

RacingLine

March 2000

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West McLaren Mercedes

2000 SEASON PREVIEW

Mika Hakkinen

We ask the world champ if he's up for the hat trick

Circuit Guide

All 17 circuits courtesy of Mika, David and Olivier

Coming to America

Mark Blundell visits Indy for a sneak preview

Adrian Newey

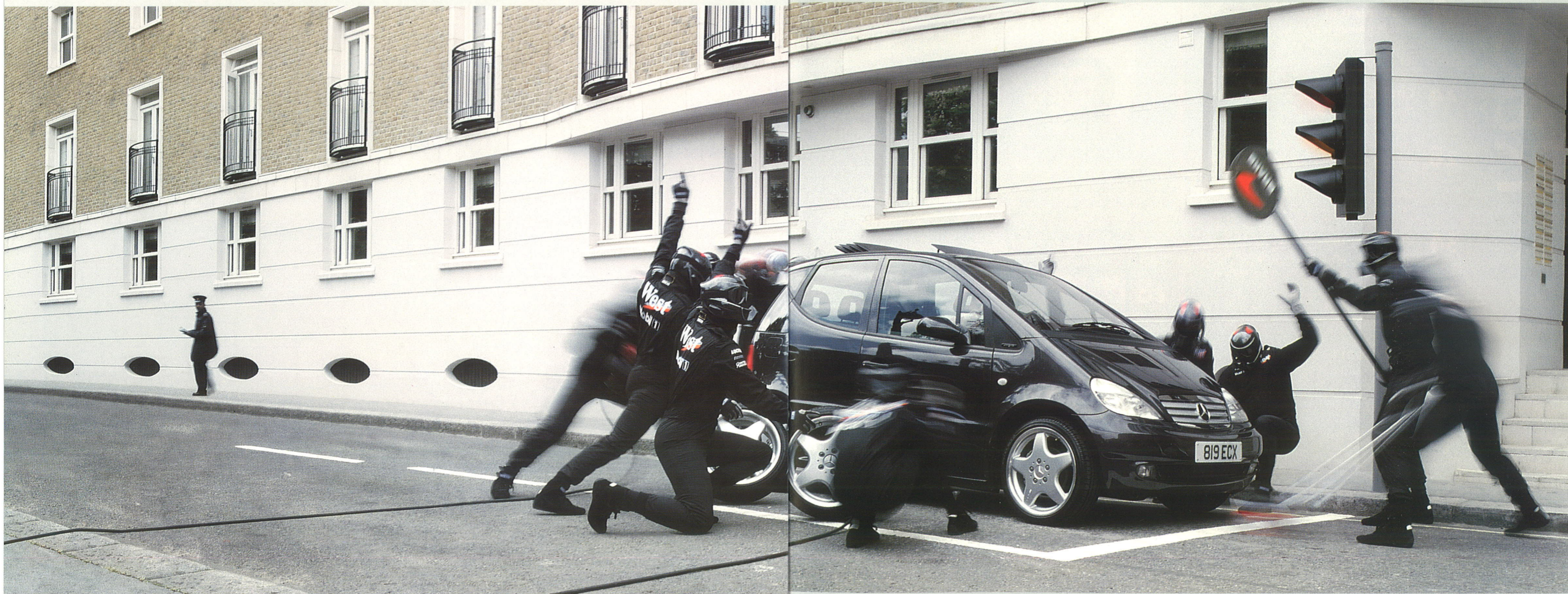
The design genius reveals a few secrets of the MP4-15

MIKA HAKKINEN

Maximum attack

Can the 'Flying Finn' win a third straight title?

The new A190. Pit crew not standard equipment.



Fancy a few test laps in the new Mercedes A190?
Sense the command of the 125 bhp, 1.9 litre engine on the straight.
Feel the reassurance of the uprated brakes and traction control as
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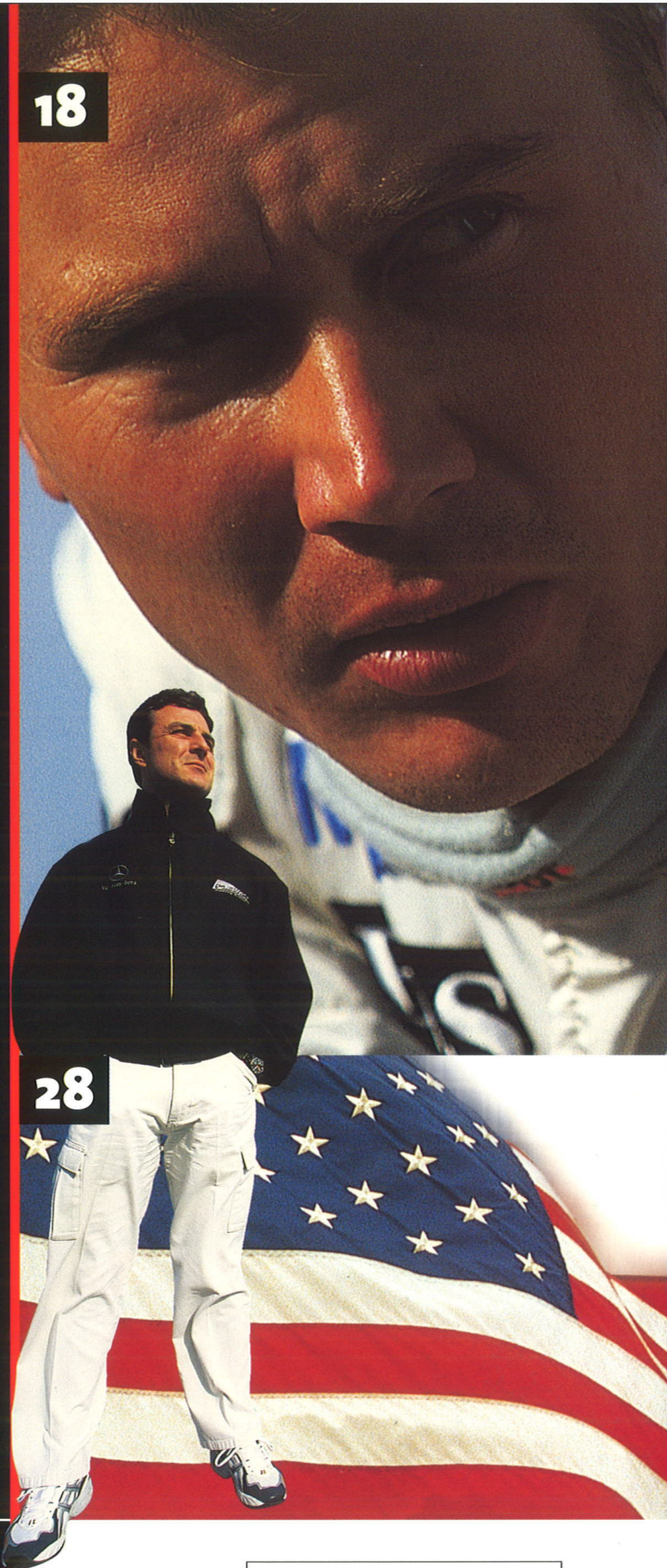
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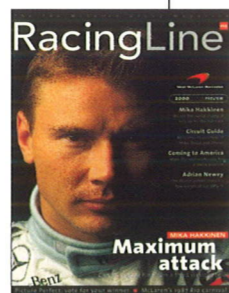
Mercedes-Benz

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Maximum attack
He's taken motor racing's ultimate prize – the F1 Drivers' Championship – twice in succession. What now for Mika Hakkinen? Win it again, of course. The champ tells all to *Racing Line*

Vote for your Picture Perfect Winner now!
PRIZE p.12



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It won't have escaped your notice that the first grand prix of the new millennium is just a few days away. It hasn't escaped our notice, either. That's why in this issue of *Racing Line* you'll find

unadulterated racing. We tracked down the best driver and the best designer in the world to find out what makes them tick. We are confident that, as unashamed enthusiasts of West McLaren Mercedes, you'd like to know. Read about Messrs. Hakkinen and Newey on pages 18 and 34 respectively.

There's more, too. While we were there, we asked Mika and his team mates, David Coulthard and Olivier Panis, to wax lyrical about all 17 of this year's circuits.

There's one circuit, however, that none of them have ever seen, let alone raced around. That's why we sent Mark Blundell, Mercedes ChampCar star and former McLaren racer, to Indianapolis. Mark walked and talked the famous circuit for us, banking and all, giving valuable insight into what Mika and David can expect when they take part in the first US Grand Prix for nearly a decade.

The onset of the new season also signals the end of our 'Picture Perfect' section. Over the last four issues we have brought you a mouth-watering selection of West McLaren Mercedes images from the cream of F1 photographers. Now it's your turn to tell us which was your favourite. See page 12 for how you can win yourself a framed and signed copy of the winning picture. Your vote will also determine which of our photos wins its creator a limited-edition TAG watch.

Have a good race!

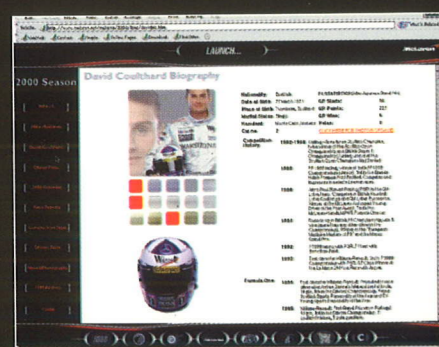
Henry Hope-Frost, Editor

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The latest news and events courtesy of Team McLaren, plus more competitions with great prizes

Racing On-Line



gets you closer to the action



www.mclaren.net

McLaren's Roll of Honour

Eight Constructors' Championships

- 1974 – M23-Ford, 73 points
- 1984 – MP4/2-TAG Porsche, 143.5 points
- 1985 – MP4/2B-TAG Porsche, 90 points
- 1988 – MP4/4-Honda, 199 points
- 1989 – MP4/5-Honda, 141 points
- 1990 – MP4/5B-Honda, 121 points
- 1991 – MP4/6-Honda, 139 points
- 1998 – MP4-13-Mercedes, 156 points

Eleven Drivers' Championships

- 1974 – Emerson Fittipaldi – M23-Ford, 55 points
- 1976 – James Hunt – M23-Ford, 69 points
- 1984 – Niki Lauda – MP4/2-TAG Porsche, 72 points
- 1985 – Alain Prost – MP4/2B-TAG Porsche, 73 points
- 1986 – Alain Prost – MP4/2C-TAG Porsche, 72 points
- 1988 – Ayrton Senna – MP4/4-Honda, 90 points
- 1989 – Alain Prost – MP4/5-Honda, 76 points
- 1990 – Ayrton Senna – MP4/5B-Honda, 78 points
- 1991 – Ayrton Senna – MP4/6-Honda, 96 points
- 1998 – Mika Hakkinen – MP4-13-Mercedes, 100 points
- 1999 – Mika Hakkinen – MP4-14-Mercedes, 76 points

2000 West McLaren Mercedes and McLaren Formula 3000 Motorsport Calendar

12 Mar	Australian GP (Melbourne)	F1
26 Mar	Brazilian GP (Interlagos)	F1
8 Apr	Italy (Imola)	F3000
9 Apr	San Marino GP (Imola)	F1
22 Apr	Britain (Silverstone)	F3000
23 Apr	British GP (Silverstone)	F1
6 May	Spain (Barcelona)	F3000
7 May	Spanish GP (Barcelona)	F1
20 May	Europe (Nürburgring)	F3000
21 May	European GP (Nürburgring)	F1
3 Jun	Monaco (Monte Carlo)	F3000
4 Jun	Monaco GP (Monte Carlo)	F1
18 Jun	Canadian GP (Montreal)	F1
1 Jul	France (Magny-Cours)	F3000
2 Jul	French GP (Magny-Cours)	F1
15 Jul	Austria (A1-Ring)	F3000
16 Jul	Austrian GP (A1-Ring)	F1
29 Jul	Germany (Hockenheim)	F3000
30 Jul	German GP (Hockenheim)	F1
12 Aug	Hungary (Hungaroring)	F3000
13 Aug	Hungarian GP (Hungaroring)	F1
26 Aug	Belgium (Spa-Francorchamps)	F3000
27 Aug	Belgian GP (Spa-Francorchamps)	F1
10 Sep	Italian GP (Monza)	F1
24 Sep	United States GP (Indianapolis)	F1
8 Oct	Japanese GP (Suzuka)	F1
22 Oct	Malaysian GP (Sepang)	F1

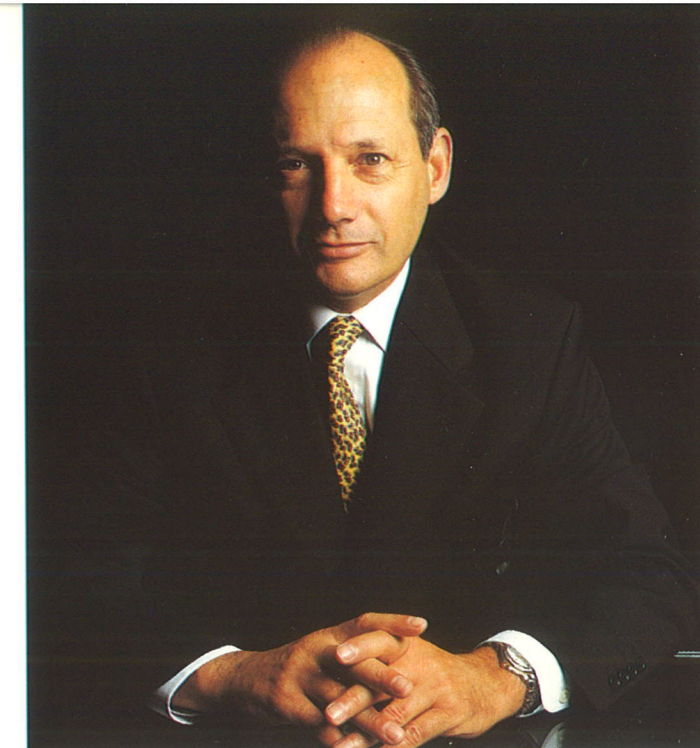
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InsideLine

The increasing interest on the part of a wide variety of companies and institutions towards taking some sort of participation in various grand prix teams represents a trend which I am sure regular readers of *Racing Line* will have taken note of with a great deal of interest.

Whether it be financial institutions focusing their profit awareness on the growth potential of the F1 business, or motor manufacturers seeking to influence their brand values, overall it must be regarded as a healthy trend which can only serve to enhance our sport.

Toyota, Jaguar, BMW and Honda are all poised to participate in Formula 1, and, taken at face value, DaimlerChrysler's decision to proceed with the purchase of a 40 per cent share in McLaren simply seems in line with the aspirations of its rivals.

However, it is important to emphasise that DaimlerChrysler's investment is in the overall TAG McLaren Group – rather than simply McLaren International – and therein lies the fundamental difference between our partner's commitment. Simultaneously with the partnership agreement, TAG McLaren signed the contract to produce the Mercedes McLaren-branded SLR coupé which reflects the mutual will for a much longer and wider ranging commitment.

Add to that the fact that we have extended our grand prix engine supply contract and the path towards further progression together is clearly laid down in a manner ideally suited to the requirements of both partners.

While the shareholdings of the TAG Group and myself have dropped to 30 per cent each, these equity stakes are linked to ensure that together we retain a majority shareholding and a firm grip on the future development of our companies – exactly in the way DaimlerChrysler wants it to be.

The initial stability provided by this arrangement is the most immediate and obvious benefit. Yet the advantages are much wider ranging in line with our well established tradition of applying a long-term strategy to every facet of our business.

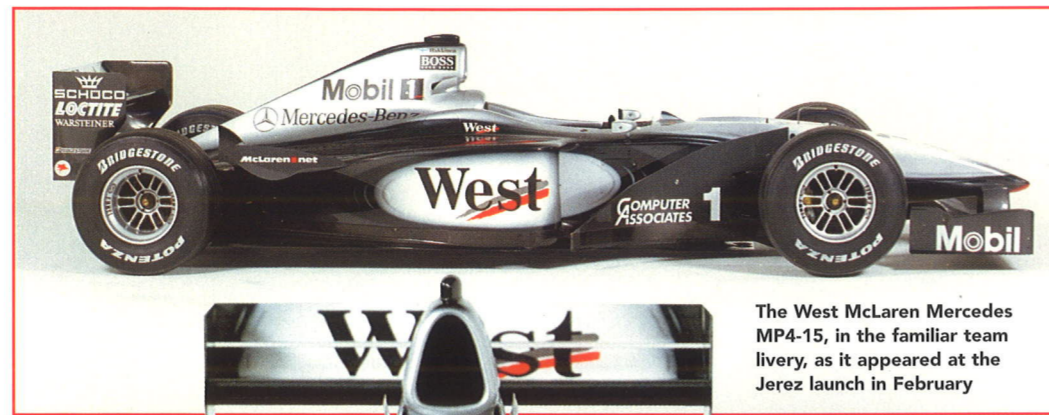
As a consequence, we are now in a position where we are planning 10 years into the future. Inevitably, from a personal standpoint, the passing of time will slowly bring me closer to the moment when I have to stand back and take a more detached view of the group's day-to-day proceedings.

With that in mind, I would like to think that the new partnership will further strengthen the foundations for those who will eventually follow me as custodians of the McLaren ethos, and that my contribution to that continuity will be well done.

Ron Dennis

West McLaren Mercedes launches the new MP4-15

Woking's latest weapon was aired at Jerez in Spain before embarking on a rigorous testing schedule



The West McLaren Mercedes MP4-15, in the familiar team livery, as it appeared at the Jerez launch in February



Tech spec 2000



MP4-15 TECHNICAL SPECIFICATION

TRANSMISSION: McLaren longitudinal gearbox with semi-automatic operation. McLaren drive shafts and cv assemblies

CHASSIS: McLaren moulded carbon fibre/aluminium honeycomb composite incorporating front and side impact structures. Contains integral safety fuel cell

FRONT SUSPENSION: Inboard torsion bar/damper system operated by pushrod and bell crank with a double wishbone arrangement

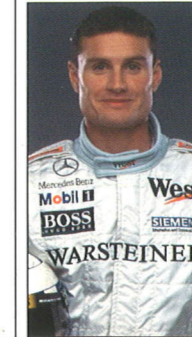
Drivers 2000

Mika Hakkinen (FIN)



Age	31
GP Starts	128
Wins	14
Poles	21
Fastest Laps	13
Points	294

David Coulthard (GB)



Age	28
GP Starts	90
Wins	6
Poles	8
Fastest Laps	11
Points	221

Olivier Panis (F)



Age	33
GP Starts	91
Wins	1
Poles	0
Fastest Laps	0
Points	56

West McLaren Mercedes unveiled the car with which it aims to win a third

consecutive drivers' world title at the Jerez circuit in Southern Spain in February. The MP4-15, resplendent in the now familiar West McLaren Mercedes livery, is an evolution of the 1999 World

Championship-winning MP4-14 and features a completely revised Mercedes-Benz engine. The unit, designated FO110J, was first tested at the beginning of December, when David Coulthard and third driver Olivier Panis ran at Spanish circuits Jerez and Barcelona. The gearbox and hydraulics also received early attention in an attempt to ensure the new car's reliability from the very first race.

Mika Hakkinen was the first driver to sample the new MP4-15. Before completing shakedown laps of the Jerez circuit, the reigning World Champion, fresh from winter holidays and a rigorous fitness programme, spoke of his confidence in the

potential of the new car:

"The team has been working extremely hard over the winter period preparing the new car, so I am very excited to see how the MP4-15 performs," he said.

"Naturally I am looking forward to the new season and, having won two world championships, it is my ambition to fight for a third," he added. (See Mika Hakkinen interview, page 18).

David Coulthard, meanwhile, who has

worked tirelessly over the closed season in the development of new parts for the MP4-15, was equally optimistic:

"I believe we are further ahead with the process than we were at this time last year. I think there is

every chance we will be stronger than we were in 1999."

Before the car turned a wheel for the first time, TAG McLaren Group Chairman and CEO Ron Dennis summarised the mood of the entire team:

"We are looking forward to the challenges ahead of us this season. Mika and David are both well prepared and we are optimistic that 2000 will be another good year for the West McLaren Mercedes team."

The team has been working extremely hard – I am excited to see how the MP4-15 performs



Top: David Coulthard, Olivier Panis and Mika Hakkinen pose in front of the new West McLaren Mercedes MP4-15. Bottom: Hakkinen gets to grips with the new car at Jerez in Spain

REAR SUSPENSION: Inboard torsion bar/damper system operated by pushrod and bell crank with a double wishbone arrangement

DAMPERS: McLaren

TYRES: Bridgestone

RACE WHEELS: Enkei

BODYWORK: Construction: one-piece sidepod and engine cover. Separate floor section, structural nose with integral front wing

FUEL: Mobil Unleaded

LUBRICANTS: Mobil 1 engine oil

ADHESIVES: Loctite

ELECTRONICS: TAG Electronic Systems control units incorporating electronics for chassis, engine and data acquisition. TAG Electronic Systems also supplies the electronic dashboard, ignition coils, alternator voltage control, sensors, data analysis and telemetry systems

RADIOS: Kenwood

ENGINE SPECIFICATION

NAME: Mercedes-Benz FO110J V10

TYPE: 72-degree V10

CAPACITY: 2990cc

VALVE ARRANGEMENT: 4 per cylinder; 2 camshafts per bank

CYLINDER BLOCK: Cast aluminium alloy, wet liners

CYLINDER HEAD: One-piece sand cast aluminium alloy

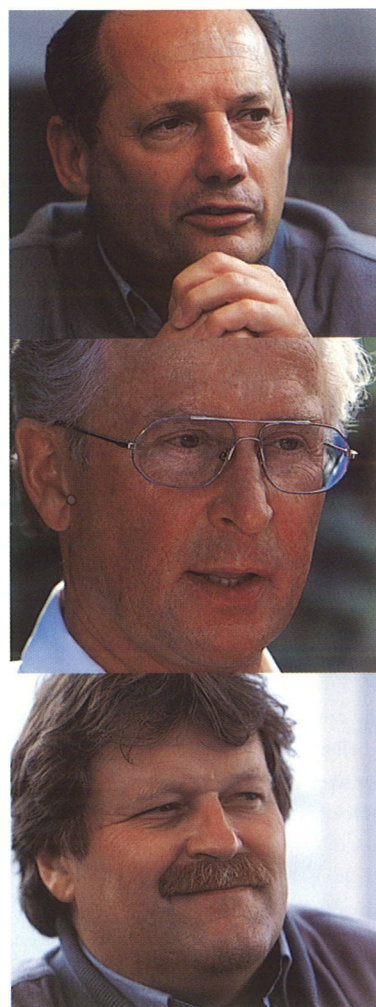
CRANKSHAFT: Steel

OIL SYSTEM: Dry sump

IGNITION: TAG Electronic Systems

COMMENTS

DaimlerChrysler buys into TAG McLaren



The motor giant has finally cemented the deal to secure the future of McLaren and its Engine Partner Mercedes-Benz

DaimlerChrysler, parent company of West McLaren Mercedes Engine Partner Mercedes-Benz, has bought a 40 percent stake in the TAG McLaren Group. Ron Dennis and TAG Group S.A. will remain in control, with stakes of 30 percent each.

"This is an historic milestone in the further development of the TAG McLaren Group," said Ron Dennis. "The equity participation of DaimlerChrysler will further strengthen TAG McLaren."

DaimlerChrysler signed an option to acquire the shares in July last year. Exercising that option cements the McLaren-Mercedes partnership which has already yielded an F1 Constructors' Championship and two Drivers' Championships.

The partners have already agreed to co-develop the Mercedes SLR sports car, which will be designed and manufactured by McLaren Cars at Paragon, the TAG McLaren Group's new corporate headquarters. It will be launched in 2003.

Professor Jurgen Hubbert, DaimlerChrysler Managing Board member responsible for Mercedes-Benz, said, "The investment forms a part of DaimlerChrysler's long-term strategy of maintaining Mercedes-Benz's leadership in engineering performance, technological edge and brand image in the face of increasingly stiff competition."

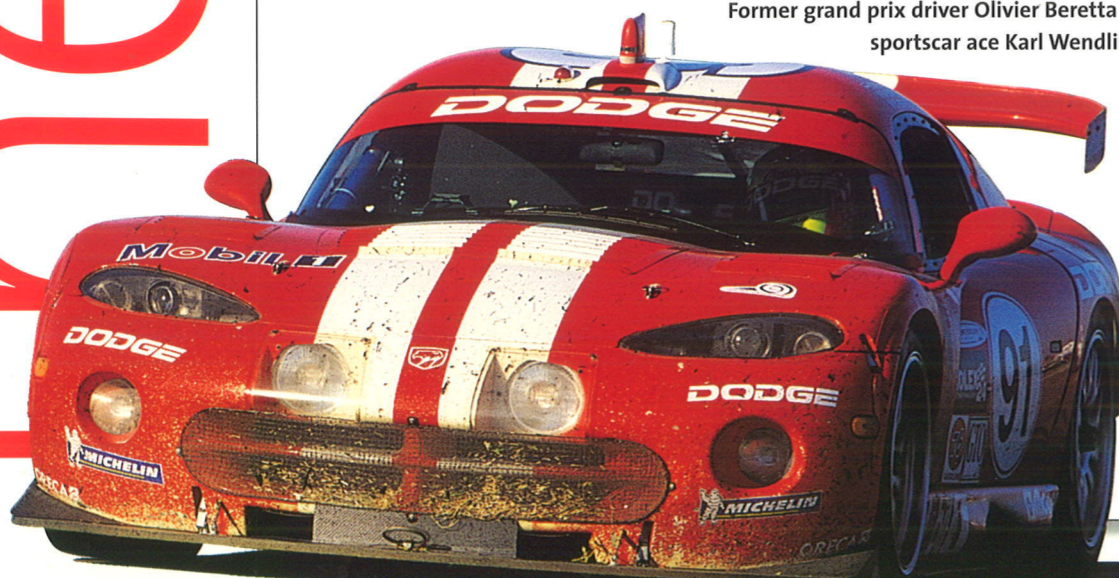
Top to bottom: TAG McLaren Group Chairman and CEO Ron Dennis, Jurgen Hubbert of DaimlerChrysler and Mercedes motorsport boss Norbert Haug

DaimlerChrysler wins Daytona 24 Hours

In one of the biggest upsets in sportscar history, DaimlerChrysler's works Dodge Viper GTS-Rs took overall honours in February's Daytona 24 Hour sportscar race. Superior reliability enabled the production-based cars to finish first, third, fifth, sixth and seventh - ahead of a host of fast-but-fragile Sports Prototypes and the rival GTO Chevrolet Corvettes.

Former grand prix driver Olivier Beretta and ex-Mercedes sportscar ace Karl Wendlinger, along with

Dominique Dupuy, drove the winning car and finished 30 seconds ahead of the second-placed Corvette. The works Vipers, run by the French ORECA team, will contend the American Le Mans Series and the Le Mans 24 Hours this year.



From left: Richard Carmichael of TAG McLaren Marketing Services, Mika Hakkinen and Jay Huff, Northern European marketing manager for Computer Associates, address the Finnish media

Mika visits Computer Associates forum

World Champion Mika Hakkinen was guest of honour at a recent Computer Associates forum in Helsinki. The West McLaren Mercedes Technology Partner, the World's third largest computer software company, invited Mika to meet and talk to some of their key clients and guests, as well as conduct interviews with famous Finnish television presenter Matti Kyllonen.

Mika spent the day reiterating his desire to capture a third successive world title before embarking on a guided tour of the

company's interactive demonstration area. Computer Associates provided a dedicated section of the forum where clients and guests were able to sample some of the latest technology and pore over the world title-winning West McLaren Mercedes MP4-14.

Before leaving Mika was asked to select the winning lottery ticket for a VIP trip to June's Monaco Grand Prix.

The day's proceedings were bought to a close by Mikko Karvonen of Computer Associates Finland.

Panis tries MP4-98T

West McLaren Mercedes third driver Olivier Panis got his first taste of the MP4-98T two-seater F1 car last month. He tried the car at Silverstone, home of the British Grand Prix, before giving *Racing Line* a unique, driver's eye view. See the April issue of *Racing Line* for the full story



Picture Perfect

The Alter Ego has landed



Draving on the fact that 30% of its watches are worn by women, West McLaren Mercedes Corporate Partner TAG Heuer has devised a new timepiece. The Alter Ego, styled by Italian Roberto Ventrella, is the first TAG Heuer watch to be designed specifically for women.

Available in a brushed or polished steel finish, the Alter Ego retains the production values expected of a TAG Heuer sports watch, and is water-resistant to 100 metres. The Swiss manufacturer expects to produce more watches with a feminine theme in future.

To market the Alter Ego, TAG Heuer has commissioned a mobile art exhibition and advertising campaign featuring the work of renowned fashion photographer Peter Lindbergh. His portraits of actresses Kristin Scott Thomas and Helena Bonham Carter, and sports personalities Franziska van Almsick, Marion Jones and Monica Seles will front the advertising campaign.

The TAG Alter Ego (top) marks the company's first attempt at a watch designed solely for women. Actress Kristin Scott Thomas (far left) and tennis star Monica Seles model the watch for fashion photographer Peter Lindbergh

Great start for kart stars



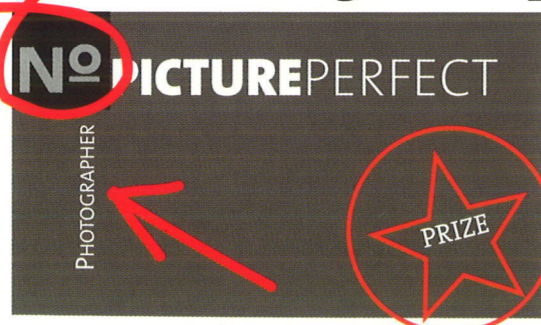
McLaren-Mercedes-sponsored karting star Lewis Hamilton scored two podium finishes at Italy's Ugento circuit in only his second Senior Formula A event.

Bad weather had hampered his debut at South Garda earlier in February, but he drove aggressively to take 11th place out of over 80 drivers. This time Lewis and his teammm.com team-mate Nico Rosberg had to contend with rain, but they still claimed ninth and 10th places in qualifying, and were the fastest drivers running on Vega tyres.

In the first final, Lewis charged from ninth on the grid to take third, while Nico finished 10th. Both came home ahead of several more experienced drivers.

Lewis started from third in the second final, barged past the drivers in front and held the lead for ten laps until the experienced Giuseppe Palmieri got past him again. Nico fought his way up to seventh, while Lewis hung on to Palmieri's bumper to claim second. Teammm.com expects to improve on these excellent results as its drivers gain experience throughout the Senior Formula A season.

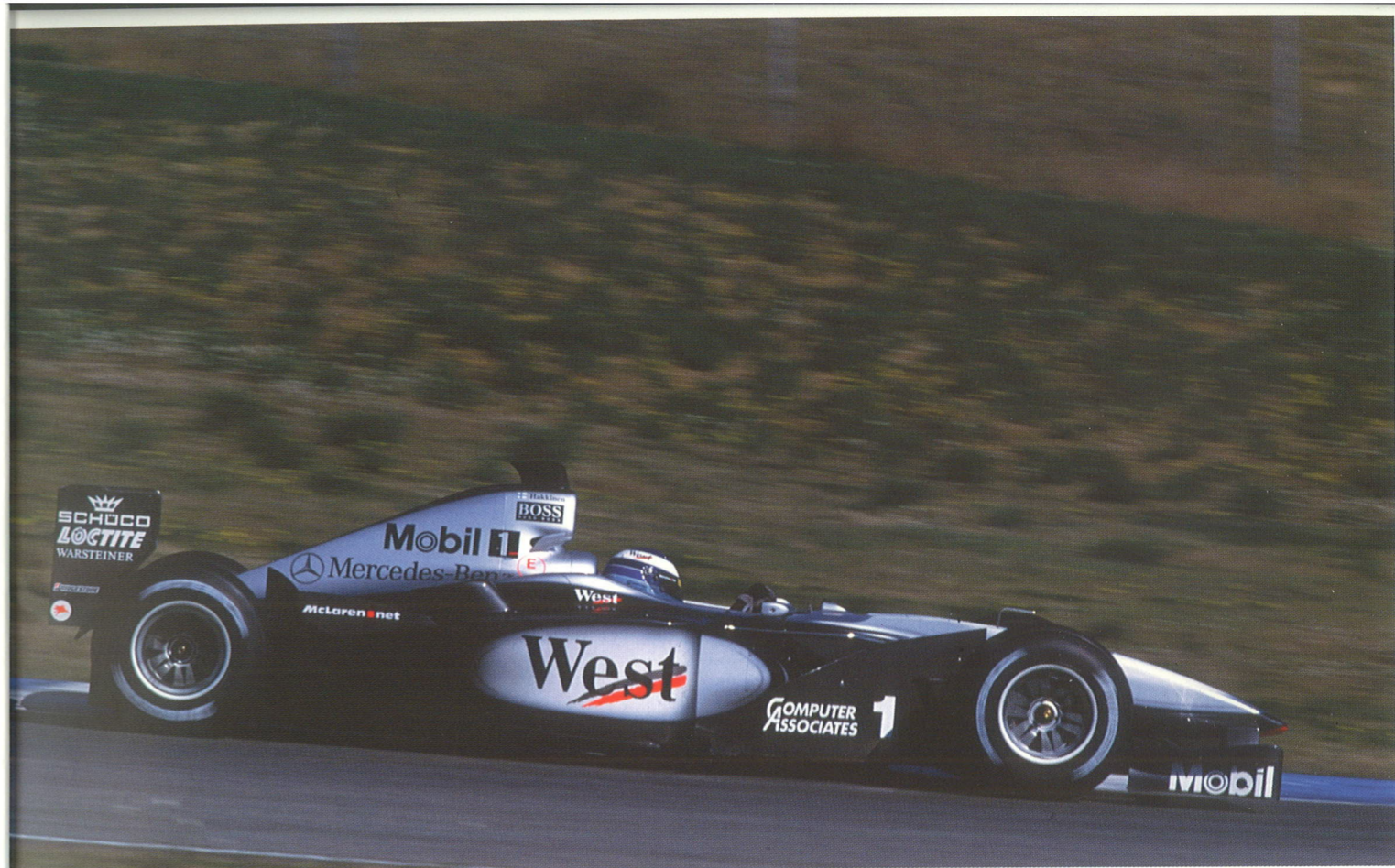
Vote for your perfect picture



It's now your turn to tell us which was your favourite image from the last four months of Picture Perfect. Just tell us the number, name of the photographer and issue date, and the most popular picture will win its creator a TAG Heuer watch. Answer the question below correctly and you could win a signed, framed copy of the winning picture.

Name all the world-renowned photographers who contributed to Picture Perfect.

Send your answers, clearly marked 'Picture Perfect', to the usual Team McLaren address, no later than March 31



Even at 17,000 rpm there are parts that won't move.

To a Formula One engineer, some of the most critical components in a Grand Prix car are those that don't move at all.

Parts like brake disc screws, which must be able to withstand severe vibration without loosening, even at speeds over 200 mph.

That's why the West McLaren Mercedes team rely upon Loctite adhesives and sealants on parts like these to ensure maximum performance and reliability under the most demanding conditions.

This year's West McLaren Mercedes MP4-15 car features over eighty applications of Loctite products, and every major assembly includes at least one.

But it's not only the West McLaren Mercedes team which enjoys the Loctite advantage.

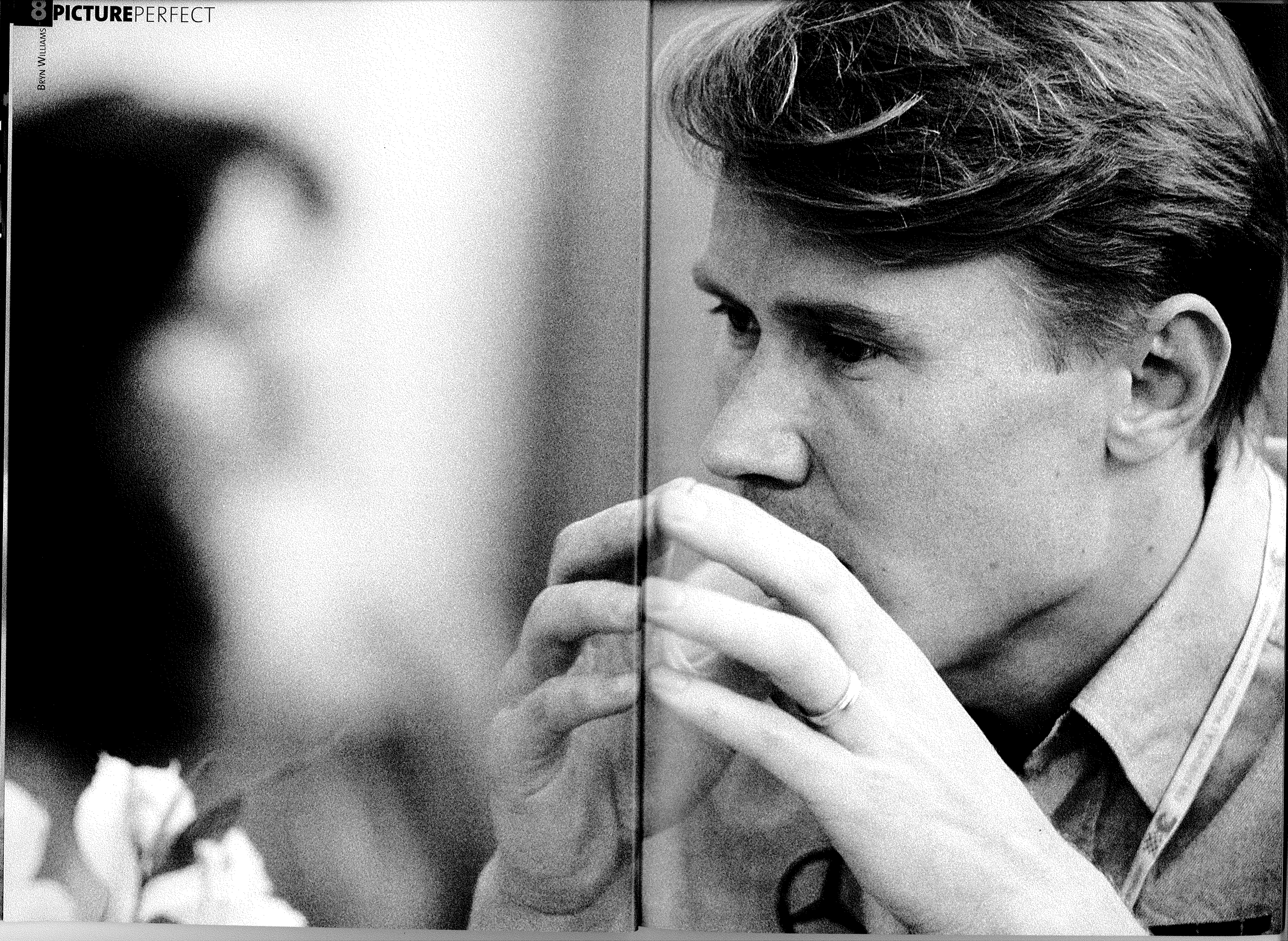
The same adhesives and sealants used by the team are also the first choice of industrial engineers, automotive designers, professional mechanics and DIY auto enthusiasts alike.



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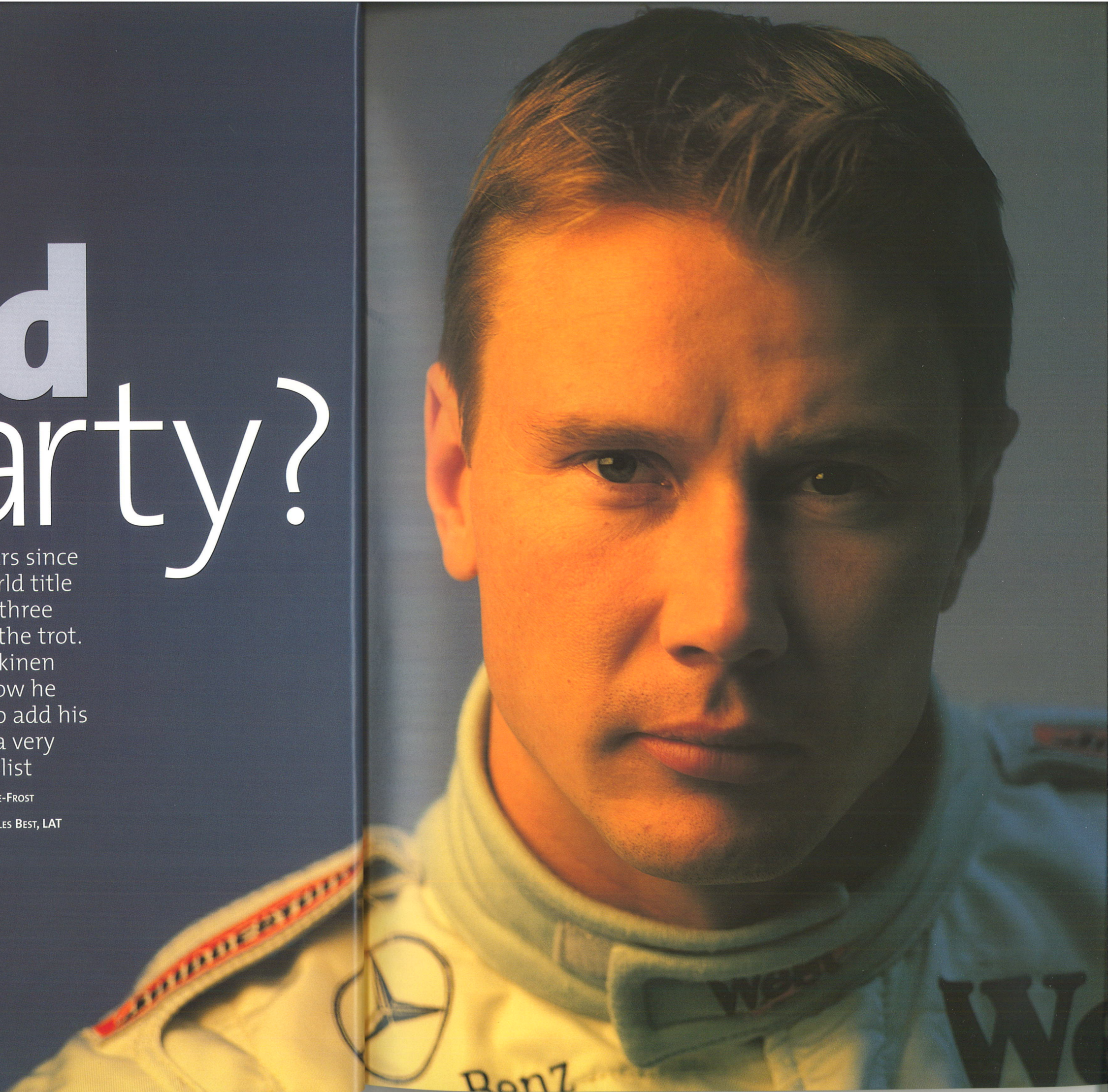
2000 SEASON PREVIEW

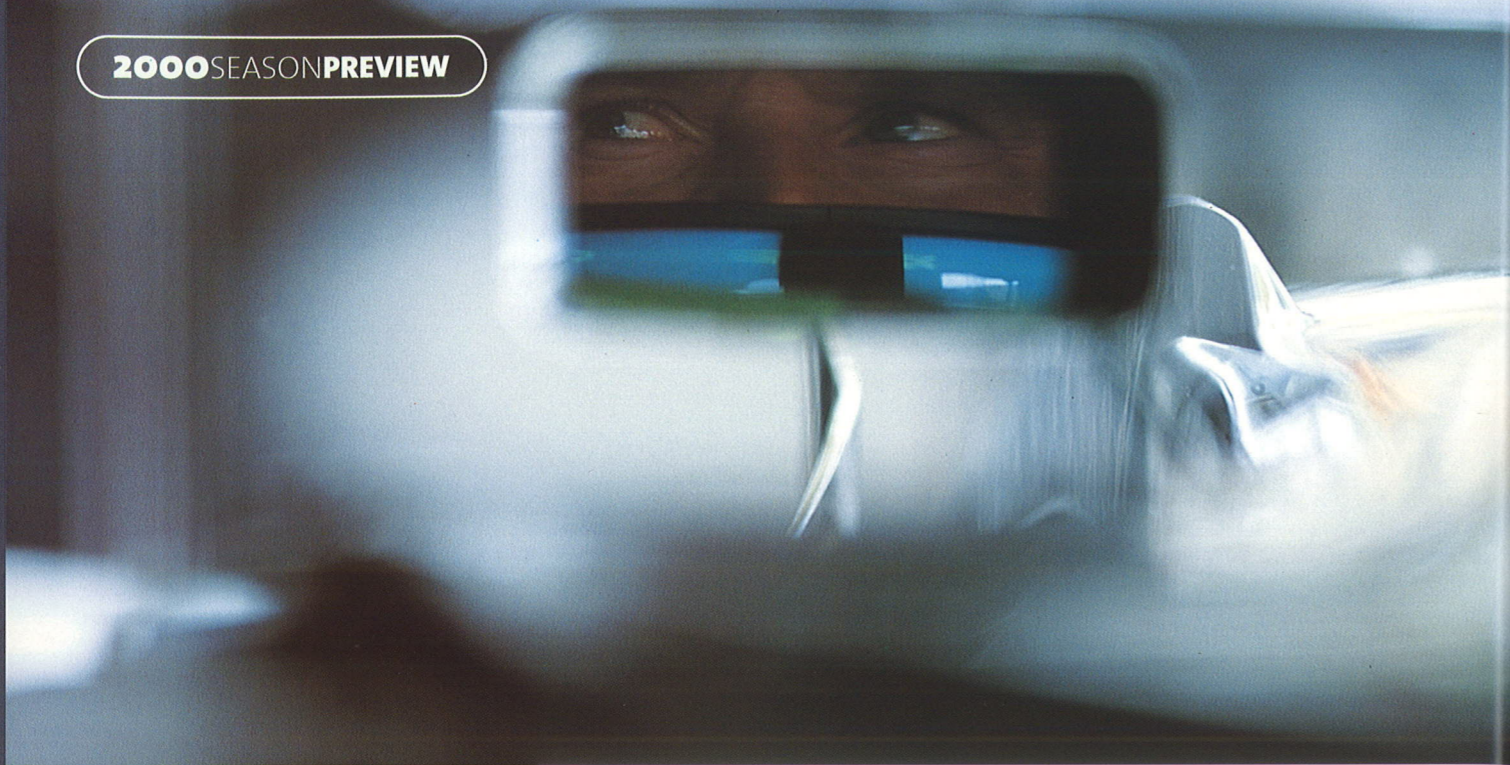
Third party?

It's 44 years since the F1 world title was won three times on the trot. Mika Hakkinen tells us how he intends to add his name to a very exclusive list

WORDS HENRY HOPE-FROST

PHOTOGRAPHY CHARLES BEST, LAT





Top: Rear guard action: The only view Mika Hakkinen hopes he'll have of the opposition in 2000. **Above:** The Finn was all smiles in testing as he posted quick times in the new MP4-15

Looking tanned, healthy and years younger courtesy of a smart new haircut, Mika Hakkinen walked into the room, sat down, rubbed his hands and enthusiastically announced: 'OK, let's go!' It conveyed to everyone in the room

that here was a man refreshed, refocused and ready for action and it signalled my cue for some undivided attention from the globe-trotting world champion in his Finnish home town of Helsinki during an important promotional appearance.

For Mika, driving was still some two weeks away and I could tell he was keenly awaiting the chance to bully the brand new West McLaren Mercedes MP4-15 into some quick times. That takes some doing when you've been 'off games' for so long. How, then, had he prepared himself for the small matter of securing a third consecutive world drivers' title?

"I tried not to think too hard about the new season," he admits. "Sure, I thought about it sometimes, you can never shut it out completely. I knew that I would have to concentrate on the test programme and the promotional appearances once I had enjoyed a holiday. In fact I had three holidays! I went skiing in Corcheval, spent Christmas and New Year with friends and family here in

Finland and then my wife Erja and I had eight days in Dubai, which was great.

"I'm thinking about racing again now, though. I've surprised even myself because at the end of last year I was very tired – it was a long, hard season, wasn't it? 'How will I do all this again,' I wondered?"

The winter was a time for reflection, then? A time to ponder his joining an elite bunch previously comprising only six great back-to-back champions?

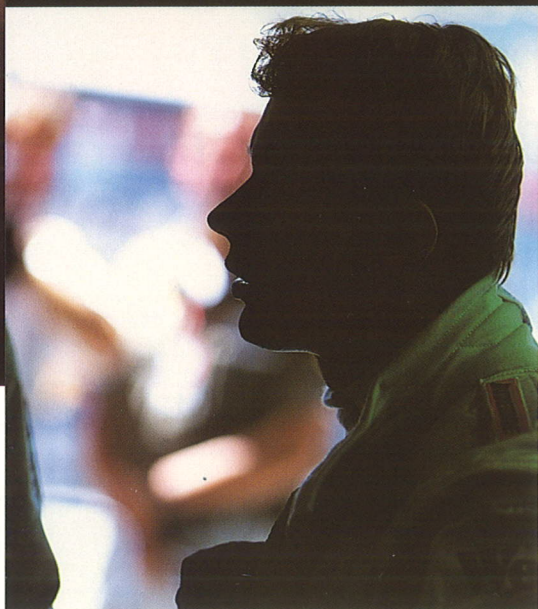
"Yes, I have thought about what I achieved last year," Mika admits, "but it was not and is not my sole motivation. It was a big achievement and great for me, the team and our Partners, but it's history now and we must focus on the future. It's not a question of being greedy, it's the challenge ahead of all of us. For sure my commitment will be higher, both psychologically and physically, so I hope to be on top form."

The winter break seems to have done wonders for the man who, this year, may well become a fully paid-up member of yet more exclusive F1 clubs. Only the great Argentinian Juan Manuel Fangio, who plied his trade more than 40 years ago, can lay claim to three titles on the trot. In this era of billion-dollar budgets and resources and technology to rival the space industry, it must be infinitely more difficult to achieve such accolades. Mika is remarkably relaxed, thinking only of the immediate task ahead.

"Winning a third title is definitely something I want to do," he says. "But in ➤



"For sure my commitment will be higher, so I hope to be on top form"



The eyes have it: Mika studies the winter testing timing monitors (above). He is aiming to be only the second driver ever to win three consecutive titles

the short term, I have to focus on each race and try to win it and get maximum points."

Since our meeting, Mika has underlined that directive with fast and consistent times in Barcelona aboard the latest weapon from Woking: the MP4-15. In fact, the signs are ominous for West McLaren Mercedes' rivals — the new car has already proved faster than its predecessor and appears, on the strength of recent test mileage, to be reliable.

"I have a good feeling about the new car," Mika says. "I am confident that the team have carried the momentum of last year forward into this year. Progress has been made in all areas — the development and reliability of the car is going very well."

Mika hands lavish praise to the key people around him who will contribute directly to his performance, particularly Adrian Newey:

"Adrian and I understand each other very well. He doesn't give me a hard time if I spin off and I don't complain when the car breaks. It happens because as an engineer and driver we are working together at the limit of our ability and the resources available to us."

So the car is fast and reliable and its driver hungry and refocused. All the ingredients for success seem to be perfectly in place. So how does Mika see it all coming together when the red lights go out in Melbourne?

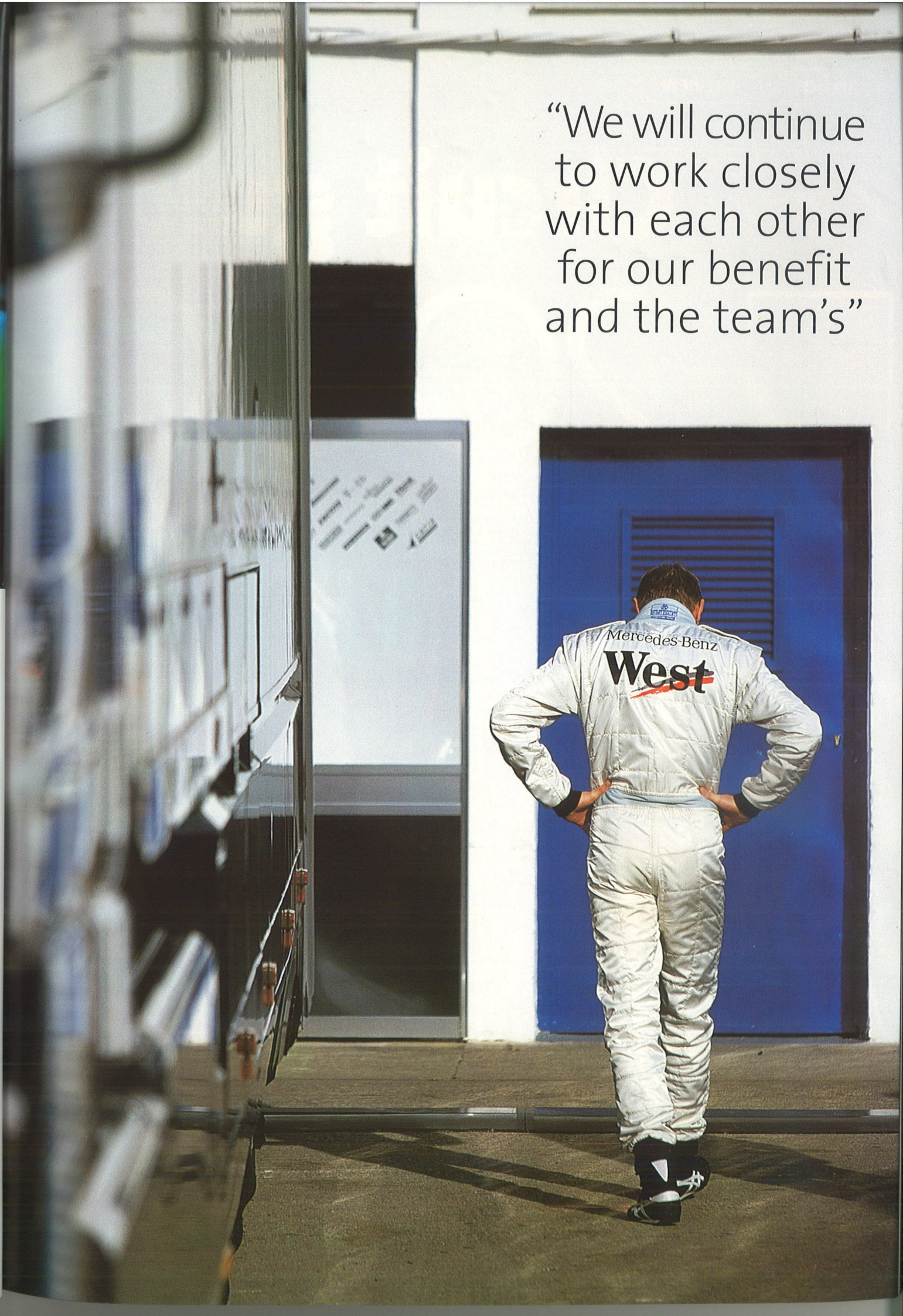
"As far as tactics go," he says, "I will decide

after practice and qualifying whether I am able to really go for the win or to build up a safe cushion of points — that is so crucial in the opening races, remember. I must ensure that my rivals do not take too many of those points away from me either. That is really how I always approach a race weekend but, as is so often true in Formula 1, you can't really tell what will happen. It depends on so many factors."

Talking of rivals, what of his team mate, David Coulthard? They have been paired together for four years and many people are suggesting that this year might be David's opportunity to supplement the Woking championship silverware. Mika, ever the professional team player — crucial if, as West McLaren Mercedes has shown, you hold the constructors' title in such high regard — says simply this: "David will be stronger this year, for certain. But so will I! We will continue to work closely with each other to benefit one another and, of course, the team."

For many, two championship titles on the CV would be more than enough, but, for the third time of asking, Mika seems ready for the renewed challenge. Ready for whatever anyone, notably his 21 fellow competitors, can throw at him. Perhaps a better question is whether they are ready for him. ■

"We will continue to work closely with each other for our benefit and the team's"



Circuit guide 2000

KEY

2
GEAR

100
SPEED IN KPH

T1
TIMING SECTOR

●
POSITION ON TRACK

START / FINISH LINE

LAP DATA SUPPLIED BY
West McLaren Mercedes

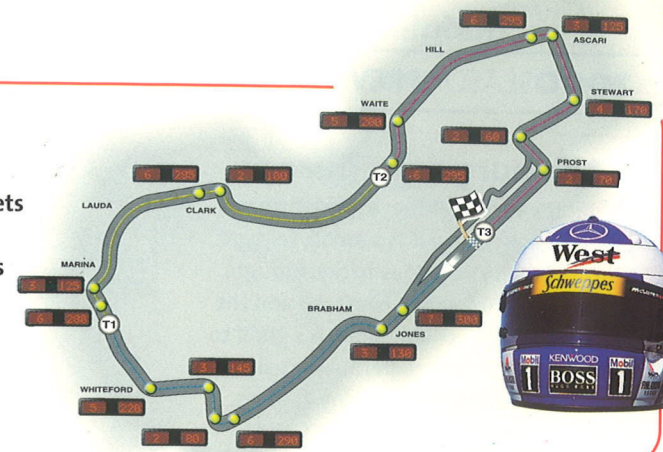
The West McLaren Mercedes team will visit 17 circuits during 2000. Drivers Mika, David and Olivier give *Racing Line* an exclusive guided tour



1 Melbourne, Australia

David: "A tricky one because it's the first race of the year, which is always exciting for drivers and fans. The track is slippery at first but gets better. The weather's always hot, and the atmosphere is great. Melbourne is a tough race because many of the car and driver pairings are new – not a problem for West McLaren Mercedes!"

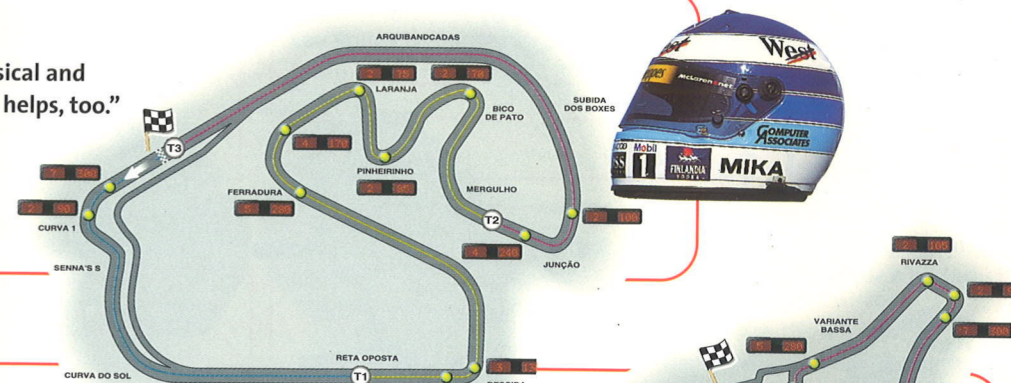
Wins: 2 ('97-'98)
Pole positions: 2 ('98-'99)
Fastest laps: 1 ('98)



2 Interlagos, Brazil

Mika: "I love this track – it's fast, physical and bumpy. The fans are very keen which helps, too."

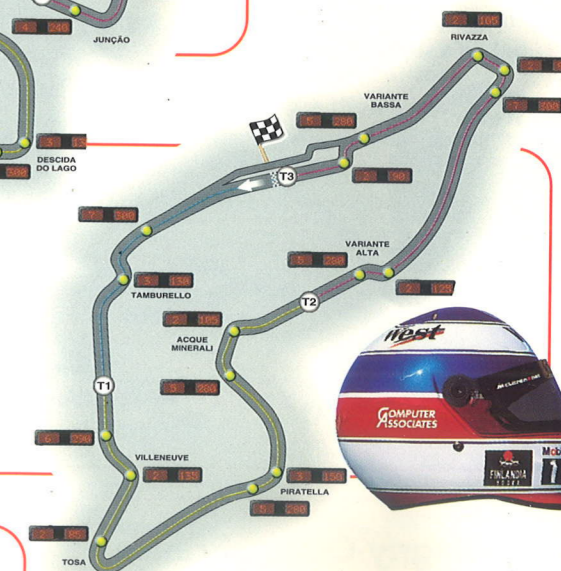
Wins: 4 ('91, '93, '98-'99)
Pole positions: 4 ('90-'91, '98-'99)
Fastest laps: 3 ('90, '98-'99)



3 Imola, San Marino

Olivier: "It's always good to be back in Europe, but the Imola circuit brings sad memories for me. It is not so good after Ayrton Senna died – too many chicanes! I respect the history of the race and the fans, though."

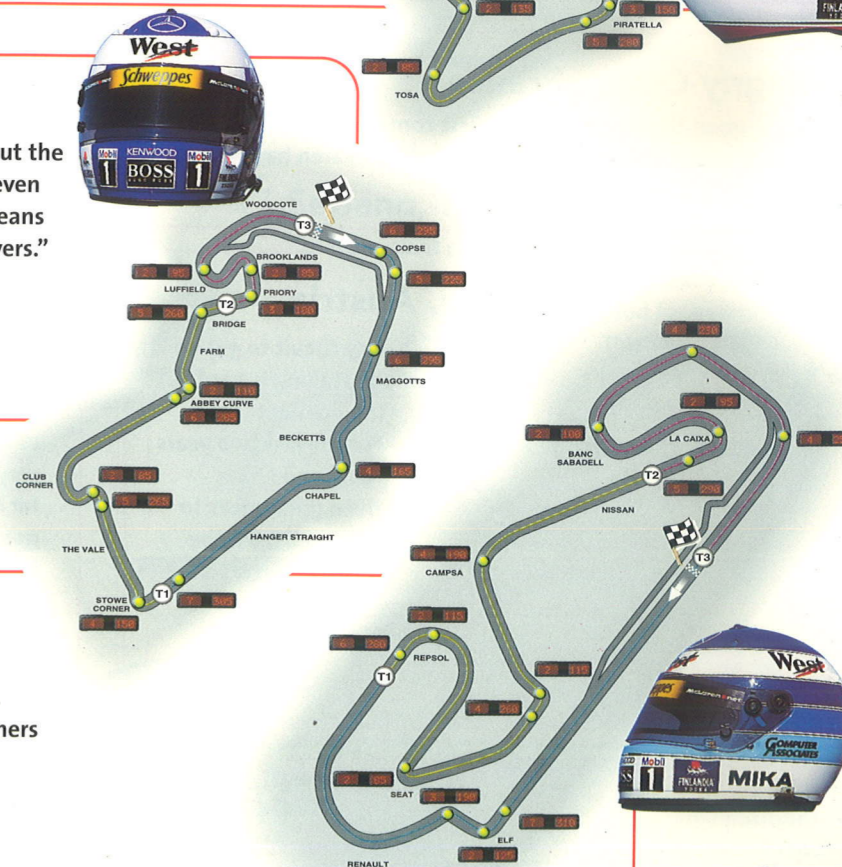
Wins: 6 ('84, '86, '88-'89, '91, '98)
Pole positions: 6 ('88-'91, '98-'99)
Fastest laps: 3 ('88-'89, '91)



4 Silverstone, Great Britain

David: "It'll be a bit cold in April, that's for sure, but the circuit is great for drivers. It's fast and flowing – even since they made changes. It's also wide, which means there are always some good battles between drivers."

Wins: 8 ('73, '75, '77, '81, '85, '88-'89, '99)
Pole positions: 4 ('77, '89, '98-'99)
Fastest laps: 3 ('77, '85, '99)



5 Barcelona, Spain

Mika: "We do a lot of running here during the winter, so we know it well. There's a good mix of fast and slow corners and the weather's usually good."

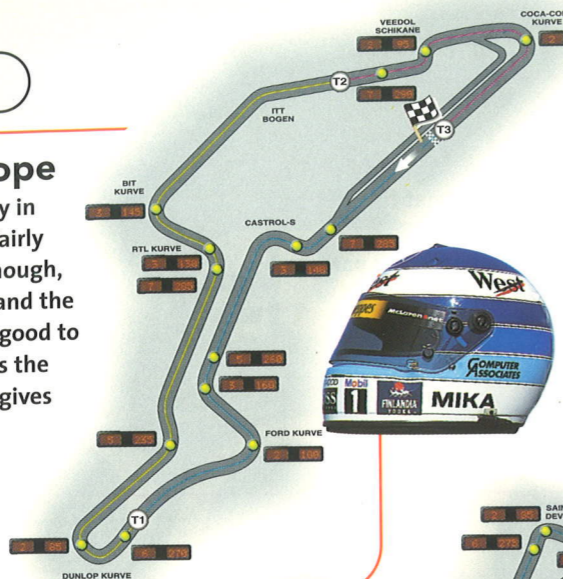
Wins: 2 ('98-'99)
Pole positions: 3 ('91, '98-'99)
Fastest laps: 1 ('98)

2000 SEASON PREVIEW

6 Nürburgring, Europe

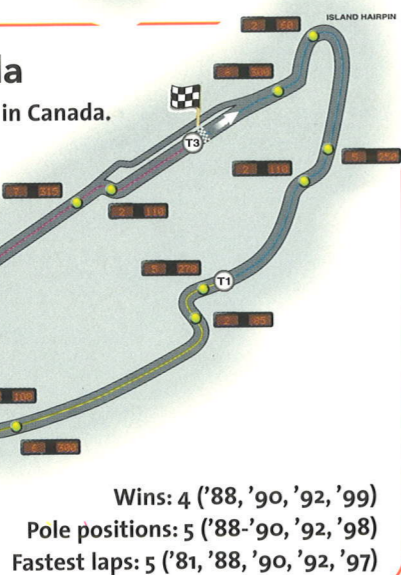
Mika: "It's very exciting, especially in qualifying, because it is a small, fairly narrow track. The race is tricky, though, because it's difficult to overtake and the weather is often changeable. It's good to get a good result here because, as the second grand prix in Germany, it gives Mercedes another 'home' race."

Wins: 1 ('84)
Pole positions: -
Fastest laps: 1 ('99)



8 Montreal, Canada

David: "Everyone likes the race in Canada. The people are great and they put on a superb show."



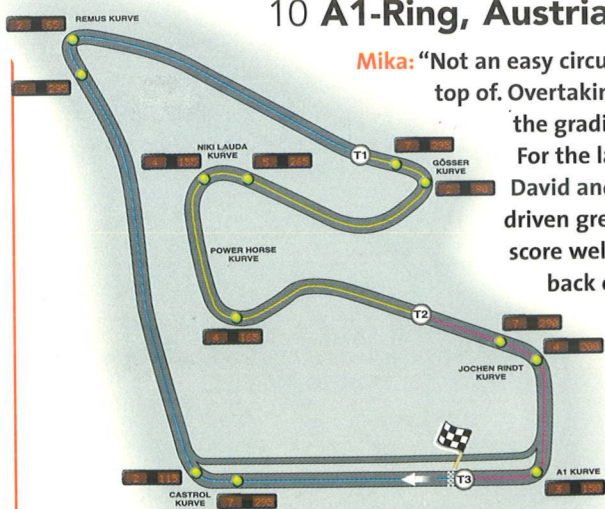
Wins: 4 ('88, '90, '92, '99)
Pole positions: 5 ('88-'90, '92, '98)
Fastest laps: 5 ('81, '88, '90, '92, '97)

9 Magny-Cours, France

Olivier: "A good circuit with a great first corner. Get that right and you fly down the back straight up to the hairpin. McLaren has yet to win there, so this year we will try extra hard!"

10 A1-Ring, Austria

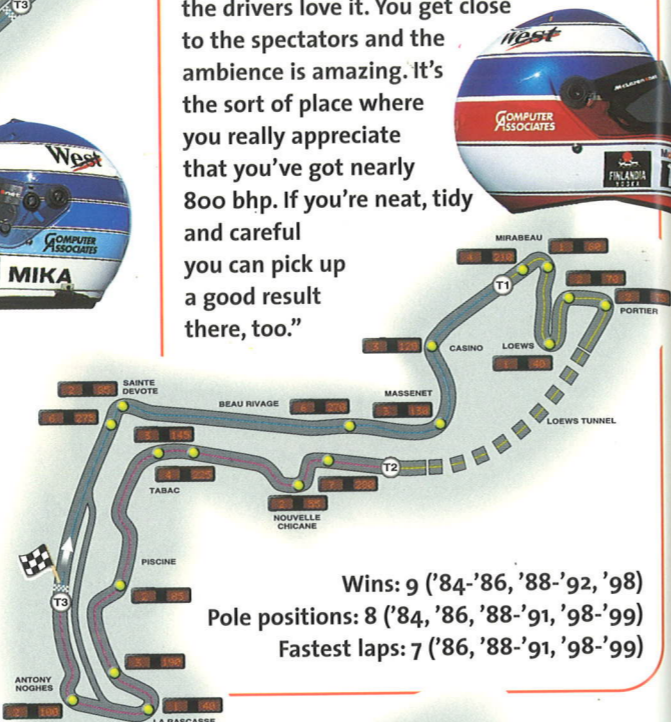
Mika: "Not an easy circuit to get on top of. Overtaking is hard but the gradient is fun. For the last two years David and I have driven great races to score well from the back of the pack."



Wins: 1 ('98) Pole positions: 1 ('99) Fastest laps: 2 ('98-'99)

7 Monaco, Monte Carlo

Olivier: "The best - because I have won here! It's quite unlike anywhere else and all the drivers love it. You get close to the spectators and the ambience is amazing. It's the sort of place where you really appreciate that you've got nearly 800 bhp. If you're neat, tidy and careful you can pick up a good result there, too."

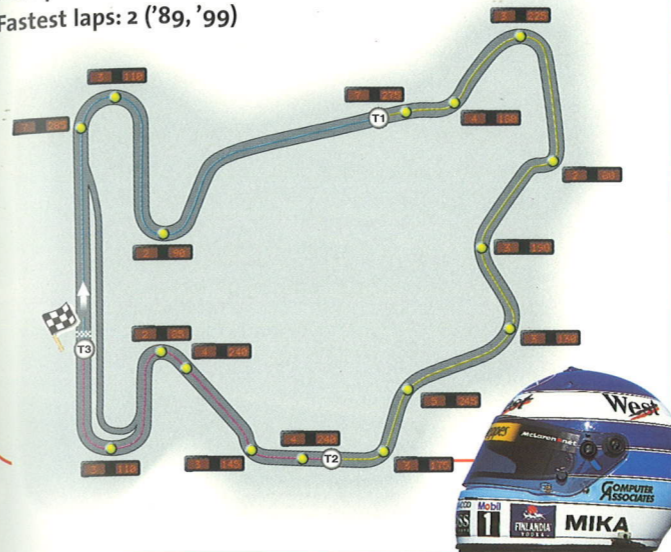


Wins: 9 ('84-'86, '88-'92, '98)
Pole positions: 8 ('84, '86, '88-'91, '98-'99)
Fastest laps: 7 ('86, '88-'91, '98-'99)

12 Hungaroring, Hungary

Mika: "Very tight and twisty, the circuit rewards a good set-up and race tactics because overtaking is almost impossible. The Hungarian girls are nice, too! Easy to make a mistake if you lose rhythm and concentration, and that will spoil the whole lap."

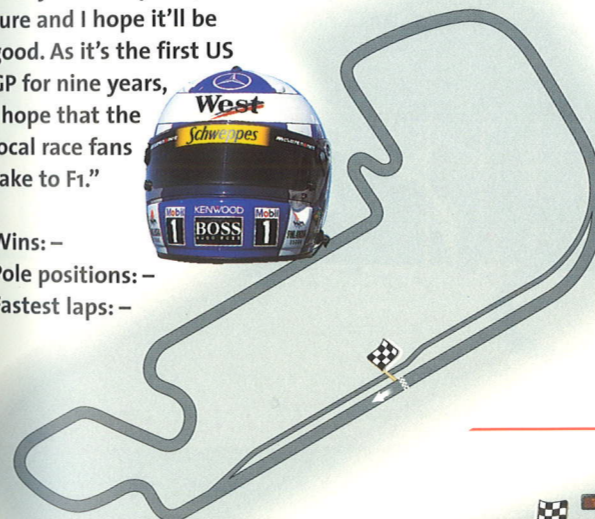
Wins: 4 ('88, '91-'92, '99)
Pole positions: 5 ('88-'89, '91, '98-'99)
Fastest laps: 2 ('89, '99)



15 Indianapolis, United States

David: "Who knows! It's a pretty famous place, for sure and I hope it'll be good. As it's the first US GP for nine years, I hope that the local race fans take to F1."

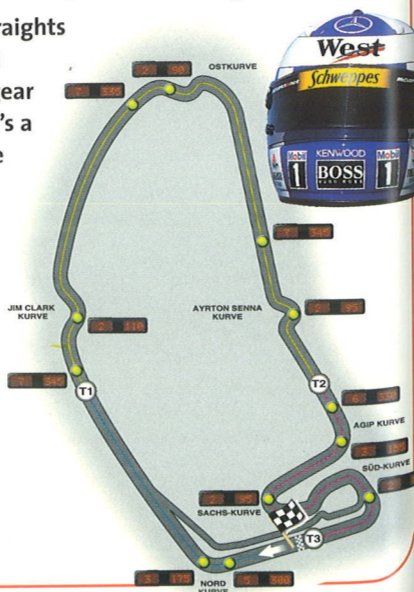
Wins: -
Pole positions: -
Fastest laps: -



11 Hockenheim, Germany

David: "The long straights are really quick and exciting... in sixth gear at 200-plus mph! It's a very important race for Mercedes, so a good showing is important."

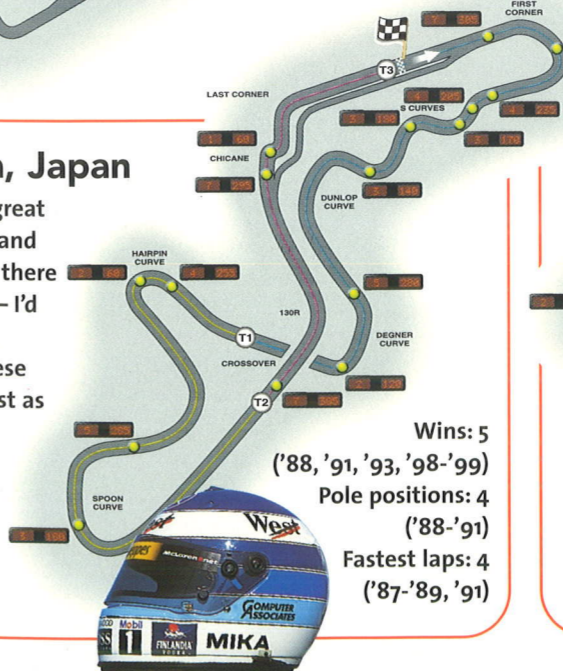
Wins: 5 ('84, '88-'90, '98)
Pole positions: 7 ('84, '86, '88-'90, '98-'99)
Fastest laps: 4 ('84, '89, '98-'99)



16 Suzuka, Japan

Mika: "Another great circuit - it's fast and demanding. But there is a safety issue - I'd hate to go off at 130R! The Japanese people are almost as fanatical as the Italians. I love it because I've won both my titles there."

Wins: 5 ('88, '91, '93, '98-'99)
Pole positions: 4 ('88-'91)
Fastest laps: 4 ('87-'89, '91)



13 Spa-Francorchamps, Belgium

David: "The greatest circuit, bar none! Fast and flowing, with a long lap. It's scary when wet, though. Oh, and Eau Rouge is my favourite corner in F1!"

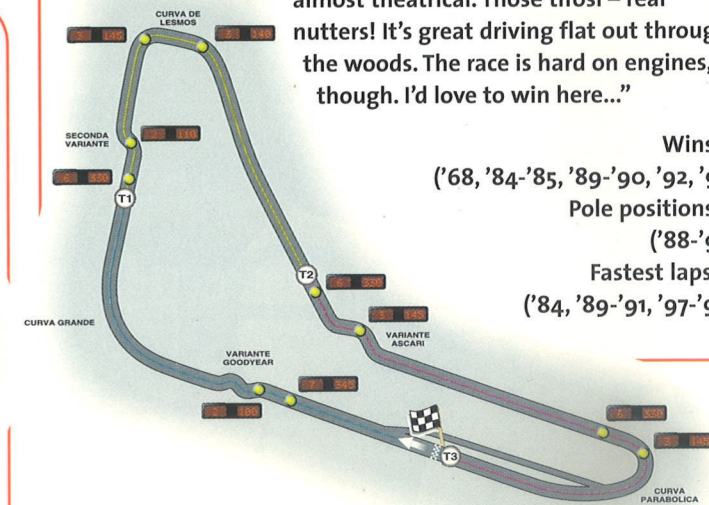
Wins: 7 ('68, '87-'91, '99)
Pole positions: 7 ('85, '88-'91, '98-'99)
Fastest laps: 5 ('85-'87, '89, '99)



14 Monza, Italy

Olivier: "An amazing sense of history, almost theatrical. Those tifosi - real nutters! It's great driving flat out through the woods. The race is hard on engines, though. I'd love to win here..."

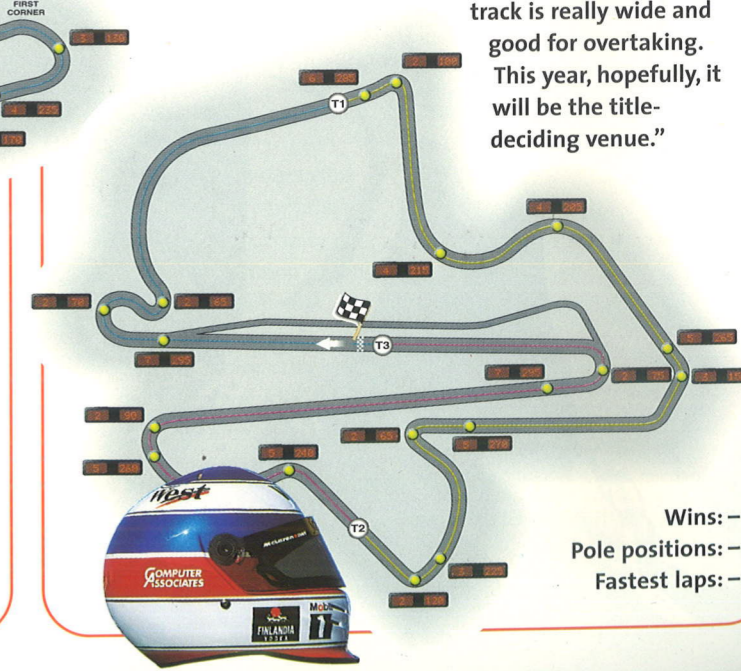
Wins: 7 ('68, '84-'85, '89-'90, '92, '97)
Pole positions: 5 ('88-'92)
Fastest laps: 6 ('84, '89-'91, '97-'98)

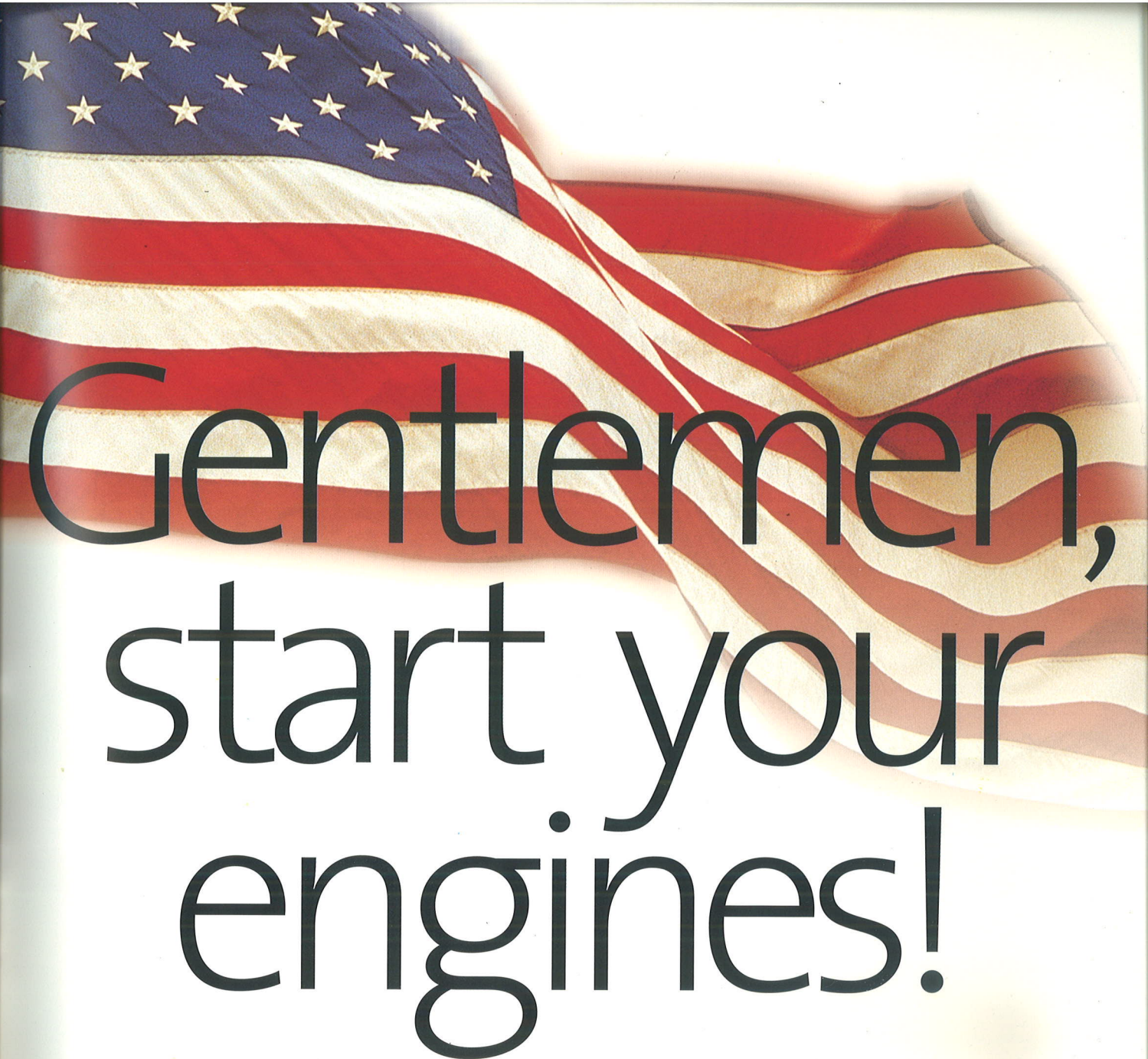


17 Sepang, Malaysia

Olivier: "It's a great circuit, with incredible facilities. The track is really wide and good for overtaking. This year, hopefully, it will be the title-deciding venue."

Wins: -
Pole positions: -
Fastest laps: -





Gentlemen, start your engines!

In six months' time, the F1 circus will descend on Indianapolis, the mecca of American motorsport. Mercedes ChampCar star and former McLaren racer Mark Blundell shows us the way round WORDS STUART CODLING PHOTOGRAPHY REGIS LEFEBURE

Wouldn't it be great if, a few minutes before 2pm EST on September 24, the preamble to the first United States Grand Prix in nine years climaxes with a rendition of the Star-Spangled Banner, followed by the command: 'Gentlemen – start your

engines'? They're standard fittings of any great US motor race, like apple pie and turkey at Thanksgiving. So what better way to kick off the first grand prix at Indianapolis, the home of US motor racing?

The home crowd will need that reassurance of the familiar, because F1 will come as something of a culture shock. The cars will be driving the wrong way round – clockwise – for a start. And the F1 drivers will have to adapt quickly to the unique challenges of the GP circuit, which mixes a long full-throttle charge around part of

“If they set the cars up as they would for a conventional road course, they may not be able to generate enough grip to go flat around the banking”



The view from the grandstands at Turn 12, looking back at Turn 11. This is where drivers wanting to pit will have to get out of the way quickly!

Looking west from Turn 12 of the road course – Turn 2 on the oval – where the F1 cars will rejoin for a flat-out blast around the historic oval

Indianapolis Motor Speedway

Turn 6, as seen from the main grandstands

Nine large TV screens will keep people informed of developments elsewhere

The view from the north end of the circuit, with Turn 3 on the right and Turn 4 on the left

The red dot marks the road course Turn 1, where the F1 cars will brake from 200mph to join the infield track

A new control tower is being built to replace the one which stood here since 1957. New F1 garages are on the right

-  Formula One circuit
-  Pit lane
-  Pit Garages

the famous banking with a return stretch on a newly-built infield track.

When Mark Blundell shakes your hand, he exerts 200mph turn-in grip. With experience of oval racing in the CART championship, as well as several years in F1 – including 1995 for McLaren – the PacWest Reynard-Mercedes driver can tell us exactly what F1 can expect when they roll up to Indy in September.

“There are going to be a few different trains of thought on set-up,” he says as we prop ourselves against the wall at the crown of Turn 13’s banking. “We’ve got nine degrees of banking here, and it’s a long corner. The drivers will have to be flat out, and they’re going to have to carry that speed off the exit and all the way down the straight.”

“If they set up the car as they would for a conventional road course, they may not be able to produce enough grip mechanically to go flat out all the way round. That’ll cost them speed down the straight and make them vulnerable into the best overtaking spot – the sharp right at Turn 1. But if they set up the car with cross-weight and staggered suspension geometry for good mechanical grip on the banking, it’ll spoil the handling on the rest of the corners.”

Nine degrees is not a gradient on the scale of somewhere like Brooklands or Monza but, when you stand at the top of it, you know it’s there. You don’t

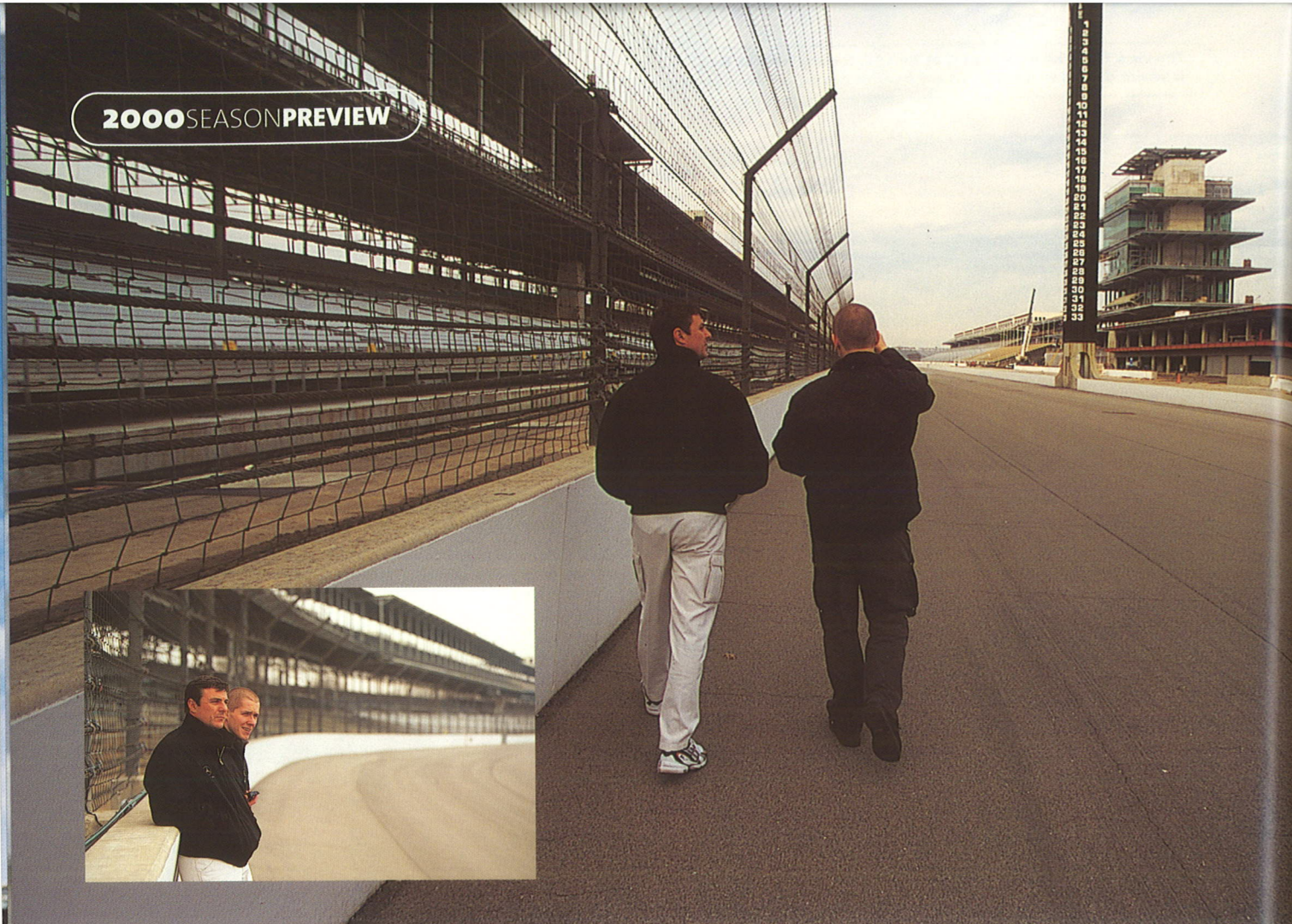
need steep banking on a circuit this big. The oval is 2.5 miles long, enough to accommodate the Indy Hall of Fame, the pit complex and part of a golf course. You need anamorphic spectacles to appreciate the sheer breadth of this place – it’s as if it was built to be viewed in widescreen.

The F1 cars will run clockwise, against the usual flow of traffic at Indy. They’ll cross the famous ‘yard of bricks’ – a memento of the circuit’s early years when the track surface was paved with 3.2 million bricks – on the start/finish straight before braking hard and slicing right onto the new infield circuit.

“This is great,” says Mark. “It’s like the first corner at Monza. They’ll arrive three abreast after the start, and there’s only room for one on the racing line once you get in. There’s also a bit of camber, which will make braking tricky. During the race they’ll be slowing from about 200mph – a few of them are going to be using the run-off, that’s for sure.”

Turns 1 and 2 stand just far enough apart to escape being lumped into one and called a chicane. From there the track loops back on itself twice, a quick shimmy around the trees where the real yahoos would set up shop and not come down until they’d run out of beer or the Indy 500 had finished.

“It seems quite wide as you stand here,” says Mark, “like you might get a bit of flow, but once you get in



a car it'll be just one line through Turns 2, 3, 4 and 5. Again, it's got that Monza feel with all the trees here, but they might have to cut down one or two that are close to the track."

The last corner before the middle straight is a double-apex right that's trickier than it looks. This is where anyone who's been held up during the early part of the infield can take a punt.

"If someone's brave," says Mark, "they can look at getting on the inside here, or get on the tail of the car in front and set themselves up for a try up the straight. It's a double bite of the cherry."

The straight is wide enough to land a plane on, but goes tight and turns sharply to the left as you bear down upon the Hall of Fame's car park. Should catch a few people out as they try to dive past on the brakes.

A pair of slow hairpins follow, enabling the sponsors' logos to wink at the cameras as they pass. Spectator access being a priority in the US, the organisers have installed some tall earth banks here which they intend to reserve as family viewing areas.

The penultimate infield corner is possibly the most deceptive: another tight-looking right-hander, but it opens out quickly.

"This is a bit different," says Mark. "It'll have been single file through the last two corners, then you have this short straight, and before you know it you're through the corner and building up a lot of speed."

From this point until they get back to Turn 1, the drivers' aim is to have the throttle mashed into the

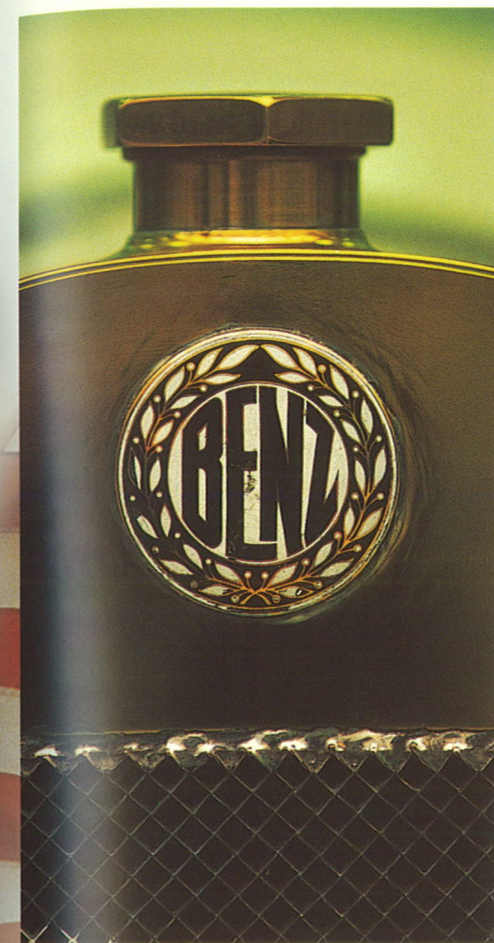
floor. This whole complex, as the cars surge back onto the oval from the infield, is as close as modern F1 circuits get to the classic Peraltada bend at the Autodromo Rogriguez, former home of the Mexican GP.

"This is slightly downhill," Mark continues, "and there are a few undulations on the surface. Just after you rejoin the oval circuit there's a ridge where the gradient starts. That's going to upset the cars, and they'll be going pretty quickly. The pit entry is here, so if anyone's decelerating to go in there they'll have to be careful to split off neatly."

The pit entry – for ChampCar and NASCAR races it's the pit exit – is a long, narrow lane that traces the inside of Turn 13 and is separated from the track by a bank of grass. In the grand prix it's going to be like a bobsleigh ride, with the drivers striving to stay off the brakes until the 50mph speed limit, set just before the garages, makes deceleration an urgent necessity.

With no 'garage culture' in the US (normally, cars pull up by a wall and the crew vaults over to work on them), the Indy organisers are building a 36-garage complex, with hospitality suites, for the GP. They've also pulled down the old control tower, here since 1957, and are erecting a new one – with a state-of-the-art media centre for the world's press. It's taken a multi-million dollar investment to get this far and there's a way to go yet. But Indy is in this for the long haul. Come September the kerbs will be painted, the new garages slick and glossy, the gravel traps neatly combed and the turnstiles open – for the first of many US GPs at Indy. ■

Above: This is where the grid will form up at the US GP in September. Blundell predicts a top speed of around 200mph. Inset: Blundell and the author size up Turn 13's banking. Above right: A Benz chassis, 18th finisher in the 1911 Indy 500, stands in the Indy Hall of Fame



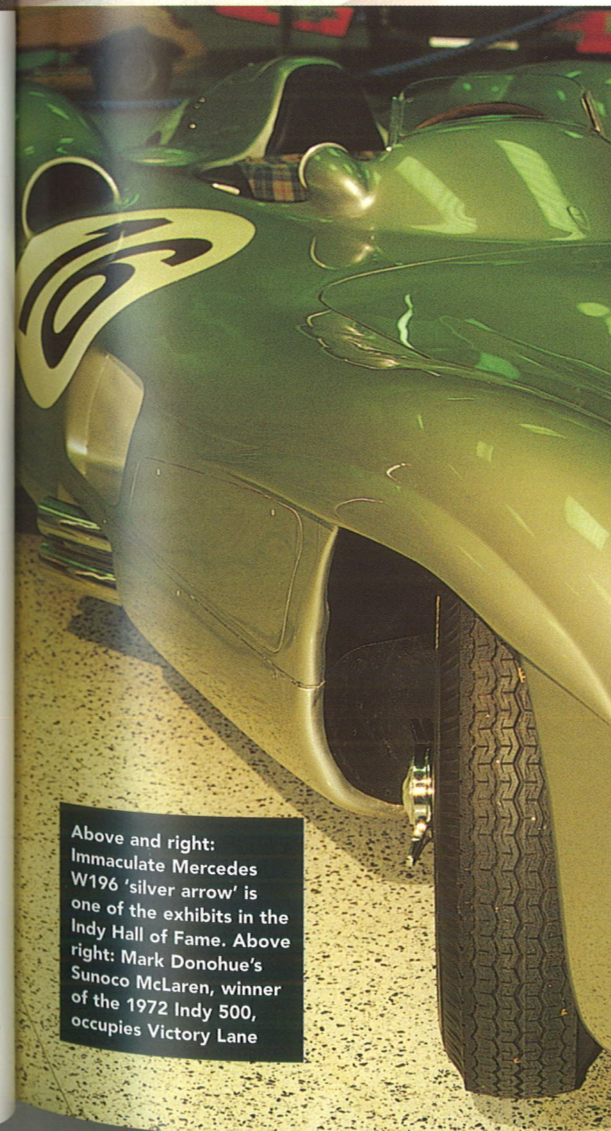
McLaren and Mercedes at Indy

McLaren and Mercedes have a history at Indianapolis that stretches back to the first 500 in 1911.

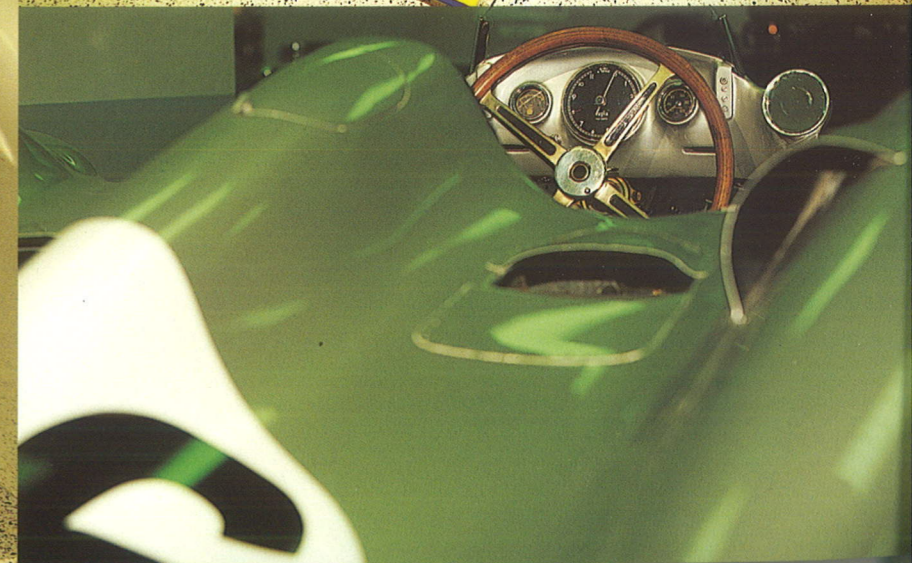
Yes, you read that correctly.

Spencer Wishart drove a Mercedes to fourth place in 1911; the following year, Ralph DePalma led 196 out of 200 laps in another Mercedes before his engine blew. He was classified 11th after he and his riding mechanic pushed the car over the finishing line.

McLaren chassis, in the hands of Mark Donohue and Johnny Rutherford, won the Indy 500 three times and took pole three times in the 1970s. More recently, a Mercedes engine powered Al Unser Jr's Penske to victory in the 1994 500. Donohue's 1972 500-winning Sunoco McLaren stands in the Victory Lane section of the Indy Hall of Fame, which is open 364 days a year and costs just \$3 to get in. You'll also find Bruce McLaren's 1966 Le Mans-winning Ford GT40, a 1954 Mercedes W196 and Rudolf Caracciola's extensive trophy collection. It's definitely worth a visit if you're in the area...



Above and right: Immaculate Mercedes W196 'silver arrow' is one of the exhibits in the Indy Hall of Fame. Above right: Mark Donohue's Sunoco McLaren, winner of the 1972 Indy 500, occupies Victory Lane



BETTER BY DESIGN

A D R I A N N E W E Y



A month before the new West McLaren Mercedes MP4-15 was shown to the watching world we asked the team's Technical Director to explain some of the secrets behind it

WORDS JESS McAREE PHOTOGRAPHY TED HUMBLE-SMITH

This year you've attempted to get the car out earlier. Was that because of the reliability problems of last season? Yes. The last two cars, the MP4-13 and MP4-14, both came out late. In the case of the 13, I hadn't started work at McLaren until 1st August 1997, so it was difficult to get everything done in the time available. The 14 was also later than intended, and the major contributing factor there was that we were fighting for the championship in 1998 and we were concentrating on developing the MP4-13. The result was that we really weren't properly prepared, and we knew it. ▶





BETTER BY DESIGN ADRINAN EWEY

So there's been a definite philosophical shift for this year?

Hopefully, though we've had the same juggling act again, battling for last year's championship and trying to do design work on the MP4-15 at the same time. What we've done is to concentrate on certain areas of the 15 quite early on, particularly the back end of the car. The packaging of the gearbox, for instance, was fixed in June/July. The other components, the major aerodynamic parts, we've again left late-ish because they're not the parts that give us reliability problems.

What are the parts you'd characterise as sensitive in that way?

Generally the ones that rotate! The gearbox and the hydraulics, in particular, are the two areas we started on much earlier than usual.

Does that mean you had to get an engine earlier... because obviously without an engine you can't design the car?

That's right, yes. In terms of the general layout and package of the engine, we had that fixed by the middle of last summer. It would

normally have been a bit later than that. Engine designers need a longer lead time than chassis designers, on the whole. We received the first mock-up of the engine in late November and we proceeded from there.

So everything flows from the size and shape of the engine?

Inevitably, it influences the configuration of the car. We've run quite a few of the parts for the MP4-15 on the back of a 14 to test them out and see how they go. This was specifically to try to improve reliability for this season.

How do you work with Henri Durand [Head of Aerodynamics] and Neil Oatley [Chief Designer]?

Certainly Neil and Henri are very much my partners. The three of us work very closely together. The mechanical engineering is Neil's responsibility and he makes an exceptional job of overseeing the engineering quality that goes into the car. Henri is in overall charge of aerodynamics and it's my job to work with them both to ensure that the mechanics and aerodynamics mesh together harmoniously and that all our ideas complement each other. I think we work very well together.

After several seasons with basically the same regulations in Formula 1, do you find it gets harder to wring small improvements from the cars?

Certainly within a stable set of regulations, you find yourself working in a smaller and smaller box. Unless we come across some huge breakthrough, either by copying someone else or by stumbling across something we hadn't thought of before, it does get progressively more difficult to make improvements. The MP4-15 is fundamentally an evolution of 14. We feel we've made some improvements, but they get smaller each year.

What does that actually mean in terms of lap times?

Well, there will be speed improvements from the tyres, because Bridgestone is doing its own development, but as far as the chassis and engine are concerned, we predict half a second a lap. Last year we were hoping for maybe three quarters of a second.

We're talking in mid-January. Do you feel at this stage that the work is all but done, or are there still things to be developed?

Certainly in terms of the main performance items, they've all been designed in the wind tunnel and we've fixed the overall mechanical layout, which was defined some time ago. The

only work to be done in the remaining design time is down to the details. And of course then there's the development parts. The MP4-15's not built yet, but we're already working on development components for it.

By designing the car early one risks sacrificing that bit of extra speed you might gain from further development. Are you conscious of this?

Well of course this is true. The later you can leave things, the more time you have to research. One hopes that more research time leads to a better design... though it doesn't always! So there is clearly a compromise to be made between how long you conduct your research and letting it get so late that you don't have time to test and prepare properly prior to the first race of the season. We feel we've done a reasonable job on researching the car and we're happy that releasing the new car earlier hasn't compromised the design.

And of course, you've still got time to develop it later...

Exactly. This is the thing that's changed a lot in F1. Even as recently as 10 years ago, the car that was released at the start of the season tended to be the package you ran throughout. Now there's far more on-going development during the season.

Do you already foresee major improvements to the MP4-15?

It's impossible to say right now because we've got various areas we wish to pursue but we don't know how many of those areas will prove fruitful. We may come up with a large number of improvements, but we may find it's very hard to improve on – whether it turns out to be good, bad or indifferent!

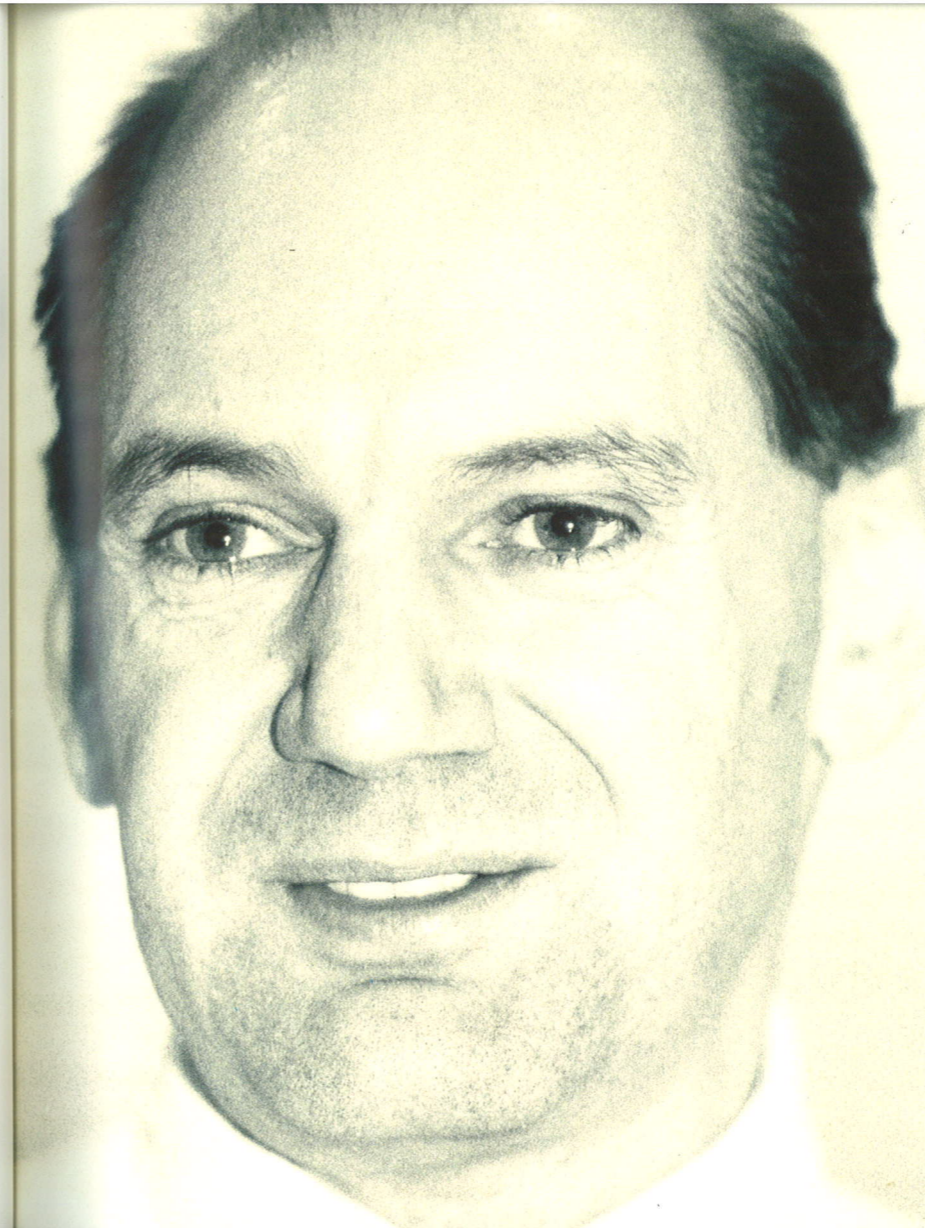
As you say, the current regulations have made the envelope for designers smaller and smaller. How do you feel about the proposed rule changes for 2001?

What would be a great shame is if the regulations were to become too prescriptive... in other words, if they become so tight that they design the car for you. Then there would be very little freedom within the regulations to come up with something new or different.

Do you see that as a real danger?

Yes. Each year the rule book gets bigger and bigger, and as a designer I feel it leaves us less and less to work with.

Are there any potential new regulations that you would be unhappy to see in F1?



“The technical challenge of Formula 1 still fascinates me”

Well I think that at the moment discussions about the new regulations are at a very early stage and nothing is clearly defined. Much of the press reporting is definitely premature. Generally speaking, though, I'd like to see as much freedom in the regulations as possible. Especially in the bodywork rules. If the desire is to reduce aerodynamic downforce, it should be done in a way that doesn't simply prescribe large numbers of exclusion zones where you can't have bodywork.

What about the traction control issue?

I can certainly understand the philosophical attraction of banning traction control, in that it makes the driver work harder. Against that I'd say that in the days when driver aids like traction control, ABS, active ride and active steering were allowed in F1, the best drivers were still the best drivers. I think possibly something like traction control reduces the lap time gap between the top drivers and the less good ones, but you could argue that's a good thing. The best drivers will still be the best, and if the effect is to close up the grid slightly and produce better races I think it wouldn't be so bad. But, I have grave reservations about our ability to police the traction control rules.

Where do you personally think Formula 1 should go from here?

Well, this is a key question. For a designer to enjoy his work he needs a reasonable amount of freedom. If that is gradually taken away then the work starts to lose its pleasure. That's why I'm keen to see the regulations stay free. One of the attractions of F1 compared to, say, tennis or golf is that in tennis there's very little technology to speak of – it's down to one player versus another. F1 has proved a very popular sport and one of the reasons for that is there are so many facets to it: you have the driver, the chassis, the engine, tyres, pitstop strategy. I think if you end up eliminating the other factors so it's just the drivers against each other, you have two problems. Firstly you're likely to get a dominant driver who wins everything... which is dull. Secondly, I think you lose some of the fascination of the sport. The public understands and appreciates the various different parts of the puzzle you have to get right to make a successful package in F1.

So you're still enjoying F1, then?

Very much. I suppose that at some point in the future I shall probably move on. Doing something in road cars might be an attractive alternative – there's far more freedom in road cars these days than in F1. But for the time being, the technical challenge of F1 still fascinates me. ■

STARTS 492

1st start: Monaco 1966, Bruce McLaren



FASTEST LAPS 88

1st fastest lap: South Africa 1970, John Surtees; last fastest lap: Europe 1999, Mika Hakkinen



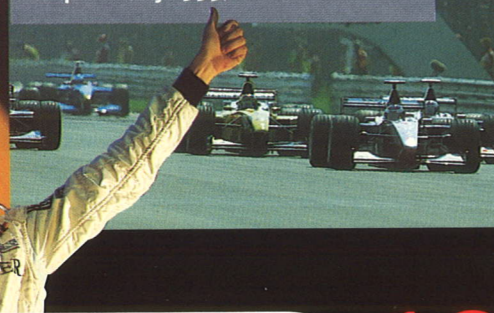
WINS 123

1st win: Belgium 1968, Bruce McLaren; last win: Japan 1999, Mika Hakkinen



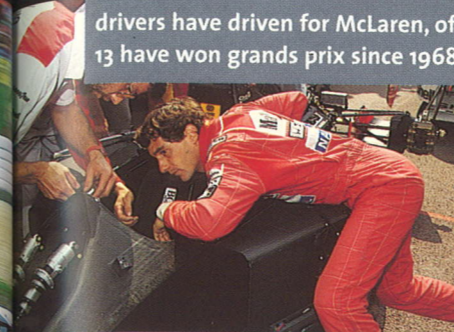
POLES 103

1st pole: Canada 1972, Peter Revson; last pole: Italy 1999, Mika Hakkinen



DRIVERS 44

drivers have driven for McLaren, of which 13 have won grands prix since 1968



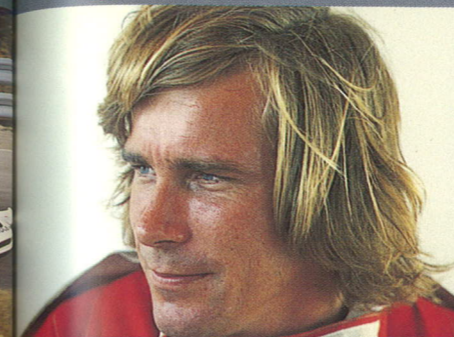
35 wins – Ayrton Senna



30 wins – Alain Prost



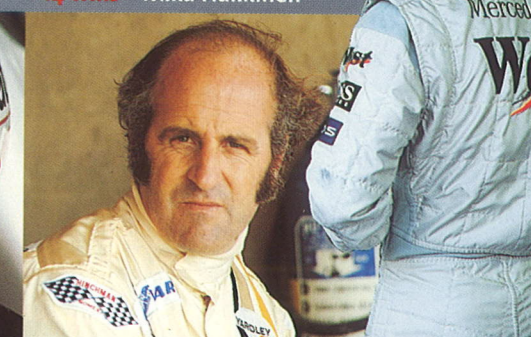
14 wins – Mika Hakkinen



9 wins – James Hunt



8 wins – Niki Lauda



6 wins – Denny Hulme



5 wins – David Coulthard

Vital statistics

107

MOST RACES

Alain Prost; Mika Hakkinen has started 98 races, so will eclipse Prost in Austria

ONE-TWOS

35

one-two finishes (1st one-two finish: Canada 1968, Denny Hulme and Bruce McLaren; last one-two finish: Hungary 1999, Mika Hakkinen and David Coulthard)

46

one-two qualifying positions (1st one-two qualifying line-up: Germany 1986, Keke Rosberg and Alain Prost; last one-two qualifying line-up: Belgium 1999 (Mika Hakkinen and David Coulthard))

ENGINES 14

- 1966: Ford/Serenissima
- 1967: BRM
- 1968-1982: Ford
- 1983: Ford/TAG Porsche
- 1984-1987: TAG Porsche
- 1988-1992: Honda
- 1993: Ford
- 1994: Peugeot
- 1995-to date: Mercedes-Benz

McLaren's record in grand prix racing is astounding. Here are just a few of the highlights since the team's debut at Monaco back in 1966

PHOTOGRAPHY LAT

WORLD CHAMPIONS 6

6 drivers have won Drivers' world titles for McLaren since 1974:



Emerson Fittipaldi – 1974



James Hunt – 1976



Niki Lauda – 1984



Alain Prost – 1985, 1986, 1989



Ayrton Senna – 1988, 1990, 1991



Mika Hakkinen – 1998, 1999

McLaren



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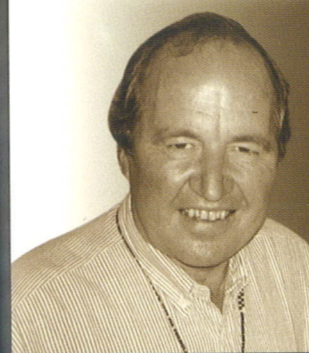
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WORLD CHAMPIONS 1999



BY EOIN YOUNG

Heavy metal

George Begg reminisces about his days at McLaren Racing in his autobiography, *A Classic World and When the Engine Roars*, recently published in New Zealand. It was a different world when the McLaren team was based at Colnbrook under the flightpath for Heathrow. George recalls: "One of the first things any newcomer at McLaren had to get used to was the aircraft noise. At times it sounded like huge jets were trying to land on the factory roof. Newcomers would at first try to shout through the noise, but soon they learned to stop talking for about 30 seconds until the noise abated. It became so normal that people didn't realise they were doing it."

Bruce laid two tracks of rubber the length of the workshop!

Begg had built his own racing cars in New Zealand, but in 1968 moved to McLaren's fabrication shop. "Bruce was great," he said at the launch of his book. "There are lateral thinkers and there are upward thinkers but Bruce didn't know the meaning of any of it. He'd just say: 'Let's bloody well work it out, glue it together and make it go'."

"When we put the seven-litre all-alloy V8 engine in the back of an M6 CanAm chassis as a prototype for the first M8, they pushed the starter button in the workshop and it just ate the starter gears. The car was up on trestles and Bruce slid in underneath, where he just stared up at the problem for half an hour. Not saying anything, just looking up and thinking it out. Then he jumped out, grabbed a sheet of paper, sketched up his ideas and shot off to the machine shop. They made up a compound gear-train arrangement and the whole thing went together and it worked."

"Bruce loved racing for the sake of creating something. He loved the engineering challenge as well as the driving. He certainly didn't do it for the money because there was practically no money in it then. He loved to be the force

behind the creation of a new car. I don't think fame and fortune were very high on his list of priorities. When we finished the first M8 CanAm car and lifted it down off the build-up trestles and sat it on the floor there was a look of pride in Bruce's face. You could just see him thinking 'Yeah, I made it all happen together with these other fellas.' But he never hogged the whole thing to himself. He wasn't an egotist; he was remarkably candid in his praise for everyone."

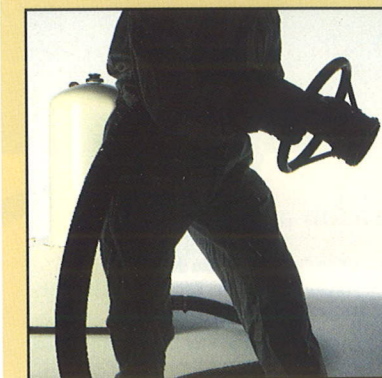
Begg, now 70, had an amazing ability to read a personality: "We've all got good and bad sides, but Bruce was a remarkably kind, generous and considerate person. He could suffer fools gladly, too. People just burbled on to him but Bruce would listen. He would never destroy that person. He would give him his attention and would never reveal his private thoughts."

Begg went down to Goodwood on CanAm test sessions early that summer of '68 but his favourite tale came before the car had yet to leave the factory. It was before they had implemented Bruce's starter gear cure, and at 2 o'clock on a Sunday morning he asked the crew to push-start the prototype in the factory; he planned a trial run up the 35 metre-long workshop. Six of them, including Begg, were pushing the length of the factory but the engine kept stalling. "On what seemed like the umpteenth time, the engine fired and roared into life. The noise of that fearsome motor was deafening inside a confined space."

"But the exercise wasn't over yet. 'Back we go,' Bruce indicated over the roaring engine, and once more we pulled him to the other end of the workshop. I will never forget the look of sheer glee on Bruce's face as he dropped the clutch and laid two tracks of black rubber the entire length of the workshop before jamming on the brakes!"
Fun times, indeed.

1968
P.41 Eoin Young listens to former McLaren employee George Begg as he recalls working for the great man. "Bruce was a remarkably kind, generous and considerate person."

1983
P.42 A look back at 1983 – the season that saw refuelling make its return and the start of McLaren's enduring and hugely successful partnership with TAG



1987
P.44 Armed with a new car finished just in time for the first race of 1987, McLaren scooped a one-three finish. Adam Cooper recalls a performance as skilful as it was lucky



Goodwood testing
M6/M8.

BLAST FROM THE PAST

1983

1983 was a year of big changes in F1, but the McLaren team had a secret weapon up its sleeve – the TAG Porsche V6 turbo engine

WORDS Henry Hope-Frost

PHOTOGRAPHY Charles Best

Season at a glance

1. Brazilian Grand Prix, Rio de Janeiro

John Watson: Grid: 16th; Race: retired (engine)
Niki Lauda: Grid: 9th; Race: 3rd

2. United States Grand Prix (West), Long Beach

John Watson: Grid: 22th; Race: 1st
Niki Lauda: Grid: 23rd; Race: 2nd

3. French Grand Prix, Paul Ricard

John Watson: Grid: 14th; Race: retired (throttle)
Niki Lauda: Grid: 12th; Race: retired (wheel bearing)

4. San Marino Grand Prix, Imola

John Watson: Grid: 24th; Race: 5th
Niki Lauda: Grid: 18th; Race: retired (accident)

5. Monaco Grand Prix, Monte Carlo

John Watson: Grid: dnf; Race: –
Niki Lauda: Grid: dnf; Race: –

6. Belgian Grand Prix, Spa-Francorchamps

John Watson: Grid: 20th; Race: retired (accident)
Niki Lauda: Grid: 15th; Race: retired (engine)

7. United States Grand Prix (East), Detroit

John Watson: Grid: 21st; Race: 3rd
Niki Lauda: Grid: 18th; Race: retired (shock absorber)

8. Canadian Grand Prix, Montreal

John Watson: Grid: 20th; Race: 6th
Niki Lauda: Grid: 19th; Race: retired (spun off)

9. British Grand Prix, Silverstone

John Watson: Grid: 24th; Race: 9th
Niki Lauda: Grid: 15th; Race: 6th

10. German Grand Prix, Hockenheim

John Watson: Grid: 23rd; Race: 5th
Niki Lauda: Grid: 18th; Race: dsq (reversed in pitlane)

11. Austrian Grand Prix, Osterreichring

John Watson: Grid: 17th; Race: 9th
Niki Lauda: Grid: 14th; Race: 6th

12. Dutch Grand Prix, Zandvoort

John Watson: Grid: 15th; Race: 3rd
Niki Lauda: Grid: 19th; Race: retired (brakes)

13. Italian Grand Prix, Monza

John Watson: Grid: 15th; Race: retired (engine)
Niki Lauda: Grid: 13th; Race: retired (electronics)

14. European Grand Prix, Brands Hatch

John Watson: Grid: 10th; Race: retired (accident)
Niki Lauda: Grid: 13th; Race: retired (engine)

15. South African Grand Prix, Kyalami

John Watson: Grid: 15th; Race: dsq (overtook on parade lap)
Niki Lauda: Grid: 12th; Race: retired (electronics)

The statistics might only show that McLaren won a single grand prix in 1983 but they merely disguised the latent potential brewing at its Woking headquarters. The team was about to join forces with TAG and Porsche, a move that would give it the resources, both from a financial and engineering standpoint, to sustain future competitiveness. It would be a partnership with TAG that blossomed from day one and endures to this day.

McLaren faced regulation changes that altered the face of Formula 1 forever. Stricter aerodynamic rules were imposed that changed the characteristics of the car and, in an effort to spice up the show, mid-race refuelling was re-introduced.

More crucially, it was the beginning of a boom time for turbocharged engines. McLaren knew that its Cosworth atmospheric engine was long in the tooth and, because the new TAG Porsche-developed turbo engine was just five months away from its race debut, development of the outgoing power unit was not a worthwhile option.

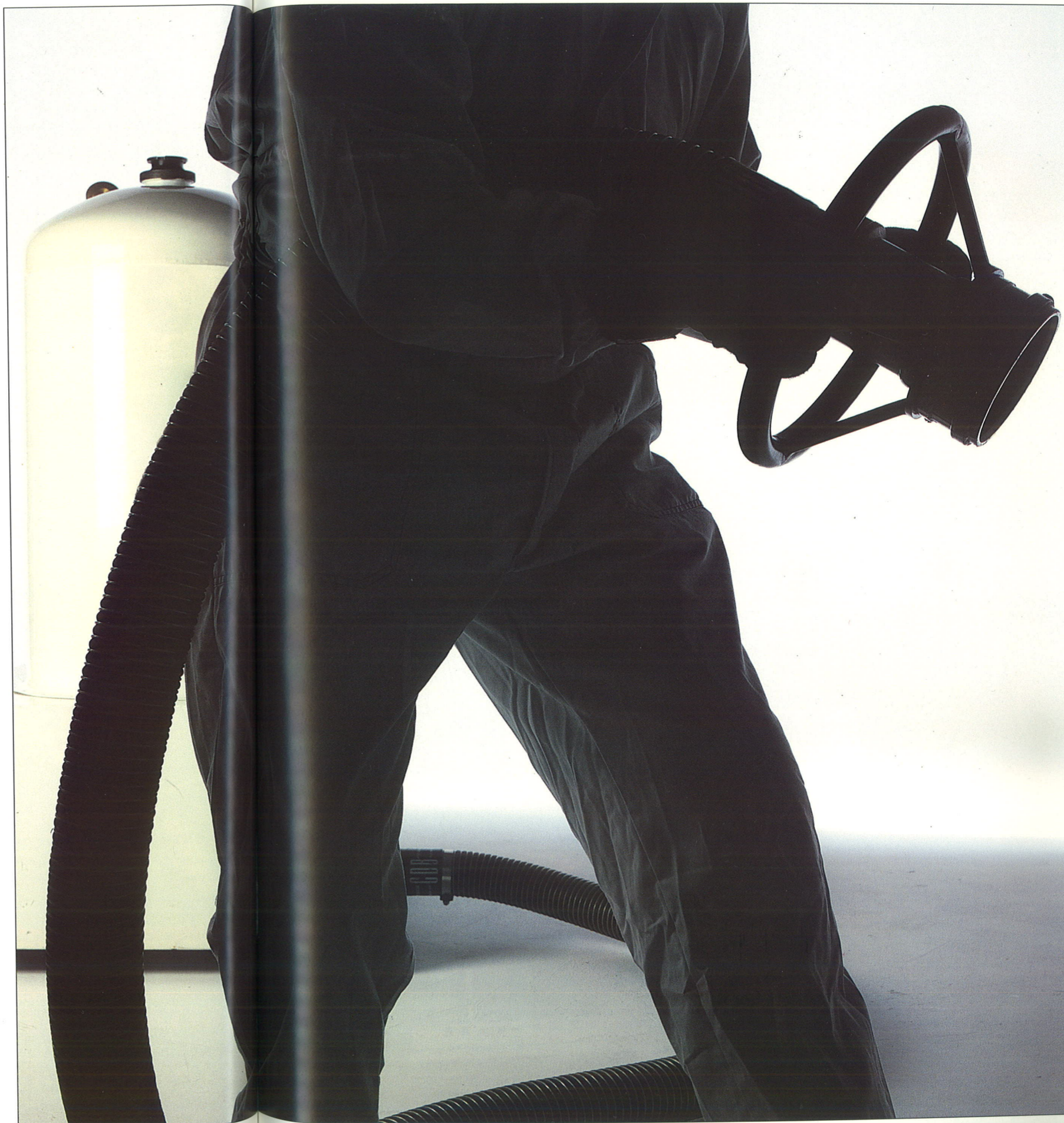
Despite this, the team arrived in Brazil for the first race of the season, hoping to sustain the momentum from 1982, when John Watson and Niki Lauda had won two grands prix each and the Irishman had finished joint runner-up in the world title battle. Watson and Lauda were retained for '83 – it was arguably the most experienced pairing on the grid – and a podium finish for Lauda in Brazil justified the team's optimism.

What followed at Long Beach caught everybody by surprise. Low ambient temperatures and an inability to generate heat in the tyres meant that both cars languished at the back of the grid. Come a warmer raceday, however, Watson and Lauda destroyed the field to finish one-two.

The momentum wasn't sustained, with just two further points finishes – both for Watson – in the next five races, the undoubted low-point being Monaco. A cold first day's practice and a wet second qualifying saw both cars fail to qualify.

Lauda's brace of sixth-place finishes at Silverstone and at home in Austria were his last in an atmospheric car. The arrival of the new TAG Porsche engine for the Dutch GP in August was an historic milestone for the team, despite Watson taking third with the old motor.

The V6 turbo engine proved troublesome at first – indeed Watson's first outing with it at Monza for the Italian GP led to failure. Further development problems in the last two races of '83 only served to heighten the team's motivation for '84. Lauda, Alain Prost and the TAG Porsche-powered MP4/2 won 12 of the 16 races. QED. ■



1987



Last, but not least

McLaren's 1987 F1 car was finished at the 11th hour and had hardly tested before the first race, but that didn't stop Alain Prost and Stefan Johansson scooping a one-three finish **WORDS ADAM COOPER PHOTOGRAPHY LAT**

When the latest West McLaren Mercedes MP4-15 was unveiled at Jerez on 3 February just five weeks and one day remained before the start of practice for the Australian Grand Prix. By modern standards, that's a short lead time, and some new cars were out testing several weeks earlier, even if they weren't fully painted and liveried up. But West McLaren Mercedes wasn't quite the last one; another four days passed before Ferrari revealed its 2000 challenger in Maranello.

Over the years the late launch has become something of a McLaren trademark. Yet despite lack of testing time before the first race, the team has often frustrated the opposition by kicking off the season with a win. Never was that more true than in 1987, when Alain Prost gave the team's new machine a maiden victory in the Brazilian GP at Rio de Janeiro.

Although technical director John Barnard had left for Ferrari by the time that race took place, the '87 car was a development of the original MP4 series, which won the World Championships in 1984, '85 and '86. And it was Barnard who instigated the policy of pushing the limits by finalising the design of the new car as late as possible.

"We always cut it fine," John recalls. "It was always a sweat. It wasn't the relaxed, super-oiled McLaren machine that everybody saw from the outside!"

These days teams spend most of January and February testing at Barcelona, but in those days the backbone of every team's winter testing programme was a mass session in Rio de Janeiro a fortnight

before the race. If you missed that, you were in serious trouble. Prost and his new team mate Stefan Johansson began the crucial Rio test in the previous year's car, and time was running out when the new MP4/3 arrived from England. Even then it took a while to finish it, before Alain was finally able to take it out on the track. He soon put in a respectable time, before a typical new car problem – a leaking oil line – halted progress. Then it tipped down with rain, and yet more priceless track time was lost.

Despite lack of miles, Alain said that he was happy with the new car, especially its grip levels, but he had doubts about the reliability of the latest Porsche-built TAG engine. New rules had forced teams to fit boost-limiting pop-off valves to the turbos, and engine manufacturers had done a lot of work to cope with the new devices. There was no more time for testing. When the grand prix weekend rolled around, the team had shipped over the second and third chassis, so both drivers had brand new cars to run-in. Against expectations they both ran very reliably throughout practice, so Prost and new engineer Neil Oatley were at least able to refine a set-up.

But the cars lacked pace; Prost only managed to qualify fifth, some three seconds off Nigel Mansell's pole position in his Williams-Honda, while Johansson was a disappointing 10th. This was partly explained by the fact that many teams experienced problems with the FIA's pop-off valves, and the TAG engines had to be run in very conservative, low-boost trim throughout. Of course, that meant that, relative to the opposition, the team would experience less of a performance drop-off come the race.

So the team was quietly confident despite its problems, although

The team was quietly confident despite concerns about reliability



Main picture: Reigning world champion Alain Prost won the 1987 season-opening Brazilian Grand Prix in the new MP4/3, while new team mate, Swede Stefan Johansson (top) took third. It was a convincing display by McLaren, whose MP4/3 had hardly turned a wheel in pre-season testing

1987



there were still concerns about reliability, as with any brand new car. But on the Sunday the MP4/3 exceeded the expectations of even its creators. Alain ran only sixth from the start, but as others made early pitstops he rose to the lead by lap 13. He lost it briefly when he made his own first stop, but his main rivals used up their tyres quicker or suffered from overheating problems. Alain was untroubled and never put a foot wrong, and the race turned into a controlled demonstration run for the 'Professor'. Local hero Nelson Piquet finished a distant second for Williams, while Johansson underlined the strength of the McLaren race package by getting up to third place.

"I was surprised how easily everything went in the race," Alain explained afterwards. "So many things have changed, you know. We came here with a new car three years ago and won, but

The race turned into a demonstration run for the 'Professor'

this time I really doubted that we were in a position to compete. I am a worrier, and I like to have everything under control. But we had so little testing..."

The season didn't continue in such a dream fashion. Honda power gave Williams and Lotus the edge, and Prost scored only two more wins – though his Portuguese success took him beyond Jackie Stewart's record of 27 wins.

The MP4/3 was fairly reliable throughout, however, and Prost finished fourth in the championship. These days Alain is a team boss, and his technical gurus are none other than Barnard and one of his former McLaren protégés, Alan Jenkins. Like

West McLaren Mercedes technical director Adrian Newey, they would love to tinker in the wind tunnel until a week before Melbourne. But they know that at some point, they have to stop. ■

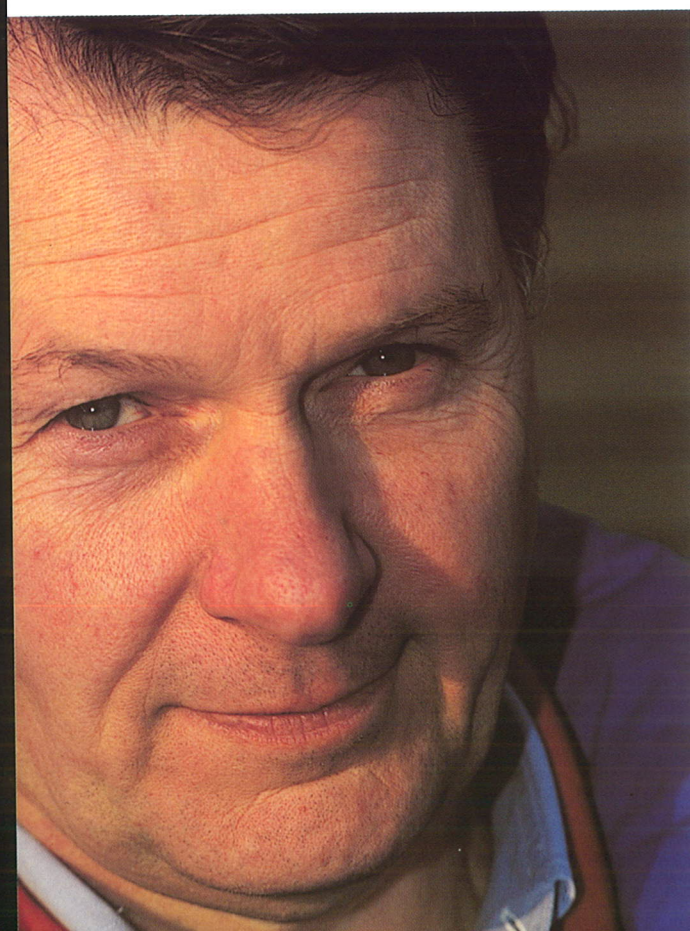
JOHN BARNARD

"The reason we delayed the car was to push aerodynamics for as long as we could, before we had to commit," recalls John Barnard. "In those days we had a chassis with bodywork on it. For many years the basic chassis would be carried over, with perhaps small changes if you wanted a suspension pick-up moved, but fundamentally it was the same. So you were playing with bodywork. You were able to put the basic thing together, and then leave the bodywork until the last minute.

"Really, the big unknown was the aerodynamics, and for some reason we had a handle on that. What we were looking for in the tunnel was right, and the way the tunnel was operating was right. So we felt very confident in the aero numbers then.

"Nowadays because it's so integrated, you have to be dead sure. You commit to an aerodynamic profile which is a combination of chassis and sidepod, and that's it – if you want to change it, it's a major rebuild. People say: 'Why don't you do it like that again, with separate bodywork, if it gave you that flexibility?' The answer is simply size and weight. You want the car as small and as light as you can get it, so you don't do that any more.

"It's very different these days, but one thing is the same: the basic bits that can stop you running you can test beforehand on an interim car. But until you put all the bits together, you don't see the total performance aspect."



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Thanks to telemetry technology, West McLaren Mercedes engineers are able to monitor exactly what Mika and David are doing while they're on the move, with a few exceptions...

WORDS JESS McAREE PHOTOGRAPHY LAT

Hide and seek

The most alarming moments in the Formula 1 year tend to occur suddenly and spectacularly: crashes, tyre blow-outs, engine failures. There's not a lot anybody can do to predict them. But the unexpected dramas are only the half of it. For the West McLaren Mercedes and Ilmor engineers, one of the most worrying parts of the upcoming F1 season will be the moments when they watch Mika and David's MP4-15s disappearing into the forests of Hockenheim or between the buildings in Monaco this year.

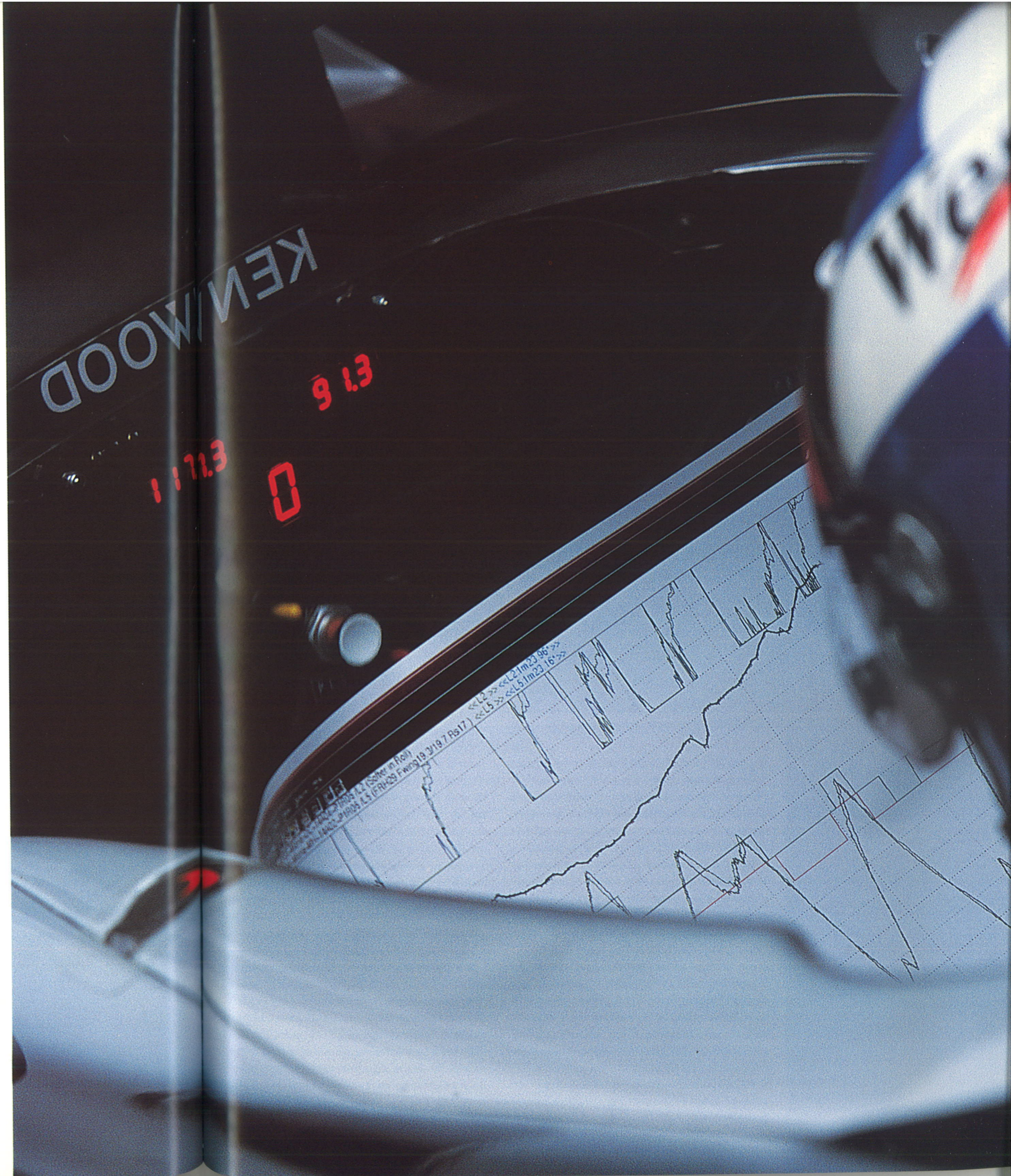
Why so? Well, rather like the last few minutes of the Apollo lunar missions, when a radio blackout precluded communication between NASA and its astronauts as they descended through the Earth's atmosphere, tree- and building-lined circuits like Hockenheim and Monaco so absorb radio signals that Mika and David are effectively out of contact for up to 30 seconds on every lap. So they can't phone home.

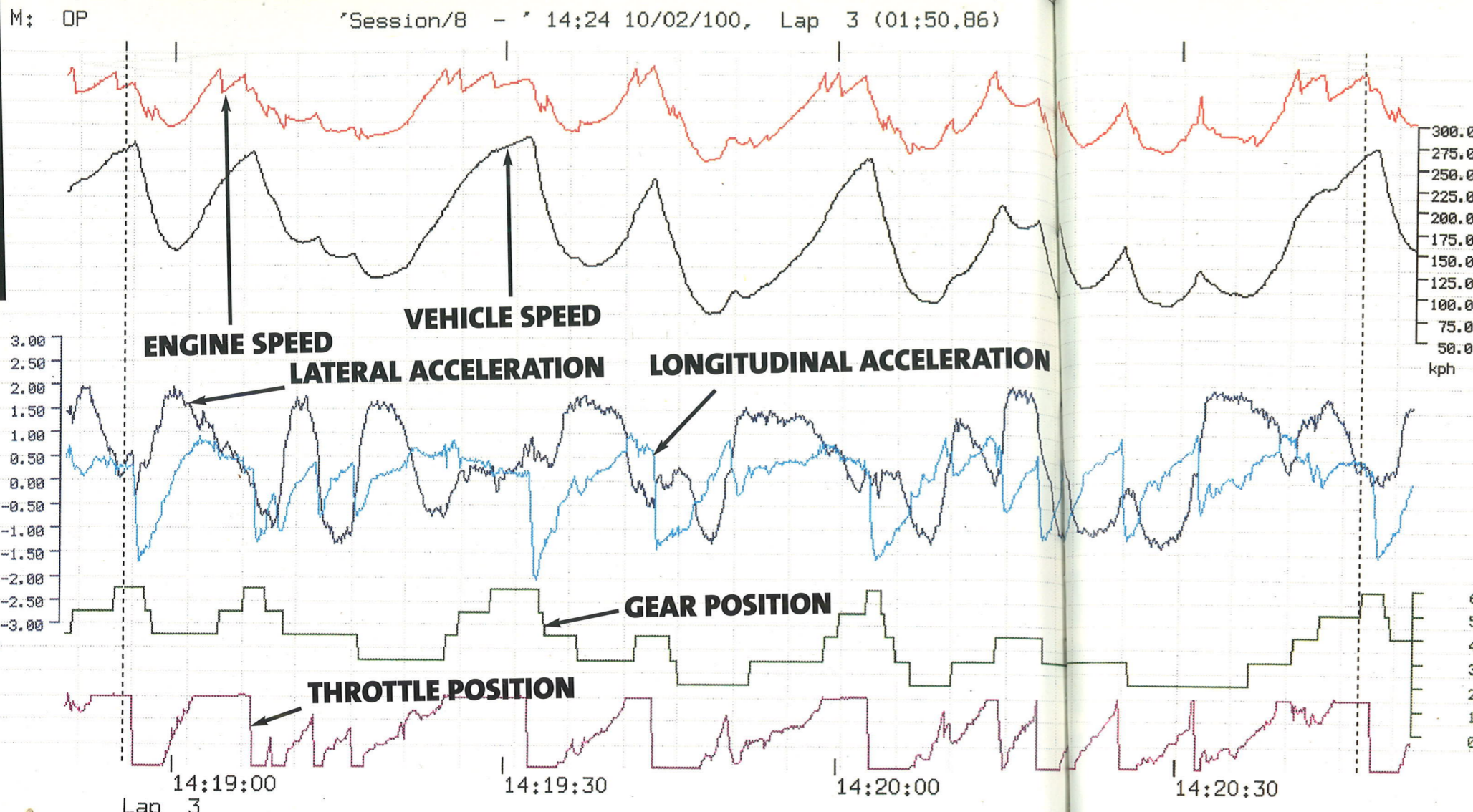
And worse – much worse – nor can their cars...

"The transfer of telemetry information is sometimes a problem for us at places like Hockenheim and Monaco, because of the obstacles," says David Bryers, Head of Embedded Systems at McLaren International. "For those few seconds, we simply don't know what the cars are doing."

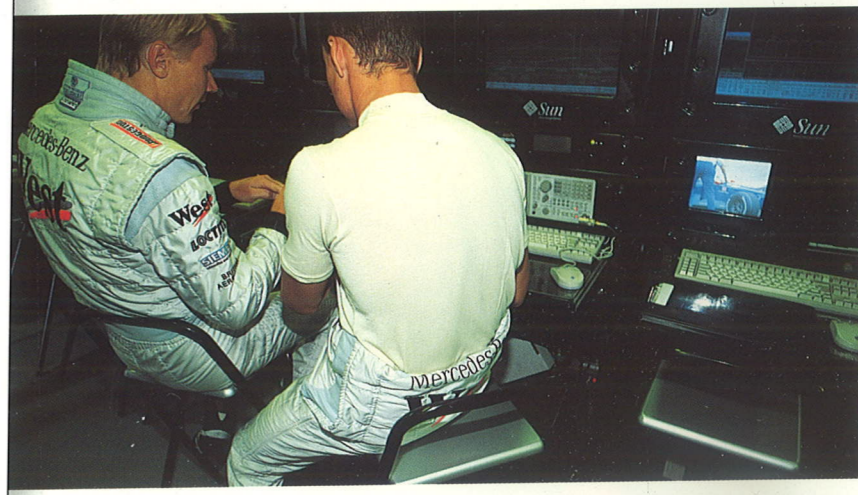
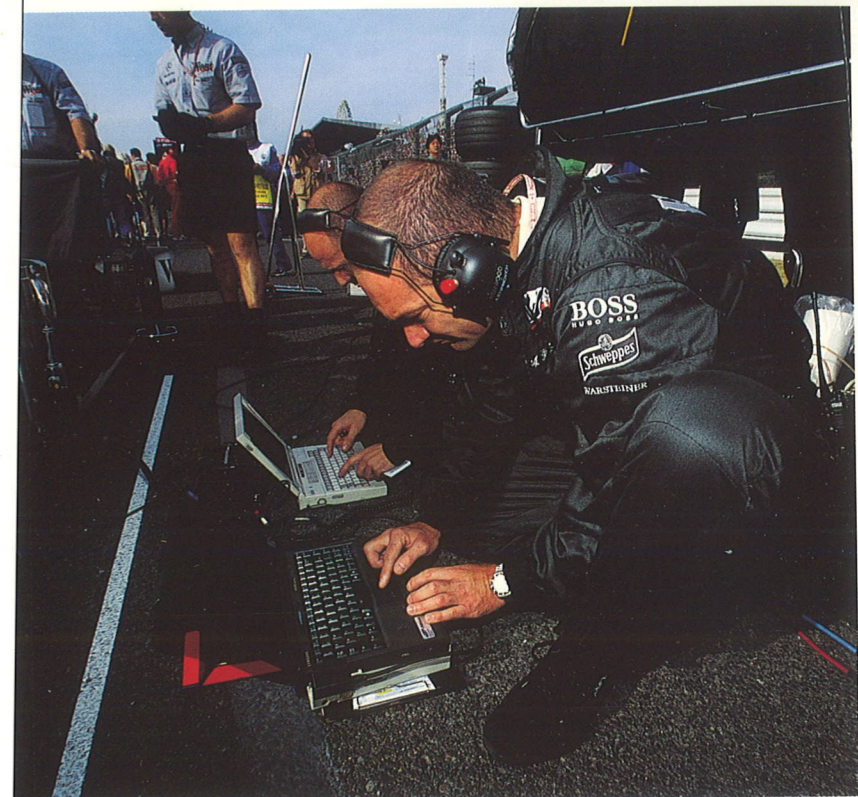
For those of us who never know and don't much care what our roadcars are 'doing' when we're driving them (er, the engine's running and the wheels are turning, right?), it seems frankly bizarre that anybody can get so worried about a few seconds of missing data. Yet consider this: those few seconds in the Hockenheim woods and Loews tunnel represent the only time, ever, when West McLaren Mercedes and Ilmor engineers don't know exactly what their cars are doing – in staggering detail.

It's all a result of telemetry, the wireless equivalent of a stethoscope permanently attached to a patient – in this case, a racing car. Not that the metaphor is anything like adequate to ▶





HISTORIC GLat = 0.30G GLong = 0.28G VCar 271.68kph Gear 6
 Gd:5s, Tb:121s Pedal% 100.12% F_ESPD = 12226rpm
 Time: 14:18:55.5
 Lap Dist: Not Set



The graph above highlights the immensely detailed information at the disposal of West McLaren Mercedes engineers and drivers. Everything from engine speed, acceleration and throttle position is shown, helping the whole team to isolate potential performance tweaks

describe the incredible detail available to the engineers. To glean as much information about his patient, a doctor would need to hook him up simultaneously to a heart/lung machine, MRI and CAT scanners, X-ray, ultrasound and goodness knows what besides. With the possible exception of NASA spacecraft, no mechanical instruments on the planet are as closely scrutinised as West McLaren Mercedes F1 cars.

Data-hungry engineers are kept fed by a constant stream of information beamed from a car wherever it may be on a race track, either during a grand prix or a testing session. The information comprises what's known as 'real-time' data (what's happening now) and historic data (what was happening a few minutes ago). Gone are the days of one-hit data bursts, when the telemetry was collected once a lap as cars sped past the pitlane – nowadays the radio transmission is live, continually updating the numbers in the 'battle station' computers on the pitwall.

"There are sensors all over the car collecting information to be sent back to base," explains David Bryers. "Obviously it's mainly what we call 'vital

statistics' – engine revs, temperature and pressure, brake temperature and wear rate, fuel consumption – but there are about 100 separate things being recorded in total. As well as a constant, real time trace of each, we also get maximum and minimum parameters displayed and historical comparisons with previous laps. We have a soapdish-sized transmitter mounted on the car which collects all of this and radios it back to the garage.

"In total, it amounts to about a megabyte of new information on every lap. On a test day, we'll log one gigabyte of telemetry and 'wire-link' data, which would fill two CDs!"

Interpreting this mountain of numbers is a complex and laborious job for 13 dedicated engineers, including three full-time engine specialists seconded from Ilmor. These are the men who pore over the computer screens in the pitlane and garage, but there are at least seven more back at Woking whose job is to go through the data in exhaustive detail. This is usually done later, between track sessions, but Siemens satellite technology (see *Racing Line*, November 1999) also permits the simultaneous transmission of telemetry

data, in real time, back to the team's HQ. So a telemetry analyst back in Woking can know everything there is to know about the performance of Mika's car in a grand prix before he's even crossed the finish line.

All this is made possible thanks to the invaluable assistance of West McLaren Mercedes Technology Partners Sun Microsystems and Computer Associates. Sun provides the hardware so vital to the operation. Its network of very powerful and extremely reliable servers allows engineers to stay in touch with one another as well as the car. Once data is acquired, the information analysis is critical and Computer Associates enables the team to manage the data and analyse it further.

"Obviously telemetry is at its most useful in testing," explains Dick Glover, Head of Computer Simulation at McLaren International. "Though the radio updates give us the most important information, there's much more being recorded and we retrieve it by plugging a cable into the car when it returns to the pits and downloading a complete history of the session.

"We can then match this information to the driver's

analysis of his car's performance to help correct problems and define a set-up for racing. The data is also vital for our simulation programme: it's all fed into our simulators in Woking to give a super-accurate model of individual race tracks."

These models allow the team to forecast the effect upon lap times of tiny modifications to a car's chassis. For instance, to find the effect of adding a few millimetres to the ride height of an MP4-15 in Melbourne, say, telemetry data from the circuit can be fed into simulators to produce an incredibly accurate lap time prediction.

This is space-age stuff, but it's increasingly valuable in Formula 1 – perhaps more so this season than ever before, as Dick Glover explains: "Under a stable set of FIA regulations, which is what we've had for the last few years, it becomes harder and harder to find lap time improvements, and we rely upon telemetry data to give us the feedback we need.

"Fortunately, TAG Electronic Systems, Sun Microsystems and Computer Associates supply us with some of the best technology in the business. Without it, we couldn't do the job." ■

Top: West McLaren Mercedes and Ilmor engineers pore over sophisticated equipment in their efforts to understand the behaviour of the cars. Above: Mika and David analyse the information gleaned from their on-track activities. All the processed data is crucial to the sustained performance of their cars

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Was there a defining moment in your decision to spend a lifetime in motorsport?

Yes, I remember what really fired me up in a big way was watching Pedro Rodriguez in the Porsche 917 at the Brands Hatch 1000km sportscar race in 1970. It absolutely tipped it down during the race but it didn't seem to bother Pedro – he was just awesome, scything his way through the traffic, oversteering the car this way and that. He won the race by five laps! I felt I had witnessed a magician at work that day and wanted to be part of it.

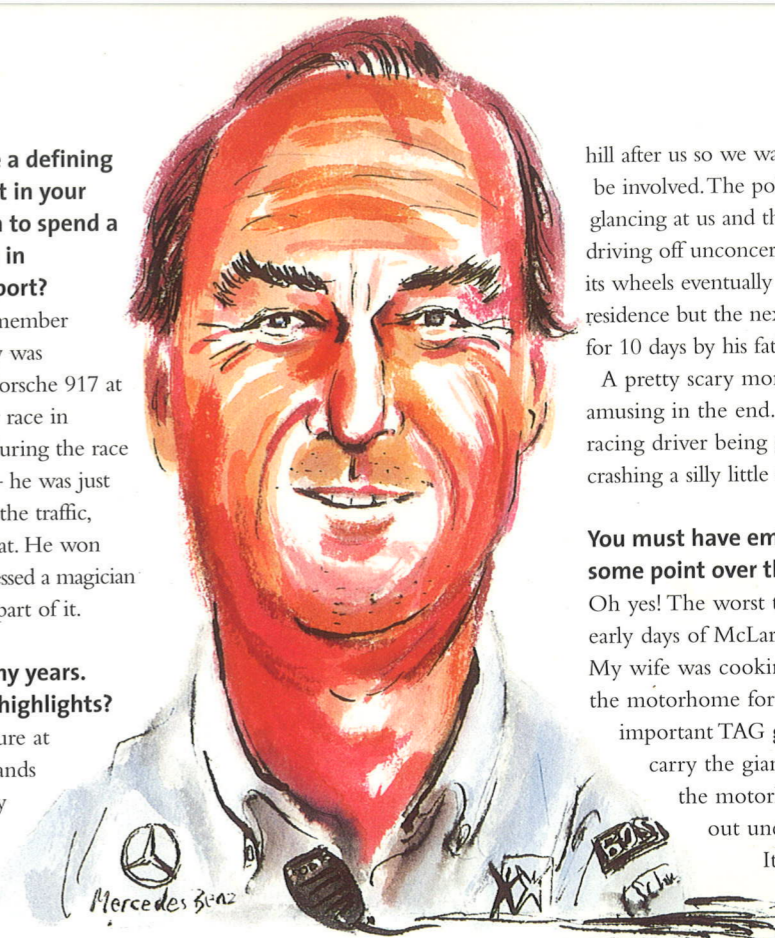
You've been at McLaren for many years. What have been your personal highlights?

Well, apart from the obvious pleasure at seeing McLaren win numerous grands prix over the years, I've been lucky enough to have been chauffeured by some great drivers. Most notable was probably my high-speed trip round Goodwood with Denny Hulme in the monster M8 CanAm car. That was insane. I went round the old Nürburgring with Patrick Tambay in a BMW 3.0 CSL which was pretty hairy. More recently, a trip round the new 'Ring with Keke Rosberg in the McLaren F1 roadcar was fun, too!

Any scary moments you want to share?

I remember a crazy journey around the hills of Rome with American driver Eddie Cheever. Eddie was driving for Project 4 in Formula 2 at the time and decided to take three of us to the top of one of the hills to a famous spot where young people liked to hang out. We all wedged ourselves into his tiny little Fiat 500 and took off. Eddie was a pretty good driver actually and enjoyed making the Fiat go faster than seemed possible on what was a drying road. On the way back down – it was a classic, Italian-style road with one hairpin bend after another – Eddie skidded on a big puddle that had not dried out. The car gripped as it came out of the puddle and flipped over onto its roof, just like that! Well, I was stuck in the back and couldn't get out. It was one of those horrible moments that you think only happens in the movies – there I was stuck in this thing with liquid dripping all around me. I got out eventually and needn't have worried – it was only water! My whole life flashed in front of my eyes for a while, I can tell you.

We tried to rock the car back onto its wheels, but Eddie spotted a police car coming down the



Be my guest!

Bob McMurray, McLaren's hospitality manager, shares some classic tales from 30 years with the team, including the time he went upside down in a Fiat 500 and spilt bolognese over a dozen VIPs...

ILLUSTRATION: DAN WILLIAMS

hill after us so we walked on pretending not to be involved. The police car stopped, its driver glancing at us and the upturned Fiat before driving off unconcerned. We did get the car onto its wheels eventually and back to the Cheever residence but the next day Eddie was grounded for 10 days by his father for crashing the car!

A pretty scary moment that became rather amusing in the end. Imagine a professional racing driver being grounded by his father for crashing a silly little roadcar!

You must have embarrassed yourself at some point over the years?

Oh yes! The worst time was probably in the early days of McLaren's partnership with TAG. My wife was cooking spaghetti bolognese in the motorhome for a large number of important TAG guests. I was entrusted to carry the giant pot of bolognese out of the motorhome, down the steps and out under the hospitality awning.

It was all going to plan but my shirt sleeve caught on the door at the top of the stairs as I attempted to go down the steps and that was it, game over! The pot of bolognese exploded, I mean

exploded, over everybody! At least a dozen people were covered in bolognese. It took hours to clear it all up and my wife had to start again. I just hope it didn't spoil their grand prix!

What frustrates you about modern F1?

I suppose the restricted access at a modern grand prix is frustrating. It's impossible to cater for everybody – there just isn't the space or the right number of passes. It's the same for everyone, I guess, but it wasn't like that when I started in F1 – you could go where you liked, with whomever you liked, whenever you wanted.

Is there anything you wish you'd done, or are there still any ambitions to fulfil?

I wish I'd had the opportunity to drive an F1 car – I suppose you could say I'm a frustrated racing driver – there's probably a little bit of that in anyone who works in the sport. I'd quite fancy a go in the MP4-98T two-seater, but I imagine I'm a long way down the queue.

On a more personal level, I wish I'd kept some sort of diary or perhaps even an autograph book from my years as hospitality manager. I've been lucky enough to meet some great people at races – drivers, actors and celebrities from far and wide – if I'd got a signature from each of them imagine what it would be worth now. ■

Team McLaren

We have

lift off

The launch of a brand new West McLaren Mercedes is an exclusive affair, but this year two Team McLaren members were able to attend

WORDS: JESS McAREE PHOTOGRAPHY: LAT



"You don't get this from any other F1 team – it's fantastic to get so close to the action"

THOMAS ZYWINA

HOTLINE: +44 (0)1274 771833

The new car launch is a Formula 1 institution hallowed by time and tradition, and the ceremony has always been a formal affair. Enjoying the rarefied air of the occasion is a privilege reserved for camera crews, journalists, VIPs and representatives of the Great and the Good. Joe Public has traditionally been uninvited.

Team McLaren members, on the other hand, aren't Joe Public. And two of them were present on February 3 at the launch of the new West McLaren Mercedes MP4-15. David Schofield and Thomas Zywna had won a competition to attend the launch in the January issue of *Racing Line*, and nothing was going to stop them coming – despite only 72 hours notice!

"Nobody knew until the last minute exactly when the launch would be, so when Team McLaren rang us we had only three days to book a flight to Jerez," said David, 45, from south London. "It wasn't easy, but we wouldn't have missed this for anything."

David has been a Team McLaren member from the very beginning, and invited friend Thomas to accompany him to the launch.

Motorsport is also dear to David for nostalgic reasons: his mother finished second in the Macau Grand Prix Ladies' Trophy in 1957. "The race was an open Grand Prix that anyone could enter," says David. "Mum competed in a supercharged Austin Healey Sprite, so she did incredibly well!"

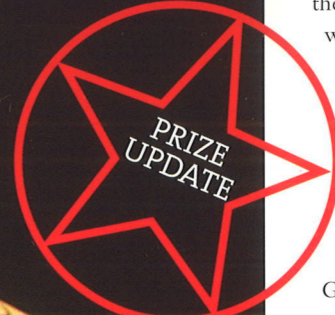
The pair arrived at the circuit in Jerez at 8.30am, an hour before the launch formalities began. Both were impressed to see Ron Dennis, Norbert Haug, Adrian Newey, David Coulthard and Mika Hakkinen mingling with journalists, and managed to have a few words with some of them. Thomas, 43, from High Wycombe, also got some photos of the team and car in the pitlane, and autographs for his son Michael.

"You couldn't get this from any other F1 team," he told us. "It's fantastic to get so close to the action."

The launch held a few surprises even for seasoned F1 commentators: the distinctive, high-pitched whine of the new MP4-15 was heard for the first time, prompting many to comment that the car's engine sounded more like a V12. "It's due to the arrangement of the exhaust, which exits through the rear diffuser, rather than being routed round it," explained McLaren International's Managing Director Martin Whitmarsh. "It's designed to give more aerodynamic downforce."

By the end of the day, David and Thomas had listened to many interviews conducted by journalists, and had a good feel for the way West-McLaren Mercedes was approaching the 2000 Formula 1 season. They had enjoyed themselves hugely, and were made to feel welcome by all the team personnel.

"We created Team McLaren in order to give our followers the opportunity to get close to the team, so it's a pleasure to have some here at the launch of our new car," said TAG McLaren Group Managing Director Ron Dennis. "We look forward to seeing many more at the 17 races we will be contesting this season." ■



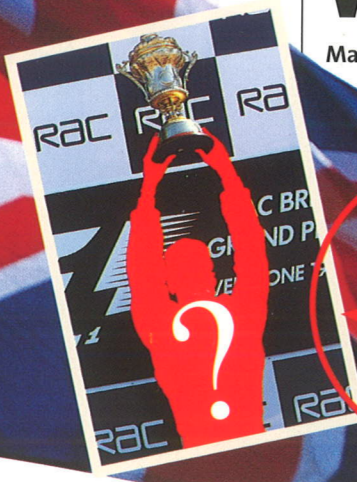
COMPETITION

Win British GP test tickets

Many of the letters we receive at Team McLaren are reminders of the great times members had at Silverstone's pre-British Grand Prix test last year. Members couldn't believe how close they were able to get to the action and the stars of the team in one day. Well, this year we are offering free tickets to the test. It takes place on April 11-13 and each ticket would normally cost £68. We have two to give away - all you have to do is answer the following question:

Question: Which driver won the 1999 British Grand Prix?

Please send your answers to the usual address by the March 31 2000



PRIZE

SILVERSTONE 2000

Hospitality at home

Once again Team McLaren will be providing hospitality during the British Grand Prix weekend of April 21-23. Like last year, the venue is the Silverstone Indoor Karting Centre on the outside of the main circuit.

The tickets will be more inclusive this year, whilst still offering the freedom to come and go as you please throughout the day. The hospitality will be open daily from Friday to Sunday between 7am and 6pm.

Tickets cost £49 per person for one day or a reduced price of £120 for those wishing to attend all three days. Members and their guests will all be welcome. Each ticket will include the following:

- ✓ Exclusive entry into the Team McLaren hospitality and use of all facilities
- ✓ Access to indoor karting centre (£5 per session - with daily competitive events)
- ✓ Heated marquee with tables and seating area
- ✓ Free brunch served until 1pm with inclusive hot drinks
- ✓ Large screen TV for viewing the grand prix and other on-track events
- ✓ McLaren F1 display for photo opportunities
- ✓ Daily presentations from Team personnel
- ✓ Outdoor patio area, fine weather permitting
- ✓ Licenced cash bar with snacks and refreshments on sale
- ✓ Entry to McLaren shop containing the new range of official merchandise



Additionally, on Saturday April 22, Team McLaren is planning an evening dinner which will include a two-course meal, followed by a disco to finish off the evening. Places will be limited, so we advise you to book tickets in advance. Please call Team McLaren on the usual number for further information.

As usual the hospitality ticket does not allow access into the circuit itself and Grand Prix tickets should be purchased separately.

To reserve your places, please call the Team McLaren Hotline number from Monday, March 20, 2000, after 10am.

Competition winners

We can now announce the winners of the competition run in the January issue:

Paul Stringer from Exeter, Devon has won a limited-edition West 2000 calendar and **Daniel Van Zoelen** from Swifterbank, Netherlands is now the proud owner of the 1997 West McLaren Mercedes rear wing endplate signed by Mika Hakkinen. It's worth bearing in mind that at a recent charity auction (*Racing Line*, February) a West McLaren Mercedes MP4-14 wing endplate fetched an astonishing £18,000. And who says Team McLaren doesn't give you the best prizes?

Take note!

The address for all competition entries listed above is as follows:

**Team McLaren,
Admail 622,
Woking,
Surrey, GU21 1WH**

Organise your life!

Team McLaren is delighted to announce that it has a number of 2000 McLaren grand prix wallplanners for sale. Printed in the McLaren team colours, they'll enable you to reschedule your home or office life around F1. The prices, discounted for Team McLaren members, are:

Members

UK - £11.50
Europe - £13.00
Rest of World - £15.50

Non-Members

UK - £15.50
Europe - £17.00
Rest of World - £19.50

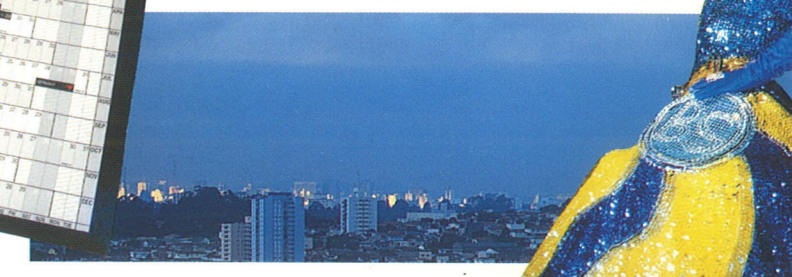


For all enquires please contact Team McLaren at the usual address and phone number.

Brazilian GP TRAVEL TIPS

Brazil lives and breathes grand prix racing, making Interlagos a spectator's dream. The circuit is a *real* race track, with a variety of corners and straights, and warm track temperatures which allow the teams to get the best out of their tyres. Sao Paulo is renowned for its summer showers, so the races can develop into nail-biters as the change of weather upsets the teams' well-calculated strategies.

However, crime can be a problem in Brazil, so take basic precautions such as locking your valuables in a hotel safety deposit box.



TRAVEL TIPS San Marino GP

At the San Marino Grand Prix you will see passionate motor racing fans at their loudest. Imola is always crammed with tifosi, Italy's hard-core Ferrari fans. West McLaren Mercedes supporters will easily be outnumbered this weekend - which is all the more reason to attend and show your support!

Hotel rooms can be difficult to find so it might be better to stay in one of the nearby resorts. *Racing Line* art editor Liz Wallace made the trip last year: "There are some really lovely resorts just outside Imola," she says. "I stayed in Rimini, which was about an hour from the circuit but had the advantage of being on the beach and having a range of fantastic restaurants. The weather was hot and the great thing about the Imola circuit is that there are plenty of leafy areas where you can shade from the sun."

On race day the circuit will be packed, so make sure you get there early.

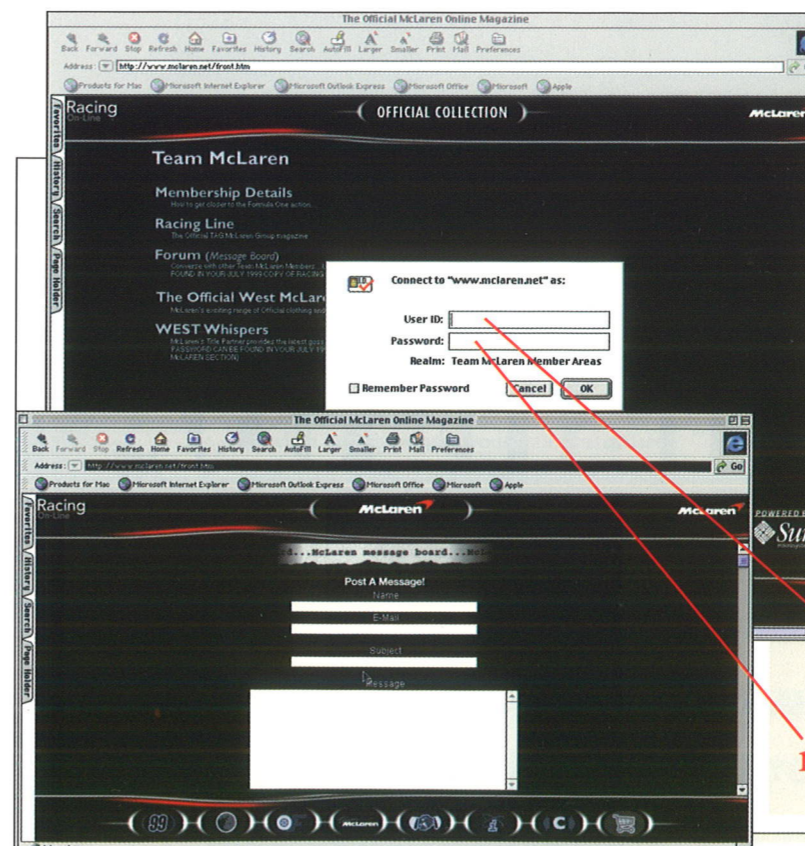


McLaren Website

Team McLaren members can access exclusive areas on the West McLaren Mercedes website www.mclaren.net by inputting the special passwords in the Team McLaren section (*Username: bmember/Password: m3559c*) to enter Forum and West Whispers.

In Forum, you can talk to team McLaren members and exchange views on this year's F1 championship. West Whispers provides the latest gossip from the F1 paddock and is updated before and after every grand prix.

Once you have logged on to the McLaren homepage (www.mclaren.net), click on the Team McLaren icon to find yourself at the window pictured top left. Once you have entered the correct passwords you will see the window named 'McLaren message board' (left) and you're all set. Happy chatting!



**bmember
m3559c**

STAR LETTER



2 out of 2

I read with interest the article about the McLaren M6GT (*Racing Line*, January). Shortly after Bruce McLaren's death I

was privileged to sit in the original M6GT. The car was due to be shipped out to a museum in Auckland, New Zealand, and while they waited for a flight the car was being looked after by Ian Griffiths – McLaren's then chief gearbox mechanic.

Ian kept the car in his garage in Longcross and would regularly start it up and check it over. I remember the interior was snug in the extreme, with a very laid back driving position and a huge windscreen.

Many years later I visited the showroom in Park Lane and was allowed to sit in the F1 on display. I am therefore proud to say that I am one of a select few who have sat in both McLaren road cars! Now if only I could get a ride in an F1!

ROSS HERBERT, STAINES, MIDDLESEX



PHOTOGRAPH: WHITE BACKGROUNDS

The best letter we receive each month wins its writer a special 1:43 scale model of 1998's double championship-winning MP4-13. What better incentive could there be to put pen to paper?

Good luck, Mika!

Firstly, I would like to wish West McLaren Mercedes the best of luck in the new season. I will be keeping my fingers crossed that Mika can do the treble! Having been a huge fan of Mika's since 1995, the last two seasons have been magical and I hope the coming year will be equally thrilling.

NICK GAYWOOD, RUISLIP, MIDDLESEX

Best day of our lives



I would just like to thank everyone at *Racing Line*, Team McLaren and West McLaren Mercedes after winning the trip to the launch of the MP4-15 at Jerez. I am still in shock from it all, but nowhere near as shocked as I was when I received the phone call from *Racing Line* telling me I'd won. We had the most fantastic day of our lives, with unparalleled access to the cars, drivers and the senior personnel of the team. I will not forget in a hurry the sound and sight of the MP4-15 from my pit wall vantage point. Amazing!

Once again thanks to all who made our day in Jerez so memorable

DAVID SCHOFIELD, STREATHAM, LONDON

Read all about David's fantastic day at the launch on page 54.

Technology made easy

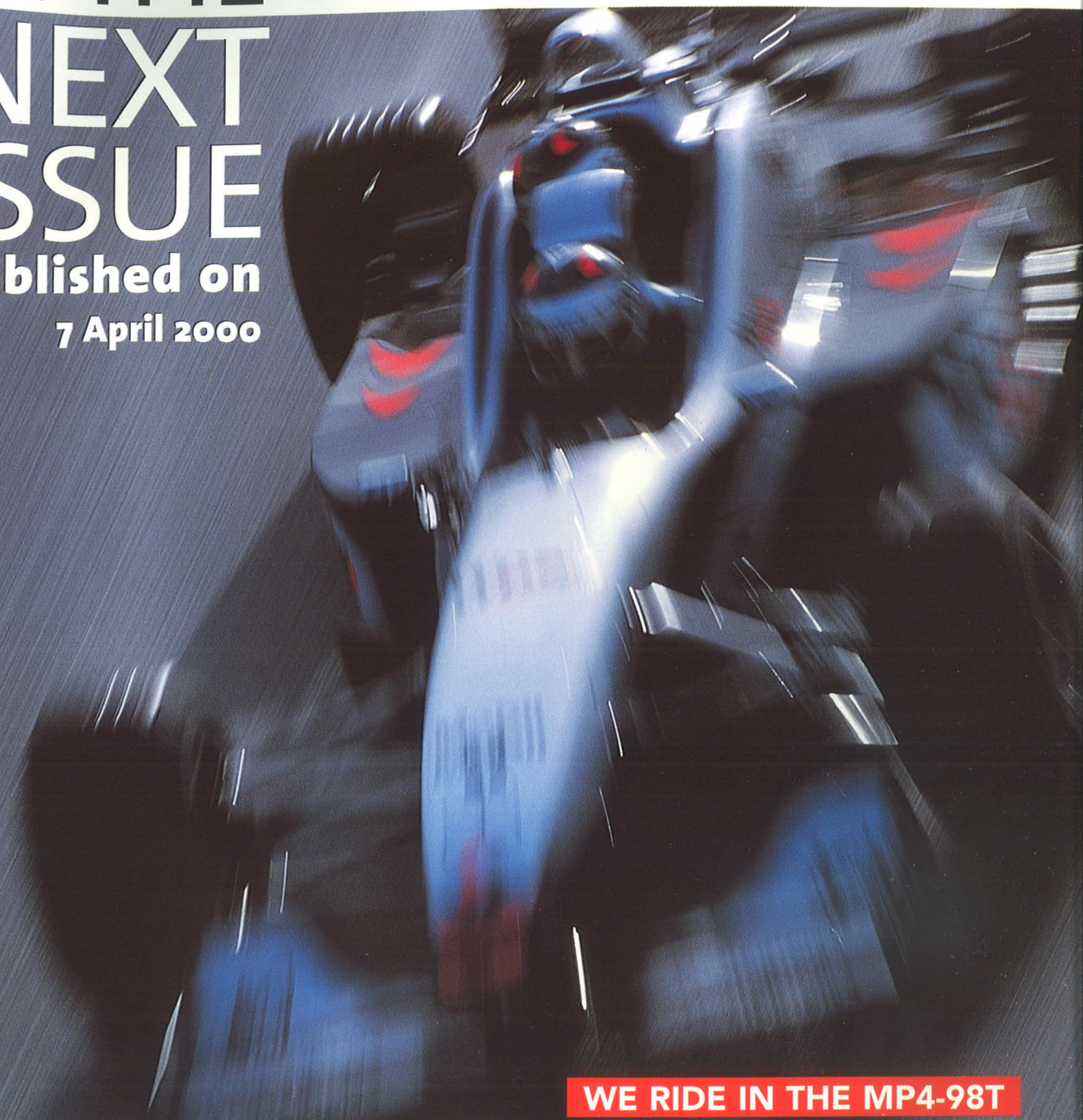


Reading *Racing Line* every month has made me desperate for the new season to begin. What I particularly like about the magazine is the simplicity and patience you use to explain the complex construction of the cars. This was obvious in the Air Apparent article (*Racing Line*, January). It gave a simple and clear explanation of the complex function of a rear diffuser that enabled everyone to understand it.

WICO VAN DE VEEN, NETHERLANDS

Please send your letters to:
Team McLaren, Admail 622, Woking,
Surrey GU21 1WH

IN THE
NEXT
ISSUE
Published on
7 April 2000



WE RIDE IN THE MP4-98T

Adrenaline rush!

PLUS

Full reports from the Australian and Brazilian GPs
Together again – the McLaren F1 roadcar team 10 years on
McLaren's last visit Stateside – the 1991 Phoenix GP

Number 1 Again!



Mika Hakkinen -
West McLaren Mercedes Formula 1 Drivers Champion 1999

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