

Racing Line

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by **McLaren**

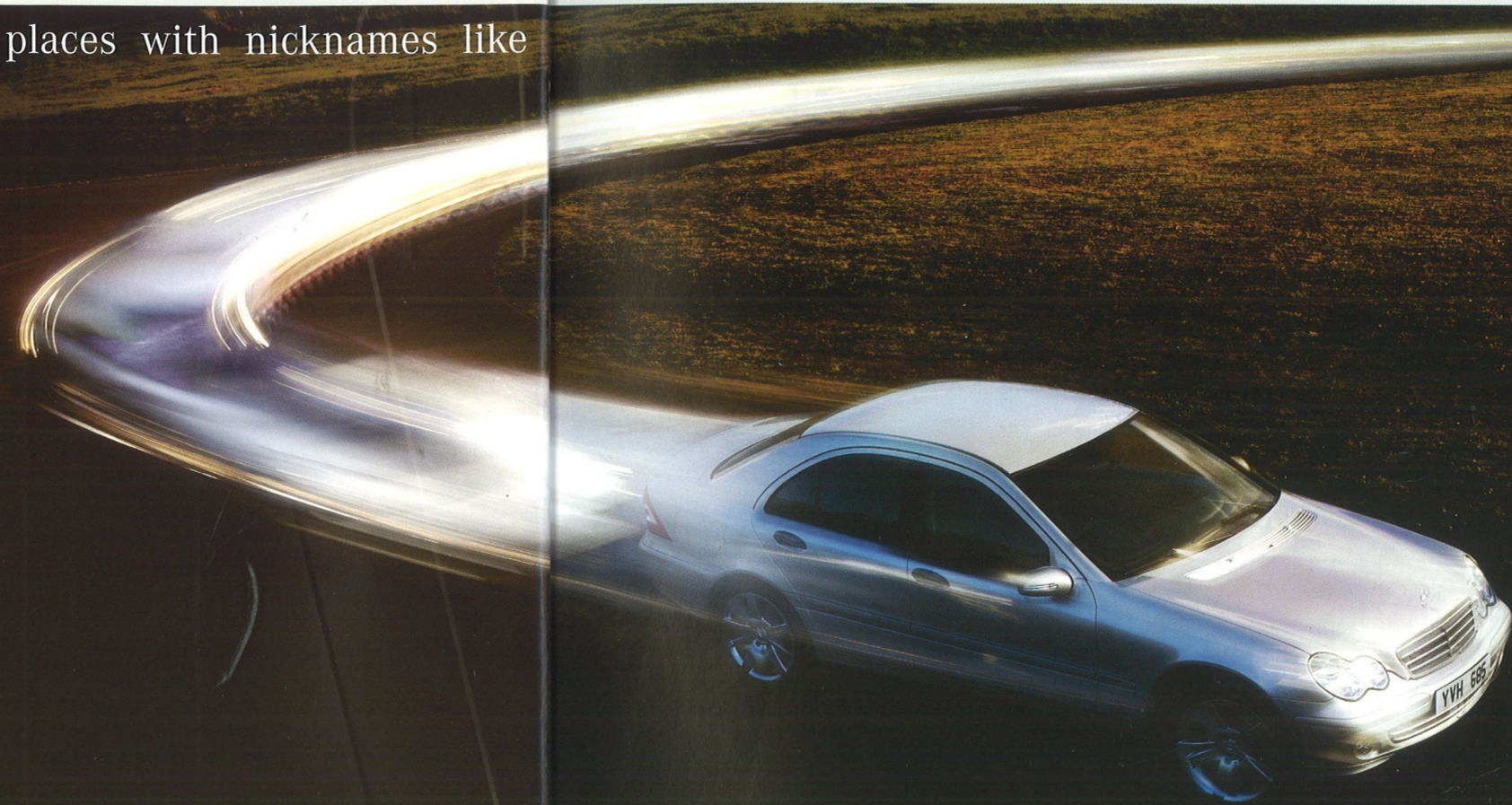


RON DENNIS LOOKS BACK AT 2004

A YEAR IN THE LIFE...

PLUS KIMI RÄIKKÖNEN ANSWERS YOUR QUESTIONS ■ RISING STAR LEWIS HAMILTON AT HOCKENHEIM

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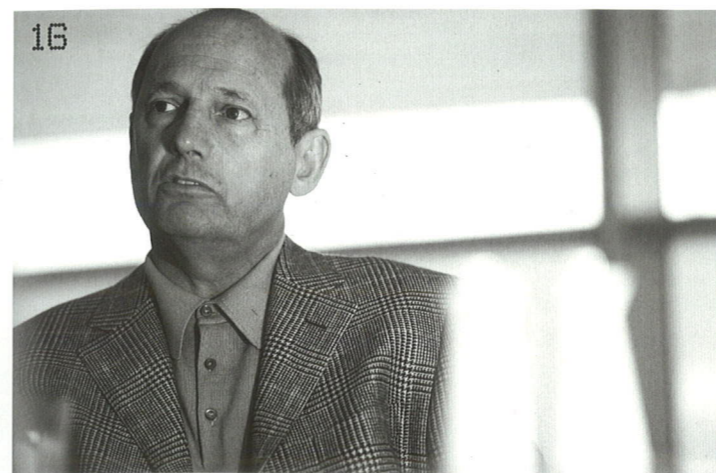


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RacingLine

DECEMBER 2004



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“IN MY SPARE TIME I DO SOME TRAINING, SEE MY FRIENDS AND JUST RELAX. I LIKE HANGING AROUND AT HOME”



McLAREN RACING: PARTNERS

TECHNOLOGY PARTNERS

EXXONMOBIL
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www.tagheuer.com

TECHNOGYM
The Wellness company. Leading fitness and biomedical equipment designers and producers.
www.technogym.com

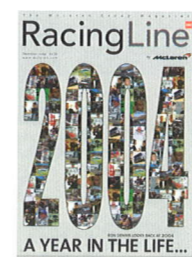
McLaren's Roll of Honour

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

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

2004 GP Results

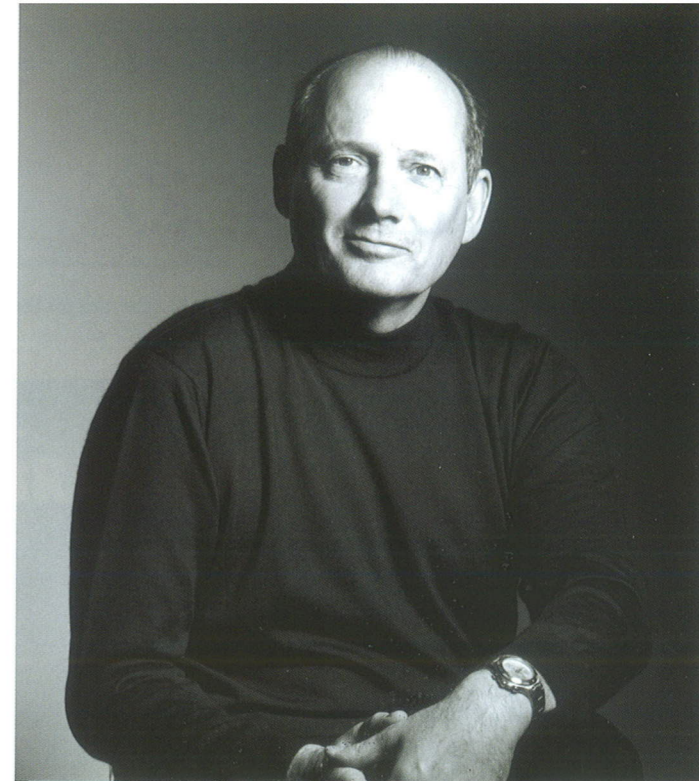
Australian GP: David Coulthard 8th; Kimi Räikkönen DNF
Malaysian GP: David Coulthard 6th; Kimi Räikkönen DNF
Bahrain GP: David Coulthard DNF; Kimi Räikkönen DNF
San Marino GP: David Coulthard 12th; Kimi Räikkönen 8th
Spanish GP: David Coulthard 10th; Kimi Räikkönen 11th
Monaco GP: David Coulthard DNF; Kimi Räikkönen DNF
European GP: David Coulthard DNF; Kimi Räikkönen DNF
Canadian GP: David Coulthard 6th; Kimi Räikkönen 5th
United States GP: David Coulthard 7th; Kimi Räikkönen 6th
French GP: David Coulthard 6th; Kimi Räikkönen 5th
British GP: David Coulthard 7th; Kimi Räikkönen 2nd
German GP: David Coulthard 4th; Kimi Räikkönen DNF
Hungarian GP: David Coulthard 9th; Kimi Räikkönen DNF
Belgian GP: David Coulthard 7th; Kimi Räikkönen 1st
Italian GP: David Coulthard 6th; Kimi Räikkönen DNF
Chinese GP: David Coulthard 9th; Kimi Räikkönen 3rd
Japanese GP: David Coulthard DNF; Kimi Räikkönen 6th
Brazilian GP: David Coulthard 11th; Kimi Räikkönen 2nd



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InsideLine

By the time you read this issue of *Racing Line*, some weeks will have passed since I sat down and completed the Q&A reviewing 2004, which you will find contained within these pages. The purpose of this magazine is not only to communicate with our staff but also to provide our friends and supporters outside the Group with some deeper insights into the challenges, successes and longer-term plans of the various McLaren businesses.

I hope that all our readers will derive from this article an enhanced understanding of – and insight into – the diverse challenges which our organisation has tackled and dealt with over the past year. Of course the McLaren Group's core business is grand prix racing and we only won a single race in 2004. Clearly it has not been a great season for our Formula 1 team. Nevertheless we have achieved a great deal across the Group and completed a smooth and seamless move into the McLaren Technology Centre.

By the end of the year, we shall have delivered more than 300 Mercedes-Benz SLR McLaren sports cars from our new production facility, having received an extraordinarily positive set of technical and performance reviews from the usually sceptical automotive media. And, even as we were still settling into our new environment, our Formula 1 design team was demonstrating its resilience by delivering very substantial performance improvements with the MP4-19B. The first half of the 2004 season was undoubtedly very tough and disappointing but I am proud of the way in which we responded to the challenge by delivering a radically improved car for the second half of the season, defying the media predictions to the contrary.

Taking a wider view of the business of Formula 1 racing, Team McLaren Mercedes was among nine of the 10 teams currently competing to lend its weight to a new accord designed to rein in certain key elements of the sport's increasing costs, including limiting testing in 2005. The teams involved in this initiative are determined to demonstrate a willingness to find the best way forward for grand prix racing and if that means disadvantaging ourselves in the short term for the overall benefit of the sport, then we are resolved to taking a pragmatic and practical view of the situation.

Ron Dennis CBE
McLaren Group Chairman and CEO



NESCAFÉ Xpress joins Partner portfolio; David competes in final race for Team McLaren Mercedes

TEAM WELCOMES NEW PARTNER

Team McLaren Mercedes welcomed NESCAFÉ Xpress to its Partner portfolio at the Brazilian Grand Prix at Interlagos. NESCAFÉ Xpress branding appeared on the drivers' helmets and drinks bottles for the first time during the race weekend.

The long-term Partnership has been established with BPW (Beverage Partners Worldwide) a joint-venture company created in 2001 between Nestlé SA and The Coca-Cola Company. NESCAFÉ Xpress is a range of great tasting premium coffee-based beverages aimed at providing the consumer with both physical and mental stimulation.

"The Partnership with Team McLaren Mercedes is a great fit for the soul of the NESCAFÉ Xpress brand," said Hans Savonije, CEO of BPW. "There are a number of stimulating synergies between the two



companies: the pursuit of excellence, technological innovation, speed and a passion to be the best. Formula 1 is an ever-expanding sport that will open up growing markets for NESCAFÉ Xpress. This Partnership will help us to connect the philosophy of NESCAFÉ Xpress with existing and new consumers, helping them achieve balance in their lives."
"It always gives me great pleasure to

welcome a new Partner to the team and the McLaren Group," said McLaren Group Chairman and CEO Ron Dennis.

"NESCAFÉ Xpress is a high quality growing brand that will fit well within our existing Partner Group. NESCAFÉ Xpress is a new brand for Formula 1 and shows the continued attractiveness of the sport to world-wide premium brands."

"DaimlerChrysler is particularly pleased to welcome NESCAFÉ Xpress to the team, a Partner developed from such strong parent companies as Nestlé SA and The Coca-Cola Company," said Norbert Haug, Vice-President, Mercedes-Benz Motorsport. "We are looking forward to a long and fruitful cooperation."

NESCAFÉ Xpress will be an Official Supplier, Energy Drinks to both the team and the McLaren Technology Centre.



CLOCKWISE FROM TOP NESCAFÉ Xpress branding appears on the team's drinks bottles and helmets; Kimi Räikkönen celebrates the new Partnership with Hans Savonije, CEO of BPW

DAVID COULTHARD BIDS FAREWELL TO TEAM IN BRAZIL



The Brazilian Grand Prix was David Coulthard's last race for Team McLaren Mercedes, having spent nine seasons with the team. The Scottish driver - who was making his 150th race start for the outfit - holds the record for the longest consecutive time spent by a Formula 1 driver with a single team.

David has notched up a significant tally of results for the team, including 12 race wins, 51 podium finishes, seven pole positions, and 14 fastest laps. He has scored a total of 412 points while racing for McLaren.

"I want to thank the team both at the track and back at base for all their effort and hard work during the past nine years," said David. "It's an emotional moment to say goodbye to the team after all this time and the memories I will be taking with me will be of all my victories, podiums and points that we have achieved while working together."

"David has done a tremendous job for the team in the past nine years and all his hard work and efforts are appreciated by everybody, and we wish him all the best," said Team Principal Ron Dennis.

David Coulthard recently made an appearance in Munich for Technology Partner Siemens. The event, held at the Olympiahalle, was hosted to launch the newly established Siemens Communications division and was attended by 10,000 staff. On the day, David joined a panel of representatives from the company's management board.

An exhibition celebrating the life of former McLaren driver Ayrton Senna was recently held in São Paulo to coincide with the Brazilian Grand Prix. It featured the McLaren MP4-5B with which Senna won the 1990 Drivers' World Championship.

A McLaren MP4/6 featured as part of Honda's recent celebrations in the run-up to the Japanese Grand Prix, marking 40 years involvement in Formula 1. The car ran in a demonstration at the Suzuka circuit on the morning of the grand prix. McLaren used Honda engines between 1988 and 1992.

Team Communications Centre Partner Bloomberg recently held a Power and Performance seminar for over 200 delegates in São Paulo, in the week leading up to the Brazilian Grand Prix. The event was held at the exclusive Clube Chocolate, where a beach had been recreated with sand and palm trees to highlight the benefits of Bloomberg Anywhere, which allows you to access the BLOOMBERG PROFESSIONAL service on any internet-ready PC, anywhere in the world.

MCLAREN TECHNOLOGY CENTRE IS VISITED BY TWIN TOWN DIGNITARIES

A group of visitors from the German city of Rastatt, which is twinned with Woking, recently toured the McLaren Technology Centre.

The Mayor of Rastatt, Wolfgang Hartweg (left of picture), was greeted at the facility by The Mayor of Woking, Cllr Graham Cundy. The party included councillors from both Rastatt and Woking, who received a tour of the facility. Their visit included the McLaren Racing race and test bays, and the Mercedes-Benz SLR McLaren production line. Not only is Rastatt twinned with Woking, it is also where the Mercedes-Benz A-Class is built.



NEW FOUNDATION TO SUPPORT CONTEMPORARY ARTISTS

A new body called the McLaren Foundation has been established to commission unique artwork which will be displayed at the McLaren Technology Centre.

The first piece commissioned by the foundation, a sculpture by Peruvian artist Armando Andrade Tudela (see right), was recently presented at the Frieze Art Fair held in London's Regents Park. The artwork, Modulo Penetrable No1, comprises a multicoloured Perspex window.

"Many may think that McLaren has nothing in common with art," said Ron Dennis, McLaren Group Chairman and CEO. "However in many ways our products, the Mercedes-Benz SLR McLaren high performance sports car and the Team McLaren Mercedes Formula 1 car, are

beautiful pieces of art. They epitomise engineering excellence and there is a form following function, and elegance to both."

In addition to providing up-and-coming artists with the opportunity to develop new work, the McLaren Foundation hopes to inspire creativity and stimulate discussion amongst the McLaren Group workforce by displaying the unique artworks throughout the facility.



Kimi stars at Brazilian motorshow; Team to use new SAP software

McLAREN CARS INVOLVED IN KEY REPORT

The report of a trade mission to Europe attended by McLaren Cars – which was funded by the UK Government's Department of Trade and Industry – was recently presented to members of the automotive industry at a seminar in Birmingham.

The mission saw a team of specialists from the UK visit automotive manufacturers in France and Germany, where they exchanged ideas on the future directions of joining technologies for automotive structures. The group attended key European research



centres, including the DaimlerChrysler R&D Centre in Ulm, Germany (pictured).

"The DTI mission was a good project for McLaren Cars to be involved in," said Rob Backhouse, Senior Design Engineer – Body Structures, at McLaren Cars, who spoke at the seminar. "As well as giving us an overview of emerging technologies and research priorities in Europe's high volume automotive industry, it also highlighted the value placed on pure and applied research being carried out in external academic institutions."

The mission report, titled "Hybridmat 2: strategies in the joining of hybrid materials in automotive structures – a mission to France and Germany" can be downloaded from the mission reports section at www.globalwatchonline.com/missions.

NEW SAP SOFTWARE FOR



Team McLaren Mercedes is to introduce software from Corporate Partner SAP into the production of Mercedes-Benz's Formula 1 engine division, Mercedes-Ilmor, allowing it to optimise both its engineering and production operations.

Use of it.automotive, a qualified mySAP All-in-One solution from SAP business partner itelligence, will enable the team to integrate all its engine design, development

TEAM McLAREN MERCEDES

and production data in a single, enterprise-wide system. The result will provide management, engineering and track-side teams with real-time information on the life-cycle status and performance of more than 5,000 engine components.

"Team McLaren Mercedes' success depends on our ability to quickly and consistently develop, assemble and deliver our products from the workshop to the racetrack in the

best possible quality," said Martin Whitmarsh, CEO, Formula 1, Team McLaren Mercedes. "With itelligence's integrated SAP solution, we will gain more time to act on information. With greater transparency and availability of essential information, our project teams are best equipped to bring peak-performance engines and product innovations to the racetrack more quickly, improving our competitive edge."

KIMI VISITS MOTOR SHOW AT SÃO PAULO

Kimi Räikkönen recently paid a visit to the São Paulo Motor Show, while he was in the city for the Brazilian Grand Prix. At the event, the Team McLaren Mercedes driver made appearances for both Mercedes-Benz and Michelin.

After a private meeting and question and answer session with key Mercedes-Benz customers, Kimi joined two lucky competition winners in taking to a Team McLaren Mercedes simulator. They all completed laps of the Interlagos circuit, before Kimi signed autographs. He then took to the company's main stand where he was interviewed on stage next to a Mercedes-Benz SLR McLaren.

After conducting a private media interview on the Michelin stand, Kimi autographed specially-designed Michelin cards and spoke in front of fans, answering questions on the importance of tyres in Formula 1 and his thoughts on the 2005 World Championship.

He also took time to meet and sign autographs for some of Michelin's key guests, before leaving the motor show to prepare for the imminent grand prix.



ABOVE Kimi answers questions on stage alongside a Mercedes-Benz SLR McLaren at the São Paulo Motor Show



BELOW Two lucky competition winners were pitted against Kimi in Team McLaren Mercedes simulators

McLAREN TECHNOLOGY CENTRE 2005 CALENDAR

Exclusive new images of the McLaren Technology Centre are the focus of a 2005 wall calendar produced in association with a number of the facility's Partners.

Areas such as the boulevard, paintshop and office environments have been photographed, highlighting the Partner's contributions to the facility.

The calendar will be sent by the Partners to their clients worldwide, but we have secured one of these exclusive gifts. For a chance of winning, send your name and address by 31 December to racingline@mclaren.com, with '2005 Calendar' in the subject field.



MOBIL 1 CELEBRATES 30TH ANNIVERSARY

ExxonMobil, Team McLaren Mercedes Technology Partner, recently celebrated the 30th anniversary of its Mobil 1 brand – which features on the livery of the team's Formula 1 cars – in Asia.

As part of the celebrations, Kimi Räikkönen stopped off in Singapore en route to the Chinese Grand Prix, where he visited ExxonMobil's Asia Pacific headquarters and gave interviews to local media. He then went to a restaurant where he met employees from the ExxonMobil facility, answering questions about the grand prix and signing autographs.

ExxonMobil will continue with its celebrations in December when it holds a



European Mobil 1 30th Anniversary event at the Paul Ricard circuit in France. You can read more about the 30th anniversary of Mobil 1 in the January issue of *Racing Line*.

PICTURE CREDITS > MERCEDES-BENZ/ HOCH ZWEI/ ANTHONY CULLEN/ SUE PANTENY

Team McLaren Mercedes Official Supplier Henkel Technologies recently exhibited at the World Adhesives Conference, which was held in Beijing. A focal point on their stand was a Team McLaren Mercedes show car. They also recently hosted a customer dinner in São Paulo during the weekend of the Brazilian Grand Prix (see below) which was attended by 120 guests.



BAE Systems, one of Team McLaren Mercedes' Technology Partners, has published its latest internal newsletter, which includes information on its partnership with the team. It also used one of the team's show cars as part of a recent display held in London.

A new competition on the team's official website, www.mclaren.com, is offering the chance to win a front wheel rim used by David Coulthard during the 2003 season. It comes with an official certificate of authenticity signed by Ron Dennis. Log-on for more details.

Brazilian supermodel Anna Beatriz Barros visited the Team McLaren Mercedes garage during the weekend of the Brazilian Grand Prix.





“THE FINISHING POSITIONS PRETTY MUCH REFLECTED QUALIFYING, WHICH UNUSUALLY TOOK PLACE ON SUNDAY”
RON DENNIS, TEAM PRINCIPAL, TEAM McLAREN MERCEDES

LAP BY LAP

1 David and Kimi each gain a place on the opening lap, moving into seventh and 11th places respectively

14 Kimi heads into the pits for his first stop

15 On the next lap, David also pits for fresh tyres and fuel

32 David comes in for his second and final scheduled pitstop

36 Kimi pits for his second stop

38 A collision with Ferrari's Barrichello puts David out of the race

53 Kimi takes a sixth-place finish and three championship points



Freak weather conditions played havoc with the Japanese Grand Prix, a local typhoon causing Saturday's qualifying sessions to be postponed until race day – the first time in the sport's history this has ever happened.

As well as compressing two day's work into one, the weather also compromised the performance of Team McLaren Mercedes, as drying track conditions during both the qualifying sessions hampered the grid positions of its two drivers.

David Coulthard started the race from eighth place and Kimi Räikkönen from 12th with both drivers making a good getaway and improving on their grid positions. David was embroiled in a tussle with Jaguar's Mark Webber for sixth place, passing him on lap 10.

Kimi was the first Team McLaren Mercedes driver to pit, coming in on lap 14 for a 10.6 second stop. He was followed by David, who pitted for 8.1 seconds during the next lap. The Scot was fighting BAR's Jenson Button for a third placed finish, but after taking his second pit stop of 9.9 seconds on lap 32, David and Rubens Barrichello had a coming together which resulted in David being forced to retire from the race.

“I don't think anybody is to blame;

it's just one of those things that can happen when you are battling for positions,” said David afterwards. “The incident broke the front right-hand suspension and that was it, but it was a good race until then. I gained a place at the start but got stuck behind Webber, however when I finally got past I was immediately able to speed up.”

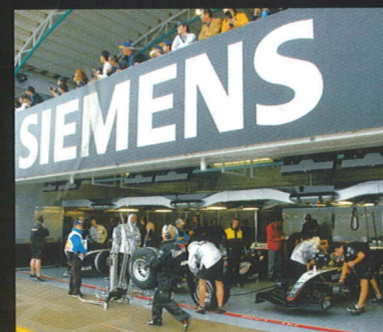
Meanwhile, Kimi had pitted for 8.9 seconds on lap 36, his two-stop strategy allowing him to gain crucial places. However, towards the end of the race a misjudged move by Timo Glock's Jordan damaged his car. He went on to finish sixth.

“I had an incident with one of the Jordan cars when I was trying to lap it towards the end of the race at turn nine. Basically, I was on the inside and he just turned in on me. He hit me quite hard and damaged my steering a bit, so I was struggling to keep the car on the road,” said Kimi.

“The finishing positions of the race pretty much reflected qualifying, which unusually took place on a Sunday morning on a drying circuit,” said Team Principal Ron Dennis. “David was lying fifth until the collision with Rubens. Kimi's sixth place from 12th on the grid was the result of the team's strategy which served both drivers well.”



PHOTOGRAPHY HOCH ZWEI



TEAM ANALYSIS
MARTIN WHITMARSH

“ The changing climatic conditions in Japan made for an extraordinary weekend for Formula 1, in which Team McLaren Mercedes adapted well to the unique circumstances.

Despite torrential rain on Friday, it was clear from the first practice session that we had the performance in the car to be in strong contention for the race.

A lack of dry running meant we did not obtain appropriate data for the track conditions on Sunday and Kimi and David were among the first drivers on track for the pre-qualifying session. Unfortunately this was when Sunday's rain was at its heaviest and our grid positions were compromised as a result. Our weather forecasting had indicated this situation, allowing us to adapt our race strategy accordingly for both drivers.

David had an eventful race, with a number of exciting battles including fighting for third position with Jenson Button. However, a collision with Rubens Barrichello damaged his front-right suspension beyond repair. This

“THE TEAM ADAPTED SUPERBLY TO A VERY CHALLENGING SET OF CIRCUMSTANCES”

was disappointing, as David had shown considerable pace throughout the event and was looking assured of a points finish.

Kimi was running a two-stop strategy and lapping at a substantial speed, but was slowed during the latter part of the race by an incident with a backmarker. Considering this and his grid position, Kimi did well to finish in sixth place and we have to feel relatively satisfied that he managed to collect some world championship points from such an unpredictable weekend.

A difficult qualifying session did not prevent Kimi from finishing in the points

TALKING POINT

Named *Ma-on*, the typhoon which threatened to hit Suzuka did not, in the end, come close.

However, the possibility of heavy rain and 177kph winds was enough to close the circuit on Saturday.

Friday's first practice session had been held in torrential rain, although this did not stop Kimi from setting the third-fastest time. Numerous incidences of aqua-planing and spins made it clear that Saturday's scheduled qualifying sessions could not take place. However, with the typhoon forecast to have passed Suzuka in time for Sunday's race, it was decided to hold both qualifying sessions on race-day morning.

This left all the teams facing an extremely tight schedule, beginning with pre-qualifying at 09.00am. The finishing positions of Kimi and David in the Chinese Grand Prix meant they took to the track early in the pre-qualifying session, when the rain was at its heaviest, while later runners benefitted from more clement conditions and a drying track.

By the time the race started, blue skies belied the dramatic weather that had disrupted the weekend. It also caused the team a problem, as the lack of dry track time left few clues as to dry-weather settings other than data from the 2003 event.

RACE RESULTS JAPAN

1	Michael Schumacher	1h24m26.985s
2	Ralf Schumacher	+14.098s
3	Jenson Button	+19.662s
4	Takuma Sato	+31.781s
5	Fernando Alonso	+37.767s
6	Kimi Räikkönen	+39.362s
7	Juan Pablo Montoya	+55.347s
8	Giancarlo Fisichella	+56.276s

DRIVERS' STANDINGS

1	Michael Schumacher	146pts
2	Rubens Barrichello	108pts
3	Jenson Button	85pts
4	Fernando Alonso	54pts
5	Juan Pablo Montoya	48pts
6	Jarno Trulli	46pts
7	Kimi Räikkönen	37 pts
9	David Coulthard	24 pts

CONSTRUCTORS' STANDINGS

1	Ferrari	254pts
2	BAR	116pts
3	Renault	100pts
5	Team McLaren Mercedes	61pts



LAP BY LAP

- 1 Kimi starts from third but claims the lead on the first lap, while David drops down to 18th, having started the race on dry tyres
- 4 Rubens Barrichello passes Kimi to retake the lead at turn one
- 5 Kimi visits the pits to take on dry tyres
- 14 David pits, his first stint having been longer due to his choice of tyres
- 29 A second pitstop for Kimi, which lasts for 8.42 seconds
- 41 David takes to the pit lane for his second and last scheduled stop of 9.97 seconds
- 55 A final and short pitstop for Kimi, lasting 7.07 seconds
- 71 Despite a hard fight for victory, Kimi comes home second, while David finishes 11th

Kimi Räikkönen was a major protagonist in a thrilling finale to the 2004 season. He finished the Brazilian Grand Prix in second place, just one second behind winner and future team-mate Juan Pablo Montoya.

Meanwhile with the weather conditions variable, David Coulthard decided to start on dry tyres rather than intermediates. On this occasion the bold move did not pay off and he came home in 11th position.

The grand prix began under light rain and Kimi moved from third position to lead the race on the opening lap. Further down the grid, David started from 12th, but the use of dry tyres on the damp track meant he forfeited a number of places.

On lap four, Rubens Barrichello passed Kimi for the lead, but the Finn pitted the next lap for the first of three stops, where he took on dry tyres. He exited the pitlane almost side by side with Montoya – with whom he was battling for second

place – but the BMW Williams driver passed him at turn four.

Following the second round of pitstops, Kimi moved into second place behind Montoya and as the race passed half distance, he began closing the gap to the Columbian. He took the lead once more as Montoya pitted on lap 50 and then put in a number of hot laps to cut his advantage.

However, a short and final stop on lap 55 was not enough to propel him into the lead and no overtaking opportunities emerged, despite Kimi maintaining a gap of just one second behind the leader.

“I was close to winning but just not close enough,” said Kimi. “It was a good race and I enjoyed it, but I would have liked to finish on the top step.”

Meanwhile, after a slow start David made his way up to eighth place from where he skillfully fended off Michael Schumacher before taking the first of his scheduled stops on lap 14. Running on a two-stop strategy

he pitted again on lap 41 and finished in 11th place.

“I lost a lot of places in the first couple of corners with cars pushing, touching and wheels banging. It took me a few laps to feel comfortable with the dry Michelin tyres as it was quite slippery out there. Once everything had settled down I was too far back to really



“AN EXCITING RACE TO END THE 2004 SEASON. WE NOW LOOK FORWARD TO 2005 AND STARTING IN A STRONG POSITION”
RON DENNIS, TEAM PRINCIPAL, TEAM MCLAREN MERCEDES



Kimi overcame the physical pressure of driving Brazil's anti-clockwise circuit to finish second

PHOTOGRAPHY HOCH ZWEI/LAT/GETTY IMAGES

make an impact,” admitted David. “An exciting race to end the 2004 season,” said Team Principal Ron Dennis after the grand prix. “Due to the changing weather conditions we were not able to take full advantage of our strategy. We now look forward to 2005 where we want to start the season in a strong position with Kimi and Juan Pablo Montoya.”



TEAM ANALYSIS
MARTIN WHITMARSH

“ Having driven an excellent qualifying lap to start from the second row of the grid, it was clear that Kimi had the pace to be a strong contender for victory in Brazil. The race proved to be one of the most engaging and action packed events of the year and a positive season finale for the sport.

With light rain falling shortly before the start of the race there was frantic activity on the grid with last minute changes being made to tyre strategy. The decision was made for David to start with dry tyres, however this put him at an immediate disadvantage on the drying-but-damp track. Fuelled for a long first stint, the conditions did not allow David to maximise his two-stop strategy or to make a real difference to his grid position, despite a gripping battle with his old adversary Michael Schumacher.

Kimi's choice of intermediate tyres and a bullish start allowed him to take the lead on the first lap. A dramatic battle with Juan Pablo Montoya followed, which

“KIMI'S PODIUM WAS A POSITIVE END TO THE SEASON FOR THE TEAM”

continued until the chequered flag. Despite being faster than the Columbian in the final laps and significantly reducing the gap, Interlagos did not provide him with sufficient opportunity to overtake his future team-mate.

Kimi's second-placed finish was a positive end to the season for Team McLaren Mercedes in what has been a challenging campaign. Moreover, the Brazilian Grand Prix made it clear that, in Kimi and Juan Pablo, the team has two of the most exciting drivers in Formula 1 on board for the forthcoming season. Finally, I would like to take this opportunity to wish David all the best for the future and thank him for the tremendous job he has done for the team.

TALKING POINT

The 2004 Brazilian Grand Prix was to be the last for the current qualifying format of two single-lap sessions on a Saturday. There have been numerous variations in qualifying in recent years and at Interlagos it was decided to introduce a new format for 2005.

The World Motor Sport Council of the FIA, the sport's governing body, and the Formula 1 Commission voted-in a new system. It will retain a two-session format, but the first will be held on a Saturday afternoon and the second on a Sunday morning. While both sessions will remain single lap, the times of the two sessions will be aggregated to determine the starting grid for the race.

During the Saturday session, cars will be able to run without restriction on the amount of fuel used, although they will have to qualify with race fuel during the Sunday session.

It's hoped the new format – which may have been inspired by the Japanese Grand Prix when a typhoon caused qualifying to be run on Sunday morning – will increase excitement for spectators on race day. It will also allow drivers to set the fastest possible time during the Saturday session, when they will be able to take to the track with the minimum amount of fuel.

RACE RESULTS BRAZIL

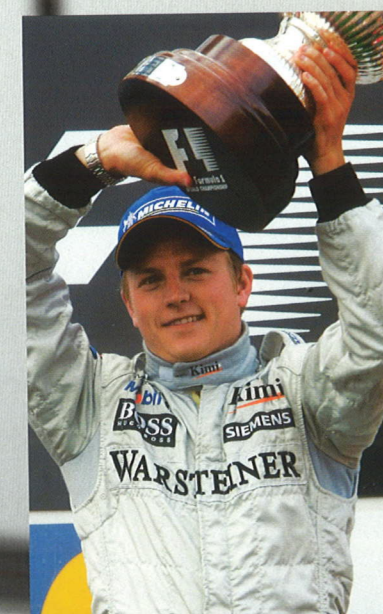
1	Juan Pablo Montoya	1h28m01.451s
2	Kimi Räikkönen	+01.022s
3	Rubens Barrichello	+24.099s
4	Fernando Alonso	+48.908s
5	Ralf Schumacher	+49.740s
6	Takuma Sato	+50.248s
7	Michael Schumacher	+50.626s
8	Felipe Massa	+62.310s

DRIVERS' STANDINGS

1	Michael Schumacher	148pts
2	Rubens Barrichello	114pts
3	Jenson Button	85pts
4	Fernando Alonso	59pts
5	Juan Pablo Montoya	58pts
6	Jarno Trulli	46pts
7	Kimi Räikkönen	45 pts
10	David Coulthard	24 pts

CONSTRUCTORS' STANDINGS

1	Ferrari	262pts
2	BAR	119pts
3	Renault	105pts
5	Team McLaren Mercedes	69pts



CASTING BACK

From the opening of the McLaren Technology Centre to race victory for Kimi Räikkönen, 2004 has been an eventful year for the McLaren Group, as Chairman and CEO Ron Dennis tells *Racing Line*

WORDS ALAN HENRY PHOTOGRAPHY STEVEN TEE/LAT, HOCH ZWEI



 For the McLaren Group, 2004 has been rich in diversity across a broad range of challenges and achievements. The past year has been highlighted by the completion of the Group's move into the McLaren Technology Centre and the successful inauguration of the production facility for the new Mercedes-Benz SLR McLaren sports car. McLaren Racing, which had a difficult start to the season, also

overcame a range of technical challenges leading to a dramatic reversal in its performance to the point where the new MP4-19B proved consistently competitive during the second half of the season, highlighted by Kimi Räikkönen's victory in the Belgian Grand Prix. Taking a break from his exacting schedule Ron Dennis took this opportunity to share his reflections on the year with the readers of *Racing Line*.

How would you initially describe 2004 for the McLaren Group?

Formula 1 racing continues to be core to our Group's culture and values and inevitably presents us with a number of demands both on and off track. The sport itself faces a number of external challenges over the coming two years but at its core it remains fast moving, exciting, highly technological and fiercely competitive. The McLaren Group has applied the values from our



ABOVE Ron Dennis reflects on the year's successes for the Group, including completing the move into the McLaren Technology Centre

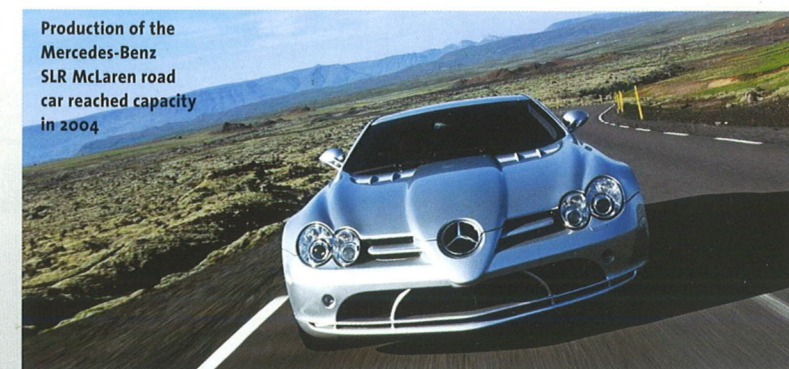
Formula 1 programme to our development of the Mercedes-Benz SLR McLaren sports car which has exceeded its original, and very demanding, performance targets. Achieving the seemingly impossible is what the McLaren Group is all about and we have demonstrated again this year that we have what it takes to win and relish the chance to continue to prove ourselves in the years to come.

Taken as whole, how would you look back at the McLaren Group's commercial progress through 2004?

One of our goals was to absorb as many of the costs which were associated with the Group's move to the McLaren Technology Centre as possible, as well as properly managing the disposal of the leases of our former properties. At the same time we were determined to establish a competitive position for the Formula 1 team whilst staying within budget, meet the delivery schedule for the Mercedes-Benz SLR McLaren and achieve a significant percentage of the cost savings we believed would be possible through the efficiencies of the Group being under one roof.

How satisfying has the Mercedes-Benz SLR McLaren project been for you?

Hugely satisfying. We had the inevitable early challenges with high technology and short lead times which were resolved in close collaboration with DaimlerChrysler, whose experience and resources in terms of



Production of the Mercedes-Benz SLR McLaren road car reached capacity in 2004

"EVERYONE IN THE GROUP NOW UNDERSTANDS WHAT THE FACILITY IS ABOUT AND HOW IT WILL HELP US"

research and development are invaluable. The strength of the partnership with DaimlerChrysler is what has helped our automotive division achieve this level of maturity in a very short time frame.

How does the Mercedes-Benz SLR McLaren experience compare with the F1 road car project from the 1990s?

On reflection, the F1 project was more like making a road-going street-legal racing car and then deciding to build 100. The process for the design and manufacture of the SLR has been completely different with more quality gates and performance milestones than any project we have been involved in.

This was the first Mercedes-Benz road car to be designed, developed and produced in a non-Mercedes-Benz facility. It was challenging and also

very interesting for both partners, but we are on target to achieve a solid return on the investment for both parties. The success has been largely due to a sustained commitment between Mercedes-Benz and McLaren to make the programme work at a time when virtually every segment of the global automotive market is overcrowded.

Obviously McLaren is a lot more than the McLaren Technology Centre or a balance sheet. Do you think to some extent this was a year in which the McLaren Group has turned a crucial corner?

Well, the end of the year has been much better than the beginning, you don't need to be Einstein to appreciate that. Of course, we're not satisfied with our Formula 1 results, but I think that everybody in the Group now understands what the McLaren Technology Centre is all about. They understand how the facility equips us to do a better job and it has proved to be a very motivational environment for our staff. The McLaren Technology Centre also helps us to consolidate and develop our brand values for the future.

I strongly believe that it is impossible to sustain commercial growth if you are solely a Formula 1 team. In those circumstances you are equipping two drivers with racing cars and the positive financial margin you are seeking to achieve can only be realised in a position when your Formula 1 team is constantly succeeding. Our diversification into sports car >>



The Belgian Grand Prix was a highlight of the Formula 1 season for Team McLaren Mercedes as Kimi Räikkönen took a masterful victory

development and production is a natural extension of the brand and our core skills.

So building on that, you have great confidence in the underlying strength of Formula 1 in the longer term? Absolutely. There are lots of things that could be better in the sport of Formula 1, but we now have an environment in which change is becoming possible. The current disputes between the shareholders of SLEC (who own the commercial rights to Formula 1) over control of Formula 1 commercial decisions have been unhelpful, but I am confident that they will resolve their differences.

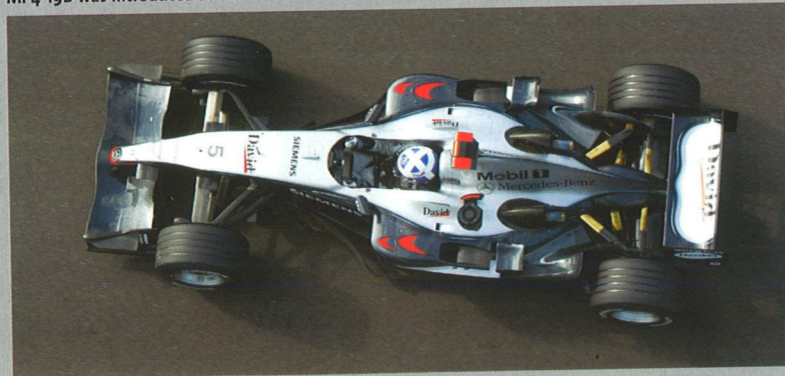
Talking specifically about the Team McLaren Mercedes effort, you turned around an initially disappointing performance to great effect. At what point did you decide you needed to build MP4-19B?

Such decisions are not taken by one individual or as a result of one set of circumstances. It is not as simplistic a decision as one might imagine. It's not a question of 'this car is uncompetitive, let's make another car.' The first part of the equation is right, but once you've reached that conclusion you have to identify where the shortcomings lie.

We knew pretty much from the first race of the season in Australia where we wanted to be, both in terms of chassis and engine, and we took the steps necessary to understand what those shortcomings were and to map out a programme which gave us a realistic chance to turn round the overall performance of the car.

There was a significant enhancement of engine performance in time for the Mobil 1 French Grand Prix and that was matched by a better racing car with a range of improvements, both aerodynamic and mechanical. We also tried to incorporate changes that would enhance the reliability of the car as well. So it was a package of changes evolved by a group of individuals saying 'OK, we're not where we wanted to be, so how are we going to get there?' The entire process and the end result showed that

MP4-19B was introduced at the Mobil 1 French Grand Prix and boosted the team's competitiveness



"THE BEST DAY ON THE PIT WALL WAS AT SPA: IT WAS MORE THAN JUST A RACE WIN FOR KIMI AND THE TEAM"



Kimi Räikkönen (above) and David Coulthard enjoyed their final season racing as team-mates visiting two new countries – Bahrain and China



when times are tough we have the technical know-how and the cool heads to get the job done.

When did it become clear that MP4-19B had put the team's effort back on track?

I think the first test at Silverstone was certainly a strong indicator, but our drivers wanted to be measured. I think they felt optimistic, but obviously you don't really have a definitive comparison until you actually race against other cars. The general inclination was to be very cautious.

After Kimi Räikkönen finished the 2003 season just two points behind Michael Schumacher, he clearly had high hopes for this season. Can you talk us through how Kimi dealt with the initial disappointment and then managed to bounce back at the end of the year? Pure professionalism on his part. Did he believe we could win races? Yes, of course, he knew that from the previous years. When one of our drivers gets out of a racing car, if it's uncompetitive he can at least console himself with the fact that the team is capable of turning things around and improving. He understands that the pain of failure suffered by the whole team is every bit as big as the disappointment he is experiencing.

How would you assess Kimi overall as a racing driver?

I think he's ever-improving, getting better all the time. He has natural talent, as many do, but he is 100% focused on developing and applying that ability.

What was your best day on the pit wall in 2004?

Obviously race day at Spa. It wasn't just a race win for Kimi and the team; it was how it was done. He didn't win because of some freak qualifying situation, or some freak weather conditions. There was no element of the success which was in any way gifted to Kimi or the

team. It was a clear-cut victory.

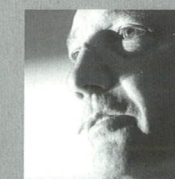
For an hour or so after the race the feeling was great. But we could have won more races this season. At Hockenheim we were strong and we were also pretty competitive in Brazil. Of course one is better than none, but three is better than one.

How difficult was it for the team to say goodbye to David Coulthard?

David is a friend. His contribution to the team has been extensive and,

seeing him competing in what is probably his last race for Team McLaren Mercedes, you do feel sad because you always want the last race, the last season with the team to be as competitive as possible for a driver. So you have mixed emotions. It's not as if David is never going to be seen again. He'll always be a part of the McLaren family.

There is obviously a great sense of expectation and interest surrounding the



ABOVE Ron Dennis believes that David Coulthard has made an extensive contribution to the team and says he will always remain part of the McLaren family

arrival of Juan Pablo Montoya in the team. You must share that anticipation? When the opportunity presented itself to sign Juan Pablo we took it, but it was a decision taken over a year ago which generated the unusual circumstance whereby he was still driving for another team this year. Nobody is saying to him what a foolish decision he has taken and nobody could be accusing us of the same. Our mutual decision was vindicated with the outcome of the Brazilian Grand Prix. >>



LEFT TO RIGHT
Activity has focused
around the Team
Communications
Centre at European
races; Kimi is ready
for the challenge of a
new team mate



Are you expecting a rivalry between Kimi and Juan Pablo on the level McLaren experienced between Niki Lauda and Alain Prost, then again between Prost and Ayrton Senna?

I understand, but I am amused at the media attention this subject has attracted. I do not see their competitiveness as anything but positive. In fact I am really looking forward to it. Fair and even-handed management is the priority in such circumstances.

What does the future hold for the McLaren Group?

Every year we conduct strategic reviews for all our businesses and we are very happy with the progress we have made in overall terms, despite the disappointments of our Formula 1 performance in the first half of the season. Our target over the next three years is to continue to develop our high performance sports car business and to finish swallowing the investment we made in the McLaren Technology Centre, as well as winning Formula 1 World Championships.

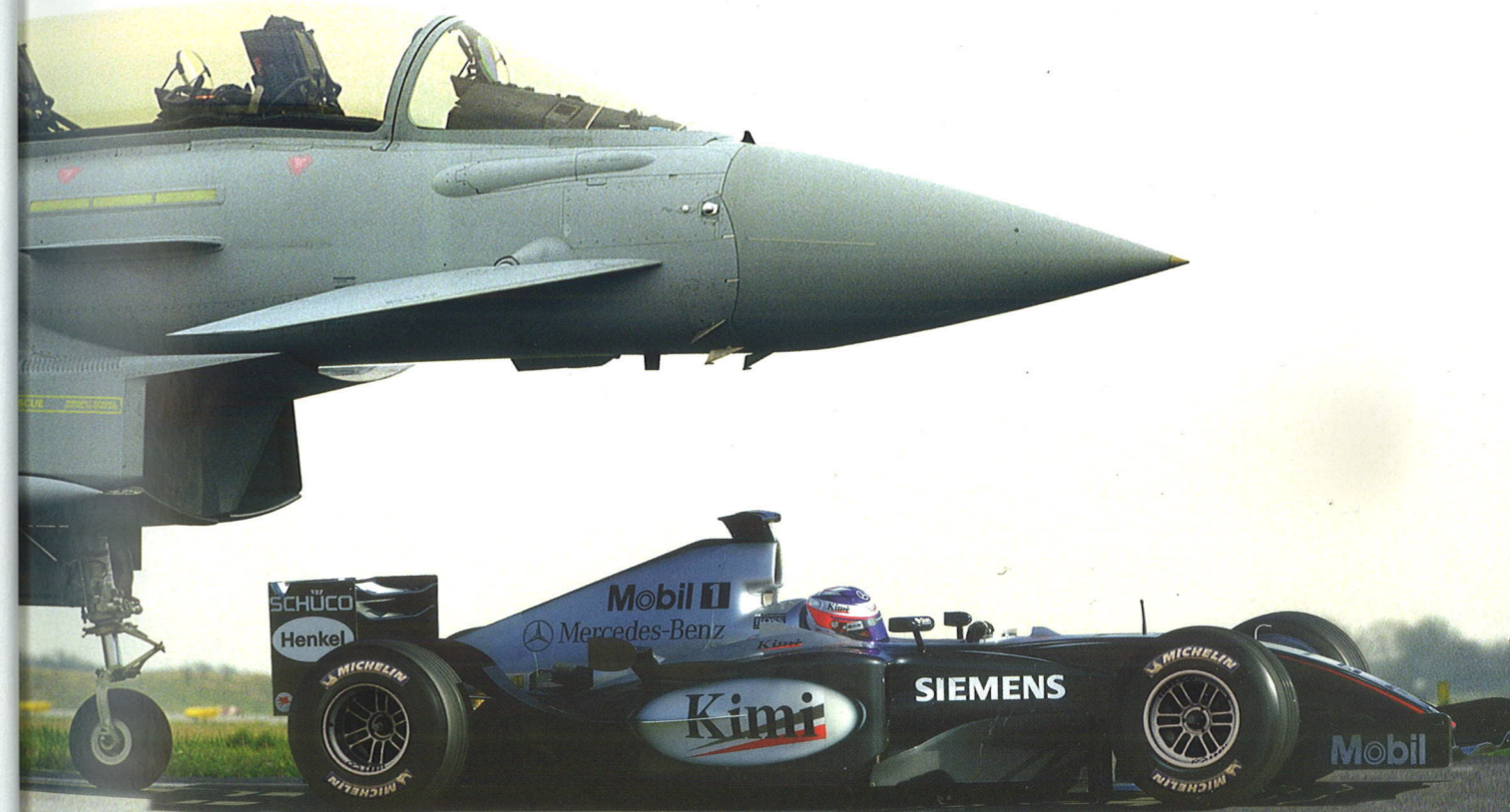
How would you sum up the defining qualities of the McLaren brand?

We are involved in a mixture of sport and business which amplifies the hero-to-zero mentality which stems from people's expectations of a sporting organisation. If my colleagues and I achieve our objectives, I would say the McLaren brand stands for a commitment to excellence, cutting edge technology, integrity, honesty and success.

Finally what are the objectives for the McLaren Group in 2005?

Quite simply to be best at everything we do. ■

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BAE Systems and Team McLaren Mercedes, working together to keep British engineering in pole position.

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QUESTION TIME

Users of www.mclaren.com, along with readers of *Racing Line*, were recently invited to submit questions – on any subject – for Kimi Räikkönen to answer. We tracked him down in Japan and put the posers to him

WORDS ADAM COOPER

PHOTOGRAPHY PETER SPINNEY/LAT/HOCH ZWEI



Q HOW DO YOU FEEL WHEN THE FIRST RED LIGHT GOES ON AT THE START OF THE RACE?

Stefano Gregori, Italy, 26

A I don't know really. I just hope that I'm going to have a good start, basically. You make sure that you have first gear and everything else done right. You don't want to be waiting while everyone else is going forwards. For me, there's no adrenaline or anything, you just want to make sure you're ready when the lights go off and have a good reaction.

Q WILL YOU MISS DAVID COULTHARD BEING YOUR TEAM-MATE, AND HOW DO YOU THINK YOU WILL GET ON WITH JUAN PABLO MONTOYA?

Caroline Phipps, UK, 37

A David and I have always had a good relationship. I don't know about missing him, but it's always different to have a new team mate, so in one way it will be interesting. I think I'll get on OK with Juan Pablo. When I've talked with him he's been fine, and I don't see any problems so far. Hopefully there won't be any, so it'll be easy for both of us.

Q WHAT DOES IT FEEL LIKE WHEN YOU ARE DRIVING AT THE LIMIT?

Michael Rose, Canada, 20

A It's normal!

Q HAVE YOU TESTED ANY FORMULA 1 COMPUTER GAMES? ARE THERE ANY SIMILARITIES WITH THE REAL THING?

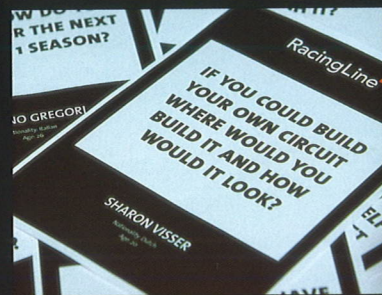
Gustav Nilsson, Sweden, 57

A Yeah, when I was younger, but not recently. Usually they are not very good, though, because when it comes to actually driving a Formula 1 car on the limit, there's nothing like the real thing.

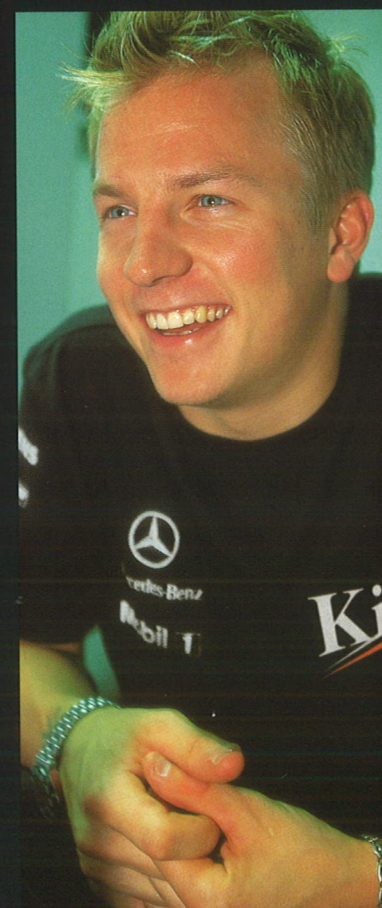
Q WHAT ARE THE MAIN DIFFERENCES IN THE DRIVING STYLE REQUIRED FOR A KART, FORMULA RENAULT AND FORMULA 1?

Mikko, Finland, 19

A I haven't changed my driving at all. OK, the cars are different, and you need to drive differently, and have different things to do on the cars, but I haven't changed my own style. Formula 1 cars are quick in the corners and good under braking, and that makes it very different



"FORMULA 1 CARS ARE QUICK IN THE CORNERS AND GOOD UNDER BRAKING. THAT MAKES IT VERY DIFFERENT FROM FORMULA RENAULT"



from Formula Renault, but in the end you drive it the same way. It's just that the non-Formula 1 cars are that much slower.

Q WHAT WERE YOUR FEELINGS WHEN YOU WERE FIRST APPROACHED BY TEAM McLAREN MERCEDES WITH THE OFFER OF A DRIVE FOR THE 2002 SEASON?

Matthew Finch, Australia, 19

A It was nice. I knew quite early in 2001 that my manager was talking with them, but we were thinking that it was only for a test drive. Then it was for the race seat, so it was great.

Q DO YOU HAVE A FAVOURITE EMINEM SONG?

Arjun, India, 20

A I don't know what it would be. There are plenty of good ones, so it's difficult to pick one!

Q I'VE ALWAYS WANTED TO BE A FORMULA 1 DRIVER. WHAT ADVICE CAN YOU GIVE TO ME ON HOW TO GET STARTED AND WHAT SHOULD I LOOK FORWARD TO?

Adrian, Portugal, 19

A From go-karts is the best way to start. It's the cheapest way and it's the easiest way to get experience. If you do well in go-karts you should be pretty good in anything else.

Q HOW DID YOU FEEL WHEN YOU WON THE BELGIAN GRAND PRIX THIS YEAR?

Cristina, Spain, 25

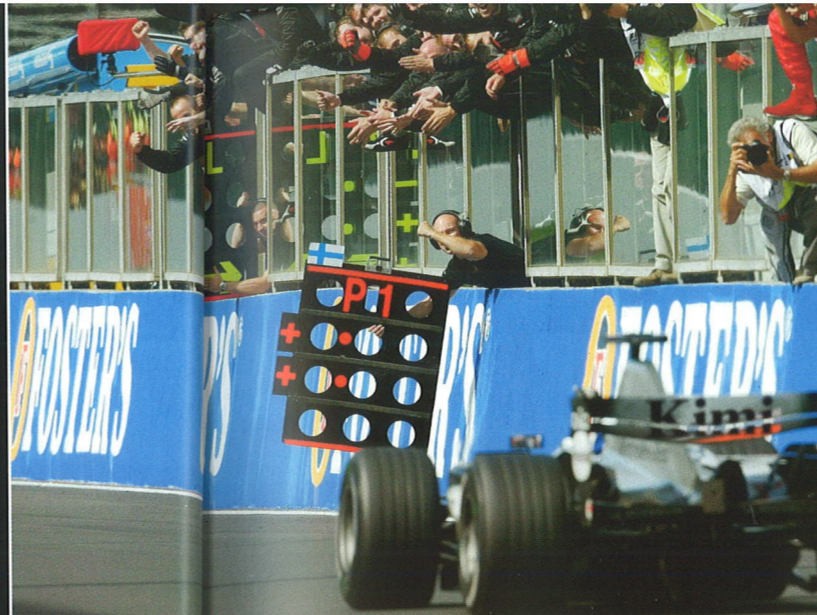
A It was a very good feeling after a difficult year. It was good for the team and for me, so I was very happy. The race was not easy, it was quite tight, racing against Michael [Schumacher] at the end. That always gives you more pleasure, and it's my favourite circuit as well.

Q DO YOU HAVE ANY PRE-RACE SUPERSTITIONS?

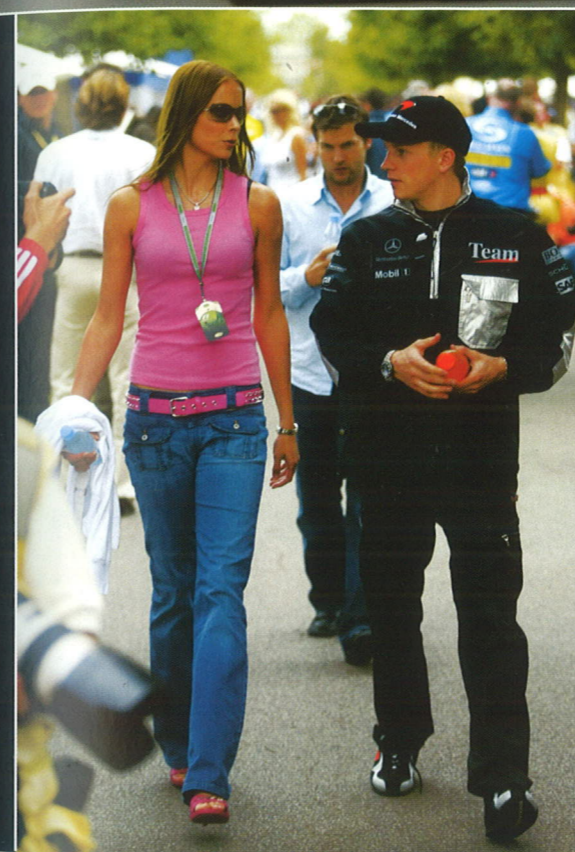
Steve Cottrell, UK, 17

A No. I've heard about David's underpants [David has an item of lucky underwear from his maiden grand prix win at Estoril in 1995], but I'd rather change mine every day!

Q NOW THAT YOU ARE A MARRIED MAN DO YOU FEEL ANY DIFFERENT



TOP TO BOTTOM
Winning at Spa, one of Kimi's favourite tracks; with wife Jenni in 2004; the ultimate Formula 1 challenge: the narrow streets of Monaco



ABOUT BEING A RACING DRIVER AND THE DANGERS INVOLVED?

Rachel Williams, UK, 14

A No, not at all. It doesn't make any difference in racing or anything else. [Jenni and I] have been living together anyhow, so it doesn't change anything.

Q DO YOU EVER TALK TO YOURSELF DURING A RACE? IF SO, WHAT DO YOU SAY?

Alex Hannon, UK, 15

A No. Of course you're thinking different things, but you're not talking to yourself, only on the radio.

Q WHICH RACE CIRCUIT(S) DO YOU LIKE THE MOST?

Erik ten Brinke, Holland, 16

A Spa and Monaco, because they are completely different from anything else. Spa is a proper circuit, and for Formula 1 it's the best. At Monaco the challenge is different. It's so twisty, and there are the walls, and if you make a mistake you're out. I don't have any I don't like, but these two are the most interesting ones.

Q ARE YOU ALWAYS HAPPY TO DO YOUR TRAINING AND EAT ALL THAT HEALTHY FOOD? OR WOULD YOU RATHER JUST STAY IN SOMETIMES AND HAVE A CURRY AND A FEW BEERS WHILE WATCHING TV?

Edwin Rushbrook, UK, 24

A Maybe a curry would be nice! I know some people don't like exercise but I really enjoy it. I can relax between races if I have time, or in the winter, but usually I do more training over the winter than in the season, because then there's proper time to do proper training. In the season you do two days and then you have a week and a half doing nothing if you're travelling all the time. It's much better to do it in the winter.

Q WHICH PAST FORMULA 1 DRIVER WOULD YOU LIKE TO BATTLE

AGAINST, AND WHY?

Deirdre Gueret, Ireland, 21

A I don't know. I don't have any idols, and I never had any when I was younger. It's silly to think you can race against them - I'm happy to race against the people I'm racing now.

Q IS IT HARD TO ALWAYS BE AWAY FROM HOME? ESPECIALLY WHEN YOUR WIFE ISN'T WITH YOU?

Ina, Romania, 18

A It's not always easy, but I've always been away from home. When I was 15 I was living in Holland on my own, so it's nothing new for me. In one way it's normal. It's not nice sometimes, but it's part of my life. Jenni hasn't been at so many races recently, because she's horse riding a lot.

Q I'D LIKE TO KNOW HOW YOU FELT WHEN, AFTER SIGNING FOR TEAM McLAREN MERCEDES, YOU SAW YOUR CAR FOR THE FIRST TIME IN THE GARAGE WITH YOUR NAME ON IT?

Pedro Pablo Priego Adamuz, Spain, 19

A It was nice, but it was nicer to get in the car for the first time, because I was three months without driving after finishing in Suzuka [in 2001]. The first time I drove was January or something, because that year there was a big testing ban. It was good to get a feeling for the car in Barcelona. That was really the first time I saw the car with my name on it. OK, they put your name on a show car, but it doesn't mean as much as when you're in the pit box and ready to go.

Q WHAT DO YOU LIKE TO DO IN YOUR SPARE TIME WHEN YOU'RE NOT RACING AND TESTING? DO YOU STAY IN ENGLAND A LOT, GO BACK TO SWITZERLAND, OR MAYBE VISIT FRIENDS AND FAMILY IN FINLAND?

Tom Than, UK, 13

A I do some training, see my friends, and just relax. I do different things

"AT MONACO, THE CHALLENGE IS DIFFERENT: IT'S SO TWISTY AND IF YOU MAKE A MISTAKE YOU'RE OUT. IT'S INTERESTING"

with my friends or my wife. I just like hanging round at home, or maybe going out with them. For training we try to do things I like to do. There's no point doing things you don't enjoy because you just end up getting annoyed. Before Monza I went karting with some friends in Parma, that was very enjoyable.

Q YOU MUST CURSE AND SWEAR WHEN YOU HAVE A REALLY BAD DAY IN RACING. WHAT DO YOU DO TO CALM YOURSELF DOWN WHEN YOU GET FURIOUS?

Ender, Singapore, 20

A Of course you swear if you have a bad day. If it's your fault you're just kicking yourself, basically. But you cannot change it if something breaks on your car. There's no point in getting annoyed about it. Just forget it, go home, and by the time the next race comes around hopefully it will be better. It depends, of course, on whether you're in sixth position or fighting for a win, which is always going to hurt you more. The European Grand Prix last year was tough, and at the German Grand Prix this year we had a good chance to win.

Q HOW FIT DO YOU HAVE TO BE TO RACE IN FORMULA 1 – DO YOU HAVE TO WORK OUT A LOT?

Luke Stubbs, Australia, 15

A I don't know. I don't think there's a measure, but as long as you're fit enough to race all the time, it's fine. You cannot really say that you need to be at a particular level to be able to race. Everybody is different. For sure I'm better than I used to be, though. In the winter time I do specific things to make sure I'm in shape for the coming season.

Q WHAT WAS YOUR FIRST CAR, AND DID YOU THRASH IT?

Ben Parker, Australia, 21

A It was a Russian-made Lada. It was a good car, it never broke down. I got

it free from my mum's friend. It had a blown engine, but my dad used to have lots of spare engines so we just changed it when we needed to. It was good, it never broke down in the winter, it was really warm inside. I was hitting things all the time, which is normal when you go sideways in the winter. The body was robust, but everything else would fall to pieces. It was red, but I painted it black...

Q HOW DO GET OVER JET LAG WITH ALL THE TRAVELLING YOU DO? DO YOU BASE YOURSELF SOMEWHERE CENTRALLY IN EUROPE?

Gareth Loughran, Ireland, 30

A I just try to stay awake until the evening, and go to sleep. Japan is very, very difficult, but Brazil always felt difficult, maybe because it was one of the first in the year. Australia is tough of course, which is why I always go early. I prefer racing in Europe, because it's much easier, and you can be home on Sunday! I'm based in Switzerland, which is central. It's a nice place, and nobody disturbs you there so it's a good place to be. I drive to Monza, because it's only two hours from there, and it's easy to get out on the back roads. I've also driven to Spa, and Hockenheim is also pretty close.

Q DURING THE WINTER PERIOD HOW DO YOU PREPARE FOR THE NEXT FORMULA 1 SEASON?

Claudio Cudicini, Italy, 24

A Just different sports. I do biking, running, swimming, gym, motocross, ski-doo. Normal stuff. I tend to go to the McLaren Technology Centre several times a year, mainly for a seat fitting or something else technical. Sometimes we have other things going on which mean the drivers need to be there, but I don't need to be there all time, as everyone who works there knows what they're doing and I would just be disturbing them.



CLOCKWISE FROM TOP Golf is a good sport, as long as you don't take it too seriously, says Kimi; getting ready for action before the red lights go out; meeting up with his legions of adoring fans

"I PREFER A TRACK THAT GOES UP AND DOWN AND HAS FAST CORNERS AND GOES THROUGH A FOREST, LIKE THE OLD DAYS"

Q I'VE SEEN PHOTOS OF YOU PLAYING GOLF IN RACING LINE AND ALSO A BIT OF TV FOOTAGE OF YOU IN A BUNKER! I WAS JUST WONDERING WHAT YOUR AVERAGE SCORE IS?

Robert Farrell, UK, 20

A Golf is good fun if you don't take it too seriously. If you take it seriously it can really annoy you! My normal score is something like 94, maybe. In Switzerland there's a course about five minutes from my place. This year I haven't done so much, although when you go early to the long distance races there's time.

Q WOULD YOU EVER HAVE PURPLE HAIR AGAIN?

Merribel Kyaw, Burma, 16

A I don't know about purple...but I had dark red once, some time ago. It was maybe in 1999 or 2000. Will I do it again? It depends, but you never know.

Q WHAT IS YOUR FAVOURITE FILM?

Sania Kazakh, Israel, 16

A I don't know. I saw a good Finnish movie on the plane going to Japan, and I enjoyed *Starsky and Hutch*.

Q IF YOU COULD BUILD YOUR OWN CIRCUIT WHERE WOULD YOU BUILD IT AND WHAT WOULD IT LOOK LIKE?

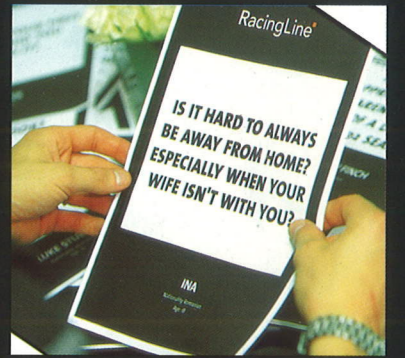
Sharon Visser, Holland, 20

A Maybe in Finland. There is a good one, but I've never driven it. I prefer a track that goes up and down and has fast corners and slow corners and goes through a forest, like the old days. It would be easy – I wouldn't need to travel!

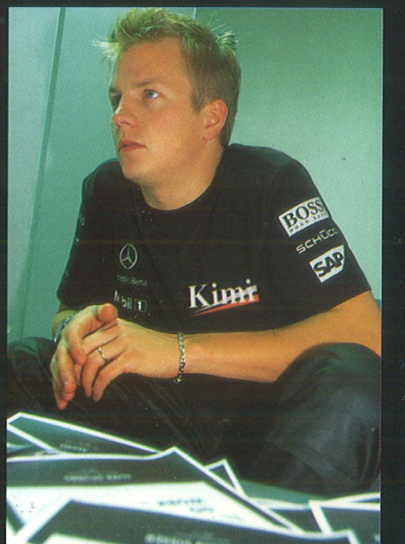
Q WHAT IS THE MOST SCARY EXPERIENCE YOU HAVE HAD IN YOUR FORMULA 1 CAREER SO FAR?

Biljana Repinc, Croatia, 40

A The steering wheel coming off the Sauber at the 2001 San Marino Grand Prix wasn't too bad, because it was in a straight line. It could have been much worse. I had a big shunt again that same year at Suzuka, when the rear suspension broke and I went into the tyre wall. I also had a big one at Magny-Cours when I was at Sauber where I went hard into the tyre wall. I was airlifted to hospital. I broke something in my back. The two crashes at Hockenheim [in 2003 and 2004] were quite big, in the same place. They should put a sign there! ■



"I WAS HITTING THINGS ALL THE TIME, WHICH IS NORMAL WHEN YOU GO SIDeways IN WINTER!"



Canadian DJ and broadcaster **David Jensen** is not only a hit behind the wheels of steel, he also has a strong passion for motorsport. He talks to *Racing Line* about his love of Formula 1 and helping run an eponymous Formula 3000 team

WORDS LUKE HAYTER PHOTOGRAPH MARC BURDEN

How did you get started in broadcasting?

My first job was on a classical music station in British Columbia, Canada, when I was 16. I actually much preferred pop music but I couldn't afford to pass up the opportunity to get involved in broadcasting.

I was doing weekend evenings introducing chamber music. We were sponsored by a funeral company and I had to read obituaries on-air. The show was called *Music for Dining*, it was actually more like *Music for Dying!*

One day a friend came to me with great tales of adventure and excitement from a pirate radio station in the UK. He told me that there could be a job there for me if I wanted to make the trip – something I'd always wanted to do. I sent tapes off to both Radio One and Radio Luxembourg. I got a very nice letter from the former saying that they weren't looking for anyone at the moment but they would keep me on file – and they were good to their word many years later. Meanwhile, Radio Luxembourg said that they were looking for someone. I actually ended-up spending seven years there, from 1968-1975. I was due to go to university but I never actually made it because I was having too much fun. The whole thing was meant to be a sort of gap year experience but it ended up becoming a career!

You're well known for your love of motorsport. What sparked that interest?

I used to watch racing on TV in Canada when I was a kid and think that it was very exciting. When I worked at Radio One I used to do a lot of roadshows at circuits like Brands

Hatch and Mallory Park. This was mainly because one of the executives at Radio One was mad on motorsport!

Ever tried your hand at driving race cars yourself?

I realised early on that I wasn't brave enough to do it myself but I really enjoyed being a part of it. To me, it was just like rock and roll. A lot of rock and roll stars sing about living on the edge and go through the motions of being on the edge but I realised that racing drivers *are* on the edge – they are the real rock and roll.

The excitement that I used to get from going to see, say, Jimi Hendrix or Deep Purple in concert was matched by going to motor races. The noise, the atmosphere, the smell, the excitement. It was addictive.

Do you still take an interest in Formula 1 today?

Absolutely. I really enjoy the sport and I try to get to as many races as I can. When I can't go I always watch on TV. I particularly enjoy the race analysis of British broadcaster Martin Brundle, who always has lots to say and knows what he's talking about. As a driver he was always a really good communicator and it seems that he's carried that over into his current role.

Among the modern drivers, do you have any favourites?

I think Kimi Räikkönen is a bit special. I know some people who worked with him when he was in karting and they've always raved about his abilities. I also think Juan Pablo Montoya is a gifted driver. I can remember when he was fighting it out in Formula 3000 with Nick Heidfeld and they were great races. He's a very

exciting driver who has exactly the sort of racing spirit that appeals to me. I can't wait to see him and Kimi in action for Team McLaren Mercedes in 2005. Just don't ask me who will be the quickest of the two.

Tell me about Kid Jensen Racing. How did you get from being a motorsport fan to running a team?

It was a fantastic opportunity that presented itself through the corporate work that I did at various grands prix down the years: like interviewing drivers, entertaining guests at the Paddock Club, etc.

I had been asked to do something for a team and one of its marketing people asked if I'd be interested in helping start a new racing team. I would become the figurehead and help with media, marketing and so on. That was a fantastic opportunity that was too good to pass up. I must stress, though, that I knew (and know) nothing about engineering – I have enough trouble operating my studio.

Can you pick out a highlight from your time as a team boss?

The one memory that I have is when one of our drivers, Nicolas Minassian, crossed the line to win at Silverstone in 1999. It was absolutely brilliant.

Nick Heidfeld, who won the title that year driving for the McLaren F3000 team, had driven fantastically well all year, so it was really exciting for us to beat him, especially as it was just our third race in the formula.

Nicolas wouldn't win with us again, unfortunately, but he ended up on the podium several more times in the season. It also meant that we were able to get the respect of the other teams. That was very important to me. ■



THE CAR'S THE STAR

The boulevard at the McLaren Technology Centre is currently playing host to some of the finest racing machinery ever built. These cars have seen it all: race wins, world championships and much more. *Racing Line* gives you the lowdown on each and every one of them

WORDS LUKE HAYTER ILLUSTRATION PAUL LAGUETTE
PHOTOGRAPHY PETER SPINNEY/LAT



One of the finest fantasy grids ever assembled: from Bruce McLaren's Austin 7 (at rear) to Kimi's MP4-17D, in chronological order

#10 MP4/2C

Type Formula 1
 Year 1986
 Engine TAG Turbo V6
 Driver Alain Prost
 Success Alain Prost, Drivers' World Champion

#8 MP4/6

Type Formula 1
 Year 1991
 Engine Honda V12
 Driver Ayrton Senna
 Success Ayrton Senna, Drivers' World Champion; McLaren, Constructors' World Champions

#6 F1

Year 1993
 Engine BMW V12

#4 F1 GTR

Year 1997
 Engine BMW V12
 Drivers Pierre-Henri Raphanel, Jean-Marc Gounon and Anders Olofsson
 Success 1997 24 Heures du Mans, 2nd overall, winner, GT1 category

#2 MP4-14

Type Formula 1
 Year 1999
 Engine Mercedes-Benz V10
 Driver Mika Häkkinen
 Success Mika Häkkinen, Drivers' World Champion



#9 MP4/4

Type Formula 1
 Year 1988
 Engine Honda Turbo V6
 Driver Ayrton Senna
 Success Ayrton Senna, Drivers' World Champion; McLaren, Constructors' World Champions

#7 MP4/8

Type Formula 1
 Year 1993
 Engine Ford Cosworth HBE
 Driver Ayrton Senna
 Success Winner, Brazilian, European, Monaco, Japanese and Australian Grands Prix

#5 F1 LM

Year 1995
 Engine BMW V12

#3 MP4-13

Type Formula 1
 Year 1998
 Engine Mercedes-Benz V10
 Driver Mika Häkkinen
 Success Mika Häkkinen, Drivers' World Champion; Team McLaren Mercedes, Constructors' World Champions

#1 MP4-17D

Type Formula 1
 Year 2003
 Engine Mercedes-Benz V10
 Driver Kimi Räikkönen
 Success Winner, Malaysian Grand Prix

Emerson Fittipaldi's M23 (seen below with Bruce McLaren's Austin 7) brought McLaren their first F1 Drivers' and Constructors' World Championships, though many more would follow...



#14 M8D

Type CanAm
 Year 1970
 Engine Chevrolet V8
 Driver Denny Hulme
 Success Denny Hulme, Drivers' Champion; McLaren, Constructors' Champions

#12 M16E

Type Indianapolis
 Year 1975
 Engine Offenhauser 4 Cylinder
 Driver Johnny Rutherford
 Success 2nd Place, Indy 500



#15 Austin 7

Type Special
 Year 1954
 Engine Austin 4 cylinder
 Driver Bruce McLaren

#13 M23

Type Formula 1
 Year 1974
 Engine Ford Cosworth DFV V8
 Driver Emerson Fittipaldi
 Success Emerson Fittipaldi, Drivers' World Champion; McLaren, Constructors' World Champions

#11 MP4/2

Type Formula 1
 Year 1984
 Engine TAG Turbo V6
 Driver Niki Lauda
 Success Niki Lauda, Drivers' World Champion; McLaren, Constructors' World Champions

TEAM McLAREN MERCEDES FORMULA 1

IN-CAR COMMUNICATIONS

WORDS GEMMA BRIGGS PHOTOGRAPHY TED HUMBLE-SMITH, LAT



Communication is key to the success of any Formula 1 team, and this is never more important than during a race. The in-car communication system developed and deployed by Team McLaren Mercedes does exactly what the name suggests – it enables the driver to give and receive information while out on track.

The system has three main functions, the first being that it allows the team to issue instructions to the driver. This takes the form of controlling strategy, advising the driver of his position and informing him of unexpected events or conditions. Secondly, the in-car communication system is used by the driver to send feedback to the garage prior to a pit stop, allowing set-up changes to be prepared by the engineers and mechanics. Thirdly, in extreme circumstances, its use is vital to warn of an unscheduled stop caused by a racing incident, puncture or system failure.

The team aims to keep the group of people operating the system as small as possible, with just three key talkers involved for each car. This makes it possible to stick to the correct

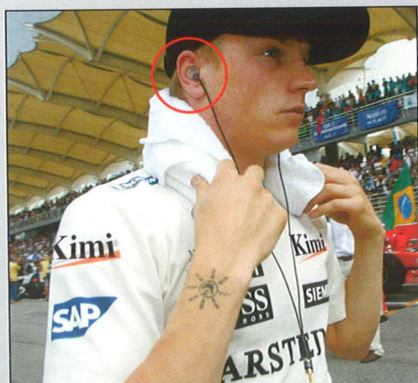
procedures during scheduled and unscheduled events throughout the race weekend.

Naturally, these key personnel include the driver and his race engineer, along with a member of the team's management.

Team McLaren Mercedes has been working alongside Official Supplier Kenwood to develop its own in-car communication system for many years. The MP4-19B's radio system is designated the CBX-780 and is located under the drivers' knees on the floor of the car, while the microphone and ear pieces are fitted into the helmet. Inside the garage is a digital intercom system which converts the audio into data, a controller PC for monitoring and set-up of the system and repeater units which broadcast the radio signals across the circuit. Throughout the season changes are made to the basic system, which under technical regulations laid out by the sport's governing body, the FIA, the team is free to develop as it wishes. "As with all other areas of Formula 1 car design, we are constantly looking for improvements, either in terms of packaging, performance, audio quality or security," explains Phil Asbury, Head of Systems Engineering at McLaren Racing.

Similar to most components in a Formula 1 car, the in-car communication system must be as small and light as possible, so the packaging of the radio equipment is an important consideration. "If we develop a possibility to reduce the size or weight of the system, then we would certainly consider investing in this even if there are no other technical benefits," says Asbury, who manages the system.

It is not only the team personnel who are privy to the mid-race conversations with the driver, as the FIA stipulates that it must have access to the audio channels between the drivers and the pits. This means that the team must route some of the audio channels from its radio and intercom communications system directly into the FIA intercom system off-air.

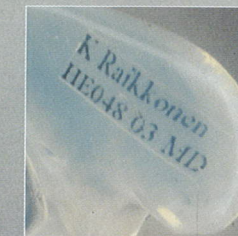


Kimi can stay in touch with the team while he's out on track thanks to the communications system (above) Official Supplier Kenwood helped develop the system



TECHNICAL SPEC

EARPIECE LENGTH	492mm
EARPIECE MOULD LENGTH	27mm
MICROPHONE UNIT LENGTH	205mm



CAUGHT IN THE Spray

The livery of a Team McLaren Mercedes grand prix car is one of the most distinctive in Formula 1, but how is it achieved? We went along to the team's paintshop to find out

WORDS MARK SKEWIS PHOTOGRAPHY ANDY NICKLESS

When you perform in front of 161 million people every two weeks, it pays to look your best. That's why Team McLaren Mercedes' new paintshop in the McLaren Technology Centre, equipped with state-of-the-art machinery, has been three years in the making.

"That planning has resulted in the next generation of spray booths," says Paintshop Manager George Langhorn. "It's important to keep raising your game in every area of Formula 1 and we have taken a quantum leap forward."

With the world watching, image is of paramount importance in Formula 1 and Langhorn's department plays a vital role in shaping people's perception of Team McLaren Mercedes. It is involved in everything from the cars' livery and the decals on the trucks and pit equipment, through to the drivers' helmets and drinks bottles.

This season its remit has grown still further to include the distinctive Formula 3 Euro Series and Formula Renault UK cars of Team McLaren Mercedes-supported young drivers Lewis Hamilton and Cheng Congfu. The production of the vinyl decals, which identify the team's Partners, has also been brought in-house.

Of necessity, many paintshops operate with a production line mentality. They tend to be messy and full of fumes, with hygiene and quality subordinate to quantity. By contrast, the Team McLaren Mercedes paintshop is a microcosm of the quality, precision and attention to detail found throughout the McLaren Technology Centre.

Most strikingly, the spray booths have glass walls. This aesthetically pleasing feature would normally lead even the hardest of paintshop managers to develop a nervous tick. Intriguingly, Langhorn actually insisted on glass.

"Our state of the art extraction technology ensures that



overspray is kept away from the glass," he explains.

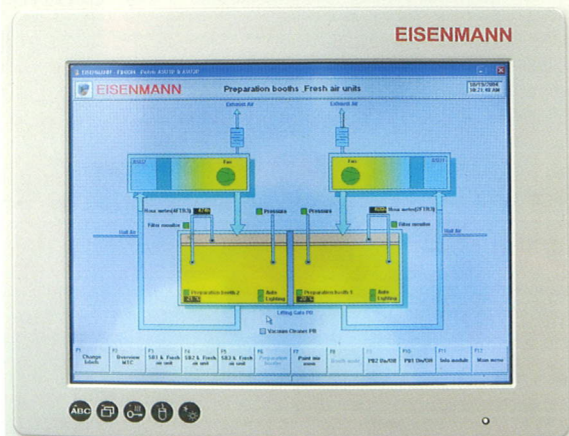
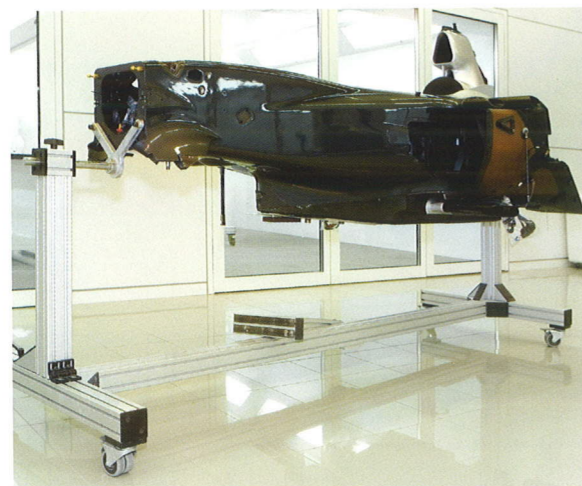
"I wanted visitors to be able to walk through and see what we are doing here. I think it's opened a few people's eyes."

The move to the team's new headquarters afforded the opportunity for a clean sheet of paper approach. It shows. The whole department is designed with flexibility in mind. The graphics room, for instance, can be isolated in order to handle confidential projects. The two preparation booths can be combined into one, as can two of the three spray >>

LEFT The work of the airbrush artist, coupled with the latest in spray booth technology, allows the Team McLaren Mercedes cars (above) to look their best at the world's grands prix circuits



CLOCKWISE FROM TOP
Gas-fired air conditioning units feed the spray booths; an MP4-19B chassis goes through the painting process; touchpad screens on the wall control the filtration system and temperatures; a specially prepared canister of paint



The spray booths at the paintshop are, unusually, encased in glass, allowing visitors to the facility to see the intricate nature of the work that takes place within them



booths in order to accommodate big projects or road cars. All of the workbenches in the department are portable. So too are the bespoke trolleys that function on a 'spit-roast' principle, enabling parts of the car's chassis to be rotated through 360 degrees for better access.

Conditions could often be difficult in the team's old preparation booths. Stripping paint and sanding the car's carbon fibre bodywork is hot work and makeshift air conditioning units had to be deployed. In the new booths humidity control units keep the air at a comfortable 16 degrees C, while the grid on the floor harbours a super-efficient dust extraction unit.

The positioning of the sealed preparation units, on the opposite side of the workshop to the spray booths, has also been carefully planned to eradicate the cross-contamination present in many spray shops. The spray booths themselves are fed by gas-fired air conditioning units and are similarly state-of-the-art. One of the biggest steps forward is the installation of direct drive Siemens motors that enable each bay to double up as an oven, curing components at 80 degrees C, when not in use for painting. The lighting has also been carefully angled so that no shadows complicate the precision work of colour matching and airbrushing.

EISENMANN, one of the official McLaren Technology Centre Partners, was tasked with turning the team's groundbreaking remit into reality. "We incorporated all the lessons we've learned in the past 10 years into our brief," says Langhorn. "EISENMANN didn't say no to anything. They went away and found innovative solutions for our particular requirements."

So well, in fact, that within three months the German company had a complete working version of the preparation and spray booths ready for sign-off at its Stuttgart base. That particular day is etched indelibly in Langhorn's memory. "I said, 'I would like to do some flow checks on the bay, so please can you fire up the booths?'" he recalls. "The gentleman looked at me with a puzzled expression on his face. 'It's already running,' he said. I was amazed. The inside of the booth was so quiet that I didn't even realise the motors were running."

Touch-pad screens on the wall control the paintshop's complex equipment, including the filtration system and temperatures. A modem link to Stuttgart enables EISENMANN's own engineers to fix any problems on-line. It's all a far cry from the 1970s, when Langhorn travelled with the race team. Then, a makeshift mask tied around the face was the only concession to health and safety and damaged bodywork was re-sprayed wherever you could find the space! Today, replacement bodywork like nosecones and wings are flown out to the races already painted.

Paint technology has also moved forward in recent years, paving the way for the use of environmentally friendly water-based paints and high-solid materials which contain less Volatile Organic Compounds (VOCs). Advances in materials have enabled a one-coat lacquer system to be used on cars that, not so long ago, required two or three coats. Scientists still haven't invented a 'fast' paint, but fewer >>

"I WANTED VISITORS TO BE ABLE TO WALK THROUGH AND SEE WHAT WE ARE DOING HERE: IT'S OPENED A FEW PEOPLE'S EYES"

GEORGE LANGHORN, PAINTSHOP MANAGER, MCLAREN RACING



CLOCKWISE FROM TOP
Every colour used by the team is here, labelled and ready; the application of the drivers' name decals is vital in achieving the finished look – as the world is watching



layers mean less weight and less weight enables designers to develop a quicker car.

If the complexity of the sophisticated spray booths would pass over most people's heads, here's something we can all understand: the mixing room. If you've ever mixed paint at home and ended up with it on yourself, the carpet and the cat, rather than the object that needed painting in the first place, you will know how hard it is to blend colours. But behind this particular door are some modern solutions to old problems.

The mixing bench is manufactured from stainless steel so that it is easy to wipe clean and contains its own extraction

"IT'S IMPORTANT TO RAISE YOUR GAME IN EVERY AREA OF F1. WE HAVE TAKEN A QUANTUM LEAP FORWARD"
GEORGE LANGHORN,
PAINTSHOP MANAGER, MCLAREN RACING

system to filter away fumes. The cans on the shelves are sealed and dispense paint through a gun rather than by anyone having to remove the lid. As for the stirring, that's performed on the push of a button by an automated system. If this was available, you would want one for Christmas!

The Team McLaren Mercedes paint scheme, which blends silver, graphite greys, white and amorphous black, is the most stylish paint scheme in Formula 1. It is also the most complex. That's why no amount of automation will ever replace the skilled touch of the team's airbrush artist and six trained paint technicians.

The EISENMANN technology helps reduce lead times and improve quality but it also dramatically improves the working environment. And that, above all, is what McLaren had in mind when the new facility was conceived.

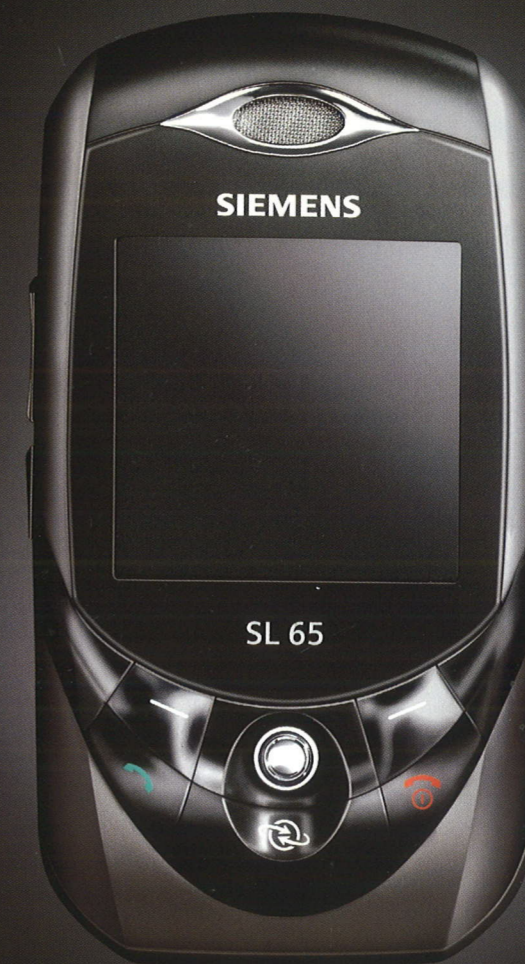
"The facilities we have here are state-of-the-art," admits airbrush artist Lawrence Manning. "They have allowed us to achieve things that just wouldn't be possible elsewhere."

So, the next time you watch the distinctive Team McLaren Mercedes livery whooshing by on your TV screen, remember, looks are important. ■



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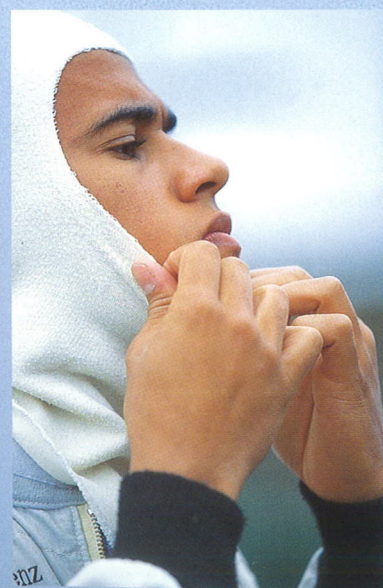
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SIEMENS

CATCHING THE EUROSTAR

The Formula 3 Euro Series is an ideal training ground for young racing drivers and McLaren- and Mercedes-Benz-supported driver Lewis Hamilton has just finished his first season. *Racing Line* went to Hockenheim to catch up on his progress

WORDS GEMMA BRIGGS PHOTOGRAPHY GLENN DUNBAR/LAT



ABOVE AND RIGHT A focused Lewis Hamilton prepares to take to the track at the final race weekend of the Formula 3 Euro Series season

It's almost 6pm on Friday evening at Germany's Hockenheim circuit. The sky is misty and the twisty Sachs curve – which just a few months ago was ringing to the sound of Formula 1 V10s – holds court to a procession of racing cars. From a distance they look similar to grand prix cars but on closer inspection, reveal themselves to be smaller imitations. Formula 3 Euro Series is in town.

Walk through the paddock after qualifying has ended and you mingle with the public: children wave autograph books and adults clamour around cars, cameras held aloft. Lewis Hamilton sits with his family at a table in the back of his team's awning, a homely scene in contrast to the glitzy world of Formula 1.

It's the last race weekend of the season and the end of Lewis' first year in the Formula 3 Euro Series, having graduated as winner of the British Formula Renault championship last year. His team, Manor Motorsport, has an excellent pedigree. In addition to running Kimi Räikkönen to the

Formula Renault title in 2000, it won the British Formula 3 championship at its first attempt.

"Formula 3 is the only free formula underneath Formula 1 with high technology and it's the best way for Lewis to build his skills," explains John Booth, team principal at Manor Motorsport. "Over the past eight months he's developed a really good work ethic and moved past just driving."

For talented young drivers, Formula 3 offers the chance to hone their technique and understand the finer points of car set-up. Having already competed – and won – at most British circuits, Lewis has chosen to tackle the Euro Series, visiting illustrious tracks such as Magny-Cours and the Nürburgring. Speaking at this season finale, he reveals the year has been a steep learning curve, but the blend of highs and lows has clearly left him more determined than ever.

Arriving at the circuit at 9am on Saturday, Lewis is anticipating a morning qualifying session which will secure his grid position for the afternoon's race, the first of two >>



"I KEEP MY MIND CLEAR. IT'S ABOUT FINDING AN OPTIMUM SET-UP... NOT FOR THE CAR BUT FOR MYSELF!"

LEWIS HAMILTON, DRIVER, MANOR MOTORSPORT

held over the weekend. The atmosphere at the team's awning is relaxed yet purposeful. The mechanics stand drinking tea, their work completed the previous evening: spare slick tyres already loaded onto the trolleys and Lewis' car checked over and fuelled.

The surroundings might be scaled-down compared to Formula 1, but the procedures for getting out on track are no less thorough. After consulting the set-up notes he fastidiously prepares during testing, Lewis sits down with his engineer to discuss the imminent session, before retiring to the team's truck to climb into his overalls.

Next he prepares his helmet, attaching the visor and polishing the bright yellow dome, before sitting with his knees up on the workbench behind his car – a classic racing driver's pose you are just as likely to see adopted by Kimi or David. "I'm a really quiet person on a race weekend, I try and keep my mind clear. It's about finding an optimum set-up... not for the car but for myself!" he says.

Almost an hour before he's due out on track, Lewis jumps on the back of a scooter and hitches a lift to the end of the paddock. It's the start of a long walk up to the holding bay, where his car is waiting. The Formula 3 Euro Series is a support act for DTM, the German touring car series, so the teams do not operate out of the pits. His mechanics are queuing at the pit-

lane entrance with the spare tyres, tool box and pit board.

The mood is tranquil as Lewis strolls towards his machine, overalls undone and helmet in hand. He chats to a fellow driver and occasionally stops to sign autographs. Once on track, all calmness is gone, as he accelerates to 170kph in a matter of seconds, securing a second row slot on the grid for the afternoon's race.

"As we haven't raced in Europe before, we have had no data whatsoever and we are just starting from scratch every day," he explains back at the team's base. "At the beginning of the year I really had no input into the car, but now I've got that ability. I've learnt from my mistakes and I can come in half way through the qualifying session and say 'I need more wing'. The mechanics make the change and it works. That's such a good feeling!"

Standing in the pit lane just after 5pm, the build-up to the race is as tense as any grand prix. The cars are queued in front of the traffic lights, waiting for the green signal which will send them on their parade lap.

The noise is deafening as they accelerate away. The 210bhp engines may be no match for Formula 1's V10s, but they still force your hands over your ears. Engineers stroll purposefully over to the pitwall, clipboards in hand and headphones in place, to watch timings from the

Lewis discusses the car's performance with his engineer, Manor Motorsport boss John Booth



BELOW Fans take a close look as the Manor Motorsport mechanics prepare the cars inside the team's awning



ABOVE Already a star, Lewis signs autographs for his fans BELOW Driving to a second place finish



banks of monitors.

A sea of Mercedes flags salute the familiar black- and silver-coloured car as Lewis shows the flash of brilliance which has earned him McLaren and Mercedes-Benz's support and finishes second. Underneath the podium, his parents and brother cheer alongside the team as the scent of champagne drifts down from the celebrations. The exultant moment over, Lewis heads straight for the press conference, then grabs a few minutes to relax before the debrief begins.

"When I'm away from the track I think about racing 24/7. I even have dreams about racing! It's always playing on my mind," he admits on Sunday morning. "This year I'm a really chilled-out person, but I'm blunt. If I make a mistake, I'll say I've made a mistake. I always try to maximise everything I do."

Today is less hectic, with a single race at midday, the grid positions having already been decided by Friday's qualifying session. Another tenacious drive sees Lewis gain four places and finish sixth, the resulting points pushing him up to fifth in the final championship standings. He is just two points behind Nico Rosberg, son of former McLaren driver Keke.

"The two years Lewis competed >>



in Formula Renault were quite restricted, in that series he just had to get in the car and drive. In Formula 3 the driver has a lot more input into development of the car, which is why it is nearly always a two year project," explains Booth. "Lewis is conscientious about building his skills and what he learns in Formula 3 will stand him in good stead for the future."

The final weekend of the season is over and the team looks forward to the evening's celebrations, the paddock coming together for a farewell party. It's a suitable reward for the months of hard work in which Lewis has pushed himself further onwards, but he is not ready to relax just yet.

"This year has been an unreal learning curve in terms of professionalism and maturity," he says. Indeed, the weekend at Hockenheim has confirmed Lewis' natural ability and drive. "I set really high goals for myself, but realistic ones," Lewis admits. This mental attitude takes time to develop and, in truth, not every driver will. But for those that do, it's a further step on the road to Formula 1. ■

CLOCKWISE FROM TOP Podium celebrations for Lewis as he finishes off the season on a high; a Formula 3 car shares obvious similarities with Formula 1

STEPPING STONE

With less aerodynamic features, Formula 3 cars look like simpler versions of grand prix cars and that's exactly what they are, making them a perfect stepping stone to the top for talented young drivers.

As Manor Motorsport boss John Booth explains, the concept for both cars is the same. "What makes a Formula 1 car work also makes a Formula 3 car work," he says. "The main difference is the development that goes into a Formula 1 car. It might have 300 people working to make sure it goes faster, whereas we

have around four people working on each of our Formula 3 cars. A lot of the development work for Formula 1 is done with simulation and run through a computer programme, whereas we do most of ours out on track. That's why Lewis' feedback is so important."

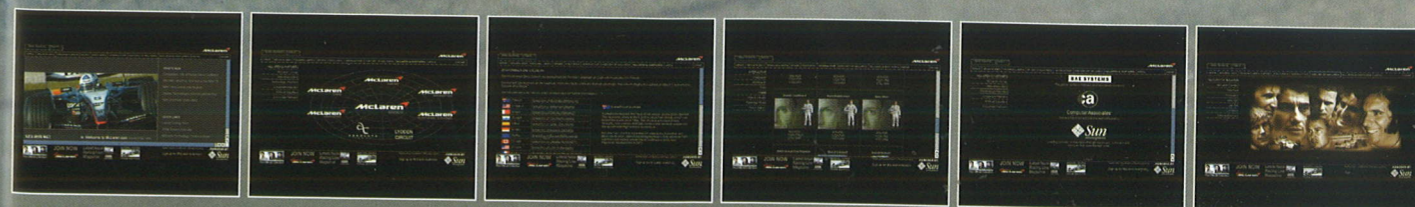
And what does a Formula 3 car feel like to drive? "It's unpredictable and wild," explains Lewis. "It's a very light car and it's all about taming it. You can be doing 225kph flat out down the straight. Everything comes at you very quickly and you have to be as sharp as a knife."



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PORT OF CALL

David Coulthard has been friends with top British skipper Alex Thomson since the pair went speed sailing last year, so who better to launch his HUGO BOSS boat before the start of the Vendée Globe Challenge 2004?

WORDS GEMMA BRIGGS PHOTOGRAPHY JON NASH



Shortly after the Brazilian Grand Prix David met with Alex Thomson (far right) and Gehard Loesch, Managing Director of HUGO BOSS France, for the ceremony



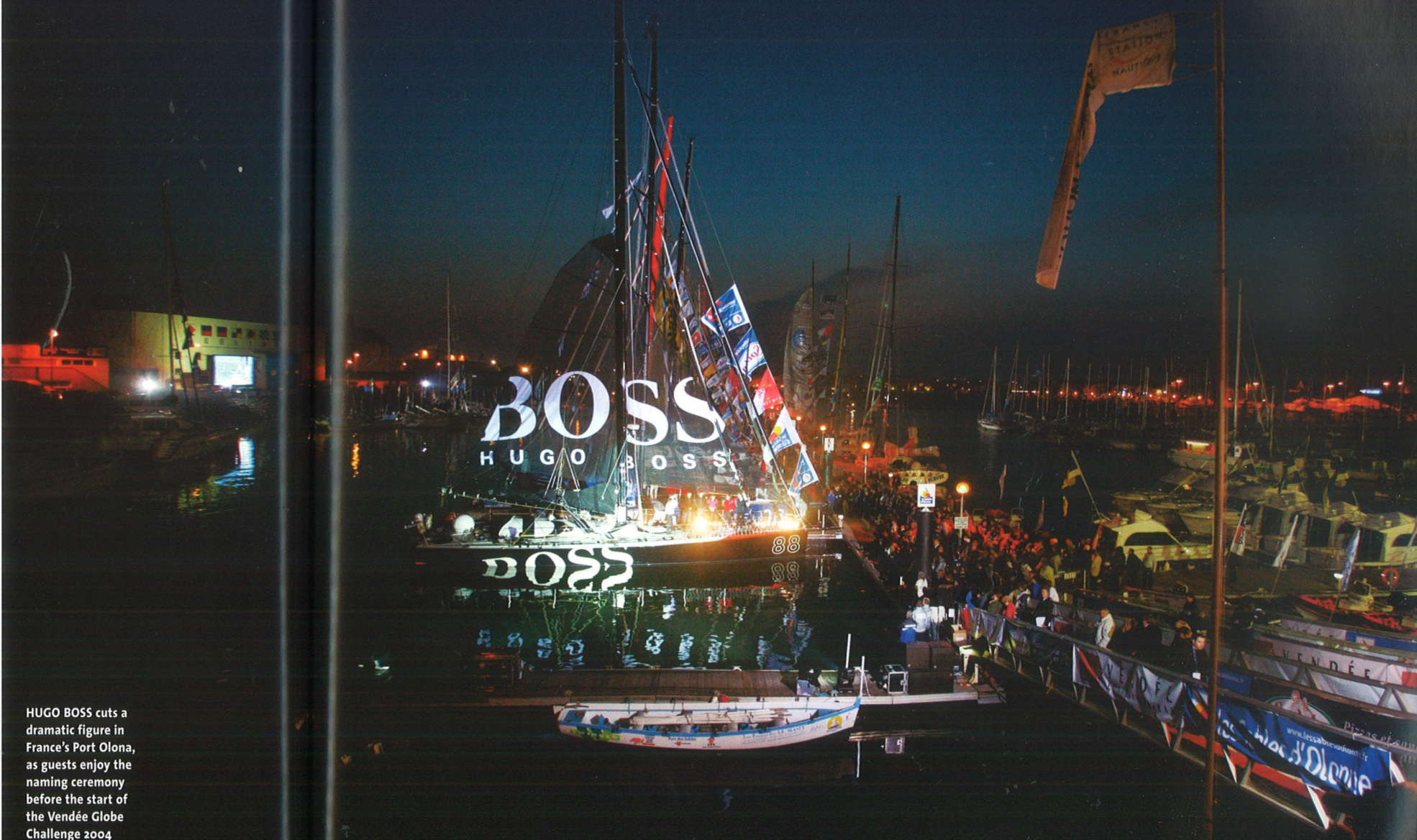
With a home in Monaco, David is used to the sight of yachts... but not speed sailing vessels like the awesome HUGO BOSS



HUGO BOSS cuts a dramatic figure in France's Port Olona, as guests enjoy the naming ceremony before the start of the Vendée Globe Challenge 2004

"IN FORMULA 1 YOU ARE NEVER MORE THAN A COUPLE OF KILOMETRES AWAY FROM YOUR TEAM AND SUPPORT CREW. THESE COMPETITORS PUT THEMSELVES [ALONE] AGAINST THE ELEMENTS FOR SO MANY WEEKS AND I FEEL A REAL SENSE OF PRIDE TO BE HERE"

DAVID COULTHARD





David wasn't the only star in attendance wishing Alex good luck, as British TV presenter Davina McCall (standing to David's left) was also at the ceremony



The Formula 1 season may now be over but Alex's journey has just begun, as he takes to the waves in HUGO BOSS for the round-the-world race

"THE ENDURANCE OF RACING 20 OTHER BOATS FOR THREE MONTHS ON YOUR OWN AROUND THE WORLD MAKES THIS AS EQUALLY EXCITING AS FORMULA 1. YOU MAY NOT BE GOING FLAT OUT PHYSICALLY, BUT YOU ARE MENTALLY"

DAVID COULTHARD

"I WAS INTRODUCED TO SAILING BY ALEX LAST YEAR... I THINK THERE IS CERTAINLY AS MUCH ELECTRONIC TECHNOLOGY INVOLVED IN THIS AS THERE IS IN A GRAND PRIX CAR. YOU CAN SEE MANY CROSSOVERS BETWEEN THE TWO SPORTS"

DAVID COULTHARD



Spraying champagne comes naturally to David, but on this occasion the platform is a boat rather than a grand prix podium, as David officially names the vessel



The boat's cabin may not be as small as a Formula 1 cockpit, but Alex will spend three months alone inside HUGO BOSS





DAVE HAWKE

HEAD OF MANUFACTURING
McLAREN RACING

WORDS GEMMA BRIGGS PHOTOGRAPH STEVE ORINO



How long have you worked for McLaren Racing?

I joined the company ten years ago as Machine Shop Manager and was in that position for about 18 months. I then moved on to manage the composites department and about five years ago I was appointed as the Head of Manufacturing.

What job did you do before joining the team?

I was Production Director of a precision engineering company. One of the customers was McLaren and another was a rival Formula 1 team. I have always been a McLaren fan and the sales director wanted to know why all the McLaren work was always completed ahead of schedule! I was approached by McLaren, who asked if I would be interested in a position with the company. I said yes and I was subsequently offered the role of Machine Shop Manager.

What does your job entail?

I am responsible for the five manufacturing departments – composite laminating, composite assembly, machining, fabrication and specialised tooling – which together employ 150 people. I am also responsible for the production engineering and control departments which support manufacturing by deciding how many components we need to make, where and when they are to be made and ensuring we have

the capability to make them. Thousands of drawings are released by the design office before the car races or tests so there is a constant flow of components to be planned, manufactured, checked and passed to sub assembly. Co-ordinating these departments is my main responsibility. Manufacturing has to be ready for any emergencies that may arise during grands prix so I also keep in close contact with the race team.

“THE GREAT THING ABOUT THIS JOB IS THAT THERE IS NO AVERAGE DAY, THERE ARE ALWAYS NEW DESIGNS”

What does an average day involve?

The great thing about this job is that there is no average day. There are always new designs coming through from the design team, all of which have to be checked and allocated for manufacturing. Because of the speed of development in the sport, we often receive new designs to manufacture at the last minute. This means that there is a lot of pressure to get the latest components ready for the car and, for me, this is one of the many factors that make the job so interesting.

In Formula 1 there is a constant

quest to reduce production time in order to get components on to the car as quickly as possible. If we can take a week out of the production cycle and get that component on to the car one race earlier, it could be the difference between winning the race or not.

How has the manufacturing department changed over the time you have worked for McLaren?

There have been some major changes in technology, such as the introduction of rapid prototyping and multi-axis machines. Moving to the McLaren Technology Centre has been a manufacturing man's dream! I was tasked with sourcing the best technology possible, which was a three year project. To see that equipment installed and in use is very satisfying. Moving to the facility has allowed us to increase our manufacturing capability, helping us to be more responsive to the demands of the race team.

What aspect of your job do you enjoy the most?

For my personal satisfaction it's seeing all the new components getting loaded onto the trucks to get on the race car and making sure all these potentially performance-enhancing parts that we make are actually going to the track. If I was doing a similar role in a different industry there would not be as much pressure, but neither would there be as much satisfaction. ■

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POSTCARDS FROM TESTING IN SPAIN

IN ASSOCIATION WITH CANON

During October, Team McLaren Mercedes spent time testing at the Jerez circuit where temperatures reached an intense 41 degrees centigrade. John Williams, a member of the test team, sent *Racing Line* some choice snapshots from the session



Ever had the feeling someone is watching you? The computer screens give the team the tools to analyse each facet of the drivers' performance on the circuit



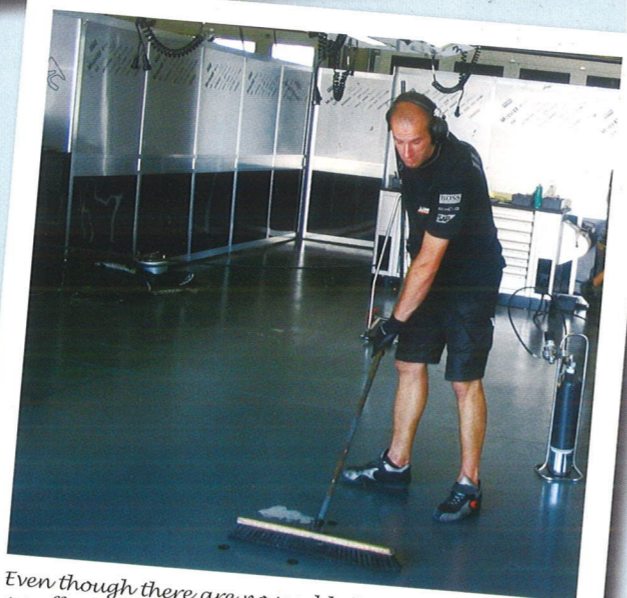
After each run of the car, intense analysis of its performance takes place. The test team, together with the drivers, cover every aspect of the car's behaviour



The absence of spectators lends the venue a curious feel, but the lack of hustle and bustle means that we can devote our focus fully without any distractions



Where would the team's cars be without their Michelin tyres? Nowhere. Now, before we get back out on track, we just need to get our hands on the other three..!



Even though there are no world championship points on offer at a test, we still prepare exactly as we would at a grand prix: this means exacting attention to detail

IN THE NEXT ISSUE

MOTION PICTURES

The return of *Picture Perfect*, the very best images of Team McLaren Mercedes from the 2004 Formula 1 season



MENU

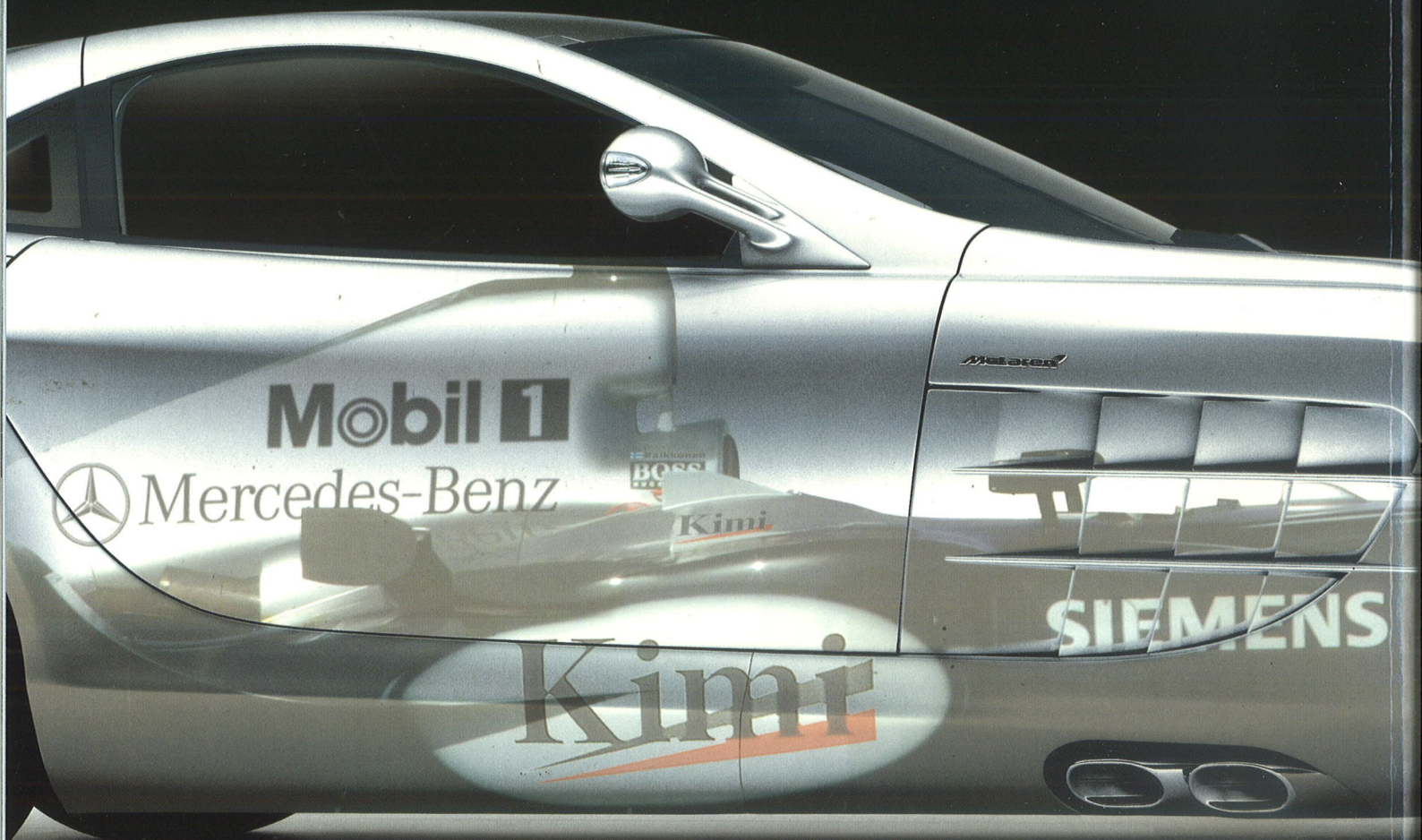
INFO.

JUMP

Canon

ON OFF

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