

RacingLine

009

November 1998

£2.95

We can rebuild it

How McLaren made three cars in two weeks after Spa

Boy racer

Meet the 13-year-old who's already tipped for stardom

CHAMPION!

On top of the world

How the new world champion tried to cut it as a cosmonaut

Plus: Hot air balloons in Germany ■ Vintage Adrian Newey

I was lost
and had every intention
of staying that way.



"Brunch," the invitation had said, and that could mean any time, couldn't it?

And as your Mercedes C230 Kompressor rode the contours of the voluptuous downs, there seemed no need to end the journey too soon.

Kompressor. Supercharged. How odd those words seemed now, on these snaking lanes. 0-60 in... who cares? Why had you ever cared?

Off to the right, two thoroughbreds cruised up

the gallop at half racing pace, their balance and poise an echo of yours.

Then a primitive urge overwhelmed you. Hunger. A distant hill-figure gave you bearings. You found the Roman road that led straight there, and squeezed expectantly down.

Kompressor. Supercharged. Four cylinders that drive like six. Now it all made sense again. 0-60 in... well, 8.3 seconds, to be precise.



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RacingLine

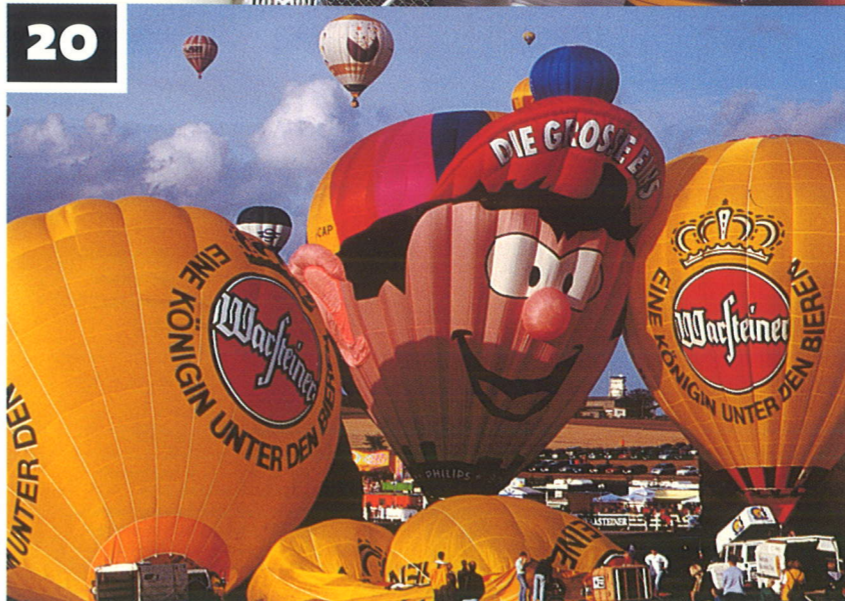
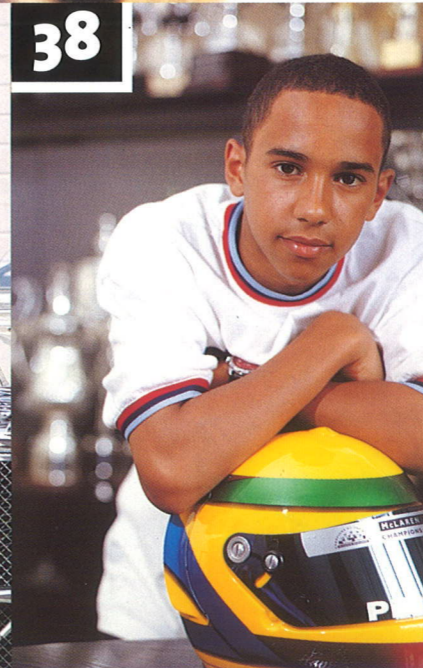
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BOSS
HUGO BOSS

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

Ten 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

1998 Championship

1998 Constructors' Champions
MP4-13-Mercedes, 156 points

1998 Drivers' Championship
Mika Hakkinen, (World Champion) 100 points
David Coulthard (third), 56 points

1998 Race Results

- Australia: Mika Hakkinen 1st; David Coulthard 2nd
- Brazil: Mika Hakkinen 1st; David Coulthard 2nd
- Argentina: Mika Hakkinen 2nd; David Coulthard 6th
- San Marino: David Coulthard 1st; Mika Hakkinen DNF
- Spain: Mika Hakkinen 1st; David Coulthard 2nd
- Monaco: Mika Hakkinen 1st; David Coulthard DNF
- Canada: Mika Hakkinen DNF; David Coulthard DNF
- France: Mika Hakkinen 3rd; David Coulthard 6th
- Britain: Mika Hakkinen 2nd; David Coulthard DNF
- Austria: Mika Hakkinen 1st; David Coulthard 2nd
- Germany: Mika Hakkinen 1st; David Coulthard 2nd
- Hungary: David Coulthard 2nd; Mika Hakkinen 6th
- Belgium: Mika Hakkinen DNF; David Coulthard 7th
- Italy: Mika Hakkinen 4th; David Coulthard DNF
- Luxembourg: Mika Hakkinen 1st; David Coulthard 3rd
- Japan: Mika Hakkinen 1st; David Coulthard 3rd

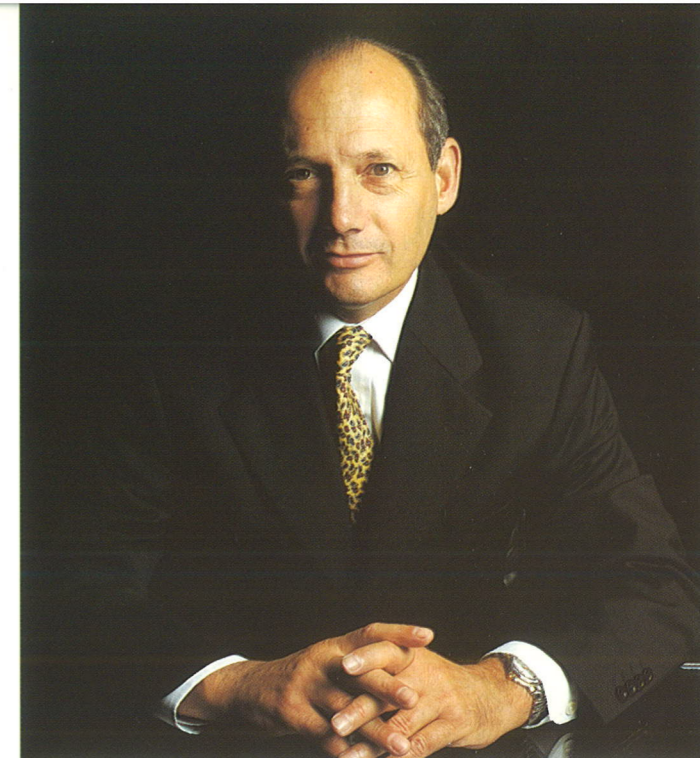
RacingLine

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Racing Line is published monthly by TAG McLaren Marketing Services Ltd. Produced by Haymarket Customer Magazines Ltd, 38-42 Hampton Road, Teddington, Middlesex TW11 0JE, England
 Tel: +44 (0) 181 943 5059
 Fax: +44 (0) 181 943 5851

ISSN: 1462-2009

Colour reproduction: Graphic Facilities Ltd, London.
 Printing: Garnett Dickinson Print, Rotherham.
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InsideLine

In the immediate aftermath of Mika and the West McLaren Mercedes team's victory in the World Championship at Suzuka, I have to confess that I felt totally drained of emotion due to the ferociously intense workload which had totally consumed all of us in the run-up to this crucial race.

The sense of achievement did not really come to me until the following day. My immediate thoughts were naturally pleasure for everybody on behalf of McLaren, from Mika and David to the newest factory staff member, who has been part of this success. There isn't anybody in the organisation who cannot make a difference. Wherever they are in the organisation they should take pride in the fact that they have contributed to the winning equation, because that is exactly what they have done. I am sure there were some sore heads amongst our workforce back at Woking the day after Mika's victory. A huge crowd of them watched the race at a sports bar, which was kind enough to open exclusively for McLaren, and they clearly had a great time.

We also take particular satisfaction from Mika's World Championship. It has been a long road for him in his relationship with McLaren. We have been together since 1993 and the season as a whole has been very good, although I would be the first to admit that it could have been better. At the end of the day we kept our heads and achieved the result we had worked so hard for. It took a bit longer than we really would have liked, but we will learn from our experience. It hasn't been perfect, but next year we will certainly be striving for perfection as always.

Ron Dennis

The month

Woking celebrates two world titles, Mika touches down in China

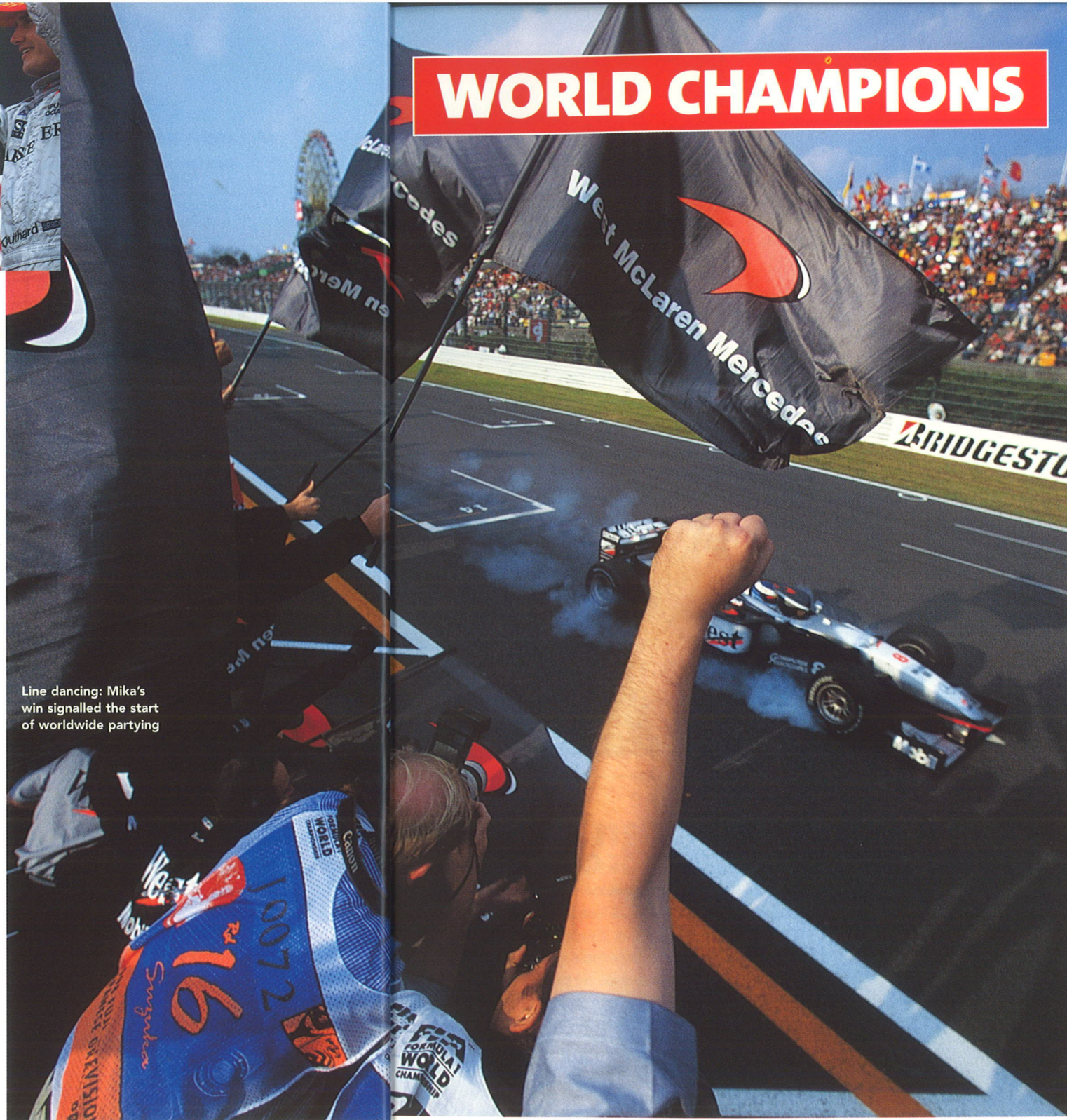


'Dream come true'

In the early hours of Sunday 1 November, a year of working, watching and waiting ended with a worldwide eruption of joy. As West McLaren Mercedes team members shook hands in the Suzuka pit garage, similar celebrations were starting in Germany, Finland and Britain. Many followers had stayed awake all night, having been unable to sleep with worry.

The most enthusiastic partying took place in Woking. Gathered for the night at a "Fight to the Finnish" showdown party in Woking's Planets leisure complex, about 600 McLaren and Ilmor employees gathered to eat, drink and, following Michael Schumacher's retirement, be merry after a year of hard work. After countless long hours put in throughout the season, it was a great way for everyone to enjoy the tension, drama and, ultimately, joy of success. Mika Hakkinen summed up the sentiment perfectly when he said after the race: "It's like a dream come true."

For the full story of the Japanese Grand Prix, turn to page 42



Line dancing: Mika's win signalled the start of worldwide partying

WORLD CHAMPIONS

Deserved success

Mika Hakkinen's outstanding performance in Japan summed up the McLaren season more convincingly than mere words allow. Nevertheless, *Racing Line* is hardly going to let it slip by without a mention. As we go to press, 36 hours after the race, the euphoria is still strong. So strong, in fact, that it is almost impossible to believe the season could ever have turned out otherwise. Suddenly, it seems the only feasible result was for McLaren to win both the drivers' and constructors' championships – it was inevitable and just.

Yet this was a hard-fought victory, and nobody deserves it more than Mika. He drove superbly all year, and we're glad that he takes pride of place on our cover. If you're wondering how he attained the upper reaches of Earth's atmosphere for the photograph, we'll come clean and confess that we cheated slightly with graphic technology to put him there.

However, there was certainly nothing fictitious about his stint at the Russian space training centre, or about the photographs that accompany the feature later in this issue. Find out how Mika fared with the cosmonauts on page 12.

As for next season... well, the man who heads up the team responsible for next year's car is already hard at work, and you can read our interview with Adrian Newey on page 26. *Racing Line*, too, is hard at work, producing a special celebration issue for next month. We've a feeling that McLaren, Mika and DC would like to make it an annual publication.

Jess McAree, Editor

THE COVER



Cover photography by Max Dereta

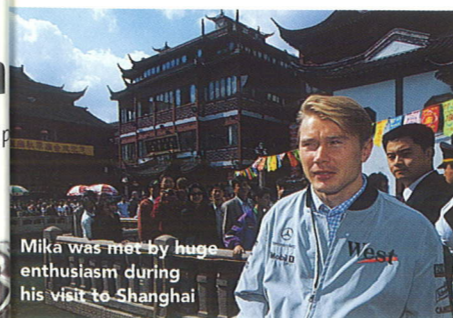
Over the moon

Before he became a world champion, Mika attended the Cosmonaut Training Centre as part of the West In Space programme. To see if he was made of The Right Stuff, he had to experience weightlessness and withstand 5g for one minute. He passed, and after that his career went stratospheric. Our star story starts on page 12.

TAG HEUER

Time for celebration

The West McLaren Mercedes team's 1998 championship success has been celebrated by TAG Heuer with the release of this limited edition watch, each of the 4,000 examples costing £1,395. The West McLaren Mercedes S/el Quartz Chronograph features the team's distinctive branding and the signatures of world champion driver Mika Hakkinen, David Coulthard and group managing director Ron Dennis.



Mika was met by huge enthusiasm during his visit to Shanghai

MIKA IN CHINA

WEST MEETS (FAR) EAST

One week before the Japanese Grand Prix, Mika Hakkinen visited China with title partner West. The trip helped Mika acclimatise for the crucial Suzuka race and allowed him to meet local fans.

At a downtown Shanghai tea house, the Flying Finn sampled the local specialities before duty called him to a press conference for 100 journalists and the opening of an exhibition in a shopping arcade.

"The knowledge of the local fans was incredible, especially considering a lot of people don't have televisions," said McLaren's Steve Wright, who accompanied Mika on the visit. "We were greeted with huge enthusiasm, which caught us by surprise."

An eight-course Chinese banquet supplied some much needed nourishment before the flight to Japan and the deciding round of the 1998 championship.

HIGH FLYERS

Young Driver Award nominees face tough test

Six budding young motorsport stars took the driving test of their lives at Silverstone towards the end of October in the evaluation for the McLaren/Autosport BRDC Young Driver of the Year Award.

In mixed conditions that prompted a rescheduling of the second of two days of evaluation in Formula Three single-seaters and a Nissan Primera BTCC car, the skill and maturity of all six drivers impressed a panel of judges from the BRDC and Autosport, including last year's winner Andrew Kirkaldy.

"The overall standard this year has been absolutely terrific. Every year it seems to get higher," said BRDC Club Secretary Director John Fitzpatrick. "The drivers seem more and more mature. They were all very self-assured and confident without being cocky. It's a shame we have to pick just one winner."

The winner of the award, announced at the Autosport Awards on 6 December, will join previous winners, including 1990 Young Driver David Coulthard, in receiving a valuable cash prize to help his racing career and a test in a West McLaren Mercedes Formula One car.



Happy faces now, but it's a month of waiting and wondering for this year's award nominees

Contenders ready...

- Doug Bell (20)** Formula Renault runner-up with 7 wins
- Jenson Button (18)** Formula Ford champion in first year out of karts
- Matt Davies (21)** Strong contender in Formula Renault
- Robbie Kerr (19)** Formula Renault Class B champion
- James Pickford (20)** Formula 600 champion two years running. The only race he didn't win was the one he missed
- Justin Wilson (20)** Formula Palmer Audi champion



Formula 3 chassis and BTCC Nissan Primera provided a stern test in the wet conditions



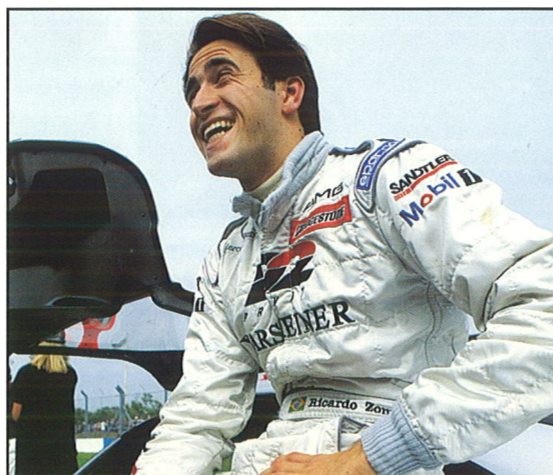
TRACK STAR

ZONTA TAKES GT CHAMPIONSHIP

Ricardo Zonta, rising star in the McLaren Mercedes Driver Support Programme, won the FIA GT Drivers' Championship with partner Klaus Ludwig on Sunday 25 October at the Laguna Seca circuit in California, USA.

Adding to his win and pole at the Homestead circuit the previous weekend, Zonta repeated the double to bring his tally of wins to six, narrowly sneaking the title from Mercedes team mates Bernd Schneider and Mark Webber.

"It was fantastic. We have worked very hard this season," explained Zonta, who recently confirmed his step up to Formula One with debutant team British American Racing. "It was difficult for me in the beginning, but then the results started coming. I'm very pleased for the mechanics and for Klaus."



ALL IN A NAME

Cultivating the future

Paragon – a model of excellence, and now the name of the future home of the TAG McLaren Group. The name was put forward by Robert Mirams of architects Foster and Partners, and chosen by TAG McLaren Group President Mansour Ojeh and Managing Director Ron Dennis.

Work has already started on Paragon, a revolutionary three-level structure designed by celebrated architect Sir Norman Foster's agency and set in a 200-acre park.



YOUNG & OLD THE PRICE OF FAILURE: BEING HIT



The days when refuelling disasters led to sore heads

Bruce McLaren and I stood on the pit wall at Goodwood, watching the drama of Jim Clark in the Lotus 30 losing the lead in the 1964 Tourist Trophy because of a botched pitstop. We thought it was amusing but nobody in the Lotus pit was laughing.

Bruce could afford a wry smile because he had started on pole in his 4.0-litre Cooper-Oldsmobile sports car and had led the early running of the 312-mile race before his clutch failed.

When Clark stormed out of the pits, the petrol churn was put back and made a thud rather than an empty clang. We all knew that meant there was still petrol in it: only 10 of 15 gallons had gone in. If we could hear the thud, so could Lotus chief Colin Chapman. He was furious and

bellowed at the luckless mechanic, firing him on the spot and then chasing him and hitting him with the signal board.

Graham Hill took the lead briefly in the Ferrari 330P, and Clark led again before pitting to complain of engine problems. By the time he got away again, Hill was nearly a minute ahead of him.

Clark then showed his legendary skill, eating into Hill's lead at a dangerous rate. But a win was not to be: the Lotus finally had to retire with suspension failure.

Graham Hill went on to win the TT and Bruce McLaren set a new lap record in the Cooper-Oldsmobile. Thirty four years on, Damon Hill raced his father's same Ferrari in Goodwood's Circuit Revival event last September.

Eoin Young

Mika poses for fashion photos in a public park in Munich

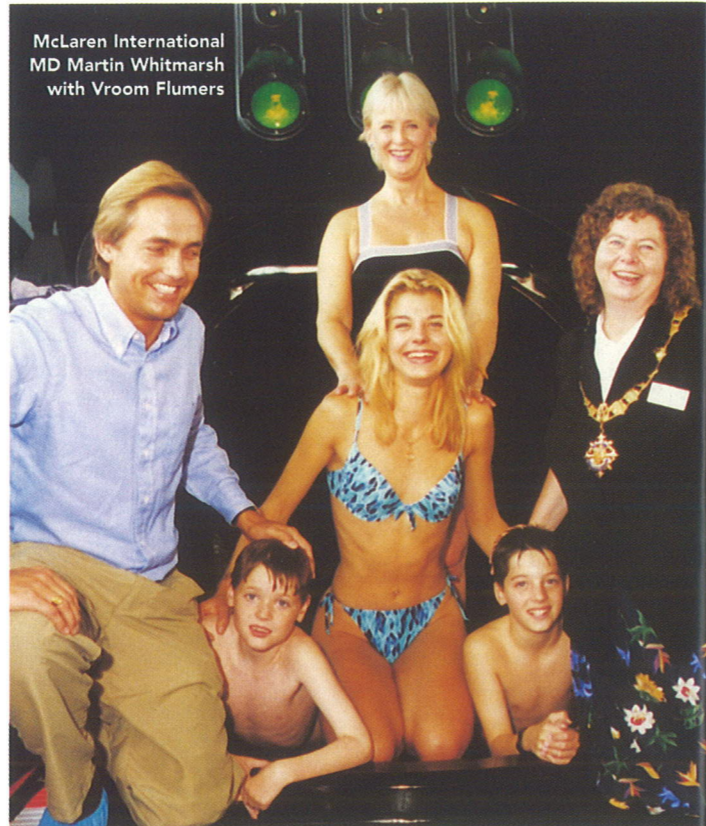
SHOOTING STARS

Cutting and fitting

While Mika Hakkinen's Sparco race overalls are pretty nifty threads, there's nothing like top-of-the-range fashion away from the racetrack. And that doesn't come much better than Hugo Boss, who clothed Mika Hakkinen for this fashion shoot in Munich on 3 October. We'll bring you the full fitting behind the finished article in next month's *Racing Line*.



■ LIGHT AND SOUL OF THE PARTY
West McLaren Mercedes partner Targetti, the oldest lighting enterprise in Europe, celebrated its 70th birthday with a three-day celebration in Florence, Italy. 150 of Targetti's worldwide delegates were invited to attend a series of seminars including one curiously titled "Why did the chicken cross the road?". But, more importantly, they were there to party hard and celebrate the company's long historical success.



SLIDE SLIP
McLAREN PUTS THE VROOM INTO FLUME

TAG McLaren brought a new look to Woking's Pool in the Park leisure complex by helping to create a Formula One themed water ride, unveiled on 3 October. The Team McLaren Vroom Flume, the first of its kind in the world, relies on the rider's ability to dodge laser beams and hit targets while sliding down the 70-metre flume as fast as possible. Every month, the best times are recorded and certificates handed to the fastest slider.

"This ride allows people the chance to experience the thrill, glamour and excitement of motor racing, and so far it's been very well received," explains Woking Leisure General Manager Mark Walden. "I'd seen rides of this type before, but the idea seemed to lend itself well to a competition – with motor racing the ideal hook. McLaren's involvement was particularly helpful."



No rest from driving for DC in the long break between Grands Prix – if it wasn't testing, it was judging

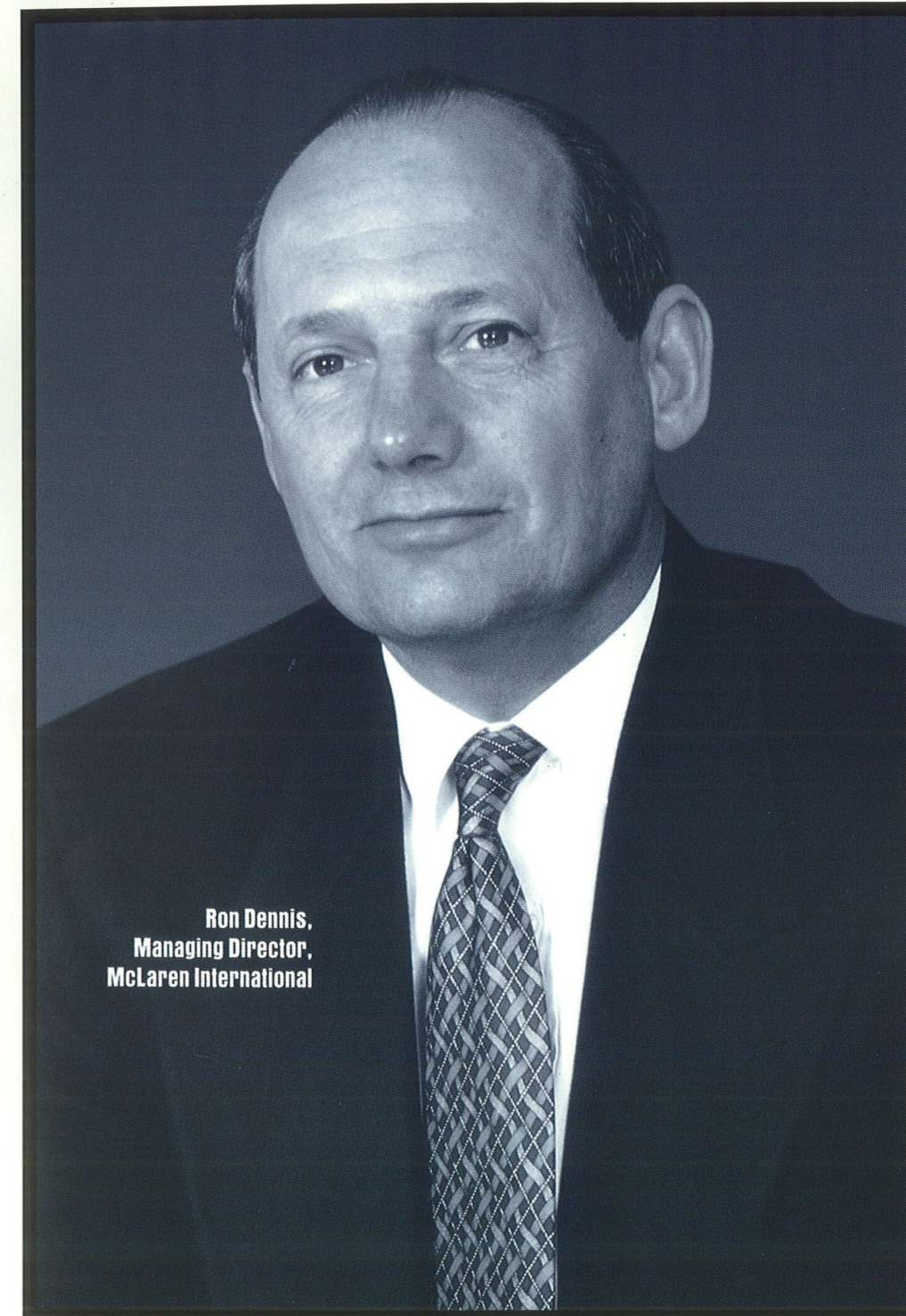
TEST DRIVE
Spinning in style

A quick drive on the way to the office took on a new meaning for David Coulthard, when he joined the 25-strong jury to judge a series of cars for the Golden Steering Wheel awards on 13 October. Run in conjunction with German auto magazine *Bild am Sonntag*, the Golden Steering Wheel has become one of Europe's most widely recognised industry awards.

Flying in from his Monaco home, he joined fellow motorsport stars Gerhard Berger and Hans Stuck to evaluate a number of production cars for handling, performance and comfort.

No rest in the evenings, though. It was off by jet to Barcelona for several hours of interviews ahead of an intensive week's testing at the Spanish circuit.

Software Winner



Ron Dennis,
Managing Director,
McLaren International

McLaren is one of the winningest teams in Formula One history. Since 1966, McLaren has won seven Constructor's World Championships, nine Driver's World Championships and more than 100 Grands Prix. Not to mention three Indianapolis 500 wins, the LeMans 24 hour endurance race and five consecutive Can-Am sports car titles.



"To win consistently, you have to have the best. That's why we've teamed up with Computer Associates," says Ron Dennis, Managing Director for McLaren International. "Processing our engine and race data efficiently and intelligently is crucial and CA is helping us approach it in an entirely new manner."

Under a technology partnership, the West McLaren Mercedes Formula One Team and CA are developing an innovative new solution that gives the racing team's engineers the ability to easily assess and analyze the Formula car's performance data.

Built around CA's Unicenter® TNG™, the program can monitor the telemetry data that the race car transmits to the pits while it's racing. Everything from throttle response to brake pressure to even the G-forces exerted on a driver. TNG then displays the data through its award-winning 3-D, Real World Interface™.

"I have a favorite saying, that is, to come in second is to be the first of the losers," says Ron Dennis. "At McLaren we're interested only in winning and we associate ourselves only with winning companies. With Computer Associates and McLaren, we have two winning companies sharing a common goal and common partnership."

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Stars in their eyes

SPACE

RACER

What happened when Mika Hakkinen joined the cosmonaut trainees at Russia's premier space academy?

WORDS Michael Cable PHOTOGRAPHY Max Dereta/LAT

With the exception of the parabolic flight, underwater exercises are the best way for trainee cosmonauts to simulate zero gravity and space walking



Stars u! their eyes

For 10 minutes, a man has been sitting in the McLaren two-seater. His overalls and helmet suggest it's Mika Hakkinen; his position in the passenger seat suggests otherwise. The Luxembourg Grand Prix crowd looks, understandably, puzzled.

This is no ordinary man, though. This is a man used to covering 8km per second. A man who has experienced 5g and 200-million horsepower. And lived to tell the tale. This man is Vasili Tsibliev, cosmonaut, commander of the Mir Space Station and a boy's own hero.

His presence today at the Nürburgring arose out of a 'long-distance' call Mika placed to Vasili, on Mir, from Mission Control near Star City, the cosmonaut training centre 20 miles outside of Moscow. The McLaren driver had been undergoing two days of intensive astronaut simulations and, at the end of his conversation, he invited Vasili to check out his own 'rocket' when the Russian returned to earth.

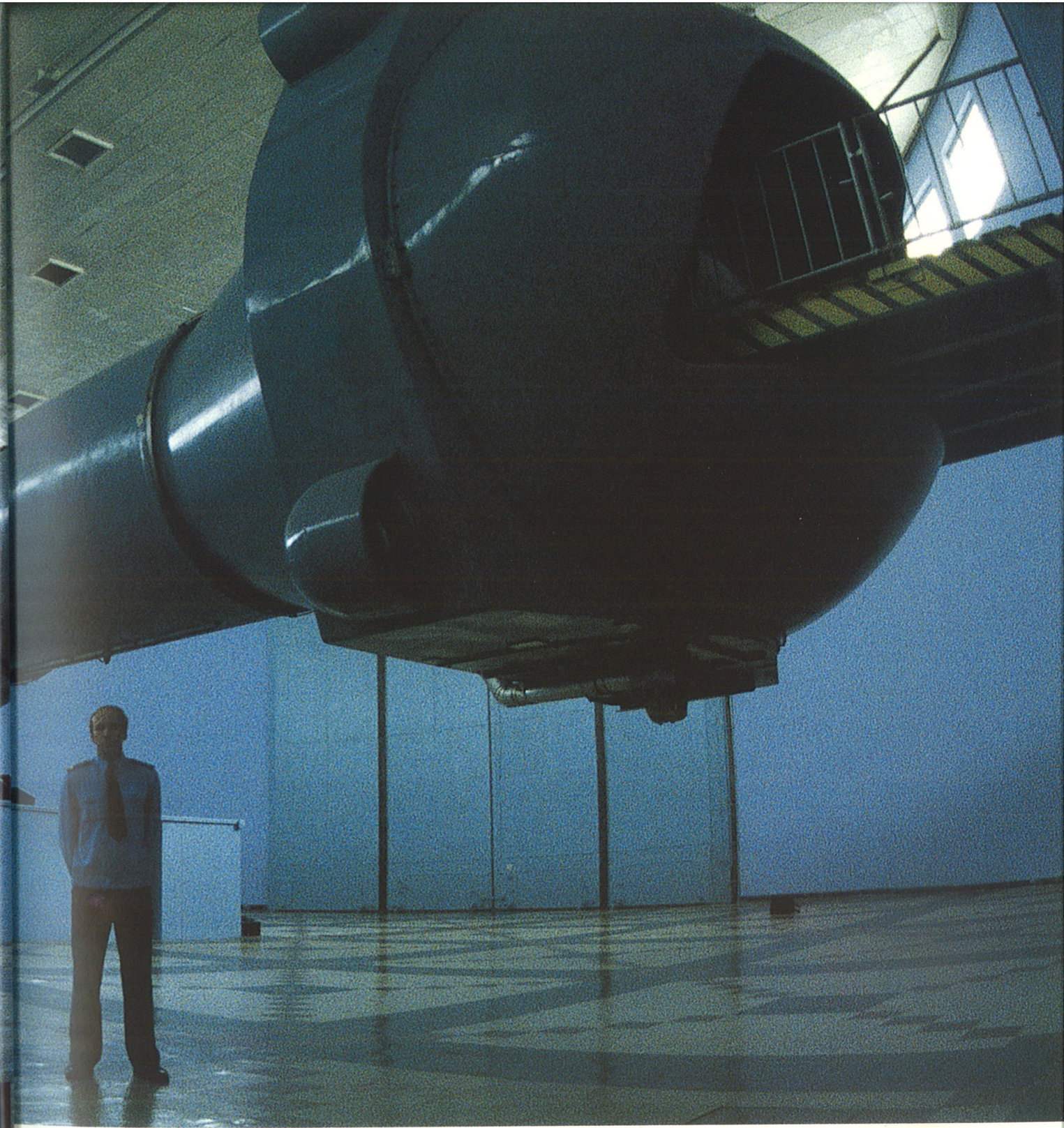
The visit was a real eye-opener for Mika. Two simulations in particular brought home the similarities, and differences, between grand prix drivers and astronauts.

Nothing – flat through Eau Rouge, pole lap at Monaco in the wet – can prepare you for the effects of weightlessness or, at the other extreme, sustained exposure to forces of up to ➤

Mika found the zero gravity simulation 'incredible'. Weightless state is created in a stripped-out Ilyushin 76MDK jet, which climbs to 30,000ft, dives to 14,000ft in 30 seconds and then climbs back. When the jet pulls out of dive, internal force hits 2g



To simulate the extreme *g*-forces encountered in take-off and re-entry, Mika was placed in a capsule at the end of a 60ft arm in the centrifuge (above). He withstood 5*g* for one minute: 'I don't recommend it'



'I thought it would be like floating in water but it's actually nothing like that'

Mika Hakkinen



5*g*. Mika experienced both, as part of the West In Space programme.

McLaren title partner West has joined forces with the Russian authorities to offer carefully selected members of the public the chance to experience the same training programme as cosmonauts such as Briton Michael Foale and those who have manned the Mir Space Station. It is West's biggest promotion outside of F1.

West's association with the once top-secret Star City dates back to 1992, when a packet of its cigarettes was included among 500 items aboard a Proton rocket. Its mission: to penetrate deep space on a never-ending journey in the hope that an alien civilisation

might intercept it and gain an understanding of life on earth.

Since then, 24 people, aged between 18 and 35 from all walks of life, have been on courses lasting two-four weeks to gain a real taste of what it takes to become an astronaut.

Mika, unsurprisingly, met the tough physical requirements of the West programme and flew to Moscow to see if he, too, was made of The Right Stuff. After a tour of Star City, with its permanent 3,000-strong population of cosmonauts, scientists, technicians and support staff, Mika faced the zero gravity simulation.

Weightlessness is created artificially in a specially converted Ilyushin 76MDK jet. The

stripped-down transport aircraft repeatedly climbs to a height of 30,000ft before diving 14,000ft in 30 seconds and then pulling out of the dive to climb again in what is known as parabolic flight. At the top of the parabola, the occupants experience 25 to 30 seconds of weightlessness: when the aircraft pulls out of the dive, the downward pressure reaches 2*g*.

West's Pavel Turek, the head of the West In Space programme who accompanied Mika on the 90-minute flight, insists that the sensation is actually very pleasant.

"You forget all your troubles and pains at the moment of weightlessness," he says. "There is an indescribable feeling of being ➤

totally free. You can lift a 500kg weight with one finger and you can walk on the ceiling. The whole flight is remarkably smooth and not at all as alarming as it sounds, even when you suddenly start diving."

Mika loved it. "Absolutely amazing," he said, when the aircraft touched down. "It was completely different to what I expected. I thought it would be like floating in water but it's nothing like that. In water you can control your movements but when you are floating in air you cannot. You lose all sense of co-ordination, and once you start moving you cannot stop. Incredible. A once-in-a-lifetime experience. That was the best."

It was likely to be a different story with his final astronaut simulation – the pressure chamber in which cosmonauts are trained to sustain huge *g*-forces of take-off and re-entry.

This centrifuge consists of a cabin mounted at the end of a 60ft-long revolving arm. The trainee sits on a chair that can be adjusted so that *g*-forces are exerted either horizontally through the chest or downwards.

Pavel explains: "You are linked to ECG heart monitors, you have video and voice connection with the operators outside the chamber and you have a catapult joystick which you push to keep the thing going. If the pressure becomes too much and you lose consciousness, you release your grip and the power automatically cuts out."

Pavel adds: "At 1*g* and 2*g* it is like being on a roller coaster. At 3*g* and 4*g* you cannot move your arms, and your face becomes twice the normal size because the muscles

are flattened. And when you start accelerating towards 5*g* they tell you over the intercom to take a very deep breath because the pressure on your chest is so great you can't breathe."

Mika looked decidedly apprehensive as he was strapped into the chair before being wheeled, feet first, into the pressure chamber. And when he emerged a few minutes later, he was clearly quite shaken.

"That's the first and last time," he said. "In an F1 car you occasionally pull those kinds of *g*-forces but only for a few seconds. In the centrifuge they hold you at 5*g* for a full minute. It's too much. I don't recommend it."

The next day, Mika visited the Russian Mission Control Centre at Kaliningrad where he made that offer to Vasili via a video link.

When the two subsequently swapped work clothes at the Nürburgring, it was clear that they shared huge mutual respect. Vasili's time in the two-seater, driven by Martin Brundle, was every second the eye-opener that Mika's experience at Star City was (see story, right).

Meanwhile, the West programme is looking at the possibility of sending a member of the public into space. "We would love to be able to do that eventually and the Russians are very open to the idea," says Pavel. "This is not a fairytale – it is a serious possibility."

He adds, smiling: "Judging by how much he enjoyed his time at the training centre, I'm sure Mika would love to go up but I don't know how Ron Dennis would feel about that. We'd certainly have to make sure we got him back in time for the next season, or I guess we'd all be getting a rocket." ■



At Mission Control in Kaliningrad, Mika invited Vasili, who was on the Mir Station, to join him at work

When Mir Space Station commander Vasili Tsibliev took up Mika's invitation to try the two-seater, we were there

Vasili has just returned to the pits, with Martin Brundle at the wheel, after several flying laps of the Nürburgring. As he steps out of the car and removes his helmet, the Russian space hero is clearly elated, and eager to talk about his experiences in the McLaren and on the Mir Space Station.

What were you expecting from your ride? **That is difficult to say. When I use my own car on the road I usually drive at high speed, but I knew you couldn't compare that with being in an F1 car. I expected the acceleration and speed to be much higher, but then again I didn't think the *g*-forces would be more than I'd experience in a rocket. Nothing can compare with that.** So what is it like to take off in a rocket? **It's very difficult to explain, but let's just say that compared with the 750bhp of an F1 car, when the engines are fired off in a rocket there is 200-million horsepower pushing you into the sky. The force of that acceleration jars your whole body back into the seat and we experience forces of about 3.5*g* for nine minutes.**

What did it feel like to experience those sorts of forces, albeit for a shorter period, in the McLaren two-seater?

I must say it was a very similar feeling, but much, much more exciting. It was an amazing experience, and one that I was not expecting. It was a lot more physical than I thought it would be, because your body is thrown around by the braking, accelerating and cornering, and I was amazed by that in particular.

Are there really important similarities between F1 drivers and astronauts?

The risk factor and sensations are very similar. But what is perhaps of greater interest is that there have been only a few hundred F1 drivers, just as there have been only a few hundred people lucky enough to go into space. Both professions are only for people with special skills.

Many children dream of going into space or experiencing an F1 car. You've done both, so what next?

I'd love to go to the Moon, or even Mars. Unfortunately, the second is not possible.



When Mika and Vasili exchanged working clothes at the Nürburgring, they displayed great respect for each other

Did the Earth move for you?

at the moment because our technology is not advanced enough. But who knows what will happen in the future?

Landing and take-off must be the most exciting moments of space travel, but what is life like in a space station?

For sure, the launch and landing are very exciting, but they last only a few hours.

We spend hundreds of days in space but life is never boring because there is so much work to do. There are no days off, not even an hour. It is a very different life, too.

The station is very noisy, with all the fans moving air around the cabin. We sleep in bags pinned to the walls, although it is difficult to work out when to sleep as day turns to night every 45 minutes.

They say no one can hear you scream in space, so it must have been terrifying for you in the immediate aftermath of the collision between the Mir Space Station and the Progress transporter.

There was little time to think that way since we had to act very quickly. There are two parts to the Mir Space Station and only one part had been involved in the collision so we needed to seal it off. That meant having to cut a cable, insulate it and then seal off the section completely.

Otherwise we would have been killed.

Soon after that, Mika spoke to you via a video link. That must have been good.

We knew Mika was visiting Star City and Mission Control in Kaliningrad and that he might be able to speak to us. It was a great feeling to speak to such an interesting person.

He said that since he had visited my place he was keen for me, when I came back to Earth, to visit him at a race. It was unbelievable for me that he kept his word.

How important are programmes like West In Space?

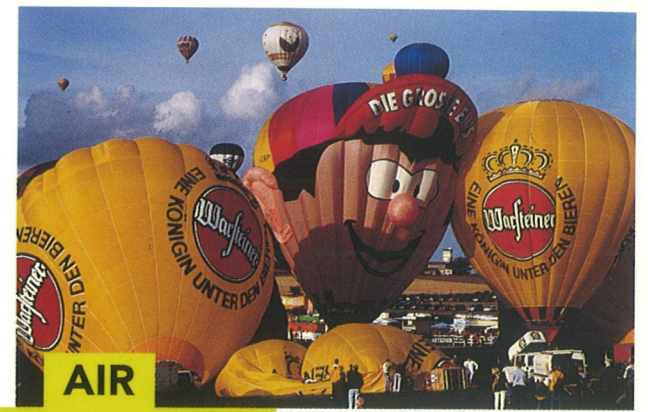
It is not only important but it is also interesting. The experience of going into space has been shared with other generations, especially the young, and they must be left with the kind of feelings that got me interested in space travel.

With that Vasili was off, looking refreshed and relaxed but clearly leaving with some special memories. Ron Dennis summed up neatly the impression Vasili had left with the McLaren team: "He is incredible. I think you only have to look at his face and eyes to see that. With his determination, focus and expertise, you know that he knows his business and that he has got an unbelievable career behind him."

Jonathan Noble

'It was amazing and not as I was expecting. It was a lot more physical than I thought it would be'

Vasili Tsibliev



AIR
SUSPENSION On a peaceful afternoon in the German countryside, a few hundred people are preparing to take to the air suspended beneath little more than a piece of bunting...

WORDS Jonathan Evans

Basket cases?

The sound is like a distant motorway: a dull, roaring rumble. At first, the noise is all there is. Then, over the hedge, huge teardrops well up – yellow, blue, red and green. Once the first one is visible, more pop up from behind the hedge, gently unfolding themselves, preparing to lift off and fall off the face of the earth.

And the rumble gets louder. Now, it's the M4 on a bank holiday evening.

Without warning, two of the huge blimps escape their shackles. It's not so much the popping of a cork as the lazy motion of oil floating up a lava lamp. This is sedate travel: seemly, proper.

The wind is blowing to the north-east, so north-east is the direction in which all the balloons decide to head. Like a flock of birds in slow motion, once one takes off in fright, the rest soon follow.

And so it is that the
1998 Warsteiner ►

Up, up and away

The massed take off of 100 balloons can look haphazard and not a little dangerous, but once you understand the system, it is simplicity itself.

The balloons are lined up in the direction of the wind, and each has a starter assigned to signal the time for lift off. The balloons are ordered off one by one and are immediately taken by the wind. As long as the order of lift-off is adhered to, there is no way the balloons can hit one another.

Huge fans blow the canopies into a rough globe before the propane burners are turned on to heat the air and impart lift. One team member holds a guide rope until the balloon has taken shape and begun to lift. Then it is a question of the pilot applying enough heat to maintain the balloon's shape until the order is given to lift off.

While the horizontal speed of the craft is directly influenced by the wind, the pilot has almost total control over vertical lift. The balloons can rise very slowly, or, given a long blast from the burners, they can shoot up in the air at a great rate, rising to gooft in just one minute. Response, however, is another matter. It takes around 20 seconds before the balloon reacts to the pilot's input.

Once in the air, the pilot refers to his charts on air speeds and altitudes, then constantly adjusts the height of the balloon in the air to 'steer' the craft.

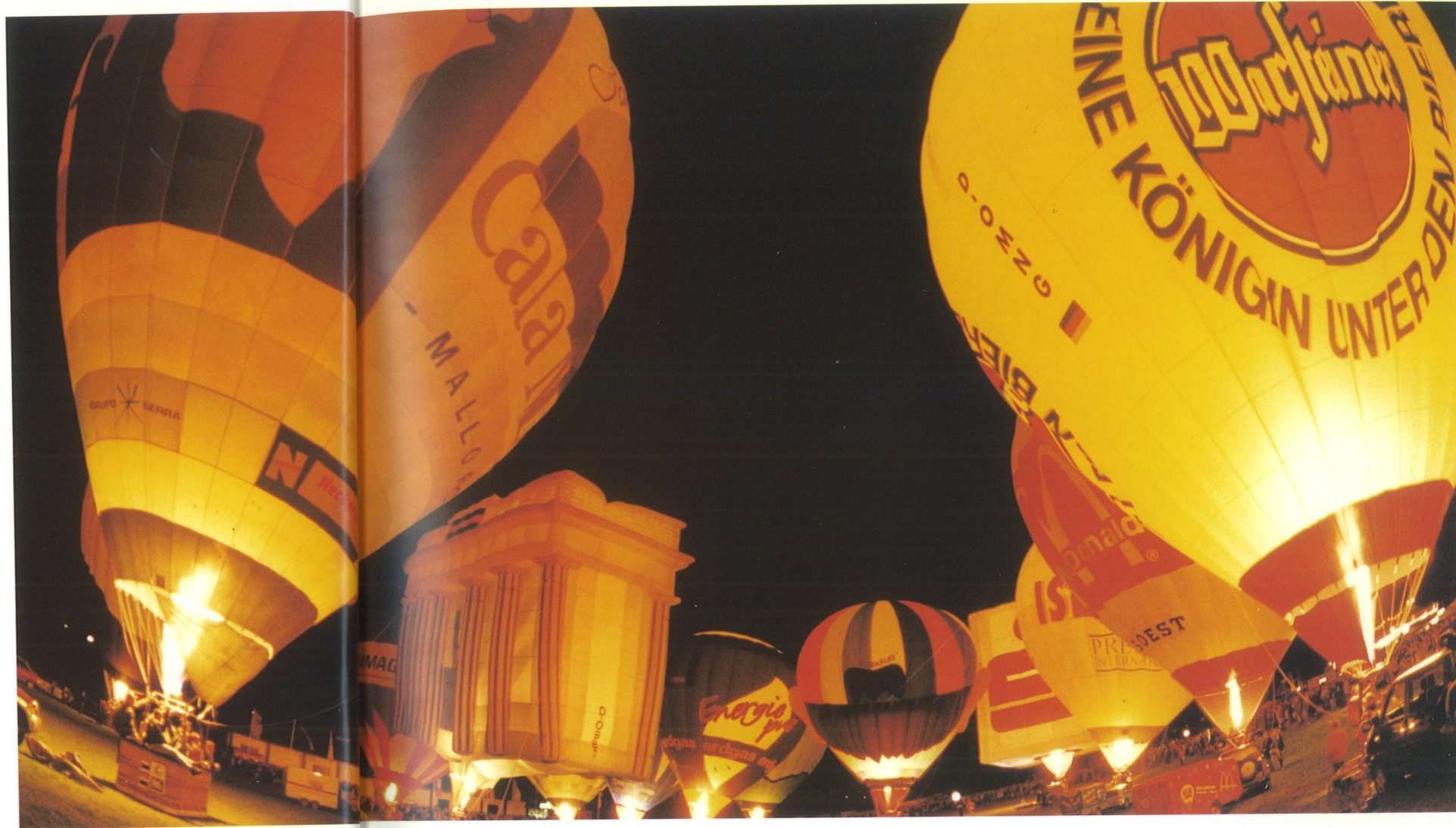
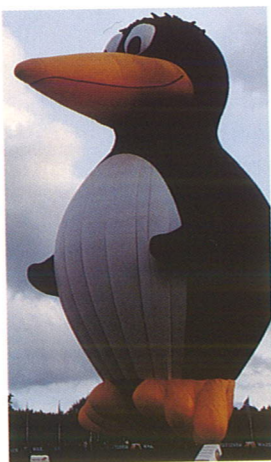
Facts and figures

Cost
£10,000 upwards for canopy, £2750
for basket, £4000 for burner

Power
Two propane burners, each supplied
with two 60-litre bottles

Speed
Cruising: 5-7mph, Maximum: 13mph
(for top pilots only)

Range
Around 30 miles at 7mph for a
maximum of four hours in the air



International Montgolfiade begins. This is the start of 10 days celebrating the means of man's first flight. Two centuries back, in 1783, the Montgolfier brothers lifted off in a flimsy silk and paper balloon. For many, balloons remain the only real way to take to the skies.

The Warsteiner Montgolfiade, held in the McLaren partner's home town Warstein, near Dortmund in the Ruhr, is open to all. There is competition, of course, and it is fierce, but the event is staged mainly for balloonists to share in the sheer joy of flying.

Competition balloons are all conventionally shaped – the traditional, symmetrical balloon is easiest to control. But for the fun flights, all manner of animal, vegetable and mineral is cut loose: vast floating strawberries, an ice cream cone, a cat's head, a fox wearing a pince-nez, the Brandenburg gate (really). Strangest of all is a penguin, the balloon's basket held beneath its feet like a chick protected by a parent bird.

The 10 days planned for the event seems extravagant, but there is good cause.

Balloonists do a lot of waiting. The conditions for flying must be just so; a strong wind and the dangers become too great. At one hapless festival a few years ago, there were only two massed flights in all 10 days. This year, happily, the weather is kinder, and the event suffers no more than its fair share of setbacks.

The competitions take precedence, and so are scheduled earliest. Entrants aim to fly over a number of waypoints, dropping markers on each one and being scored for accuracy. To the outsider, it's hard to understand how balloonists can actually engage in competition. After all, you can't steer the things, and they all have to go wherever the wind wants to go. You only have to watch the start to see it isn't quite so simple: The balloons may appear to be heading in roughly the same direction, for instance, but they are never in a line – because their pilots can steer. Wind speed and direction vary subtly at different altitudes; as little as 10m in height can move you in a slightly different direction, at a slightly different speed. The balloonists use this knowledge to harness the wind to blow them towards their targets. And it is here that the traditional image of ballooning falls down somewhat. Because, these days, ballooning has gone high-tech.

Every pilot is given detailed information on the weather and especially the wind in the

pre-competition briefing. Moreover, a serious competition balloonist uses satellite navigation systems and altimeters to help him on his way. With the latest high technology equipment he can calculate a route to his next waypoint that is astonishingly accurate given that steering a balloon in a straight line is all but impossible.

Unfortunately, once the final waypoint has been successfully hit, there is still no scientific, new-fangled method of stopping. That remains a question of using handy tree tops and hedges as brakes for the basket to brush against, and the well-timed release of great gouts of hot air to bring the basket, canopy and passengers to a standstill. If there are no topographical brakes to hand, the basket – whose design remains almost unchanged since the Montgolfiers – is the ideal crash absorber: the willow and cane weaved construction is strong and flexible; with the semi-rigid burner supports, the structure makes a remarkably effective safety cell. Not up to F1 carbon fibre monocoque standards, of course, but still...

Competitions over, and it's time for the fun flights. Members of the public are taken up to enjoy the tranquillity of floating along a few hundred feet above the ground. Tranquillity when the burners are not in use, that is. Close up, the double propane flammers going at full blast sound as if someone is ripping up a vast

piece of canvas just behind your head. But the noise helps only to emphasise the peace when it comes.

The Montgolfiade is not just about flying. On the Friday night of the event, about 10,000 people came to watch the balloons light up the night sky on the ground in the spectacular night glow. And there are fireworks evenings and parties to keep all the guests happy on the days when flying is not possible.

This is the eighth Warsteiner International Montgolfiade. The firm's owner, Albert Cramer, is an enthusiastic balloonist and his company sponsors Germany's national ballooning team. In 1998's Montgolfiade, 150 balloons took off at one time, and 450 balloons were involved over the 10 days – a record for the event. Next year, they are aiming higher. "The maximum number the take-off site can deal with is 200," says Warsteiner's Martin Schütte. "We want to fill the field. But even that will be nowhere near the record for a massed balloon flight. In the deserts of Albuquerque, New Mexico, as many as 1,000 hot air balloons have taken off at one time."

When you consider the impact that just one of these huge floating sculptures has on adult and child alike when it glides serenely above the crowds, 200 will be more than enough to attract the spectators once again. ■

Turned out nice again



Congratulations to



West McLaren Mercedes

**DESIGN
PROFILE**

McLaren design guru Adrian Newey is the most sought-after technical director in F1. So why is he addicted to rallying in a 1938 Jaguar?

WORDS Jess McAree



Working man bitten by cat



Given what Adrian Newey does for a living, it's not a little strange that his idea of spare time bliss is driving a car that would make any other F1 aerodynamicist weep into his wind tunnel. His 1938 Jaguar SS100 is unrepentantly brash, an unreconstructed totem of the days when men were men and their cars were... well, slightly silly.

"Oh sure, it's a brick," says Adrian, cheerfully. "Aerodynamically speaking, it's truly awful. And in its day, it was a bit of a cad's car. It got its name from the fact that it could do 100mph, which was a big deal in those days, but remained affordable – a bit like the E-type in the 1960s. Wealthy motorists looked down on the kind of people who bought SS100s."

There is something weirdly incongruous about a discussion of pre-war vintage cars when you're sitting in Adrian's office at McLaren International. High technology is everywhere evident, from the window blinds that open and close automatically in response to the strength of sunlight, to the complex technical drawings on the big white board near his desk. At this time of year Adrian's expertise is devoted full time to next year's car, and he looks almost relieved to talk about spoked wheels, straight sixes and double de-clutching.

"One might say that vintage rallying is a bit of a busman's holiday for somebody like me," he admits. "However, whilst it still involves cars, obviously, it's completely different to Formula One. It's a total escape from the pressure of F1: you get all the spirit of competition, but few people take it ultra-seriously: it's much more laid back."

Adrian bought his 3.5-litre, six-cylinder Jaguar in 1988, shortly after he left Indycar racing. At the time it was, in his own words, "a complete wreck".

"The guy who'd owned it had no idea, and he'd taken it apart to rebuild it," says Adrian. "I inherited a bag of bits, basically, and all I could think was: 'What on earth do I do with this?'"

"I eventually found a vintage car expert in

Colchester, Essex, who agreed to rebuild it for a nominal fee in return for the chance to use it as a reference from which to build replicas. He did it as a kind of hobby in his spare time, so it wasn't back on the road until 1992. But he did a fantastic job."

Adrian grew up with fast cars: his father owned several Cooper S Minis and Lotus Elans, and his first sports car was an Elan given to him by his father for his 25th birthday. His first experience of vintage motorsport, though, didn't come until 1994, when he took part in the Monte Carlo rally retrospective in a friend's Wolseley. He hugely enjoyed it, and realised that the Jag would be the perfect car for the job. "There are several categories you can race in," he explains. "Pre-war, war to mid-50s and 1960s. Each of those is divided into sections for different engine capacities, so there's something for just about everyone."

"I've done quite a few rallies in it now, with various friends. Mostly the events consist of timed legs between points, or average speed legs where you have to maintain a constant speed between A and B, aiming to arrive at a precise time. It's usually 50-70km/hr, and it can be very difficult. If you make a navigational error, for instance, you can easily find yourself having to really push the pace afterwards to get back on schedule."

Isn't that tricky in an old car like the Jaguar?

"Well, it slides quite a lot because the narrow tyres don't have that much grip," says Adrian. "Actually, it's enormous fun to drive hard. You have to concentrate because the steering's heavy and it's a bit lively over bumps. I've done forest legs, and driven over the Ardennes and the Alps into Tuscany along those winding, hairpin roads. That's great fun, although the sheer drops at the sides are a bit sobering. I

once came round a bend to find that another car was half hanging off the cliff – like the bus in *The Italian Job!*"

Adrian's had only one real accident, when he bent the suspension in a pothole during a Welsh rally. Parts for his Jag aren't expensive, fortunately, but the experience has put him off British rallies. That... and other things.

"I've done a few one/two-day rallies in the UK, but they're a bit short and you always end up eating your evening meal in some dingy motorway service station. To be honest," he adds in a half whisper, "British dos are a bit anoraky. In continental events, like the Rome-Liège which I've just done, there's a better atmosphere. Europeans have more flair."

One British idea, at least, sounded a lot more fun: vintage hill-climbing. Adrian tried it once or twice, but came away disappointed. "There was no way the cars in my category were standard," he says. "All of them had been tuned up for more power, which a lot of people are doing to vintage cars these days. I think it's silly. These are marvellous machines and should be left as they are: I'm totally against tuning them up by using technology that wasn't available when they were built."

Adrian adheres firmly to this principle, daring to take his unimproved Jag on British roads from time to time. "It's powerful enough to keep up with the traffic, and goes fine, but it's not a lot of fun on motorways," he admits. "I prefer A- and B-roads, where it can still be very entertaining. All the same, I prefer to enjoy a vintage car for rallying, not normal driving. For that, you need something else."

For Adrian, that 'something else' is a Lotus Elise that he has just acquired for everyday use. "A friend is turbocharging it," he confides. "It should end up having about 300bhp."

Three hundred horse... in an Elise? Won't that be a bit of a handful? For a second, his eyes twinkle with a smile more reminiscent of the 25-year-old who has just inherited his father's sports car than a mature technical director of a top F1 racing team.

"I certainly hope so..." ■

'It slides quite a lot because the narrow tyres don't have that much grip. It's enormous fun to drive hard'

Adrian Newey



Adrian acquired Jag as a bag of bits, 50 years after it was built. Now restored, his 'aerodynamic brick' is used mainly for historic rallying

Hurricane alley

What goes on in the McLaren wind tunnel has remained top secret – until now

WORDS Jonathan Evans

PHOTOGRAPHY Ted Humble-Smith

The words 'wind tunnel' are likely to evoke in most people an image of streamers of smoke swirling around an object. But don't you believe it: that's kid's stuff. "That type of flow visualisation is useful for marketing purposes," says McLaren's head of aerodynamics, Henri Durand, "but we use different techniques."

A number of different techniques, in fact – all impressively high-tech, all performed with obsessive attention to detail. If McLaren gets it wrong at its wind tunnel, based at the National Physical Laboratory in Teddington, Middlesex, the whole season can go down the pan.

"The wind tunnel is the tool that decides if something will go on the car or not," says Henri. "We have other tools that we use to design the car, of course – computational fluid dynamics, for example – but the wind tunnel is the ultimate experimental tool. It is a facility that enables us to produce exactly the conditions that the car will encounter on the track. On the track, the car is moving and the air is stationary. In a wind tunnel, we make the air move and the model is stationary."

Nothing is ever quite as simple as that, of course. In practice, the wind tunnel presents a few more problems: "Because we want to have an accurate reproduction of what is happening on the race track, not only does the wind have to move, but the road has to move as well. We need to have rotating wheels and boundary

layers of extremely high quality. That means, if there were no model inside the tunnel, the wind velocity close to the ground would be completely uniform."

But what about the walls? In a wind tunnel, they can influence the airstream around the car, and as a result what you measure is the aerodynamics of a car running inside a wind tunnel, not on a race track. "At McLaren, we have pioneered the use of the 'adaptive wall' in motor racing," explains Henri. "Our wind tunnel walls are shaped so that they are in agreement with the streamlines that the car would generate if it were running on a track."

Every detail on a race car that could have an influence on aerodynamics is reduced to make a 40 per cent scale model. "Actually," says Henri, "we design the model first, get that right and then scale it up to the race car."

Most tests are carried out at a common, pre-set wind speed. Measurements are taken, not from pretty plumes of smoke, but from a highly accurate electronic balance inside the car. It was designed in-house at McLaren, and measures the forces generated by the airflow with high precision. "There is also a computer-controlled strut that supports the model and controls its attitude accurately. We have a data acquisition system that records a number of different parameters: all the forces applied to the car, in all directions. We measure the ride height very accurately, and a lot of pressures, as well as flow through the radiators etc. For a specific configuration of the car, we analyse its aerodynamic characteristics at all attitudes – ie height and pitch – that the car would experience on the race track."

The process is never ending. McLaren has a large team dedicated to its work in the wind tunnel and the facility is in use extensively throughout the year. And improvements to the cars never stop. A few weeks before the Japanese Grand Prix, the wind tunnel was still testing improvements to the MP4-13.

"Obviously by that time, we were working full time on next year's car, the MP4-14," says Henri. "But however late in the season you get, there's always at least a couple of things you can improve on..." ■



All wind tunnel functions are computer controlled. McLaren's data acquisition system extracts every conceivable force applied in every direction. The measurements are taken from a precise electronic balance located in the car



Breeze block

Each fan blade in McLaren's wind tunnel is approximately the size of a man. The facility tests 40 per cent scale models, which also feature internal items and wheel components such as brake ducts, discs and uprights



Crash survival

AFTER SHOCK All three West McLaren Mercedes race cars were damaged at the Belgian Grand Prix. With just a fortnight to go until Monza, how on earth did the team make good the disaster?

WORDS Jez Spinks PHOTOGRAPHY Ted Humble-Smith

The scene looked rather more like an abused Scalextric set than a GP circuit. Gathered in the paddock were the mangled remains of 19 cars in various states of terminal distress: dangling wheels, smashed bargeboards, dented bodywork, you name it.

This was the aftermath of an extraordinary 1998 Belgian Grand Prix where rain wreaked havoc upon the F1 grid. Total damage has been estimated at more than £7 million, and West McLaren Mercedes had more than its fair share: David Coulthard's car was completely trashed in a pile-up at the first start and Mika's front left wheel and suspension were ripped off by Johnny Herbert's sliding Sauber after Michael Schumacher nudged the No.8 McLaren at the restart. If that weren't bad enough, David lost the rear wing of his T-car when Michael Schumacher crashed into the back of him during the race.

It meant a premature end to a relaxing weekend for one man. Chris Robson, the team's spares co-ordinator, was watching the race in England, but he had just become the most vital person at West McLaren Mercedes. It's his job to ensure the race team never travels to a GP without a full range of chassis and gearbox spares – and after Belgium, that was going to be a tall order.

"Spa's one of the worst races we've ever had in terms of car damage," says Chris. "You watch it all happening knowing it's going to be a horrendously busy week. I waited for the phone call after the race mentally preparing myself for it, thinking about where all the parts were going to come from."

As expected, the call came just an hour later. Race team manager Dave Ryan, chief engineer Steve Hallam, chief mechanic Mike Negline and the race team spares organiser Phil Williams wanted to consult Chris on how best to sort out the problem. Monday was a Bank Holiday, so Woking would not have its full staff complement.

Their plan involved the truck drivers, including Phil, getting all the articulates back to Woking for first thing Monday morning, when Dave, Steve and Mike would have flown back to join them. With Chris, they then began to assess the extent of the damage suffered in Spa.

"We studied David and Mika's race cars, which remained as they had been when they were collected from the circuit. Then we laid

Little shop of horrors

"A bit of a horror" was George Langhorn's assessment of Spa. The McLaren paintshop manager knew a tough week lay ahead for his seven-strong team as he watched the race on TV in England.

"There was a lot of pressure," says George. "You can cope with one shunt out of a weekend, but this was a nightmare. We didn't have the luxury of having any new top bodies sitting on the rack, waiting to rotate through our bodywork system. We had to strip paint off the severely damaged bodywork and after the carbon shop guys had put the top bodies back into the mould and relaminated them we painted them up. Out of three top bodies we made two good ones."

Five nose cones were also damaged at Spa. "Only two could be saved," says George. "We stripped them down, then adopted a shift system to cope with the extra time needed to repaint them. Some started at 7am and others worked until 9 or 10pm. As for the airbrushing, there are five different colours and they have to match up with the chassis. We begin with the red at the front, going through all the graphite colours, washing it into white and silver. They all have to be interchangeable. Noses and top bodies aren't the most difficult, but they are the most intricate."

George wasn't fazed by the work necessary after Spa, but then he had been well prepared by his experiences of the 1981 season when Andrea de Cesaris drove for McLaren.

"Every race we had was like Spa," he says. "I was on the race team then, and a lot of carbon repairs and paintwork were done on site ready for qualifying or for the race next day. We learned a lot about the carbon fibre repairs we could get away with. It was a bit of a learning curve, because carbon fibre was in its early stages then. They were crazy days, though, and I wouldn't want to go through them again. But at least it meant I had some idea of what we could expect with the carnage that came back from Belgium. It was pretty manic."

out the other separate damaged bits in order of the various accidents," says Chris. "Before the accidents on race day, Mika had ripped off his car's nose cone and front left suspension in Friday practice and David had had an accident during the warm-up, also damaging his nose and front suspension.

"From checking all the parts, we produced a list of what was definitely damaged and what might be recoverable, subject to inspection. By Monday afternoon, we had a concise list for production to read when they got back in on Tuesday morning. It detailed what had to be made and deadlines for everything. The wings used at Spa wouldn't be needed for Monza because it's an entirely different set-up. That gave us breathing space until Luxembourg; we could prioritise and say what we wanted and

when. Fortunately, in a team this size we have enough spare parts in store to let us build virtually all the cars for Monza without having to wait for any replacements."

The added complications of a four-day Monza test in the week following Spa and a French lorry drivers' strike on Tuesday before the Monza weekend should have added to the stress, but Chris had his task comfortably under control.

"There wasn't a big impact on the Monza test because we had the test requirements for wings already covered. Luckily the front and rear wing packages for Spa were totally different from those for Monza, so we weren't relying on replacing the wings from Spa for either the Monza test or race. Saying that, we had quite a high attrition rate on our front wings at the test because bollards were bolted on the kerbs to stop drivers going over them.

"We damaged three front-wing packages, so somebody had to fly over on the Thursday with more wings so the test team could carry on running. The lorry strike added more pressure, because the truck had to go a day earlier than usual to avoid being delayed."

McLaren is a large organisation, however, and it had the resources to finish the job. New parts were

made, and the rescued bits were repaired in a few days. The composite shop was especially busy, since it had to come up with most of the new parts such as the top bodies, wing packages and brake ducts.

"They did a really good job," says Chris. The biggest task was cataloguing the damage and inspecting parts to see what we could recover



Crash
survival

from Spa. A few parts, like the main front axle assemblies and steering racks, did survive. But we suffered quite heavily with suspension.

"Everything was closely inspected to make sure it wasn't cracked or bent. You assume the worst, that you've damaged everything, lost it all, and you may get something back. But it takes three to four days: components must be crack-checked, composite suspension has to be proof-checked, even X-rayed.

"The build of the cars went quite smoothly really. By the time we started practice for the Monza weekend, we'd replaced everything that needed replacing. In fact, we took an extra car. The race team had the luxury of having five chassis at its disposal: three race cars and a spare chassis, with one being painted in Woking.

"Saying that, we did take a fair amount of hand-luggage to Monza. Team members carried out front wings, suspension and brake ducts, all bubble-wrapped in suitcases. The more fragile bits were put on the company plane on the Thursday before the race weekend."

At least David and Mika can be trusted to keep such hectic weeks to a minimum.

"The great thing about having two top-line drivers," says Chris, "is that we haven't suffered many shunts this year: some teams face this situation after every race. It reminds me of the Senna/Prost years – hardly any accidents.

"When we had Michael Andretti in 1993, we probably had to produce 10 times as many components as we did in a season with Prost and Senna." With one race to go, another Spa situation is impossible in 1998: but if there is a next time, Chris will be by the phone. ■



A great fibre provider

It can't be easy seeing weeks' worth of work being destroyed in seconds. But this is the accepted life for the 39 members of McLaren's composite department, which produces most of parts for the MP4-13 race cars – front wings, rear wings, top bodies, brake ducts, suspension. You name it, they make it.

The events in Belgium meant extra work for manager Dave Hawke and his team. "Everybody in composites came in and immediately switched to 12-hour days. We just ploughed through it over the next week, because obviously while races are usually two weeks apart, we only have about a week to make components because they have to be fitted to the cars before they go. While this was the worst post-race situation I have ever seen, it wasn't catastrophic. The only time it would be a catastrophe would be if we failed to get items to the next race. I don't think that will ever happen.

"We're used to reacting quickly. If they design a new front wing package and find it's worth 0.2 seconds a lap, then all hell breaks loose trying to get the new parts ready for the next race. It was a busy week after Spa, but we coped. God knows how. Everybody puts in maximum effort. You don't have to ask them. They'll cancel holidays, cancel evenings out with wives. We just accept it as a way of life.

"We don't assume we're going to lose anything at any race, so any of the Belgium gear that we lost and needed to replace for Monza was additional to the parts we were already making. I'd say we were probably making about 120 items for the Monza race prior to Belgium, and that went up to 190 after. That gives you an idea of the ratio of extra work required.

"We managed to get every single component the race team needed for the Monza race, even though some of it was 12th hour. With some parts it was straight out of the autoclave, into the company plane and away they went. They were virtually painting parts on the flight over."

EXCLUSIVE OFFER

West McLaren Mercedes are delighted to be able to offer for the first time to Team McLaren members these fabulous half-scale helmets.

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Lewis on the limit

At the tender age of 13, young karter Lewis Hamilton already has a promising future mapped out. We caught up with him on a rare day off to find out how he spends his leisure time

**RISING
STAR**

WORDS **Toby Waller** PHOTOGRAPHY **Adrian Myers**

Nice guys never win, says the old cliché. They're simply too pleasant to own that ruthless streak needed to succeed at the highest level. Meet Lewis Hamilton, though, and you can throw away the rulebook. Great company off the track, he still manages to win. A lot.

Balancing school days and homework with karting at the weekends must be hard enough. But Lewis' association with one of the most successful GP teams of all time also brings him enough media attention to threaten the sanity of anyone, let alone a 13-year-old. Pressure is a ▶



Busy days off

As if karting and school didn't keep Lewis busy enough, he's got a wealth of hobbies - all of which he's equally good at. Karate had to be given up when he hurt his hand, but he was well on the way to being a black belt. Squash, allied to regular weight training keeps him fit.

Music isn't a huge part of his life, but he recently started playing the guitar - already good enough to play a mean rendition of *Daytripper* and *Wonderwall*. "I started when I heard someone else playing and I really liked the sound. My neighbour's really good and I'm trying to persuade him to give me lessons."

And, behind every guitar, there's a story. "We had a bit of bad luck at a race recently when I didn't put the right stickers on the kart," explains dad Anthony. "An opponent protested and we were disqualified from the race. I bought him the guitar to say sorry."

In the garage, alongside a couple of kart chassis, is the remote control car that started it all. "I did really well in remote control racing and my dad got me a kart. I started racing and after we won a championship we thought we would just keep on going."

fact of life that Lewis has been forced to learn to take in his stride.

"It can get to you some times, particularly on race day," he explains. "When you have a camera crew with you, they're always asking you to do so many things. You've already got so much on your mind - I've got to win, got to pull my socks up. It's really hard to do that if you've got a load of people around you."

Spend some time with Lewis at a race and you'd hardly realise he's under any pressure at all, such is his cool candour. It's this attitude to racing that's won him countless friends and fans off the track, and brought him title after title on it.

1998 has been a history of knocks and bad luck with a bitter-sweet ending. Making the important step up to the top class of McLaren and Mercedes' Champions of the Future karting series after winning titles in the two lower classes, Lewis took the title battle right to the final round with rival Fraser Shearer.

Winning his final would have been enough to clinch the title, had Fraser finished outside the top three. As bad luck would have it, he ended the race second. But Lewis is far from downbeat after finishing his debut year second in the championship, having competed with, and beaten, opposition much older and more experienced than he.

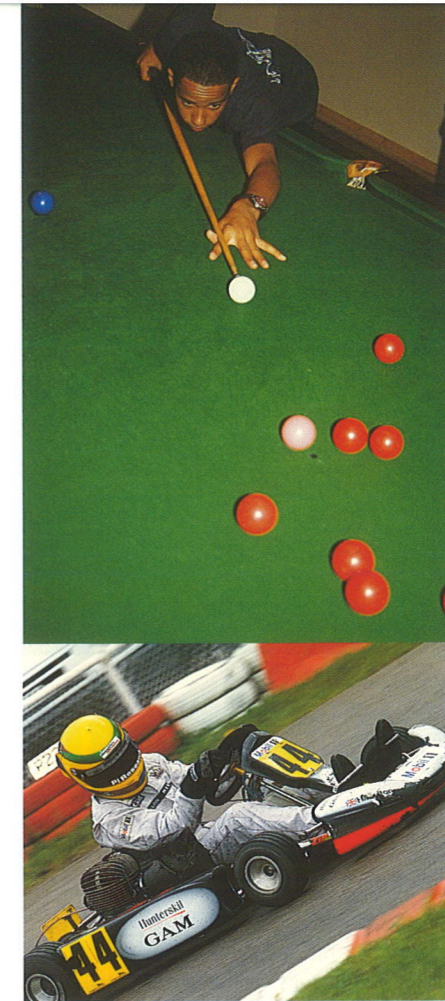
"It wasn't a disappointment really because it was our first year and we weren't expecting to win the championship - we were just hoping to learn as much as we could," he says. "We're really proud we came second. It would have been nice to win, but there's always next year. There would be no point in racing against a bunch of learners."

"I didn't dominate this year, which I have in others. We've struggled a bit and the races have been extremely close. It's been harder with this kart because everybody has lots of money and good engines and we are all the same speed. It's more down to the driver and the set-up."

"When I've won this year it's been a feeling of relief. My mechanics have done a really good job. They've been brilliant through all the hard times I've given them over the years, but especially this year because it's all been so new to us. We all still have a lot to learn, but we're looking ahead. It's a lot harder and we have to put so much more effort in."

A big help this year has been the assistance that comes with being part of McLaren and Mercedes' Driver Support Programme. "It's really helped us this year," says Lewis. "Before, we were struggling in a little box trailer. Now we have a camper to stay in to keep warm and also a van, so there's a lot of stuff."

"Ron [Dennis] is great at giving us advice, although he doesn't always give it to me. He



'It's the feeling of being in control that I love. Whatever I get on or in I just love to take it to its limit'

Lewis Hamilton

phones my dad and tells him to calm down, don't take things too quick and be steady and get to the top. His attitude is to take it easier and not to rush into anything.

"I think that's the proper way to do it. It's like learning a circuit - obviously you have to take it fairly slow. I'll tend to go fast down the straight, but I'll brake really early and find the apexes. Once you've done that for a few laps and got used to it you gradually get quicker and quicker and eventually you're just fastest."

At this point, talk inevitably turns to racing and a favourite topic of racing drivers of all ages - 'the limit', and how far you can push it. "It's the feeling of being in control that I love. It's great to have a lot of speed and whatever I get on or in I just love to take it to its limit," admits Lewis. "When I was little I was riding a quad bike. There was a screw on the throttle to prevent it going too far, so I took the screw out and soon I had it on the limit, getting it up on two wheels."

"When I'm racing and there's people ahead of me, all I think is 'I've got to catch them'. At five metres behind them, you can tell if you're catching them. You're thinking about braking late, keeping the engine cool, and sometimes keeping the tyres at the right temperature. You really have to concentrate and remain focused all the time."

It's just after the Spa GP and its crashes. The question comes up: Does Lewis get scared? "I've never had a big accident," he begins, but then his six-year-old brother Nicolas chips in: "You rolled it at Portugal last weekend?"

"Yeah, I guess that was a bit nasty. Over in Portugal it's a lot hotter, so whilst in the UK you have to keep the tyres warm, there you have to keep them cool. The kart sticks to the track and doesn't slide so much. As I collided with someone, the kart just stuck and I rolled."

"Racing in the rain is a bit scary. Water gets behind the visor and when you accelerate through a puddle on the exit of a corner you think, 'Phew, I got through that one'. We were racing pretty much in the dark a few races ago. That was pretty hairy. I could hardly see."

But it's in the wet and difficult conditions that Lewis really shines - something he has in common with all the F1 greats, especially his hero Ayrton Senna. "I'd just love to drive one of his cars. He has been my hero for so many years and I've always said I'd love to drive one of those cars ever since I first saw him on TV. Michael Schumacher's close, David and Mika are great, but Senna was always the best."

Could it be that in a few year's time, we'll see Lewis' yellow helmet in the cockpit of a Formula One car? "To make it to Formula One would be the best," he smiles. "I don't say I'm going to get to Formula One, but if I do maybe I'll remember talking about it." ■

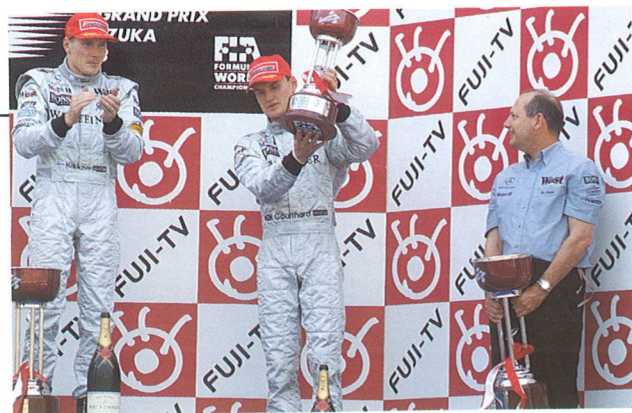
Mika and the team get the best of both worlds in Japan



To finish first, first you have to be Finnish

WORLD CHAMPIONS

It was the perfect result. Mika Hakkinen stormed to a wonderful win, and the West McLaren Mercedes team clinched a hard-fought constructors' title



Mika applauds DC on his third place; Ron awaits his imminent shower

● It's all about teamwork, says DC

One of the first to congratulate a victorious Mika Hakkinen as he emerged from his MP4-13 in parc fermé was team mate David Coulthard, who finished the race in third place. Although a poor start dropped the Scot out of the battle for the lead, he had had his own tough, race-long battle.

"I had too few rpm at the first start and too many the second time around. I tried to stop Eddie getting the jump on me, but couldn't, then spent the first stint behind Heinz-Harald and that was it. I had to try and make sure I finished the race, so I was not as aggressive as usual, particularly as I

"Now I understand what it's all about. It's such a big thing," smiled Mika Hakkinen as he tried to explain to the world the emotions of being crowned 1998 Formula One World Champion. "It was too much to believe. I've always tried to do my best for the team and worked hard and it has taken a long time but now it has happened. I look back over the past years and I feel happy about it all. I feel good too for all the people at the factory, the designers, the mechanics, the people in the marketing department. Here we are - we've won the championship."

Beaten to pole by title rival Michael Schumacher, the pressure was present on the front row for all to see. A pre-race handshake

knew I might have to do something for the Constructors' Championship and make sure I was available to support Mika. It was very difficult because I was slow out of the chicanes and couldn't pass Frentzen easily."

All the time, messages flashed between David and the team on the pitwall via radio and pitboard. Michael Schumacher was closing fast, and DC's McLaren could be a useful tool in the tactical battle to prevent

him reaching Hakkinen, holding a comfortable lead.

"I knew where Michael was and I could see my lap board. I was aware of where he was every time. It was a great relief when Michael stopped at the side of the track and we'd won both championships. It was great credit to everyone back at the factory and the whole team and to Mika, of course. I'm pleased he's World Champion, and I believe I contributed to that result. It has been a great year for Formula One fans, there have been all sorts of incidents and excitement, but from my own point of view it's been a little disappointing not getting as many good results as last year in a better car."

kept things amicable, but nerves were high in both cars. Jarno Trulli's stalled Prost didn't help. "I was nervous and I tried to focus. It was difficult to get my mind right."

As the lights came on for the second start, a waved yellow flag from the pitwall indicated

that something was amiss. Schumacher's car had stalled, and would have to start at the back of the grid.

"When Michael stalled, I felt a great release of the pressure. It was great. They were going to move him to the back of the grid; I thought

'that's nice'. But I still worried. I knew he'd be quick and that he would carve his way through the field."

As the race finally got under way and Mika moved into the race lead, that was still a real worry. Passing eight cars in the first lap and working his way up to third place, Schumacher was an ever-present threat. "I knew I still



Japanese GP

MIKA GETS THUMBS-UP FROM ERJA

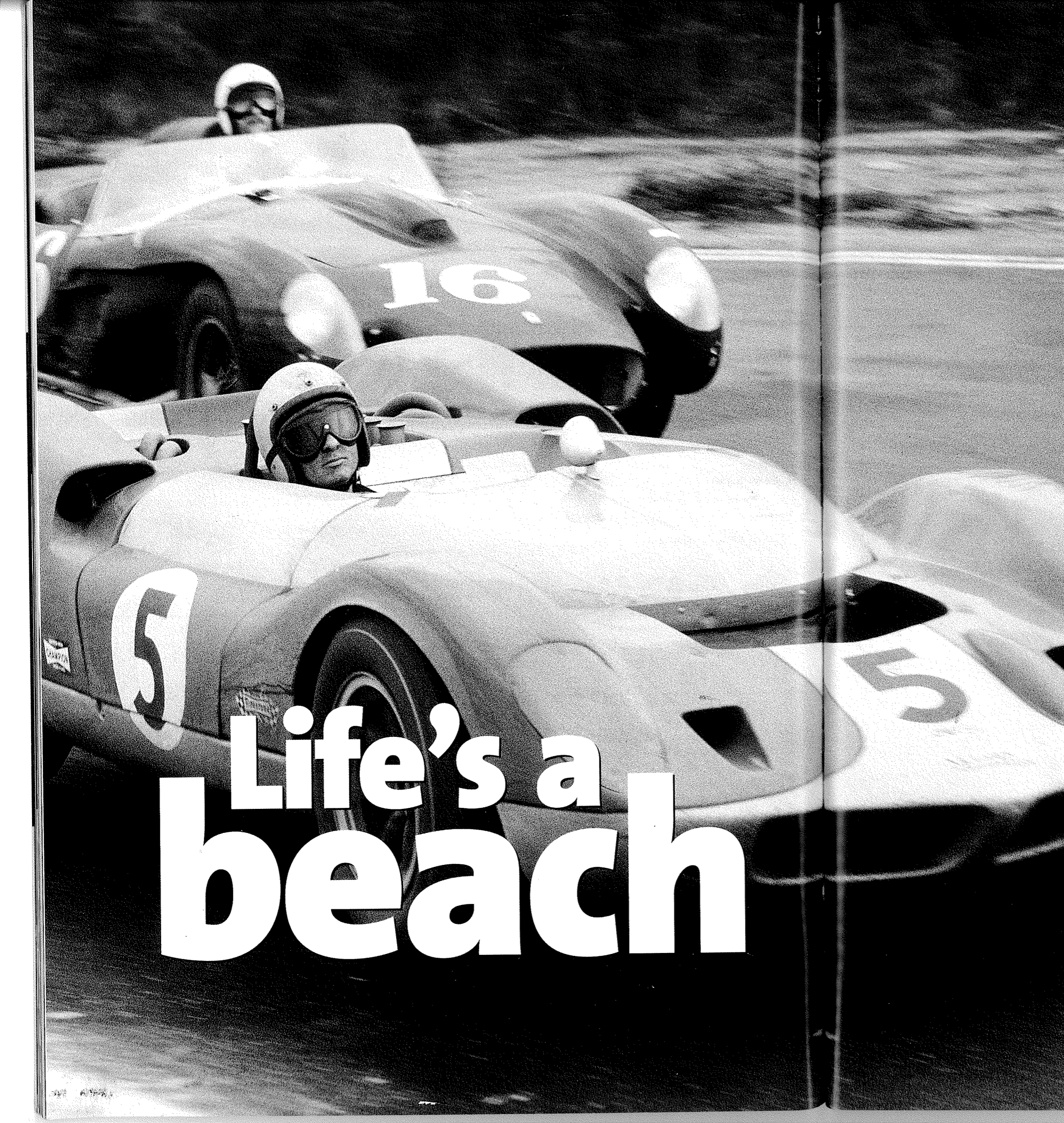
With thousands of Finnish fans staying awake through the night and several hundred finding room trackside in Japan, there was no shortage of home support for Mika Hakkinen. But Mika's biggest fan, wife Erja, saw Mika cross the finishing line as champion from the best position - on the McLaren pitwall. "It was a fabulous race and Mika did excellently," she said. "We've been waiting for Mika to become champion for some time - and now it's here. It's really fabulous."

NEWAY KEEPS WINNING HABIT

Designing championship-winning cars has become something of a regular habit for technical director Adrian Newey, but it's one he's keen to keep going. "This is a great team effort," he said after seeing his latest success story, the

West McLaren Mercedes MP4-13, cross the finishing line as Constructors' Champion. "It reflects on everybody, the engineering staff at McLaren, the mechanics, the shop floor. Everybody has worked so hard through the year so it's a great result. It's been a tough year."





Life's a beach

Racing in the Bahamas in 1964 gave Bruce McLaren and team the chance to race, to party and to look forward to the season ahead...

WORDS Doug Nye

Bruce McLaren Motor Racing Ltd was finding its feet as an independent team in the mid-1960s, so the winter months offered no prospect of relief. To sustain a racing team in those days meant competing at every opportunity, so November and December saw the McLaren roadshow in full swing, where it belonged – on the race track. One event was a combination of heavy-duty partying and only fairly serious racing nicknamed the Bahamas Speed Week. One of the stars of the 1964 Speed Week was the prototype McLaren-Elva-Oldsmobile M1A – the first true McLaren car, driven by Bruce himself. “If you want a combination of holidaying and motor racing, there can be no better place than Nassau during the Bahamas Speed Week,” he confessed. “Parties every night; water skiing during the day... and motor racing.”

The circuit ran around four-and-a-half miles of runways and perimeter track on the Oakes Field aerodrome.

Most of the entries were from America, but a European contingent had been flown out to Miami.

From there, all the entries were towed to Nassau on a huge assault landing ship by a fleet of tugs.

The 100 racing cars took three hours to offload,

Bruce describing it as “like Noah’s Ark. Formula Vees, Ferraris, Ford GTs, Lotus 30s, Brabhams, Coopers, Chaparrals, Corvettes, Jaguars, Porsches – even a McLaren-Elva...”

The week began with a rash of five-lap sprints – Bruce competing in a 190mph Ford GT, then stepping straight into a 95mph Formula Vee. He finished third in the VW-based single-seater, but the two cars ahead were disqualified for technical infringements, and he received a winner’s cheque “well over what a GP winner could expect in Europe.”

Scuba diving on a coral reef introduced new friends, including “a large and hungry-looking Barracuda”, after which motor racing

seemed the safer option. Bruce ran his M1A in the Governor’s Trophy race, but the lack of prize money persuaded him to withdraw, to preserve his car for the valuable Nassau Trophy.

The event featured a Le Mans-style run-and-jump start. It did not go well for Bruce. “We stood across the road from the cars, getting soaked by a tropical downpour... then we were running, scrambling into our cars, firing the engines and accelerating away with wheels spinning. At least that’s what should have happened. I managed the first bit, but the engine didn’t fire at first.

“The track was like a skating rink – cars spinning in all directions. The safest thing seemed to be to stay out of everyone’s way until the rain stopped. Clive Baker in his little Sprite was running well ahead of most of the six and seven-litre giants while the track was wet. [Roger] Penske went off the road in his Chaparral and broke the suspension, but teammate Hap Sharp was doing a good job in the lead. Pedro Rodriguez took over in his open Ferrari, and after 26 laps I managed to wrest the lead from him.

“The track was drying quickly and those people with a lot of power were finding they could use it again. Penske had taken over Sharp’s Chaparral and caught up with Dan Gurney’s Lotus 19B. They were fairly flying. However, a pitstop was mandatory, and since Penske had made his with the driver change, Dan and I had a little built-in handicap that we couldn’t overcome. Dan’s clutch broke, and I was pleased to motor home second – a leisurely minute behind Penske, with Pedro’s Ferrari a full two laps behind.”

Bruce went on to describe how, “after this annoying motor racing had finished”, he and his crew could spend another day at the beach before the prize-giving, after which he flew off to the States, sponsor hunting. The crew holidayed in Nassau or flew south to New Zealand and Australia for the team’s next fixture – the 1965 Tasman Championship.

It was at Nassau that the seeds of an idea were sown in Bruce’s head. Learning the track in a Hertz Chevy Malibu convertible, he was impressed by its automatic transmission. Roger Penske’s automatic Chaparral dominated both feature events, and Bruce experimented with the transmission through 1965 – setting a trend towards open-minded innovation that has been a McLaren tenet ever since. ■



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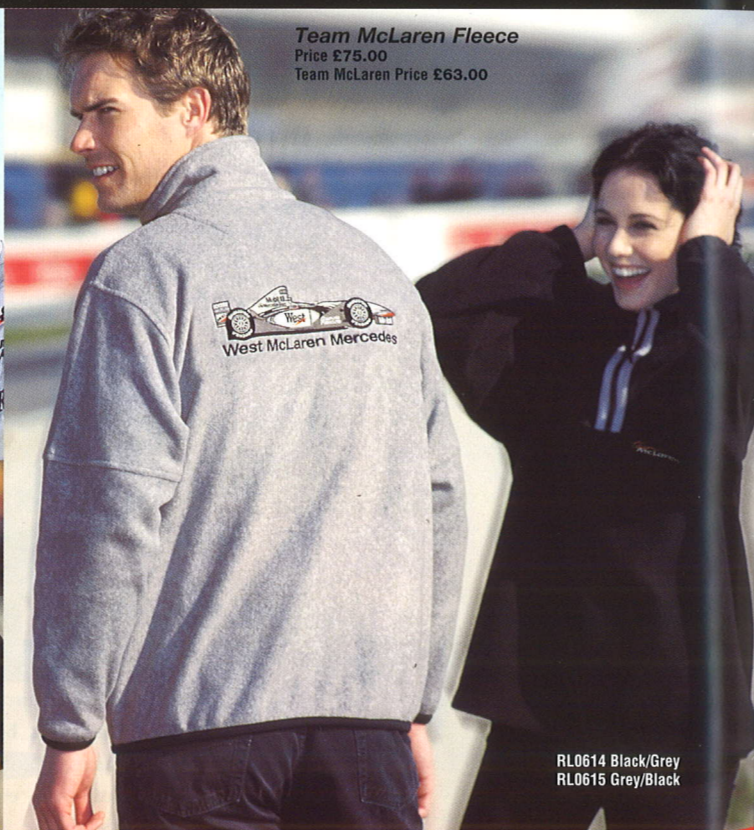


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WINTER KARTING SEASON ATTRACTS GREAT INTEREST

With the Formula One season coming to a climax in Japan, we have been inundated with requests for places on our Team McLaren karting championship and have revised our winter dates to accommodate everybody.

The format of the race stays the same, with sprint races in the morning for solo entrants and endurance races in the afternoon for teams. We do have a few places left in both championships. To get more information or to reserve a place, call Race Productions on 0700 077 6527.

Racing Line's very own editorial team took time out from their busy end of issue schedule to enter a kart at the 25 October Langbaugh race – you can read all about our feeble attempts to match the championship regulars in the January edition of *Racing Line*. To all those we met there, you know the result. (Just make sure that you don't tell anyone, okay!)

NEW DATES

Langbaugh, Middlesbrough	8 Nov
F1 City Circuit, Docklands	5 Dec
Langbaugh, Middlesbrough	12 Jan

Rub shoulders with the stars at Autosport International 1999

The 1999 motor sport season kicks off at the Birmingham NEC on Friday 8 January with the Autosport International show, and we've lined up an exclusive opportunity for you to attend the pre-event trade day on Thursday 7 January – normally off-limits to the general public. We'll be there for every day of the show with our own displays, but this is the best day to do that little bit of pre-season star spotting as the motorsport world descends on the NEC.

A limited number of special Team McLaren tickets for the day are available on a first-come, first-served basis, priced £9.00. You can apply by sending us a fax (01926 888455) with your name, job title, company name, address, postcode, telephone number, fax number and membership number, quoting reference TM1. Alternatively, you can give us a ring on our trade day application number (01926 889500), and we'll mail you an application form to fill in and return with payment. Remember, book now because places are strictly limited.



It may be starting to get cold out there, but that isn't preventing Team McLaren members from dusting down their overalls and entering our close-fought endurance karting championship – few places remain

Team McLaren

HOTLINE: +44 (0)1274 771833

Teamwork offer

You've watched the cars, you've read the mag – now buy the book. The official West McLaren Mercedes team's biography, *Teamwork*, is on sale at £25 in UK shops, but Team McLaren members can have it for just £15 plus postage and packing (UK £5, Europe £10, World £15 per book). Better yet, the first 100 applicants will receive books personally signed by Ron Dennis. Telephone us on the Team McLaren hotline to reserve your copy.

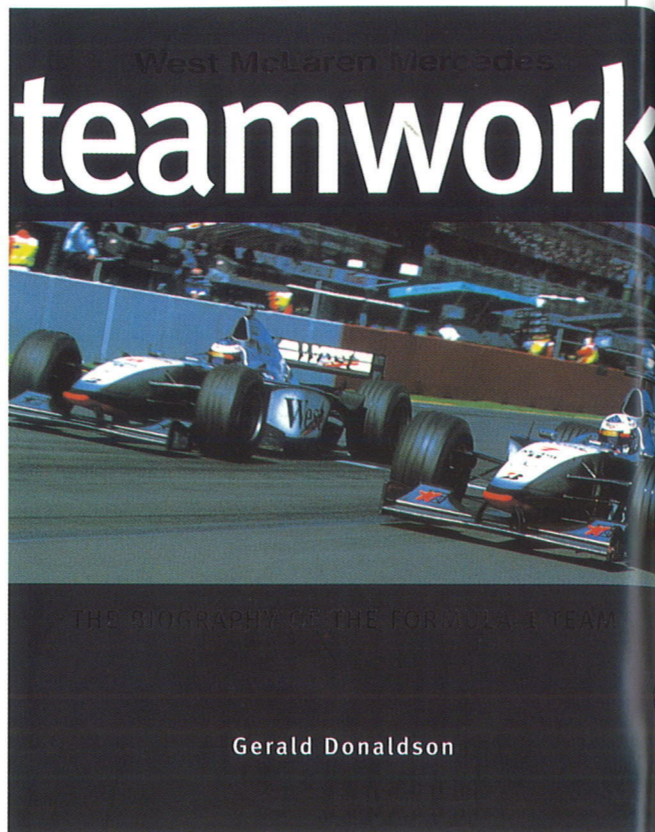
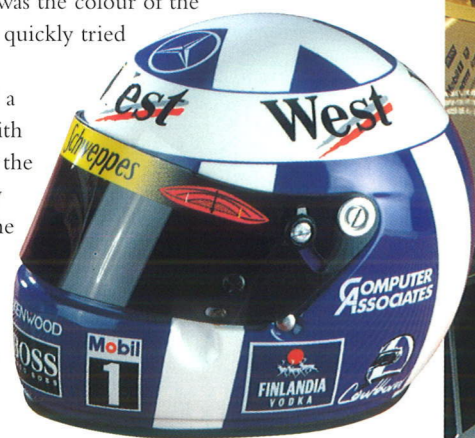
Teamwork winner

Back in our September issue we offered the prize of a signed copy of *Teamwork* to whomsoever correctly identified which record the McLaren team broke at the 1993 Australian Grand Prix. It was of course the title of 'most successful Formula One winners', with a record 104 victories in total. Congratulations, then, to Andrew Holloway from Buckinghamshire. We'll be getting your prize signed and posted to you as soon as possible.

Win a signed DC half-size helmet

To celebrate the end of the 1998 Formula One season, we've put together this competition, exclusive to Team McLaren members. This half-sized David Coulthard helmet, signed by the man himself, is up for grabs. All you have to do is send the answers to these three questions, with your name, address and membership number, to the address on page 50. Entries will be accepted up until the end of November. Next month you'll have the chance to win Mika Hakkinen's helmet...

- 1) When DC was caught by the cameras of ITV in the West McLaren Mercedes motorhome in Germany, what was the colour of the glass of wine he quickly tried to hide?
- 2) Who suffered a 20mph prang with David as part of the FIA's road-safety programme at the British Grand Prix?
- 3) At what age did David make his karting debut?



Gerald Donaldson

Luxembourg close-up

Getting in the pits at a Grand Prix is one thing, but actually seeing McLaren's revolutionary MP4-98T two-seater at first hand is something else. At the Luxembourg Grand Prix, Team McLaren members Richard Hunter and Janice Kirkwood were able to get close enough to the paddock to communicate with a member of our staff. We thought they definitely deserved a tour of the pits as reward for their persistence.

There they saw the photoshoot with Mika and cosmonaut Vasili Tsibliyev, took a spin in the West McLaren Mercedes liveried A-class, and witnessed a "wonderful, if rather nailbiting" result for Mika and the team. When you attend a race, you just never know your luck!



A Silverstone surprise

Team McLaren member Peter Banks got the surprise of his life when he won a competition outside *Racing Line* to visit the West McLaren Mercedes pits at Silverstone on 21 October for the final day of testing ahead of the Japanese Grand Prix.

Tour guide of the garage was F3000 runner-up and West McLaren Mercedes test driver Nick Heidfeld, who was performing driving duties for the day. "He was a nice lad, really helpful," said Peter, a fan of the sport since the 1970s. "We had a long chat about what he was doing next season, and he showed me all around the car and the garage. It was a great experience, something I never expected."

Here's this month's pick of members' questions. Write in, we'll get answers

Q & A

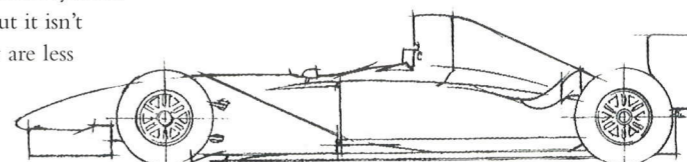
Despite the fact that F1 cars are less electronically sophisticated than they were in 1993, when cars had traction control, active suspension and ABS, there are more buttons on the steering wheel nowadays. Why is this?

F1 cars have greater restrictions in respect of electronic systems than in 1993, but it isn't true to say they are less sophisticated.

The pursuit of every performance advantage means a broad range of systems are developed that comply with prevailing technical regulations. It may be that the technical restrictions that were put in place in 1994 have led to more driver input, and consequently more buttons on the steering wheel.

How much of an F1 car's setup is determined before the team arrives at the track, and how much is the car changed throughout the weekend?

Prior to a Grand Prix, the engineering team seeks to determine what they believe to be the best set-up for a particular track. However, during the course of the Grand Prix weekend, more is learned about the particular conditions and the set-up will be refined. The extent to which these requirements deviate from the original set-up varies from event to event.



WRITE IN WITH YOUR QUESTIONS TO TEAM McLAREN

What is the fastest Grand Prix corner in the world, and how fast does a Formula One car go round it?

The fastest corner in the world is Eau Rouge at Belgium's Spa-Francorchamps circuit, where the cars are travelling at 183mph (295km/h) and produce 4.5g lateral loads – enough to make the driver's head seem four-and-a-half times heavier than it really is.



The new Kenwood 1999 wall calendar is available to Team McLaren members for £7.50 plus p&p (UK £1.50, Europe £4 and rest of the world £7.50). We only have 100 to distribute, so phone now!

Hang on in there, Mark

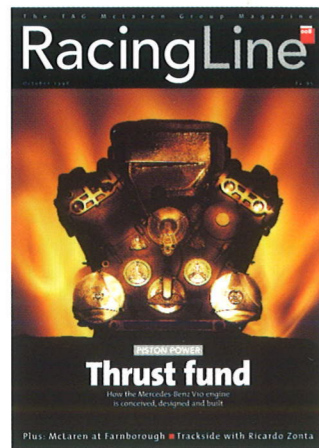
If you thought we'd forgotten about our "Win a day with the test team" competition winner Mark Luty, fear not. With the rather tense conclusion to this year's championship in Japan, all efforts at our Silverstone and international tests have been devoted to extracting the maximum performance from the car. As such we wouldn't have been able to afford Mark the attention and the day out which he deserves. We'll be slotting him into our test programme as soon as we possibly can in the New Year.

PITBOARD

● **Formula Fashion** orders for Christmas should reach us early to be sure of getting your goods by 25 December. The official 'last order' dates for Formula Fashion material are 7 December for addresses within the UK, 1 Dec for European destinations, and 27 November for the rest of the world. Please note that these dates are good for credit card orders only: if you're sending a cheque, make sure it gets to us at least seven working days before the dates quoted

● **Duke Videos** is giving Team McLaren members a 20 per cent discount on its new, 2,000-strong range of titles. To order a catalogue or video, including the 1998 season review, ring or fax Duke on +44 (0)1624 640000 and +44 (0)1624 640001, quoting ref number 4069

LETTERS



Dyeing to win

It's without any hesitation that I am renewing my Team McLaren membership. What a 12 months it's been! With Autosport International and visits to Woking and the Silverstone test, it's fair to say I've been more emotionally involved in this season than any other.

Well done to all at West McLaren Mercedes for making it a year to remember. And should it all go right in Japan, I have a bet to fulfil – I have to dye my hair silver. Photos will be provided!

Janine Pingree, Stourbridge, West Midlands
It's a deal! Send in the photos and we'll publish them for all to enjoy...

Competition disappointment

As an ardent David Coulthard fan, I was over the moon when I read about the possibility of winning a signed piece of his 1997 car.

However, since I only received my copy of Racing Line on 19 October and your competition required entries to be in the UK by the following day, my delight quickly turned to disappointment.

I'm starting to wonder if British members have all the advantages. I can assure you that us European members are just as crazy as any of your British members, so perhaps you

should give us equal opportunities and respect.

Els Lagast, Beringen, Belgium
We're sorry to hear of your disappointment, Els, but rest assured all members receive our utmost attention. Distribution delays with this particular issue meant that all late entries, including yours, were entered into the

draw. In future we'll be moving our competition deadline dates back to avoid any further problems.

Photo search

Congratulations on a fabulous season so far, and all the best for Japan. I was wondering if you or any other Team McLaren members might be able to help me.

I attended my first Grand Prix at Barcelona earlier this year, but unfortunately I have since split from my boyfriend, who has all the photographs, and I now have very few souvenirs of a fantastic weekend.

If anyone has any photos of the McLaren duo then I would really appreciate any copies. I would also be interested in getting in touch with other members as I am hoping to attend at least one Grand Prix in 1999 and will be going alone.

Michelle Read, Hornsey, London

Oh dear! Can anyone help? Send us a letter and we'll pass it on

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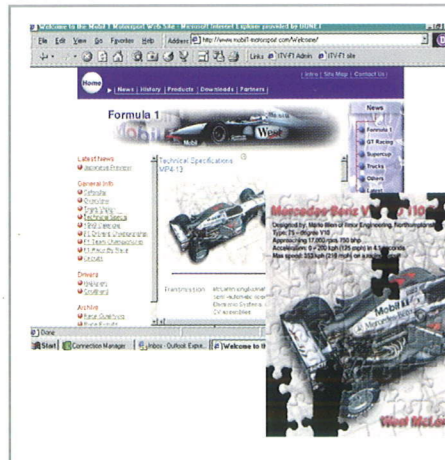
write to

**Admail 622,
 Woking, Surrey,
 GU21 1WH, England**

or see our website

www.mclaren.co.uk

www.mclaren.co.uk



What's on the Internet this month?

The 1998 season is now over, but the start of the 1999 Formula One World Championship is only four months away. Keep up to date with all the off-season news on McLaren's own website – www.mclaren.co.uk – and post your views on the outcome of this year's championship on the message board (username *bmember*; password *m3559c*).

West McLaren Mercedes technical partner Mobil has been involved in motor racing since the dawn of the sport, and on its recently revamped website www.mobil1-motorsport.com, you can find out a little of the history and technology of the company which has a winning streak that extends right back to the turn of the century. There's also a jigsaw game and screensaver featuring the MP4-13 to download.

www.mclaren.co.uk

IN THE NEXT ISSUE

Published on 4 December, 1998



The winning team

A look back at the highs, lows, goofs and gaffes of a memorable year

PLUS

Get into the groove: behind the scenes at Bridgestone

Mika dons some fancy togs at a Hugo Boss fashion shoot

How the other half lives: big boats and sleek cars at Monaco

The Winning Formula

Partnership

Teamwork

Commitment



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