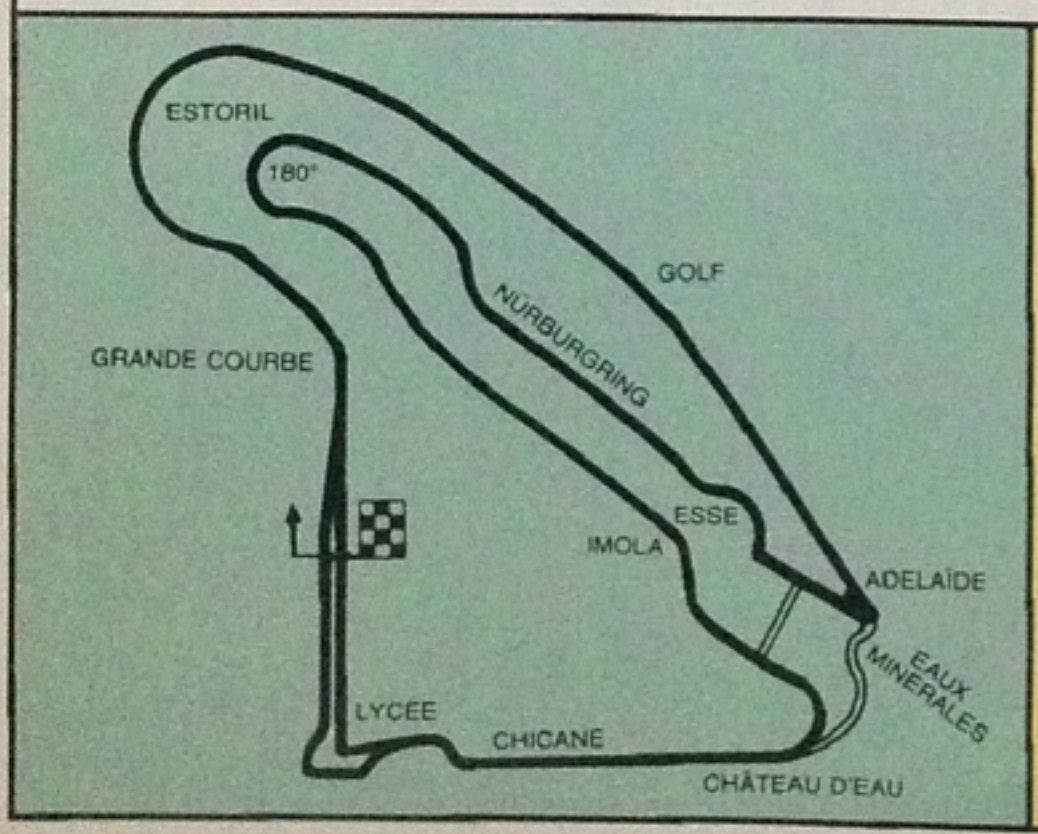
F R A N C E

History

The switch from Paul Ricard to Magny-Cours as the venue for the French Grand Prix has become a highly political sporting issue in France over the past year or so. It will certainly benefit the well-connected Guy Ligier whose team has its base at the new track and virtually regards the facility as its own, informal test circuit!

TRACK FACTS

Race Distance: 72 laps of 2.653 miles, total distance 191.10 miles.
Lap Record: New venue, to be established.
Location: About 15km from Nevers in central France.
Past Winners: 1985, Nelson Piquet (Brabham); 1986, Nigel Mansell (Williams); 1987, Nigel Mansell (Williams); 1988, Alain Prost (McLaren); 1989, Alain Prost (McLaren); 1990, Alain Prost (Ferrari).



Circuit Comment

None available, track not yet used.

Viewing Facilities

Ample grandstands and spectator viewing banks are anticipated at completed track.

Hotels

When the Editor of *Grand Prix '91* made inquiries about accommodation, the circuit spokesman suggested it would be more realistic to stay in London and commute each day by air, such was the shortage of hotel rooms in the area.

Access

As yet unclear; building work continuing as this edition went to press.

Assessment

By all accounts, an imaginative new circuit with a wide range of tricky corners.

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ROUND 8: July 14, British Grand Prix, Silverstone

Words and Pictures

BRITAIN

History
Contemporary traditional home of British motor racing, this track has evolved continuously from its original status as a former RAF base. Track layout takes in what were originally perimeter roads of old airfield. Formerly the fastest track on the calendar, its extensive rebuilding after last year's race represents a long-term investment designed to take Silverstone well into the 21st century as the number one motor racing venue in the UK today.

Viewing Facilities
Last winter's enormous civil engineering works should substantially improve the view available to the paying spectators in the enclosures. The Vale section between Stowe and Club, and the new infield section between Abbey and Woodcote look particularly attractive.

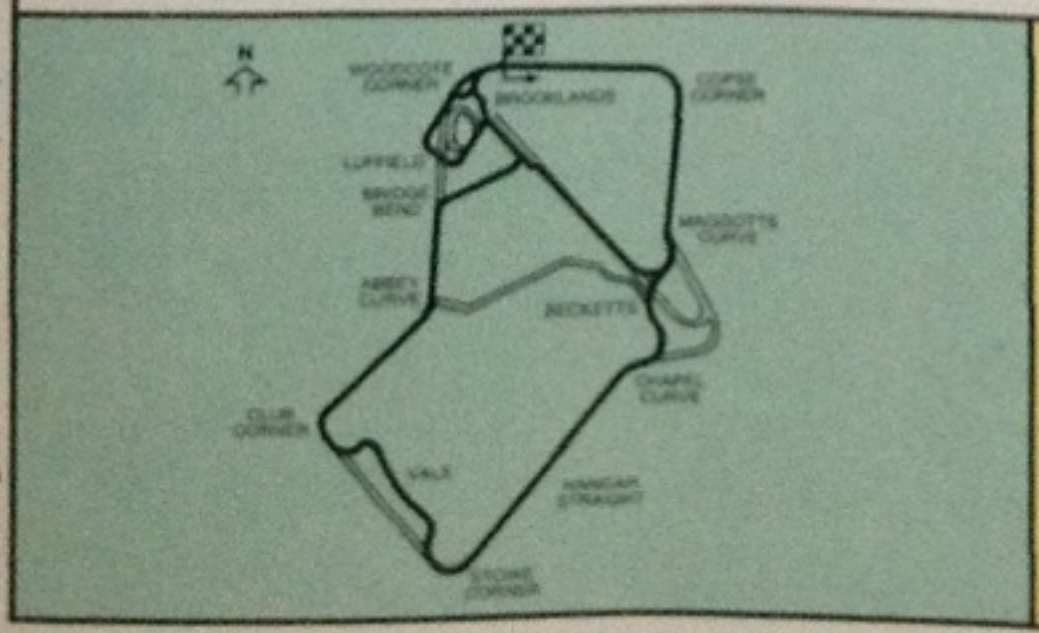
Hotels
An enduring problem. Teams tend to book year to year, and even the well-connected frequently have to stay many miles away. Room reservations in the handful of small hotels in local villages are as prized as centre court seats at Wimbledon. You could always join the multitude of fans who camp, of course, or rent a motorhome.

Access
The Towcester bypass has at least prevented traffic from snarling up in the town centre, but the circuit entry is still impossibly cramped and there's not much that can be done about that. The well-heeled can hedge hop by helicopter, but it's just as congested in the air over Grand Prix weekend as well!

Assessment
The annual big day out for the British motor racing fraternity. Blessed by sweltering summer weather these last two years and as well organised as any race on the international calendar. Better get a place in the queue today!

TRACK FACTS

Race Distance: 60 laps of 3.201 miles, total 192.060 miles.
Lap Record: New circuit configuration, to be established.
Location: Five miles from Towcester, Northamptonshire, just off A43 Northampton/Oxford road.
Past Winners: 1985, Alain Prost (McLaren); 1986 (Brands Hatch), Nigel Mansell (Williams); 1987, Nigel Mansell (Williams); 1988, Ayrton Senna (McLaren); 1989, Alain Prost (McLaren); 1990, Alain Prost (Ferrari).



Track diagram: Ford Motor Company

Circuit Comment from Riccardo Patrese

'All of us are waiting with great interest to tackle the challenge of the new track. From what I've been told, it will be very difficult to gear for, to the point that we may need to be changing gear mid-way round the new Stowe corner. That's where Nigel and myself, and the Ferrari drivers, of course, will have an advantage with our fingertip gearchanges. I don't relish the idea of having to take one hand off the wheel, mid-way through a fast corner like that!'

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CIRCUITS

ROUND 9: July 28, German Grand Prix, Hockenheim

Words and Pictures

GERMANY

History

Used for motorcycle and car racing, as well as for testing by Mercedes-Benz, during immediate post-war period. The construction of nearby autobahn sliced section off the track, but also brought considerable financial compensation with which the circuit was re-modelled with lavish permanent grandstand facilities. Gained notoriety in 1968 when the great Jim Clark was killed here in minor league Formula 2 race. Held German Grand Prix in 1970, then 1977 to present date after old 14-mile Nurburgring abandoned on grounds of safety.

Viewing Facilities

The infield stadium section surrounding the pits and paddock area is lined by huge grandstands and the sense of occasion in the build-up to the start of the race is something quite extraordinary. Viewing elsewhere is limited, but there is a steeply graded spectator bank overlooking the tricky Ostkurve chicane at the top end of the circuit.

Hotels

Strike out to either Mannheim or Heidelberg if you want a wide choice of accommodation. There are some good local pubs in surrounding smaller towns – Speyer and Schwetzingen – but they tend to be booked up by those in the know.

Access

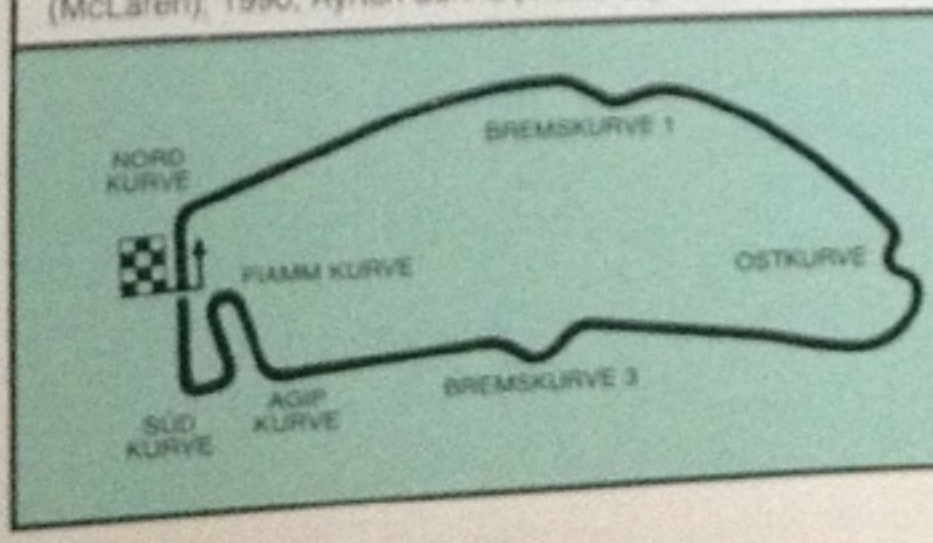
Extremely well organised through town centre of Hockenheim. Traffic disperses in many directions after the race, so congestion is kept to a minimum.

Assessment

Whole race meeting is run with typically well-ordered efficiency. Clean and clinical, but lacking in motor racing soul. Lacks the sense of tradition that was present at Nurburgring.

TRACK FACTS

Race Distance: 45 laps of 4.2265 miles, total 190.195 miles.
Lap Record: Thierry Boutsen (Williams FW13B-Renault), 1 min 45.502 s (144.084 mph). Established in 1990 race.
Location: About 60 miles south of Frankfurt on Munich autobahn. Take exit to Waldorf or Speyer and follow circuit signs.
Past Winners: 1985 (new Nurburgring), Michele Alboreto (Ferrari); 1986, Nelson Piquet (Williams); 1987, Nelson Piquet (Williams); 1988, Ayrton Senna (McLaren); 1989, Ayrton Senna (McLaren); 1990, Ayrton Senna (McLaren).



Track diagram: Ford Motor Company

Circuit Comment from Gerhard Berger

"A circuit where you have to have the car perfectly set up to balance the downforce you need on the infield section with the best possible top speed on the long straights. The S-bends on the outward and homeward legs are very tricky, as is the Ostkurve chicane where it's important to try and avoid banging the high kerbing."

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ROUND 10: August 11, Hungarian Grand Prix, Hungaroring

HUNGARY

History

Impressive, tailor-made circuit constructed with governmental support and opened in time to run first race in 1986. Slightly remodelled in 1989 to eliminate too-tight S-bend on outward leg below back of paddock area.

Viewing Facilities

A wide range of choice for the spectator, ranging from the huge startline grandstand, several smaller stands around the circuit and large banked areas forming many spectator enclosures. Almost impossible not to get a decent view of proceedings. A very professionally organised circuit which has drawn on the best features from many existing tracks all over the world.

Hotels

In the halcyon days of Edward and Mrs Simpson, Budapest was regarded as the Biarritz of Eastern Europe. Then came the war from which Hungary emerged as part of the Eastern bloc. In recent years Hungary has been at the spearhead of Westernisation and visitors can now enjoy a good mix of the traditional older hotels as well as those from the more familiar international chains. No shortage of accommodation in this bustling, cosmopolitan city.

Access

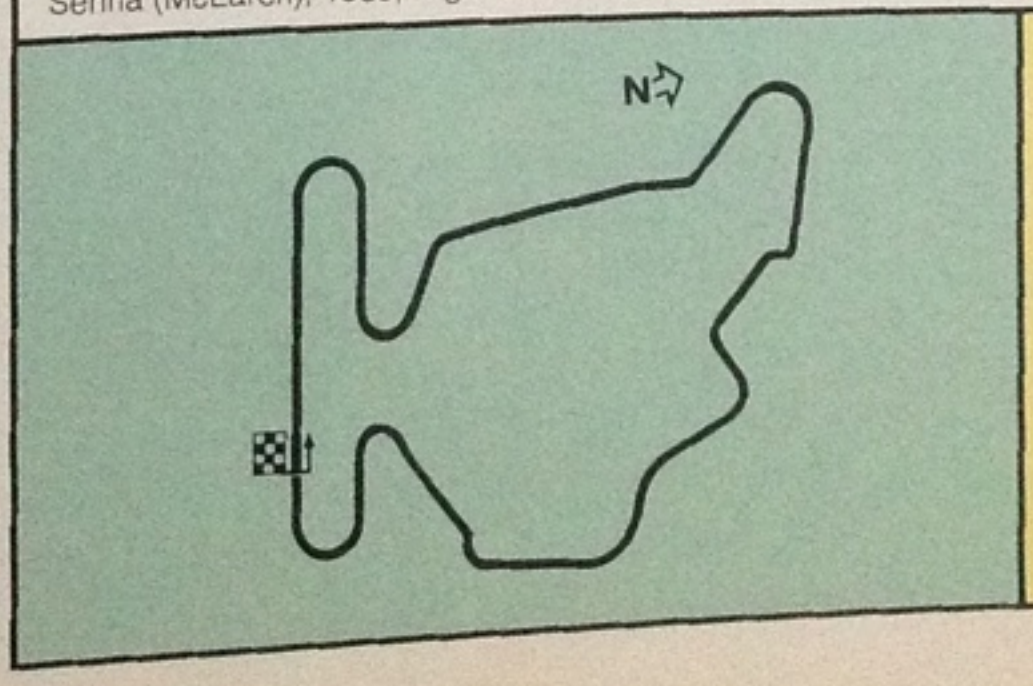
The circuit is about half an hour's drive from the centre of the city along a well-signposted dual carriageway. Unfortunately, this funnels into what is virtually a narrow country lane for the last mile or so to the track. Congestion can be horrendous. Air fares to Budapest are outrageously expensive, since British Airways and Malev have the route carved up between them and can charge what they like. It's almost cheaper to go to the Montreal race instead.

Assessment

An interesting track which offers too little in the way of overtaking opportunities. It's worth the trip just to see Budapest!

TRACK FACTS

Race Distance: 77 laps of 2.465 miles, total 189.85 miles.
Lap Record: Riccardo Patrese (Williams FW13B-Renault), 1 min 22.058 s (108.169 mph). Established in 1990 race.
Location: Approximately 12 miles from the centre of Budapest.
Past Winners: 1986, Nelson Piquet (Williams); 1987, Nelson Piquet (Williams); 1988, Ayrton Senna (McLaren); 1989, Nigel Mansell (Ferrari); 1990, Thierry Boutsen (Williams).



Track diagram: Ford Motor Company

Circuit Comment from Nigel Mansell

'A track which keeps you concentrating every inch of the way, but extremely difficult to overtake on. To do so, you either have to have a lucky break – as I did when I slipped past Senna to take the lead of the 1989 race – or take a chance, like Gerhard Berger did when he rammed me out of last year's race. Otherwise, the only real opportunity to overtake is at the end of the startline straight which relies on getting the uphill right-hander onto that straight absolutely right.'

ROUND 11: August 25, Belgian Grand Prix, Francorchamps

Words and Pictures

BELGIUM

History

Superbly re-shaped and enhanced variation on the classic high speed track which first staged the Belgian Grand Prix in 1925. Major row over safety caused the original track to be dropped from Formula 1 calendar after 1970 race, but restored 13 years later after being significantly shortened in length. Still exudes tremendous character and a lot of its old flavour. Best section – the plunge over the Eau Rouge bridge – remains unchanged, happily.

Viewing Facilities

Ageing public grandstand opposite the old pit complex (now employed only for supporting races), overlooking the spectacular Eau Rouge swerves. A stroll through the woodland paths to the more distant corners may take some time, but is to be rewarded with sights of spectacular motoring.

Hotels

This part of Belgium is a popular holiday area, but the accommodation requirements of the Grand Prix fraternity tends to swamp its available beds. It is always necessary to book early, otherwise be prepared to travel as far afield as Aachen or Liége to locate any rooms.

Access

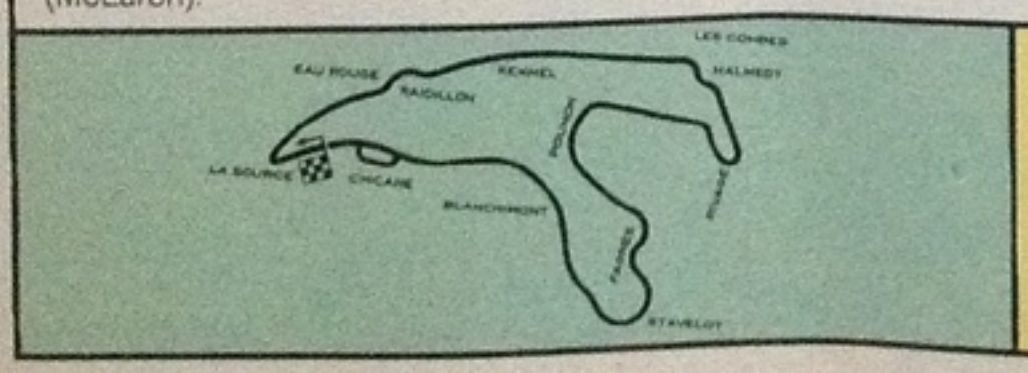
Very restricted indeed, along a maze of country lanes. Tends to be extremely crowded in the immediate vicinity of the circuit after the race, but eventually flows away quite well, feeding network of local autoroutes close by.

Assessment

Although the weather in southern Belgium tends not to be terribly dependable – and it really knows how to rain in this part of the world! – the Francorchamps circuit is a truly splendid environment in which to watch Formula 1 cars in action. It makes an ideal weekend break for the British enthusiast.

TRACK FACTS

Race Distance: 44 laps of 4.3123 miles, total 189.741 miles.
Lap Record: Alain Prost (Ferrari 641/2), 1 min 55.087 s (134.891 mph). Established in 1990 race.
Location: Adjacent to the town of Spa, amidst the pine-clad mountains of the Haut Fagnes region of south-east Belgium.
Past Winners: 1985, Ayrton Senna (Lotus); 1986, Nigel Mansell (Williams); 1987, Alain Prost (McLaren); 1988, Ayrton Senna (McLaren); 1989, Ayrton Senna (McLaren); 1990, Ayrton Senna (McLaren).



Track diagram: Ford Motor Company

Circuit Comment from Martin Brundle

'"Awesome" I think is the best word to describe Spa. It has some tremendous corners which really take your breath away. I think I would nominate it as my favourite Formula 1 circuit.'

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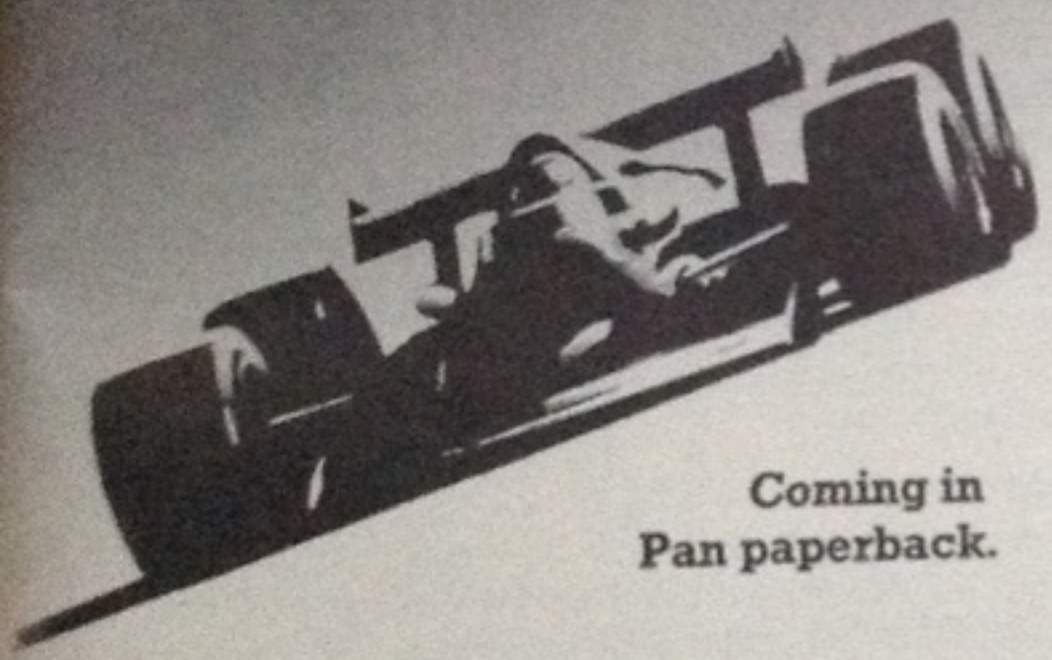
MURRAY WALKER



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CIRCUITS

ROUND 12: September 8, Italian Grand Prix, Monza

Words and Pictures

I T A L Y

History

For an Italian, Monza is the most important, and highly revered, shrine to international motor racing. Up until the 1989 race, the track retained a pit complex dating back to the 1950s, and although many regard its demolition as a display of architectural vandalism sanctioned by the sport's governing body, the resultant new pit/press room block must be regarded as the best in the world. The circuit first played host to the Italian Grand Prix in 1922 and has featured several variations on its basic layout since then.

Viewing Facilities

The local fans – nicknamed the tifosi – are remarkably adept when it comes to locating informal viewing facilities. They will perch on advertising hoardings, even in the upper branches of trees, but since several of them have fallen off and been killed over the years, we recommend more conventional seating arrangements. If you can arrange it, get a place in the main stand opposite the pits. Failing that, the spectator terraces between the Variante Ascari and Parabolica are worth a try.

Hotels

Several excellent hostelries in Monza, bigger international chains in the centre of Milan and the over-priced Villa d'Este on Lake Como for those to whom money no longer has any meaning. Excellent restaurants in and around town centre.

Access

Last year was an absolute and enduring nightmare. If you can, park and walk. Event tends to bring out the local light-fingered brigade, so don't leave anything vaguely valuable in your car.

Assessment

The true enthusiast really needs an extra day at Monza just to examine all the book, model and racing accessory stands which are of the very highest order. A truly wonderful circuit, possibly with more soul than the rest of the World Championship calendar put together.

TRACK FACTS

Race Distance: 53 laps of 2.6039 miles, total 191.009 miles.

Lap Record: Ayrton Senna (McLaren MP4/5B-Honda), 1 min 26.254 s (150.418 mph). Established in 1990 race.

Location: In the spacious and elegant grounds of a former royal park in Monza, on the northern fringes of Milan.

Past Winners: 1985, Alain Prost (McLaren); 1986, Nelson Piquet (Williams); 1987, Nelson Piquet (Williams); 1988, Gerhard Berger (Ferrari); 1989, Alain Prost (McLaren); 1990, Ayrton Senna (McLaren).

Track diagram: Ford Motor Company

Circuit Comment from Nelson Piquet

'It is quite a difficult track because those three chicanes are quite difficult and tend to break up your high speed rhythm. The Curva Grande and Lesmo sections are tremendously quick, but you can make vital fractions of a second there if your chassis is perfectly set up.'

ROUND 13: September 22, Portuguese Grand Prix, Estoril

PORTUGAL

History
Originally hosted Formula 3 and Formula 2 internationals in late 1970s before restoring Portuguese Grand Prix to the calendar in 1984 after an absence of 22 years. Bumpy and demanding track which is widely regarded as potentially more hazardous than it need be.

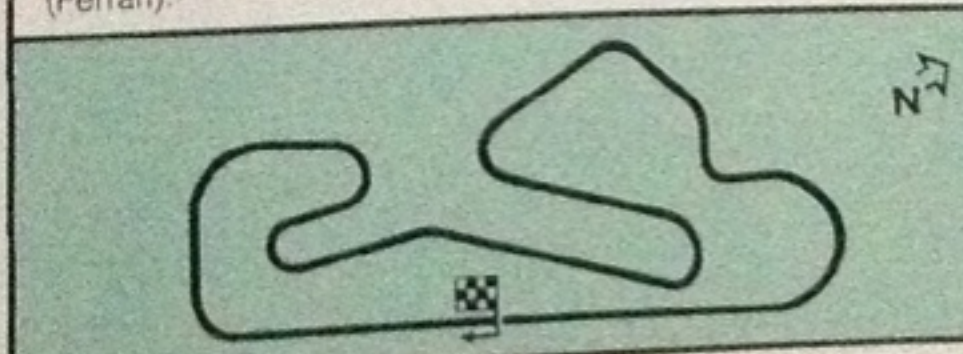
Assessment
An action-packed, rather rough and ready track which inevitably seems to produce decent racing. A regular venue for off-season Formula 1 testing, it doesn't rank as one of the greatest circuits in the world.

Viewing Facilities
Main grandstand opposite pits gives good overall view of the action, but plenty of room in the spectator areas for those paying basic admission to get a decent view. A bit of a mud bath underfoot in the rain.

Hotels
Plentiful and wide-ranging in terms of quality around Cascais and Estoril, but if you're late booking you may find yourself facing the daily drudge of a commuter run into Lisbon. And that is no joke on the coastal road!

TRACK FACTS

Race Distance: 71 laps of 2.703 miles, total 191.913 miles.
Lap Record: Riccardo Patrese (Williams FW13B-Renault), 1 min 18.306 s (124.264 mph). Established during 1990 race.
Location: Just inland from the resorts of Estoril and Cascais, about 25 miles north of Lisbon on the Atlantic coast.
Past Winners: 1985, Ayrton Senna (Lotus); 1986, Nigel Mansell (Williams); 1987, Alain Prost (McLaren); 1988, Alain Prost (McLaren); 1989, Gerhard Berger (Ferrari); 1990, Nigel Mansell (Ferrari).



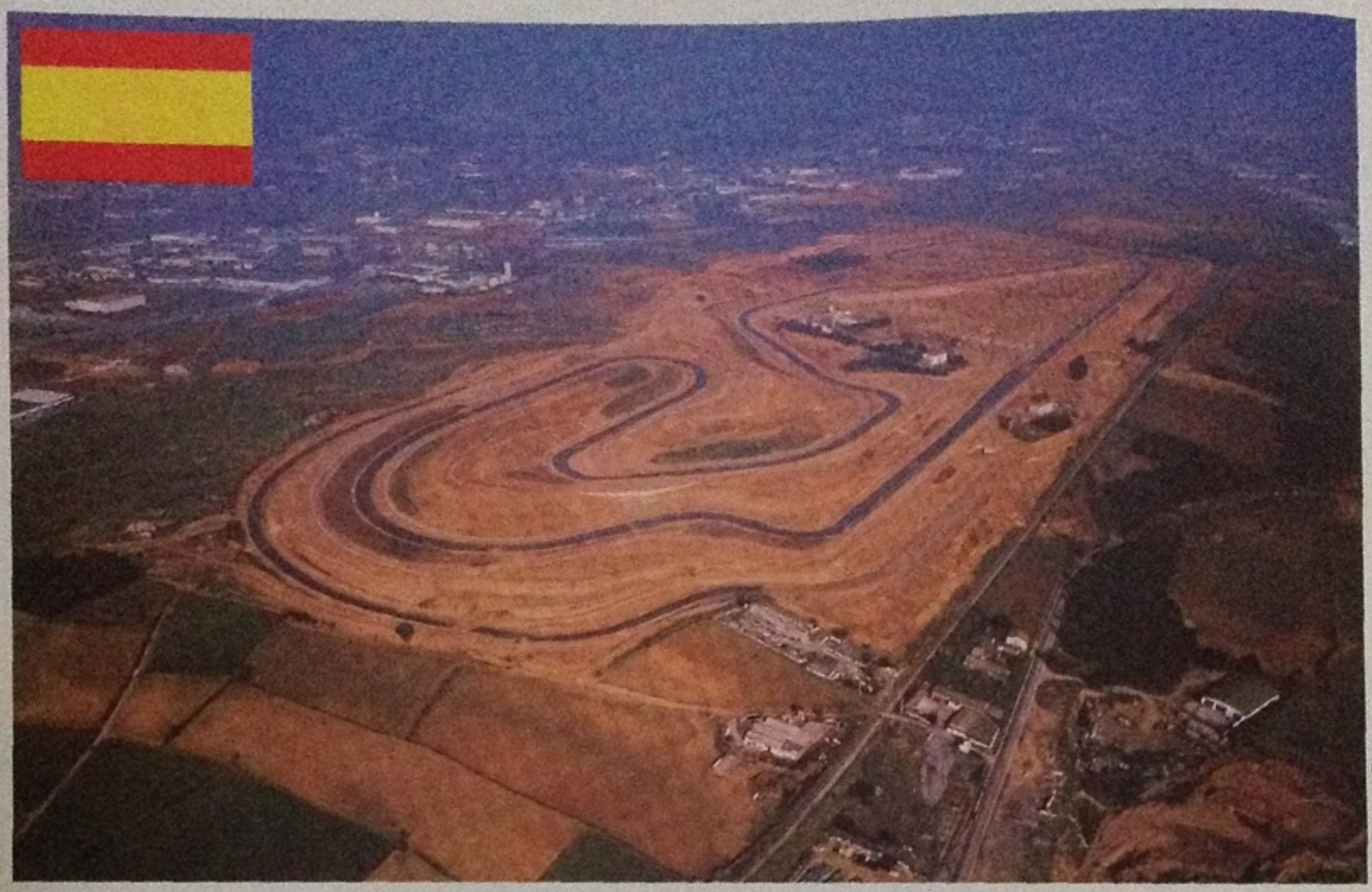
Circuit Comment from Thierry Boutsen

'Acrobatic and demanding, with lots of different corners. You need good handling and excellent brakes for this one. Quite bumpy in places and extremely satisfying to drive really well.'

Track diagram: Ford Motor Company

Words and Pictures

ROUND 14: September 29, Spanish Grand Prix, Barcelona



Words and Pictures

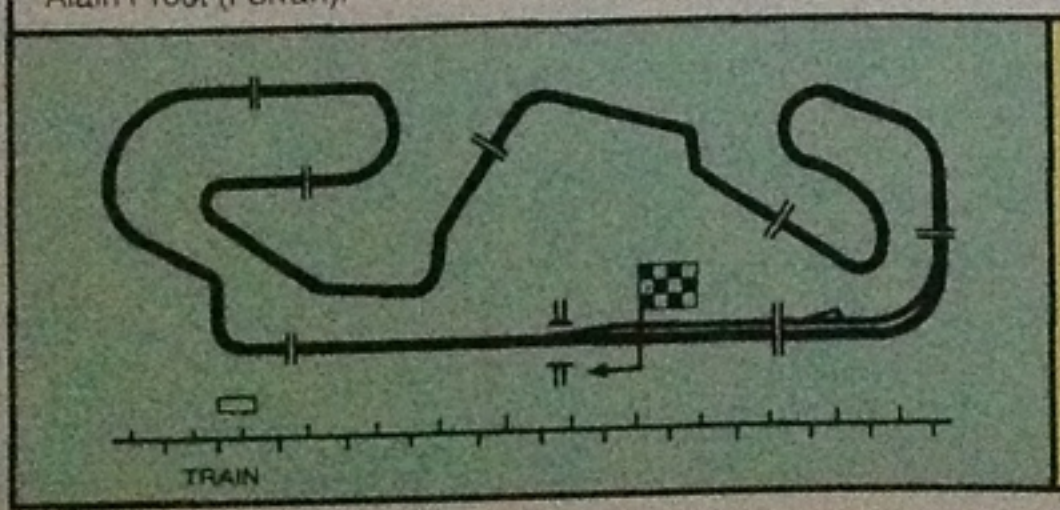
SPAIN

History

First World Championship Spanish Grand Prix was held at Madrid's Jarama circuit in 1968, thereafter alternating with Barcelona's magnificent Montjuich Park track through to 1975 when this splendid venue was abandoned following an accident to German driver Rolf Stommelen in which four onlookers were killed. Race reverted to Jarama through to 1981, after which there was a five-year interval before Spain staged its first Grand Prix at Jerez de la Frontera.

TRACK FACTS

Race Distance: 53 laps of 2.949 miles, total 156.297 miles.
Lap Record: To be established.
Location: At Montmelo, some 12km north of Barcelona.
Past Winners: 1986 (at Jerez), Ayrton Senna (Lotus); 1987 (at Jerez), Nigel Mansell (Williams); 1988 (at Jerez), Alain Prost (McLaren); 1989 (at Jerez), Ayrton Senna (McLaren); 1990 (at Jerez), Alain Prost (Ferrari).



Track diagram: Ford Motor Company

Circuit Comment

Not available, track not yet completed.

Viewing Facilities

Details unavailable at time of going to press.

Hotels

Wide variety to suit all tastes in Barcelona.

Access

No details yet.

Assessment

The second totally new circuit on the Formula 1 Championship trail this year, anything would be better than the antiseptic and remote Jerez autodrome which has hosted the Spanish Grand Prix since 1986.

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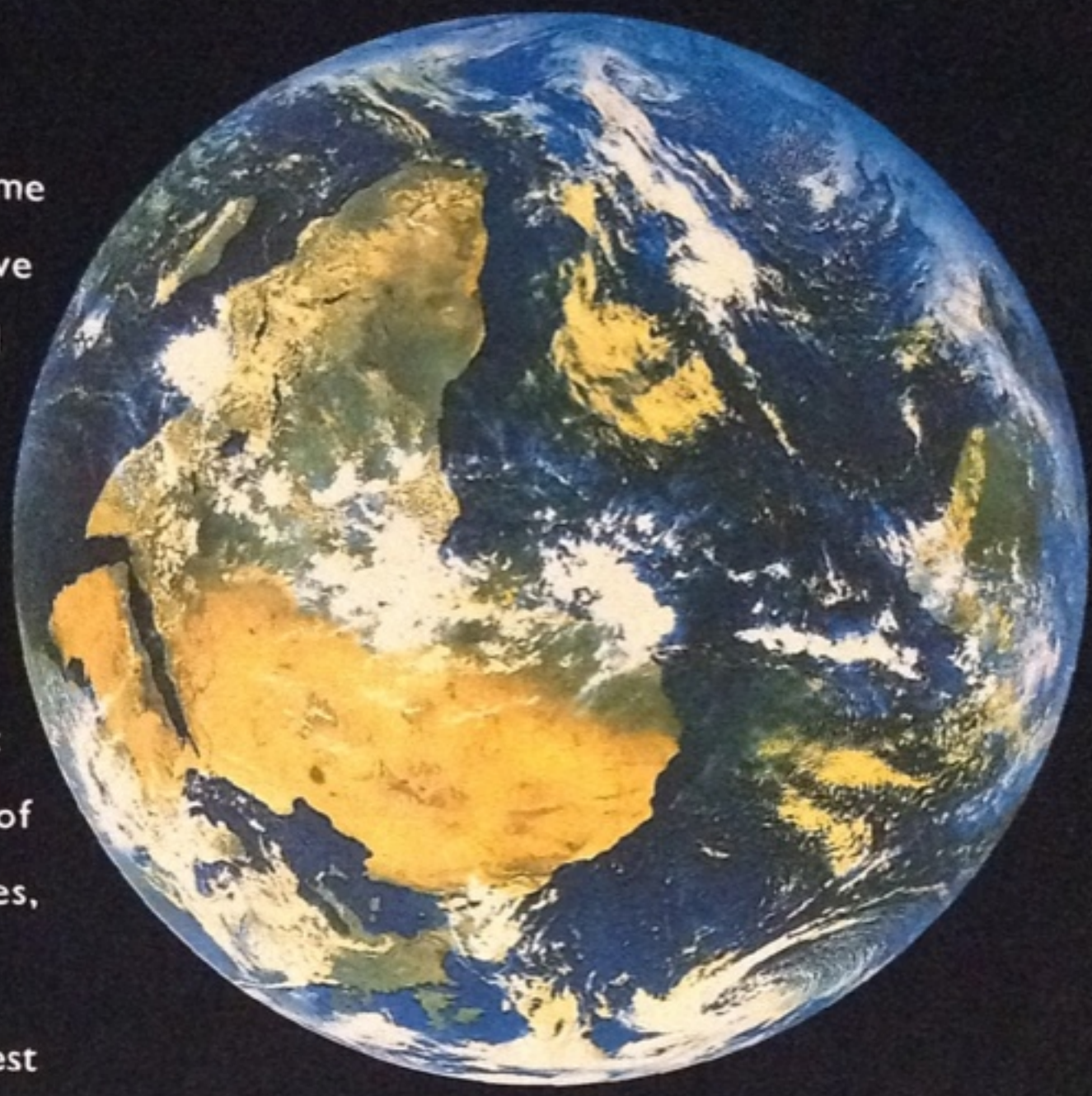

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ROUND 15: October 20, Japanese Grand Prix, Suzuka

Words and Pictures

J A P A N

History

Originally built in 1962 and used as Honda test track for many years. Staged a succession of national category races. First Championship Japanese Grand Prix staged at rival Mount Fuji circuit in 1976, then again in 1977, but ten-year break followed before event was re-established on calendar at Suzuka.

Viewing Facilities

Terrific choice of grandstands at several points on circuit, but be warned of one thing; demand for them is over-subscribed to the point where fans have to apply to enter a lottery for ticket allocation. British fans might not take to camping out all night waiting for the turnstiles to open, either. The grandstands are full by seven o'clock on race morning!

Hotels

These fall into two very distinct classes. There are international hotels which cater for Western tastes and the more spartan Japanese business hotels which come as something as a culture shock to Europeans. They have sparsely furnished rooms, little more than the size of a large cupboard. Forget the circuit hotel; it's monopolised by team bookings!

Access

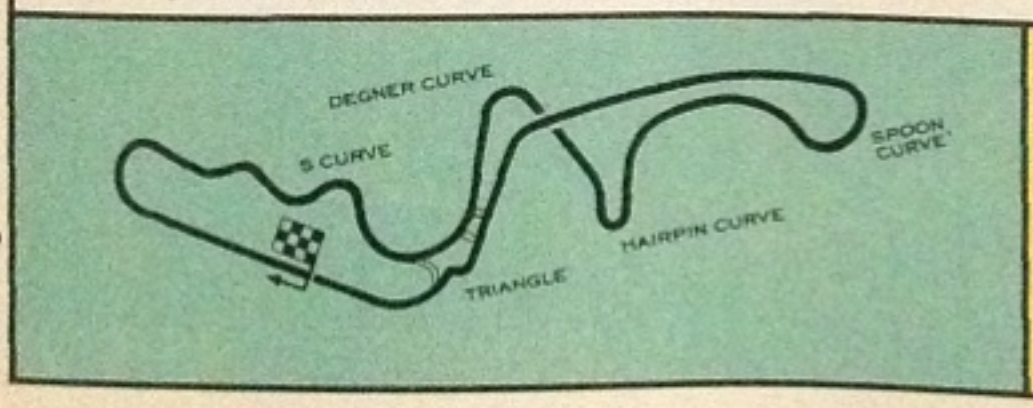
A real test, whether by road, train or taxi. On balance, the train to nearby Shiroko station is probably the best bet, but if you think London tubes are crowded, you ain't seen nothing yet!

Assessment

A terrific high speed circuit which most drivers find exhilarating to tackle. The Japanese run their circuit with scrupulous efficiency and everybody goes out of their way to ensure that attendees really enjoy their visit.

TRACK FACTS

Race Distance: 53 laps of 3.641 miles, total 192.952 miles.
Lap Record: Alain Prost (McLaren MP4/3-TAG turbo), 1 min 44.233 s (125.739 mph). Established in 1987 race.
Location: 40 miles from Nagoya on the Pacific coast.
Past Winners: 1987, Gerhard Berger (Ferrari); 1988, Ayrton Senna (McLaren); 1989, Alessandro Nannini (Benetton); 1990, Nelson Piquet (Benetton).

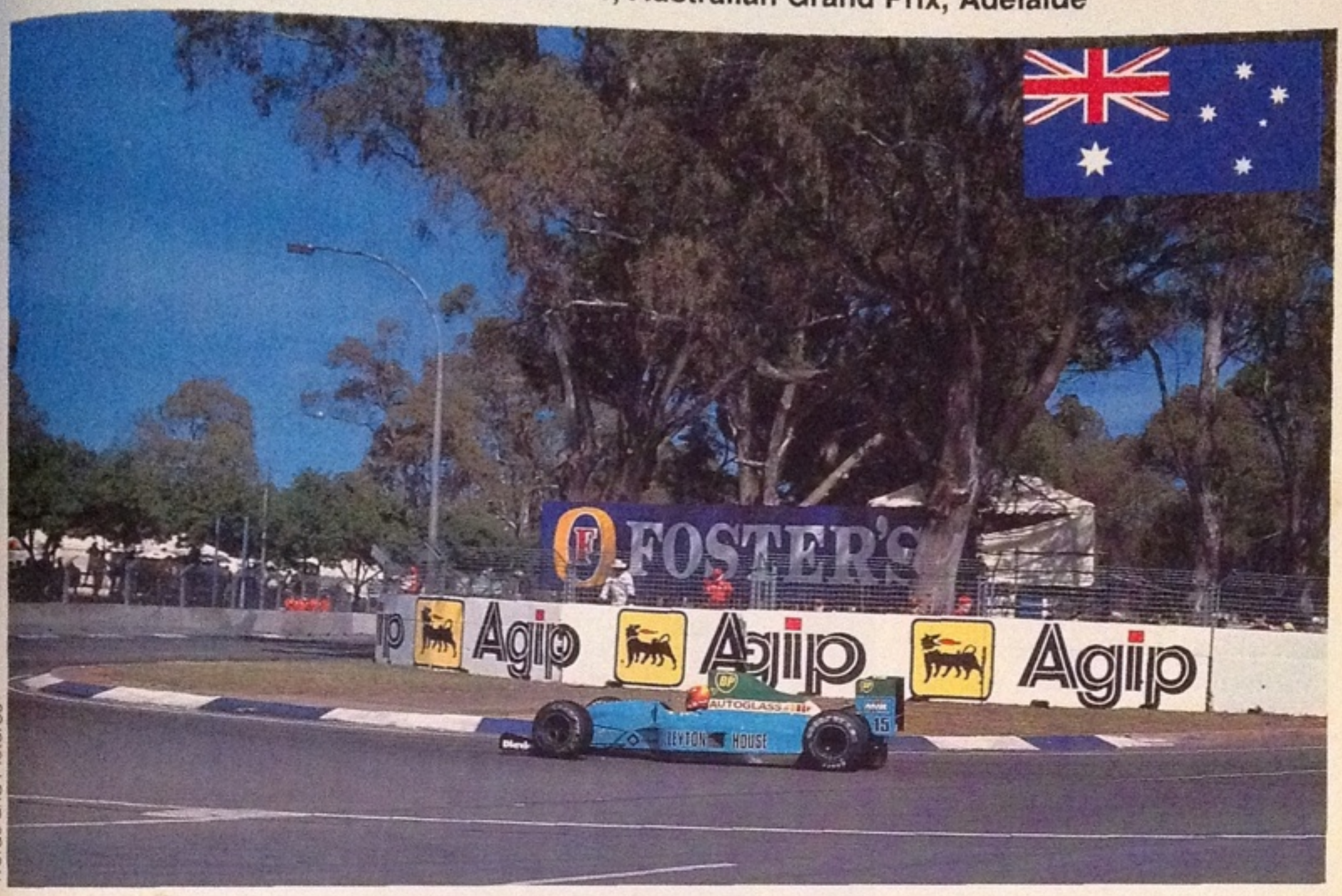


Track diagram: Ford Motor Company

Circuit Comment from Aguri Suzuki

'Obviously a very special place for me, particularly after my third place there in last year's Grand Prix. Hard on the tyres and with few places to pass, it is a really quick track that keeps you concentrating hard throughout.'

ROUND 16: November 3, Australian Grand Prix, Adelaide



Words and Pictures

AUSTRALIA

History

Adelaide hosted its first World Championship Grand Prix in 1985, since when the race has consolidated a reputation as possibly the most popular on the calendar.

Viewing Facilities

A grandstand seat opposite the pits offers the best view in the house. Other good viewing points include those near to the right-hander onto the back straight (Dequetteville Terrace) and by the hairpin at the end of this section.

Hotels

A varied selection of well-appointed hotels are available in this spacious and elegant city, many of them within walking distance of the circuit.

Access

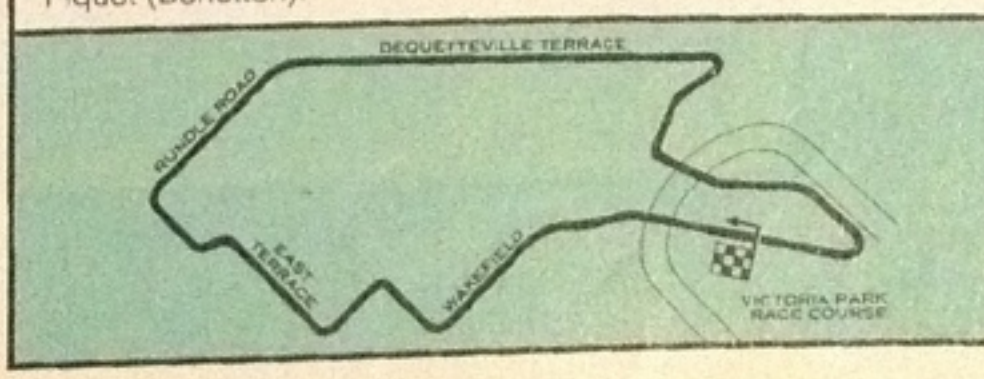
Absolutely no problem. Taxis are plentiful and inexpensive. Traffic jams crop up from time to time, but small beer compared with Suzuka or Silverstone!

Assessment

A consistently well run and popular event which inevitably leaves competitors rounding off the season in a good mood. An instant classic!

TRACK FACTS

Race Distance: 81 laps of 2.347 miles, total 190.107 miles.
Lap Record: Nigel Mansell (Ferrari 641/2), 1 min 18.203 s (108.123 mph). Established during 1990 race.
Location: Artificial circuit and street track near centre of city.
Past Winners: 1985, Keke Rosberg (Williams); 1986, Alain Prost (McLaren); 1987, Gerhard Berger (Ferrari); 1988, Alain Prost (McLaren); 1989, Thierry Boutsen (Williams); 1990, Nelson Piquet (Benetton).



Track diagram: Ford Motor Company

Circuit Comment from Jean Alesi

'One of the best street circuits I have raced on. Sections are quite bumpy, particularly on the back straight, and the kerbs are to be avoided. A really good Grand Prix track which is well organised.'

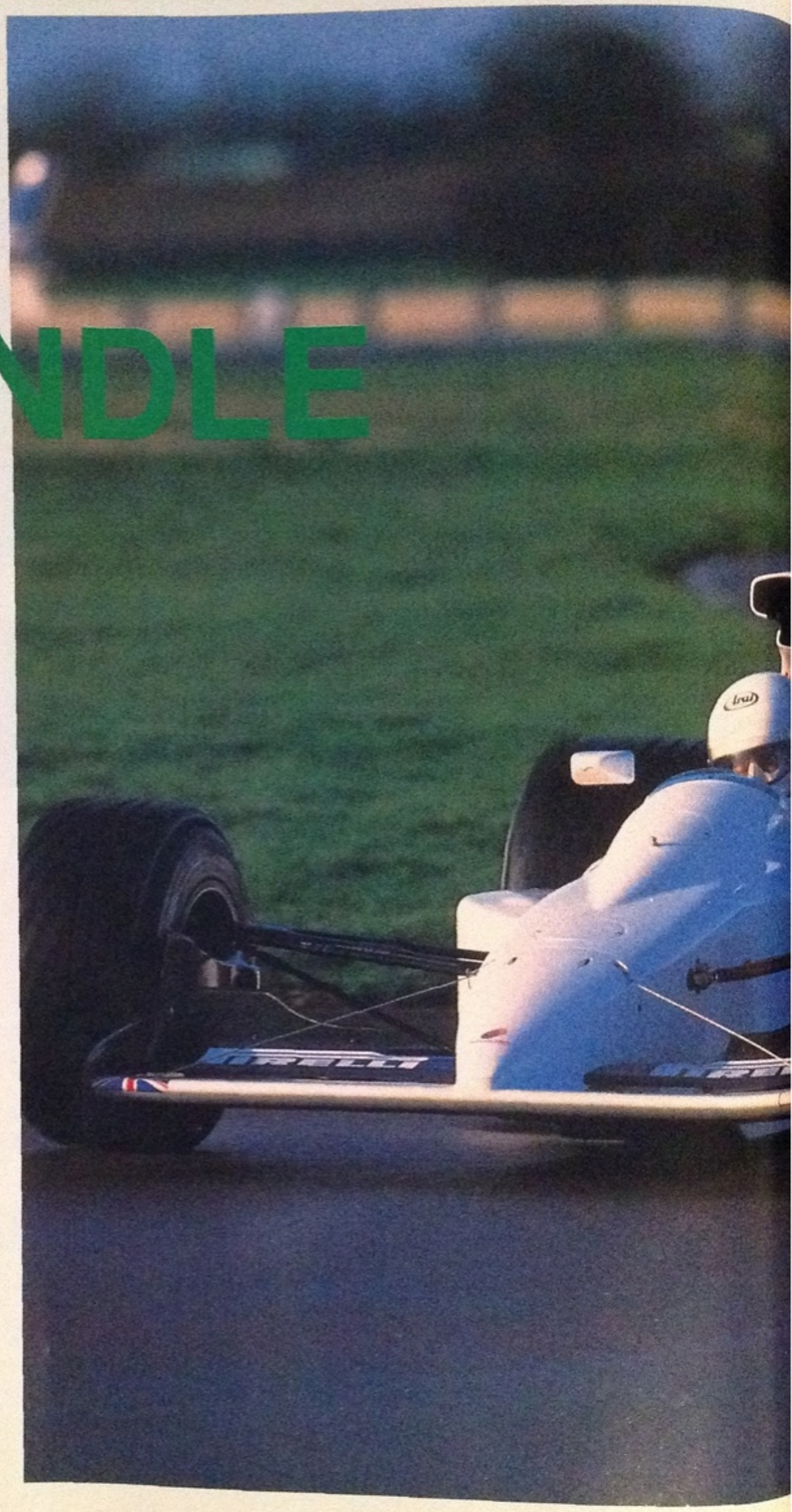
MARTIN BRUNDLE

By David Tremayne

If persistence is its own reward, Martin Brundle will have a good year in 1991. The 31 year-old Briton is back again in Formula 1, and already generating the kind of motivation at Brabham that it so sorely lacked last season.

Back in 1983, after his ninth consecutive Formula 3 defeat by one Ayrton Senna, he remained steadfast: 'I'll beat him yet, you'll see,' he vowed. And beat the Brazilian he did, the very next time out. Thereafter, their duel for the British title created a series whose excitement has never quite been matched. The honours ultimately went to the Brazilian, but runner-up Brundle joined him in Formula 1 for 1984.

Where Senna has, of course, gone on to establish himself as the yardstick, Brundle has struggled from bad car to bad car, yet his resolve remains undiluted by his relative lack of success. In his Formula 3 days, he admits himself, he was naive: 'I was a country boy from Kings Lynn, with his back to the sea.' Now, a World Champion in sports car racing in 1988, he is mature, astute. His background as a car salesman has endowed him with an ability to assess people and situations quickly and accurately. No longer is he likely to make the sort of mistake that saw him accept the ride with Zakspeed in 1987 that led him out of Formula 1 by the end of a thoroughly frustrating season.



His greatest asset currently, his innate speed apart, is that he comes back to Formula 1 an even more rounded performer. However good a driver is, lack of success eats away like a cancer, but his years in sports cars has brought him triumphs and has refreshed his ambition. Not the least of his achievements was winning the Le Mans 24 Hour classic last year. No matter what the formula, a win is the greatest fillip for a driver. Though sports cars may be regarded as poor relations by the Formula 1 fraternity, Brundle has left then with an enhanced reputation.

He is under no illusion that 1991 will be tough: 'We have a lot of work to do to pull Brabham, Yamaha and Pirelli together,' he says candidly. 'The new car looks fantastic, but they all do this time of year! We have several Japanese sponsors and, quite frankly, Japan looks like becoming the new market

However good a driver is, lack of success eats away like a cancer, but his years in sports cars have brought him triumphs.

place for British drivers who don't have a bag of gold. My Grand Prix places and the World Sports Prototype Championship title have been very well received here, and maybe this is a new way to keep going to the top for us.

'As far as I'm concerned, I'm fit and hungry. In fact, the last time I felt this fit I was captain of the Under-16s at Kings Lynn Grammar School! I'm available to the media, and I intend to stay that way.' Again, the shrewdness is evident when he adds: 'I must position myself to be the automatic successor to Nigel. Mind you, I read recently that he intends to stick around for another two or three years, so maybe I'll just have to take him on before that . . .'

He started his campaign to return to Formula 1 at Monaco in 1990, and came away from the Principality gratified with the reception he'd received: 'It was a bit of a shock to the system to leave Formula 1 at the end of 1989, because I'd had a reasonable season and was beginning to understand what I needed to do, who I needed to have around me, but suddenly there I was, no longer a ▸

Grand Prix driver. Okay, it was totally my decisioin to wait for the uncertainties at Brabham to work themselves out. But while it was easy to get out of Formula 1 the first time after Zakspeed, second time around it hurt a lot. I had a lot of sleepless nights before I made that decision. I suspected that if I left Formula 1 again I might not be welcomed back again. My confidence took a bit of a knock, to be honest. When I saw David Brabham's name on the car at Monaco, that hurt a lot. You know, to see my mechanics working with somebody else. I was an outsider, there was no doubt about it.

'I knew that if you want to move around in Grand Prix racing now, you have to go in May or even earlier. It's no good leaving it until August or September, and I wanted to evaluate my worth in Formula 1. Frank Williams was very receptive, and Ken Tyrrell and one or two other people, and I came away thinking: "This is where I should

'It's wonderful when you know that a team really wants you on board, I want to do everything for them. It's where I work best . . .'

be. This is where I belong.'

Brundle has manoeuvred himself well over the years. He has shrewd professional advisors, seasoned in the art of driver management, and with that sort of cocoon around him he is making better decisions: 'The people around me have helped me make the right decisions, because otherwise your heart can start to rule your head. That's a key factor. There are a few people I call on to make serious decisions, to tell me not to be so silly or that it's the right thing to do, and all that helps.

'I have absolutely no regret at leaving Brabham at the beginning of 1990, because for me at that time it was the right thing to do. Unlike leaving in 1987, I kept control of it. I moved out, I moved where I wanted to go. I knew I could win races in the Jaguar and improve my credibility, and I'm at the right age to do that. There's still not that many people in the world who can get a Formula 1 car working to the optimum *and* get a team around them.'

The latter is the key point with

Brundle hopes to put the Brabham-Yamaha on the Formula 1 map in 1991.

Brabham. Without the input from Brundle in 1990, without a driver with his credibility and ability to motivate, the project fell apart. By the end of the year, Stefano Modenna's relationship with the Chessington personnel was virtually non-existent as he dreamed only of Tyrrell. Ironically, that had been a dream Martin had also harboured.

'I was talking to Ken for some time, when Alesi was doing all that malarkey. I obviously saw an opportunity to speak to Ken. I've got a lot of respect for him and I think he's got a lot for me. We went through a difficult time together where we couldn't really do that much for eachother, and I was coming back from Montreal to meet him on Mondary morning to do the deal. While I was in Montreal I heard that Modena had signed the deal instead. I don't know the ins and outs. Formula 1 is hardly ever what it seems on the surface. So when I reached the airport I went straight down to see Herbie Blash and did a deal at Brabham instead. It was

Winning Le Mans in 1990 kept Martin's reputation on the boil.

on the table, but there were certain elements I needed in place before I did it, and Herbie went off and got them all done. It was great. It's wonderful when you know that a team really wants you on board, you want to do everything for them. It's where I work best, in an environment like that, I thrive on feeling part of a team.

'I like to look at all aspects of a team. I've got a lot of business experience, I've got a lot of all sorts of experience. Any chain is only as strong as its weakest link, and I'm the end link of the chain, the final user. That's all the driver is. But any input I put in goes all the way back up the chain. If I can see a weak link further up it, I'm going to make sure it gets changed.

'Right now I believe I'm exactly what Brabham Yamaha needs. And with the relationship that I've struck up with Mark (Blundell) *we* are exactly what it needs.. There's no communication problems, we think as one on almost every item. He has the right blend of confidence and humility, he wants to learn from me. I wish when I was 24, first coming to Formula 1 I'd had someone like that. I was so naive that it was painful. Right now, with the way Brabham and Yamaha have to join as one, which will take several months, I think Mark and I are exactly what it needs and that's going to work really well. We've got two engineers who work really well –Andy Brown and Tim Densham – so Sergio Rinland can concentrate on designing, which is what he is good at, and we still have the core of the basic Brabham team. It's a good team. From the first test I sensed the confidence welling up, and it's all topped by Dave Price, who's the most down to earth guy you'll ever meet, and the evergreen Herbie. It's all basically in place, but there are still plenty of areas where it needs tightening up before it becomes great. I'm under no illusion that it's going totake a lot of more work.'

Martin Brundle is like Graham Hill,

'In that final race in 1983, all I had to do was take Senna out in the first corner to win the championship. It's a bit ironic . . .

incredibly hard on himself: 'People keep going back – I try not to – to the old "you used to beat Senna, you scored World Championship points before he did. How's he got away from you?" sort of thing. The fact is that in those early days I was so naive, and unwordly. It took me a long time – too long– to start understanding the politics, what makes Formula 1 tick. Senna had an old head on young shoulders. In that final race in 1983 all I had to do was take Senna out in the first corner to win the championship. It's a bid ironical that's what happened between him and Prost last year! Maybe then I just wasn't ruthless enough . . .'

It may take two years, three or more, but Martin Brundle is feeling more optimistic than ever before about his Formula 1 prospects. The tide has gone out on the latest new wave of drivers, but he is still hanging in there: 'I had a glimpse of what it can be like, having Patrick Head tuned into my crash helmet when I drove for Williams at Spa in '88. That's what I aspire to.' ■

What a difference

a year makes.

Alan Henry on Motor Racing in *The* Guardian

THE POWER BEHIND THE THRONES

By Alan Henry

Over the past decade and a half, the technical emphasis in the Formula 1 pit lane has changed considerably. Although Grand Prix racing has gone beyond the over-complex and irrelevant breed of turbocharged engines since the end of the 1988 season, the turbo era bequeathed a legacy of manufacturer involvement unparalleled in recent racing history.

The upmarket technological challenge and high quality image enjoyed by Grand Prix racing has provided a magnet for major car-makers seeking to project their image in the most prestigious and visible international motor racing category. Fiat – through Ferrari – Honda, Renault, Ford and Yamaha all have a major commitment to Grand Prix racing and they are determined to succeed with both their engineering and promotions.

Foremost among the contenders is Honda, which is aiming for a fourth consecutive championship title with McLaren this season. In the 1960s, the company dominated Grand Prix motorcycling by making an enormous financial investment and, during nine outstanding seasons of international competition, they achieved 16 world championship titles and almost 140 victories in classic events.

In 1964, Honda first made a foray into Formula 1. Initially, the company had concluded a deal to provide engines for Team Lotus, but Colin Chapman withdrew from the arrangement at the last minute. As a result, Honda decided to go it alone with a high-revving V12, mounted transversely across the chassis, making a debut in the 1964 German Grand Prix at Nurburgring.

In the last race of the 1.5-litre Formula 1, at Mexico City in 1965, American

Richie Ginther scored Honda's first Grand Prix victory. The team returned to contest the 3-litre Formula 1 with John Surtees driving for them throughout 1967 and '68, but this alliance yielded only a single win in the 1967 Italian Grand Prix at Monza. Honda then quit Formula 1, not returning until 1983 with their 1.5-litre V6 turbo.

Since then, progress has been spectacular. In partnership with Williams, Honda stormed the Constructors' World Championship in 1986 and '87, then rattled off another hat trick of victories with McLaren in 1988-90. The Japanese car-maker is reputed to be spending in excess of £15 million annually to sustain its high profile, outstandingly successful on the Grand Prix stage.

In addition to supplying the new RA121E V12 engine to McLaren as the front-line of its attack, Honda has made the RA101E V10 cylinder engine, which was previously used by McLaren, available to the Tyrrell team as a second string to the competitive bow. Honda's president Nobuhiko Kawamoto, who as a junior engineer worked on the early Honda Formula 1 cars driven by John Surtees in the late 1960s, has no doubt of the benefits derived from participation in the sport's most exalted category.

An involvement in Grand Prix racing helps to instil a sense of competitive urgency in other areas. Kawamoto feels that Honda builds better road cars for being involved in Formula 1, purely because the engineers who work on them have benefitted from the challenge of Formula 1.

To that end, Honda has made it a policy to rotate engineers through the Formula 1 programme, which is structured as an integral component within the company's overall research and development programme.

'For engineers, it is a matter of fundamental philosophy,' explains Kawamoto. 'It is easy and comfortable to stay within the borders of your existing knowledge, but beyond those borders lies a new area which may offer something worthwhile. To break through we need people with challenging minds who are prepared to press hard for future development. This is the basis of our R & D philosophy in which Grand Prix racing has played a central role.

The racing programme contributes more than technology to the company's overall efforts. It serves as an inspirational, technical gymnasium in which engineers can learn how to concentrate their efforts, whether designing a new windscreen wiper motor for a production car or the valvegear of a Grand Prix engine designed to operate at 13,000 rpm.

'Our main purpose is to develop young engineers'. Kawamoto emphasises. 'We don't have Grand Prix "specialists" as such at Honda, but we try to involve as many engineers as possible. Those who are involved always come back and join the regular workforce.'

These engineers frequently bring back specific items of technology which relate directly to the company's passenger car designs. As an example, Honda's PGM-F1 programmed fuel injection is now used on all Honda cars sold in the USA. It was introduced on the 1983 RA163 Formula 1 turbo engine and its precise control of the V6's operational parameters played a crucial role in the development of the engine until 1988 when, in the final year of the turbo rules, it powered the McLaren MP4/4 to an unprecedented fifteen wins out of sixteen races.

It is much the same for the Ford Motor Company whose support of Grand Prix racing goes back to 1967 when the introduction of the Cosworth DFV V8 enabled a host of new teams to graduate into the sport's senior category during the decade that followed.

Even before becoming involved in Formula 1, Ford was totally committed to a broader competition programme and their experience of Grand Prix racing served to consolidate and strengthen that conviction. For many years, involvement was sustained through the overwhelming domination of those customer Cosworth V8s, in 1986 the company returned to the fray with a works-backed 120-degree turbo V6 which was supplied first to the Force team, then to Benetton with whom their partnership endures to this day.

With the V6 turbo, through the 3.5-litre naturally aspirated DFR – today's 'customer' Ford engine – and the special Ford HB 75-degree V8 which is used by the Benetton and Jordan teams in 1991, the company's electronic division has fulfilled a key role in engine design and development programmes.

One of the great challenges facing the car-makers in recent years has been the need to balance performance with fuel efficiency.

Electronic management systems have become one of the crucial elements in Grand Prix engine performance and Ford continues to draw heavily on the lessons of passenger car development. This is another example of the two-way "street" that exists between production cars and Formula 1 racing.

Ford's electronics division is acknowledged as being among the world leaders in the development of comprehensive control methods for passenger cars. This capability has stemmed from the need to meet the conflicting demands of sustained high power outputs with reduced exhaust emissions and enhanced fuel economy.

The control equipment first used in Formula 1 on the 1.5-litre Ford turbo engine has now been adapted for the requirements of the lightweight V8 used by Benetton and Jordan. The system, EEC IV, is a direct development of the electronic management system used on most of its US passenger car range as well as most European models fitted with fuel injection systems.

The Ford V8's outstanding performance, revving at around 13,000 rpm and producing almost 700bhp in its 1991 specification, gives the lie to the oft-expressed view that a V12 or V10 engine is absolutely essential for success today. Admittedly, the Honda V12 is now developing in excess of 700 bhp, but Ford V8 cars can compensate for this by running with significantly smaller – and lighter – fuel loads from the start of the race.

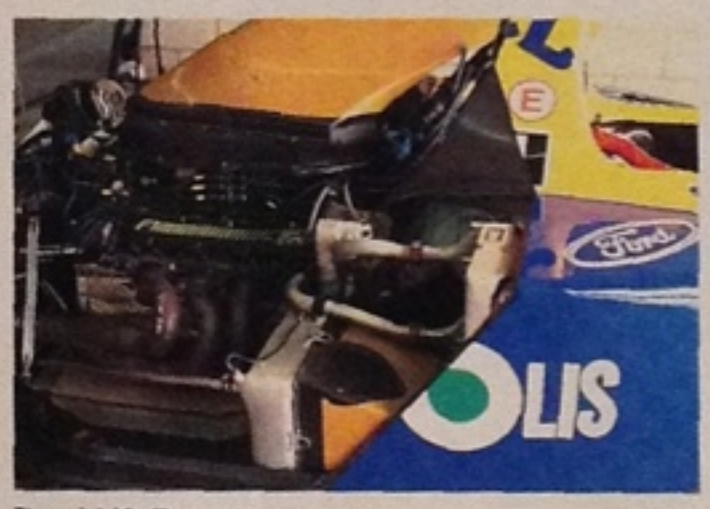
Grand Prix racing's other V12 engine is fielded by Ferrari, the Fiat-owned

Renault V10

subsidiary which acts as a spearhead to promote Italian engineering technology to the world at large. Fiat gains enormous promotional benefits – tradition, mystique, engineer excellence – from its association with the famous Maranello company in a manner unique amongst all Formula 1 competitors.

The Italian car maker's annual investment in Ferrari's Formula 1 racing programme is believed to be in the order of £40 million. They regard it as worth every penny . . .

In the same way, Renault has benefitted over the past decade from its involvement in Formula 1. Pioneers of



Ford V8-Benetton

the turbo revolution, the French company's factory team came tantalisingly close to winning the Championship in 1981-83 with Alain Prost in the number one seat, their star subsequently fading until they withdrew at the end of 1985.

Renault's engine supply arrangements with Team Lotus lasted for another year before they had two years off, returning at the start of 1989 to supply Williams with a brand new 3.5-litre naturally aspirated V10 unit. this has produced intermittent success,

Yamaha V12

achieving four Grand Prix victories in two seasons, but the advent of the latest RS3 development that powers the new Williams FW14 for 1991 promises to vault them into the leading bunch.

Over the years, Renault has received vast media coverage and promotional benefits from its Grand Prix involvement and the team continues to believe that with around 700 bhp, its latest V10 engine can sustain such benefits in the foreseeable future.

Further down the Formula 1 pecking order are Lamborghini and Yamaha, both of whom are relative newcomers. Lamborghini supplies its 640 bhp V12 and the new Modena team while Yamaha has an engine of similar configuration which has been supplied to Brabham on an exclusive basis. At the moment, Lamborghini is struggling to make an impact, but Yamaha is determined not to let its new programme degenerate in the same manner as in the fiasco of 1989 when it supplied a disastrously unreliable V8 to the German Zakspeed organisation.

Returning to Formula 1 this season is the German Porsche company in a joint venture with the Footwork Arrows team for whom it has manufactured a purpose-built V12 on an exclusive basis. In the long-term, there is the potential for enhancing Porsche's image not only as an engine builder, but as a specialist freelance engineering consultancy. At the time of writing, the engine has experienced development problems and hardly looks like achieving the success enjoyed by the World Championship-winning TAG turbo it produced for McLaren in the mid-1980s.

John Judd's Engine Developments organisation at Rugby makes a commercial business of building racing engines, unsupported by sponsorship from any major manufacturer. It faces the 1991 season with an all-new V10 engine supplied exclusively to the Bergamo-based Scuderia Italia and, on its maiden outing, acquitted itself with an admirable degree of promise. Whether it can sustain a competitive presence in the face of the big-money onslaught mounted by the front-line teams remains to be seen.

Chassis technology, of course, remains a key part of assembling a truly competitive Formula 1 package. But on the Grand Prix grids of this new season, engine power remains the most important factor for a successful season. Honda is heading for success, and it remains to be seen whether Ferrari, Ford, Renault and the others can do so too.

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THE GRAND PRIX GREATS

Denis Jenkinson selects the memorable drivers from the history of Formula 1.

Looking back on 40 years of World Championship Grand Prix racing, it seems that every ten years or so an outstanding driver emerges who not only leaves his mark in the record book, but does so in such a way that his years in Formula 1 become characterised by his personality. These legendary drivers were not necessarily the most successful, the fastest, or even the most spectacular, but, beyond question, they have left an indelible impression on Grand Prix racing.

In the years 1950 to 1958, the Argentine driver Juan Manuel Fangio was the man to beat wherever he raced, whatever he drove. His endurance and track craft were of the highest order, while his ability to be in the right team at the right time was uncanny. He was not always the fastest driver, nor was he the most stylish, but he achieved success by setting the pace from the start.

Farina, Ascari, Gonzalez, Hawthorn and Moss all beat "the Old Man", as he was affectionately known, but they couldn't do it consistently. Fangio won the World Championship five times during his eight year spell in the sport's most senior category. Throughout those eight years he left so many outstanding impressions, whether he won or lost, that anybody who recalls "The Fangio Years" more often than not simply remembers many of his great driving feats rather than his race statistics.

One of my fond memories of Fangio was meeting him on the deserted sea front at Zandvoort on the morning of the 1955 Dutch Grand Prix. I had got up early, before anybody was about, and I left the hotel to go for a quiet stroll along the Promenade. Before I had gone far I saw a familiar face away in the distance, coming towards me: Fangio. He was heavily built and always walked slowly but forcibly, and you could recognise him a long way off by his distinctive appearance, hence his Argentine nick-name, "El Chueco" – the bandy-legged one!

As he approached, he smiled and raised a hand in friendly acknowledgement and we sat down on a seat and passed the time of day in pidgin-Italian, our only mutual language. He had been walking for an hour in quiet meditation, enjoying the peace and tranquillity of the sea and the sand dunes. Mental serenity was an important part of this great man's make-up. That afternoon, while I watched him dominate the Dutch Grand Prix on the windy Zandvoort circuit, I thought of our morning meeting and found it hard to believe that it was the same man.

The next era was dominated by Jimmy Clark, the young Scottish border farmer who graduated from being an amateur club racer to become one of the world's greatest drivers, if not the greatest of all. Jimmy never seemed to be trying to drive fast, he was so relaxed and smooth. When he first moved into World Championship racing he was one of four first class drivers, the others being Graham Hill, Dan Gurney and John Surtees.

Fangio was not always the fastest driver, nor was he the most stylish, but he achieved success by setting the pace from the start.

For a time there was little to choose between them, but gradually Clark rose above the other three to a pinnacle of excellence that stretched far beyond Formula 1 racing. It was not so much a question of what he won, but the way he won. If everything was in order, he would win with consummate ease, leaving everybody else far behind. If conditions were poor, or his car gave him trouble, he would still win, looking calm and unruffled.

His working relationship with Lotus boss Colin Chapman was a halcyon period in Formula 1 which are held dear. I once said to Colin: 'If you designed a racing car with square wheels, what would Jimmy do?' His reply was instantaneous: 'He'd drive it faster than anything else, because he knows I'd have a good reason for doing it.' When I taxed Jimmy with the same question, he laughed and said: 'If Colin decided that three wheels would be faster than four, who am I to argue?' His unexpected death in a minor Formula 2 race, at the beginning of 1968, left us all completely stunned.

Wolfgang von Trips: German aristocrat.

The next period was the Stewart era. Even before Jim Clark's untimely death, the young Glaswegian Jackie Stewart was showing immense talent, speed and finesse. Stewart approached the whole business of racing as a strictly organised professional, the end result being to win, which he did. Yet he seldom did anything memorable or heroic. His performances were mostly calculated and confident, which fitted well into this period of racing, which saw great progress in chassis and suspension technology; the driver needed to be a sensitive component within a larger technical team. The days of reckless heroics were over. The thinking and calculating driver, with technical sensitivity, was now all-important, and Stewart revelled in this new age, setting a new all-time high of 27 race victories, most of them remarkably undramatic and unemotional, but then drama and ▶

***Jimmy* Clark: magical genius.**

emotion was no longer part and parcel of Grand Prix racing.

Driving for Ken Tyrrell's team, Stewart was able to mould its character around his own requirements. Although there was strong opposition from all sides, he triumphed consistently and left his mark on this particular era in the form of World Championship success both for himself and his team, race victories with his team-mate François Cevert following him home in second place, great attention to detail and a strong awareness that the public was paying his wages.

Some of his personal hobbyhorses used to irritate me, but I could not deny that he was serious about them and always believed in what he was doing. We did not agree very often about racing matters, but his brilliance as a driver was never in doubt.

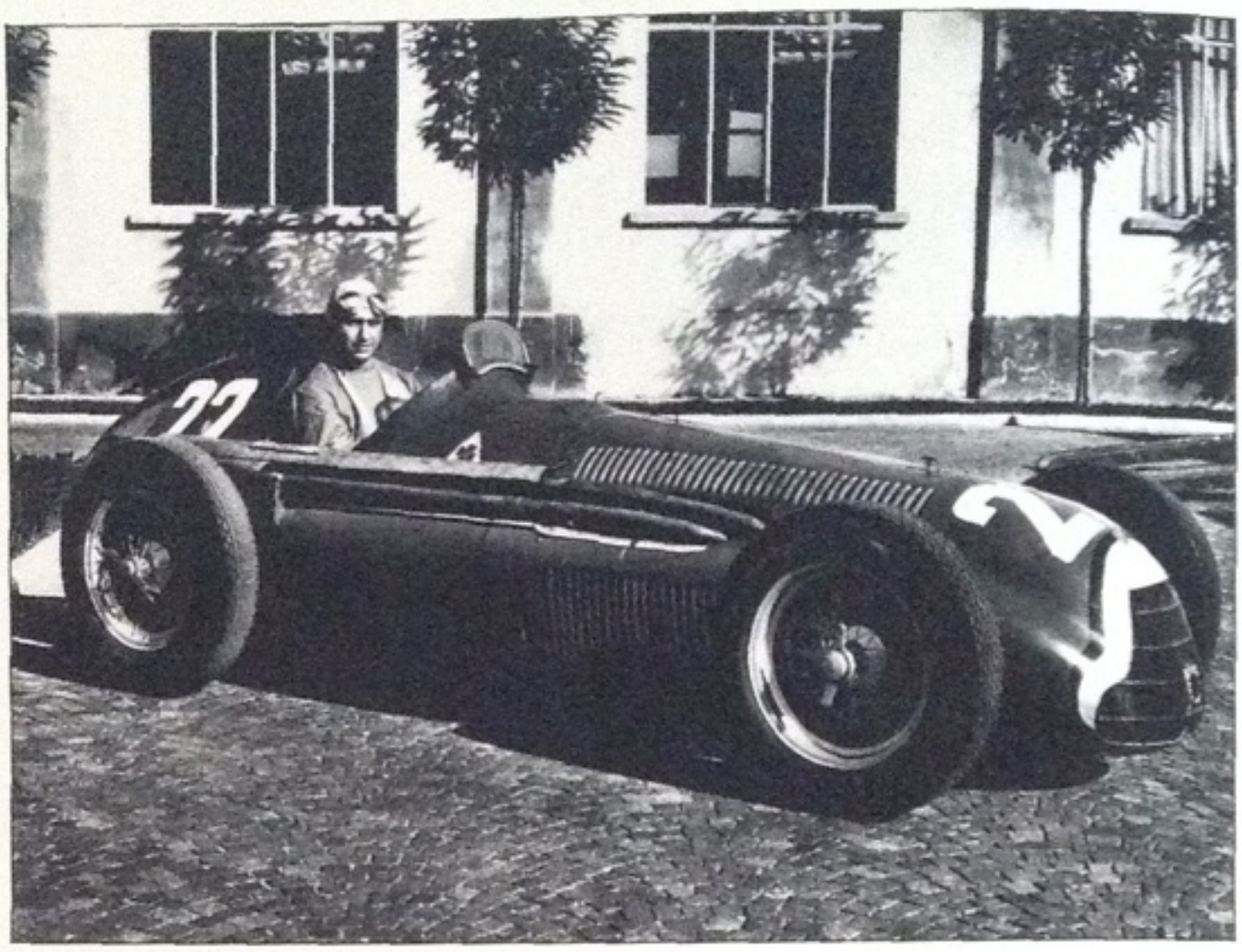
The past ten years belong to Alain Prost, who has comfortably surpassed Fangio, Clark and Stewart for the number of race victories he has scored, yet the remarkable thing is that most of them are easily forgotten in terms of

Stewart's performances were mostly calculated and confident. His 27 race victories were remarkably undramatic and unemotional.

precisely *how* he won them. It seems to make no difference to Prost whether he leads a race from start to finish, comes through from fifth or sixth place in the opening stages or profits from his rivals' misfortunes. He wins regardless.

Now and again, a forceful side of his character shows through and he becomes almost aggressive in his attitude to the opposition, nevertheless he still drives smoothly and never actually looks as though he is driving quickly. He has impressed all the engineers he has worked with by his insight into the technical requirements of today's racing, and his delicate touch on the machinery is clear when cars are stripped after a race.

In keeping with the present high-tech age of the Formula 1 car, the true value of Alain Prost lies in the things you cannot see, unless you are part of the engineering team that supports him. The only thing the spectator can be aware of is his ability to win races and the smoothness of his driving. It is no surprise that in his boyhood he admired the style of Jimmy Clark and modelled himself on the Scot.



National Motor Museum

Juan Manuel Fangio: personal serenity was his secret.

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Alain Prost: success by stealth

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Graham Hill: Mind over matter

Gilles Villeneuve's sheer brio was unsurpassed and no other driver has caused hardened journalists to stand out in the pouring rain during practice.

Throughout the span of the World Championships, which began in 1950, there has been a series of outstanding drivers, and for each of the four mentioned, there have been another two or three who have made a similar impact on the Grand Prix scene, but have achieved fewer successes.

In the Fangio era, Stirling Moss was almost his equal, but he never managed to win a World Championship. He was every bit as fast as Fangio, but Fangio had an extra ten years' experience to his credit. Stirling excelled in any car he drove, his versatility was remarkable and he evokes many fine memories of the period of the technical transition from front-engined Grand Prix cars to the smaller, mid-engined machines.

Contemporary with Stirling Moss was Jack Brabham, who won two World Championships with Cooper-Climax cars and a third with his own Brabham-Repco, the only World Champion who had his own name on the car he drove. Jack was the epitome of what we call an empirical engineer and, during his days with Cooper Cars, John Cooper could never start building his new car for the season until Jack returned from wintering in his native Australia. 'I've no idea what he is going to need,' John Cooper would say.

I cannot recall an occasion when Jack Brabham upset anyone; he was so amiable. But equally, he was never over-friendly and if you got more than two words out of him in reply to a question, you were doing well. His favourite response was 'yeah'. When he received a Knighthood for his three World Championships, and in particular the one with his own car, there were one or two of his rivals who were a bit miffed, but most people smiled and said 'Good old Jack!'

Two drivers who brought a great deal to the sport by dint of their personalities rather than their successes, were Mike Hawthorn and Wolfgang von Trips. Hawthorn was a true British sportsman who radiated the image of everybody's idea of a racing driver, leaving behind him fond memories and legends. Von Trips was a fine example of German aristocracy, a man who exuded charm and dignity in a sport which was considered beneath him by his social

peers, but his enthusiasm for sports cars, motoring and, above all else, motor racing, knew no bounds. Sadly, they both died young in accidents.

Graham Hill too will always be remembered for the overall effect he had on the sport. He was not in the naturally talented class of Stirling Moss or Jimmy Clark, but Graham was simply himself and was loved by everybody. He suffered ups and downs, and when things were going badly I never had to waste his time with silly questions; all I had to do was catch his eye and give him a quizzical look: his facial response, with eyes raised to heaven, said it all.

Niki Lauda is a driver whose legacy is far greater than ever the record books could show. There are many words that sum up this Austrian: crafty, cunning, devious; all meant kindly. His ability to nurse along a weakened car whilst leading a race, and still maintain his advantage without letting anyone suspect he was in trouble, was quite uncanny.

Niki could look poker-faced when he wanted to and could drive in a similarly deadpan manner. It was only after he had won the race that anybody knew he had been in trouble. There were a number of drivers who finished races second to Lauda, only to find that if they had pushed harder, he could not have fought back. But he never displayed any signs of distress.

In a short, but spectacular, racing life, Gilles Villeneuve produced wonders before your very eyes. His sheer brio was unsurpassed and no other driver has caused hardened journalists to stand out in the pouring rain during practice just for the enjoyment of watching the young Canadian in action. He drove to the absolute limit just for the pure pleasure of it. Long will he be remembered.

At the moment, we are in the midst of what seems to be the Ayrton Senna era which, when completed, will be the fifth era in my personal list of World Championship memories. Without question, he is the most outstanding driver I have ever met: a very intelligent man, a deep thinker, a supreme analyst of the racing driver, and blindingly fast and confident. The Senna era is a worthy successor to all the great Grand Prix eras that have gone before. ■

Niki Lauda's ability to nurse along a weakened car, and still maintain his advantage without anyone suspecting he was in trouble, was uncanny.

Mansell

At Silverstone last year he told us he had had enough. His British Grand Prix, as usual, had been memorable – he hadn't won, nor even finished, but he started from the pole, and led as long as his gearbox allowed.

There was no bitterness apparent in his voice as he announced his forthcoming retirement. He could see no possibility, he said, of putting together a deal which would give him a serious shot at the 1991 World Championship. That being so, it was better to quit; he wasn't in motor racing to make up the numbers. For the first time in his life, he went on, he was going to put his family first. He had eight races left, and he hoped to win one or two of them. It went without saying, he concluded, he would do everything possible to help his Ferrari team mate Alain Prost to the title.

We marvelled as we walked away. He may not have won the British Grand Prox, but yet again Nigel Mansell had found a way to snare the headlines. Across the paddock, in the press room, Prost was staging his victory conference – in the absence, of course, of most of the English journalists. In the papers, next morning, his win was buried away beneath column feet of 'Mansell – I quit'.

Although he claimed at the time that his decision had been brewing for a while, many of us felt there was at least a degree of spontaneity in it. The annual race before his adoring public had been a disappointment, yets, but more fundamental was that, a day or two earlier, Nigel had angrily withdrawn from negotiations with Frank Williams.

He had believed himself to be on the verge of a deal with his former team, then had been stunned to learn that Frank still had hopes of signing Ayrton Senna. Nothing could be settled, it seemed, until the Brazilian was formally, finally, unavailable. Like most racing drivers, Mansell has an ego in fine shape, and this he took as an affront. ▶

in 1991

By Nigel Roebuck

All photos: Words and Pictures

Williams, it appeared, was off the list.

So, too, was Ferrari. On Nigel's terms, anyway. Although his contract, strictly, called for him to be number one driver for both 1990 and 1991, this was patently unrealistic once Prost had come aboard. By the time of Silverstone, the Frenchman had won three Grands Prix, Mansell none. Although Ferrari emphatically wanted him to stay, there was no doubt the momentum of the team was with Prost.

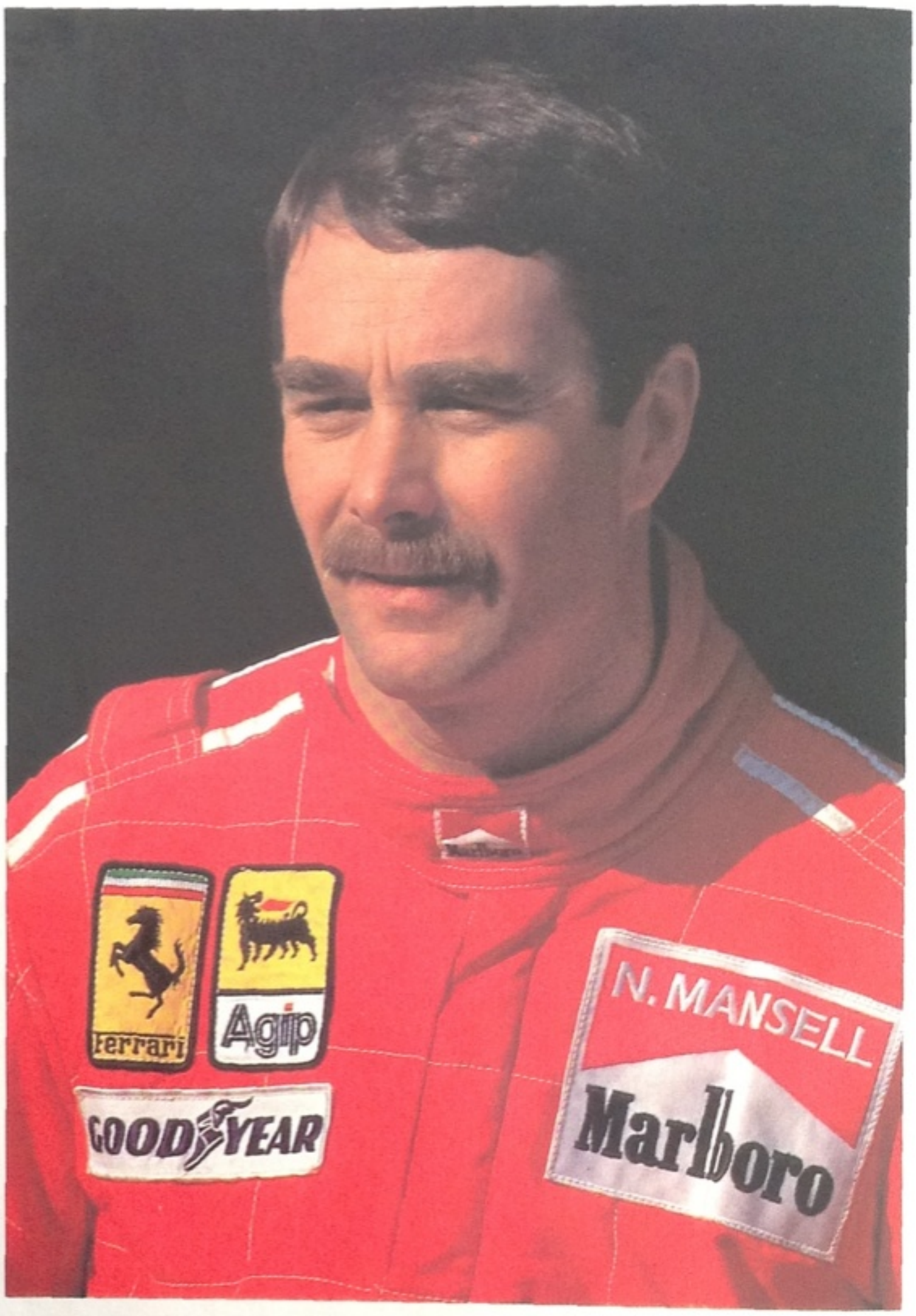
McLaren, too, seemed virtually out of the question, although expediency flourishes well in the soil of Formula 1. If Senna left for Williams, Ron Dennis would need another topliner to partner Gerhard Berger. While Dennis and Mansell had never been friends, common interests might yet have brought them together.

Senna stayed put, however. At Spa, another year with McLaren was confirmed – which left Williams once more seeking an ace. Which meant Mansell. The rumours began anew that perhaps Nigel would change his mind.

At Monza, though, he scotched them. Calling together the English press at lunch during qualifying one day, he told us unequivocally he remained happy with his decision, and would *not* be seen in Formula 1 in 1991.

Three weeks later, the day after the Spanish Grand Prix, Williams announced that Nigel Mansell would lead the team in 1991, and a communique from the Isle of Man was issued at the same time. He was surprised at himself, he said, the deal was better than he could have imagined, his family supported his decision fully.

On the face of it, though, the agreement promises everything Mansell has always wanted in Formula 1. Fiscally, it may well be less attractive than the Maranello offer, but in every other respect Nigel's every wish has been granted. First, it has always been very important to him, not only to be a team's number one driver, but also to be *acknowledged* as such. Second, he has spoken often of the desirability of first call on the T-car at every race. Third, like all top drivers of the modern era, he likes it best when his team mate is not a threat; Riccardo Patrese was the man he wanted. On the strength of the first two races, however, Mansell's presence has stimulated Patrese's motivation. Phoenix and Interlagos looked like the beginning of an Indian Summer.



In these circumstances, Mansell should be at his most formidable. He learned a lot, he says, during his time with Ferrari: 'I matured a lot, I think. And what I learned there is inestimable.' And of his season with Prost as his team mate: 'It was a very valuable experience – now I truly know what you have to do, and I'm going to use that with Williams.'

Frank Williams believes him to be fundamentally changed since their first four-year spell together, which ended in relative acrimony on both sides. Nigel *has* matured, he says, but without losing any of the raw competitiveness which brought him 13 Grands Prix wins in a Williams. On the basis of victories, indeed, he remains the most successful driver in the team's history. But the World Championship, won by Alan Jones, Keke Rosberg and Nelson Piquet in Williams cars, contrived to elude him.

It remains his obsession. Frank believes he wants it as much as ever: 'I think it's really very important to Nigel that he doesn't retire without at least one title. The effect he's had on the team since he returned has been remarkable – his presence alone has galvanised everyone into believing we can win a lot of races again.'

Mansell says he has never felt so good, so relaxed, about a forthcoming season. His golf has been a major help▸

British Grand Prix victory, 1984 – can Mansell repeat that performance in 1991?

– his love of golf led him to accept the presidency of Pine Cliffs Golf and Country Club in the Algarve, where he has a magnificent villa adjacent to the ninth green. Cynics, though, might murmur that they have heard that before. This time, however, there appears every justification for his confidence. Although the team's genuine fondness for Patrese is undoubted, it is nevertheless Mansell to whom Williams people must look for the sort of out-and-out pace which will frighten McLaren and Ferrari.

The two men drove together at Williams in 1988, and got along well. The problem that season was that, after three years of consistent Honda-powered success, the team's fortunes were on the skids. There was a memorable drive to second place at Silverstone in the rain, but Nigel and Riccardo – along with everyone else – were generally swamped by McLaren-Honda. On top of that, the first half of the season was sacrificed to an "active" suspension system, for which Mansell had a profound distaste. A parting of the ways was inevitable, and perhaps desirable for both team and driver.

Nigel says that his motivation will be stronger than ever this year: 'I'm English, after all, and this is an English team. I respond well to that.' It might perhaps be churlish to recall that when he went to Ferrari, two years ago, he said his motivation would be stronger than ever, because now he was driving for the most famous team in the world. He played to the Italian crowds, and they loved him for it, and he relished the adoration of the team during the good times. Undeniably, though, he paid a high price for not speaking the language.

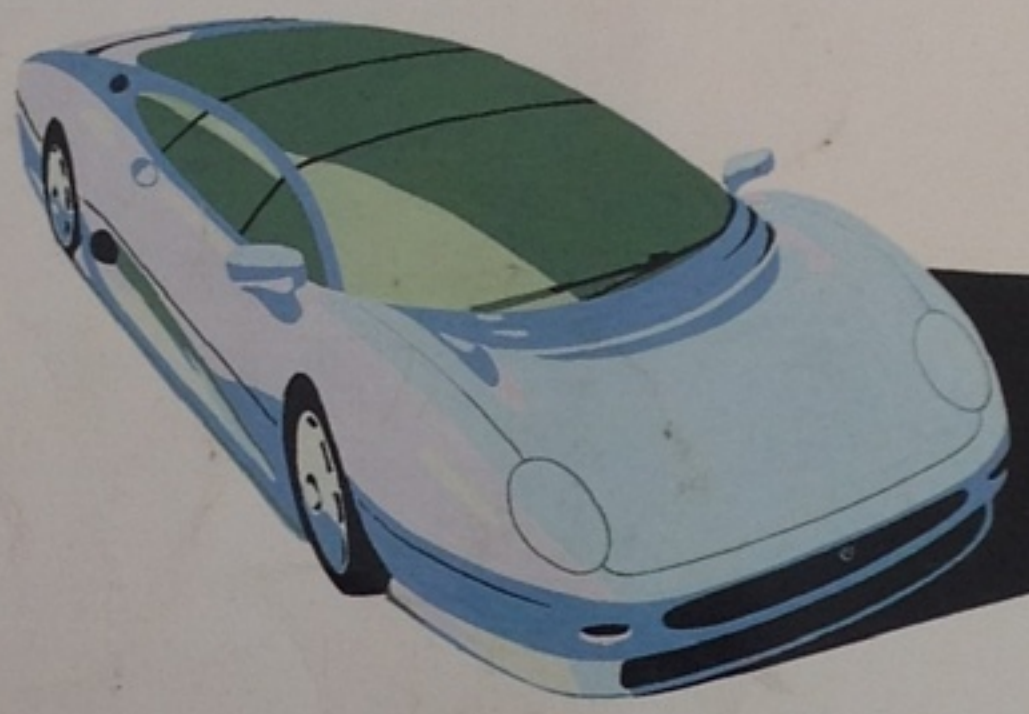
Now, though, the board has been swept clear. In theory, at least, everything is in place for a return to those glory days of 1986 and 1987, when Mansell won more races than anyone else. He has a new car, the FW14, which everyone hopes will combine the no-nonsense pragmatism of Patrick Head and the flair of Adrian Newey. In the back sits Renault's RS3 V10 engine, also new, and the gearbox is semi-automatic, *à la* Ferrari. The budget, Frank says, is 'enough'.

What the car lacked, going into the opening races, was track time. 'Realistically, Honda will probably have more power than anyone else, as usual, Nigel says, looking ahead to the 1991 season, 'but I don't think they'ss have a lot more than Ferrari – or that Ferrari will have much more than we have from the Renault. And the McLaren is new, and short of testing, like the Williams.

'In the early part of the season, I expect Ferrari and Benetton to be in the best shape, because they've tested extensively all through the winter, and they're ready. But Tyrrell, now with the Honda V10, will be thereabouts, and as the season progresses Williams-Renault will come more into the picture.'

Borrowing a curious phrase from his buddy Greg Norman, Nigel says he is at last 'operating in a comfort zone,' meaning that he feels strongly the psychological support he needs from a team. It was never there, he reckons, during his first spell at Williams, but he believes his time at Ferrari changed the team's perception of him. 'Frank and Patrick look upon me as a number one driver now. They never did before.'

Mansell is an emotional man, now back in a fundamentally unemotional environment. While this may upset him once in a while, it will also have its benefits. What team and driver must do is give a little, so that each sustains an ability to get the best from the other. If each has learned lessons from times gone by, good results will follow. ■



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