

# Racing Line

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## THE ICEMEN COMETH

West McLaren Mercedes unveils  
its new pitcrew cooling suits



### SAP UNITED STATES GRAND PRIX PREVIEW

DAVID COULTHARD'S BIG DAY OUT IN NEW YORK WITH TEAM PARTNER TAG HEUER  
PLUS INSIDE SAP'S PARTNERSHIP WITH WEST McLAREN MERCEDES AND INDIANAPOLIS



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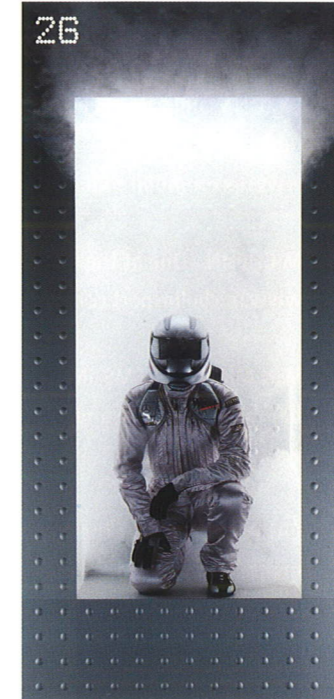
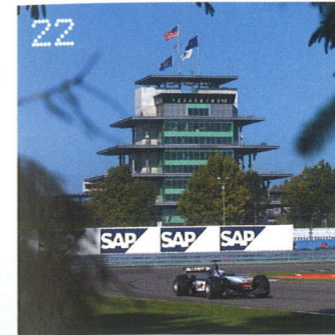
Mercedes-Benz





# RacingLine

SEPTEMBER 2002



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"I'M NOT A BUSINESSMAN, BUT I HAVE THE CHANCE TO RUB SHOULDERS WITH PEOPLE WHO ARE. I LIKE SEEING WHAT MOTIVATES THESE PEOPLE AND HOW THEY WORK"





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

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

## 2002 GP Calendar

18 August - Hungarian GP (Hungaroring)  
1 September - Belgian GP (Spa-Francorchamps)  
15 September - Italian GP (Monza)  
29 September - United States GP (Indianapolis)  
13 October - Japanese GP (Suzuka)

## 2002 GP Results

Australian GP: David Coulthard DNF; Kimi Räikkönen 3rd  
Malaysian GP: David Coulthard DNF; Kimi Räikkönen DNF  
Brazilian GP: David Coulthard 3rd; Kimi Räikkönen 12th  
San Marino GP: David Coulthard 6th; Kimi Räikkönen DNF  
Spanish GP: David Coulthard 3rd; Kimi Räikkönen DNF  
Austrian GP: David Coulthard 6th; Kimi Räikkönen DNF  
Monaco GP: David Coulthard 1st; Kimi Räikkönen DNF  
Canadian GP: David Coulthard 2nd; Kimi Räikkönen 4th  
European GP: David Coulthard DNF; Kimi Räikkönen 3rd  
British GP: David Coulthard 10th; Kimi Räikkönen DNF  
French GP: David Coulthard 3rd; Kimi Räikkönen 2nd  
German GP: David Coulthard 5th; Kimi Räikkönen DNF

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# InsideLine

Some people might have felt it was entirely predictable that we have confirmed that David Coulthard, Kimi Räikkönen and Alexander Wurz will remain as our Formula 1 team's three drivers on long-term contracts.

Yet simply because we opted to continue these fruitful relationships does not mean we simply rubber-stamped them without any detailed analysis and exacting assessment of just how well this trio have performed for us over the past season and more.

Such decisions are only made after exhaustive discussions amongst senior members of our management in which we scrutinise and consider every aspect and implication relating to our future plans. We are also mindful of the long-term aspirations of the team and how the individuals concerned will compliment not only each other, but also their overall integration into the company structure.

Both Kimi and David particularly underlined the progress which the team has made in recent months with their strong showings in the French Grand Prix - a race which Kimi looked on course to win until he ran wide on unflagged oil dropped by another car a few laps from the finish.

This raised specific issues over the correct use of the yellow warning flags, which I hope the FIA will address in the near future, but, in overall terms, this did not detract from the excellence of Kimi's performance.

It was a race in which our new Finnish recruit fully justified our confidence in him, displaying many of the qualities which made his compatriot Mika Häkkinen such a formidable competitor during his time driving for us. In that connection, Mika formally announced at Hockenheim that he would be turning his recent sabbatical into permanent retirement from driving.

All of us in the West McLaren Mercedes partnership would like to thank him for his loyal contribution to our success over the years and wish him, Erja and Hugo a peaceful and relaxed future.

## Ron Dennis CBE

TAG McLaren Group Chairman and CEO



West McLaren Mercedes confirms 2003 line-up; Germany wins West football tournament; McLaren stars at the Festival of Speed

# DRIVERS CONFIRMED FOR 2003

David Coulthard, Kimi Räikkönen and Alex Wurz were confirmed as the West McLaren Mercedes' team's drivers for 2003 at the German Grand Prix



The West McLaren Mercedes team announced at the Mobil 1 German Grand Prix that it has retained the services of drivers David Coulthard, Kimi Räikkönen and Alex Wurz for the 2003 season. "David, Kimi and Alex have done a fantastic job this year and, like the team, they want to challenge for the 2003 championship," said Ron Dennis. "The continuity can only be beneficial for all involved."

Next year will be David's eighth season with the team and Kimi's second. Both drivers were pleased with the decision to keep the line-up unchanged. "In the competitive environment of Formula 1, it is an important factor for the team and drivers to have continuity," said David. "Kimi and myself have developed a good relationship in 2002 and I look forward to continuing this in 2003."

Kimi added: "I'm really pleased to be staying with the West McLaren Mercedes team as I have really enjoyed my first season with them. I have learned a lot in these past few months and I am very excited about working with the team in the future."

Next season will be Alex's third year in the role of third driver. He will continue to support David and Kimi with test and development work, but he is also the West McLaren Mercedes team's third nominated race driver if needed. "I've grown into this role over the past two years and it's an integral and challenging position within the team," Alex said. "It's very satisfying to work closely in a highly-skilled and committed environment to develop the best car possible."

"KIMI AND MYSELF HAVE DEVELOPED A GOOD RELATIONSHIP FOR 2002, AND I LOOK FORWARD TO CONTINUING THIS IN 2003"

DAVID COULTHARD

## MIKA ANNOUNCES RETIREMENT



Former double world champion Mika Häkkinen announced his retirement from Formula 1 at the same time as

the West McLaren Mercedes team confirmed its 2003 driver line-up.

Mika, who drove for McLaren from 1993 until the end of 2001, had taken this year off as a sabbatical from the sport, but has decided to call time on a career which includes two drivers championships, 20 race wins and 26 pole positions – all with the West McLaren Mercedes team. Mika, who visited the team at this year's Monaco Grand Prix, intends to spend time with his wife, Erja, and son Hugo.

"I wasn't sure how I was going to feel,

but the visit to Monaco made it clear to me that I had made the right decision," he said. "I have been through so much in my Formula 1 career and achieved a lot and I didn't think it was worth it to push things any further. I want to spend time with my family and see Hugo grow up. All I can say is a big heartfelt thank you to everybody. I appreciate the support and friendship you have shown over the years."

Ron Dennis added: "I want to thank Mika for everything he has done and achieved for the team during his nine-year career with McLaren. I know this has not been an easy decision for him to make, but the team and myself want to wish him and his family all the best."

To read more about Mika Häkkinen's decision to retire from Formula 1, turn to page 34 of this issue of *Racing Line*

PICTURE CREDITS>  
LAT; HOCH ZWEI; SPORTING PICTURES

# GERMANY WINS WEST WORLD CUP

West McLaren Mercedes Title Partner West held a World Cup-themed football event on the Thursday evening of the French Grand Prix for members of the Formula 1 media.

Putting their defeat by Brazil in the World Cup-proper behind them, the German squad were victorious over teams from France, Britain, Italy and a special 'Rest-of-the-world' team, which was bolstered by West McLaren Mercedes third driver Alex Wurz. The event was topped off with a barbecue for the hungry budding football stars.



West McLaren Mercedes driver Alex Wurz played for the 'Rest-of-the-world' team in the West World Cup event

# McLAREN STARS AT GOODWOOD

McLaren and Mercedes-Benz were again involved in this year's Goodwood Festival of Speed, with their cars doing

Sportscar and Formula 1 legend Jackie Oliver drove a McLaren MP4/1C formerly raced by John Watson in 1983, while occasional test driver Darren Turner took to the wheel of last year's West McLaren Mercedes MP4-16.

Mercedes-Benz took part in celebrations of 75 years of the Nürburgring circuit and the fabled Mille Miglia race, running the the 1927 680S with which Rudolf Carracciola won the first race on the Nordschleife and the 1955 300SLR in which Sir Stirling Moss dominated the 1000-mile Italian road race from Brescia to Rome and back again.

Also present were a W196 from 1954 and the 1938 W154 in which Dick Seaman was the first Englishman to win a grand prix since Sir Henry Seagrave.

McLaren Cars set the quickest time on both days of the annual soapbox challenge. The event requires teams to build a gravity-powered racer for a budget of £1000.



Darren Turner drove a West McLaren Mercedes MP4-16, while McLaren Cars excelled in the soapbox challenge



# McLAREN RAISES MONEY FOR SPORTS RELIEF

McLaren helped to raise a significant sum of money for the first running of the BBC charity event Sports Relief at the end of July. The event, organised by Comic Relief and BBC Sport, featured a charity auction organised by London auction house Sothebys on July 19.

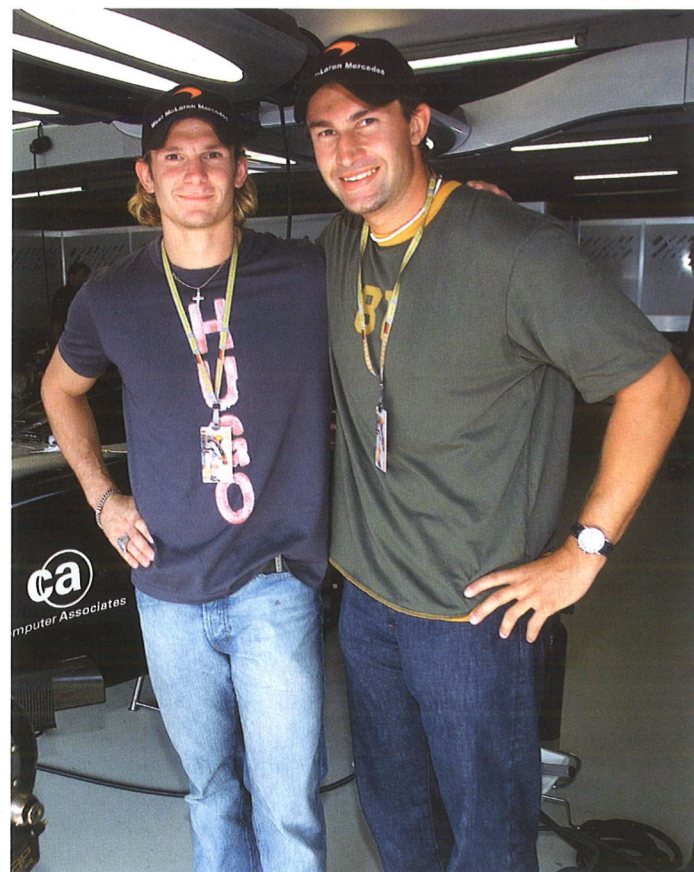
Items provided to the auction by McLaren included a full-size replica of Mika Häkkinen's title-winning West McLaren Mercedes MP4-13 from 1998, a pair of Ayrton Senna's race overalls from 1991, a pair of David Coulthard's overalls and boots, steering wheels used by both Mika Häkkinen and David to win grands prix, and a ride in a McLaren F1 road car.

The running total of money raised by Sports Relief as *Racing Line* went to press was just over £10m, which will help provide sports funding for underprivileged children both in the United Kingdom and around the world.



West McLaren Mercedes guests attend Hockenheim; Mercedes-Benz holds pre-German Grand Prix media event

## TEAM WELCOMES GUESTS AT HOCKENHEIM



The West McLaren Mercedes Team Communications Centre played host to a wealth of famous faces at this year's Mobil 1 German Grand Prix, held at the newly-revamped Hockenheim circuit.

Former tennis ace Boris Becker was a guest of DaimlerChrysler, while Ukrainian heavyweight boxers the Klitschko Brothers were guests of the team's Corporate Partner HUGO BOSS. Also attending the race with Title Partner West were a pair of Czech ice hockey stars – Patrik Elias, who plays for the New Jersey Devils, and Roman Hamrlik, who plays for the New York Islanders.

British pop group Right Said Fred, who have found more recent fame in Germany, also paid a visit to the Team Communications Centre over the course of the German Grand Prix weekend as guests of German Formula 1 television broadcaster RTL.

To read Martin Whitmarsh's inside view on the French and German Grands Prix, turn to page 12 of this issue of *Racing Line*.



Ice hockey players Patrik Elias and Roman Hamrlik (picture far left) were guests of the West McLaren Mercedes team for the German Grand Prix, along with Boris Becker and Ukrainian heavyweight boxers the Klitschko brothers (picture left)

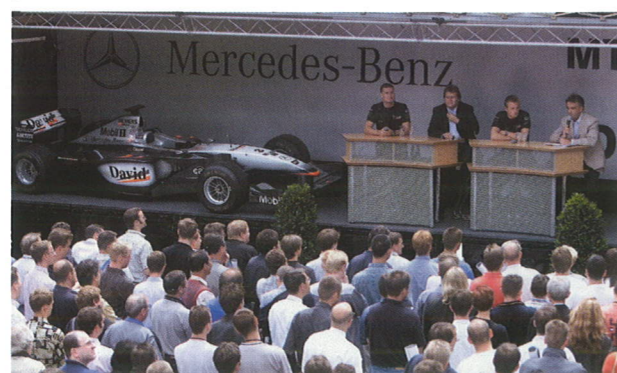
## MERCEDES-BENZ HOLDS MEDIA DAY

Mercedes-Benz held its second media warm-up day of the year on the Wednesday before the German Grand Prix at Hockenheim.

A tradition before each season's two grands prix in Germany (at the Nürburgring and Hockenheim), the event gives the world's media the chance to catch-up with the West McLaren Mercedes team and Mercedes-Benz.

The media day also gave the journalists a chance to test their skills in a go-kart race against a selection of Mercedes-Benz' DTM drivers, including reigning champion Bernd Schneider.

The following day West



McLaren Mercedes drivers David Coulthard and Kimi Räikkönen accompanied the press to the Mercedes-Benz road car plant in the town of Sindelfingen, where they were given an insight into the processes involved in manufacturing the company's

pace-setting vehicles, as well as being invited to experience a live crash test.

To round off the day, the two Formula 1 drivers answered questions from Mercedes-Benz employees before heading off to Hockenheim for the race itself.

## WEST AND CANON BACK FOPA DINNER

West McLaren Mercedes Title Partner West once again organised the Formula One Photographers' Association dinner at the French Grand Prix.

All photographers were provided with disposable cameras to find memorable and amusing shots from over the French and German Grands Prix weekends.

Official Supplier Canon provided Canon IXUS cameras as the prizes for the top three photographs, while the rest of the photographers received a Canon digital camera backpack.

McLaren International Managing Director Martin Whitmarsh attended an evening function held by Technology Partner Sun Microsystems on the Saturday night of the German Grand Prix. The event was held at the Schloss Hotel in Kronberg, where Martin discussed technology in Formula 1 and the Partnership with West McLaren Mercedes with Sun management and VIP guests.

## PARAGON - THE McLAREN TECHNOLOGY CENTRE [www.mclaren-paragon.com](http://www.mclaren-paragon.com)



## UIA CELEBRATES TECHNOLOGY CENTRE



Paragon Partners Schüco, Targetti, Grohe and Pastorelli organised an evening function in Berlin to complement the main UIA Conference

The 21st annual gathering of the Union Internationale des Architectes celebrated the development of Paragon – the McLaren Technology Centre – at its World Congress of Architecture in the heart of Berlin on July 24.

The highlight of the event was a keynote speech by the architect behind the design of the new facility in Woking, England, Lord Norman Foster, who spoke in public for the first time about his inspirations for the design of the McLaren Technology Centre.

The event was supported by Paragon Partner Schüco, which also organised an evening cocktail function with fellow Paragon Partners Pastorelli, Targetti and Grohe.

The evening function, which was held in E-Werk, a former electricity sub-station near the former divide between the two halves of the city, featured a question and answer session with Ron Dennis about his involvement in the project. To read more about Paragon's starring role in the UIA Conference, turn to page 40 of this issue

## PROGRESS MADE ON OUTSIDE WORKS

More radical visual changes have been taking place on the exterior of Paragon – the McLaren Technology Centre. The dome structure that forms the roof of the Visitor and Learning Centre is now in the process of being landscaped to blend in with its natural surroundings while work is continuing on the interior of the centre to complete the exhibition and theatre areas, with new walls being put in place.

Work is also progressing on the VIP access road which circulates around the outside of the

main lake. This is currently being block-paved with silver granite aggregate blocks, while the drop-off area by the main reception foyer of the Technology Centre has already been completed.

The cascade waterfall which runs between the bottom of the front façade and the lake is also currently having the finishing touches put to it, and has finally been connected with the cooling infrastructure of the wind tunnel to aerate and lower the temperature of the water before returning it to the wind tunnel system.

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## REPORT ROUND 11, MAGNY-COURS 21/7/02

# MOBIL 1 FRENCH GRAND PRIX

The West McLaren Mercedes team scored an impressive double podium in the Mobil 1 French Grand Prix, with Kimi Räikkönen narrowly missing out on his first career grand prix win.

His team-mate, David Coulthard, finished in an equally strong third, rounding off a race weekend at which the West McLaren Mercedes engineers and drivers managed to extract the absolute best out of the MP4-17 package.

During qualifying, the car's potential was clear for all to see, with Kimi lining up fourth and David finishing the session in sixth. Both drivers then gained an extra place when Rubens Barrichello's Ferrari refused to fire up for the formation lap. At the race start proper, both drivers got good getaways, with Kimi retaining third place behind polesitter Juan Pablo Montoya and Michael Schumacher, while David Coulthard kept fifth place behind Ralf Schumacher.

From the start it was clear that all five cars were equally matched for pace as they circulated in close formation. Kimi even briefly looked at taking the lead when Juan Pablo Montoya and Michael Schumacher slowed in their battle at the Adelaide hairpin, but decided to play safe rather than risk a collision with one of his rivals at the next chicane.

The order remained unchanged through the first set of pitstops, but Michael Schumacher had to take a drive-through penalty after running over the pitlane exit. The German returned in third place, right behind Kimi, but the Finn resisted the pressure until the second pitstops.

Kimi returned to the track in the lead thanks to some superb work by the West McLaren Mercedes pitcrew. His chief rival, Juan Pablo Montoya, suffered a sluggish second stop and dropped further back over the last third of the race with handling problems.

This promoted Michael Schumacher into second, right behind Kimi. "After the first pitstop, I saw that we had a good pace and maybe we could win," he said. "It was close, but it never comes before you cross the finish line first."

Unfortunately, Kimi's words proved to be true. With four laps to go, he unfortunately slid wide on oil from the blown engine of a rival car at the Adelaide hairpin, allowing Michael Schumacher to slip through and deny a disappointed Kimi his maiden Formula 1 win (see sidebar).

David had got ahead of Montoya and Ralf Schumacher when they made their pitstops and, thanks to a long middle stint, was able to stay ahead when he made his own second pitstop, rejoining right behind the battle for the lead. Unfortunately, he had also run over the pitlane exit line and was forced to take a drive-through penalty.

"I genuinely didn't realise I crossed the white line," he said. "Obviously you don't play with it, because you don't win by crossing it. In hindsight I could have been in with a chance for victory today, but I have to accept I made the mistake and paid the price."

"It's encouraging to see that we have closed the gap to the competition, though. I didn't expect us to be fighting for the lead. Obviously Michael had his penalty, so effectively we are still a bit behind, but today our car was a lot more competitive than it has been." ■

### TRACK FACTS MAGNY-COURS

Lap length	4.3 km
Race distance	306.1 km
Number of laps	72
Grands prix at Magny-Cours	12
McLaren wins at Magny-Cours	1

### McLAREN WINS FRANCE

2000	David Coulthard	MP4-15
1989	Alain Prost	MP4/5 Paul Ricard
1988	Alain Prost	MP4/4 Paul Ricard
1984	Niki Lauda	MP4/2 Dijon
1976	James Hunt	M23 Paul Ricard

### KIMI'S NEAR MISS

After a difficult start to the year, Kimi Räikkönen showed his potential by narrowly missing victory in the Mobil 1 French Grand Prix. The Finn was disappointed afterwards, having come so close to giving the West McLaren Mercedes team its second win of the season, as well as scoring his own first grand prix career win.

"It's strange to describe my best ever Formula 1 result as the worst race of my life, but that's how I feel," Kimi admitted. "There were yellow flags, but no flags for the slippery circuit. I just locked up the front right wheel and Michael got by."

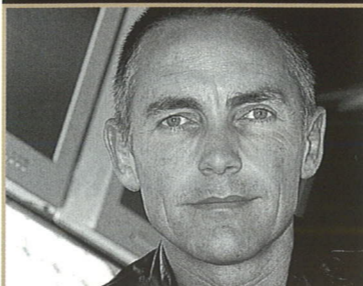
"The car was great, the team made good pitstops and everything was working fine. It was just my mistake that we lost the race. I was obviously very disappointed, but that's the way that it goes. It was great to be fighting for the lead and taking it, and now that I know how that feels, I can't wait for next time."

David Coulthard, who has experienced several near-misses in his 135-grand prix career, empathised with his team-mate. "I feel for Kimi because he drove really well," he said. "It was a great race. In fact, I enjoyed it so much I didn't want it to stop. This is what racing should be like."



### TEAM ANALYSIS

#### MARTIN WHITMARSH



As a team we were pleased with how we hit the sweet spot of performance for the Mobil 1 French Grand Prix and, as a result, we had a very competitive race. The reasons behind that did not mean we had caught our principal competitors, but it did demonstrate that there are some strong elements to our package.

We had the car well balanced and set up and we had some very good tyres, which our engineers and drivers exploited and conserved through the race. In addition, we also ran a competitive strategy.

During the race, David set the fastest lap and, had it not been for his pitlane transgression, then he would have been able to attack Michael Schumacher and it was a shame that we weren't able to witness that.

Our strategy with Kimi enabled us to get him back out ahead of Michael Schumacher, and he did a great job of defending his position on cold tyres and a heavy fuel load. He quickly opened up a comfort gap, and it was obviously clear that he was in a position to win until he unfortunately hit the oil in the hairpin.

When you can win a race, but are denied by elements outside of your control, it brings about an unusual emotion. I would always rather be in a position to win and miss out, than come away from a race with an uncompetitive car.

Kimi was obviously massively disappointed, but one of his strengths is the ability to recover from that. It was frustrating to see Kimi's first race win slip away from him, but it reinforced our opinion that both of our drivers can win races, and will win races in the future.

### LAP-BY-LAP

26	27	28	43	49	54	59	67
Kimi leads a grand prix for the first time as the leaders pit	Kimi pits for his first stop	David pits for his first stop	David retains third position after the Williams drivers complete their pitstops	Kimi pits for his second stop	David pits for his second stop	David receives a penalty for clipping the white line on the pitlane exit	Kimi loses the lead on oil at the hairpin. He rejoins in second, ahead of David



Kimi Räikkönen once again showed his impressive pace in the Mobil 1 French Grand Prix, but was denied the chance of a maiden victory by sliding wide on oil at the Adelaide hairpin





## REPORT ROUND 12, HOCKENHEIM 28/7/02

# MOBIL 1 GERMAN GRAND PRIX

The Mobil 1 German Grand Prix, the first event at the revised and shortened Hockenheimring, proved to be a trying one for most of the teams on the grid. A high attrition rate resulted in only nine of the original 21 starters finishing the race, while the West McLaren Mercedes team claimed fifth place and two world championship points from the event.

After a difficult qualifying session in which Kimi Räikkönen and David Coulthard lined-up fifth and ninth, the grid formed. At the lights, Kimi and David each made good getaways, with Kimi passing Juan-Pablo Montoya through the first corner for fourth place and David overtaking Olivier Panis and Giancarlo Fisichella to take seventh spot from the off.

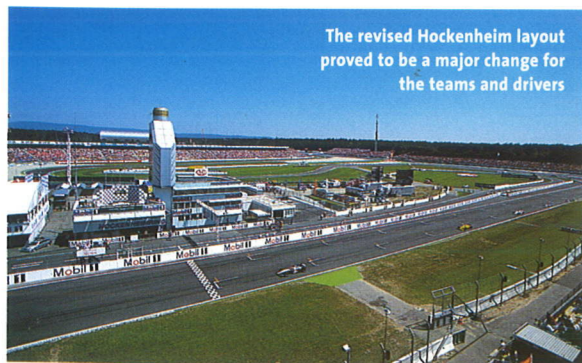
For the first 10 laps of the race Kimi withstood immense pressure from Montoya, but the Columbian eventually got by on lap 11, demoting Kimi to fifth. Coming after his stunning drive at the Mobil 1 French Grand Prix a week earlier, the Finn had once again enjoyed fighting at the front of the pack. "We had a great battle," Kimi said. "We were side-by-side from turn six until turn twelve but he was quicker than me and in the end managed to get in front."

Further back, meanwhile, David had found his way into the points by passing Jarno Trulli for sixth place on lap 12. Kimi came in on lap 26 to take on fuel, the team opting to keep him on the same set of Michelin tyres for the middle stint of the race. He was followed in on lap 29 by David, who pitted for tyres and fuel and, after the first round of pitstops had been completed, the pair resumed in fifth and sixth respectively.

Kimi's luck deserted him once again on lap 39 when he suffered a sudden puncture at the Ostkurve hairpin. The Finn returned to the pits for new tyres, but bodywork damage from the flailing rubber slowed his pace before a second off-track excursion ended Kimi's race on lap 62.

As a result, David was promoted to fifth place, which he retained to the chequered flag for two world championship points. In the end it was another solid performance from both the driver and the West McLaren Mercedes team.

After the race, David was philosophical about the result. "This was a bad weekend compared to Magny-Cours, but I think fifth was the best we could do in the circumstances," he admitted. "I was quick in my middle stint, but really two points was all there was in it today. Now like everybody else in the paddock I look forward to the break." ■



The revised Hockenheim layout proved to be a major change for the teams and drivers

### TRACK FACTS HOCKENHEIM

Lap length	4.574 km
Race distance	306.458 km
Number of laps	67
Grands prix at Hockenheim	26
McLaren wins at Hockenheim	5

### McLAREN WINS GERMANY

1998	Mika Häkkinen	MP4-13
1990	Ayrton Senna	MP4/5B
1989	Ayrton Senna	MP4/5
1988	Ayrton Senna	MP4/4
1984	Alain Prost	MP4/2
1976	James Hunt	M23 Nürburgring

### REVISED LAYOUT

The 2002 Mobil 1 German Grand Prix was notable for many reasons, not least of which was the fact that it was run on an almost entirely new configuration. Gone were the long, gently-curving straights through the forest. In their place was a 21st-century Formula 1 facility, complete with plenty of overtaking opportunities for drivers.

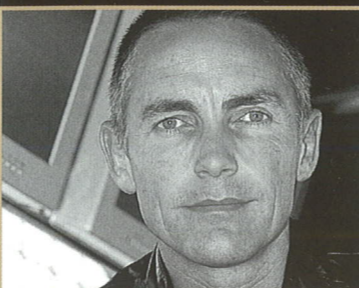
The changes focused particular attention on car setup. In previous seasons, the long straights demanded a low downforce setting for minimum drag and maximum top speed. The introduction of 2002 required extra downforce, though, and as a result drivers were now able to attack the tight, twisty stadium section rather than tip-toe through it as in previous years.

As ever opinion of the new, shorter 4.6km layout differed between drivers, but most agreed that the new Ostkurve hairpin was one of the many corners that would offer more overtaking opportunities.

West McLaren Mercedes driver Kimi Räikkönen was among those positive about the changes. "It's very different to the old layout," he said. "I think that the new one is a bit more challenging, though. The new surface has more grip, even though it is a bit bumpy. The racing should also be better as there are more overtaking possibilities."

### TEAM ANALYSIS

#### MARTIN WHITMARSH



The Mobil 1 German Grand Prix was a race where we were not able to get the best out of the car on the revised circuit layout and where tyre choice played a key role. Since Monaco we've been able to exploit Michelin's softer compounds, but at Hockenheim we chose the harder compound because we didn't feel the softer option was durable enough.

Our rivals on the softer Michelin compound suffered heavy blistering, where we only had light blistering. Where we went wrong, though, was in thinking after qualifying that we were too conservative and starting the race on brand-new, rather than scrubbed, tyres. We were certainly not as competitive as we'd have liked in the first stint, and at the first stop we opted not to change Kimi's tyres and to put David onto scrubbed tyres – an indication of how our experience over the weekend altered our approach.

When Kimi suffered his puncture, it resulted in a lot of damage to the car and we agonized about whether to send him back out. After looking over the car, though, we felt it worthwhile to complete more laps on the new layout to understand it better.

One of the consequences from the puncture, however, was damage to the brake ducts, which skewed the symmetry of his brake temperatures and certainly contributed to his spin.

Towards the end of race, David eased off instead of trying to stay with and re-pass Michael Schumacher. He obviously wanted to make sure that he brought the car back home and, although fifth place wasn't what we wanted from the German Grand Prix, it was quite frankly all that we were likely to get in that situation.

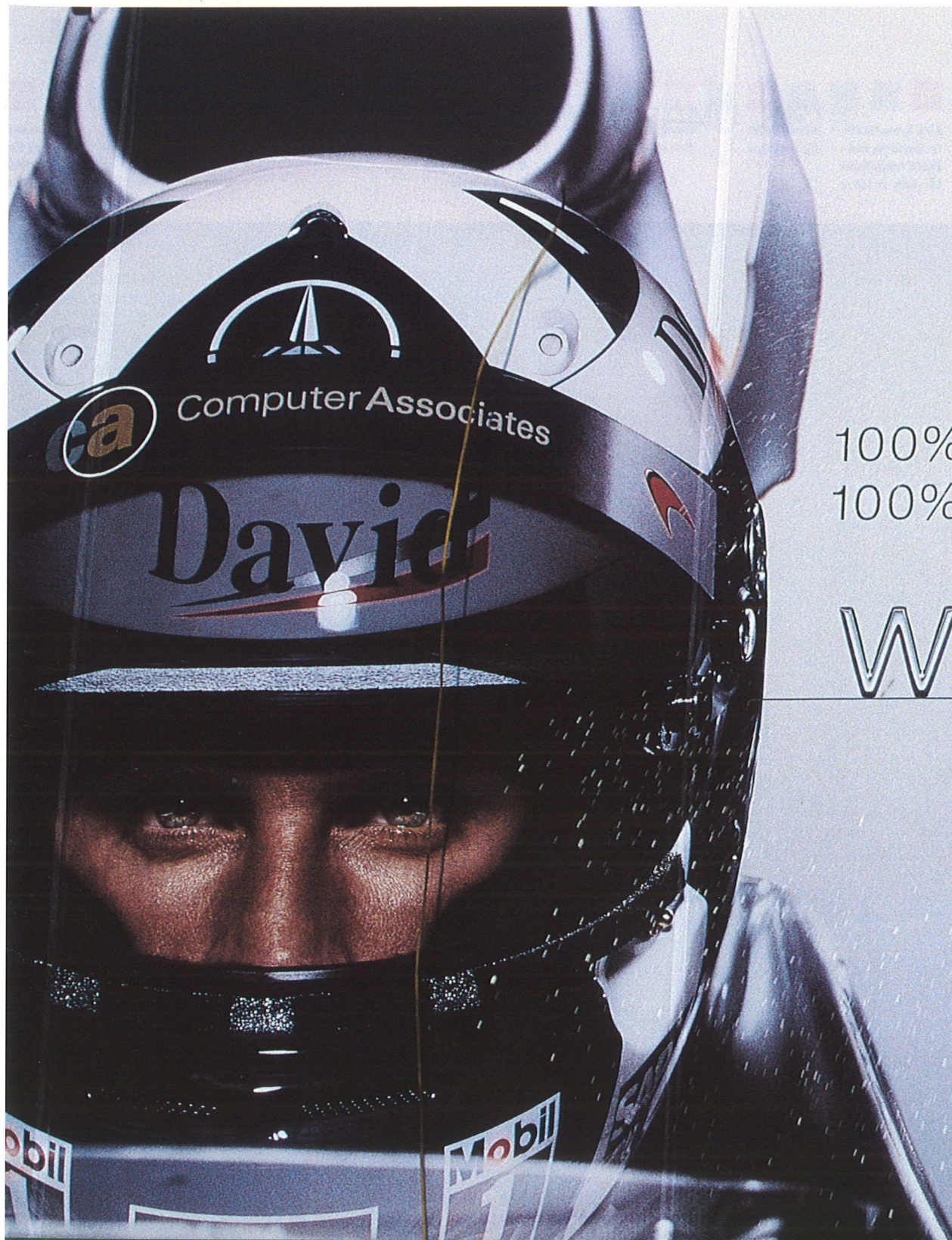
### LAP-BY-LAP

1	11	26	29	39	49	62	67
Kimi and David make good starts from fifth and ninth, gaining one and two places respectively	Kimi loses fourth to Montoya, but David takes Trulli for sixth on lap 12	Kimi pits for his first stop	David pits for his first stop	Kimi suffers a puncture, but makes it back to the pits for new tyres	David pits for the second time	Kimi spins out of the race with brake problems	David finishes the race in fifth position



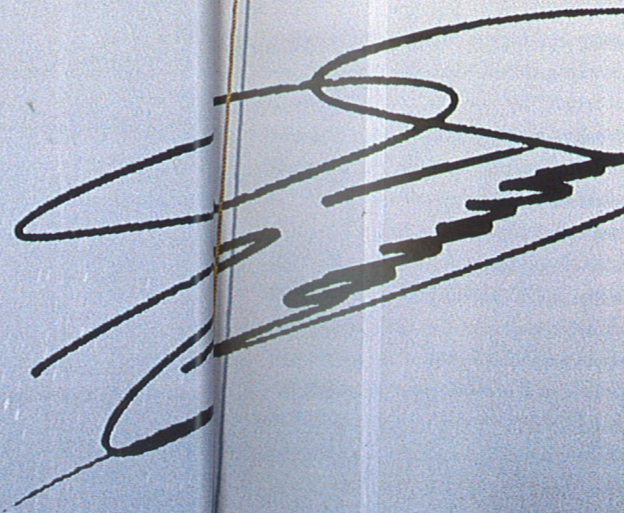
The hot weather for the Mobil 1 German Grand Prix proved to be a car breaker, but David Coulthard brought his West McLaren Mercedes home in fifth for another two world championship points





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what are you made of



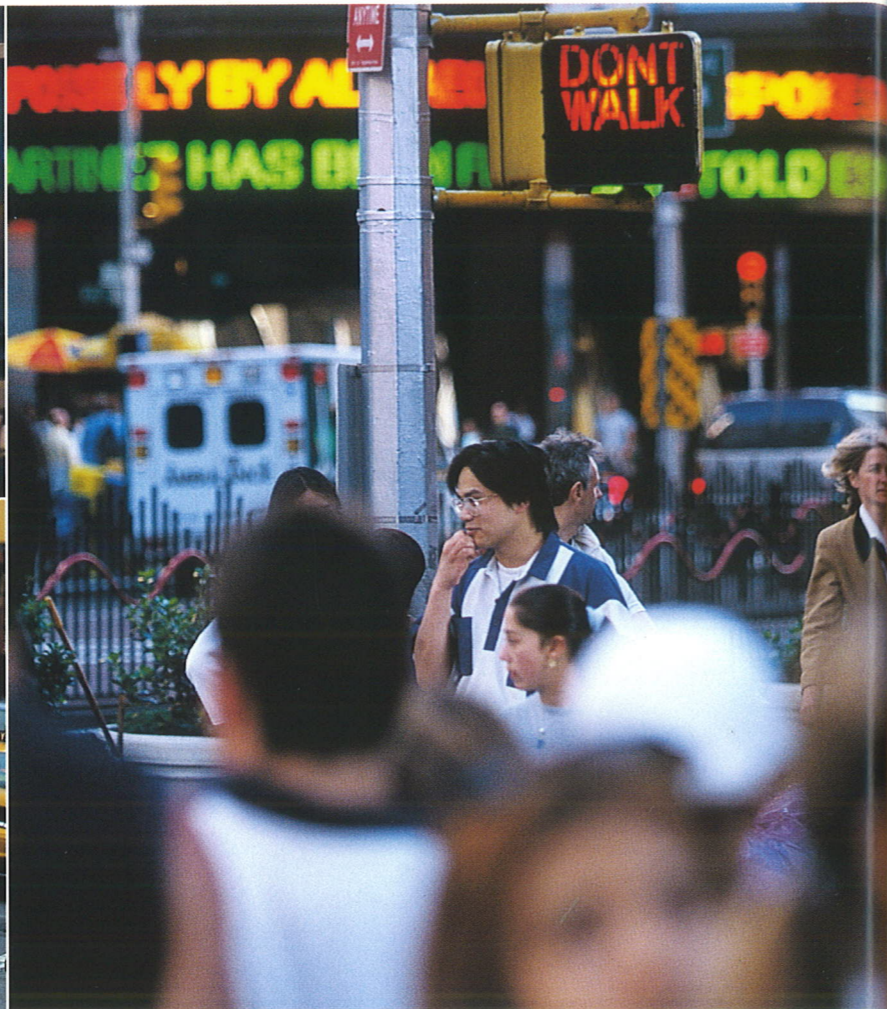
# BUSINESS CAPITAL

David Coulthard's trip to New York before the Canadian Grand Prix was not only a great chance for the Scot to visit the Big Apple, but also a unique opportunity for the West McLaren Mercedes team's Partners to showcase their involvement with the Formula 1 outfit

WORDS JON OREOVICZ PHOTOGRAPHY CLIVE ROSE/LAT







FAR LEFT David Coulthard took part in an interview on Bloomberg's live news channel before joining the Team Partner event, hosted at its impressive headquarters

LEFT AND ABOVE The head office of Bloomberg is at the heart of the New York business community

BELOW Companies such as ExxonMobil and Mercedes-Benz use their Formula 1 involvement to highlight their brands, but also use it as a test-bed for new road-car technology

It is the middle of a typically hot, early June afternoon in Manhattan. The sort of post-lunch lull in one of the world's busiest cities in which traffic often grinds to a standstill on New York City's Avenue of the Americas.

Today, though, this snake of slow-moving taxicabs and minivans is not a typical Manhattan jam. These cars have been stopped in their tracks so that their drivers can watch a fully kitted-out Formula 1 driver spraying a magnum of champagne over a curious mass of watching people.

The crowd has assembled here, at 25th and 6th on Manhattan's Lower East Side, to witness the unveiling of the largest TAG Heuer billboard in the world – a four-story masterpiece that bears West McLaren Mercedes driver David Coulthard's image and asks the world, "What Are You Made Of?"

This joint promotional venture for Official Formula 1 Timekeeper TAG Heuer is just part of two days of appearances for David in New York, shortly before the Canadian Grand Prix. Fresh from his superb win in Monaco, the team has asked David to take time out on his way to Montreal to call on Partners Bloomberg,

ExxonMobil and Mercedes-Benz of North America, as well as to help TAG Heuer unveil their new advertisement.

The trip's purpose? To build interest for the upcoming SAP US Grand Prix at the Indianapolis Motor Speedway and the profile of Formula 1 as a sport – and the West McLaren Mercedes team in particular – in the US.

In a similar way to soccer, Formula 1 does not enjoy the massive recognition in America that it gets throughout the rest of the world, but that perception is gradually changing.

Two years ago, Indianapolis Motor Speedway owner Tony George brought grand prix racing back to the United States after a 10-year absence, and there are signs that Formula 1's popularity in the US is growing again to the level of the late 1970s, when Watkins Glen was a regular fixture on the Formula 1 calendar.

TAG Heuer President and CEO Jean-Christophe Babin should know. The company has been involved in Formula 1 since the early 1970s and became a McLaren Partner in 1985. Jean-Christophe has therefore seen Formula 1 grow from a niche sport to a worldwide phenomenon.

"There is a common conception that Formula 1 has no impact or

image in America, but our billboard unveiling proved that this is totally incorrect," he remarks. "After all, we managed to stop traffic on 6th Avenue!

"The Formula 1 audience in North America is low relative to Europe, South America or Asia, but it is increasing. There is a very strong racing culture in the US, and therefore Formula 1 is not necessarily the only expression of motorsport to most audiences. But that is not so much an issue. What counts is that Formula 1 is readily recognised in the US as the state-of-the-art in motor racing. Gradually the audience will follow."

This is certainly a valid point. Over 220,000 people, for example, attended the first SAP United States Grand Prix in 2000 and, although US racing series such as the oval-based Indy Racing League single-seater series and the NASCAR stockcar series still attract the majority of viewers, Formula 1's stock as a television sport is rising.

In fact, in a recent poll by sports channel ESPN, it emerged that 65 percent of Indy Racing League fans and 50 percent of NASCAR fans follow Formula 1. This year's broadcast of the Monaco Grand Prix on ABC, one of the major network channels,

pulled the highest rating for an open-wheel race in the last five-years, barring the Indianapolis 500.

David Coulthard has raced in the SAP United States Grand Prix for the last two years, but he has also attended races in the US-based CART Champ Car single-seater series to visit his friend Gil de Ferran, so he had a good idea of what to expect from American race fans when Formula 1 returned to America after a decade's absence.

"I think there was a bit of concern, not really from myself, whether we could break through in America when it has so many strong racing series," David says. "Because of that, it was genuinely a pleasant surprise when we saw how many people turned up for the first event at Indianapolis."

Many American racing fans have somehow got the impression that Formula 1 drivers are arrogant or unapproachable. But, over the course of his two-day visit to New York, David proves that notion wrong.

At Mercedes-Benz' North American headquarters in Montvale, New Jersey, he mingles easily with the management and staff of both event organiser ExxonMobil and the German car manufacturer. All 250 >>

## ACTIVE PARTNERSHIP

Partners such as TAG Heuer and ExxonMobil work closely with the West McLaren Mercedes team on promotional events – effectively using Formula 1 as a high-octane, velocity-fuelled backdrop for their campaigns – but they also rely heavily on their involvement with West McLaren Mercedes to develop and test new products. The dictum of racing improving the breed is ever true.

"We co-operate heavily on joint technical programmes," remarks Bob Lierle, Global Motorsports Manager for ExxonMobil. "Mobil 1 Oil has been around for 27 years, and it is in its third formulation. It says a lot that the two most recent formulations started with our work with McLaren. A lot of fuel and oil companies just choose to plaster their names on cars, but, for ExxonMobil, Formula 1 is a laboratory."

McLaren has also contributed design and material expertise to TAG Heuer's Kirium TI-5 watch. TAG Heuer President and CEO Jean-Christophe Babin says the impact of his company's relationship with McLaren cannot be measured.

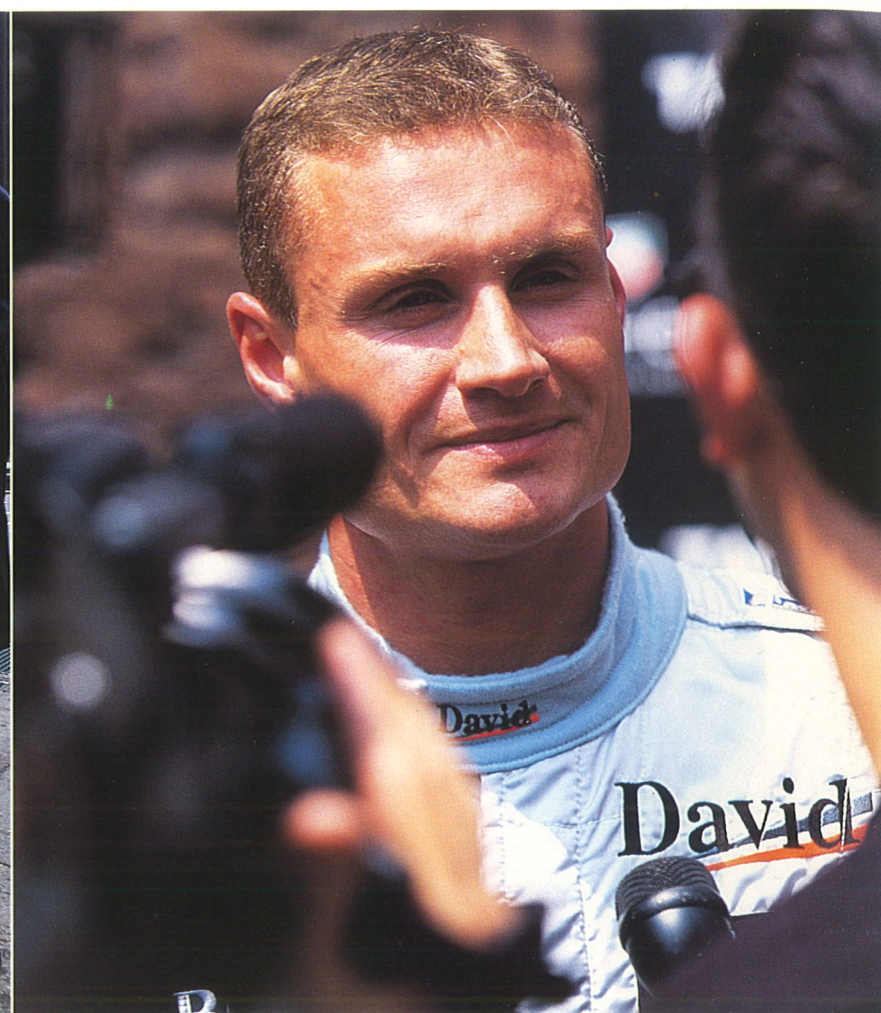
"Ron Dennis and I share the same

values – not in terms of sport or of watches, but creating value over time," he says. "That's why McLaren is the best in Formula 1. I've spent a lot of money with McLaren, but whether they win or lose, I don't really care."

"The important thing is to be with the best. McLaren is the best and I know that eventually we will win, whether it is the next race for the team or the next product for me. The key is to do the right thing with the right people." ■







guests left the event with a personally signed picture of the Formula 1 driver.

Promotional events are a major part of a Formula 1 driver's job description these days, and this is where David's friendly nature and positive attitude are huge assets. He seems genuinely delighted to pitch in as a team player.

"I consider myself fortunate that I compete at what I consider to be one of the highest levels of the sport," he admits. "But there's a whole other side to the sport, which comes through working with the Partners on the promotional side. It gives me the chance to meet people in different businesses and backgrounds and I get a little bit of insight into what goes on in the real world, as opposed to just driving race cars. I've discovered some fantastic places and great people.

**"THE IMPORTANT THING IS TO BE WITH THE BEST. McLAREN IS THE BEST AND I KNOW THAT WE WILL WIN, WHETHER IT IS THE NEXT RACE FOR THE TEAM OR THE NEXT PRODUCT FOR ME. THE KEY IS TO DO THE RIGHT THING WITH THE RIGHT PEOPLE"**

**JEAN-CHRISTOPHE BABIN, TAG HEUER PRESIDENT AND CEO**

"There are some parts of it that you really enjoy, because it's a learning experience. I'm not a businessman, but I have the chance to rub shoulders with people who are, who have come up through that path, and I like seeing what motivates these people and how they work. In the second stage of my life, when I'm no longer racing, I'd like to get involved in things like that."

Twenty-four hours later, it is hot and humid in Manhattan as David prepares for the TAG Heuer billboard unveiling. When the four-storey-high image of David in his West McLaren Mercedes Formula 1 car is revealed, the Scot sprays champagne for the print and television media and fields a series of impromptu media interviews with ease, satisfying the reporters and the team Partners with his responses.

**ABOVE Meeting and greeting local media and representatives from TAG Heuer, ExxonMobil and Mercedes-Benz of North America is all just part of a typical weekday's work for David Coulthard.**

"I can't deny that being here in New York at the unveiling of the campaign for TAG Heuer and seeing the image of myself is up there with the excitement level of winning grands prix," he remarked to a local TV crew. "But this is a fun part of the job.

"Promotions usually tend to be sort of meet-and-greet type events, but there is no question that all the events I do with TAG Heuer are interesting and exciting. I'm a big watch fan, and I've been a fan of the brand for many years."

A few hours later, David visits Communications Centre Partner Bloomberg at the media company's headquarters on Park Avenue, attending a function organised by the team for the US-based senior management of its Partners. He also conducts an interview on Bloomberg's live news channel.

Then it is off to John F Kennedy Airport for the flight to Montreal where, as the winner of the previous grand prix, David has to participate in the Thursday press conference. Just another country, another race, another set of interviews, and, hopefully, another victory – in other words, another typical weekend in the flat-out life of a grand prix driver who seems to have very untypical weeks. ■

## > McLAREN'S US SUCCESS STORY

Since the Formula 1 World Championship's inception in 1950, the United States has tried hard to create a home for grand prix cars. Up until 1960, the Indianapolis 500 winners received world championship points, but the first US Grand Prix proper was at Sebring in 1959, won by none other than Bruce McLaren driving a Cooper-Climax.

In 1970, Bruce decided to enter a McLaren M15 in the Indianapolis 500, winning the prestigious design award from the race organisers. After this exploratory attempt, the McLaren team went on to rewrite the record books, raising qualifying speeds from 171 mph to 198 mph in just three years. A McLaren victory was always on the cards, and in 1972 an M16B chassis entered by Bruce's sportscar rival and close friend, Roger Penske, won the race with Mark Donohue at the wheel.

McLaren Cars-entered M16s driven by Johnny Rutherford again won the Indy 500 in 1974 and 1976. The trio of victories was a superb testament to the chassis' design, and it is worth noting that McLaren is one of only four racing car constructors to ever win both the Indy 500 and the Formula 1 World Championship, and the only one to ever win both more than once.

McLaren's first US Grand Prix victory as a Formula 1 team came courtesy of James Hunt in 1976. The undulating sweeps of the Watkins Glen circuit suited the M23 chassis and the eventual

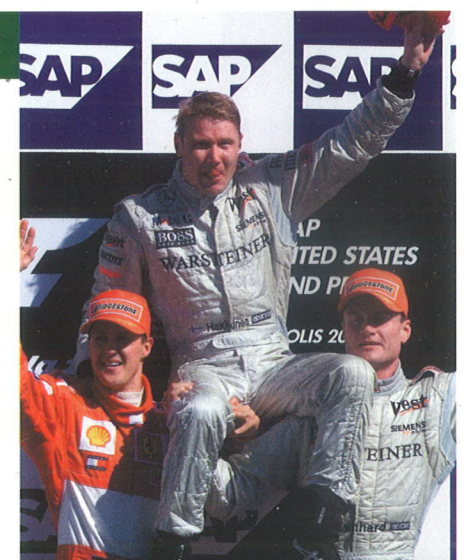
world champion's committed driving style, and Hunt backed-up his 1976 win with a repeat success the following season.

The US Grand Prix took on a nomadic existence during the 1980s, as various venues tried to establish themselves as the home of the race. The US Grand Prix West at the popular Long Beach circuit ran alongside the Watkins Glen races through the late 1970s, and proved to be particularly successful for the McLaren team with wins for Niki Lauda and John Watson in the final two years of the event in 1982 and 1983.

Detroit also hosted US Grands Prix from 1982 to 1988, with Watson winning the first event and Ayrton Senna winning the last. Occasional events were also run at Dallas (1984) and at Las Vegas (1981, 1982), but McLaren drivers never tasted the victory champagne at either venue.

The final home until 2000 for the US Grand Prix was the Phoenix street circuit – a track which proved to be a popular hunting ground for the McLaren team, with Alain Prost winning the first race in 1989 and Senna taking the trophy in consecutive years in 1990 and 1991.

The US Grand Prix then vanished from the calendar whilst a more permanent home for the event was found. The answer came from the Indianapolis Motor Speedway, where the circuit owners constructed a modern, purpose-built



**Mika Häkkinen won last year's SAP United States Grand Prix at the Indianapolis Motor Speedway**

facility - designed to give US fans a chance to see Formula 1 cars at their best - which incorporates part of the famous 'Brickyard' oval.

The event, which is sponsored by West McLaren Mercedes Corporate Partner SAP, has proved to be popular with the local fans. It also provided good memories for double world champion Mika Häkkinen, who won his last race with the West McLaren Mercedes team in 2001 before his sabbatical and ultimate retirement. What price a repeat performance for Kimi and David in 2002? ■

**Luke Hayter**



# PLATFORM FOR SUCCESS

SAP's Formula 1 involvement with West McLaren Mercedes and the United States Grand Prix is an ideal way for the company to demonstrate its skills

WORDS LUKE HAYTER

PHOTOGRAPHY LAT, ALLSPORT, HOCH ZWEI, ADRIAN MYERS



Though Formula 1 and e-business would seem to have little in common, there is undoubtedly a shared vision behind both the SAP and West McLaren Mercedes organisations – a driving commitment to winning, innovating and being a market leader.

As a leading provider of global e-business solutions, speed, precision and results are as vital to SAP as they are to the West McLaren Mercedes team, and it is this synergy which brought the companies together.

Founded in Germany in 1972, SAP is the world's leading provider of e-business software solutions. Through the mySAP.com platform, people in companies around the globe are improving relationships with customers and partners, streamlining

operations and achieving significant efficiencies right through their core businesses. Today, more than 13,000 companies in over 100 countries run more than 30,000 installations of SAP software.

The return of Formula 1 to the United States of America in 2000 seemed to present an ideal opportunity for the SAP brand to achieve profile across the globe, not least to the 50 countries where it operates – a case of a truly global sport reflecting a truly global 21st century business, and SAP jumped at the chance to become title-sponsor of the race at the Indianapolis Motor speedway.

"America is very important to SAP," explains Chris Burton, SAP's Director for Global Sponsorship Marketing. "It

is the largest market in the world for us, but perhaps the most influential factor behind our decision was the fact that the Indianapolis Motor Speedway represents the birthplace of modern motorsport." The inaugural event was a huge success, with American race fans marvelling at the opportunity to see Formula 1 cars working at their limit inside the Brickyard: the spiritual home of American motorsport.

When SAP had taken the decision to align itself with a Formula 1 team, the potential partner had to display all the qualities that SAP possess – namely, a commitment to innovation and a dedication to excellence at the highest level. With 30 years of business experience and over 10 million users worldwide, SAP wanted to broaden its vision for the future, incorporating

Formula 1 for the first time as a key method of raising awareness of the SAP brand and what it stands for.

SAP first joined forces with West McLaren Mercedes in 1997, and David Coulthard rewarded them with victory in that season's first race, the Australian Grand Prix at Melbourne. Much more than just a logo on the side of the car, the SAP Partnership is a synergy of ideas and working practices: here we have two companies which insist on a relentless dedication to excellence in order to achieve maximum performance.

The use of innovative technology to achieve results is almost a given – such is the nature of the two companies – and the synergy is a natural one.

"We chose West McLaren Mercedes because of three vital factors: their will

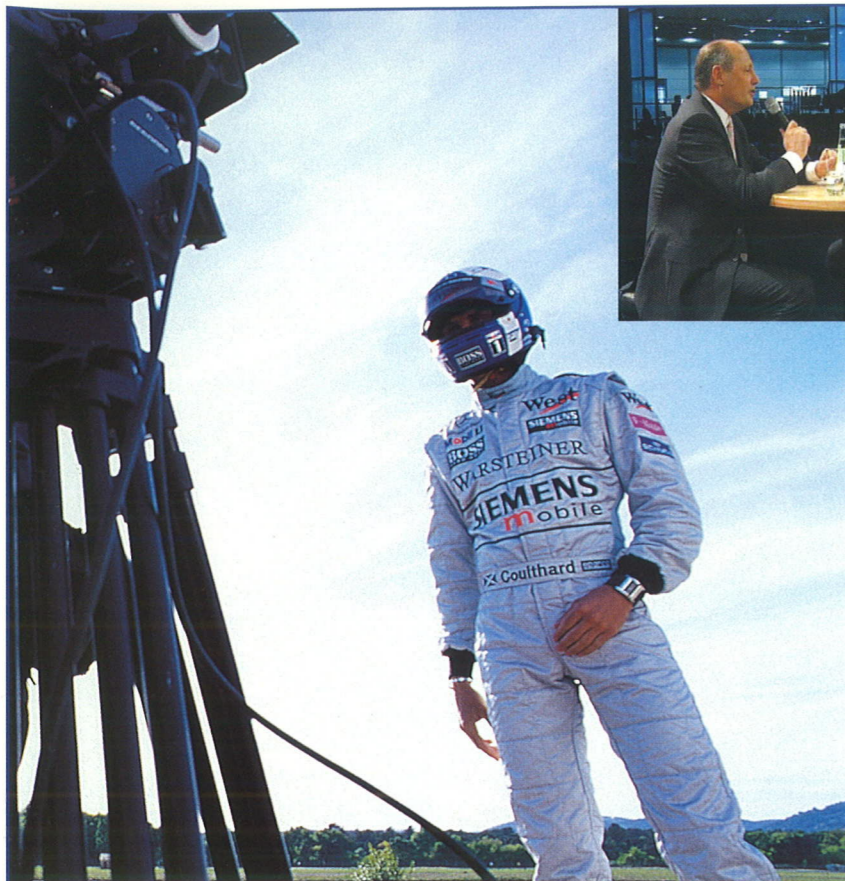
to win, their passion and their determination to be the best," says Chris Burton. "As companies, therefore, we share similar attributes, and, of course, speed and technology are vital to us both."

The fruits of West McLaren Mercedes' Partnership with SAP blossomed spectacularly at the 2001 SAP United States Grand Prix, with double world champion Mika Häkkinen taking a stunning final career victory for the West McLaren Mercedes team in front of the American fans before he left the sport for a sabbatical – and ultimately for good – at the end of that season.

As Chris Burton explains, SAP use their involvement with the West McLaren Mercedes team on a daily basis. "There are many ways in >>

SAP has expanded on its Partnership with the West McLaren Mercedes team to become the title sponsor of the United States Grand Prix at the Indianapolis track





LEFT SAP has used its involvement with West McLaren Mercedes driver David Coulthard to make a promotional film to articulate its core message of speed, precision and results

ABOVE SAP had a grand prix theme for the launch event of its SAP Portals sister arm in Germany earlier this year

which we leverage our association with West McLaren Mercedes," he says. "Of course, we entertain our clients at the grands prix, but we also try to involve everyone in the organisation.

"On the company's internal intranet, for example, we run a fantasy Formula 1 competition, where our staff are encouraged to predict how the season's races will unfold. Our Partnership with West McLaren Mercedes means that the people at SAP have a real interest in the sport, and, of course, they want to see McLaren winning!

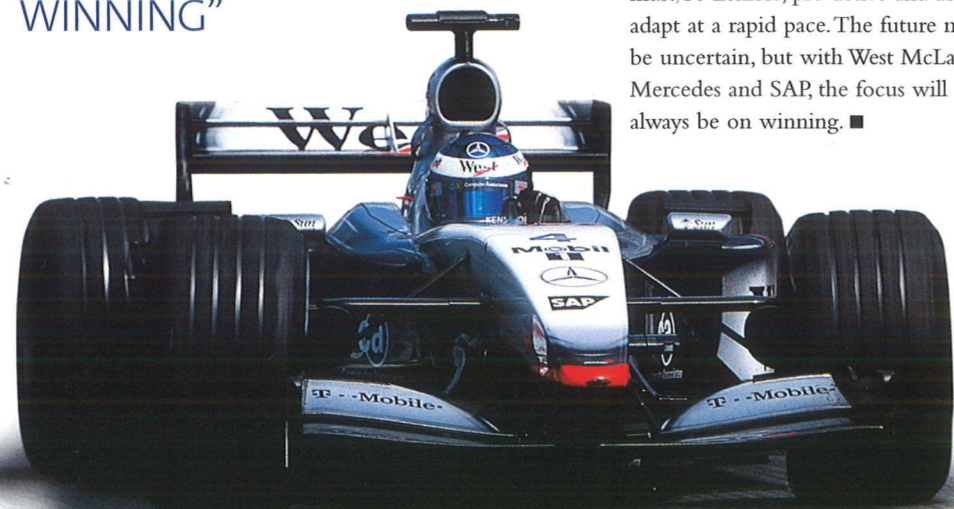
"The SAP United States Grand Prix is the most important event of the year for us though, as it gives us an opportunity to achieve high brand-visibility in an exciting, technologically-advanced environment. The customer engagement opportunities are also outstanding."

Last season alone, SAP entertained nearly 1000 guests at grands prix around the world, as well as using West McLaren Mercedes test sessions as a platform for entertaining both clients and SAP staff members. Factory visits are also used by SAP to involve their clients in the Partnership. All of these are popular, as they offer a rare glimpse into the often closed and secretive world of Formula 1, where the importance of speed, precision and results is highlighted in

the operation of the West McLaren Mercedes team and tied back into SAP's focus on these elements within the infrastructure of their software.

SAP has also utilised its links with West McLaren Mercedes in a variety of other ways, among which was a special promotional film shot in 2001, designed to capitalise on the inherent synergies between the two brands. Its

**"OUR PARTNERSHIP WITH WEST McLAREN MERCEDES MEANS THAT THE PEOPLE AT SAP HAVE A REAL INTEREST IN THE SPORT, AND, OF COURSE, THEY WANT TO SEE McLAREN WINNING"**



success led to SAP's decision to make a new, updated version of the film this year, with David Coulthard in the starring role.

This is all in addition to the Video News Releases that SAP has been producing throughout the season in association with the team. The rationale behind these is to provide newsworthy footage of the team. Each Video News Release is filmed and edited on location, then distributed via satellite to over 500 newsrooms and television stations around the world.

Away from the track SAP have used the excitement of Formula 1 at events and conferences in France, Germany, Greece, Italy, America, Portugal, Japan and Korea. For example, in February, SAP Portals themed an exhibition around grand prix racing with the walkways of the conference hall transformed into a race track. Ron Dennis was the final speaker at the event, held in Leipzig, Germany, and spoke about the recipe for success in racing and business. It is this spirit of true partnership that has characterised SAP's active association with West McLaren Mercedes from the outset.

Over the past several decades, McLaren and SAP have distinguished themselves by their ability to turn innovation into practical success. However, in the worlds of Formula 1 and e-business there is always fierce and relentless competition.

These two companies therefore, must be flexible, pro-active and able to adapt at a rapid pace. The future may be uncertain, but with West McLaren Mercedes and SAP, the focus will always be on winning. ■

## THE PERFECT PARTNERSHIP



**Mobil** Command Performance





# THE COOLER KINGS

West McLaren Mercedes' new pitcrew cooling suits set the standard in terms of looks for the Formula 1 pitlane, but they also incorporate the latest high-tech innovations to enhance the team's pitstop effectiveness

WORDS TOBY WALLER PHOTOGRAPHY TED HUMBLE-SMITH; LAT

It was once famously said that he who has the coolest head in the heat of battle will be the victor. If this is true, then the West McLaren Mercedes pitcrew are set to have a distinct advantage over their competition – all thanks to their new range of temperature-controlled suits, which made a head-turning debut during the pitstop practice sessions for this year's British Grand Prix.

Fitted out for the first time in their stunning silver attire, the mechanics were an instant crowd-stopper as they gave the suits their first dry-run and used the opportunity to see how they worked in the confines of a real pitstop situation. Looks may be one thing, however – and the cool suits certainly score in that department – but there is more to this new innovation than just a pretty face.

Hidden between the layers of fire-retardant, high-quality silver silk and nomex is an intricate network of pipes that transfer liquid from the pump unit on the mechanics' back. Just like a refrigerator, this liquid transfers heat away from the suit's occupant, effectively lowering his body temperature. The two-word buzz-phrase that has surrounded this innovation since its inception has never been more apt. Cool suits by name; very cool by reputation.

The cool suits are the latest part of the new West McLaren Mercedes team clothing – a collaborative process between McLaren and Corporate Partner HUGO BOSS that has taken almost a year and remains ongoing. It has been time well spent, though, as both elements of the Partnership have put together clothing designed to incorporate and fit in with every

element of the team, including the Team Communications Centre.

"It was very important that all the ideas fitted in with the ideals and image of West McLaren Mercedes," explains HUGO BOSS creative director Lothar Reiff. "In general, it is a very futuristic concept in terms of the look of the clothes, the materials and their quality. Almost space-like. We gave it the name Speed Soldiers, because speed is at the very heart of the whole design."

The pitstop mechanics' clothing was very much at the heart of these discussions. As a consequence of the re-introduction of refuelling to Formula 1 in 1994, mechanics need to wear safety-conscious but constrictive fireproof overalls, underwear and balaclavas for pitstops. This is not a combination designed with temperature and comfort in mind – especially when you consider the high temperatures at races such as the Malaysian, French and Hungarian Grands Prix – but they must be worn for the whole race in case the mechanics need to be called out at a moment's notice.

Add in the intense heat that pours off the cars during the pitstop itself, and it is easy to see why the mechanics look like they have been in a sauna when they peel off their overalls at the end of a race. As anyone who works in such demanding conditions will recognise, the hotter it gets, the harder it becomes to focus on the job at hand and your capacity to actually do physical work also decreases.

With each tenth of a second vital to a race result, any seconds gained or lost during a pitstop take on even greater

significance. Aiding the pitcrew's ability to do their job, then, is paramount and the cool suits are one way in which West McLaren Mercedes is honing its already impressive skills in this arena.

The concept behind the cool suits is not a new idea, having already been pioneered by the Coretech division of Canadian company Med-Eng Systems for use in the aerospace industry, but it is a technology that has jumped forward in leaps and bounds over the last decade. As a result, the cool suits that have been produced by the company are truly state-of-the-art.

"We're very proud of what we have been able to do here for the West McLaren Mercedes team," says Med-Eng Systems Marketing

The formidable design of the cool suits, helmets and backpacks has been designed to fit in with the look of the team and the West McLaren Mercedes race cars themselves







The cool suits were tried out by the West McLaren Mercedes pitcrew for the first time during the team's regular Thursday practice sessions at the British Grand Prix

Communications Manager John Carson. "These suits really are a superb application of this technology and a great showcase for the concept."

There are countless innovations within the system, but one secret which Med-Eng is particularly keen not to disclose is the nature of the cooling fluid itself. "Suffice to say that it's not water, but it is one of the best substances in the world for the job," is all that John Carson will say about it.

The cooling system produced by Med-Eng Systems is then sent to a HUGO BOSS production facility in Italy, where it is incorporated with the equally innovative materials that form the look of the design.

Even the colour and texture of the silk material that forms the majority of the suit's outer layers was carefully chosen for both its qualities and colour so that it precisely blends in with the silvers and anthracite greys of the West McLaren Mercedes race cars. The fabric in itself is pioneering.

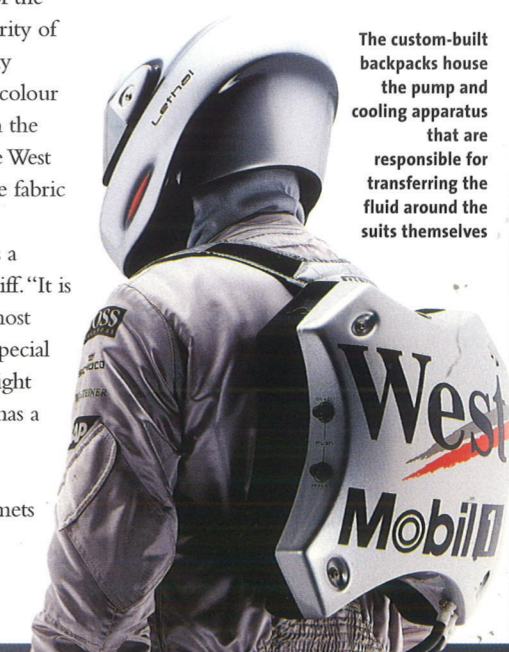
"The material we have used is a duchess silk," explains Lothar Reiff. "It is very different, though, to what most people think of silk. It is a very special material – very consistent, very light and comfortable to wear. It also has a sheen to it which gives it a very futuristic appearance."

The bespoke carbon fibre helmets that complete the look are yet another innovation, taking the

already-imposing design that has been used by the West McLaren Mercedes pitcrew since 1998 to the next level. Those were adapted from high-tech ski helmets, but the new units – designed by McLaren's creative department – are totally bespoke and custom-fitted to each mechanic.

The paint-scheme has also been designed to fit in with both the suits and the race cars with their black swooshes offering a counterpoint to the bright silver material. The same goes for the equally custom-made lightweight backpacks which house the cool suit's pumps and fluid transfer apparatus.

Each of the suits, which have been individually fitted to their users, also >>



The custom-built backpacks house the pump and cooling apparatus that are responsible for transferring the fluid around the suits themselves

## OLD AND NEW

Look at a picture of the McLaren pitcrew from just 10 years ago, and you will notice a world of difference. From the relaxed and airy shorts and shirts of the 1980s and early 1990s, to the high-tech cooling suits and flameproof helmets and overalls used today, it is a quantum leap that has fast overtaken the change in the look of the cars themselves.

As former team mechanic Paul Simpson, who was the right-rear-wheel man between 1986 and 1990, admits, it all comes down to one thing – the re-introduction of refuelling in 1994, at which time he was the chief mechanic and lollipop man.

While improvements have still gone on in terms of wheel nut and wheel gun technology, refuelling introduced a limiting factor to the pitstop art.

"It was such a big change when that happened," he admits. "Not only did it mean that we all had to start wearing fireproof overalls, which were uncomfortable compared to what we previously wore, but it also changed the focus of the pitstops. Because the fuel rig was designed to deliver fuel at a fixed rate depending on the strategy, that dictated the length of the pitstop rather than the men working on the wheels."



The McLaren pitcrew looked radically different in 1993, before the re-introduction of refuelling

As a result, he has no qualms about choosing 'the old days' as his preferred era for working on pitstops. "There was so much emphasis on how well the mechanics did their job then," he points out. "It was a real team effort and we took great pride in getting the pitstop times as low as we could."

Pride was indeed at a premium. While pitstops are now currently between the fixed parameters of seven to 10 seconds, depending on strategy, it was not unusual for the McLaren mechanics – probably then the best in the pitlane – to regularly cut their time down below five seconds in 1993. For its time, it was very cool pitwork indeed.



PITCREW COOLING SUITS

features fully-customisable temperature controls. "This is something that is very important," admits John Carson. "The outside temperature can vary from race to race and individual people have very different metabolisms which means that there can be a big difference in the amount of cooling required by them."

Incorporating all the elements of the cool suit – each with their own criteria, constraints and demands – into one seamless design has not been the work of a moment. "This has been a very interesting project to be involved in," admits Lothar Reiff. "Our relationship with Med-Eng Systems was new, but we built a good degree of co-operation. When the idea came up we wanted somebody who was able to translate the idea into reality and they've done that."

"We also had to liaise extensively with West McLaren Mercedes. Producing an idea is one thing, but the mechanics have to feel comfortable in the clothes, and they have to be able to work in them. Function is a high priority."

"We are very happy with the final product, though, because the look of the suits and the car is all connected, and it all fits in very well with the look of the West McLaren Mercedes team."

West McLaren Mercedes, HUGO BOSS and Med-Eng are not companies content to sit on their collective laurels, though, and already new innovations to optimise the design are planned for further seasons.

Without going into too much detail, suffice to say that they are looking at the only part of the suit which is not yet cooled – the helmet.

When that innovation appears, the West McLaren Mercedes team's mechanics will truly be able to say that they have the coolest heads in the whole pitlane. ■



The West McLaren Mercedes pitcrew works hard to ensure that no time is wasted in the pitstop procedure

OPTIMISING THE PITSTOP

The new cooling suits are one way of helping West McLaren Mercedes' pitcrew to optimise its already excellent pitstops, but they are merely the tip of a very large iceberg. With each valuable second that cars are stationary costing even more on the track, every moment of the stop counts and the pitcrew cannot afford any slip-ups.

Cutting the difference in a pitstop down from, say, 10 seconds to nine seconds, though, is a mammoth task for a procedure already tightly-honed to the finest degree. As West McLaren Mercedes chief mechanic and lollipop man Stephen Giles explains, however, it is still a task worth focusing on, and one that the pitcrew team approach with relish.

Over a typical weekend, the West McLaren Mercedes pitcrew does two sets of practice stops. The first 20-minute session on the Thursday afternoon is a 'wet run', with fuel pumped into the cars and the mechanics in their regulation safety clothing. This is primarily to check the equipment, but also to simulate problems such as failed fuel rigs, jacks and wheel guns, or to practice front and rear wing changes to see how the team reacts.

"There are so many different scenarios that crop up, you can't anticipate them all," Stephen admits. "You have to make sure you cover as many as possible, though. You never know when you'll need it."

The second practice, first thing on race morning, is merely a refresher to make sure the team is keyed up for the main event. "There's no point in just pounding out the hours, because it's easy to become complacent," Stephen says. "We want to keep it short, sharp and to the point and, if possible, we always try to end on a good stop which is important for morale."

Pitstop practice even extends away from the track. "Before the season, we'll take the race team to a test to simulate a race distance, which includes pitstops," Stephen says. "There are always new pitcrew members, or people in different positions and it irons out the cobwebs. We'll also practice at the factory if we have a particular issue – with the new cool suits, for example, we even needed to find out how long it would take to get changed."

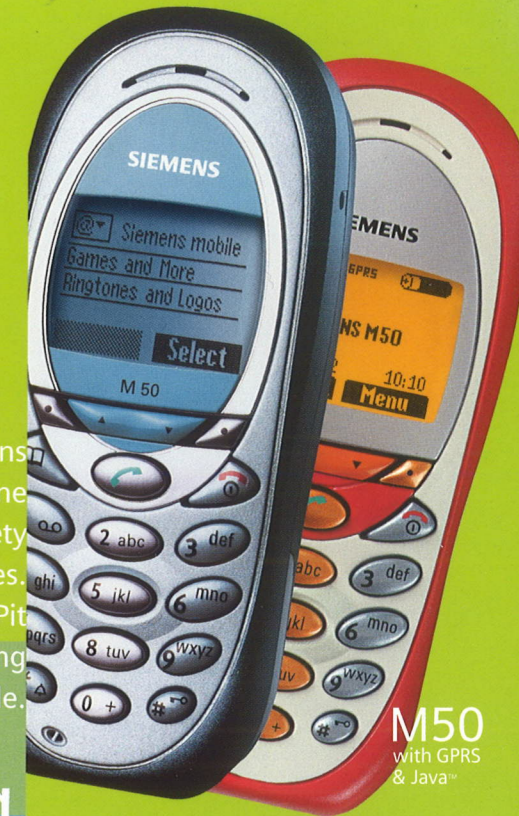
It may surprise you, though, to find out that the team has two pitcrews. "We have a skeleton crew of 10 men, compared to the usual 26, for the first couple of laps," Stephen explains. "The cars often complete the first lap before all the mechanics have got back from on the grid and are settled, and that's when a lot of accidents happen."

Add in gym sessions to make sure that all the mechanics are in peak physical condition, and you have a formidable team. As they always say, though, it is practice that makes it perfect.



Be inspired

SIEMENS mobile



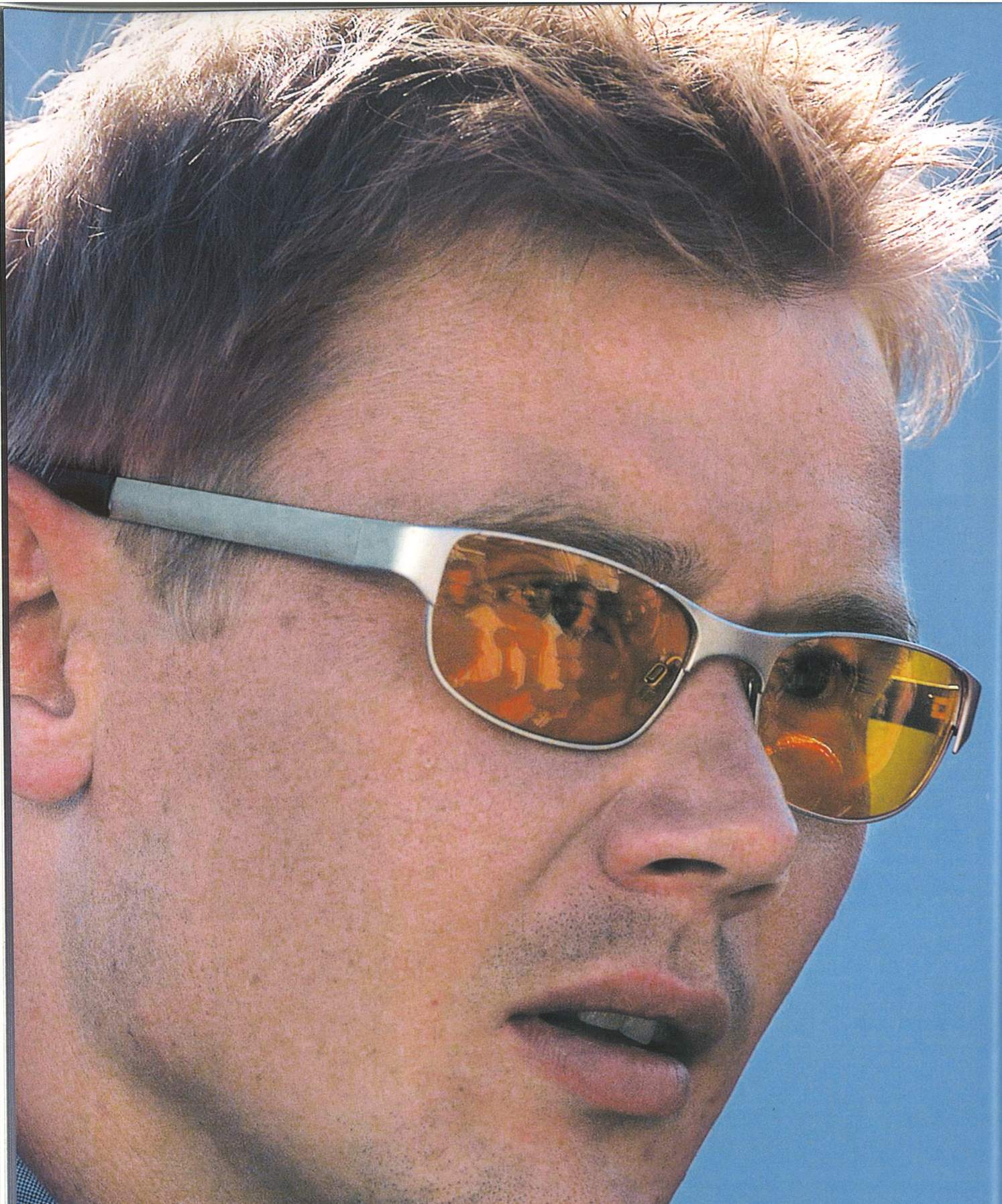
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# FLYING FINNISH

Mika Häkkinen officially announced his retirement at the German Grand Prix, ending a nine-year career with McLaren in which he became a double world champion and earned a reputation as one of the best drivers in the sport

WORDS ADAM COOPER PHOTOGRAPHY ALLSPORT, LAT



LEFT Mika Häkkinen's commitment to the West McLaren Mercedes team was clear every time he got in the car

RIGHT Mika has now opted to leave the sport to spend time with his wife, Erja, and son Hugo

BOTTOM Celebrating the 1999 drivers' championship – Mika's second title success with West McLaren Mercedes



do like retirement. I was very grateful to him that he gave me that chance to think about it, but now is the time to retire and the time to stop.

"I would say the decision was more about the time I want to spend with my family, to see Hugo growing, spend time with my wife. Simply I didn't want to hurt myself. I've been through so much in my career in Formula 1, particularly my accident in 1995. I've seen so much, I thought it's not worth it any more to push my luck further."

Although his last race was back in October at Suzuka, only now can we truly put Mika's Formula 1 career into perspective. On their own the statistics are extraordinary – a pair of drivers' championships in 1998 and 1999, 20 grand prix victories, 26 pole positions, 25 fastest laps and 420 points.

What really counts, though, is the manner in which he achieved those numbers. Throughout his career Mika conducted himself in a dignified and even-tempered manner that not only endeared him to members of the team, but also ensured that no-one in the sport had or has a negative word to say about him. He never got involved in wars of words with his rivals.

But what we will remember most is the extraordinary courage and resilience that Mika showed when fighting back after that dreadful accident in Adelaide in 1995, and only those closest to him know how dark those days actually were. His

subsequent rise to the top is perhaps one of the most amazing stories in our sport's history. A great racing driver, and perhaps a greater human being. ■



At the German Grand Prix Ron Dennis and Norbert Haug revealed that the West McLaren Mercedes driver line-up would continue unchanged into 2003, and after David Coulthard, Kimi Räikkönen and Alex Wurz had posed for photographs, it was confirmed that Mika Häkkinen's sabbatical – taken at the end of 2001 – had now become a full-time retirement.

Mika was not in Hockenheim, but decided to express the thoughts and reasoning on his decision to the media via video. Thus a camera crew travelled to Mika's holiday hideout in Finland.

There, Mika, his wife Erja and son Hugo were filmed enjoying themselves in an idyllic lakeside setting that was about as far as one could imagine from the usual hustle and bustle of the Grand Prix paddock that was Mika's home and a major part of his life for so long.

It was not hard to understand that he simply wants to enjoy seeing his son grow up, and we had already seen on his visit to Monaco earlier in the season what a character little Hugo is.

"I've decided to do it this way so I can really sit down in a relaxed environment, and at the same time you guys can learn a little about my family and how we spend time together," said Mika. "If I was sitting now in a press conference in the Communications Centre to talk about my retirement I don't think I could give the best picture of what I really mean, and express the best emotions about my feelings. So I think this is the best way

"I'VE BEEN THROUGH SO MUCH IN MY CAREER IN FORMULA 1. I THOUGHT IT'S NOT WORTH IT ANY MORE TO PUSH MY LUCK FURTHER"

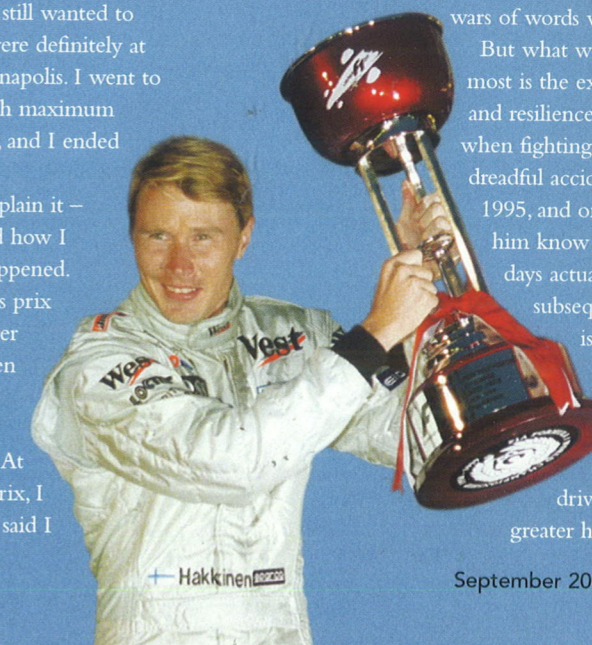
to do it, so everybody can really see it and listen very carefully."

When he explained what had led to his decision not to come back, it was hard not to see the logic. "In 2001 at the Monaco Grand Prix I went to visit Ron in the motorhome, and I felt I wanted to stop. When I went to see him, Ron was really good. He said, 'Mika, don't make a quick decision, think about it, and why don't we do it this way – have one year off and come back to me later on in 2002 and tell me what you want to do.'

"I had races that I still wanted to win, two of which were definitely at Silverstone and Indianapolis. I went to these grands prix with maximum confidence of course, and I ended up winning them.

"I cannot really explain it – how it happened, and how I could do it. It just happened. And those two grands prix made me even stronger and made me feel even more comfortable about my decision.

"Then came 2002. At the Monaco Grand Prix, I went to see Ron and said I





# GROUP FOCUSED

Technology Partner Computer Associates uses the West McLaren Mercedes Formula 1 team as the ultimate demonstration for illustrating how two organisations from differing industries share common challenges of doing business in such high-tech environments

WORDS BRUCE JONES PHOTOGRAPHY LAT



MAIN Computer Associates has been keen to highlight its active links with the West McLaren Mercedes Formula 1 team as the ultimate showcase for its software products

RIGHT Computer Associates' Unicenter software is used by West McLaren Mercedes to ensure that telemetry data is constantly backed-up

From whichever angle you look at it, Formula 1 is cutting-edge. The technology involved is staggering in itself, but the way that West McLaren Mercedes is run also impresses – a model of focus, efficiency and flexibility, without an ounce of fat with which companies in less competitive arenas might be burdened. A comparison with Computer Associates reveals that the two companies have a great deal in common in their quest to be the best.

The value of partnership as a concept is, indeed, very clear to both. "The message we want to get across is that if your company has a problem, then Computer Associates has the tools for you," says Brian Shemilt, Senior Vice-President of International Marketing of Computer Associates. "Our Partnership with West McLaren Mercedes is a powerful way to show how our products and solutions can be used in such a high-tech, on-track environment and how we share the same challenges of doing business.

"For example, West McLaren Mercedes designs its cars, builds models, and runs them in a wind tunnel before manufacturing anything. They know, to a high degree of accuracy, how they're going to behave when they hit the track. In a similar way, Computer Associates has application modelling tools for software to predict the performance of new product developments to ensure reliability.

"The West McLaren Mercedes team wouldn't just grab a wing from another team or fit a truck engine, for example. They experience the ultimate product lifecycle by designing and producing a new car within six months, and this is used as an example of how businesses should produce their own products, emphasising that you need to plan properly and use the right tools.

"After all, you'd never see a Formula 1 mechanic poking a flat-headed screwdriver into a cross-head screw. They use the right tool for the job and that's what you should be using for your business."

With over 1250 products in its range, Computer Associates decided to devise a way to make it easier for its salesforce

to match the right products to each customer, streamlining its portal services into six core areas of business – all of which can be demonstrated using Formula 1 as an example: infrastructure management; data security; data storage; application lifecycle; application development and business intelligence.

Infrastructure management is one key area in which Computer Associates is directly involved with the West McLaren Mercedes team with its Unicenter family of solutions, used to manage the health and availability of the race team's computer network infrastructure. If any laptop or fixed computer suddenly fails, the engineer responsible for network monitoring, Race Team IT Analyst Mark Jenkins, is instantly made aware of the problem so that he can provide an informed analysis and solution as soon as possible.

"I get warnings of the severity of any problems or potential problems, which are highlighted by icons representing other computers turning yellow or red," Mark explains. "The system is incredibly useful because it gives me a heads-up warning of anything that has gone wrong, or is about to, and it also helps me to diagnose the problem quickly which is essential during the high-pressure of a race or test."

Likewise, West McLaren Mercedes also has to have a structured approach to everything that it does, especially

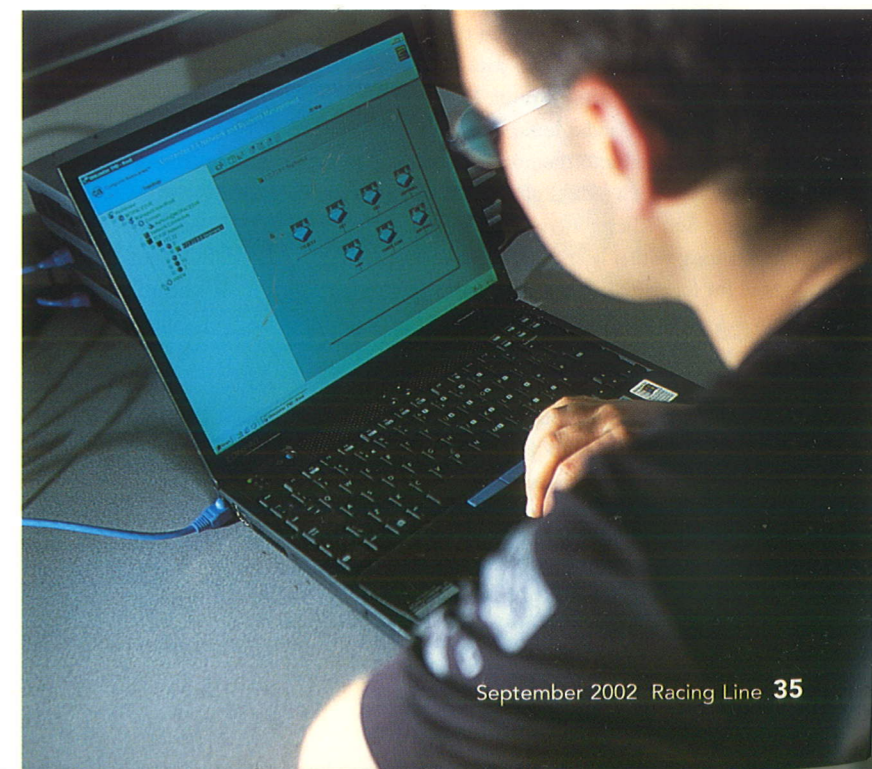
when dealing with the logistics of moving 35 tonnes of equipment and personnel to 17 races in 14 countries on five continents. Only a clear planning procedure and infrastructure will ensure that all the right parts of the package are in place when needed.

Security is also becoming increasingly important in the business world as companies rely more and more on critical data. In Formula 1 it is unique to have your top five competitors within 200 yards along the pitlane. Therefore, secrecy is a must if a team wants to keep its technical innovations to itself. It is not just physical security in the pitlane that counts, though, but data security, with encryption used to prevent rivals intercepting telemetry and finding out more than they should.

Although not used in Formula 1, Computer Associates has a dedicated portal for this sort of work – eTrust, which provides security solutions.

Data storage, though, is another area where Computer Associates has heightened its links with the West McLaren Mercedes team. It is another area that is fast becoming an increasing concern in the business world, with companies facing increasing data storage requirements that grow by 60-100 percent each year, and new technologies, applications and business models increasing storage costs.

This is where the BrightStor >>







solutions – which West McLaren Mercedes uses at both races and tests for the backup of telemetry data – comes into its own, giving you high levels of data backup and recovery. The team's engineers have intentionally tested this software by literally pulling the telemetry data cables out of the primary server. It worked so well that the users were unaware of the sudden change as the software immediately started using the copied data from the second backup server.

"The key to restoration is to have consistent data," explains Brian Shemilt. "It's just like a consistent snapshot at any point so that you know that everything is synchronised. We have data availability products that allow you to take backup while the system is running. It's a problem of scale, which is important as it's predicted that data flow will double in the next two years."

West McLaren Mercedes knows the importance of instant access to data, with constant monitoring a must. The team has 'real-time' radio links, with further data logged into memory by wire link. There is a radio link from the cars to the Sun Microsystems battlestations, with a laser link to the pitwall for formatted data. In addition, there is a satellite link back to base at Woking. It is thus not surprising that management solutions are essential to help the engineers sift through data.

The design of a Formula 1 car is used by Computer Associates as a radical example of how a company can best optimise its lifecycle. With the process typically taking six months from a car's inception to its first race, compared to six years for a typical road

## VALUED PARTNER

"Computer Associates very much values its Partnership with West McLaren Mercedes," admits Computer Associates' Brian Shemilt. "There are elements of partnership across the business that help it to function much more smoothly and in a better way. This is one of the things that Computer Associates is trying to achieve as a corporate goal – to be seen more as a software partner for our client base."

"We want to be seen as proactive, asking to help with this, that or the other. If we can help, great, if not, then we want to ask whether there's anything else that we can help you with. We want to be seen as a friend and adviser rather than simply as people from whom you license software."

"It's two-way traffic, though, as the Partners gain from being associated with a successful Formula 1 team. Both companies are leaders within their own industries and it emphasises our role as a global player, just as Formula 1 is a global sport."

"After all, Computer Associates is the third largest computer software company in the world. Based on Long Island, New York, our 18,000 employees are spread over 140 countries."

TOP LEFT West McLaren Mercedes utilises Computer Associates software and skills for telemetry backup and data transfer security

TOP RIGHT Computer Associates software has been designed for every part of a typical manufacturing process, from concept through to final production

car, there can be no more intense arena in which to gain expertise. This is especially true in Formula 1 when technical regulations are changed, with immediate feedback forcing engineers to overcome problems in double-quick time to stay at the front.

"Every project follows a lifecycle in one way or another," explains Brian Shemilt. "You start at the drawing board before designing the system, building it and so on. It's like building a house. Any change in the design stage is relatively cheap to implement. But you don't, for example, decide after it's built that you want a cellar. There's a definite lifecycle, but skimp and you'll end up not with the software equivalent of a Formula 1 car, but a pedal-kart."

Again, Computer Associates have developed the AllFusion family of software solutions to assist companies

with every stage of application life-cycle management, from initial design and modelling through development to project and change management.

Along with a project or company's lifecycle, it is also important to consider development in both the short and long-term – especially if change is constant. Amazingly, West McLaren Mercedes' product – the race car itself – undergoes 70 percent change from the start of the season to the end thanks to simulations 24 hours per day, seven days per week, ongoing wind tunnel work and 32 test sessions each year that help to analyse, recommend and make changes balanced between performance and reliability. Computer Associates has created the Advantage Developer and Data Management solutions to help companies maximise their investments while also exploiting new technology.

The final comparison is business intelligence. After all, no company wants to drown in its own data, as businesses need ever more sophisticated analysis and reporting tailored to their own requirements. West McLaren Mercedes keeps its competitive advantage through its long-standing relationships with its Partners, often sharing business intelligence to achieve mutual objectives. Computer Associates have addressed this concern for other companies with its CleverPath solutions.

By using this six-way clarification of how Formula 1's demands match a business' own, and how Computer Associates' solutions can best fit those needs, Computer Associates has been able to show how any successful business can learn from the highly-charged world of Formula 1. ■

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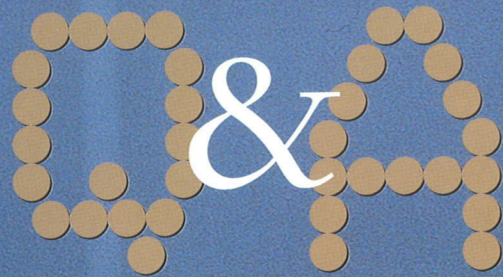
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Computer Associates™





International golfer **ERNIE ELS** recently added the British Open trophy at Muirfield to his two US Open titles from 1994 and 1997. He attended the British Grand Prix as a guest of West McLaren Mercedes Corporate Partner SAP, where *Racing Line* managed to grab a quick word with him

WORDS ADAM COOPER PHOTOGRAPHY LAT

**Have you visited many grands prix?**

I've been to several. The first time was at Kyalami in South Africa in 1992 and I have also been to Silverstone before. Every time I come to a grand prix it's like the first time. I get treated so well. I've met Damon Hill and had dinner with Jackie Stewart, and I've spoken to Nigel Mansell a few times.

**What do you think of Formula 1?**

It's unbelievable – way ahead of any other sport. Technology obviously plays a big part – not only the cars, but everything else as well. A lot more goes into a grand prix than a normal golf tournament. We've got four majors a year, and they're almost to this kind of stature. Formula 1 is enormous, though. I'd love to have been a driver. I know a lot of people who'd love to be golfers, but this would be my ultimate passion.

**Have you always liked cars?**

My dad has always had a passion for cars, and my older brother and myself got that from him. My dad is almost 60 now, but he still owns a Porsche. In South Africa we don't have lots of traffic, and we've got some great roads, so you can open them up. I've got a Dodge Viper in America, but I've obviously got to go to a driving school if I want to take it onto a track. I can't wait for the new Mercedes-Benz SLR McLaren – I've got an order in already!

**Racing drivers, such as Nigel Mansell and Alain Prost, tend to take golf quite seriously. Does that surprise you?**

It seems like a lot of sports people want to play golf. Tim Henman is a big fan, and he's good, as is Boris Becker. I guess in golf they can get away from things. It's quiet, and you can switch off.

**Is there a common link between sportsmen in terms of their mental approach for events?**

When we go onto the first tee in any tournament there's the nerve factor, and our preparation has to be spot on. You've got to be physically and mentally ready. It's a four-day event, so we need more patience, but in any sport mental strength is the biggest asset. The other difference is if I bogey I can recover, but racing drivers can't, so their line between victory and disaster is finer.

**At school you were good at other sports. Why opt for golf?**

I still play tennis, although not as well as I used to – I've filled out a bit too much! But it keeps me in good shape, and it's enjoyable. Growing up in South Africa we all play cricket and rugby, and rugby was a big passion, but I guess I was best at golf, and the results were immediate. I seemed to find that winning formula quite quickly.

**You turned pro quite young...**

It was a week before I turned 20. After school we had to go to the military, and I did two years in the air force. I can't say I really went to war, I was basically just playing golf! I did five months training and after that I got a nice office job and I was able to play golf almost every day. It improved my game more than anything.

**There have been great players from South Africa, but it must be harder to make it internationally from there compared with, say, the USA?**

It is, but I was fortunate. Golf isn't a big sport in South Africa, so the courses are empty, in good shape, and the weather's perfect, so you play every day. My family lived near a course, so it was perfect for

me. To make it internationally now, though, you've got to fly, and that costs money. The exchange rate isn't favourable, and youngsters need help. I've started a foundation where we help less fortunate kids with talent. We want to give them a chance.

**The 1994 US Open was the first big victory of your golfing career. Was it the best day of your life?**

Definitely. It put me right on the map, where I wanted to be. Obviously growing up I not only wanted to compete in the majors, but also to win them. The 1994 win was very unexpected. Nobody knew who I was, but I went out there, felt good, and I enjoyed the course. Everything worked out. I won it again in 1997, but then Tiger Woods came around. If it wasn't for him I think I would have won about five or six majors now! But he's a phenomenal player.

**What's it like going into a tournament knowing that, if he's on form, then one of your rivals is almost impossible to beat?**

It's a tough deal, but you've got to live with it. When he's in the field, you've got to be at your best. I've never been a gym buff, but I'm in shape for the first time, and practising a lot. Even my mental approach is better. I'm number three in the world, and I've been in the top 10 a long time, but closing the gap to Tiger is hard because he's also getting better. For a while winning came easily, and whenever I played reasonably well, I felt like I could win. Now Tiger's here, even when I play well, I might not win. He's firing on all cylinders. We're in the era of the best player ever, though, so that's one consolation for us all. ■



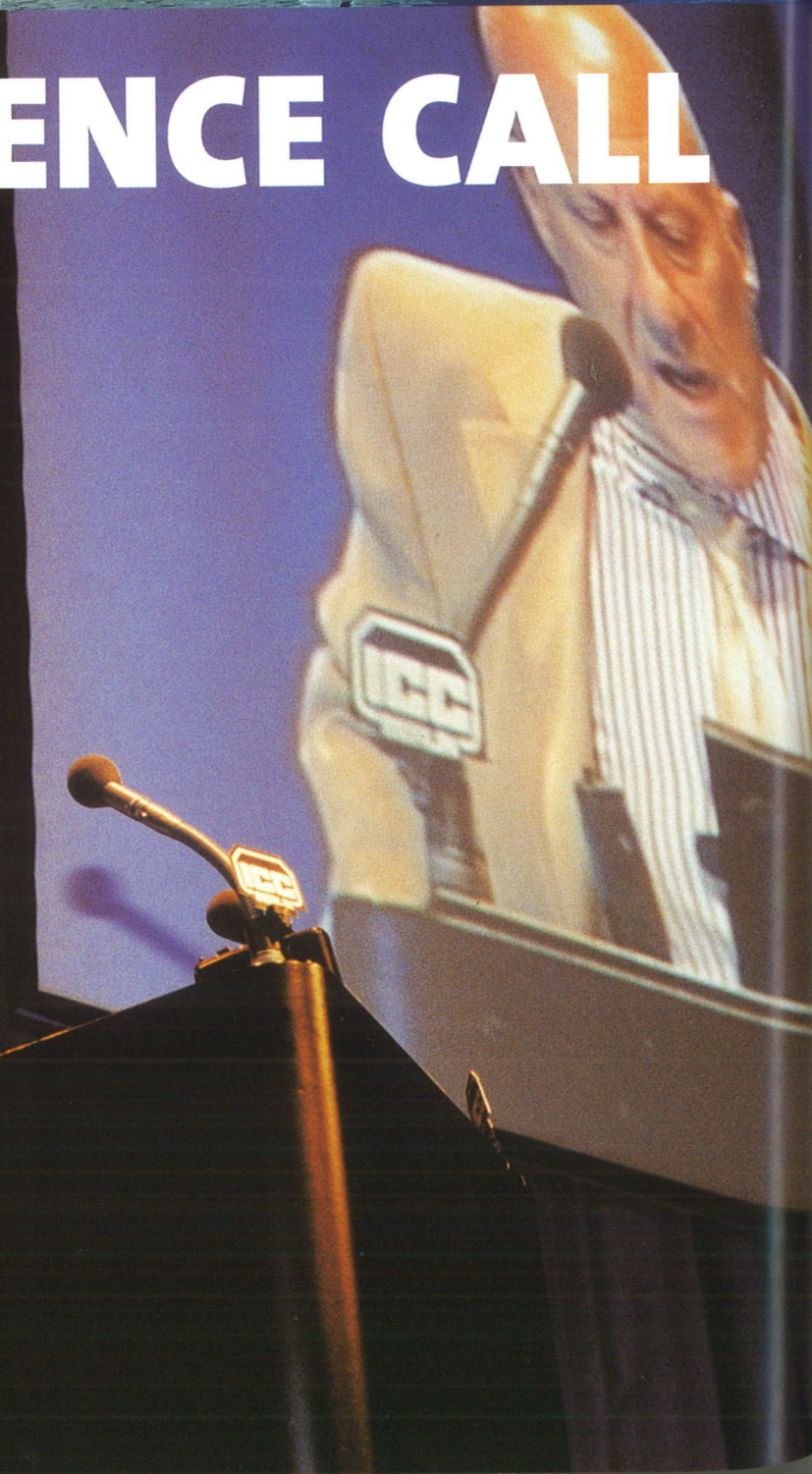
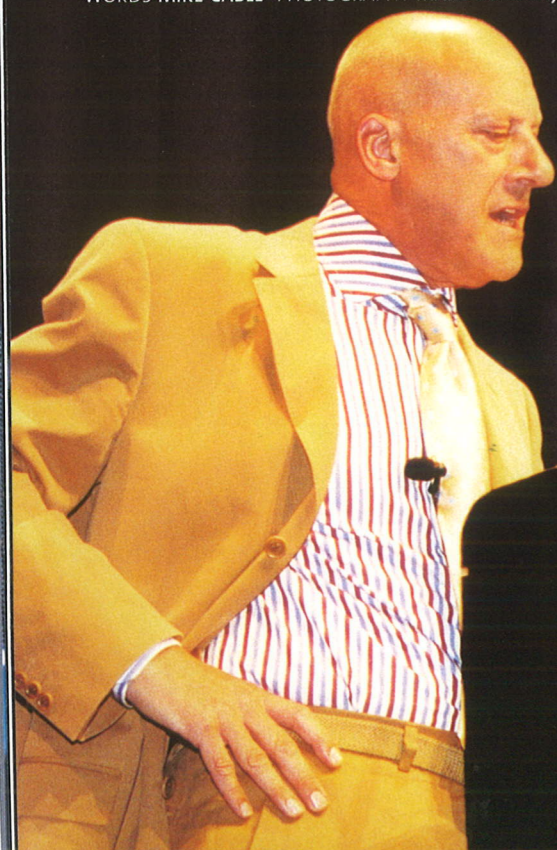




# CONFERENCE CALL

Paragon – the McLaren Technology Centre – was the focus of attention at one of the world's biggest gatherings of architects at Berlin, with architect Lord Norman Foster taking the opportunity to speak about his design in public for the first time

WORDS MIKE CABLE PHOTOGRAPHY MARC BURDEN, ICC BERLIN



Paragon – the McLaren Technology Centre in Woking, England – became the centre of attention for architects from around the world last month as Lord Foster spoke publicly about the project for the first time, giving a fascinating insight into his vision for the building at one of the world's biggest architectural conferences.

In a keynote presentation to the 21st World Congress of Architecture in Berlin, attended by around 5000 architects from more than 100 different countries and sponsored by McLaren Technology Centre Partner Schüco, Lord Foster intrigued his audience at the International Congress Centre by revealing that his design for the building reflected subliminal influences as varied as corn circles and the classic English country house, the work of certain modern artists and ancient archaeological earthworks.

Traces of all these elements, he explained, could be discerned in the overall shapes, patterns and landscaping of what is being heralded as one of the most technologically advanced and innovative commercial and industrial buildings in the world. During his detailed review of the project, Lord Foster highlighted some of the design features that will ensure that the McLaren Technology Centre becomes an architectural showpiece.

But, in tune with one of the main themes of the Congress, he also discussed during his 30-minute address the importance that had been attached right from the start to the creation of

a working environment that would be both efficient and inspirational.

Recalling his first meeting with Ron Dennis, he said: "Ron came with a number of ideas. Not so much about what the building should look like, but more about what the spirit of the building might be – its aspirations and its social generators.

"Although neither of us probably realised it, there was a natural synergy between us in what we had both, in our very different fields, been trying to achieve. As architects, both myself and my colleagues have been engaged for many years in meeting the challenge of constant social, technological and lifestyle changes and the way that they interlock together. There is a constant quest for re-evaluating the workplace as a good place to be."

Introducing Lord Foster on the platform, Ron Dennis said: "When I considered the initial brief for Lord Foster, I tried to portray the mind state of the person leaving the facility to go home. In fact, I didn't even want them to go home. I wanted it to be such a great place that people would want to stay there.

"We've actually incorporated lots of different things to create an environment that not only motivates them, not only sends them home not smelling of the company and with a positive approach to life, but also tries to put a skip in their walk."

In this respect, Lord Foster explained that the five-finger layout of the production and office areas had been carefully designed to encourage

**TOP LEFT** The original sketches of architect Lord Norman Foster's initial concept for the McLaren Technology Centre have blossomed into the current design

**MAIN** Lord Norman Foster was the star speaker at the UIA conference, talking in public for the first time about the design of the McLaren Technology Centre

**TOP RIGHT** Around 5000 architects from over 100 countries around the world attended this year's World Congress of Architecture in Berlin

flexibility and to facilitate interaction between the various divisions of the TAG McLaren Group, "reflecting the reality of several different families within the larger family," as he put it.

Lord Foster also focused on the role played throughout the building by the extremely complex lighting systems, which have been developed in conjunction with Technology Centre Partner Targetti. These allow for a unique integration of natural and artificial light that eliminates sunspots and shadows to create optimum light levels at all times.

Illustrating the point with some of his original sketches, he said: "As an architect I have always been fascinated about light – how you engineer light, filter it, deflect it, diffuse it and pull it into habitable space and how that brings about another poetic human dimension, a dimension of change and unpredictability."

He then went on to talk at length about what will undoubtedly be the building's signature feature, the elegant curved glass façade that looks out over the lake. "Having tried to effect the closest merger between the building and nature, the rolling countryside beyond the lake and the sky, it was quite a challenge to find a way of dissolving that barrier," he said.

Thanks to close co-operation between Schüco, Foster & Partners and McLaren's own design engineers, this was eventually achieved by using computer-cut aluminium windblades to absorb the wind load and slim stainless steel supports to take the





vertical load, making it possible to refine and streamline the whole structure. "The result is a light, almost gravity-defying wall that liberates the view and the relationship to the world outside," added Lord Foster.

Paying tribute to the contribution made to the design and realisation of the building by Ron Dennis himself, he said: "Ron has been an extraordinary inspiration. He is a perfectionist and that, along with the spirit of teamwork that he conveys, has permeated throughout the site."

Ron, himself, later picked up on this during a question-and-answer session at a special function hosted by Schüco and fellow McLaren Technology Centre Partners Targetti, Grohe and Pastorelli in the very dramatic surroundings of E-Werk – a former East German electricity sub-station, not far from the old Berlin Wall border that formerly divided the two halves of the city.

Referring to the unique relationship between himself and the architects – a relationship that had seen them meet over one hundred times in five years – he told an attentive audience of over 350 guests: "From that you can understand that I could be the customer from hell. I'm most definitely the customer who requires tremendous attention to detail. The McLaren Technology Centre typifies that. It's a 57,000 square metre commitment to attention to detail."

Sharing the platform with Foster & Partners' Project Director for the McLaren Technology Centre Nigel



ABOVE (FROM TOP) McLaren Paragon Partners were very much in evidence at the UIA Conference: Grohe European Marketing Manager Frédéric Midy, Pastorelli Marketing Manager Luciano Cappelli, Targetti Executive Vice-President Lorenzo Targetti and Schüco CEO Dirk Hindrichs

RIGHT Guests gather to discuss the concept of the McLaren Technology Centre at the E-Werk function

Dancey, he added: "All the people who have become our Partners – AMEC, Schüco, Targetti, Pastorelli, Mapei, Instron and Grohe – have gone beyond the point of supply.

"They've become true Partners – people who want to make sure that their technology is fully represented in what we are trying to ensure is going to be the most advanced commercial environment in which people will be able to function."

The E-Werk function proved to be an ideal opportunity for the Paragon Partners to gather and discuss their joint contribution to a building project that they believe will set exciting new standards for office and

industrial architecture in the future.

Listening to this in the audience, Schüco CEO Dirk Hindrichs agreed that working on Paragon had certainly been one of the most challenging projects in which his company had ever been involved, but it also proved to be one of the most rewarding.

"What was positive was that we never had a horizontal movement," he said. "It was always vertical, straight up to the objective. The building will be a strong statement about a new kind of architectural approach which gives priority to caring about the employees and how they work and we are proud to be associated with it."

That was a theme that Frédéric



LEFT Paragon Partners Schüco, Targetti, Grohe and Pastorelli put together an evening event at the E-Werk facility to complement the day's UIA presentations

RIGHT Ron Dennis and Foster & Partners Paragon Project Director Nigel Dancey took part in a question and answer session about the McLaren Technology Centre at the E-Werk evening function

Midy, European Marketing Manager of water systems and installations specialists Grohe, was very much in agreement with. "We have talked with the other Partners and we all agree that this project is one of the most demanding that any of us have ever been involved with, due largely to Ron Dennis' very specific requirements and personal involvement," he said.

"There has been a new challenge every week with this building and yet the project has always been enjoyable for the company, for the staff and for the team that we have put together. No question about that. We have benefited from it all the time, and we are confident that we will benefit from it in the future as well."

Targetti Executive Vice-President Lorenzo Targetti reflected the general mood when he said that his company had benefited enormously from the demands for ever more innovative design solutions. "Ron pushed us to the limit," he said. "But that gave all of us at Targetti the opportunity to do things that you do perhaps once in a lifetime. It's hard to find a customer willing to challenge you and go with you so far. Most companies want you just to do the job as quickly and as cost effectively as possible and they don't really exploit the value you can bring to the project. Sometimes this can be very frustrating. With the McLaren Technology Centre everybody is very proud of the job they have done. It's going to be a wonderful showcase for us all."

This was a subject that was very

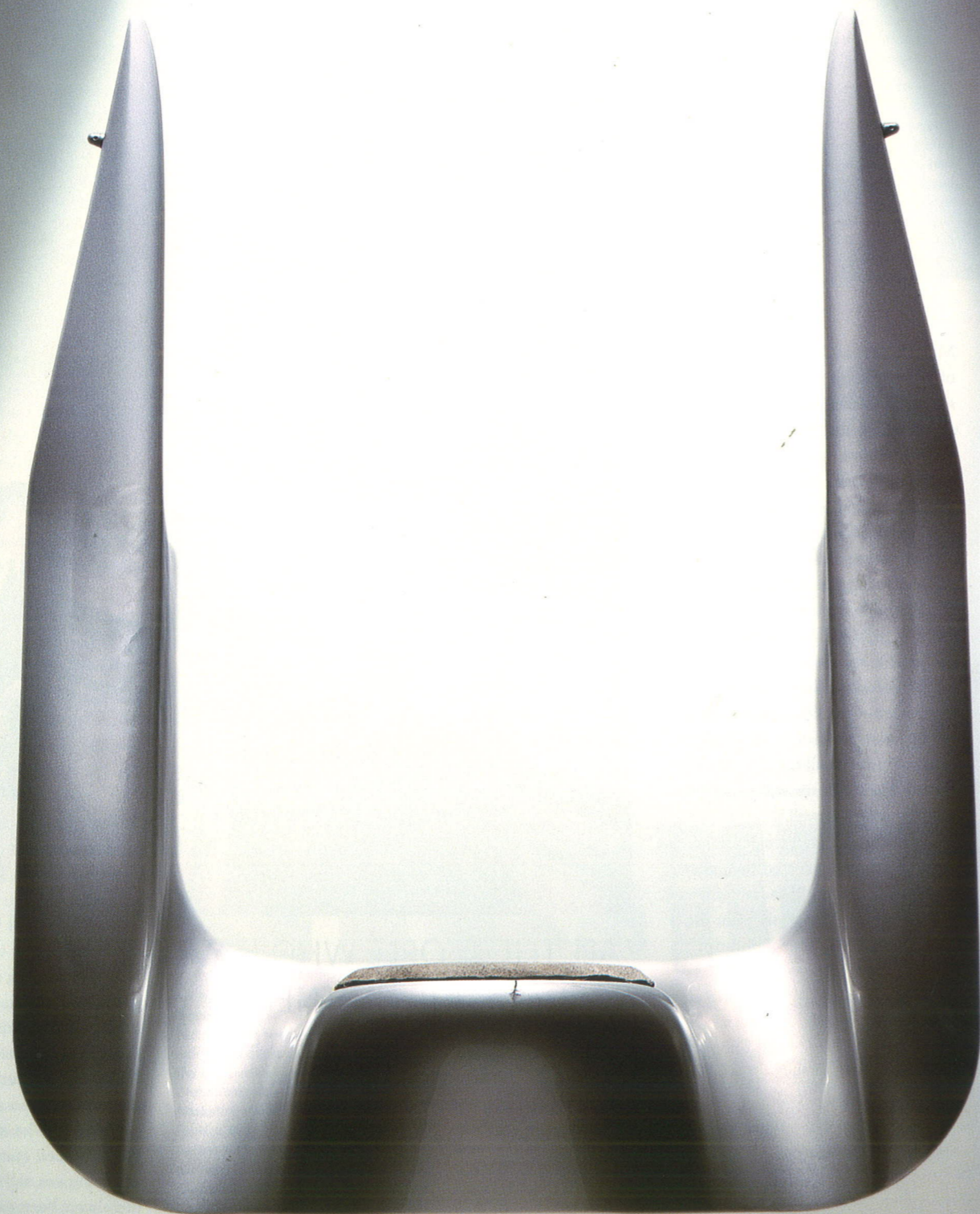


**"ALL THE PEOPLE WHO HAVE BECOME OUR PARTNERS HAVE GONE BEYOND THE POINT OF SUPPLY. THEY HAVE BECOME TRUE PARTNERS"**

**NIGEL DANCEY, FOSTER & PARTNERS, PARAGON PROJECT DIRECTOR**

much echoed by the Marketing Manager of tiling specialists Pastorelli, Luciano Cappelli, who once again played on the theme of Partnership that lies at the heart of the project. "With this project, even the laying of the tiles has been specially adapted," he explained. "The attention to detail here has been quite incredible and achieving exactly the desired effect has not always been easy. When two parties want the same thing, though, it is always possible. Ron constantly gave us the impulse to move forward, to find new ideas and we shall undoubtedly benefit from that in the long term. In that sense, it really has been a true partnership." ■






## BITS &amp; PIECES

&gt;NO.0004

# THE COCKPIT HEAD RESTRAINT

WORDS BRUCE JONES PHOTOGRAPHY TED HUMBLE-SMITH

 The often-used term 'headrest' for the padding around the cockpit of the MP4-17 is a misnomer. After all, modern racing drivers never have time to relax when chasing down rivals at 300kph. No, a headrest should be known as a head restraint. The horseshoe-shaped removable structure around the cockpit of the car is there to stop the driver from hitting his head on the car's structure, with its Kevlar shell filled with a special impact-resistant foam.

"The foam helps to take the energy out of any impact to try and prevent serious injury," explains design engineer Scott Bain, who is responsible for this element of the car. "Years ago, the car's sides were much lower, with nothing to protect the drivers' head other than a little Alcantara-covered padding."

Ayrton Senna's fatal accident in the 1994 San Marino Grand Prix caused a thorough review of safety in Formula 1, and particular attention was paid to head restraints. McLaren was already developing head restraint technology, as Vehicle Technology Laboratory Manager Peter Hodgman points out. "We first used an instrumented hybrid dummy in frontal impact tests in 1993. It was identified that the driver's head when rebounding, although helmeted, was extremely vulnerable, with high stresses being placed on the neck and head."

After testing more than 50 materials, a solution was found and a report was sent to the FIA, Formula 1's governing body, outlining its benefits. They then made this type of headrest mandatory. "For 1996, high

cockpit sides were introduced, boosting driver safety further.

Today's FIA-approved head restraints must cover a stipulated area and be of a minimum thickness. "We have to package this square area of foam so that it doesn't get in the driver's way," continues Bain. "We then take this shape and make a pattern then a mould for the Kevlar shell. The foam is cut roughly and frozen with liquid nitrogen so that we can machine it to shape. We then fit it into the shell and seal it up, making sure that it's watertight, or else the foam would absorb water and get really heavy."

The head restraints come with three different types of foam, used according to the ambient temperature, as each has a different potential to absorb kinetic energy. Blue Type 1 foam inserts are used if the temperature is above 30 degrees, pink Type 2s between 15 and 30 degrees and white Type 3s below 15 degrees, with the FIA alerting the teams to which one to use before each session begins. Where safety is concerned, nothing is left to chance. ■

## TECHNICAL SPEC

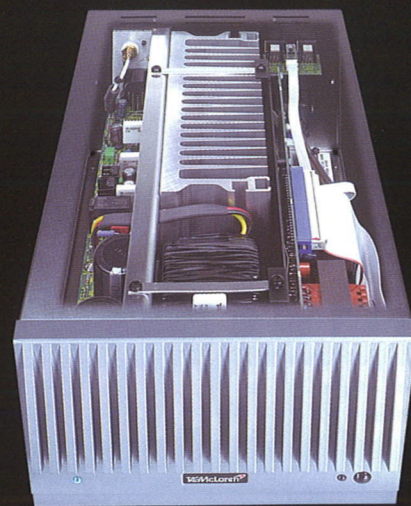
**WEIGHT** 1.2kg

**DIMENSIONS** 520mm wide by 650mm high by 250mm deep

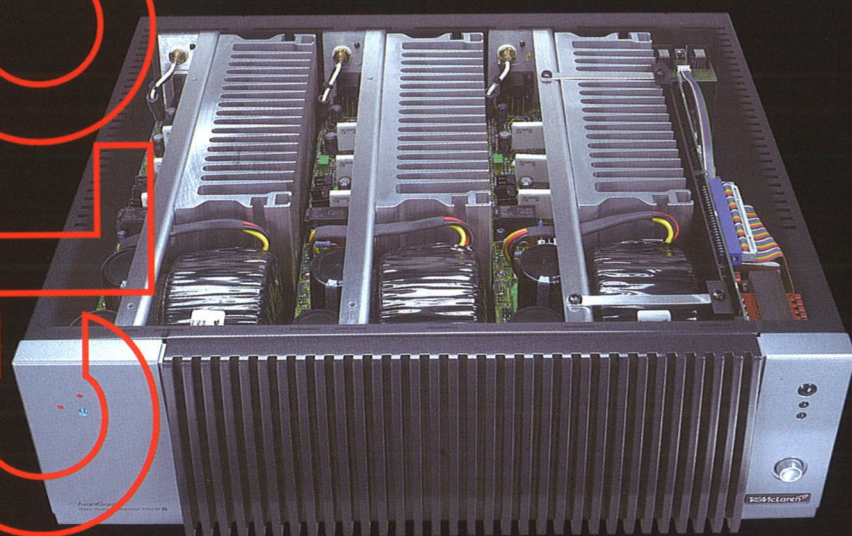
**MATERIAL** Kevlar casing, with ConFor foam for Type 1s and 2s, Sunmate for Type 3s

**NUMBER PER SEASON** 15 split between the team's drivers, being changed when damaged

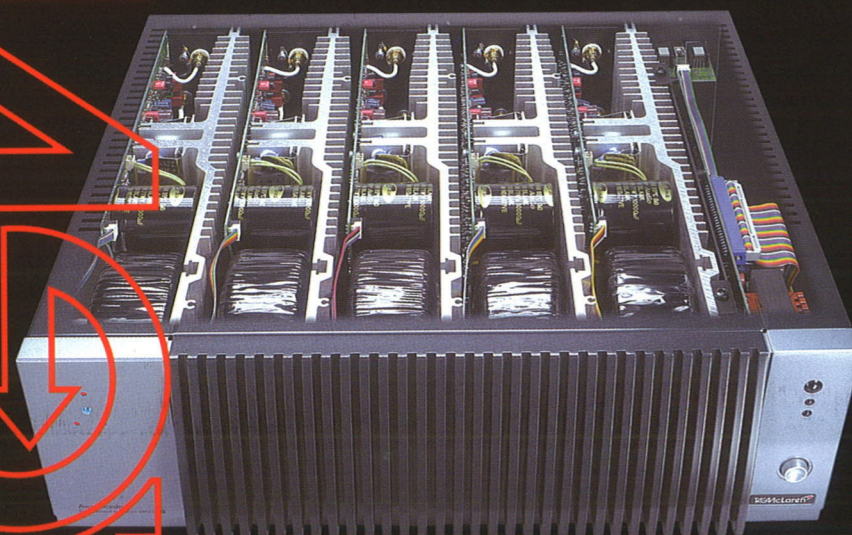




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The new 100x5R:10 offers up to 10 channels of 80 Watt into 8 Ohm, more than 150 Watt into 8 Ohm when bridged. Connection is via single-ended RCA and OFHC output terminals.

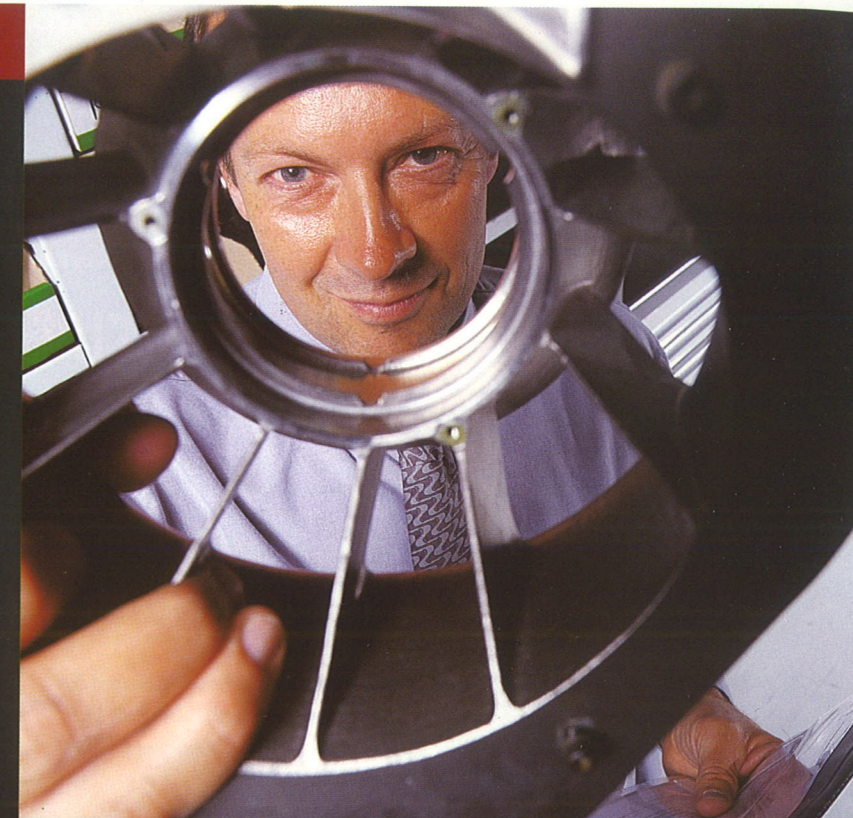
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## CHRIS ROBSON RACE CAR PREPARATION MANAGER

WORDS LUKE HAYTER PHOTOGRAPHY TED HUMBLE-SMITH



### What does your job actually entail?

I run the department that supports the race and test teams from the factory. This, in itself, is divided into four separate sections: paintshop; gearbox shop; race equipment support and spares co-ordination. A large part of my time is spent organising the supply of car parts, making sure that we have the right quantity of parts and spares. A lot of work goes into ensuring that each part is serviced fully and quality tested before it gets near the car. My main job, though, is ensuring that we have the right quantity of parts of the correct specification.

I act as a liaison between the race and test team - who are the customers of the production departments - and production themselves. I also do a lot of the logistical planning for the race team: when the trucks are departing for example, I look at the logistics of when they leave, when they get there, and how we're going to get certain parts out to the race and test teams. I also have to liaise with Formula One Management regarding shipment of freight for fly-away races - where we're going to deliver it, how we're going to deliver and all the paperwork.

### Do you still get involved on a hands-on basis?

Not as much as I used to. But you have to retain touch with the shop floor so that you know exactly what's

going on. There are so many different parts, with different specifications - for racing, testing and so on - that you have to know where all of the parts are, all of the time.

### In total, roughly how many parts are you responsible for?

Each car has thousands of parts, and when you're talking about running five cars - that's a lot of parts! With, say, hydraulic systems or gearboxes, you're up into twenty or thirty sets. It's a huge amount - scores of thousands. When we go to a fly-away race we take 30 tonnes of freight, not including the cars. It takes four or five trucks to get it to the airport - that's a lot of volume.

### How did you find yourself working in Formula 1?

I've worked in Formula 1 for 30 years now, starting at the age of 18. I got a foot in the door working for a promotions company on behalf of Phillip Morris, and I started taking the showcars for BRM and ISO-Marlboro to shows around Europe. Then I got a job at Brabham as a truck driver, before moving on to looking after the spare parts and the tyres.

I stayed there until 1986, when I did a year of Indy Car racing, which was good fun. Very different, with nothing like the technology or budget of Formula 1, but good. It was a nice

experience to go and work in a foreign country. I was going to come back to work for Brabham, but I saw that they were starting to decline. McLaren were obviously the top team - a team investing heavily in the future of Formula 1 - and I was fortunate that they offered me a job. So I started here in 1987 as spares man and chief truckie, before becoming spares co-ordinator in 1993, which led to my current role.

### During your time at McLaren, what achievement that you have been directly involved in are you most proud of?

I've worked with a lot of great drivers, and when I first started here it was a very small team. As the company gets bigger, your personal involvement begins to decrease. I think, for me, the big moment was working with someone like Ayrton Senna.

Both Ayrton and Alain Prost really stand out. It was an honour to work with those guys. I looked after Ayrton's tyres in 1988 when he was winning the world championship. McLaren won 15 out of 16 races that year, which was very special, a big achievement. I'm very proud to have been a part of that success.

Working with the quality of people I have has also been a huge bonus. It's something you can look back on and say: "I worked with that guy." ■



## NOW AND THEN MARTIN BRUNDLE

Martin Brundle first tested a Formula 1 car with McLaren at the end of 1983, but the racing veteran had to wait until 1994 before he could race with the team

WORDS EGIN YOUNG PHOTOGRAPHY LAT ARCHIVE

As the saying goes: those who can, do; those who can't, talk about it. Martin Brundle is one of those rare drivers who is as good at talking about his sport as he was behind the wheel, and he has retained his humour and polished style for his current role as a grand prix television pundit.

Martin is uniquely qualified for his position as the expert commentator for the grand prix coverage of British broadcaster ITV Sport, having driven for eight different Formula 1 teams in his 12-year career.

After a number of years in lower formulae, Martin took Ayrton Senna to a very close finish in the British Formula 3 championship in 1983 – a fierce private duel that is still talked about to this day. Both drivers tested for McLaren, but while Senna went to Toleman to make his grand prix debut, Martin opted for Tyrrell.

Things got off to a good start with fifth place on his debut in the Brazilian Grand Prix, and he spent a moderately successful three seasons with them, before heading to Zakspeed for 1987.

For 1988, rather than stay in an uncompetitive Formula 1 car, Martin switched to sportscars with Jaguar. It was a choice that served him well, with a win in the Daytona 24 Hours at the beginning of the year and the World Sportscar Championship at the end of it. He went on to add the Le Mans crown to his collection with Jaguar in 1990.

He returned full-time to Formula 1 in 1989 with Brabham, before single-seasons with Benetton (where he was closer to Michael Schumacher than many have been) and Ligier.

Martin then joined McLaren for 1994, but admits that he feels he signed at a difficult time – taking Senna's place after his move to Williams, and helping McLaren to work with its new engine partner, Peugeot. Martin also had to wait until the last-minute to confirm his drive, as Alain Prost decided whether or not to return to the team that had given him three world championships.

"I wanted that drive," says Brundle thinking back. "I had set my heart on it and it arrived very late in the day. I'll never forget that first trip around the factory and my 45-minute interview with Martin Whitmarsh." He laughs. "When you talk with Martin for 45-minutes, your allocation is about a minute!"

Brundle realised the significance of that first meeting. "The first thing that hit me was that they were regular people, normal people," he admits. "It's just that they were in an organisation so focused on winning, very used to winning. It's all in the detail and that detail made all the difference.

"1994 was a difficult year to be at McLaren because Ayrton had left, we had the Peugeot engines and the dramas we had with them never really faded away. I wasn't Ayrton and I didn't have a car that could really challenge for a win. Tense times, really!" The season did have its high points, though, including second place at Monaco, a result Martin admitted was "...better than I'd dared to hope."

Martin returned to Ligier for 1995, before his final season of Formula 1 with Jordan in 1996. Although he switched to his full-time commentary role with ITV Sport for 1997, Martin continued to rack up the racing miles

at Le Mans with Toyota and latterly Bentley – remaining competitive at the event with both marques.

He is now busier than ever. As Chairman of the British Racing Drivers' Club he helped to guide the organisation through difficult times at Silverstone. He is in partnership with his brother, Robin, with five car dealerships, and is David Coulthard's business manager.

"I've learned a lot of things the hard way," he admits. "Some good, some bad, and I impart that knowledge and experience. I drove for at least half the teams in Formula 1 and I know the people, the wheeling and dealing and I think I'm trusted in that respect." He certainly talks the game well. ■



### CURRICULUM VITAE

**Born:** June 1st, 1959  
**Grands prix contested:** 165  
**First race:** Brazilian GP, 1984  
**Last race:** Japanese GP, 1996  
**World championship points:** 98  
**Formula 1 cars raced:**  
 1984-'86: Tyrrell-Ford/Renault  
 1987: Zakspeed  
 1988: Williams-Judd  
 1989-'91: Brabham-Judd/Yamaha  
 1992: Benetton-Ford  
 1993: Ligier-Renault  
 1994: McLaren-Peugeot  
 1995: Ligier-Mugen Honda  
 1996: Jordan-Peugeot





The 1990 United States Grand Prix marked the start of a new chapter in the history of the McLaren team. After six memorable years and three world championships Alain Prost had decided to move on to Ferrari – the Frenchman effectively doing a straight swap with Austrian Gerhard Berger, who had been at the Italian team for the previous three years.

The year also marked a fresh start for Ayrton Senna. During 1989 his working relationship with Prost had steadily deteriorated, and matters came to a head when they collided in the last round of the title fight at Suzuka and the world championship was decided in favour of the Frenchman. That led to a dispute with the FIA and its president, Jean-Marie Balestre, which dragged on through the winter.

That saga would fill a book on its own, but suffice to say that Senna had to pay a \$100,000 fine and make an apology before he was allowed to race in 1990. It was eventually sorted out, if not forgotten, and the Brazilian duly turned up in Phoenix for the first race of the year with the updated MP4/5B.

All this, of course, meant that Senna had not had the best winter preparation, and a fiercely motivated Berger was able to take advantage. On the first day of qualifying round the tight and bumpy Phoenix street circuit in Arizona, Gerhard made his mark by setting the provisional pole while a misfire cost Senna valuable setup time, leaving him down in a disappointed fifth place.

Senna expected to do better in final qualifying on Saturday, but he never got the chance. It poured with rain, and nobody had the possibility to improve their times. Berger was obviously delighted. He had managed to fit in with the team immediately, and the fact that he had been able to outqualify his supposedly more experienced team-mate from the off was good news indeed.

"I was on pole on Friday," the Austrian recalls. "On Saturday it was raining, so again I had the car on pole. I thought, 'OK, Senna is just another driver to blow away!'"

"Things were good. Honda was a strong partner at the time, and Ron Dennis was treating me very well. We had really, really big fun in that team. The engine was also good that year, because it was still the V10, and it had good power."

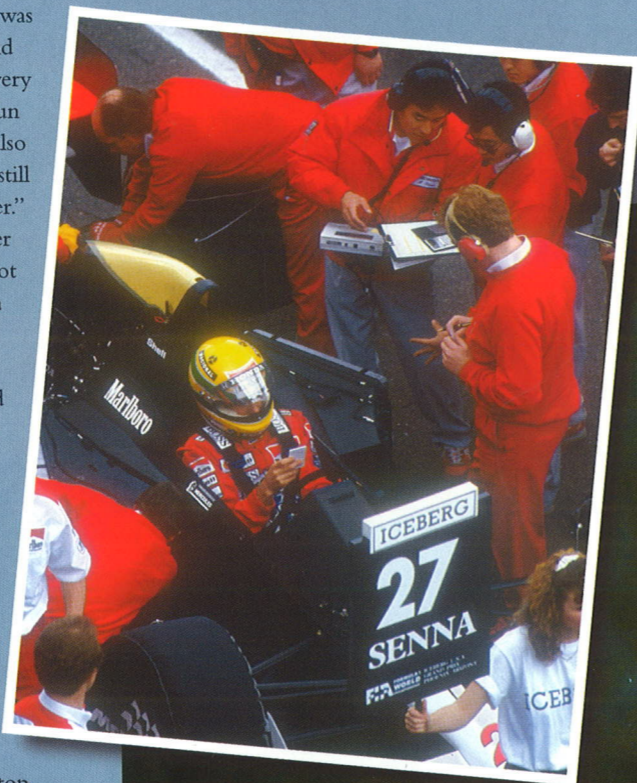
The only concern for Berger was that his lanky frame did not fit properly in the car: "I had a really big problem," he admitted. "The car was built very much for Alain Prost, and my knees were up against the steering wheel."

In addition to the apparent turn of fortune at McLaren, there were plenty of other unusual qualifying performances at Phoenix.

Then, as now, grand prix racing featured a tyre war. In those days it was between Goodyear – used by McLaren and most of the top teams – and Pirelli. Only rarely did the Italian rubber have an advantage, but at Phoenix it most definitely did – at least in qualifying. Berger and Senna were split by Pierluigi Martini's Minardi, the Dallara of Andrea de Cesaris and new sensation Jean Alesi in the Tyrrell. It was one of the strangest grid line-ups ever seen.

"I think we were all pretty surprised by the performance of the Pirellis," recalls Ron Dennis. "It was so rare that they actually had a performance advantage. Alesi had this reputation of never having a disciplined approach of working on the tyres to optimise them for the race. He loved going fast, and therefore just wanted new set after new set to try and improve his single lap performance."

It was dry on race day, and thus the big talking point was how the Pirellis would perform over 72 laps. Alesi showed no signs of wanting to nurse his tyres, and at the start he charged past de Cesaris, Martini and finally Berger to head the field into the first corner. Once in front, Alesi opened up a lead on the Austrian. Berger, on the other hand, found his cramped cockpit conditions a little difficult to cope with in the heat of battle. >>



## PHOENIX 1990

### A GOOD START TO THE YEAR

Big changes to the McLaren team over the winter opened up new possibilities for the 1990 season. In the first race of the year, however – the United States Grand Prix at the tight, twisty, Phoenix street circuit – Ayrton Senna and McLaren proved they had lost none of their skill, or their taste for the victory champagne

WORDS ADAM COOPER PHOTOGRAPHY LAT ARCHIVE; ALLSPORT







"Ayrton was behind me," he remembers. "It was okay, and I thought I could get away a little bit, but my foot was hanging between the two pedals and I couldn't close the throttle. Finally I just went into the barrier."

The Austrian eventually slid sideways into a tyre wall, allowing Senna to nip through into second. Somehow Berger managed to drag his car away and get back to the pits, where a new rear wing was fitted. He continued, several laps down, before stopping with clutch failure.

As the race went on, Senna began to reel in Alesi, and it became apparent that the Frenchman's tyres were past their best. Eventually Senna got on the Tyrrell's tail, and began to look for a way past the struggling car.

"The memory that is the most vivid from that race is that the Pirelli tyres went off so fast," says Dennis, "Alesi

**TOP** Gerhard Berger took an impressive pole position, but spun off while chasing Jean Alesi for the lead when he got his foot snagged on the throttle pedal

**BELOW** Ayrton Senna had endured a difficult winter, surrounded by politics, but put that behind him for the 1990 US Grand Prix with a dominant drive around the tight, twisty Phoenix street circuit

became a sort of mobile chicane. Ayrton radioed in asking if we could do something about the flagging. I think I suggested that he just overtook him, which was probably a better way for him to approach it!"

Just before half-distance Senna finally saw his chance, diving down the inside for the tight first right-hander. He then pulled over to the right on the following short straight to take an ideal wide line into the next sharp left-hander. As he turned in, Senna got a shock – Alesi saw a gap and stuck his nose back in.

Surprised that anyone would have the nerve to fight back, Senna had to give way. Two changes of lead in a matter of seconds was great entertainment, and up and down the pitlane there were big smiles, not least of all at Tyrrell. With more than half the race still to run, though, it was obvious that Senna would get by, and he did so at the same spot on the very next lap. This time he closed the door very firmly, and there was no come-back for Alesi.

"In fairness it was quite a narrow city circuit," says Ron. "It took Ayrton quite a long time to get past Alesi, but once he managed to make the manoeuvre, he was gone..."

Senna quickly opened up a gap, but backed off in the closing laps, allowing

Alesi to get within nine seconds at the flag. After the winter acrimony Senna was delighted to be back on top, and after having lost out to Berger in qualifying, he had begun the process of reminding everyone who was boss.

"Unfortunately after that he went home to Brazil, thought about it, and I never did it again," smiles Berger. "There were a few times when he was behind me, but it was not regular. A lot of it was just down to the head. Like most of the other drivers you're strong, but then you see that the other guy is stepping away. He gets more confident and then you get weaker."

It was the start of a memorable period for McLaren, as Berger and Senna soon became firm friends, and the butt of each other's practical jokes. A more relaxed Ayrton went on to win the 1990 title, and successfully defended it the following year.

"It was a case of new broom sweeps clean, wasn't it?" says Dennis. "The Ayrton/Gerhard era in the team was a good, fun time. It was frustrating for Gerhard, because he was always raising his game, and so was Ayrton, but it was a strong season for us as a team. There was still a fight, as there were other cars winning races, and we had to work hard for the results."

And there is surely nothing more satisfying than that. ■

"IT TOOK AYRTON QUITE A LONG TIME TO GET PAST ALESI, BUT ONCE HE MANAGED TO MAKE THE MANOEUVRE, HE WAS GONE..."



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**PREVIEW SEPTEMBER 13-15, MONZA**  
**ITALIAN GRAND PRIX**

**TRACK INFORMATION**

**LAP LENGTH** 5.793 km  
**RACE DISTANCE** 306.764 km  
**NUMBER OF LAPS** 53  
**2001 POLE POSITION**  
1m22.216s (253.659kph)  
**2001 RACE LAP RECORD**  
1m25.073s (245.140kph)

**PREVIOUS McLAREN WINS**

1968 **Denny Hulme** M7A  
1984 **Niki Lauda** MP4/2  
1985 **Alain Prost** MP4/2B  
1989 **Alain Prost** MP4/5  
1990 **Ayrton Senna** MP4/5B  
1992 **Ayrton Senna** MP4/7A  
1997 **David Coulthard** MP4/12

**PITSTOP WINDOWS**

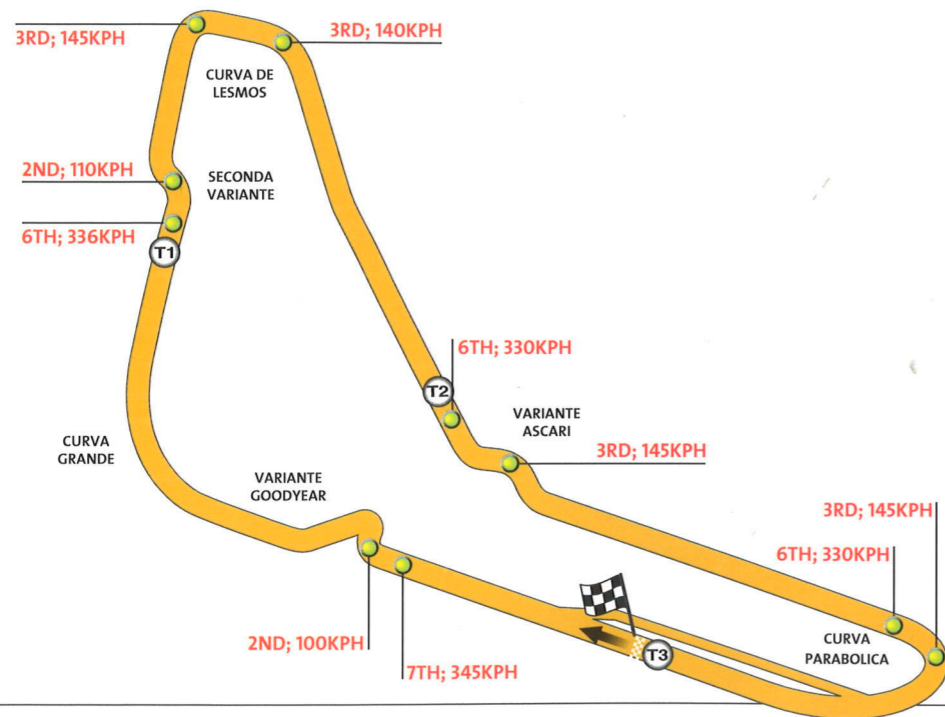
**ONE STOP** Laps 24-28  
**TWO STOPS** Laps 16-20; 33-37

**RACE TIMETABLE**

**FRIDAY SEPTEMBER 13**  
11.00-12.00 Practice session one  
13.00-14.00 Practice session two  
**SATURDAY SEPTEMBER 14**  
09.00-09.45 Practice session three  
10.15-11.00 Practice session four  
13.00-14.00 Qualifying session  
**SUNDAY SEPTEMBER 15**  
09.30-10.00 Warm-up  
11.15-11.35 Drivers' Parade  
14.00 Italian Grand Prix

**i FURTHER INFORMATION**

**NEARBY CITIES (AIRPORTS)**  
Milan (Milano Linate) - 25km  
Malpensa - 55km  
**TICKET INFORMATION**  
+ 39 039 24821  
**WEBSITE** www.monzanet.it



**GRAND PRIX HISTORY**

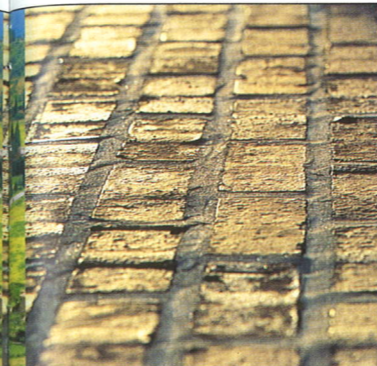
The Italian Grand Prix was first held in 1921 on a 17km road course near Brescia, northern Italy. The Monza circuit near Milan hosted the next race in 1922, and has gone on to be the venue for the Italian Grand Prix on all but four occasions ever since - a grand total of 72 races at the circuit. McLaren's first Italian Grand Prix victory came in 1968 with Denny Hulme at the wheel of the M7A, but the team had to wait until 1984 for its next success in the event, Niki Lauda taking the spoils in his final championship year. Four-times world champion Alain Prost maintained McLaren's success rate at the event with victories in 1985 and 1989, before Ayrton Senna claimed the first of his two Italian wins for the team in 1990, going on to win the event again in 1992. David Coulthard took the victory spoils in the 1997 Italian Grand Prix, the most recent win in the event for the West McLaren Mercedes team.

**CIRCUIT HISTORY**

The Italian locals call Monza *La Pista Magica* - the magic race track. Set in the grounds of the old royal park at Monza, the Autodromo Nazionale was constructed in 1922. Soaked in history, Monza also has the distinction of hosting the fastest Formula 1 race of all time - the 1971 Italian Grand Prix, which Peter Gethin won at an average speed of 150.754mph. The track's high-speed nature made it a dangerous place in its early days, but since then the track has been reigned in to comply with modern regulations and the ever-increasing cornering speeds of Formula 1 cars. It is a testament to the original design, though, that the layout remains essentially unchanged to this day. Despite extensive re-profiling, Monza is still a very fast circuit, favouring a minimum-downforce setup, with an emphasis on mechanical grip and an ability to ride the kerbs well.



**PREVIEW SEPTEMBER 27-29, INDIANAPOLIS**  
**SAP UNITED STATES GRAND PRIX**



**TRACK INFORMATION**

**LAP LENGTH** 4.192 km  
**RACE DISTANCE** 306.016 km  
**NUMBER OF LAPS** 73  
**2001 POLE POSITION**  
1m11.708s (210.454kph)  
**2001 RACE LAP RECORD**  
1m14.448s (202.708kph)

**PREVIOUS McLAREN WINS**

1976 **James Hunt** M23 Watkins Glen  
1977 **James Hunt** M26 Watkins Glen  
1982 **Niki Lauda** MP4/1B Long Beach  
1982 **John Watson** MP4/1B Detroit  
1988 **Ayrton Senna** MP4/4 Detroit  
1990 **Ayrton Senna** MP4/5 Phoenix  
1991 **Ayrton Senna** MP4/6 Phoenix  
2001 **Mika Häkkinen** MP4/16 Indianapolis

**PITSTOP WINDOWS**

**ONE STOP** Laps 34-48  
**TWO STOPS** Laps 22-26; 46-50

**RACE TIMETABLE**

**FRIDAY SEPTEMBER 27**  
11.00-12.00 Practice session one  
13.00-14.00 Practice session two  
**SATURDAY SEPTEMBER 28**  
09.00-09.45 Practice session three  
10.15-11.00 Practice session four  
13.00-14.00 Qualifying session  
**SUNDAY SEPTEMBER 29**  
08.30-09.00 Warm-up  
13.00 SAP United States Grand Prix

**i FURTHER INFORMATION**

**NEARBY CITIES (AIRPORTS)**  
Indianapolis - 40km  
**TICKET INFORMATION**  
+ 317 484 6700  
**WEBSITE** www.usgpindy.com

**GRAND PRIX HISTORY**

The first US Grand Prix, held at Sebring in Florida in 1959, was won by Bruce McLaren. The event briefly moved to Riverside, before settling at Watkins Glen until 1980. McLaren enjoyed success at the 'Glen, with James Hunt winning there in 1976 and 1977. Throughout the 1980s, various circuits played home to US Grands Prix, sometimes with two events in one season. McLaren enjoyed particular success on the Long Beach street track, with Niki Lauda and John Watson winning in 1982 and 1983. McLaren also won at Detroit in 1982 with Watson and the race's final year in 1988 with Ayrton Senna. The US Grand Prix then moved to Phoenix, McLaren winning all three races on the street track, with Alain Prost (1989) and Senna (1990, 1991). After an eight-year hiatus, the US Grand Prix returned to the Formula 1 calendar at Indianapolis, with Mika Häkkinen taking his final victory for the West McLaren Mercedes team there in 2001.

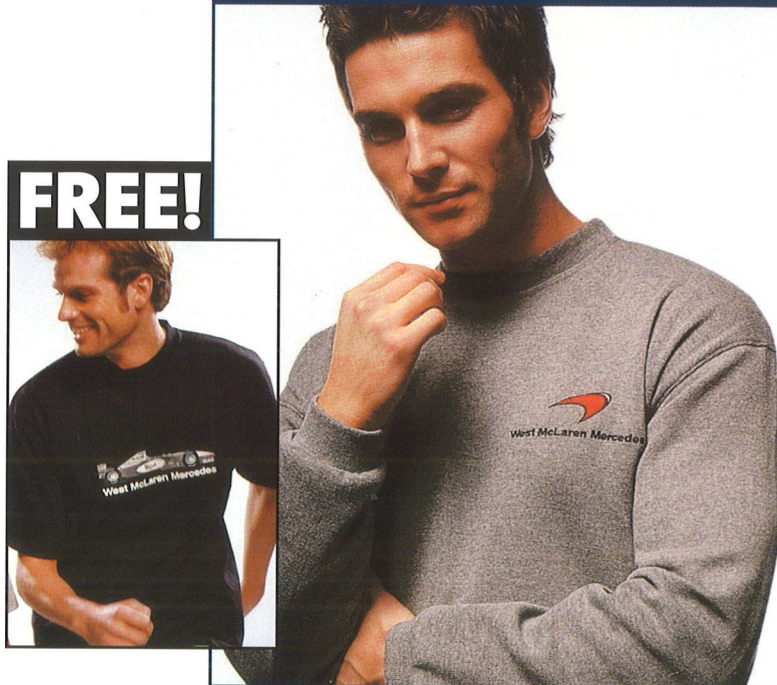
**CIRCUIT HISTORY**

The Indianapolis Motor Speedway, the current venue for the SAP United States Grand Prix has been home to the Indianapolis 500 race since 1911. The original 2.5-mile oval course was laid using over three million bricks, a line of which remain as a nod to the past on the current start/finish line. From 1950 the Indianapolis 500 was a points-scoring round of the calendar, but this ceased in 1960. Formula 1 teams continued to race there, however, as the challenge of winning at Indy was too great to ignore for many team-owners and drivers. McLaren was among these, winning for the first time with the Penske team in 1972, and as a team in its own right in 1974 and 1976. A new, tight, twisty infield section which places a premium on aero and mechanical grip was added for the return of Formula 1 in 2000, but this still includes a section of the oval banking for the last part of the lap - a huge thrill, even if it is 'easy flat'.



**SPECIAL OFFER**

This month, we have a truly special offer for all *Racing Line* readers. If you buy an official West McLaren Mercedes Racing Car Sports Top, featuring the West McLaren Mercedes logo on the front and a large racing car embroidered on the back, we will send you a Racing Car T-Shirt absolutely free!



**FREE!**

**RACING CAR SPORTS TOP**

Crew neck sweatshirt featuring the West McLaren Mercedes logo on the front and a large racing car embroidered on the back. Washable. Cotton 50% Polyester 50%

**+ FREE RACING CAR T-SHIRT**

High quality black T-shirt featuring the West McLaren Mercedes racing car on the front. Machine washable. Wash inside out and iron on the reverse. 100% combed cotton

Non-members: £59.99

Members: £49.99

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**COMPETITION**

**MIKA HÄKKINEN STAMP**

This month we are giving three lucky Team McLaren members the chance to win a framed commemorative stamp issued in Finland in 1998 to celebrate Mika Häkkinen's first world championship success. To win this prize, send the answer to the question below to Team McLaren, Admail 622, Woking, Surrey, GU21 1WH by September 30.

**Question: WHO DID MIKA REPLACE FOR HIS FIRST RACE WITH MCLAREN IN 1993?**

**COMPETITION WINNER**

**SIGNED RACING LINE COVER AND SILVERSTONE CIRCUIT MAP**

In the July issue of *Racing Line*, we offered you a chance to win two superb prizes – a front-cover of the July issue of *Racing Line* signed by David Coulthard, and a map of the Silverstone circuit signed by Alex Wurz, who talked us around the track in the same issue. The lucky winner is Ms. Emma Blackburn of Dewsbury. Congratulations Emma, the prizes are on their way to you as we speak.

**LETTERS**

Send your letters to Team McLaren, Admail 622, Woking, Surrey GU21 1WH

**GOOD LUCK MIKA**

I'm sure that I speak for all my fellow Team McLaren members when I wish Mika Häkkinen all the best now that he has retired from Formula 1.

Like many, I have been thrilled by his high-speed exploits at the wheel of a McLaren since 1993, and I shall never forget how happy I was when he took his first world championship with the West McLaren Mercedes team in 1998.

They say that all good things must come to an end, though, and that is how I feel when I think of Mika finally leaving Formula 1. I'm sure however, that, in Kimi Räikkönen, we will soon have another winning Finn to marvel at.

*Richard Dexter, Leicester, England*

**HEADQUARTERS VISIT**

Team McLaren has always stated that its objective is to get its fans closer to the action. This aim was certainly achieved when my dad and I visited the McLaren headquarters at Woking. The trophy room, with its display of cars, was particularly spectacular. I was very interested to see Mika Häkkinen's car, which was displayed in the exact condition in which it had crossed the line at Suzuka in 1999.

The tour of the facility itself was also extremely interesting. The high knowledge level and enthusiasm of the staff greatly enhanced the experience. Both my dad and I would like to thank everyone at Team McLaren for a brilliant day.

*Matthew Smith, Newport, England*

**DRESSED THE BEST**

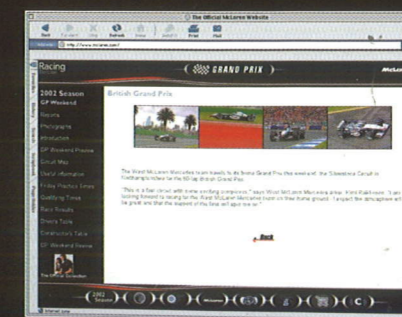
I am writing to congratulate you on the 'Dress Reversal' feature in the August issue of *Racing Line*. Even as an avid Formula 1 fan and West McLaren Mercedes nut, I had no idea that so much effort and attention to detail is required after the cars have been in action. The photographs illustrated the piece superbly, and really contributed to my understanding of what processes the people at the team headquarters have to go through after each race. It is this kind of story which makes me look forward to receiving my copy of *Racing Line* each month.

*Alan Hodges, Manchester, England*

**Racing On-Line**



gets you closer to the action



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