BMW.WilliamsF1 Team

Media Information

Contents.

Note - New information is subject to change.

1. The BMW WilliamsF1 Team.

1.1 2004 – preview.

In 2004, the stakes will be high for the BMW WilliamsF1 Team. Having come so close to success in 2003, there is only one achievement that will satisfy in 2004 – outright victory in the FIA Formula One World Championship.
In 2003, the team's achievements were notable, but insufficient to claim to be the very best. After a difficult start to the season, the team headed the World Championship, but conceded defeat in the final race of the year.

Necessarily, then, the BMW WilliamsF1 Team has high ambitions for 2004. The starting point for the team's ambitions is to be a competitive force from the very first race with the new WilliamsF1 BMW FW26 chassis and the new BMW P84 engine. While the car will be all-new, the team has stability in the capabilities of Juan Pablo Montoya (COL) and Ralf Schumacher (GER), backed up by the test and reserve driver Marc Gené (ESP).

Team Principal Frank Williams commented, "We have acknowledged our shortcomings of 2003. Although we took a good step forward and were the best of the rest, our stride was not quite large enough. In 2004, we must be competitive from the off if we are to realize our potential.
I have every confidence that the team has all the elements necessary to win in 2004 – we must simply seize the opportunity."

Patrick Head, Technical Director of WilliamsF1, supplemented these sentiments, "The FW25 proved, in the end, to be an extremely quick race car, and in fact, frequently the quickest car. However, we are acutely aware of the need to be challenging in every race – from Melbourne right through to Brazil in 2004. It would be premature to speculate on the FW26's relative competitiveness as we have not seen what the opposition has been doing over the winter, but I am reassured that we have left no stone unturned at WilliamsF1 in our preparation for next season."

BMW Motorsport Director Mario Theissen continues, "We have to master complex tasks in order to achieve our goal of the World Championship title. The Sporting Code introduced in 2004 prescribes the use of a single engine for the entire Grand Prix weekend. This means that endurance is our priority. However, we also want to field the mostpowerful engine on the grid despite the new rules. This involves a balancing act. The design of each of the estimated 1,000 different components needs to be robust, but as lightweight and agile as possible."

Strong partnership.

The BMW WilliamsF1 Team was formed in 2000. This union represented a return by BMW to Formula One after a break of twelve years. The first year of the new partnership ended with 3rd place in the constructors' standings. The first victories came in the second season. The team advanced in the rankings and claimed 3rd place in the Constructors' World Championship. By 2002, the BMW WilliamsF1 Team moved up to second place, but lagged significantly behind World Champions, Ferrari. In 2003, the team closed the gap completely, and indeed headed the Championship standings for part of the season, but conceded the title in the final race of the year.

The partnership's future was reinforced in June 2003 with the announcement of the extension of the agreement between BMW and WilliamsF1. The original contract was scheduled to expire at the end of 2004, and the extension now sees the partnership running until the end of 2009 and provides for a deeper level of integration between the two parties. A partnership network spanning both the Munich and Grove sites has been developed to enable unified project management. The clear intention is to make optimum use of the specialist knowledge of one of the most successful Formula One teams as well as exploit the extensive resources of an automobile manufacturer. This includes the simulation and test knowledge of the BMW Research and Innovation Centre. Furthermore, from 2004 onwards, BMW will no longer be solely involved in the development and production of engines. The gearbox will also be an area of co-operation within the partnership.

FW26.

The WilliamsF1 BMW FW26 has a tough act to follow. Its predecessor was widely acknowledged as the class of the 2003 field, not by a long way, but certainly was a significantly faster race car than its rivals once it was optimized. In response, the FW26 will be launched and evolved earlier, to extend and accelerate the post-launch development phase.

The car design itself represents another step change, in fact the second in as many seasons. This process is challenging and more demanding than iterating an already successful design, but the results, as 2003 proved, provide a compelling reason for taking this course with car development.

Under the guidance of Chief Designer, Gavin Fisher, the radical design will be immediately apparent when the FW26 first breaks cover.

BMW P84.

The BMW P84 engine has been designed for the 2004 season under the management of Heinz Paschen, Head of BMW Formula One Development. The concept of the engine is based on its successful predecessor, the P83, but all the components have been modified to respond to the new regulations – using the engine over the entire weekend means doubling the life of the engine to 800 kilometers. The goal is to achieve endurance and performance for the substantially greater distances involved. Ingenious and detailed solutions mean that dimensions and weights in spite of the rule changes, have remained virtually the same. Work on the new three-liter V10 cylinder, again with 90 degree bank angle, began in November 2002. Test rig trials were conducted in the summer of 2003, as were the first track tests.

The drivers.

While the car and engine are all-new, the BMW WilliamsF1 Team driver line up represents the fourth year of stability. Juan Pablo Montoya (born 20/09/1975 in Bogotá, COL), joined the BMW WilliamsF1 Team in 2001. Prior to that, he won the CART Championship in the USA and the blue ribbon Indy 500. Montoya came in sixth place in the World Championship during his first year in Formula One. In the two following seasons, he finished in third place in the

Championship. After three years in Formula One, the Columbian has clocked up three victories, eleven pole positions and nine fastest lap times. 2004 will be Montoya's swansong season with the team before moving on to pastures new.

Ralf Schumacher (born 30/06/1975 in Kerpen, GER) has been a driver with the WilliamsF1 Team since 1999, and as such is the British team's longest serving driver. He achieved his career best World Championship placing of fourth in 2001 and 2002. Schumacher lives with his wife, Cora, and son, David, in Austria. He finished the 2003 season in fifth place. To date he achieved six victories and four pole positions, and has claimed the fastest lap seven times.

Marc Gené continues to support the team as the test and reserve driver. The Catalan (born 29/03/1974 in Sabadell, near Barcelona, ESP) launched his Formula One career with the Minardi Team in 1999 and 2000 and has been working for the BMW WilliamsF1 Team since 2001.

1.2 2003 – review.

Roller coaster.
The BMW WilliamsF1 Team had never come so close. With two races to go, the team had both titles within its reach. In the USA, however, any hopes of the Drivers' World Championship were swept away in the rain. In Japan, capricious weather during qualifying and a rare technical fault in the race meant the Constructors' title also fell by the wayside. Yet at the outset of the season nobody could have imagined that the BMW WilliamsF1 Team would have cause for complaint having attained such heights.

With 144 points, the BMW WilliamsF1 Team posted a clear improvement on the previous year's results. Despite also finishing second in 2002, with a mere 92 World Championship points, the team was in reality a distant contender.

Testing start.
At its public unveiling on 31st January, the FW25 received an enthusiastic welcome. Far from being an iteration of its predecessors, it was clearly an innovative, all-new design. A shorter wheelbase was the most striking of its new attributes – and largely responsible for the fact that the team had to jettison most of the empirical evidence gathered from its predecessors. Despite disappointing test results, faith in the new concept remained undiminished, and this perseverance was to pay dividends.

Ripe for victory.
Under the pressure of a race season in full flow, it was remarkable that the team made up so much competitive ground in such a short space of time. At the seventh Grand Prix of the season, the FW25 with the BMW P83 engine would prove an unbeatable combination. Ralf Schumacher took pole position at Monaco, while Juan Pablo Montoya won the most prestigious Grand Prix in the calendar. Thereafter the Colombian took to the podium eight times in a row – a feat unrivalled by any other driver on the grid. Ralf Schumacher, meanwhile, was the only driver to make it into the points in every one of the first ten races.

Victory in Monaco marked the real breakthrough and more outstanding Grands Prix would follow. Canada saw both drivers on the podium, while at the Nürburgring and Magny-Cours there were one-two finishes, and Montoya's winning performance at Hockenheim was like a triumphal procession – he finished with a lead of more than 65 seconds.

No luck overseas.

With a four-point lead in the Constructors' rankings, the BMW WilliamsF1 Team set off for the two final races of the season, the US and Japanese GP. BMW had a further evolution of the P83 in its cargo hold. This engine recorded 19,200 revolutions a minute at the final in Suzuka, surpassing the peak engine speed of 2002 – a remarkable feat in the light of the regulation change compared to the previous year.

At Indianapolis a penalty for Montoya and a heavy downpour combined with pit stop troubles put paid to Montoya's chances of the Drivers' title. In Japan, Ralf Schumacher's hard-fought ride ended in twelfth place, while Montoya had to retire from the lead with a technical fault for the second time in the season.

From January 2003 until the season finale, the test team carried out 107 days of track running amounting to 54,604 kilo meters with six different drivers in nine different locations in Europe.

1.2.1 2003 championship points.

Team	Total	AUS	MYS	BRA	SMR	ESP	AUT	MCO	CAN	EUR	FRA	GBR	GER	HUN	ITA	USA	JPN
1 Scuderia Ferrari Marlboro	**158**	5	11	–	16	16	16	7	14	10	8	15	2	1	16	10	11
2 BMW WilliamsF1 Team	**144**	9	5	2	7	9	3	15	14	18	18	8	10	11	12	3	0
3 West McLaren Mercedes	**142**	16	10	13	12	–	12	10	3	0	9	10	8	12	5	8	14
4 Mild Seven Renault F1 Team	**88**	6	10	7	3	8	1	7	5	5	–	3	11	12	1	5	4
5 Lucky Strike BAR Honda	**26**	0	2	3	1	0	5	–	–	2	0	1	1	0	3	–	8
6 Sauber Petronas	**19**	3	1	4	0	0	–	0	–	1	0	0	0	0	0	10	0
7 Jaguar Racing	**18**	0	–	0	0	2	2	–	2	3	3	0	0	3	2	1	0
8 Panasonic Toyota Racing	**16**	–	0	0	0	3	0	0	1	–	1	2	7	0	–	0	2
9 Jordan Ford	**13**	0	0	10	0	1	0	0	–	0	0	0	0	–	0	2	0
10 European Minardi Cosworth	**0**	0	0	–	–	0	0	–	0	0	0	0	0	0	0	0	0

Driver	Total	AUS	MYS	BRA	SMR	ESP	AUT	MCO	CAN	EUR	FRA	GBR	GER	HUN	ITA	USA	JPN
1 Michael Schumacher	**93**	5	3	–	10	10	10	6	10	4	6	5	2	1	10	10	1
2 Kimi Raikkonen	**91**	6	10	8	8	–	8	8	3	–	5	6	–	8	5	8	8
3 Juan Pablo Montoya	**82**	8	0	–	2	5	–	10	6	8	8	8	10	6	8	3	–
4 Rubens Barrichello	**65**	–	8	–	6	6	6	1	4	6	2	10	–	–	6	–	10
5 Ralf Schumacher	**58**	1	5	2	5	4	3	5	8	10	10	0	–	5		–	0
6 Fernando Alonso	**55**	2	6	6	3	8	–	4	5	5	–	–	5	10	1	–	–
7 David Coulthard	**51**	10	–	5	4	–	4	2	–	0	4	4	8	4	–	–	6
8 Jarno Trulli	**33**	4	4	1	0	–	1	3	–	–	–	3	6	2	–	5	4
9 Jenson Button	**17**	0	2	–	1	0	5		–	2	–	1	1	0	–	–	5
10 Mark Webber	**17**	–	–	0	–	2	2	–	2	3	3	0	0	3	2	–	0
11 Heinz-Harald Frentzen	**13**	3	0	4	0	–	–	–	–	0	0	0	–	–	0	6	–
12 Giancarlo Fisichella	**12**	0	–	10	0	–	–	0	–	0	–	–	0	–	0	2	–
13 Cristiano da Matta	**10**	–	0	0	0	3	0	0	0	–	0	2	3	0	–	0	2
14 Nick Heidfeld	**6**	–	1	–	0	0	–	0	–	1	0	0	0	0	0	4	0
15 Olivier Panis	**6**	–	–	–	0	–	–	0	1	–	1	0	4	–	–	–	0
16 Jacques Villeneuve	**6**	0	–	3	–	–	0	–	–	–	0	0	0	–	3	–	
17 Marc Gené	**4**														4		
18 Takuma Sato	**3**																3
19 Ralph Firman	**1**	–	0	–	–	1	0	0	–	0	0	0	–			–	0
20 Justin Wilson	**1**	–	–	–	–	0	0	–	–	0	0	0	–	–	–	1	0
Antonio Pizzonia	**0**	0	–	–	0	–	0	–	0	0	0	–					
Jos Verstappen	**0**	0	0	–	–	0	–	–	0	0	0	0	–	0	–	0	0
Nicolas Kiesa	**0**												0	0	0	0	0
Zsolt Baumgartner	**0**													–	0		

1.2.2 2003 results BMW WilliamsF1 Team.

	Qualifying Friday MOY	Qualifying Friday RSC	Qualifying Saturday MOY	Qualifying Saturday RSC	Race Sunday MOY	Race Sunday RSC
AUS	**10** 1:27.450	**16** 1:28.266	**3** 1:28.101	**9** 1:28.830	**2**	**8**
MAL	**3** 1:35.939	**13** 1:36.809	**8** 1:37.974	**17** 1:38.789	**12** collision 1st lap	**4**
BRA	**17** 1:27.961 mistake, wet	**13** 1:26.709 wet	**9** 1:14.223	**6** 1:14.124	**accident**, wet, in 5th position	**7**
SMR	**4** 1:21.490	**3** 1:21.193	**4** 1:22.789	**2** 1:22.341 T-car	**7**	**4**
ESP	**14** 1:18.607	**11** 1:18.409	**9** 1:19.377	**7** 1:19.006	**4** T-car	**5**
AUT	**6** 1:08.839	**20** spun, no time	**3** 1:09.391	**10** 1:10.279	**retired** from lead, water leak	**6**
MCO	**8** 1:17.108	**6** 1:17.063	**3** 1:15.415	**1** 1:15.259	**1**	**4**
CDN	**12** 1:37.479 rain	**15** 1:38.210 rain	**2** 1:15.923	**1** 1:15.529	**3**	**2**
EUR	**3** 1:30.378	**4** 1:30.522	**4** 1:31.765	**3** 1:31.619	**2**	**1**
FRA	**14** 1:28.988 wet	**17** 1:29.327 wet	**2** 1:15.136	**1** 1:15.019	**2** fastest lap	**1**
GBR	**2** 1:19.749	**3** 1:19.788	**7** 1:22.214	**4** 1:21.727	**2**	**9** extra pit stop
GER	**2** 1:14.673	**1** 1:14.427	**1** 1:15.167	**2** 1:15.185	**1** lap record	**accident** at start
HUN	**8** 1:23.305	**2** 1:22.413	**4** 1:22.180	**2** 1:21.944	**3** lap record	**4**
ITA	**1** 1:20.656	**No time**, missed chicane	**2** 1:21.014	**Marc Gené 5** 1:21.834	**2**	**Marc Gené 5**
USA	**5** 1:10.372	**4** 1:10.222	**4** 1:11.948	**5** 1:12.078	**6**	**retired** (spun) from lap 22
JPN	**8** 1:31.201	**2** 1:30.343	**2** 1:32.412	**20** no time (rain)	**retired** from lead, hydraulics	**12** lap record

1.2.3 Chassis numbers – WilliamsF1 BMW FW25.

GP	**Juan Pablo Montoya** Start number 3	**Ralf Schumacher** Start number 4	**Spare** (race deployment)
Australia	FW25 04	FW25 03	FW25 02
Malaysia	FW25 04	FW25 03	FW25 02
Brazil	FW25 04	FW25 03	FW25 02
San Marino	FW25 04	FW25 03	FW25 02 (RSC)
Spain	FW25 06	FW25 05	FW25 04 (MOY)
Austria	FW25 06	FW25 05	FW25 04
Monaco Canada	FW25 06 FW25 06	FW25 05 FW25 05	FW25 04 FW25 04
Europe	FW25 06	FW25 07	FW25 04
France	FW25 06	FW25 07	FW25 04
Great Britain	FW25 06	FW25 07	FW25 04
Germany	FW25 06	FW25 07	FW25 04
Hungary	FW25 06	FW25 07	FW25 04
Italy	FW25 06	FW25 07	FW25 04
USA	FW25 06	FW25 07	FW25 02 and 04
Japan	FW25 06	FW25 07	FW25 02 and 04

1.3 2002 – review.

World Championship runners -up in 2002.
In the third year of their partnersh ip, the BMW WilliamsF1 Team reached an intermediate target – second place in the Constructors' World Championship. They managed to outstrip McLaren -Mercedes, but Ferrari's superiority was almost overwhelming. By the close of the season the Italian World Ch ampions had amassed 221 points, which was as much as all the other teams put together.

Schumacher and Montoya celebrated the first one-two victory for the team in Malaysia, with eleven more podium places to follow. By the 16th of the season's 17 Grands Prix, the team secured second in the World Championship. A final tally of 92 meant that the previous year's total was bettered by twelve points.

In 2002, Montoya earned a great deal of respect for his seven pole positions (in Brazil, Monaco, Canada, Europe, England, France and Italy). His Italian qualifying performance at Monza was particularly memorable and bettered the longstanding record of former World Champion Keke Rosberg, who piloted a Williams FW10 to the fastest ever Formula One lap in 1985 at Silverstone. In another landmark at the European GP on the Nürburgring, both team cars occupied the front row of the grid.

The BMW WilliamsF1 Team also led the way in the reliability statistics. No other team could match the number of racing laps it had totalled – 1,963 out of a possible 2,180.

There were a further three BMW records which nobody could dispute – the best engine performance, the highest engine speed, and the earliest test outing for the 2003 engine. The final evolution of the P82, first deployed at Monza, developed around 900 bhp and clocked up more than 19,000 revolutions a minute. The P83, BMW's power plant for 2003, debuted in test drives at Barcelona on the 18th of September 2002.

1.3.1 2002 championship points.

Team	Total	AUS	MYS	BRA	SMR	ESP	AUT	MCO	CAN	EUR	GBR	FRA	GER	HUN	BEL	ITA	USA	JPN
1 Scuderia Ferrari Marlboro	**221**	10	4	10	16	10	16	6	14	16	16	10	13	16	16	16	16	16
2 BMW WilliamsF1 Team	**92**	6	16	8	7	6	7	4	0	3	4	5	10	4	6	–	3	3
3 West McLaren Mercedes	**65**	4	–	4	1	4	1	10	9	4	0	10	2	5	3	0	4	4
4 Mild Seven Renault F1 Team	**23**	–	3	3	2	0	0	3	1	2	0	1	–	0	–	5	2	1
5 Sauber Petronas	**11**	–	3	–	0	5	–	0	0	1	1	0	1	0	0	0	0	0
6 DHL Jordan Honda	**9**	–	0	0	–	–	2	2	2	0	0	–	0	1	0	0	0	2
7 Jaguar Racing	**8**	3	0	0	–	–	–	0	–	0	0	0	–	0	1	4	0	0
8 Lucky Strike BAR Honda	**7**	–	0	0	0	0	0	–	0	0	5	–	–	0	0	1	1	–
9 KL Minardi Asiatech	**2**	2	–	0	0		0	0	0	0	–	0	–	0	–	0	–	0
10 Panasonic Toyota Racing	**2**	1	0	1	–	0	0	–	–	0	–	0	0	0	0	0	0	0
11 Orange Arrows	**2**	–	0	–	–	1	0	1	0	0								

Driver	Total	AUS	MYS	BRA	SMR	ESP	AUT	MCO	CAN	EUR	GBR	FRA	GER	HUN	BEL	ITA	USA	JPN
1 Michael Schumacher	**144**	10	4	10	10	10	10	6	10	6	10	10	10	6	10	6	6	10
2 Rubens Barrichello	**77**	–	–	–	6	–	6	0	4	10	6	–	3	10	6	10	10	6
3 Juan Pablo Montoya	**50**	6	6	2	3	6	4	–	–	–	4	3	6	0	4	–	3	3
4 Ralf Schumacher	**42**	–	10	6	4	0	3	4	0	3	0	2	4	4	2	–	0	–
5 David Coulthard	**41**	–	–	4	1	4	1	10	6	–	0	4	2	2	3	0	4	–
6 Kimi Raikkonen	**24**	4	–	0	–	–	–	–	3	4	–	6	–	3	–	–	–	4
7 Jenson Button	**14**	–	3	3	2	0	0	–	0	2	0	1	–	–	–	2	0	1
8 Jarno Trulli	**9**	–	–	–	0	0	–	3	1	0	–	–	–	0	–	3	2	–
9 Eddie Irvine	**8**	3	–	0	–	–	–	0	–	–	–	–	–	–	1	4	0	0
10 Nick Heidfeld	**7**	–	2	–	0	3	-	0	0	0	1	0	1	0	0	0	0	0
11 Giancarlo Fisichella	**7**	–	0	–	–	–	2	2	2	–	0		–	1	–	0	0	–
12 Jacques Villeneuve	**4**	–	0	0	0	0	0	–	–	0	3	–	–	–	0	0	1	–
13 Felipe Massa	**4**	–	1	–	0	2	–	–	0	1	0	–	0	0	–	–		–
14 Olivier Panis	**3**	–	–	–	–	–	–	–	0	0	2	–	–	0	0	1	0	–
15 Takuma Sato	**2**	–	0	0	–	–	–	–	0	0	–	–	0	0	0	0	0	2
Mark Webber	**2**	2	–	0	0		0	0	0	0	–	0	–	0	–	–	–	0
Mika Salo	**2**	1	0	1	–	0	0	–	–	–	–	–	0	0	0	0	0	0
Heinz-Harald Frentzen	**2**	–	0	–	–	1	0	1	0	0	–		–				0	

1.3.2 2002 results BMW WilliamsF1 Team.

	Practice Friday RSC	Practice Friday MOY	Practice Saturday RSC	Practice Saturday MOY	Qualifying RSC	Qualifying MOY	Race RSC	Race MOY
AUS	**3** 1:27.276	**4** 1:28.870	**4** 1:27.424	**3** 1:27.394	**3** 1:26.279	**6** 1:27.249	**accident** with BAR, fist turn	**2**
MAL	**4** 1:38.650	**6** 1:39.158	**3** 1:36.689	**1** 1:36.556	**4** 1:36.028	**2** 1:35.497	**1**	**2** penalty for collision with MSC
BRA	**4** 1:15.477	**2** 1:15.345	**1** 1:13.543	**7** 1:14.141	**3** 1:13.328	**1** 1:13.114	**2**	**5** repair after collision with MSC
SMR	**10** 1:39.518 rain	**9** 1:39.480 rain	**5** 1:23.900	**6** 1:24.078	**3** 1:21.473	**4** 1:21.605	**3**	**4**
ESP	**15** 1 :21.409	**17** 1 :21.623	**12** 1 :19.367	**14** 1:19.574	**3** 1 :17.277	**4** 1 :17.425 T-car	**11** engine fault final lap	**2** mechanic injured during stop
AUT	**12** 1 :11.652	**3** 1 :10.613	**3** 1 :09.216	**4** 1:09.288	**2** 1 :08.364	**4** 1 :09.118 T-car	**4**	**3**
MCO	**6** 1:19.937	**9** 1:20.264	**4** 1:17.713	**3** 1:17.665	**4** 1:17.274	**1** 1:16.676	**3**	**retired** from 2nd position, engine fault
CDN	**5** 1:16.018	**2** 1:15.543	**5** 1:14.399	**2** 1:13.646	**4** 1:13.301 T-car	**1** 1:12.836	**7** faulty fuel rig, extra pit stop	**retired** from 2nd position, engine fault
EUR	**6** 1:33.179	**5** 1:33.122	**5** 1:31.685	**8** 1:31.833	**2** 1:29.915	**1** 1:29.906	**4**	**accident** with COU in 4th position
GBR	**11** 1:34.766	**4** 1:33.842	**3** 1:20.708	**4** 1:21.076	**4** 1:19.329	**1** 1:18.998	**8** faulty fuel rig, extra pit stop	**3**
FRA	**5** 1:14.970	**10** 1:15.271	**7** 1:13.728	**6** 1:13.633	**5** 1:12.424	**1** 1:11.985	**5**	**4**
GER	**5** 1:16.934	**7** 1:17.187	**2** 1:15.154	**4** 1:15.472	**2** 1:14.570	**4** 1:15.108	**3** extra pit stop due to pneumaticleak	**2**
HUN	**3** 1:17.228	**16** 1:18.961	**8** 1:16.236	**4** 1:15.912	**3** 1:13.746	**4** 1:14.706	**3**	**11** after skidding
BEL	**5** 1:48.435	**8** 1:48.969	**6** 1:45.696	**5** 1:45.620	**4** 1:44.348	**5** 1:44.634	**5**	**3**
ITA	**7** 1:24.115	**5** 1:23.584	**4** 1:21.764	**1** 1:21.319	**3** 1:20.542	**1** 1:20.264	**retired** from 3rd position, engine fault	**retired** from 3rd position, suspension
USA	**10** 1:15.291	**16** 1:15.632	**4** 1:11.849	**7** 1:11.992	**5** 1:11.587	**4** 1:11.414	**16** collision with MOY lap 2	**4** collision with RSC lap 2
JPN	**5** 1:35.995	**4** 1:35.742	**2** 1:33.233	**4** 1:33.525	**5** 1:32.444	**6** 1:32.507	**retired** from 3rd position, engine fault	**4**

1.3.3 Chassis numbers – WilliamsF1 BMW FW24.

GP	**Ralf Schumacher** Start number 5	**Juan Pablo Montoya** Start number 6	**Spare** (race deployment)
Australia	FW24 04	FW24 02	FW24 01
Malaysia	FW24 04	FW24 02	FW24 01
Brazil	FW24 04	FW24 02	FW24 01
San Marino	FW24 05	FW24 04	FW24 02
Spain	FW24 04	FW24 05	FW24 02
Austria	FW24 04	FW24 05	FW24 02
Monaco Canada	FW24 06 FW24 06	FW24 05 FW24 05	FW24 02 FW24 02
Europe	FW24 06	FW24 05	FW24 02
Great Britain	FW24 06	FW24 05	FW24 02
France	FW24 06	FW24 05	FW24 02
Germany	FW24 06	FW24 05	FW24 02
Hungary	FW24 06	FW24 05	FW24 02
Belgium	FW24 06	FW24 04	FW24 02
Italy	FW24 06	FW24 05	FW24 02 (RSC)
USA	FW24 06	FW24 04	FW24 02
Japan	FW24 06	FW24 04	FW24 02

1.4 2001 – review.

Already a winning team in 2001.
In 2001, the team set out to defend their number three position in the World Championship, while at the same time closing the gap to the leaders. Nobody had anticipated four commanding victories. While the number of retirements rose slightly from 16 to 18, Ralf Schumacher and his new Colombian team mate, Juan Pablo Montoya, were racing among the front-runners and both just missed out on the points only once out of a total of 16 finishes.

Between them they claimed nine podium places. With 80 points, the BMW WilliamsF1 Team established itself as the number three team. The mission for year two had been more than fulfilled and the gap to Ferrari, still the reigning World Champions, had melted to 99 points.

1.4.1 2001 championship points.

Team	Total	AUS	MYS	BRA	SMR	ESP	AUT	MCO	CAN	EUR	FRA	GBR	GER	HUN	BEL	ITA	USA	JPN
1 Scuderia Ferrar Marlboro	**179**	14	16	6	4	10	10	16	6	12	14	10	6	16	12	9	6	12
2 West McLaren Mercedes	**102**	6	5	10	9	2	10	2	4	5	3	10	–	6	9	–	14	7
3 BMW WilliamsF1 Team	**80**	–	2	–	10	6	–	–	10	9	6	3	10	3	–	14	–	7
4 Red Bull Sauber Petronas	**21**	4	–	4	–	1	3	–	3	–	1	3	–	1	–	–	1	–
5 B&H Jordan Honda	**19**	2	3	2	3	3	–	–	–	–	2	–	–	–	1	–	3	–
6 Lucky Strike BAR Honda	**17**	–	–	3	–	4	2	3	–	–	–	–	4	–	–	1	–	–
7 Mild Seven Benetton Renault	**10**	–	–	1	–	–	–	–	–	–	–	–	5	–	4	–	–	–
8 Jaguar Racing	**9**	–	–	–	–	–	–	4	1	–	–	–	–	–	–	2	2	–
9 Prost Acer	**4**	–	–	–	–	–	–	1	2	–	–	–	1	–	–	–	–	–
10 Orange Arrows Asiatech	**1**	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–

Driver	Total	AUS	MYS	BRA	SMR	ESP	AUT	MCO	CAN	EUR	FRA	GBR	GER	HUN	BEL	ITA	USA	JPN
1 Michael Schumacher	**123**	10	10	6	–	10	6	10	6	10	10	6	–	10	10	3	6	10
2 David Coulthard	**65**	6	4	10	6	2	10	2	–	4	3	–	–	4	6	–	4	4
3 Rubens Barrichello	**56**	4	6	–	4	–	4	6	–	2	4	4	6	6	2	6	–	2
4 Ralf Schumacher	**49**	–	2	–	10	–	–	–	10	3	6	–	10	3	–	4	–	1
5 Mika Häkkinen	**37**	–	1	–	3	–	–	–	4	1	–	10	–	2	3	–	10	3
6 Juan Pablo Montoya	**31**	–	–	–	–	6	–	–	–	6	–	3	–	–	–	10	–	6
7 Jacques Villeneuve	**12**	–	–	–	–	4	–	3	–	–	–	–	4	–	–	1	–	–
8 Nick Heidfeld	**12**	3	–	4	–	1	–	–	–	–	1	1	–	1	–	–	1	–
9 Jarno Trulli	**12**	–	–	2	2	3	–	–	–	–	2	–	–	–	–	–	3	–
10 Kimi Raikkönen	**9**	1	–	–	–	–	3	–	3	–	–	2	–	–	–	–	–	–
11 Giancarlo Fisichella	**8**	–	–	1	–	–	–	–	–	–	–	–	3	–	4	–	–	–
12 Eddie Irvine	**6**	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	2	–
13 Heinz-Harald Frentzen	**6**	2	3	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
14 Olivier Panis	**5**	–	–	3	–	–	2	–	–	–	–	–	–	–	–	–	–	–
15 Jean Alesi	**5**	–	–	–	–	–	–	1	2	–	–	–	1	–	1	–	–	–
16 Pedro de la Rosa	**3**	–	–	–	–	–	–	–	1	–	–	–	–	–	–	2	–	–
17 Jenson Button	**2**	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–
18 Jos Verstappen	**1**	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–

1.4.2 2001 results BMW WilliamsF1 Team.

	Pract1 Friday RSC	Pract1 Friday MOY	Pract2 Saturday RSC	Pract2 Saturday MOY	Qualifying RSC	Qualifying MOY	Race RSC	Race MOY
AUS	**6**	**15**	**6**	**12**	**5** 1:27.719	**11** 1:28.738	**collision** with Villeneuve, lap 5, pos 6	**retired** lap 41, pos 3, oil leak
MYS	**10**	**22**	**2**	**13**	**3** 1:35.511	**6** 1:36.218	**5**	**spun** lap 4, pos 6
BRA	**6**	**4**	**4**	**1**	**2** 1:14.090	**4** 1:14.165	**spun** lap 55, pos 14, lap record	**collision** with Verstappen, lap 39, pos 1
SMR	**3**	**22**	**7**	**12**	**3** 1:23.357	**7** 1:24.141	**1** lap record	**retired** lap 49, pos 5, clutch
ESP	**8**	**13**	**9**	**12**	**5** 1:19.016	**12** 1:19.660	**spun** lap 21, pos 4	**2**
AUT	**4**	**11**	**6**	**5**	**3** 1:09.769	**2** 1:09.686	**abandoned** lap 10, pos 2, brakes	**retired** lap 42, pos 5, hydraulics
MCO	**3**	**10**	**3**	**7**	**5** 1:18.029	**7** 1:18.751	**retired** lap 58, pos 3, electrics	**accident** lap 3, pos 5
CAN	**6**	**5**	**8**	**14**	**2** 1:16.297	**10** 1:17.123	**1** lap record	**accident** lap 20, pos 10
EUR	**3**	**6**	**1**	**2**	**2** 1:15.226	**3** 1:15.490	**4**	**2** lap record
FRA	**5**	**6**	**2**	**7**	**1** 1:12.989	**6** 1:13.625	**2**	**retired** lap 53, pos 2, engine failure
GBR	**8**	**17**	**10**	**11**	**10** 1:22.283	**8** 1:22.219	**retired** lap 37, pos 6 engine failure	**4**
GER	**2**	**10**	**1**	**2**	**2** 1:38.136	**1** 1:38.117	**1**	**retired** lap 25, pos 4, lap record
HUN	**4**	**13**	**7**	**8**	**4** 1:15.095	**8** 1:15.881	**4**	**8**
BEL	**7**	**16**	**2**	**1**	**2** 1:52.959	**1** 1:52.072	**7**	**retired** lap 2, pos 10, engine failure
ITA	**1**	**2**	**6**	**2**	**4** 1:22.841	**1** 1:22.216	**3** lap record	**1**
USA	**9**	**19**	**4**	**6**	**3** 1:11.986	**4** 1:12.252	**spun** lap 37, pos 8	**retired** lap 39, pos 5, lap record
JPN	**9**	**2**	**1**	**2**	**3** 1:33.297	**2** 1:33.184	**6** lap record	**2**

1.4.3 Chassis numbers – WilliamsF1 BMW FW23.

GP	**Ralf Schumacher** Start number 5	**Juan Pablo Montoya** Start number 6	**Spare** (race deployment)
Australia	FW23 03	FW23 02	FW23 01
Malaysia	FW23 03	FW23 02	FW23 01
Brazil	FW23 03	FW23 02	FW23 01
San Marino	FW23 03	FW23 02	FW23 01
Spain	FW23 05	FW23 02	FW23 01
Austria	FW23 05	FW23 02	FW23 01
Monaco Canada	FW23 05 FW23 05	FW23 02 FW23 06	FW23 01 and 03 FW23 02
Europe	FW23 05	FW23 06	FW23 02
France	FW23 05	FW23 06	FW23 02
Great Britain	FW23 05	FW23 06	FW23 02
Germany	FW23 05	FW23 06	FW23 02
Hungary	FW23 05	FW23 06	FW23 02
Belgium	FW23 07/FW23 B01	FW23 06	FW23 02
Italy	FW23 07/FW23 B01	FW23 08/FW23 B02	FW23 02
USA	FW23 07/FW23 B01	FW23 08/FW23 B02	FW23 02
Japan	FW23 07/FW23 B01	FW23 08/FW23 B02	FW23 02

1.5 2000 – review.

Firing out of the blocks in 2000.

The BMW and WilliamsF1 partnership kicked off sensationally On the 12th of March 2000, Ralf Schumacher came third in Australia at the very first Grand Prix to be contested by the Anglo-German partnership, making it the most successful Formula One debut of an engine manufacturer since 1967. The season was characterized by good reliability and tireless development work. Schumacher, and the young English driver, Jenson Button, made it into the points 14 times. Third place on the podium was occupied by Schumacher three times. By the end of their debut season, the BMW WilliamsF1 Team had collected 36 points to claim third place in the Constructors' World Championship. The gap to the reigning World Champions, Ferrari, was 134 points.

1.5.1 2000 championship points.

Team	Total	AUS	BRA	SMR	GBR	ESP	EUR	MCO	CAN	FRA	AUT	GER	HUN	BEL	ITA	USA	JPN	MYS
1 Scuderia Ferrari Marlboro	**170**	16	10	13	4	6	13	6	16	4	4	10	9	6	10	16	13	14
2 West McLaren Mercedes	**152**	–	–	10	16	16	10	11	3	16	6	10	14	13	6	2	10	9
3 BMW WilliamsF1 Team	**36**	4	3	–	5	3	–	–	–	2	2	3	2	6	4	–	2	–
4 Mild Seven Benetton Playlife	**20**	2	6	–	–	–	2	4	4	–	–	–	–	–	2	–	–	–
5 LuckyStrike BAR Honda	**20**	4	–	2	–	–	–	–	–	3	3	–	–	–	1	4	1	2
6 Benson & Hedges Jordan	**17**	–	7	–	1	1	–	–	1	1	–	–	1	1	–	4	–	–
7 Arrows	**7**	–	–	–	–	–	1	–	2	–	–	1	–	–	3	–	–	–
8 Red Bull Sauber Petronas	**6**	–	–	1	–	–	–	2	–	–	1	2	–	–	–	–	–	–
9 Jaguar Racing	**4**	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	1

Driver	Total	AUS	BRA	SMR	GBR	ESP	EUR	MCO	CAN	FRA	AUT	GER	HUN	BEL	ITA	USA	JPN	MYS
1 Michael Schumacher	**108**	10	10	10	4	2	10	–	10	–	–	–	6	6	10	10	10	10
2 Mika Häkkinen	**89**	–	–	6	6	10	6	1	3	6	10	6	10	10	6	–	6	3
3 David Coulthard	**73**	–	–	4	10	6	4	10	–	10	6	4	4	3	–	2	4	6
4 Rubens Barrichello	**62**	6	–	3	–	4	3	6	6	4	4	10	3	–	–	6	3	4
5 Ralf Schumacher	**24**	4	2	–	3	3	–	–	–	2	–	–	2	4	4	–	–	–
6 Giancarlo Fisichella	**18**	2	6	–	–	–	2	4	4	–	–	–	–	–	–	–	–	–
7 Jacques Villeneuve	**17**	3	–	2	–	–	–	–	–	3	3	–	–	–	–	3	1	2
8 Jenson Button	**12**	–	1	–	2	–	–	–	–	–	2	3	–	2	–	–	2	–
9 Heinz-Harald Frentzen	**11**	–	4	–	–	1	–	–	–	–	–	–	1	1	–	4	–	–
10 Jarno Trulli	**6**	–	3	–	1	–	–	–	1	1	–	–	–	–	–	–	–	–
11 Mika Salo	**6**	–	–	1	–	–	–	2	–	–	1	2	–	–	–	–	–	–
12 Jos Verstappen	**5**	–	–	–	–	–	–	–	2	–	–	–	–	–	3	–	–	–
13 Eddie Irvine	**4**	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	1
14 Ricardo Zonta	**3**	1	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	–
15 Alexander Wurz	**2**	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–
16 Pedro de la Rosa	**2**	–	–	–	–	–	1	–	–	–	–	1	–	–	–	–	–	–

1.5.2 2000 results BMW WilliamsF1 Team.

	Pract1 Friday RSC	Pract1 Friday MOY	Pract2 Saturday RSC	Pract2 Saturday MOY	Qualifying RSC	Qualifying MOY	Race RSC	Race MOY
AUS	**6**	**14**	**5**	**21**	**11** 1:32.220	**21** 1:33.828	**3**	**retired** lap 47, pos 6, engine failure
BRA	**14**	**20**	**9**	**18**	**11** 1:15.561	**9** 1:15.490	**5**	**6**
SMR	**9**	**20**	**12**	**18**	**5** 1:25.871	**18** 1:27.135	**Retired** lap 46, pos 5, fuel pressure	**retired** lap 6, pos 16, engine failure
GBR	**15**	**11**	**5**	**21**	**7** 1:26.786	**6** 1:26.733	**4**	**5**
ESP	**2**	**6**	**5**	**10**	**5** 1:21.605	**11** 1:22.385	**4**	**retired** lap 62, pos 6, engine failure
EUR	**6**	**1**	**8**	**13**	**5** 1:18.515	**11** 1:18.887	**Collision** with IRV lap 30, pos 9	**10** retired lap 65, pos 7, electrics/wet
MCO	**6**	**13**	**10**	**14**	**9** 1:20.742	**14** 1:21.605	**accident** lap 38, pos 4, (leg injury)	**retired** lap 18, pos 19, engine/oil leak
CAN	**21**	**16**	**6**	**11**	**12** 1:20.073	**18** 1:20.534	**14** collision with VIL, lap 65, pos 8	**11**
FRA	**9**	**17**	**4**	**9**	**5** 1:16.291	**10** 1:16.905	**5**	**8**
AUT	**22**	**20**	**15**	**13**	**19** 1:12.347	**18** 1:12.337	**abandoned** lap 53, pos 14, brakes	**5**
GER	**16**	**14**	**22**	**7**	**14** 1:48.841	**16** 1:49.215	**7**	**4**
HUN	**7**	**8**	**5**	**11**	**4** 1:18.321	**8** 1:18.699	**5**	**9**
BEL	**12**	**13**	**5**	**2**	**6** 1:51.743	**3** 1:51.444	**3**	**5**
ITA	**21**	**11**	**5**	**6**	**7** 1:24.516	**12** 1:24.907	**3**	**accident** prior to restart
USA	**6**	**8**	**9**	**4**	**10** 1:15.484	**6** 1:15.017	**retired** lap 55, pos 2, pneumatics leak	**retired** lap 12, pos 8, safety switch
JPN	**12**	**5**	**5**	**3**	**6** 1:36.788	**5** 1:36.628	**accident** while lapping, lap 23, pos 6	**5**
MYS	**6**	**12**	**11**	**8**	**8** 1:38.739	**16** 1:39.563	**abandoned** lap 44, pos 13, oil supply	**retired** lap 19, pos 10, engine failure

1.5.3 Chassis numbers – WilliamsF1 BMW FW22.

GP	**Ralf Schumacher** Start number 9	**Jenson Button** Start number 10	**Spare** (race deployment)
Australia	FW22 03	FW22 01	FW22 02 (RSC)
Brazil	FW22 03	FW22 01	FW22 02 (RSC)
San Marino	FW22 03	FW22 04	FW22 02 (RSC)
Great Britain	FW22 05	FW22 04	FW22 02
Spain	FW22 05	FW22 04	FW22 03
Europe	FW22 05	FW22 04	FW22 03
Monaco Canada	FW22 05 FW22 02	FW22 04 FW22 04	FW22 03 (BUT) FW22 03 (RSC)
France	FW22 02	FW22 04	FW22 03
Austria	FW22 02	FW22 04	FW22 03
Germany	FW22 02	FW22 04	FW22 03
Hungary	FW22 02	FW22 04	FW22 03
Belgium	FW22 02	FW22 04	FW22 03
Italy	FW22 02	FW22 04	FW22 03
USA	FW22 06	FW22 04	FW22 03
Japan	FW22 06	FW22 04	FW22 03
Malaysia	FW22 06	FW22 04	FW22 03

1.6 2000–2003 race laps BMW WilliamsF1 Team.

GP	2000	2000 GP/ laps	2001	2001 GP/laps	2002	2002 GP/laps	2003	2003 GP/laps
1	104	AUS/58	44	AUS/58	58	AUS/58	116	AUS/58
2	244	BRA/71	102	MAL/55	170	MAL/56	225	MAL/56
3	294	SMR/62	194	BRA/71	312	BRA/71	303	BRA/54
4	414	GBR/60	304	SMR/62	436	SMR/62	427	SMR/62
5	540	ESP/65	389	ESP/65	564	ESP/65	556	ESP/65
6	631	EUR/67	440	AUT/71	706	AUT/71	656	AUT/69
7	684	MCO/78	499	MCO/78	830	MCO/78	812	MCO/78
8	816	CAN/69	587	CAN/69	956	CAN/70	952	CAN/70
9	959	FRA/72	721	EUR/67	1043	EUR/60	1072	EUR/60
10	1081	AUT/71	845	FRA/72	1162	GBR/60	1212	FRA/70
11	1171	GER/45	941	GBR/60	1306	FRA/72	1332	GBR/60
12	1324	HUN/77	1010	GER/45	1440	GER/67	1400	GER/67
13	1412	BEL/44	1163	HUN/77	1593	HUN/77	1540	HUN/70
14	1475	ITA/53	1200	BEL/36	1681	BEL/44	1646	ITA/53
15	1547	USA/73	1306	ITA/53	1718	ITA/53	1739	USA/73
16	1641	JPN/53	1380	USA/73	1862	USA/73	**1800**	JPN/53
17	**1702**	MYS/56	**1486**	JPN/53	**1963**	JPN/53		
	79%		**70%**		**90%**		**88%**	
Max	**2148**		**2130**		**2180**		**2036**	

1.7 Frank Williams – biography and interview in brief.

BMW WilliamsF1 Team Principal & WilliamsF1 Managing Director.
WilliamsF1, Frank Williams' eponymous company, is one of the most successful teams in Formula One history and lists some of the sport's all-time greatest drivers in its 26 history. And Frank's secret of success?
An unwavering desire to win combined with an inexhaustible energy and commitment to the sport he loves.

Frank was born on the 16th of April 1942, in South Shields, Newcastle-upon-Tyne, England. Although a proud Geordie, Frank's youth was predominantly spent in Scotland where he attended boarding school near Dumfries, and it was at that time that he first became interested in motor racing, avidly following the fortunes of Mike Hawthorn and Peter Collins. This experience was crystallized in 1958 when he attended one of his very first races – the British Grand Prix at Silverstone.

From that seminal moment onwards, Frank attended as many race meetings as possible, hitch hiking across the country, distance no object. Indicative of this all-consuming passion, Frank never missed the Boxing Day race meetings held at Brands Hatch. However, the trip from his then-home in Nottingham to Kent was gruelling, made harder by the lack of traffic on Christmas night on the snow-bound A1. Frank sums up one particular experience: "Boxing Day Brands '59 was bitterly cold and wet, I was soaked and frozen to the core. I had to change all my clothes in the little hut beside what is now the Competitors' Entrance to the circuit. Several times I took refuge there just to keep warm, and I always started hitch-hiking from there." Few would have imagined that same man's green and white liveried cars could have crossed the finish line to win the British Grand Prix at the same circuit 21 years later.

It was a natural progression from spectating to racing which came a few years later after the purchase of a competition-prepared Austin A35, which had been previously owned by Graham Hill. Frank recalls crashing at Mallory Park, and being dragged out of the car by Jonathan Williams (no relation) who was instrumental in introducing Frank to many figures in the motor racing business.

However, following a series of unsuccessful attempts behind the wheel of various different racing cars, it became apparent that Frank's talents lay on the management side of the sport.

Having prepared a variety of cars for other people and been successful in running his own Formula 2 team, Frank realized his Formula One ambition in 1969. His close friend and b rewing heir, Piers Courage, who had joined Frank in 1968 and driven for him in Formula 2 events, finished eighth overall in the 1969 Formula One Drivers' Championship. However, bitter tragedy struck the following year when Courage was killed in the Dutch Grand Prix at Zandvoort in June 1970, driving a Frank Williams-prepared de Tomaso.

Despite this enormous personal loss, Frank's strength of character and determination enabled him to continue pursuing his passion and, in 1977, Williams Grand Prix Engineering was founded. The company was the platform for an enduring alliance between Frank and his newly recruited designer, Patrick Head, which has lasted until the current day.

The newly formed team inevitably suffered teething problems but, two years after its inception, Clay Regazzoni claimed Williams Grand Prix Engineering's maiden victory on home soil, at the 1979 British Grand Prix at Silverstone; ironically the first circuit Frank had witnessed a Grand Prix at 21 years previously. After countless years of being the underdog, Frank struggled to come to terms with his team's newly found status. "It was a completely new world to me. I had difficulty coping with the sudden enormity of it. For years I had become accustomed to just hanging in there hoping to just qualify, and now we were showing signs of becoming truly competitive."

Eight successful years followed with Frank's team securing two Constructors' and two Drivers' Championships. However, tragedy struck for Frank in 1986 when his car left the road on his way home from a test at Paul Ricard, France. In the crash, Frank sustained serious injuries that left him confined to a wheelchair for life.

Despite this, his focus has never waived and together with Patrick, Williams Grand Prix Engineering (renamed WilliamsF1 in 1998) has claimed nine FIA Formula One Constructors' Championships and seven Drivers' Champion - ships. Other honors include two prestigious Queen's Awards for Export Achievement (1981 and 1994) and in 1999 Frank was awarded a knighthood in the New Years Honors List to add to the CBE he received in 1986.
He is also a rare foreign recipient of France's Legion d'Honneur in recognition of his efforts in co-operation with Renault.

Today, Frank, father of three children, lives with his wife in Berkshire.
Despite his full-time and all-consuming commitment to motor racing, Frank has a well-developed taste in classical music and fine art. He is a polyglot, fluent in more than three languages, as well as being fascinated by politics, aviation, military history, English rural affairs and Newcastle United Football Club.

Questions for Frank Williams:

WilliamsF1 narrowly missed out on their 10th Constructors' Championship last year. Despite this, the team seemed to have made huge amounts of progress despite a disappointing start to the year. Do you therefore feel that your chances of securing both Championships next year are promising?
The FW25 didn't appear to be a Championship-winning car at the start of the season but the team worked exceptionally hard to develop it into a title challenger. Unfortunately we didn't claim a tenth title with it, but we made enough progress to close the gap to Ferrari. Development of the FW26 started in March of last year, so we will hopefully go into this season with a competitive car from the outset.

You extended your contract with engine supplier BMW for a further five years last season. That must provide you with considerable confidence?
BMW is a truly dedicated engine partner and this provides a considerable advantage. The contract we signed in June last year reinforces the existing agreement but also takes it to greater levels of integration. BMW brings a substantial pool of resource to the partnership, which combines well with our specialist technic al knowledge; I'm confident that the agreement will continue to yield significant dividends.

In recent months, there has been a sizeable amount of press highlighting the scarceness of sponsorship opportunities available in the present economic climate. WilliamsF1, however, secured a number of lucrative partnerships last year. Can you explain that?
In my opinion, there are always opportunities to exploit, you just have to look for them and, with Formula One increasing its presence in Asia, a whole new market of potential commercial opportunity is opening up. However, in any business these days, one has to adapt to changing economic contexts. The commercial team at WilliamsF1 therefore maintains a flexible approach to new business by ensuring we offer a competitive package for a potential partner's sponsorship spend.

The team has now secured an impressive number of accolades including nine Constructors' and seven Drivers' Championships, as well as 112 race wins and accumulated a total of 2336.5 points since its inception. What, therefore, are your aspirations for the forthcoming season when you've already achieved so much?

Six years have passed since we last won a Championship title and that hurts! However, I love the anticipation that comes with each new season.

Neither Patrick nor myself have ever been one of those people that live in the past. Each day brings new challenges and, for me, those challenges are whether our car crosses the finish line in front of everyone else's. So that is my ambition for the forthcoming season, to win every race, steal Ferrari's crown and add another Championship title to the record.

1.8 Patrick Head – biography and interview in brief.

Technical Director, WilliamsF1.
Patrick Head was born on the 5th June 1946 in Farnborough, Hampshire. Considering his background, a career in motor sport was perhaps the most natural choice for Patrick. His father successfully raced Jaguars and Cooper-Jaguars in the 1950's and Patrick attended Wellington College with James Hunt, the 1976 F1 World Champion and Peter Wright, the gifted aerodynamicist who designed the first ground effect car. Patrick, however, never actually met the two at school. "Hunt was a year behind me, and of course one never talked to anybody younger than oneself."

Despite exposure to motor sport at such a young age, Patrick did not immediately catch the motor sport bug and decided to follow in his father's career footsteps and pursue a career in the military. Upon finishing his studies at Wellington, Patrick attended the Royal Naval College at Dartmouth. Naval life did not captivate Patrick, however, and his initial inclination was soon supplanted by an interest in mechanical engineering. Having left Naval College, Patrick subsequently went on to study engineering to degree level at Birmingham, Bournemouth and finally University College, London.

For Patrick, university was not all about study. In his free time, he liked to indulge his passion for cars and, towards the end of his studies, he decided he wanted to go Clubman's racing. "I decided that Arthur Mallock didn't really know what he was doing, and that the U-2 should have an independent rear end on it. He was actually very, very kind, and instead of telling me what an idiot I was, and that I should get out there in a standard car before trying anything, he said that I could buy the front of a new U-2, Mark 8b, – by putting a line here on the drawing! He reckoned that it was about two thirds of the length, so I could pay him two thirds of the price of a new chassis – only about £120, incredibly cheap! He literally did it by length and said I could do what I liked on the back of it. So in my last year at university – goodness knows where I found the time – I built a U-2, with a Mark 8b front end and an incredibly, excessively complex, Head independent rear end, built around a Lotus Elite final drive. With a friend, who provided the engine and gearbox, we went off racing."

After college, Patrick gained employment with Lola Cars Ltd and found himself working under John Barnard producing parts for every kind of competition car available – from Formula Ford to Formula 5000 cars. Following his six-month stint at Lola, and another brief period on his own, Patrick worked for Ron Tauranac, developing the Trojan F2 design for F5000 racing. Patrick admits that it was these early stages in his career where he found the most variety. "When I started at Lola, on the first day I worked on a Can -Am car, albeit only designing a seat bracket, and four days later was working on a Formula Ford. Then I assisted Eric Broadley on this Indy car, with a great big Ford Turbo V-8 – all sorts of different types. Lots of variety."

It was in 1975, after his stint with Tauranac, that Patrick first met Frank. Frank was in desperate need of an engineer and Patrick had been recommended. Patrick recalls his interview in a suite at the Carlton Towers Hotel in London, hastily booked by Frank to give a positive impression. As we talked, he gave not the slightest impression of being at all interested in me as an engineer, although one thing he did ask, however, was whether or not I was really committed. "Are you prepared to work twelve hours a day, seven days a week?" he asked, to which I replied, "No I'm not, because anybody who has to do that is extremely badly organized." Frank took Patrick on, but his time at Frank Williams (Racing Cars) as chief engineer was to be short lived, as the company was almost immediately sold to Walter Wolf.

Patrick stayed on at Wolf Racing, becoming assistant engineer to Harvey Postlethwaite, absorbing as much as possible. In the meantime, Frank had managed to secure enough sponsorship to set up Williams Grand Prix Engineering; all he needed was an engineer. Although widely regarded by some as professional suicide, Patrick left Wolf Racing to partner Frank.

The first Patrick Head-designed Williams car, the FW06, appeared in 1978. A year later, his designs had claimed their first Grand Prix victory at Silverstone, and two years later, Williams claimed the FIA Formula One Drivers' and Constructors' titles for the first time. Twenty-six years later, Patrick's designs have secured nine Constructors' and seven Drivers' Championships.

Patrick's talents have led many to compare his technical ability to that of Colin Chapman's. His engineering vision, combined with his ability to comprehend the importance of longer-term planning, in particular in research and development, has kept Patrick at the forefront of mechanical engineering for the past two decades. Despite this, Patrick still sketches his designs using the traditional pencil, rubber and ruler!

Away from the rigors of Formula One, Patrick has two or three favorite pursuits. He is a regular on the terraces at Chelsea football ground, and is a self-confessed motorcycling nut. He annually finds time in his hectic schedule to don some leathers and tour to the French Grand Prix with a group of friends. His final passion, a hang over from his youth and naval days, is the open sea. Patrick has a share in a yacht and predicts his retirement will be spent clattering up and down the deck with a zimmer frame. Patrick is married with two children and lives in London.

Questions for Patrick Head:

The FIA made some dramatic rule changes at the start of the 2003 season. Do you think those changes have improved the sport?
The change to the point scoring system has made it more difficult for the strongest team or driver to pull ahead quickly. The changed programme has made Saturday evening and Sunday morning less busy as well.

The FW25 started the year disappointingly but then seemed to dramatically improve. Can you identify the reasons for that?
There was steady aerodynamic improvement from Melbourne onwards, but we also improved the dynamics and exploitation of the car. Results started coming from Monaco onwards.

How significant was Juan Pablo's win at Monaco, on a professional and personal level?
Very important, the twenty-year gap since our previous win was something of an embarrassment, although we had led therace many times before.

The new wind tunnel, WilliamsF1's second, is due for completion in a couple of months. How much of a difference will having two tunnels make to the team's 2004 Championship challenge?
It will enable us to cover more ground faster and to be stronger in the long overlap period of developing the existing car while in the early and mid stages of design release for the new car.

The team came within 14 points of claiming their 10th Constructors' title last season. Despite not winning, WilliamsF1 is still the most successful team in the pitlane. What motivates you to stay in Formula One when you've already achieved so much?
I worked out a long time ago that if you are involved in Formula One at all it must be at 100% plus. Without that, you disappoint yourself and others relying upon you.

1.9 Dr Mario Theissen – biography and interview in brief.

BMW Motorsport Director.
Dr Mario Theissen has been BMW Motorsport Director since April 1999. "A Dream Job", is his verdict. He is a full-blooded engineer, a manager, and is an ardent exponent of sport. He has been working in development at BMW since 1977 and now considers Munich to be his home. He managed the destiny of BMW Motorsport for four and a half years together with Gerhard Berger. Since the Austrian decided to quit his full-time job on 1 October 2003, Theissen has been carrying out the job of BMW Motorsport Director alone.

He was born on 17 August 1952 in Monschau in the Eifel region. He remembers that "from there, you could easily get to both the Nürburgring and Spa race tracks". He has been interested in engine construction since he studied mechanical engineering (1971 to 1977), and even then was fascinated by motorsports both in his professional and private life.

In June 1977, immediately after obtaining his degree as an engineer at the Rheinisch-Westfälische Technische Hochschule in Aachen in 1977, he started his first job at BMW in the area of engine calculations. He held various posts at BMW engine development in the years to come.

In 1989 he obtained his doctorate in engineering at Ruhr-Universität in Bochum. In 1991, he was appointed head of product concepts at BMW AG, one year later he was appointed head of preliminary drive train development. From 1994, he was Managing Director of BMW Technik GmbH, and additionally headed the BMW Technology Office in Palo Alto, California from 1998.

His leisure time has become scarcer since he took over management of BMW Motorsport in 1999. "It no longer gives scope for the marathon training I used to do." However, he insists on jogging or training in the BMW Backup Center set up at his initiative for BMW Motorsport staff. He uses bigger windows of time to go cycling or skiing.

Mario Theissen and his wife Ulrike live in Munich together with their three children Pascal (21 years), Isabel (19) and Janina (16).

Questions for Dr Mario Theissen:

What does the regulation about increased engine running times for 2004 mean for BMW?
The benchmark of having to use only one engine for the entire Grand Prix weekend is actually a massive technical challenge. It doubles the running time to nearly 800 kilometers and means every component has to be designed to be more robust. This may require new conceptual solutions, and at the very least means changing the dimensions of existing components. There will be a trend for all components to get rather bigger and heavier. These requirements were already defined in 2002 and all the engine manufacturers have had sufficient time to ensure that the prescribed requirements are met. We have again brought forward our usual schedule. Test rig trials were already running for the BMW P84 in July 2003, and the engine constructed to the 2004 specification was tested in the vehicle for the first time on 4 September 2003.

The final version of the BMW P83 engine achieved 19,200 rpm at the final Grand Prix in Japan. How high will the revs be on the P84?
If the moving parts become bigger and heavier, the engine speed attainable falls and with it falls the power. Our development goal is to keep these effects to a minimum. However, I am anticipating a slight reduction in revs.

Will the single engine rule reduce costs in Formula One?
Yes, it is a correct step in this direction, although it isn't the case for development costs, and the costs of manufacturing an engine certainly won't get any cheaper. However, as far as the bottom line is concerned, the lower number of engines for a race and test season should bring down the costs.

What would be your ideal race calendar for Formula One?
As an automobile manufacturer, we welcome the development of Formula One from a one-sided concentration on Europe to a genuine World Championship. It is an extremely attractive proposition as far as we are concerned to be able to use Formula One to demonstrate our technical expertise to emerging nations like China. The first venue in the Middle East also enriches the tournament from our perspective. The North American market is particularly significant for us.

How will development for volume production at BMW benefit from the F1 project?

It will continue to benefit increasingly. Permanent exchange between motorsport and volume production is guaranteed by three links. The main driving force here is the BMW Research and Innovation Center. The Formula One Team is able to draw on its immense resources – mainly for expertise in materials research and electronics. As far as the BMW Research and Innovation Center is concerned, the F1 project with its extreme challenges presents an outstanding technology laboratory and a real accelerator of technology. Secondly, we have networked our F1 foundry with the foundry used for volume production, and thirdly, we have done the same with component production. Exchange of information is enhanced by spatial proximity and by overarching responsibilities. The F1 foundry and F1 component manufacture are operated by experts who also cast and machine components for volume production. In the final analysis, we generate innovations for the coming generation of BMW production engines within short timeframes. Our expanded co-operation with WilliamsF1 means that this also happens for volume gearboxes.

1.10 Who's who.

WilliamsF1:

Frank Williams, Managing Director and Team Principal

Patrick Head, Technical Director

Sam Michael, Chief Operations Engineer

Gavin Fisher, Chief Designer

Antonia Terzi, Chief Aerodynamisist

Dickie Stanford, Race Team Manager

Carl Gaden, Chief Mechanic

Tony Ross, Race Engineer, Juan Pablo Montoya

Gordon Day, Race Engineer, Ralf Schumacher

BMW:

Dr Mario Theissen, BMW Motorsport Director

Heinz Paschen, Director of BMW Formula One Development

Franz Tost, Track Operations Manager

2. The technology.

2.1 The chassis.

The FW26.

2003 was, by any metric, the most competitive season of the WilliamsF1/BMW partnership since the formation of the alliance in 2000. The team won four races, completed more racing laps than any other competitor, and finished a close second to Ferrari in the FIA Formula One Constructors' Championship.

A wide variety of elements underpinned this success, not least the sage stewardship of team bosses Frank Williams, Patrick Head and Mario Theissen, and the race winning performances of Juan Pablo Montoya and Ralf Schumacher.

But at the very heart of the team's 2003 success that pushed the previously dominant Scuderia Ferrari to the wire was the WilliamsF1 BMW FW25. The car, simply put, was the fundamental building block of this performance.

While the FW25 was stock piling silverware on the racetrack (albeit not quite enough to elevate the BMW WilliamsF1 Team to the status of champions), its architects were busying themselves with its replacement, the FW26. "The FW26 is not an iteration of its predecessor, which might surprise some people given the former car's relative success", says Chief Designer, Gavin Fisher.

But explaining the design approach to the new car, Fisher continues, "You cannot stand still or relax your development pace for a single minute in Formula One. The sport's history is populated with teams who thought they had made it to the top, only to find the game had moved on around them", he explains.

When pressed to define the FW26, Fisher confesses a dislike for the use of the term 'radical', "It is devalued because it is over-used", he reflects, "And to a large extent the possibility is excluded by the restrictive technical regulations that govern Formula One. That said, it will be immediately evident to onlookers

that a high degree of innovative design has gone into the FW26". Not so much an iteration, but a step change, and as such, the second carried out by the WilliamsF1 design team in as many seasons.

When pushed on the principle of this approach, Fisher admits that it is not a strategy without risk. "For sure the FW26 could have been a straightforward evolution of the FW25, and it would undoubtedly have been a quick car. But a car that would be quick enough to win the title? That would have been too dependent on the relative performance of other teams. We wanted to ensure that we had pushed our development as far as it could go." He continues, "Such a progressive approach has produced a stimulating atmosphere in which everyone involved in the project is challenged and invigorated, and simply put, it's an environment where people perform better".

In the hothouse design environment, the demands on individuals have been high, caused not only by the magnitude of the changes relative to FW25, but also from the intended earlier launch date. "We were conscious that the inability to extract the full potential of the FW25 until well into the season was a significant contribution to our failure to win either Championship. The earlier launch date for FW26 is a clear statement of our intent to be in a position to win from the first race onwards. This has obviously put us under considerable pressure during the design phases, but we are confident that the efforts made, combined with an intensive pre -season development programme, will see us realize our goals."

The challenges of a fundamentally ground-up design process are multiplex. Routine design improvement processes involve isolating sub-optimal performing elements of a race car, and iterating – or improving – the design from the original position. But the 26 borrows little from its predecessor, and as a consequence, every element, no matter how ancillary, must be designed from scratch.

Each individual element demands its own design time. Thereafter, original designs must be validated, in terms of their fabrication or manufacturing specification, their regulation compliance, their operational performance, and finally, in terms of packaging or integration into the wider assemblies that make up the car.

The final part of the FW26 jigsaw is its absorption of the revised 2004 technical regulations. “Every year there is some form of rule revision, but in truth next year represents a fair degree of stability. The chassis rule changes primarily relate to the geometries of the engine cover, rear wing elements and end plates, which have been driven by commercial factors. Whether or not these have contributed favorably to the aesthetics of the cars is down for the individual to judge”, says Fisher.

In many ways, the FW26 is not dissimilar to a tube of toothpaste squeezed at both ends. A wholesale change in the design basis for the car has created much more work for the design team, but in turn the changes require more validation, and hence the car has been scheduled to appear on the test track earlier in the cycle.

The WilliamsF1 BMW FW26 amounts to a bold initiative by the team. And in the same way that the FW25 underpinned the most successful season the Anglo-German partnership has enjoyed, so to the FW26 will prove to be the foundation of the team’s fortunes in 2004. Gavin Fisher, its principle architectconfirms the team’s philosophy, “There is a great deal of anticipation on our part about this new car. It is has challenged us throughout its development, and there is certainly a sense that the day that it runs for the first time will be more significant than launch days in previous years. All of the team members will be proud that they have made enormous efforts to push the performance of this car as far forward as possible, and that in doing so will have written the opening chapter in what will become a successful season”.

2.1.1 Technical specification FW26.

Transmission:	WilliamsF1 semi-automatic
Clutch:	AP
Chassis:	Carbon Aramid epoxy composite, manufactured by WilliamsF1
Suspension:	WilliamsF1
Steering:	WilliamsF1
Cooling System:	Water and oil radiators
Brakes:	Carbon Industrie carbon discs and pads operated by AP calipers
Lubricants:	Castrol
Fuel:	Petrobras
Wheels:	O.Z: 13 x 12 front, 13 x 13.7 rear
Tires:	Michelin
Cockpit Instrumentation:	WilliamsF1 digital data display
Steering Wheel:	WilliamsF1
Driver's Seat:	Anatomically formed in carbon/epoxy composite material with Alcantara covering
Extinguisher Systems:	WilliamsF1/Safety Devices
Front Track:	Maximum allowance
Rear track:	Maximum allowance
Weight:	1334 lbs. including driver and camera

2.2 The engine.

BMW P84 – power and endurance required.
Times are changing. While the "short burner" delivers extra power and used to provide a sensation for a single qualifying lap in Formula One, there is now a need for long-life power units. The Formula One Sporting Code introduced by the FIA for the coming 2004 season stipulates the use of a single engine for each vehicle over the entire Grand Prix weekend. This increases the required duration of an engine to 800km. It doubles the distance covered by engines competing in the 2003 season, where the same engine was already being used for qualifying and racing. This represents a considerable challenge for BMW engineers.

Mario Theissen encapsulates the new requirement in a simple equation: "If an engine has to have a longer service life, every component must in principle be designed to be tougher. This means that the engine will get bigger and heavier, and that is at the expense of revolutions and hence power. Minimising these losses while guaranteeing endurance are the goals we have to work towards."

Early start to development and early testing.
The BMW P84 was developed by the team of engineers led by Heinz Paschen, Head of BMW F1 Development, in close co-operation with the specialists from the BMW Research and Innovation Center (FIZ). It has been tailor made for the regulation requirements of the 2004 season.

Work on the new BMW engine began in Munich even earlier than in previous years. The team of engineers already started working on a specification for the engine powering the 2004 season in November of 2002. In May 2003, the first version of the P84 was up and running on the test rig in Munich. Over the coming weeks, a number of other versions of the BMW P84 came on stream. Paschen says, "The key factor here was to prove 'fit' for the increased running distance". The version of the engine finally intended for the FW26 was put on the test rig for the first time in July 2003 before being tested in an interim car at Monza on 4 September. From October, work focused on final link-up with the chassis, and circuit testing continued in November.

Specification and priorities for 2004.
The design of the BMW P84 engine is based on its predecessor, but every single component was affected by the new specifications. The engine's design priorities for the 2004 season are: the same dependability must be guaranteed for significantly longer running times while sacrificing as little performance as possible. Material specialists at the BMW Research and Innovation Center also helped to ensure that the effect on dimensions and weight was kept to a minimum, by developing the new heat-treatment procedures that enhanced endurance properties.

Paschen adds that "We were already so geared up in quality control with the processes that had been running in 2003 that the non-conformance quota in testing and racing was reduced drastically." The final endurance tests on the dynamic test rig is once again carried out using the Monza circuit profile because at 73%, this track has the highest full-throttle section. However, qualification for use was increased over 800 kilometers.

Revolutions yesterday and tomorrow.
The BMW P82 was the engine used by the BMW WilliamsF1 Team in the 2002 season. The last version of this engine achieved revs of 19,050 per minute. For the following season, new regulations were introduced for 2003 including no engine changes permitted between qualifying and racing. The duration requirement of an engine, including the race distance, was increased therefore to around 400 kilometers by the flying lap on Saturday. "On paper, that's not too big an increase", explains Theissen, "But it involves a more complex load profile for the engines. It's rather like sending a marathon runner in to run a sprint just before the race starts." Despite these new endurance specifications, BMW succeeded in achieving further increases in engine speed and performance. During the final race of the season in Japan, the BMW P83 clocked up an impressive 19,200 rpm and delivered well above 900 bhp. And it was also a model of reliability.
The only engine damage during the 2003 season was sustained in the Austrian Grand Prix. This was due to a water leak in the cooling circuit. Theissen recalls that, "Without cooling water, even the best engine in the world isn't going to get very far".

Theissen is expecting an overall reduction in engine speed and says, "At the start of 2003, I would have guessed at a reduction of 10 percent for 2004. We're now reckoning on less".

From 2004, BMW engineering is no longer restricted to the engine. The expanded co-operation between BMW and WilliamsF1 will see the experts in Munich extending their support for their partners in Grove in some areas of gearbox, electrical and electronic systems, and aerodynamics. This will take the mutual spin-offs derived from Formula One and volume production in the BMW Research and Innovation Center beyond the engine. The gearbox casing and other components will be manufactured at BMW. The BMW Research and Innovation Center will be working on aerodynamic development in the area of simulation and calculation.

Synergies between F1 and volume-production development.
"The Formula One project is a massive technology laboratory for BMW", comments Theissen. "The main reason for our company re-entering Formula One was to benefit from synergy effects that arise between development for Formula One and volume production", he confirms.

One thing was clear right from the start. The BMW engines for the world's most advanced racing were going to be developed and manufactured in Munich – in the cradle of the parent company. The BMW Technology and Innovation Center would play a key role in this process. The Formula One manufacturing facility was set up less than one kilometer away from this think-tank, and the two are fully integrated. "The BMW Research and Innovation Center represents the future of BMW", explains Theissen. "That's where the most highly skilled engineers are working in high-tech research and development facilities. The BMW Research and Innovation Center has massive resources and we benefit from these resources directly. Correspondingly, the extreme technical requirements of Formula One involvement and the fast development speed constitute a unique test bed for our engineers."

BMW has turned the vision of a seamless process chain into reality at a dedicated facility – from conception, through design, casting, manufacture of components, setup and test phase through to dedicated electronic engine management. This system eliminates transport paths, and all the know-how developed can flow into volume production.

Casting technology and manufacture.
The casting quality of the engine block, cylinder head and gearbox largely determines the performance and endurance of the power unit. Leading -edge casting technologies with maximally precise process management yield lightweight components with very high stiffness. In order to safeguard these qualities, BMW has a foundry in Landshut to cast components for vehicles manufactured in volume production. A dedicated Formula One casting facility was added in 2001. Theissen adds that, “The two departments work under joint management. This guarantees ongoing exchange of information”.

Oil sumps for the M3, M5 and Z8 models and the intake manifold for the eight-cylinder diesel engine are using the same sand casting procedure used for the Formula One V10.

A Formula One parts manufacturing facility was set up alongside the facility for volume components almost at the same time as the Formula One foundry. The Formula One team manufactures camshafts and crankshafts for the BMW P84 in the same location.

WilliamsF1 is meanwhile also benefiting from the work of the two departments. The aluminium gearbox casing for the FW26 is being manufactured in a sand casting process in Landshut and other gearbox components come from BMW Formula One production. Gearwheels are produced in Dingolfing in parallel with volume production.

Electronics in Grand Prix racing and on the road.
Engine management is subject to immense demands by an engine which races at 19,000 rpm while still having to be driveable at low revs. Ignition timing and fuel supply must be perfectly tuned to the order of milliseconds in order to achieve optimum efficiency – maximum power for minimum fuel consumption. Low consumption means improved lap times and more flexibility for racing strategy. Aside from engine management, onboard electronics are also responsible for monitoring all functions.

The expertise of the electronics specialists at the BMW Research and Innovation Center gave BMW the confidence to develop its own Formula One engine management systems instead of having to resort to racing specialists. Engineers who normally design the onboard electronic systems for the BMW M3 and M5 models have also developed the engine management system for Formula One engines. The expertise they gain in this field flows back into volume production. Top BMW models like the 7 Series and the M Series cars already have two microprocessors that BMW first deployed and tested in Formula One. Memory technology previously used successfully in Formula One has also been deployed for Internet access and the navigation system in the BMW 7 Series. Theissen adds that, “When it comes to monitoring functions, we are also gaining knowledge that can be used for road vehicles. Timely warnings and automated electronic intervention are also relevant to safety there, and they protect vehicles against damage”.

Other automated technology o riginated in Formula One is also being used in the BMW M3. The “Sequential M Gearbox – SMG with DRIVELOGIC” and the “acceleration assistant” owes its origins to Formula One. The SMG drive concept offers F1 gearbox technology for everyday operation. Drivers can change gear electronically using a paddle behind the steering wheel. Just like in Formula One, an electrical hydraulic system replaces the mechanical clutch and gearshift procedure, and the drivers operating the SMG system can also change gear while their foot remains on the accelerator. The “acceleration assistant” is an automatic system which allows drivers to move off from rest with programmed, regulated slip. This is comparable with the launch control familiar from Formula One.

Material development and model construction.
As lightweight as possible and as robust as necessary – the credo of engine design reaches its highest interpretation in the Formula One. Anyone who sets too much store by safety will have too much ballast on board. Material research at the BMW Research and Development Center delivers important initiatives for BMW Formula One engine development. For example, lightweight alloys are continually being developed and tested. Aerospace is frequently the starting point for these developments. A number of very promising discoveries have already been used in the BMW Formula One engine. They have not yet been considered for production vehicles because of the need for high volumes. Theissen explains that, "They are undergoing further testing there and the opportunity of using these new materials allows helps engineers to develop them for road car production".

Short reaction times are the key to success in the unrelenting rhythm of a Formula One season. This is true for continuous develop ment of the engines and for overcoming problems. New solutions demand new designs and new tools – a very time-consuming manufacturing process with no guarantee of success. In order to shorten this lead time, the BMW F1 team can approach the Department of Rapid Prototyping/Tooling Technology at the BMW Research and Innovation Center and it is able to intervene and shorten this period. As soon as the necessary parts have been drawn on the CAD CAM systems, computer-controlled machines produce scale models made of resin, plastic powder, starch or wax using laser beams or three-dimensional pressure engineering. This means that it is quickly possible to simulate installation situations and interactions, allowing modifications to be implemented before the final manufacturing process begins.

2.2.1 Technical specifications BMW P84.

Type:	Normally aspirated V10
Cylinder angle:	90 degrees
Displacement:	2,998 cc
Cylinders:	Four valves per cylinder
Valve drive:	Pneumatic
Engine block:	Aluminium
Cylinder head:	Aluminium
Crankshaft:	Steel
Oil system:	Dry sump lubrication
Engine management:	BMW

3. The drivers.

3.1 Juan Pablo Montoya.

So near, so far in 2003.
In 2003, Juan was the almost man, so agonisingly close to being the man that ended Michael Schumacher's dominion. But despite his proximity with history, Montoya remains a phlegmatic character. At the conclusion of his best season in Formula One, he reflected in Suzuka, "You can always say if this had not happened or that had not happened but in the end the result is all that matters". His response belies a growing maturity – no less hunger for the killer win, but a more measured and considered approach. And the pundits agree that this is the last element in a complete repository of skills that will see the last season's "almost man" step up to the champion's pantheon.

As Montoya distils his craft, he has been sure not to lose the elemental quality that makes him such a compelling driver to watch – his fiery passion. His Latin origins are the source of a smoldering fire in his make up that occasionally eludes restraint and ruptures to the surface. This virtue – so starkly different to the calmness that is Michael Schumacher's hallmark – is the appeal for a legion of fans that invest in a character who so abundantly lives, breathes, fights, loves, laughs, shouts and weeps both on the track and off it.

This explicit humanity, the antithesis of the over-honed, professional and corporatized athlete, brings with it a crackle of expectation in every encounte r, and has made the man the most discussed racing driver of the recent era.

Montoya's zenith in 2003, after a difficult start to the year, was his superlative Monaco win. The blue ribbon victory was something that had eluded the might of WilliamsF1 for two decades, and it required the might and self-belief that Montoya mustered to make it happen. It will remain one of the team's most memorable victories for seasoned campaigners such as Patrick Head, as well as more recent team members such as Chief Designe r, Gavin Fisher. "Monaco was the most satisfying result in my professional career, more so on account of the absence of success there for such a long time", he reflected.

Despite discussions of rifts and splits and antagonism during the season, the reality is that Montoya's racing career has been intimately and profitably intertwined with WilliamsF1 and, in particular, Team Principal, Frank Williams since 1997.

Born on the 20th of September 1975 in Bogota, a young Juan Pablo had collected numerous karting wins and titles by 1992. His karting apprenticeship, commenced at the tender age of five, had been served under the instruction of his attentive father, and Uncle Diego, himself a gentleman racer of no mean ability who, in his time, recorded a top ten finish at Le Mans.

With the indications of potential, and a lust for, matched by an ability to tame, speed, it was natural that the young Montoya would have to step beyond his national frontiers to progress his career.

The Colombian followed in the footsteps of both heroes and hopefuls from the Americas as he raced in various Formula and Touring Car classes in South America before shifting his focus to a career in Europe. In 1995, he entered his first Formula race in Europe and finished the season in third place in the British Formula Vauxhall Championship. In 1996, he stepped up a level and drew attention to himself by claiming two wins in British Formula 3, as well as claiming fourth place in the unofficial Formula 3 European Championship in Zandvoort (NLD). This was to be his calling card for International Formula 3000.

When he shot straight into the runner's up position in the 1997 Formula 3000 Championship, Frank Williams invited him, along with three other drivers, for a Formula One evaluation. Montoya left the team in no doubt about his ability. WilliamsF1, in collaboration with Super Nova Racing, ensured that he had an entry in the 1998 Formula 3000 Championship. By the end of 1998 he had pocketed the F3000 title along with a record number of race wins and points recorded in a season. WilliamsF1 lost no time in strapping him into a Formula One cockpit, initially as a test driver.

In 1999, it was conceivable that Montoya's Formula One debut was imminent, but in a shrewd move that has underpinned his career ever since, the Colombian joined the Target Chip Ganassi Team to contest the CART Championship. And, as they say, the rest is history. The rookie took the series by storm, claiming the title, and seven wins and seven poles to boot. In his char ge as the youngest man to claim the title, Montoya brushed aside the collective efforts of Paul Tracy, Dario Franchitti, Jimmy Vasser, Michael Andretti & Al Unser Jr, setting a rookie record 954 leading laps over the course 20 races.

Although 2000 was not to be so prolific, Montoya entered and won the Indy 500 at his first attempt. In two years, he had captured the crown jewels of US motor racing, the 1999 CART title and the 2000 Indy 500 win.

After two seasons State-side, Frank Williams resolved the dilemma of his 2000 season Formula One line up by replacing Jenson Button with Montoya in the BMW WilliamsF1 Team.

Naturally, with a mixed history of CART pilot conversion to the different demands of Formula One, encompassing the experiences of Michael Andretti, Jacques Villeneuve and Alex Zanardi, there was bated breath as Montoya took up the reigns of the FW23. But the BMW WilliamsF1 Team didn't have to wait too long, and in the third race of his debut season in Interlagos, Montoya put a sensational and provocative move on Michael Schumacher. Following podiums in Barcelona and at the Nürburgring, he was en route to victory in Hockenheim, but ultimately had to bide his time until Monza later in the season to claim his first F1 victory.

In 2002, Montoya made the front row of the grid his as he claimed seven poles, five of them consecutively, and although arch-rival Michael Schumacher matched Montoya on visits to the front row, the sense was clearly that Montoya was the dominant force in qualifying. At Monza, he took on the record books, and smashed a 17 year old legacy of Keke Rosberg and the Williams FW10, when the Finn lapped Silverstone at an average speed in excess of 160mph. On the high-speed Italian track, Montoya bettered the fastest Formula One lap in history by recording an average speed of 161.484 mph.

By 2003, the Colombian was widely expected to take his fight to the very front of the grid. And so it proved. Although the season started slowly for the BMW WilliamsF1 Team, Montoya kick-started a mid-season rejuvenation with his win in the Monaco Principality. He assisted the team in both of its one-two results at the Nurburgring and Magny-Cours, was dominant in Hockenheim, and well set for the showdown as the season neared its conclusion.

Although fortune ultimately favored Michael in 2003, there is little doubt that Montoya represents a new guard in the sport. How this plays out will prove fascinating, as the Colombian heads a number of rising stars that include Kimi Räikkonen and Fernando Alonso among others, and their respective engagement on the track in 2004 and beyond will shape the future direction of Formula One.

Juan carefully chooses the people that get close to him. This approach may come across as being somewhat withdrawn in a peac eful drivers' paddock such as Magny-Cours, in France. Bogotá, on the other hand, reveals a level of popularity with which few other sportsmen have to contend. Thousands line the streets when he is expected to appear. Of 40 million Columbians, it is estimated that 27 million watched him win the German Grand Prix on television. It's the driver they are interested in, not Formula One itself. If he had retired, the same number of viewers would have switched off. His compatriots idolize him. He knows that "When I drive, everything at home comes to a standstill. It's as though the country is paralysed". And they party in the streets when their hero wins. Visiting Colombia, the image of their national hero is practically everywhere. He's the most coveted advertising medium of all, whether advertising soft drinks, computers or engine oil.

Despite his love for his native county, he can't live in the beautiful corner of South America. On the rare occasions he visits, bodyguards surround him. The risk of kidnap by guerrillas is too great. He moved his family out of the country for the same reason.

The family now all live in Miami, His father, Pablo, accompanies him to most of the Grand Prix, as does his beautiful wife, Connie, whom he married in late October 2002 in a church ceremony in Cartagena, Columbia. His mother, Libia, who doesn't speak any English and is not exactly what you'd call a

classic motor racing fan, is also familiar. His siblings, too – a brother and two sisters – feel at home in the drivers' pad dock. Most of them usually bring friends with them. In short, the Columbian rarely goes anywhere unaccompanied. Juan Pablo doesn't in any way consider this an additional burden during a hectic weekend, instead, having his family around him gives him security and makes him feel at home.

Connie and Juan are happy in Miami; they like the pulsing Latino life of the city by the ocean. Apart from a dream apartment with views of South Beach, they also occupy a hangar-sized garage there. It's toy heaven. It contains everything you need for leisure -time fun in Miami, whether model air-planes, jet skis, a motor boat, boards for sand- or windsurfing, bicycles, or go -karts. And, of course, a huge fleet of cars. There's a total of 27 cars and motorbikes, with Connie's favorite being the BMW X5.

Meantime, whether sliding into an armchair opposite David Letterman in his role as most favored returning guest, carrying out humanitarian work under the blue beret of the UN, supporting the charity established by his wife, the Formula Smiles Foundation, or racing with a barely suppressed exuberance, Juan Pablo Montoya will always be a man alive.

3.1.1 Interview in brief.

Questions for Juan Pablo Montoya:

Will the news about your future for 2005 and beyond affect next season?
No, categorically not. Both the BMW WilliamsF1 Team and I share one mutual interest in 2004, and that is to win races. I have explained to the team that they have my 100% commitment for the season ahead, and naturally nothing would be better than winning a title. In response, the team has confirmed that they will give me their full support.

Why are you leaving the BMW WilliamsF1 Team after the 2004 season?
There are many reasons, and it was a very difficult decision. Only time will tell if I made the right choice, as both teams are at the very top of Formula One and are expert and very professional. The decision was not all about money as some newspapers have said, and it certainly wasn't because I don't think the BMW WilliamsF1 Team can win titles, as I expect and hope we will be doing exactly that this year. Sometimes it's as simple as the new challenge, and by the end of this season, I will have been with the team for four years, which is probably longer than the average time a driver stays with one team.

What did winning at Monaco last season mean to you?
It really meant a huge amount. I think it was a more difficult win than my Indy 500 victory, but equally important in terms of its prestige, so I guess it is therefore my ultimate career win. It was also great to see the emotion in people like Patrick (Head) who have been coming to Monaco for a quarter of a century, and somehow on all but a couple of occasions in the early eighties, winning has been elusive for him there. So it is great to be able to break that run for the team. I also think Monaco signalled a turnaround for the team during the season and from this point on, we got stronger and stronger.

So what about ’04?

Well, if we’re all honest, after a great mid-season run, we didn’t finish 2003 so well. Winter hopefully gives us the time to reflect on all the shortcomings, and I know our main intention is to come out fighting from Australia, no excuses. In seasons gone by, we have always looked to see where the opposition is after the winter. I hope this year that the other teams at least will have as much concern about our performance as we traditionally do about theirs.

3.1.2 Biography.

Juan Pablo Montoya.

Date and place of birth:	September 20, 1975/Bogota, (COL)
Nationality:	Colombian
Place of residence:	Monaco (MCO) and Oxford (GBR)
Website:	www.jpmontoya.com
Marital status:	Married to Connie, née Freydell
Family:	Father Pablo, mother Libia, brother Federico, sisters Liliana and Catalina
Height:	5'6"
Weight:	159 lbs.
Hobbies:	Computer games
Favorite dish:	Pasta
Favorite drink:	Orange juice
First drove a car:	At the age of 14
First race:	At the age of five in a go-kart
First win:	At the age of five in a go-kart

Career highlights.

1981	Began kart racing.
1984	National Kart Champion in the children's division.
1985	Second in the Children's Kart Championship.
1986	Kart Champion in the local and national junior division.
1987–1989	Several local and national titles in the Kart Komet category.
1990	Kart Junior World Championship, Lonato, Italy.
1991	Kart Junior World Championship, Laval, France.

1992	Took part in the Skip Barber Course (USA); Copa Formula Renault in Colombia, four wins in eight races, five pole positions.
1993	Nationale Tournament Swift GTI Championship, seven wins in eight races, seven poles.
1994	Karting – Sudam 125, class win; third in the Barber Saab Championship, USA; pole position and circuit record prototype class Mexico; Formula N class Mexico, three wins in five races, four pole positions.
1995	Third in the British Formula Vauxhall Championship; class win in the Bogotá 6 Hours.
1996	Fourth in the Marlboro Masters in Zandvoort (NLD); British Formula 3 Championship, two wins; first in the Bogotá 6 Hours; took part in the ITC Race at Silverstone (GBR), Mercedes.
1997	Second in the FIA International Formula 3000 Championship (Marko Team); first Formula One test (WiliamsF1).
1998	First in the FIA International Formula 3000 Championship (Team Super Nova) with record points total (65 points); moved to North America to join Target Chip Ganassi Racing; WilliamsF1 test driver.
1999	First in the CART FedEx Championship Series, seven wins, seven pole positions, youngest champion in the history of the series.

2000	Ninth in the CART FedEx Championship Series, three wins, seven pole positions; winner of the Indianapolis 500 on his first attempt.
2001	Sixth in the FIA Formula One World Championship, BMW WilliamsF1 Team, win at Monza (ITA); pole position at Hockenheim (GER), Spa (B) and Monza (ITA); lap record on the Nürburgring (EUR), at Hockenheim (GER) and at Indianapolis (USA).
2002	Third in the FIA Formula One World Championship, BMW WilliamsF1 Team; pole position in Sao Paulo (BRA), Monte Carlo (MCO), Montreal (CAN), Nürburgring (EUR), Silverstone (GBR), Magny-Cours (FRA) and Monza (ITA); lap record in Sepang (MYS) and Montreal (CAN).
2003	Third in the FIA Formula One World Championship, BMW WilliamsF1 Team; wins in Monte Carlo (MCO) and Hockenheim (GER); pole positi on in Hockenheim (GER); lap record in Hockenheim (GER) and Budapest (HUN).

Formula One statistics before 2004:

Formula One debut:	Melbourne 2001
Pole positions:	11 (2001: Hockenheim, Spa, Monza; 2002: Sao Paulo, Monte Carlo, Montreal, Nürburgring, Silverstone, Magny-Cours, Monza; 2003: Hockenheim)
Victories:	3 (2001: Monza; 2003: Monte Carlo, Hockenheim)
Podium places total:	23
GP starts:	50
Points:	163 (2001: 31, 2002: 50, 2003: 82)
Fastest laps:	9

3.2 Ralf Schumacher.

Whatever will be, will be.
Ralf was born in Germany, but lives in Salzburg and is, in reality, a globe trotting world citizen. In a nutshell, this young star has a famous brother but doesn't want to be continually compared with him. He is also one of the best Formula One racing drivers in the world, but he hasn't yet made a big break through. Ralf Schumacher is not only astonishingly fast, but, because of his complexities and occasional contradictions as a character, remains one of the most interesting personalities in the drivers' paddock.

Ralf's shirts are always freshly ironed, but his face is sometimes unshaven. The eyes are always wide awake, but he sometimes gives the impression of being unapproachable. He often shuts himself off from the glare of publicity, because he wants to preserve his privacy. This may seems hard -nosed or even arrogant, but it certainly isn't the intention. In fact the opposite is true – Ralf is both charming, and disarmingly ironic, often enjoying humor at his own expense.

Ralf is also his own man, following his own convictions. He won't allow himself to be deflected, either by comparisons with his brother or by criticism about his personality, his particular characteristics or his driving style. It prompts him to don a deflective armor, shake off everything negative and concentrate on his job. His philosophy stems from a motto that has its origins in his homeland in the Rhineland, where they say, "Et kütt wie et kütt – Whatever will be, will be".

This attitude pervades Ralf's make-up. And the 28-year-old has a pretty good idea of what's going to come in the 2004 season. "The goals for the coming season are clear. We want to win. Of course, we have to wait and see, but the basis is there. The FW26 is some way ahead of the FW25. We should therefore be fairly safe in assuming that we'll have a good season."

Ralf Schumacher and the BMW WillamsF1 Team already had a good season in 2003. But it didn't work out for the title they're all working towards.
The WilliamsF1 BMW FW25 was not up to the competition at the start of the season. There was only a change in fortunes in mid-season, but when it came, it came in a big way. Schumacher's team mate Juan Pablo Montoya won in Monaco. Ralf Schumacher followed his second place in Montreal with two victories at the Nürburgring and in Magny-Cours – and suddenly he was in contention for the title. He had succeeded in clocking up points in all ten races and no other driver had achieved that.

However, then came a series of mishaps. The break in progress started at Silverstone, when technical problems meant a finish, but no points.
This was followed in the next race by the crash at the start in Hockenheim, followed by fourth place in Hungary – only five points out of three races.
Then came the bad test accident in Monza and a withdrawal from the race and the dream of a title for Ralf Schumacher in 2003 suddenly evaporated.
"Yet it had never been as easy to get the title as it was last season. We were so close to it and didn't manage to get there. First of all those luc ky breaks and then the knock-out blow. Highs and lows, ups and downs – and not just run of the mill, but extreme", was how the driver from Kerpen analysed his frustrating seventh year in Formula One.

Ralf Schumacher demonstrates that a driver can only be as successful as his racing car. The potential for 2004 is there, not least because of the additional changes in the conditions. "The new regulation is in our favor because we have a very powerful and resilient engine. What's more, Michelin is a very strong element in our partnership", is his comment.

And then there is the team colleague who needs to be beaten.
Montoya is pure motivation for Ralf Schumacher – both drivers provide each other with unremitting impetus. Their personalities couldn't be more different. One is German, analytical and quiet. The other is Colombian, emotional and loud. But their goals are the same: driven by ambition, they want the title.

Precipitate acts are not Ralf Schumacher's style. He prefers to wait until the moment to overtake is right. He always keeps a cool head under his helmet. When he talks to his racing engineer on the pit radio while driving at 300 km/h, his voice sounds normal, almost causal and certainly completely unstressed. Ralf powers of analysis on the race track sometimes attracts criticism, but more frequently this approach earns him points if not victories. He drives cleanly – unspectacularly, reliably and fast. Just like his personality.

Ralf's power is drawn from his calm approach, as well as drawing strength from his family, wife Cora and their son David. "My family is the most important thing for me. Without my family I would be nothing", he says again and again. When he's had enough of the ear-splitting noise on the racing track, the petrol-laden air and all the stress and frantic activity in the drivers' paddock, Ralf Schumacher takes refuge in nature. "It gives me the inner calm I need. I like it when I go stalking in the open air at four o'clock in the morning and watch how the forest wakes up", says the nature-lover and amateur hunter.

Recently Ralf also chooses to relax by playing football. He now can't get enough of kicking a ball around before a race. He often organizes the games himself and has lots of fun on the pitch. And otherwise? Sometimes he turns into a chef – chicken curry is one of his favorite dishes. Or he relaxes in the fictional world of Harry Potter.

Such magic is no help in securing victories, but Ralf Schumacher has got what it takes. That was already obvious in his second Formula One season, when he was with Jordan, and was within reach of his maiden win in the Belgian Grand Prix but he had to give way to his team mate, Damon Hill. A year later he again came close to his first victory. Ralf Schumacher was in the lead in the European Grand Prix during a downpour on the Eifel circuit at the Nürburgring until he had to retire due to a flat tire.

Now he has six victories under his belt, four pole positions and seven fastest laps. He has a total of 23 podium positions to his credit. He took his first Grand Prix victory at Imola in 2001 and it was also the first win for the BMW WilliamsF1 Team. Following on from that success, he won in Montreal and on home territory at Hockenheim. He won the only victory of the season for the team in Malaysia in 2002 and had a strong season in 2003 with two additional victories.

Tough words, surprising repartee and a sense of humor characterize his conversation. After the testing accident in Monza he quipped, "They looked for my brain waves and they actually found some"! He doesn't pull any punches, he states his opinion clearly and is prepared to defend his views. A tendency towards blunt criticism can make him difficult, but it's also good for a team. His opinions are very much respected by the engineers. This man understands his car and is capable of developing it further.

Ralf loves a full life and has applied for a pilot's licence to fly jet aircraft and he can already fly helicopters. He doesn't like to leave anything to chance. That's why he even flies his own aircraft, "I enjoy it and it gives me a certain security", he says. He usually travels with Cora, his trainer Daniel Dobringer and press spokesman, Thomas Hofmann. His own aircraft is less about luxury than the practical convenience that anyone in Formula One will choose if they can afford it. Flexible travel times and the use of small airports near racing circuits mean significant time-savings.

Ralf Schumacher is also kept busy by interests other than Formula One and his family. He has invested in another financial asset with a karting track in Bispingen, Germany. In his chosen homeland of Austria, he devotes himself to cattle farming and he also enjoys automotive history and buys his old racing cars.

Ralf Schumacher learned his craft on the karting track in Kerpen. His parents rented the track and Ralf sat in his first kart at the age of three. By the time he was six he had won his first club race. His brother Michael was six and a half years older and gave him a hand as his mechanic.

Shortly after his 17th birthday, Ralf Schumacher drove his first automobile race in the BMW ADAC Formula Junior Championship at Nuremberg's Norisring, coming second. In 1993, he ended his first complete season in this junior formula championship in second place. Moving to the German Formula 3 Championship in the WTS team run by his manager Willi Weber was the next logical step. In 1994, Ralf Schumacher took third place in his first Formula 3 year, and in his second year he came in second.

At the end of 1995 he laid the foundation stone for getting away from the European and above all German obsession with a racing driver called Schumacher. He won the Formula 3 World Championship final in Macau. The city circuit in the South China Sea is one of the most difficult racing circuits in the world. That's why a victory in Macau also means such a lot in Japan. This win opened up an opportunity for him to drive in the All Nippon Japanese F3000, the Far East equivalent to the international Formula 3000 Championship. Ralf Schumacher won the championship as early as 1996. In the same year he came second in the Japanese GT Championship after three victories with the McLaren BMW. The next stage in his career could only be Formula One.

While the 22 year-old celebrated his successes in Japan, Willi Weber was plotting his course for a Formula One debut. Ralf Schumacher made a good impression at his first test in the McLaren and was given a contract by Jordan for his first Grand Prix season. A second year followed. He moved to WilliamsF1 for the 1999 season. It had been clear for some time that BMW would join forces with WilliamsF1 in 2000. Ralf Schumacher saw his opportunity. For the first two years with WilliamsF1 he dominated his team mates, Alex Zanardi and Jenson Button, and also came off better against newcomer Juan Pablo Montoya in 2001. In 2002, he had to concede victory to his competing team mate for the first time in his Formula One career. The same thing happened again in 2003. And what about 2004? Whatever will be, will be.

3.2.1 Interview in brief.

Questions for Ralf Schumacher:

How do you assess the changes in the technical regulations?
Positively. Particularly the rule about only being able to use a single engine over the entire weekend. This is in our favor because we have a very powerful and resilient engine.

What personal expectations do you have in your eighth F1 season?
The expectations for our team are high and after the last season, mine are naturally also high. I hope that the FW26 will be up to the competition from the start and that the BMW engine will once again be the best in the field. Then we could start talking seriously about the title and finally dislodging Ferrari from the top position.

Your manager Willi Weber has tipped you as the favo rite for the World Championship title. Will 2004 really be your year?
I certainly wouldn't have anything against it if Willi was right. I believe that the team will continue to benefit from the fact that the performances by Juan Pablo and myself are equally matched. Of course, I'd like to be the one coming out ahead at the end of the season.

What are your strengths?
I believe that I'm a pretty good analyst. That's why I don't make many mistakes in the race setup and often succeed in clocking up points even when I have a relatively modest position on the starting grid. The best example of this is Budapest: I was right at the end but battled my way up through the entire field – and that was on a circuit where overtaking is reckoned to be virtually impossible.

What do you still want to learn?
Sometimes I'm lacking in patience.

3.2.2 Biography.

Ralf Schumacher.

Date and place of birth:	June 30, 1975/Hürth (D)	
Nationality:	German	
Place of residence:	Salzburg (AUT)	
Website:	www.ralf-schumacher.de	
Fan clubs:	PPM Tränkestr. 11 D-70597 Stuttgart Germany	Ralf's Club 3 Bluebell Close Welshpool Powys SY21 7NY
	Wales, Great Britain	
Marital status:	Married to Cora, née Brinkmann, one son (David)	
Family:	Father Rolf, mother Elisabeth, brother Michael	
Height:	5'9"	
Weight:	161 lbs.	
Hobbies:	Kart racing, tennis, cycling, backgammon	
Favorite dish:	Pasta	
Favorite drink:	Apple juice mixed with sparkling water	
First drove a kart:	At the age of three	
First drove a car:	At the age of 18 in a borrowed BMW Alpina B10 Biturbo	
First car race:	June 1992 in the BMW ADAC Formula Junior, Norisring, Nuremberg (GER)	
First racing car:	BMW ADAC Formula Junior	
First win:	Kart club race at the age of six	

Career highlights.

1991	First in the NRW Kart Trophy; first in the Kart Gold Cup; first in the German Junior Kart Championship.
1992	Second in the German Kart Championship; second in his first car race, BMW ADAC Formula Junior, Norisring (GER).
1993	Second in the BMW ADAC Formula Junior; test drives and first Formula 3 race, Team WTS.
1994	Third in the German Formula 3 Championship after Jörg Müller (GER) and Alexander Wurz (AUT).
1995	Second in the German Formula 3 Championship after Norberto Fontana (ARG); first in the Macao Formula 3 Grand Prix; invited by the Le Mans team to test a Formula Nippon in Suzuka in November, followed by an offer for the 1996 season.
1996	First in the All Nippon Japanese F3000 Championship, two wins; second in the Japanese GT Championship, three wins (McLaren Formula One GTR powered by a BMW V12); first Formula One test in Silverstone (McLaren Mercedes); signed contract with the Jordan Team for the 1997 Formula One World Championship.
1997	Eleventh in the FIA Formula One World Championship, Jordan, best result third place in Buenos Aires (ARG).
1998	Tenth in the FIA Formula One World Championship, Jordan, best result second place in Spa (BEL).

1999	Sixth in the FIA Formula One World Championship, WilliamsF1, best result second place in Monza (ITA).
2000	Fifth in the FIA Formula One World Championship, BMW WilliamsF1 Team, best results third place in Melbourne (AUS), Spa (BEL) and Monza (ITA).
2001	Fourth in the FIA Formula One World Championship, BMW WilliamsF1 Team, wins at Imola (SMR), Montreal (CAN) and Hockenheim (GER); pole position in Magny-Cours (FRA), lap records in Sao Paulo (BRA), Imola (SMR), Montreal (CAN), Monza (ITA) and Suzuka (JPN).
2002	Fourth in the FIA Formula One World Championship, BMW WilliamsF1 Team, victory in Sepang (MYS).
2003	Fifth in the FIA Formula One World Championship, BMW WilliamsF1 Team, wins at Nürburgring (GER) and Magny-Cours (FRA); pole position in Monte Carlo (MCO), Montreal (CAN) and Magny-Cours (FRA); lap record in Suzuka (JPN).

Formula One statistics before 2004:

Formula One debut:	Melbourne 1997
Pole positions:	4 (2001 Magny-Cours, 2003 Monte Carlo, Montreal, Magny-Cours)
Victories:	6 (2001 Imola, Montreal, Hockenheim; 2002 Sepang; 2003 Nürburgring, Magny-Cours)
Podium places total:	23
GP starts:	116
Points:	235 (1997: 13, 1998: 14, 1999: 35, 2000: 24, 2001: 49, 2002: 42, 2003: 58)
Fastest laps:	7

3.3 Marc Gené.

Fast Learner.
Academics are a rare breed among top sportsmen. Normally the demands of training for a professional career leave no time for further education. Marc Gené, however, was a model pupil, and good grades became the foundation of his racing career. “When I was ten I got a really good report”, he recalls, “And I was allowed to choose a present as a reward.”
He didn’t think twice. The established hobby that he pursued with his elder brother, Jordi, was karting, so he asked for a go-kart.

At the age of twelve, Marc entered his first race, and, a mere two years later, he was the Catalan and Spanish karting champion. In 1993, at the age of 19, he drew attention to himself at the Formula Ford Festival at Brands Hatch in England. In the Festival, regarded as one of the best junior talent races, Gené finished runner-up and later matched the achievement in its European equivalent, the Formula Ford European Championship.

After two years in the British Formula 3 Championship, Marc won the FISA Golden Cup Superformula in Italy in 1996. In the following year, he progressed to the International Formula 3000 Championship. During the season, he caught the eye of Giancarlo Minardi and the team owner soon offered him the opportunity of a Formula One test drive. On witnessing his potential, Giancarlo instantly signed the young Spaniard for a race seat for the 1999 and 2000 seasons. In his second season with Minardi, the Spaniard secured a crucial Championship point. In view of the equipment at his disposal, this was more than a respectable achievement.

Following his two year stint at Minardi, Marc was employed by the BMW WilliamsF1 Team as the official test and reserve driver. Since his first test in 2001, Marc has completed nearly 42,000 testing kilometers, and made a crucial contribution to the team’s Grand Prix competitiveness.

And this invaluable work should not be discounted, as Team Principal Frank Williams remarks, “We are fortunate to have a driver of Marc’s calibre who can test with metrionic precision and efficiency. His meticulous work is a huge contribution to the progress of the BMW WilliamsF1 Team.”

Not only is Marc a respected test driver, but a competitive racer, as he proved last season when he was called upon to replace Ralf Schumacher for the Italian Grand Prix at Monza after the German was involved in a testing accident. In his first race representing the team, he claimed a highly creditable 5th place on the grid, and showed an extremely competitive race pace, contributing a valuable four points to the team by finishing in 5th place. Despite only having one solitary race start in the 2003 season, Marc finished ahead of three regular drivers in the FIA Formula One Drivers' Championship, as well as being ahead of four other drivers who between them recorded 19 Grand Prix starts.

Marc's competence in the car, combined with his sound technical proficiency and intelligent feedback has secured his position within the team for a further season, an alliance that pleases boss Frank Williams. "We are very glad to have extended our relationship for another season given that Marc's testing knowledge and abilities are highly regarded elsewhere."

Marc's talents aren't restricted to the track. The Spaniard radiates approachability, he listens to others with interest and concentration – whether they're fellow drivers, engineers or Paddock Club guests. And he never fails to win people over instantly, not least because his interests are so wide-ranging. He devours books by the shelf-load, preferably biographies and history or psychology books. Having completed an economics degree at the University of Buckingham in 1995, the Spaniard also makes sure he keeps abreast of the financial world.

Marc's amiability instantly won over the hearts of the guests at the BMW Motorsport Party in Kitzbühel at the end of 2002. Despite having completed approximately 100 days of gruelling testing between January and November, covering 17,426 kilometers, as well as attending most of the Grands Prix, Marc still found the time to learn German. He took part in intensive language courses in Munich, lasting months at a time, and is now capable of holding conversations in the language. "I was absolutely delighted as well as surprised to receive such applause for that", he admits. Apart from his mother tongue of Spanish, he also has an impressive command of English, Italian and French. Learning is his passion. His unquenchable thirst for knowledge, combined with his rapid learning capability, make him invaluable as a test driver.

3.3.1 Interview in brief.

Questions for Marc Gené:

You competed in your first Grand Prix for the team last year at Monza. What did that experience mean to you?
It was obviously a great experience, one that I'll never forget. If you're lucky enough to be given a chance like that you have to make the most of it and I think I did. I managed to qualify in fifth despite a couple of mistakes into the first and second chicanes, but that was my highest grid position in my Formula One career so I was happy. In the race, my main objective was to drive a solid race and avoid making any mistakes. Apart from losing some places in an incident with Trulli at the start, I ended the race in fifth place, and scored some points for the team, which I was really happy about.

You completed an impressive 24,000 testing kilometers last year. What part of your testing duties do you derive the most satisfaction from?
What I enjoy most is doing tire tests, especially trying out soft compounds because they allow me to put in some really fast laps. I also enjoy research projects – innovations where nobody knows whether they will ever come to fruition. That involves very close, intensive work with the engineers.

Which is the best test circuit?
For me it's Barcelona, without a doubt. On the one hand because it's my home track and I can sleep in my own bed and have breakfast at home! But on the other hand, it's because the Circuit de Catalunya offers all kinds of challenging corners, which makes it a real drivers' circuit. Beyond that, it is well equipped and an organized and efficient place to get work done.

You obviously have to compare your testing notes with Ralf and Juan Pablo, how does that work?
If I think something we have discovered at a test is very important, I'll ring them up. But usually we'll get together on the Thursday or Friday before a Grand Prix. Then I tell them, for example, which tires were particularly good or how they perform on different parts of the circuit.

Who comes closer to your driving style– Montoya or Schumacher?
There isn't a great deal of difference. Every driver aims for neutral handling during the set-up work, avoiding both under and oversteer. We always end up with very similar results. Perhaps Juan, who has a more aggressive style, is better at handling slight oversteer.

3.3.2 Biography.

Marc Gené.

Date and place of birth:	March 29, 1974/Sabadell (Barcelona, ESP)
Nationality:	Spanish
Place of residence:	St Quirze del Vallés
Website:	www.marcgene.com
Marital status:	Single
Height:	5'7"
Weight:	152 lbs.
Hobbies:	Reading (esp. history and psychology), cinema, mountain-biking, diving, mountain-climbing
Favorite dish:	Pasta
Favorite drink:	Milk
First drove a car:	At the age of eight in a Ford Fiesta
First drove a racing car:	A go-kart at the age of six

Career highlights.

1987	Second in the Catalan Kart Championship.
1988	First in the Spanish Kart Championship (national class); first in the Catalan Kart Championship (national class).
1989	Tenth in the European Kart Championship (junior class); 19th in the World Kart Championship (national class).
1990	First in the Spanish Kart Championship (youngest winner in the senior class).
1991	First in the Catalan Kart Championship (senior class); 13th in the World Kart Championship, Formula A.
1992	Fifth in the Spanish Formula Ford Championship, one win, one pole position.

1993	Second in the Formula Ford Festival (World Cup), Team Manor Motorsport; second in the Formula Ford European championship one win and three podium placings in four races.
1994	British Formula 3 Championship, Alan Docking Racing, “Rookie of the Year”; seventh in the international Formula 3 Challenge at Donington Park.
1995	British Formula 3 Championship, West Surrey Racing, two podium placings; second Avon Prize for the three fastest drivers in British Formula 3.
1996	First in the II Fisa Golden Cup Superformula, one win, four podium placings, four pole positions.
1997	International Formula 3000 Championship, Pacific Racing Team and Nordic Racing Team.
1998	First in the Formula Open Fortuna by Nissan, Team Adrian Campos Motorsports, six wins; Formula One test with Fondmetal Minardi Ford.
1999	17th in the Formula One World Championship, Fondmetal Minardi Ford, ten out of 16 possible finishes, sixth in the Nürburgring Grand Prix; nominated “Best Rookie of the Year” by the Spanish Car and Driver magazine and as Driver of the Year by Spanish Motorracing World.
2000	19th in the Formula One World Championship, Telefonica Minardi Team, eight out of 17 possible finishes.

2001, 2002, 2003	Official test and reserve driver for the BMW WilliamsF1 Team.
2003	17th FIA Formula One World Championship, BMW WilliamsF1 Team, one Grand Prix (finished 5th)

Formula One statistics before 2004:

Formula One debut:	Melbourne 1999
Best qualifying:	5th, Monza 2003
Best GP result:	5th, Monza 2003
GP starts:	34
Points:	5
Fastest laps:	0

4. Facts and figures.

Team:

- On a Grand Prix weekend, the racing team is around 100 personnel strong – 70 come from WilliamsF1, 20 from BMW and about 10 others look after subsidiaryfunctions such as catering.

- The test team numbers around 60 peop le for two cars (40 from WilliamsF1, up to 15 BMW staff, five people for catering).

- 22 people are involved in a pitstop during a race:
  – twelve mechanics (three for each wheel) change the wheels,
  – one operates the car jack at the front,
  – one operates the car jack at the rear,
  – one stands at the ready with a special lever, in case the car comes into the pitstop with a damaged nose,
  – two people check the compressed air for the pneumatic valve and replenish as necessary,
  – three refuel the car,
  – one person stands at the ready with a fire extinguisher,
  – the lollipop man gives signals to the driver, “apply brakes”, “put in gear”, “Go”.

- WilliamsF1 travels to each Grand Prix with around 25 tons of material. This includes spare parts, tools, wheels and pit equipment. Then there are at least three chassis, in exceptional cases the team is even equipped to build a fourth racing car. The cargo is transported to European races in two transporters and two trucks which are parked in the drivers’ paddock, as well as a mobile home.

- BMW packs up around six tons of gear for a Grand Prix. In 2004, this will include six engines for races taking place overseas, and five engines for European races. These are also all the tools and spare parts. BMW has a transporter, a truck for the engineers and a mobile home.

- The team uses 16 big HP computers, 26 HP notebooks and 100 walkie-talkie sets with headphones at a racing track.

- 500 meters of data lines and 300 meters of power cable are laid by the BMW WilliamsF1 Team at a race.

- A team uses up to 1,200 liters of petrol, between 60 and 80 liters of engine oil and up to 30 liters of gearbox oil on a race weekend.

- If races are hosted at a warm venue, the team drinks up to 3,300 liters of mineral water and soft drinks.

- 40 dry tires and 28 wet tires are held ready for each vehicle and weekend. The use of tires for extreme weather conditions has to be explicitly approved by the race management.

Chassis:

- 250,000 working hours are needed from design to manufacture.

- Approximately 4,000 drawings have been generated in the design of the FW26.

- WilliamsF1 produces around 200,000 components each year.

- The vehicles are completely dismanted and subjected to more than 200 diagnostic checks between two races.

Engine:

- Around 200 engines left the BMW Formula One factory each year in 2000, 2001, 2002 and 2003.

- The BMW engine comprises around 5,000 spare parts, and 1,000 of those are different parts.

- It takes around 80 working hours to assemble the BMW engine.

- 1,388 development measurements were undertaken on the BMW P83 engine during its lifetime.

- 1,950 CAD drawings were produced for the BMW P83 engine. If they were printed out and put in line, they would stretch for 1.3 kilometers.

- The BMW P83 engine weighed less than 90 kilograms.

- The BMW P83 engine is most powerful engine produced to date at the Munich Formula One factory. It packed more than 900 bhp in 2003 and achieved a top engine speed of 19,200 rpm. The engine speed was limited to 19,000 rpm in the race. The idling speed was 4,000 rpm.

- The interval for rebuilding the BMW P83 engines has been 500 kilometers.

- The maximum piston acceleration in the P83 is 10,000 g. Peak piston speed was 40 meters per second.

- When the speed of the BMW engine is 19,000 rpm, 316.7 revolutions and 1583.3 ignitions take place within the space of a single second. Engine speed is recorded 9,500 times, the pistons cover a distance of 25 meters and 550 liters of air are drawn in.

- A temperature of up to 950 degrees is reached at the exhaust, and the maximum air temperature in the pneumatic system rises to 250 degrees.

- In a Grand Prix, the BMW engine has around eight million ignitions (800,000 ignitions for each cylinder) during an average race distance of 300 kilometers.

- Pilots change gear an average of 2,600 times during a Grand Prix. They change gear 3,100 times in Monaco.

- If the car returns to the pit during training or qualifying, oil samples are taken and X-rayed in the pit. They are also subjected to spectrometer analysis. Metallic traces in the oil provide important information on the status of the engine.

- The super fast 130R bend at the Suzuka track exerts the most exacting demands on the oil circulation system with transerve acceleration exerting forces of 4 g.

- The engines must be able to withstand being driven at full throttle for 73 percent of each lap in Monza.

Drivers:

- A Formula One driver burns approximately 600 calories in each Grand Prix and loses an average of two kilograms in weight.

- If a race takes place under hot conditions, a driver easily loses 1.5 liters of body fluid.

- The cockpit temperature is an average of 50 °C.

- The pulse rate of the pilots reaches an average of 190 beats per minute during a race.

Vehicle:

- A Formula One vehicle can accelerate from 0 to 200 km/h and come to rest again in less than seven seconds.

- A Formula One racing car can go from 0 to 100 km/h within the space of around 2.5 seconds.

- Acceleration from 0 to 200 km/h takes an Formula One car less than five seconds, equivalent to 140 meters.

- If the pilot slams on the brakes at 200 km/h, an Formula One car comes to a halt after 55 meters within 1.9 seconds. The driver is subject to decelleration of up to 5 g. This means that a driver with a body weight of 75 kilograms is pressed into his seat belt with 375 kilograms.

- The carbon brake disks heat up to 600 °C within one second when the brakes are applied.

- The Fomula One tires heat up to around 100 °C.

5. Sponsors and partners.

The brief profiles of the sponsors and partners are based on information supplied by the respective companies.

Principal sponsor:	HP
Technical sponsors:	Castrol Petrobras
Sponsors:	Accenture Allianz Budweiser FedEx NiQuitinCQ Reuters
Technical suppliers:	Michelin
Official suppliers:	MAN Nutzfahrzeuge AG Oris O·Z Racing MM02 PUMA PPG Industries
Promotional Partner:	Gore
Official charity:	Spinal Injuries Association

Principal sponsor.

HP.
HP is a technology solutions provider to consumers, businesses and institutions globally. The company's offerings span IT infrastructure, personal computing and access devices, global services and imaging and printing for consumers, enterprises and small and medium businesses. For the last four quarters, HP revenue totalled $71.3 billion. **www.hp.com**

Technical sponsors.

Castrol.
With a reputation for innovation and high performance, Castrol is an internationally recognized brand name, operating in 130 countries and employing over 10,000 people to develop, manufacture, market and distribute the company's 5,000 strong range of premium quality lubricants for the consumer, commercial, marine and industrial markets.

The technical excellence of our products; our intimate knowledge gained from operating across the globe; and our passionate belief in providing our customers with the very highest levels of service, has made Castrol a leader in its field.

Castrol joined WilliamsF1 as a technical sponsor in 1997 and we continue to use Formula One to improve our products; to push back technological barriers and to force lubricants to the extremes of performance. **www.castrol.com**

Petrobras.
Petrobras, the state-owned Brazilian petroleum company, has been fuelling WilliamsF1 since 1998 through an on-going technical sponsorship that has brought many pleasing results for both parties. The current fuel is yet another stage in Formula One, the technological advance to guarantee the BMW WilliamsF1 Team its position among the leading world teams. CENPES, Petrobras' Research and Development Centre, along with the

company's refineries, is responsible for all fuel used in the races and tests of the team which has won the Constructors' World Championship nine times. Brazilian talent, until then only present behind the driving wheel, now also works on the design of high performance fuels. **www.petrobras.com.br**

Sponsors.

Accenture.
Accenture is a global management consulting, technology services and outsourcing company. Committed to delivering innovation, Accenture collaborates with its clients to help them become high-performance businesses and governments. With deep industry and business process expertise, broad global resources and a proven track record, Accenture can mobilize the right people, skills, and technologies to help clients improve their performance. With more than 83,000 people in 47countries, the company generated net revenues of US$11.8 billion for the fiscal year ended August 31, 2003.

Accenture has a longstanding sponsorship, and business partnership, with WilliamsF1 which in 2004 enters its tenth season. During 2003, Accenture helped WilliamsF1 to undertake a major review of its product development processes, and was instrumental in assisting BMW and WilliamsF1 to agree the principles of their new technical agreement – acknowledged by Team Principals as underpinning the extension of their technical partnership through to 2009. **www.accenture.com**

Allianz.
Founded in 1890 in Germany, Allianz is currently one of the world's leading insurance groups. Allianz provides its 60 million global clients with a broad range of services via an international network of subsidiaries. The companies that have joined the Group generally command a strong position in their respective home markets across Europe, North America, South America, and Australia, as well as the emerging markets in Asia and Eastern Europe.

Allianz's three core businesses are protection (property and casualty), private provision (life and health insurance) and performance (asset management). The first two segments recorded over €75.1 billion in gross premium income in fiscal year 2001. Of that total, 55.2% were generated by property and casualty insurance activities and 44.2% generated by life and health insurance. Today, more than half of the Group's premium income is earned outside of Germany. And in the recently established asset management business, the Group already manages almost half of its €1.172 billion assets under management for third parties i.e. € 620 billion.

With its strong expansion in the last few years, and the international growth of the Group, they become a multi-local enterprise. Of over 179,000 people employed around the world, more than 51 percent work outside of Germany.

Allianz joined the BMW WilliamsF1 Team in the 2000 season and announced the sponsorship programme at the European Grand Prix at the Nürburgring.
http://f1.allianz.com

Budweiser.
Budweiser, the world's best-selling beer, became an "official sponsor" of the BMW WilliamsF1 Team in 2003. The multi-year agreement is Budweiser's first sponsorship in Formula One and builds upon the brand's international sports marketing portfolio.

Budweiser sponsors a variety of motorsports teams, and in the past 14 years, Bud Racing teams have produced 36 national and world championships. Budweiser was an associate sponsor during Juan Pablo Montoya's Indianapolis 500 victory in 2000, when he became the first rookie to win the event since 1966.

Budweiser is brewed by Anheuser-Busch, Inc., the world's largest brewer, and is available in more than 80 countries around the world. Budweiser is brewed using only the finest all-natural ingredients including barley malt, rice, hops, yeast and water. Additionally, only the "King of Beers" features Anheuser-Busch's exclusive Beechwood ageing process that helps deliver the taste, smoothness and drinkability that adult consumers have come to expect from Budweiser. **www.budweiser.com**

FedEx.

With annual revenues of $23 billion, FedEx Corp. is the premier global provider of transportation, e-commerce and supply chain management services. FedEx Express, a subsidiary of FedEx Corp., connects areas that generate 90% of the world's gross domestic product in 24–48 hours with door-to-door, customs-cleared service and a money-back guarantee. The company's unmatched air route authorities and infrastructure make it the world's largest express transportation company, providing fast, reliable and time-definite transportation of more than 3.1 million items to over 215 countries each working day. FedEx Express employs approximately 138,000 employees and has more than 50,000 drop-off locations, 638 aircraft and approximately 43,000 vehicles in its integrated global network. FedEx has been involved with Formula One for seven years now, and it has proven to be an excellent platform to promote the FedEx brand. The sport closely reflects FedEx core values of speed, reliability, technology and teamwork.

At the end of its second year of sponsoring the BMW WilliamsF1 Team, FedEx has been delighted with the team's performance and professionalism. FedEx and the BMW WilliamsF1 Team share a "Whatever It Takes" winning attitude and dedication to excellence. Together they are setting new standards for speed, and are harnessing the latest technology to help deliver it.
www.fedex.com

NiQuitinCQ.

NiQuitinCQ is a major stop smoking aid brand produced by GlaxoSmithKline Consumer Healthcare. NiQuitinCQ products contain nicotine and are available in a range of different formats (patch, lozenge, gum) to help control physical cravings. An individually tailored support programme is also available to tackle the emotional and behavioral aspects of giving up smoking.
GlaxoSmithKline's mission is to improve the quality of human life by enabling people to do more, feel better and live longer. Headquartered in the UK and with operations based in the US, GSK is one of the industry leaders, with seven percent of the world's pharmaceutical market. GSK employs over 100,000 people in 160 countries. **www.Click2Quit.com**
Contains nicotine. Always read the label.

Reuters.
Reuters global financial information and news, fuel the world's financial institutions, the media, businesses and private individuals.
Over 663,000 financial market professionals rely on Reuters real – time financial data and news, which is updated as often as 6,000 times per second.

Global banks trust Reuters technology, information and risk management solutions to make complex financial decisions. Reuters media clients are served by the largest news and television agency with over 2,260 journalists in 216 bureaux producing news in 26 languages. Over 75 million individuals tap into Reuters information on the internet through it's web partners. In short, Reuters supplies the content, technology and connectivity that enables its clients to make decisions in the complex world of financial markets.
Formula One embraces Reuters values of speed, reliability and innovation, which is why they are proud to be official sponsors of the BMW WilliamsF1 Team. **www.reuters.com**

Technical suppliers.

Michelin.
Michelin has been producing tires for over 100 years and is now one of the World's leading manufacturers, with about a fifth of the global market.
The company has more than 80 manufacturing plants in 19 countries on five continents and over 130,000 employees. They produce daily: 830,000 tires, 65,000 inner tubes, more than four million kilometers of steel cord, 95,000 wheels and 75,000 maps and guides.

Inventor of the radial tire, Michelin is synonymous with motorsport, having brought its radial technology into all aspects of racing, revolutionising Formula One in 1977. Its successes in all forms of wheeled sport – from cycling to World Championship Rallying, GP motorcycling to Le Mans – make it the envy of its rivals, with an honors list as long as it is prestigious.

With a business presence in over 170 countries, the Michelin Group of companies make tires for all types of vehicles: from bicycles to the space shuttle, including cars, trucks, motorcycles, earthmover and agricultural equipment, buses, underground trains and aircraft. The company also publishes travel guides, maps and atlases covering Europe, Asia, Africa and North America. **www.michelinsport.com**

Official suppliers.

MAN Nutzfahrzeuge Group.
The MAN Nutzfahrzeuge Group is the largest company in the MAN Group and one of the leading international manufacturers of commercial vehicles. In fiscal year 2002 the company, with a workforce of over 34,000, recorded a turnover of € 6.6 billion. In fiscal year 2002 production of trucks and buses in the MAN Nutzfahrzeuge Group amounted to 61,600 vehicles.

MAN Nutzfahrzeuge produces trucks, buses and components in an international, interlinked production set-up with plants in Germany, Austria, Poland and Turkey. In Germany there are eight production locations: Munich, Nuremberg, Salzgitter, Gustavsburg and Penzberg for MAN trucks, buses and components and Stuttgart, Pilsting and Planen for NEOPLAN buses. The MAN network also includes two Austrian subsidiaries: production of the light and medium-weight trucks is concentrated at MAN Steyr AG in Steyr, Upper Austria, while special-purpose vehicles are built at MAN Sonderfahrzeuge AG in Vienna. Further production facilities are located in Poland, where MAN STAR TRUCKS & BUSES sp. z.o.o. is responsible for production of trucks, bus skeletons and components at its plant in Starachowice. At the Poznan location complete buses under the MAN and NEOPLAN brand names are assembled. In Turkey coaches, city buses and trucks are built at MAN Türkiye A.S. in Ankara. **www.mn.man.de**

ORIS.
ORIS is a Swiss watch brand dedicated solely to manufacturing mechanical timepieces with self-winding automatic movements. In keeping with the great Swiss tradition of watchmaking and craftsmanship, these timepieces work without any assistance from batteries. For one century ORIS has paved the way for the mechanical watch in the modern era with regular developments of

undisputed quality and unmistakable design. Look through the back of an ORIS watch and you will discover that at the heart of every ORIS beats a red rotor, generating the power for this marvel of micro-mechanics.

ORIS has gone on to become an established name among movie stars such as Sean Penn, Harrison Ford, Gwyneth Paltrow, Nicolas Cage, Meg Ryan and many others. ORIS also produced limited editions that pay tribute to some of the all-time greats of 20th century music, including Louis Armstrong, Miles Davis, Lionel Hampton, McCoy Tyner, Duke Ellington and Charlie Parker.

ORIS has joined forces with the BMW WilliamsF1 Team in 2003 to become their official watch partner and to support the promotion of the ORIS TT1 sports collection. Oris watches are available world-wide. **www.oris.ch**

O·Z Racing.
The philosophy and strength O·Z are founded on the results achieved in 30 years of being present on the world's racing tracks: from F1 to rally tracks, without forgetting ALMS, CART and IRL. Technology, enthusiasm, experience, research, know-how, and again, organization, timing and logistics have been transferred from the racing world to use on the road, to guarantee those who buy O·Z wheels maximum quality, performance and safety. Formula One and Rally require wheels that are light, resistant to impact and temperature, presenting no defects whatsoever, as well as stable and easy to handle. These are the same features carried by the O·Z wheels fitted on new cars or available on the after market for standard vehicles. For the O·Z team a victory at Monza is just as important as the satisfaction of our clients.

O·Z manufactures specifically designed light alloy forged wheels for WilliamsF1. The collaboration between O·Z and WilliamsF1 started in 1993 and resulted immediately in the victory of both Drivers' and Constructors' World Championship titles with Alain Prost. **www.ozracing.com**

O_2 (Germany) GmbH & Co. OHG.
O_2 Germany, a subsidiary of mmO_2 plc that currently serves more than 5.3 million subscribers, is a successful player on the telecommunications market. mmO_2 plc has some 19.2 million customers in Great Britain, Ireland and Germany. Based on is own network infrastructure, O_2 Germany, in addition to its innovative postpaid and prepaid, offerings, is also fielding mobile data services harnessing GPRS technology. Moreover, the Munich headquartered company will be launching products for the upcoming UMTS mobile communication generation. Apart from the company's leading position in mobile data services, O_2 Germany stands out thanks to its unique O_2 Genion rate – a mobile tariff enabling subscribers to use the German fixed network, as well as all German mobile networks at an especially attractive price. The company recently introduced the first flat rate in Germany for unlimited mobile phone surfing – the O_2 Active-Surf & E-Mail-Pack – once again underscoring O_2's position as an innovative company that is bringing a new dimension to the mobile telecommunications market. To find out more about O_2 and additional attractive offerings, visit **www.o2online.de.**

PUMA.
Founded in Herzogenaurach, Germany in 1948, PUMA® is one of the world's largest providers of athletic footwear, apparel and accessories. Over the years, PUMA has stayed true to its four cornerstones: heritage, sports performance, technological innovation and challenge. PUMA has continued to diversify its brand image and products to become the alternative sports brand that successfully fuses the creative influences from sport, lifestyle and fashion. Motorsport, too, is an area PUMA is familiar with – PUMA® performance racing shoes were first used by various drivers and teams in the 1970s and early 1980s. And since 1998 PUMA's motorsport division has gradually assembled an impressive portfolio of sponsorships. BMW.WilliamsF1 Team is one of six Formula One teams who will race in PUMA gear in 2004. PUMA is also an official supplier of teamwear and footwear to the Porsche Michelin Supercup as well as an official partner of the WRC, Ford Team RS and freestyle motorcross champion Travis Pastrana. **www.puma.com**

PPG Industries.
PPG Industries is a global supplier of coatings, glass, fiber glass and chemicals. The company has about 50 production facilities in

the United States and about 120 worldwide, including subsidiaries, joint ventures and equity affiliates, and emplo ys more than 34,100 people. Today, PPG is a leader in its markets, streamlined and efficient, and on the leading edge of new technologies to provide a growth -focused future worldwide. PPG is the official supplier of automotive paint re -finishes to the BMW WilliamsF1 Team. **www.ppg.com**

Promotional Partner.

GORE.

W.L. Gore & Associates was established in the United States in 1958 by Dr Wilbert L Gore. Famous for its GORE-TEX® clothing, Gore & offers high quality functional fabrics (GORE -TEX®, WINDSTOPPER®, AIRVANTAGE®) for everything from "functional fashion" and sportswear (for protection from wind, rain and cold) to workwear and professional wear (for protection from chemicals, fire and fine dusts). The company's product range is even broader. In the electronics sector it includes special cables for DP, measurement technology, telecommunications, robotics and space technology. In the medical sector it produces implants for heart and vascular surgery, prosthe tic devices and suture material. The industrial sector produces seals, packing yarns, weaving yarns, filter media and many other innovative products based on the GORE -TEX® membrane. In Germany alone, there are now seven plants with some 1000 employees. Today, Gore has more than 6,600 employees in more than 45 plants worldwide (2002 sales: 1.4 billion US dollars).
www.gore-tex.com www.windstopper.com www.airvantage.com

Official charity.

Spinal Injuries Association.

In 1995, WilliamsF1 adopted the Spinal Injuries Association as the team's official charity. The Spinal Injuries Association is a unique, proactive charity, whose wide range of services meet the physical, social and welfare needs of paralysed children and adults, and their families, from the moment of injury and continue for the rest oftheir lives. WilliamsF1 assists the SIA to raise funds by recommending association with sponsor events and generating increased awareness for the charity via publicity. **www.spinal.co.uk**

6. GP information 2004.

(Status November 2003)

6.1 Australian Grand Prix.

7 March 2004	**Melbourne, Albert Park**
Circuit length	5.302 km
Race distance	58 laps/307,516 km
Winner 2003	Coulthard (McLaren-Mercedes)
Pole position 2003	1:27.173 min (M. Schumacher, Ferrari)
Fastest lap 2003	1:27.724 min (Raikkonen, McLaren-Mercedes)
Lap record	1:27.724 min (Raikkonen, McLaren-Mercedes)
Tire wear	low
GP Website	www.grandprix.com.au
Start local time/UTC	14:00/03:00

Juan Pablo Montoya:
"Last year's race was a bit of a disaster for me as I spun while in the lead, only 11 laps from the chequered flag. Fortunately, I still managed to finish in second. As I also came second the year before it would be great to improve and maybe win this year! The Albert Park track is pretty unique, and quite unlike any other circuit on the calendar. More importantly, it is very different from anywhere that we test during the winter months so it's always interesting to see what the new car's like. Australia is a great country and Melbourne is a perfect place to host the first race of the season."

6.2 Malaysian Grand Prix.

21 March 2004	**Sepang**
Circuit length	5.543 km
Race distance	56 laps/310,408 km
Winner 2003	Raikkonen (McLaren-Mercedes)
Pole position 2003	1:37.044 min (Alonso, Renault)
Fastest lap 2003	1:36.412 min (M. Schumacher, Ferrari)
Lap record	1:36.412 min (M. Schumacher, Ferrari)
Tire wear	low to average
GP Website	www.malaysiangp.com.my
Start local time/UTC	15:00/07:00

Ralf Schumacher:
"Sepang is a very modern circuit and I like the country a lot. I also don't mind the frequently extreme weather conditions with very high temperatures and torrential rain. Naturally, I remember 2002 when I won the Grand Prix ahead of my team mate. That was the first one-two victory for our team. But my performance in the race last year wasn't bad – I still battled my way to fourth place from 17th on the starting grid. At any rate, I like going to Malaysia and racing there."

6.3 Bahrain Grand Prix.

4 April 2004	**Bahrain International Circuit**
Circuit length	5.411 km
Race distance	57 laps/308.427 km
Winner 2003	–
Pole position 2003	–
Fastest lap 2003	–
Lap record	–
Tire wear	not known
GP Website	www.bahreingp.com
Start local time/UTC	14:00/11:00

Juan Pablo Montoya:
"Obviously this is the first time we will race in Bahrain so no one knows anything about it the track. Everyone will be on a total learning curve when we get there so it's going to be pretty interesting, but exciting too. I know a few of the drivers have visited the track and given it the thumbs up. It's a Tilke-designed circuit so it should be one of the best on the calendar. As long as it's fast and challenging, I'll be happy!"

6.4 San Marino Grand Prix.

25 April 2004	**Imola (ITA)**
Circuit length	4.933 km
Race distance	62 laps/305,609 km
Winner 2003	M. Schumacher (Ferrari)
Pole position 2003	1:22.327 min (M. Schumacher, Ferrari)
Fastest lap 2003	1:22.491 min (M. Schumacher, Ferrari)
Lap record	1:22.491 min (M. Schumacher, Ferrari)
Tire wear	low
GP Website	www.autodromoimola.com
Start local time/UTC	14:00/12:00

Juan Pablo Montoya:
"Imola marks the start of the European rounds on the calendar so the whole team looks forward to going there as it's closer to home. Although we have to adjust the set up of the car to accommodate the cooler temperatures after the heat of Australia and Malaysia, the car generally suits the track. Last year was not a good race for me though; due to a problem with a fuel rig I came home in only seventh place. Hopefully this year we'll be more successful."

6.5 Spanish Grand Prix.

9 May 2004	**Barcelona**
Circuit length	4.730 km
Race distance	65 laps/307.324 km
Winner 2003	M. Schumacher (Ferrari)
Pole position 2003	1:17.762 min (M. Schumacher, Ferrari)
Fastest lap 2003	1:20.143 min (M. Schumacher, Ferrari)
Lap record	1:20.143 min (M. Schumacher, Ferrari)
Tire wear	high
GP Website	www.circuitcat.com
Start local time/UTC	14:00/12:00

Ralf Schumacher:
"The Circuit de Catalunya offers virtually all the different corners possible and that's why virtually no other circuit has so much testing carried out on it as that circuit. You'd think that it would be a routine matter for the teams to set up their cars there. But actually this circuit presents one of the most challenging missions for drivers and engineers alike when it comes to finding a good setup. This is a result of the highly variable conditions here due to the wind and the altitude. Four high-speed bends also demand harder tires and mean that aerodynamic efficiency is particularly important. Barcelona itself is a fantastic city. And not far from the circuit is what I believe to be the best restaurant in the entire Formula One calendar."

6.6 Monaco Grand Prix.

23 May 2004	**Monte Carlo**
Circuit length	3.340 km
Race distance	78 laps/260.520 km
Winner 2003	Montoya (BMW WilliamsF1 Team)
Pole position 2003	1:15.259 min (R. Schumacher, BMW WilliamsF1 Team)
Fastest lap 2003	1:14.545 min (Raikkonen, McLaren-Mercedes)
Lap record	1:14.545 min (Raikkonen, McLaren-Mercedes)
Tire wear	low
GP Website	www.acm.mc
Start local time/UTC	14:00/12:00

Juan Pablo Montoya:
"Winning the race at Monaco last year was really special for me as I hadn't won a Grand Prix since Monza '01. It was also really good for the team as we hadn't won in Monaco for 20 years. It's a tough race though, very challenging on the cars and the drivers as the track is so unforgiving. You also need to make sure you qualify well as it's really hard to make up places during the race because of the lack of overtaking opportunities."

6.7 European Grand Prix.

30 May 2004	**Nürburgring (GER)**
Circuit length	5.148 km
Race distance	60 laps/308,863 km
Winner 2003	R. Schumacher (BMW WilliamsF1 Team)
Pole position 2003	1:31.523 min (Raikkonen, McLaren-Mercedes)
Fastest lap 2003	1:32.621 min (Raikkonen, McLaren-Mercedes)
Lap record	1:32.226 min (M. Schumacher, Ferrari)
Tire wear	average to high
GP Website	www.nuerburgring.de
Start local time/UTC	14:00/12:00

Ralf Schumacher:
"I was ecstatic about my victory last year. The Nürburgring is my home race and that's why it's something rather special. I grew up in Kerpen and of course it's not far from the circuit. I often used to go there and when I first got my driving licence, I drove on the incredible north loop. Meanwhile, I've driven on the circuit 18 times.
After I finished kart racing, I won my first race there, incidentally with a BMW engine in the Formula Junior Championship. The latest change to the circuit isn't quite to my taste. It's rather too slow for my liking."

6.8 Canadian Grand Prix.

13 June 2004	**Montreal**
Circuit length	4.361 km
Race distance	70 laps/305.270 km
Winner 2003	M. Schumacher (Ferrari)
Pole position 2003	1:15.529 min (R. Schumacher, BMW WilliamsF1 Team)
Fastest lap 2003	1:16.040 min (Alonso, Renault)
Lap record	1:15.960 min (Montoya, BMW WilliamsF1 Team)
Tire wear	low
GP Website	www.grandprix.ca
Start local time/UTC	13:00/17:00

Ralf Schumacher:
"After all the battles, I always look forward to starting up on the grid in Canada.
This Grand Prix is a highlight of the year. The atmosphere in Montreal is very friendly and the former Olympic and Expo site on the island in the St Laurence River has it's own particular charm. As far as I'm concerned, the circuit has a great layout and very good safety precautions, given that it's not a permanent circuit. Having said that, the setup is anything but easy. You need a finely balanced car with a high level of aerodynamic efficiency and traction. You also need good brakes and a lot of power. Last year went pretty well for me. I took pole position and finished up in second place. I want to build on that."

6.9 U.S. Grand Prix.

20 June 2004	**Indianapolis**
Circuit length	4.192 km
Race distance	73 laps/306.016 km
Winner 2003	M. Schumacher (Ferrari)
Pole position 2003	1:11.670 min (Raikkonen, McLaren-Mercedes)
Fastest lap 2003	1:11.473 min (M. Schumacher, Ferrari)
Lap record	1:11.473 min (M. Schumacher, Ferrari)
Tire wear	low
GP Website	www.brickyard.com
Start local time/UTC	14:00/19:00

Juan Pablo Montoya:
"The Brickyard is a really exciting track with plenty of rhythm. It's very fast and has loads of overtaking opportunities thanks to the long straight and the first turn at the entrance to the oval section, it also suits our car fairly well. The US Grand Prix is like my home race as my old CART team was based nearby and I won the Indy 500 there in 2000 so I always want to do well there. The atmosphere is always pretty special, with loads of people all having a great time and playing music.
Last year's race was not good for me with the drive through penalty from my incident with Rubens Barrichello and the changeable weather conditions. Hopefully I'll have a better race this year."

6.10 British Grand Prix.

4 July 2004	**Silverstone**
Circuit length	5.141 km
Race distance	60 laps/308.355 km
Winner 2003	Barrichello (Ferrari)
Pole position 2003	1:21.209 min (B arrichello, Ferrari)
Fastest lap 2003	1:22.236 min (Barrichello, Ferrari)
Lap record	1:22.236 min (Barricello, Ferrari)
Tire wear	high
GP Website	www.silverstone-circuit.co.uk
Start local time/UTC	13:00/12:00

Juan Pablo Montoya:
"Silverstone is on WilliamsF1's doorstep so it's our home race and therefore special for everyone involved. We do a reasonable amount of testing at Silverstone throughout the year so we're always quite well prepared when it comes to set up. The circuit itself has a good combination of slow, medium and fast corners, and three long straights that offer plenty of overtaking opportunities. The weather can often be a little too temperamental for my liking though and can play a big part in deciding the outcome. I didn't qualify particularly well last year, but managed to climb up to second by the end."

6.11 French Grand Prix.

11 July 2004	**Magny-Cours**
Circuit length	4.411 km
Race distance	70 laps/308,586 km
Winner 2003	R. Schumacher (BMW WilliamsF1 Team)
Pole position 2003	1:15.019 min (R. Schumacher, BMW WilliamsF1 Team)
Fastest lap 2003	1:15.512 min (Montoya, BMW WilliamsF1 Team)
Lap record	1:15.045 min (Coulthard, McLaren Mercedes)
Tire wear	average to high
GP Website	www.magnycours.com
Start local time/UTC	14:00/12:00

Ralf Schumacher:
"Magny-Cours is a modern, challenging circuit. It's a lot of fun and I have some good memories from there. In 2001, I took my first pole position for the BMW WillamsF1 Team and I won there last year. Juan came in second and that meant we achieved our second one-two win in a row in 2003. The fact that the circuit near Nevers is not one of the most universally popular venues in the calendar is solely to do with the surrounding area – a kind of no-mans' land. The big airports are a long way away and the hotel situation is not so good, but this is irrelevant considering what we as a team have achieved here."

6.12 German Grand Prix.

25 July 2004	**Hockenheim**
Circuit length	4.574 km
Race distance	67 laps/306.458 km
Winner 2003	Montoya (BMW WilliamsF1 Team)
Pole position 2003	1:15.167 min (Montoya, BMW WilliamsF1 Team)
Fastest lap 2003	1:14.917 min (Montoya, BMW WilliamsF1 Team)
Lap record	1:14.917 min (Montoya, BMW WilliamsF1 Team)
Tire wear	low to average
GP Website	www.hockenheim.de
Start local time/UTC	14:00/12:00

Ralf Schumacher:
"Hockenheim is naturally a big event for BMW and for me as a German driver. We have achieved some first-class results there. Things also looked good in 2003 with second place on the grid for me and pole position for Juan. But then I was involved in the unfortunate crash at the start. Juan's victory with a lead of more than a minute showed that we were well ahead there. As far as I'm concerned, the circuit has benefited from the radical reconstruction. The long straights through the woodland have disappeared since 2002. They were paradise for our BMW engine but I never particularly liked them. The new layout is much better for the spectators. There's a good opportunity to overtake ahead of the hairpin bend and the twisty inner section has a good rhythm."

6.13 Hungarian Grand Prix.

15 August 2004	**Budapest**
Circuit length	4.384 km
Race distance	70 laps/306.873 km
Winner 2003	Alonso (Renault)
Pole position 2003	1:21.688 min (Alonso, Renault)
Fastest lap 2003	1:22.095 min (Montoya, BMW WilliamsF1 Team)
Lap record	1:22.095 min (Montoya, BMW WilliamsF1 Team)
Tire wear	average to high
GP Website	www.hungaroring.hu
Start local time/UTC	14:00/12:00

Juan Pablo Montoya:
"I've always liked the city of Budapest but I can't say the actual circuit is one of my favorites on the calendar, it just reminds me of a kart track because it's so narrow. I always seem to qualify on the dirty side of the track as well which doesn't help! Last year's race wasn't great as I lost a lot of positions at the start which I had to make up during the pit stops. I managed to cross the line in third which I'll be looking to improve upon this time around."

6.14 Belgium Grand Prix.

29 August 2004	**Spa-Francorchamps**
Circuit length	6.963 km
Race distance	44 laps/306.355 km
Winner 2002	M. Schumacher (Ferrari)
Pole position 2002	1:43.726 min (M. Schumacher, Ferrari)
Fastest lap 2002	1:47.176 min (M. Schumacher, Ferrari)
Lap record	1:47.176 min (M. Schumacher, Ferrari)
Tire wear	high
GP Website	www.spa-francorchamps.be
Start local time/UTC	14:00/12:00

Ralf Schumacher:
"Spa is one of the last natural tracks and this gives it a particular character. It's really a kind of roller coaster that you drive round yourself. Nowhere else is a lap longer than at this venue, there are many fast sections, and then there are those tight curves and the compression in the famous Eau-Rouge bend. However, I find the myths that have evolved around this dip a bit exaggerated. It underwent minor reconstruction and was updated to make it less dangerous a few years ago. Now any modern Formula One car with a good setup can go through this dip at full throttle. For all the charm that Spa undoubtedly has, you have to admit that the run-off areas are no longer state of the art. Modern racing tracks look different – some of them are more boring, but generally speaking they're safer."

6.15 Italian Grand Prix.

12 September 2004	**Monza**
Circuit length	5.793 km
Race distance	53 laps/306.720 km
Winner 2003	M. Schumacher (Ferrari)
Pole position 2003	1:20.963 min (M. Schumacher, Ferrari)
Fastest lap 2003	1:21.832 min (M. Schumacher, Ferrari)
Lap record	1:21.832 min (M. Schumacher, Ferrari)
Tire wear	low to average
GP Website	www.monzanet.it
Start local time/UTC	14:00/12:00

Juan Pablo Montoya:
"Monza is always a special place for me as I won my maiden Grand Prix there in 2001. 2002 wasn't such a great year although I qualified on pole, but 2003 was much better as I finished second behind Michael. Monza is a solid, high speed circuit and one we test at a lot throughout the year so we always have a good amount of data to rely on for achieving optimum set up."

6.16 Chinese Grand Prix.

26 September 2004	**Shanghai**
Circuit length	5.455 km
Race distance	56 laps/305.480 km
Winner 2003	–
Pole position 2003	–
Fastest lap 2003	–
Lap record	–
Tire wear	not known
GP Website	–
Start local time/UTC	tba

Ralf Schumacher:
"Of course it's difficult to judge a circuit you've never driven on. But I was there in October 2003 and I've also talked to Herman Tilke, who has designed some other excellent circuits. This layout looks even more promising. There are some long straights, some extended curves where you'll certainly be able to overtake, and there are also some tight curves. It all promises to be very exciting. When you step back and take a look at the project, it almost seems as if money is no object. I think that in many respects, Shanghai will set new standards."

6.17 Japanese Grand Prix.

10 October 2004	**Suzuka**
Circuit length	5.807 km
Race distance	53 laps/307.573 km
Winner 2003	Barrichello (Ferrari)
Pole position 2003	1:31.713 (Barrichello, Ferrari)
Fastest lap 2003	1:33.408 (R. Schumacher, BMW WilliamsF1 Team)
Lap record	1:33.408 (R. Schumacher, BMW WilliamsF1 Team)
Tire wear	high
GP Website	www.suzuka.com
Start local time/UTC	14:30/05:30

Juan Pablo Montoya:
"On paper, Suzuka is the most difficult track to drive but I still enjoy it and count it among my favorites. It is fast and similar to Spa, with lots of changes of direction which suits my driving style. The S-bends and the ultra fast 130-R are also the most challenging corners in F1. The atmosphere is always electric too, the fans are just so passionate about Formula One it's a real buzz going there. Hopefully my luck will change for this year's race, last year's was disappointing as I was forced to retire on lap nine."

6.18 Brazilian Grand Prix.

24 October 2004	**Interlagos, Sao Paulo**
Circuit length	4.309 km
Race distance	71 laps/305.909 km
Winner 2003	Fisichella (Jordan Ford)
Pole position 2003	1:13.807 (Barrichello, Ferrari)
Fastest lap 2003	1:22.032 (Barrichello, Ferrari)
Lap record	1:14.755 (M. Schumacher, Ferrari)
Tire wear	low
GP Website	www.gpbrazil.com
Start local time/UTC	14:00/17:00

Ralf Schumacher:
"Wasn't the Brazilian Grand Prix a muddle in 2003! Chaotic weather, the safety car was out so much that it almost had to make a pitstop, and then the race finished before time. The fact that the wrong man was on the podium was particularly ironic. It was bad luck for me that the race finished before time. Actually, I was on course for a podium position but I pitted just before the race was curtailed and I was only placed seventh. Interlagos basically has an exciting track but the track surface and the pits leave a bit to be desired, even following some renovation work. The city of Sao Paolo is not, however, one of my favorite travel destinations."

7. Contacts and services.

7.1 Press contacts.

WilliamsF1:

Liam Clogger, Media Manager
WilliamsF1
Grove, Wantage
Oxfordshire, OX12 0DQ, England
Phone: +44 (0) 1235 7777 06
Fax: +44 (0) 1235 7777 39
Mobile: +44 (0) 7977 275 756
liam.clogger@williamsf1.com

Silvia Hoffer, Press Officer during race weekends
Mobile: +44 7977 275 838
Fax: +44 1235 77 4444
silvia.hoffer@williamsf1.com

Team news, test results and photographs are available from:
www.bmw.williamsf1.com

BMW:

Roy Oliemuller
Motorsport Communications Manager
Phone: (201) 307-3714
Fax: (201) 930-3254
roy.oliemuller@bmwna.com

Press releases, press kits and photos can be downloaded from:
www.press.bmwgroup .com

7.2 Press services.

- **Press releases** in English and German can be obtained by e-mail or fax. We recommend the e-mail option, as material will get to you faster wherever you are. The current options are “text only + pdf-link”, “pdf-attachment” and “html”.

- **Mailing list** amendments should be sent direct to: hhientzsch@aol.com

- Press releases for the relevant Grand Prix will also be available in **French, Italian, Japanese and Spanish**.

- Current and archived Press releases, Press kits and pictures will be available **online** at the BMW PressClub under www.press.bmw.com. The Team Website www.bmw.williamsf1.com also provides a media section.

- **Previews** will be dispatched on the Friday, nine days prior to a GP.

- **Practice, qualifying and race reports** are sent out daily on GP weekends within 60 to 90 minutes of the end of a session or race.

- **Test reports** in brief are sent out following the completion of each test.

- **Test times** can be called up on a daily basis at www.bmw.williamsf1.com

- **Digital photos** can be downloaded from www.press.bmw.com
  On GP weekends, the latest images are available approximately 90 minutes after the end of sessions or races.

- **Transparencies and color prints** can be obtained through the contacts named overleaf.

- **TV footage** is recorded at every GP as well as at other team and driver appearances and material is available in unedited VNR form from any of the contacts listed.

– **CD-ROM** versions of the press kits will be available at the start and at the end of the season. The CD-ROM version is more comprehensive than the printed press kit and contains useful working information in five languages (English, German, French, Italian and Spanish), as well as up-to-date pictures and circuit maps.

8. Appendix.

8.1 WilliamsF1 – overview.

Address:	WilliamsF1, Grove, Wantage, Oxfordshire, OX12 0DQ, England
Telephone:	+44 (0) 1235 777700
General fax:	+44 (0) 1235 764705
Media office fax:	+44 (0) 1235 777739
Website:	www.bmw.williamsf1.com
Managing Director:	Frank Williams
Technical Director:	Patrick Head
Sporting Pedigree:	Nine FIA Formula One World Constructors' Championships: 1980/81/86/87/92/93/94/96/97 Seven FIA Formula One World Drivers' Championships: 1980/82/87/92/93/96/97
First GP entered:	Argentina 1978
First GP victory:	Britain 1979, Clay Regazzoni
Pole positions:	123 (as at end of 2003 season)
Race victories:	112 (as at end of 2003 season)

8.1.1 WilliamsF1 – the story.

WilliamsF1 is one of the world's leading Formula One teams. Formed in 1977 by Frank Williams and Patrick Head, the company has secured 16 FIA Formula One World Championship titles. Nine of these titles have been won in the Constructors' Championship in association with Cosworth, Honda and Renault. The remaining seven titles are Driver's Championships, won with Alan Jones, Keke Rosberg, Nelson Piquet, Nigel Mansell, Alain Prost, Damon Hill and Jacques Villeneuve.

Today WilliamsF1 employs around 475 personnel at a 40ha technology campus based in the heart of the UK's "Motorsport Valley" in rural Oxfordshire. The company's core competencies are the design and manufacture of Formula One race cars, and the deployment of this expertise in running the team's entries into 16 or more Grands Prix each season.

Away from the race track, WilliamsF1 has grown into a significant international business over a quarter of a century, and its achievements earned its founder, Frank Williams, a knighthood in the 1999 New Year's Honors List to augment France's highest decoration, the Legion d'Honneur. Corporately, WilliamsF1 has also been awarded two Queen's Awards for Export Achievement, and is today recognized as one of the most enduring and successful organizations in global sport.

The company's business model is relatively unique. WilliamsF1 is one of the very few wholly independent Formula One teams and its income is largely derived from sponsorship. Supplementing this are a number of secondary income streams, including an international business and conferencing facility at the company's Grove HQ, with an extensive interactive museum tracing twenty six years of success in Formula One.

After a long apprenticeship in lower categories of motor sport, Frank Williams and Patrick Head's alliance commenced in 1977 and has been one of sport's enduring relationships. With a staff of only 17, the company's first true collaboration was the Head designed FW06, financed by a portfolio of Saudi Arabian sponsors recruited by Williams. With dependable finance and a

competitive race car, the final part of the jigsaw for the embryonic team was the recruitment of the talented Australian driver, Alan Jones. The FW06 was a strong first foray into Formula One for the partnership, and claimed a second place in the 1978 US Grand Prix.

1979 marked Williams Grand Prix Engineering's first significant milestone. Jones was joined in the team by the Swiss driver, Clay Regazzoni, and the pair showed strongly in the team's home race at Silverstone. When Jones disappointingly retired from the lead, Regazzoni went on to claim the British team's inaugural victory. Jones picked up the baton and went on to win a further four GPs during the remainder of the season.

Jones carried the team into the 1980's, claiming both the Constructors' and Drivers' World Championships in the first year of the decade. Jones was not quite able to repeat the feat in 1981, but the team did claim its second Constructors' title.

The following season, Williams' Champion, Alan Jones decided to stand down and retire, and his berth in the team was picked up by the charismatic Finn, Keke Rosberg. Rosberg carried the team's fortunes in 1982, and although a third consecutive Constructors' title was denied the team, Rosberg claimed the Drivers' silverware.

1983 marked the start of Williams' association with its first true engine supplier, Honda. In a bid to stay on level terms with the emerging manufacturer teams, it was essential that Williams availed itself of the nascent turbo technology. In the last race of the year at Kyalami in South Africa, the partnership with the Japanese engine maker broke cover, and although 1983 and 1984 were learning years, the team claimed its first win with Honda in Dallas on July 8, 1984, and meanwhile had moved to a state-of-the-art new facility just a mile from their original home in Didcot.

The following year Rosberg was joined by Nigel Mansell to campaign the first carbon-chassis race car designed by Patrick Head, the FW10. The season was a portend of what was to come, with both drivers sharing four race wins. By 1986, the Williams-Honda partnership on paper was adjudged to be the

pick of the bunch, but the high expectations for the season ahead were cruelly interrupted when Team Principal, Frank Williams, sustained devastating injuries as the result of a road accident when returning from a pre-season test session at the Paul Ricard circuit in France.

While Frank convalesced in hospital, the former Brazilian World Champion Nelson Piquet joined the squad and together with Mansell, the pair claimed nine GP wins and earned Williams its fifth World title. In spite of now being confined to a wheelchair, Frank Williams returned to work to head his eponymous organization. The riches continued unabated in 1987, with Piquet claiming another Drivers' crown, while Mansell played the bridesmaid for the second year in succession, but nevertheless made a substantial contribution to the team's fourth FIA Formula One World Constructors' Championship. The driver pairing of Mansell and Piquet produced one of the most unrelenting spars in the sport's history, and Williams' reluctance to intervene and impose team orders on the pair is a testament to the team's commitment to truly competitive racing.

Having established itself as the most successful team of the decade by 1987, the team's fortunes were due to taper significantly with the departure of engine supplier, Honda, who defected to McLaren at the end of the season. Williams was forced to fall back on a purchased supply of normally aspirated Judd engines, while suffering from the double blow of losing its champion, Nelson Piquet, to Team Lotus.

The regroup in 1988 involved signing the experienced Italian, Riccardo Patrese, and marshalling resources for the medium term. Part of this strategy came to fruition in July 1988 when the company signed a three year deal with Renault for the exclusive supply of their new V10 engines. By 1989, Head had developed the FW13 purposely for the new French engine, and Mansell's replacement, Thierry Boutsen, scored Williams-Renault's first race win in Canada, and by the end of the year, the team was back to a more familiar second place in the Constructors' table.

The 1990 season started well, although ultimately did not mark an improvement over the previous year, but in a twist of fate Mansell was back in the cockpit of a Williams by November of that year to test the FW13B in preparation for racing for the team the following year. In '91 Mansell and Patrese took the fight to McLaren, and although the team came off second best, they scored seven race wins on the way. From the one-two finish at the start of the following season in South Africa, the team romped to a record season in which Mansell won the first five races of the year, concluding his tally with nine GP victories and 14 pole positions. Patrese followed Mansell in the Drivers' table, and Renault won their first Constructors' title in convincing fashion.

The exercise was compellingly repeated in 1993 in partnership with Renault, albeit with Alain Prost and Damon Hill piloting the FW15C to ten Grand Prix wins. When Prost, the reigning World Champion announced his retirement at the end of the season, it left the door open for the racing legend Ayrton Senna to join the team.

In the third race of the season at Imola in Italy, Senna's car left the track at the notorious Tamburello corner, crashing into a concrete retaining wall at high speed. The Brazilian ace was killed, and the shock waves reached far beyond Formula One. The team was left devastated, and as a mark of respect, only one car was entered for the following race in Monaco.

For the remainder of the season, Damon Hill was partnered by team test driver David Coulthard apart from occasional appearances by Nigel Mansell who raced in four Grands Prix between his Indy Car commitments in the USA. In such a tragic year, it was testimony to the resilience of the team that they retained their Constructors' title.

Coulthard's mature performance during the maelstrom of the 1994 season earned the young Scot a full time seat for 1995, partnering Damon Hill. The Renault-powered pairing claimed five victories and Hill was the only genuine threat to Michael Schumacher who claimed the Drivers'

Championship. The winter of 1995 also marked the start a major relocation of the team's headquarters to new, purpose built facilities some ten miles distant at Grove. The new factory was formally opened by HRH The Princess Royal on 29th October 1996.

Jacques Villeneuve joined the team for 1996, and was to prove Damon Hill's sternest challenger for the Drivers' title. The pair shared 12 race wins, and although Williams claimed the Constructors' title by the Hungarian GP, the decider in the Drivers' Championship was the season's final race at Suzuka. In the event, Hill prevailed, and was crowned champion.

Heinz-Harald Frentzen partnered Villeneuve in 1997, and the Canadian, who had come so close to winning a title in his rookie year, made up for the disappointment by beating Michael Schumacher to the silverware in the final race of the season at Jerez in Spain. The year also marked Williams' 100th Grand Prix win, coincidentally recorded at the scene of their very first Formula One victory some 18 years before at Silverstone.

1998 marked another watershed with a wholesale change in technical regulations, the departure of design guru Adrian Newey and Renault's withdrawal from Formula One. Reliant on badged Mecachrome/Supertec engines lacking a full development programme, the team struggled but was buoyed by the signing of a major new collaboration with BMW. Into 1999, the team fielded new drivers Ralf Schumacher and Alex Zanardi, but was still hampered by the profound changes that had impacted the team in 1998.

The new millennium was ushered in with the promise of the new partnership with BMW. Ralf Schumacher stayed with the team, but Zanardi gave way for Jenson Button, and in the debut season for the new Anglo-German partnership, they finished the year in an extremely creditable third place in the Constructors' Championship.

2001 marked a stride up the expectation curve with Schumacher partnered by the ebullient Colombian, Juan Pablo Montoya. Schumacher claimed the partnership's first race win in San Marino, and went on to claim a further two victories during the season. Rookie Montoya, bursting with the promise of

sensational achievements in the US CART series had to wait until the Italian Grand Prix to claim his maiden race win, but the season was a tangible step forward from the initial collaboration between WilliamsF1 and BMW in 2000.

2002 promised much, with technical regulation stability, a retained driver line-up, and BMW promising to provide the best engine in the pit lane. Despite an early season win in Malaysia for Schumacher, the season proved to be a hard battle with a potent Ferrari team. However, the season was not without its milestones, including seven pole positions for Montoya, who also broke one of WilliamsF1's long standing Formula One records for the fastest ever lap speed set by Keke Rosberg in an FW10 at Silverstone some 17 years prior. The team finished the season as runners up in the Constructors' Championship, another step on from their record of the previous season.

Despite a disappointing start to the 2003 season, the team's fortunes turned upon entering the European rounds. With a much-improved FW25, Juan Pablo Montoya stormed to victory at Monaco, breaking the team's 20-year nemesis on the streets of Monte Carlo. Success for Ralf followed shortly afterwards, with the German leading his team-mate to a one-two victory at the Nürburgring and again one week later at Magny-Cours. Juan Pablo secured the fourth, and final, victory for the team on BMW's home soil at Hockenheim.

With an unmatched reliability record, and both cars scoring points in 12 out of the 16 races, the Constructors' Championship was only resolved at the last race of the season at Suzuka. Although the team ended the season second to Ferrari, the deficit was considerably smaller than that in 2002, the Anglo-German partnership was only 14 points shy of its first Championship title.

8.1.2 WilliamsF1 – titles, wins, pole positions.

FIA Formula One World Championship Constructors' titles:
1980
1981
1986
1987
1992
1993
1994
1996
1997

FIA Formula One World Championship Drivers' titles:

1980	– Alan Jones
1982	– Keke Rosberg
1987	– Nelson Piquet
1992	– Nigel Mansell
1993	– Alain Prost
1996	– Damon Hill
1997	– Jacques Villeneuve

112 Grand Prix victories (as at end of 2003 season):

		Grand Prix	Circuit	Driver
1979	14.07.	Britain	Silverstone	Clay Regazzoni
	29.07.	Germany	Hockenheim	Alan Jones
	12.08.	Austria	Österreichring	Alan Jones
	26.08.	Holland	Zandvoort	Alan Jones
	30.09.	Canada	Montreal	Alan Jones
1980	13.01.	Argentina	Buenos Aires	Alan Jones
	18.05.	Monaco	Monte Carlo	Carlos Reutemann
	29.06.	France	Le Castellet	Alan Jones
	13.07.	Britain	Brands Hatch	Alan Jones
	28.09.	Canada	Montreal	Alan Jones
	05.10.	USA East	Watkins Glen	Alan Jones
1981	15.03.	USA West	Long Beach	Alan Jones
	29.03.	Brazil	Jacarepagua	Carlos Reutemann
	17.05.	Belgium	Zolder	Carlos Reutemann
	17.10.	USA	Las Vegas	Alan Jones
1982	29.08.	Switzerland	Dijon	Keke Rosberg
1983	15.05.	Monaco	Monte Carlo	Keke Rosberg
1984	08.07.	USA	Dallas	Keke Rosberg
1985	23.06.	USA	East Detroit	Keke Rosberg
	06.10.	Europe	Brands Hatch	Nigel Mansell
	19.10.	South Africa	Kyalami	Nigel Mansell
	03.11.	Australia	Adelaide	Keke Rosberg

1986	23.03.	Brazil	Jacarepagua	Nelson Piquet
	25.05.	Belgium	Spa	Nigel Mansell
	15.06.	Canada	Montreal	Nigel Mansell
	06.07.	France	Le Castellet	Nigel Mansell
	13.07.	Britain	Brands Hatch	Nigel Mansell
	27.07.	Germany	Hockenheim	Nelson Piquet
	10.08.	Hungary	Hungaroring	Nelson Piquet
	17.08.	Italy	Monza	Nelson Piquet
	21.09.	Portugal	Estoril	Nigel Mansell
1987	13.05.	San Marino	Imola	Nigel Mansell
	05.07.	France	Le Castellet	Nigel Mansell
	12.07.	Britain	Silverstone	Nigel Mansell
	26.07.	Germany	Hockenheim	Nelson Piquet
	09.08.	Hungary	Hungaroring	Nelson Piquet
	16.08.	Austria	Österreichring	Nigel Mansell
	06.09.	Italy	Monza	Nelson Piquet
	27.09.	Spain	Jerez	Nigel Mansell
	18.10.	Mexico	Mexico City	Nigel Mansell
1989	18.06.	Canada	Montreal	Thierry Boutsen
	05.11.	Australia	Adelaide	Thierry Boutsen
1990	13.05.	San Marino	Imola	Riccardo Patrese
	12.08.	Hungary	Hungaroring	Thierry Boutsen
1991	16.06.	Mexico	Mexico City	Riccardo Patrese
	07.07.	France	Magny-Cours	Nigel Mansell
	14.07.	Britain	Silverstone	Nigel Mansell
	28.07.	Germany	Hockenheim	Nigel Mansell
	08.09.	Italy	Monza	Nigel Mansell
	22.09.	Portugal	Estoril	Riccardo Patrese
	29.09.	Spain	Barcelona	Nigel Mansell
1992	01.03.	South Africa	Kyalami	Nigel Mansell
	22.03.	Mexico	Mexico City	Nigel Mansell
	05.04.	Brazil	Interlagos	Nigel Mansell
	03.05.	Spain	Barcelona	Nigel Mansell
	17.05.	San Marino	Imola	Nigel Mansell
	05.07.	France	Magny-Cours	Nigel Mansell
	12.07.	Britain	Silverstone	Nigel Mansell
	26.07.	Germany	Hockenheim	Nigel Mansell
	27.09.	Portugal	Estoril	Nigel Mansell
	25.10.	Japan	Suzuka	Riccardo Patrese
1993	14.03.	South Africa	Kyalami	Alain Prost
	25.04.	San Marino	Imola	Alain Prost
	09.05.	Spain	Barcelona	Alain Prost
	13.06.	Canada	Montreal	Alain Prost
	04.07.	France	Magny-Cours	Alain Prost
	11.07.	Britain	Silverstone	Alain Prost
	25.07.	Germany	Hockenheim	Alain Prost
	15.08.	Hungary	Hungaroring	Damon Hill
	29.08.	Belgium	Spa	Damon Hill
	12.09.	Italy	Monza	Damon Hill

1994	29.05.	Spain	Barcelona	Damon Hill
	10.07.	Britain	Silverstone	Damon Hill
	28.08.	Belgium	Spa	Damon Hill
	11.09.	Italy	Monza	Damon Hill
	25.09.	Portugal	Estoril	Damon Hill
	06.11.	Japan	Suzuka	Damon Hill
	14.11.	Australia	Adelaide	Nigel Mansell
1995	09.04.	Argentina	Buenos Aires	Damon Hill
	30.04.	San Marino	Imola	Damon Hill
	13.08.	Hungary	Hungaroring	Damon Hill
	24.09.	Portugal	Estoril	David Coulthard
	12.11.	Australia	Adelaide	Damon Hill
1996	10.03.	Australia	Melbourne	Damon Hill
	31.03.	Brazil	Interlagos	Damon Hill
	07.04.	Argentina	Buenos Aires	Damon Hill
	28.04.	Europe	Nürburgring	Jacques Villeneuve
	05.05.	San Marino	Imola	Damon Hill
	16.06.	Canada	Montreal	Damon Hill
	30.06.	France	Magny-Cours	Damon Hill
	14.07.	Britain	Silverstone	Jacques Villeneuve
	28.07.	Germany	Hockenheim	Damon Hill
	11.08.	Hungary	Hungaroring	Jacques Villeneuve
	22.09.	Portugal	Estoril	Jacques Villeneuve
	13.10.	Japan	Suzuka	Damon Hill
1997	30.03.	Brazil	Interlagos	Jacques Villeneuve
	13.04.	Argentina	Buenos Aires	Jacques Villeneuve
	27.04.	San Marino	Imola	Heinz-Harald Frentzen
	25.05.	Spain	Barcelona	Jacques Villeneuve
	13.07.	Britain	Silverstone	Jacques Villeneuve
	10.08.	Hungary	Hungaroring	Jacques Villeneuve
	21.09.	Austria	A1 Ring	Jacques Villeneuve
	28.09.	Luxembourg	Nürburgring	Jacques Villeneuve
2001	15.04.	San Marino	Imola	Ralf Schumacher
	10.06.	Canada	Montreal	Ralf Schumacher
	29.07.	Germany	Hockenheim	Ralf Schumacher
	16.09.	Italy	Monza	Juan Pablo Montoya
2002	17.03.	Malaysia	Sepang	Ralf Schumacher
2003	01.06.	Monaco	Monte Carlo	Juan Pablo Montoya
	29.06.	Europe	Nürburgring	Ralf Schumacher
	06.07.	France	Magny-Cours	Ralf Schumacher
	03.08.	Germany	Hockenheim	Juan Pablo Montoya

123 Pole Positions (as at end of 2003 season):

		Grand Prix	Circuit	Driver
1979	14.07.	Britain	Silverstone	Alan Jones
	30.09.	Canada	Montreal	Alan Jones
	07.10.	USA East	Watkins Glen	Alan Jones
1980	13.01.	Argentina	Buenos Aires	Alan Jones
	04.05.	Belgium	Zolder	Alan Jones
	10.08.	Germany	Hockenheim	Alan Jones
1981	17.05.	Belgium	Zolder	Carlos Reutemann
	17.10.	USA	Las Vegas	Carlos Reutemann
1982	18.07.	Britain	Brands Hatch	Keke Rosberg
1983	13.03.	Brazil	Jacarepagua	Keke Rosberg
1985	07.07.	France	Le Castellet	Keke Rosberg
	21.07.	Britain	Silverstone	Keke Rosberg
	19.10.	South Africa	Kyalami	Nigel Mansell
1986	25.05.	Belgium	Spa	Nelson Piquet
	15.06.	Canada	Montreal	Nigel Mansell
	13.07.	Britain	Brands Hatch	Nelson Piquet
	26.10.	Australia	Adelaide	Nigel Mansell
1987	12.04.	Brazil	Jacarepagua	Nigel Mansell
	17.05.	Belgium	Spa	Nigel Mansell
	31.05.	Monaco	Monte Carlo	Nigel Mansell
	21.06.	USA East	Detroit	Nigel Mansell
	05.07.	France	Le Castellet	Nigel Mansell
	12.07.	Britain	Silverstone	Nelson Piquet
	26.07.	Germany	Hockenheim	Nigel Mansell
	09.08.	Hungary	Hungaroring	Nigel Mansell
	16.08.	Austria	Österreichring	Nelson Piquet
	06.09.	Italy	Monza	Nelson Piquet
	27.09.	Spain	Jerez	Nelson Piquet
	18.10.	Mexico	Mexico City	Nigel Mansell
1989	13.08.	Hungary	Hungaroring	Riccardo Patrese
1990	12.08.	Hungary	Hungaroring	Thierry Boutsen
1991	02.06.	Canada	Montreal	Riccardo Patrese
	16.06.	Mexico	Mexico City	Riccardo Patrese
	07.07.	France	Magny-Cours	Riccardo Patrese
	14.07.	Britain	Silverstone	Nigel Mansell
	28.07.	Germany	Hockenheim	Nigel Mansell
	22.09.	Portugal	Estoril	Riccardo Patrese
1992	01.03.	South Africa	Kyalami	Nigel Mansell
	22.03.	Mexico	Mexico City	Nigel Mansell
	05.04.	Brazil	Interlagos	Nigel Mansell
	03.05.	Spain	Barcelona	Nigel Mansell
	17.05.	San Marino	Imola	Nigel Mansell

	31.05.	Monaco	Monte Carlo	Nigel Mansell
	05.07.	France	Magny-Cours	Nigel Mansell
	12.07.	Britain	Silverstone	Nigel Mansell
	26.07.	Germany	Hockenheim	Nigel Mansell
	16.08.	Hungary	Hungaroring	Riccardo Patrese
	30.08.	Belgium	Spa	Nigel Mansell
	13.09.	Italy	Monza	Nigel Mansell
	27.09.	Portugal	Estoril	Nigel Mansell
	25.10.	Japan	Suzuka	Nigel Mansell
	08.11.	Australia	Adelaide	Nigel Mansell
1993	14.03.	South Africa	Kyalami	Alain Prost
	28.03.	Brazil	Interlagos	Alain Prost
	11.04.	Europe	Donington	Alain Prost
	25.04.	San Marino	Imola	Alain Prost
	09.05.	Spain	Barcelona	Alain Prost
	23.05.	Monaco	Monte Carlo	Alain Prost
	13.06.	Canada	Montreal	Alain Prost
	04.07.	France	Magny-Cours	Damon Hill
	11.07.	Britain	Silverstone	Alain Prost
	25.07.	Germany	Hockenheim	Alain Prost
	15.08.	Hungary	Hungaroring	Alain Prost
	29.08.	Belgium	Spa	Alain Prost
	12.09.	Italy	Monza	Alain Prost
	26.09.	Portugal	Estoril	Damon Hill
	24.10.	Japan	Suzuka	Alain Prost
1994	27.03.	Brazil	Interlagos	Ayrton Senna
	17.04.	Pacific	Aida	Ayrton Senna
	01.05.	San Marino	Imola	Ayrton Senna
	03.07.	France	Magny-Cours	Damon Hill
	10.07.	Britain	Silverstone	Damon Hill
	14.11.	Australia	Adelaide	Nigel Mansell
1995	26.03.	Brazil	Interlagos	Damon Hill
	09.04.	Argentina	Buenos Aires	David Coulthard
	28.05.	Monaco	Monte Carlo	Damon Hill
	02.07.	France	Magny-Cours	Damon Hill
	16.07.	Britain	Silverstone	Damon Hill
	30.07.	Germany	Hockenheim	Damon Hill
	13.08.	Hungary	Hungaroring	Damon Hill
	10.09.	Italy	Monza	David Coulthard
	24.09.	Portugal	Estoril	David Coulthard
	01.10.	Europe	Nürburgring	David Coulthard
	22.10.	Pacific	Aida	David Coulthard
	12.11.	Australia	Adelaide	Damon Hill
1996	10.03.	Australia	Melbourne	Jacques Villeneuve
	31.03.	Brazil	Interlagos	Damon Hill
	07.04.	Argentina	Buenos Aires	Damon Hill
	28.04.	Europe	Nürburgring	Damon Hill
	02.06.	Spain	Barcelona	Damon Hill
	16.06.	Canada	Montreal	Damon Hill
	14.07.	Britain	Silverstone	Damon Hill
	28.07.	Germany	Hockenheim	Damon Hill
	25.08.	Belgium	Spa	Jacques Villeneuve

	08.09.	Italy	Monza	Damon Hill
	22.09.	Portugal	Estoril	Damon Hill
	13.10.	Japan	Suzuka	Jacques Villeneuve
1997	09.03.	Australia	Melbourne	Jacques Villeneuve
	30.03.	Brazil	Interlagos	Jacques Villeneuve
	13.04.	Argentina	Buenos Aires	Jacque s Villeneuve
	27.04.	San Marino	Imola	Jacques Villeneuve
	11.05.	Monaco	Monte Carlo	Heinz-Harald Frentzen
	25.05.	Spain	Barcelona	Jacques Villeneuve
	13.07.	Britain	Silverstone	Jacques Villeneuve
	24.08.	Belgium	Spa	Jacques Villeneuve
	21.09.	Austria	A1 Ring	Jacques Villeneuve
	12.10.	Japan	Suzuka	Jacques Villeneuve
	26.10.	Europe	Jerez	Jacques Villeneuve
2001	01.07.	France	Magny-Cours	Ralf Schumacher
	28.07.	Germany	Hockenheim	Juan Pablo Montoya
	01.09.	Belgium	Spa	Juan Pablo Montoya
	15.09.	Italy	Monza	Juan Pablo Montoya
2002	30.03.	Brazil	Interlagos	Juan Pablo Montoya
	25.05.	Monaco	Monte Carlo	Juan Pablo Montoya
	08.06.	Canada	Montreal	Juan Pablo Montoya
	22.06.	Europe	Nürburgring	Juan Pablo Montoya
	06.07.	Britain	Silverstone	Juan Pablo Montoya
	20.07.	France	Magny-Cours	Juan Pablo Montoya
	14.09.	Italy	Monza	Juan Pablo Montoya
2003	31.05.	Monaco	Monte Carlo	Ralf Schumacher
	14.06.	Canada	Montreal	Ralf Schumacher
	05.07.	France	Magny-Cours	Ralf Schumacher
	02.08.	Germany	Hockenheim	Juan Pablo Montoya

8.2 BMW – overview.

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Biggest success in Formula One:	FIA Drivers' Formula One World Championship in 1983, Nelson Piquet, Brabham BMW
First GP entered:	South Africa 1982, Nelson Piquet and Riccardo Patrese, Brabham BMW
First GP victory:	Canada 1982, Nelson Piquet, Brabham BMW
Pole positions:	30 (as at end of 2003 season)
Victories:	18 (as at end of 2003 season)

The BMW Group has set itself the goal of becoming the most successful premium manufacturer in the automobile industry on the basis of the brands BMW, MINI and Rolls-Royce. That's why the company has introduced a product and market offensive without parallel in the history of the company. More new models will be launched on the market than ever before. This is intended to increase the sales of the BMW Group to 1.4 million automobiles by the year 2008.

The BMW Group delivered more than 1,057 million cars to customers under the BMW and MINI brands in 2002. This corresponds to an increase of more than 17 percent. These record sales figures were again exceeded in 2003.

The BMW Group has 32 sales companies worldwide and is also represented by importers in another 100 markets abroad. The production network has 24 sites in 15 countries on four continents.

8.2.1 BMW Motorsport – the story.

A pledge to perform.
BMW's motor sport successes embrace motorcycles, touring cars and sports cars, desert rallies, Formula 2 and Formula One. Innovative technology for sporting competition and a constant quest for new records has been part of the company's philosophy ever since the early days and explains why the history of BMW reveals an impressive motor sport record.

Milestones from the MilleMiglia to the M1.
Claiming new world records and winning new championships time and again with both aircraft engines and motorcycles, it didn't take BMW long to become a highly successful player in car racing as well. One of the company's first international successes in touring car racing was a one-two victory in the legendary Italian Mille Miglia road race (1,000 miles) with the BMW 328 back in 1940.

Touring car racing was initially less significant in post-war Germany, motorcycle rider Schorsch Meier bringing home countless wins and scoring many records on his BMW boxer, becoming a popular hero in the process.

In 1960 BMW celebrated another outstanding achievement in motor racing. Hans Stuck senior, the 60-year-old hill-climbing king from Grainau near Garmisch, brought home the German Hill-Climb Championship.
In 1966 Hubert Hahne, driving a BMW 2000Ti, became the first driver to lap the northern circuit of Nürburgring in less than ten minutes.

The BMW 2002 that helped to make Dieter Quester the European Touring Car Champion in 1968 and 1969 was the first car of its kind to feature turbocharger technology. The successful racing teams at the time were Alpina, Koepchen and Schnitzer, their best drivers including not only Quester but also Hans-Joachim Stuck, Toine Hezemans, Ronnie Petersen, Chris Amon, Helmut Kelleners, and later Niki Lauda.

Between 1973 and 1979 the BMW 3.0 CSL won no less than six European Touring Car Championships. And driving a Schnitzer Team BMW 320, Harald Ertl became the German Motor Racing Champion of 1978.

It was at this time, between 1973 and 1982, that BMW's four-cylinder power unit also set the standard in Formula 2 for young, up-and-coming drivers, with Jean-Pierre Jarier clinching the 1973 European Championship and Patrick Depailler, Jacques Laffite, Bruno Giacomelli, Marc Surer and Corrado Fabi following in his footsteps, in 1974, 1975, 1978, 1979 and 1982 respectively. Later, all of these drivers successfully moved up to Formula One.

In 1979 and 1980, BMW introduced an all-new idea into Formula One Grand Prix racing as a special add-on activity – the Procar Series. In this high-class cup trophy featuring the BMW M1 road-going sports car, young talent regularly took on the fastest five drivers in Formula One qualifying.

Entering 1981, BMW also scored an outstanding success in an entirely different discipline, with French rider Hubert Auriol winning the motorcycle category of the Paris-Dakar desert rally on his BMW. He then repeated his victory in 1983 while Gaston Rahier repeated the success by winning the title also on a BMW in 1984 and 1985.

Formula One with shattering power.

On the 24th of April 1980, BMW announced its entry into Formula One as an engine supplier. Taking a standard production four-cylinder engine block, Paul Rosche built a 16-valve power unit reduced in size to 1.5 liters. Running on special fuel and featuring an exhaust gas turbocharger operating at an absolute pressure of 2.9 bar equal to an overpressure of 1.9 bar, this engine started its career with maximum output of approximately 650 bhp – and ended its career with up to 1,400 bhp. Reflecting on this Rosche says, "We weren't able to say exactly how powerful the engine was, since our dynamometers back then didn't go beyond 1,280 bhp." But whatever the maximum output of the engine was, shattering power was certainly the name of the game.

On the 23rd of January 1982 Nelson Piquet and Riccardo Patrese started the first race of the season in Kyalami, South Africa, from the first row in Brabham BMW's first entry – only then to retire shortly afterwards on account of an accident, and, respectively, loss of oil.

On the 9th of May 1982, racing the new engine for its fifth time, Piquet scored his first World Championship points, finishing fifth in the Belgian Grand Prix. His first outright win was on the 13th of June of the same year in Montreal, his first pole position on the 15th of August in the Austrian Grand Prix in Zeltweg.

Entering the 1983 FIA Formula One World Championship, Brabham's design wizard Gordon Murray had responded to a new technical rule remarkably quickly. Brabham's Director Bernie Ecclestone even referred to the Brabham BT 52 as the "first car of a new generation". BMW turbo power was up once again, and Piquet was indeed far ahead of the competition right from the start in the first race of the season in Sao Paulo. So Brazilian Nelson Piquet won his home race, where for the first time a third BMW turbo driver also made his appearance on the track together with Piquet and Patrese – Manfred Winkelhock in the ATS BMW.

World Champion after 630 days.
The 1983 season was a real thriller. It took Nelson Piquet twelve races and exactly half a year before once again reaching the finish line as the winner. But Piquet kept his nerves and sc ored points consistently. The team perfected Murray's idea of the "planned pitstop", a calculation based on the fact that a car carrying less fuel and thus lighter in weight was significantly faster, making it worthwhile to come into the pits in order to fill up the tank. Following this strategy, Piquet came home the winner two more times – in Monza and Brands Hatch. Finishing third in the final race in Kyalami was sufficient to give him the World Championship just 630 days after the BMW power unit had made its first appearance.

In 1984 Piquet finished fifth in the World Championship. In the course of the season Manfred Winkelhock as well as the two brothers Teo and Corrado Fabi also raced for Brabham. Starting out initially with ATS, Winkelhock had the opportunity back then to make the acquaintance of a new team mate – Gerhard Berger making his debut in Formula One.

One year later Berger teamed up with Thierry Boutsen to drive an Arrows BMW, Nelson Piquet once again – for the last time – finishing the season as BMW's best driver: No. 8 in the World Championship in a Brabham BMW. In 1986 Berger took over this role as the fastest driver powered by BMW,

finishing seventh in the World Championship. In Mexico he had scored the last victory with a BMW four-cylinder, powering a Benetton, production of BMW Formula One engines ceasing at the end of 1987 – the turbo era in Formula One was over.

In the European Touring Car Championship, the impressive BMW 635 CSi Coupe driven by the Schnitzer Team was the car to beat during the 1980s. After individual victories in 1985, the Italian Roberto Ravaglia took the European Championship title in 1986.

The BMW M3 driving machine.
The lean and mean successor to the 6 Series Coupe made its first appearance on the race track in 1987 – the BMW M3, an outstanding driving machine developing maximum output of 355 bhp from its 2.5-liter four-cylinder. In its very first year of racing, the M3 helped Italian driver Roberto Ravaglia to clinch the World Championship, then win his second European Championship one year later. In 1989 Ravaglia won the German Touring Car Championship in a BMW M3, followed by the Italian Championship in 1990 and 1991. Up to 1992, finally, BMW M3 drivers scored more than 1,500 individual wins and won more than 50 international titles.

Talent promotion in Formula racing.
Since 1991, BMW and ADAC have jointly run a talent promotion scheme for Formula racing. This junior class allows 15-year-olds to drive small Formula racing cars featuring BMW motorcycle engines and gearboxes. It was in this series that Ralf Schumacher, now driving for the BMW WilliamsF1 Team, cut his teeth in Formula racing back in 1993. From 1998 to 2001 the series was divided into two classes.

Two-liter touring cars: the stars of the 1990s.
In the 1990s BMW once again built a touring car of the highest standard for a new category of touring car racing related more closely to regular production models – Class 2 or the two-liter class, referred to later as super touring cars or, quite simply, STW for short. 1997 the racing version of the BMW 3 Series (E36) was awarded the World Cup by FIA, the World Motorsport Federation, as the most successful touring car the world over.

From 1993–1998 the BMW 320i scored no less than 29 international championships, three of them in Germany: Johnny Cecotto claimed the German title in 1994 and 1998, Joachim Winkelhock in 1995. And on the 14th of June 1998 BMW celebrated a very special victory, a BMW 320 powered by an ultra-modern diesel engine winning the 24 Hours of Nürburgring. The winning drivers were Hans-Joachim Stuck, Christian Menzel, Marc Duez, and Andreas Bovensiepen. Never before had a diesel-powered touring car clinched an overall win in such a 24-hour race.

This triumph was BMW's 16th victory in this classic endurance race at Nürburgring ever since the first white-and-blue car claimed the winner's laurels back in 1970. The winner back then, incidentally, was also Hans-Joachim Stuck driving a BMW 2002Ti at the time. Moving on to Spa-Francorchamps in Belgium, BMW touring cars have won the 24-hour race here no less than 21 times up to the year 1998.

Once again, BMW finished the 1998 super touring car season with a big bang, BMW Motorsport Team Schnitzer again winning the crown in STW with Johnny Cecotto at the wheel. And now BMW started to concentrate on an ambitious sports car project and, in particular, the Company's re-entry into Formula One in the year 2000.

The desert foxes again: Dakar victories for BMW Motorcycles.
In January 1999, the 28-year-old French BMW F 650 rider Richard Sainct was hotly pursued through the desert from Granada to Dakar for 17 long days by strong opposition from the KTM team. But he kept ahead, and after 9,062 tough kilometers crossed the line by the relatively slim margin of four minutes, nine seconds. A year later, BMW's triumph in the Paris-Dakar-Cairo Rally was fourfold – and once again the victor was Richard Sainct on BMW F 650 RR, followed across the line by BMW team mates Oscar Gallardo, Jimmy Lewis and Jean Brucy.

Marathon men – Le Mans or bust!
At exactly 16.00 on the 13th of June 1999 BMW scored its first overall win in the king of all 24-hour races, the classic 24 Hours of Le Mans. Following the highly successful McLaren Formula One GTR fixed-head sports car powered by a BMW V12 already winning the title in 1995, a further developed,

upgraded version of this engine now for the first time brought home victory in an open -top sports car. The BMW Le Mans Roadster was engineered in collaboration with WilliamsF1 in Grove. The new partnership claimed a maiden victory.

The Le Mans race was also the first event for BMW under the new Motorsport Directors Gerhard Berger and Mario Theissen. The team itself was made up of specialists from BMW, WilliamsF1 and Schnitzer, all of them working together closely with Charly Lamm.

At the wheel of their BMW V12 LMR, winning drivers Joachim Winkelhock (D), Pierluigi Martini (I) and Yannick Dalmas (F), covered 366 laps each measuring 13.6 km or 8.4 miles. Clearly, this was reason enough for a big party in the BMW pits, although some words of consolation were also due for Tom Kristensen (DK), JJ Lehto (FIN), and Jörg Müller (D), the drivers of the second BMW V12 LMR, which far in the lead, had been forced to retire shortly before twelve noon on Sunday due to a loose bolt. This was after taking over the lead on Saturday afternoon at 17.29 and remaining ahead of the pack for more than 18 hours! For 9 long hours starting shortly after 3 am in the morning, BMW hadeven dominated one of the best starting grids in the history of Le Mans, with BMW cars consistently keeping a one -two lead.

BMW's sports car with its 580 bhp, six-liter V12 engine also proved its star qualities in America. Already in March 1999 Kristensen/Lehto/Müller claimed victory in the 12 Hours of Sebring (Florida), and the Le Mans triumph was followed by a further three wins in the American Le Mans Series (ALMS) – a new series governed by the same technical regulations as Le Mans.

Lehto and Müller also gleaned two victories in the 2000 ALMS, pitting their 1999 BMW against the new models of the rival teams. The racing duo won the second and third events of the season in Charlotte (USA) and Silverstone (GB).

Gearing up for a Formula One comeback.
On the 8th of September 1997, at the Frankfurt Motor Show, BMW announced the board's decision to return to Formula One in 2000 in partnership with WilliamsF1 after an absence of twelve years.

Paul Rosche built the BMW V10-cylinder and supervised the construction of the new engine plant in Munich close to BMW's Research & Development Centre.

On the 1st of October 1998, Gerhard Berger assumed his new post as Motorsport Director, and in April 1999, engineer Mario Theissen joined him as a second Motorsport Director. In December 1998 BMW took on Jörg Müller as a Formula One test driver.

By the summer of 1999 the team had grown to almost 200. Paul Rosche, who had been building successful racing engines for BMW for 42 years, had turned 65 on the 1st of April and retired at the end of 1999.

On the 27th of April 1999, at 9:26 hrs, BMW began circuit-testing the Formula One engine – to start with on the company's own test track in Miramas, France. The test bed was a 1998 WilliamsF1 chassis, driven by Müller. The 1st of December 1999 marked the opening chapter of the BMW WilliamsF1 Team story at Jerez in Southern Spain.
(See season reviews at the front of this press kit.)

BMW M3 GTR takes title in America in 2001.
In the 2001 season, BMW switched from the proto type to the GT class in the ALMS with the ultimate driving machine in the shape of the new BMW M3 GTR. Under the management of Charly Lamm, this muscular Coupe swept the board: BMW works driver Jörg Müller won the Drivers' Championship, BMW Motorsport won the Team title, and BMW took the Manufacturers' title in the company's key export market.

Comeback of the European Touring Car Championship.
After Peter Kox (NLD) in a BMW 320i in near-production trim won the 17th European Touring Car Championship for BMW in 2001, the 2002 ETCC became a pillar of international BMW motorsport – not as a classic factory sport, however, but by virtue of the involvement of various national sales companies fielding up to five national teams. BMW Team Germany under the aegis of Schnitzer-Motorsport fared best of all, with BMW works drivers Jörg Müller and Dirk Müller claiming second and fourth places in the European Touring Car Championship. In the manufacturers' ratings BMW took a comfortable second place.

The ETCC 2003 ran like a thriller until the very last round with the BMW Teams Germany, Italy-Spain and Great Britain. After BMW had already secured the constructors' title in the penultimate round, Jörg Müller had to admit defeat in the battle for the drivers' title with a deficit of one point. The two Müllers in the BMW Team Germany fielded by Schnitzer Motorsport were again the strongest duo with the BMW 320i.

Formula BMW – the benchmark for promoting new talent.
In 2002, the new Formula BMW was launched and set fresh standards for promoting new talent, particularly when it comes to safety engineering. The first champion of the new Formula BMW ADAC Championship was the 17-year-old Finn Nico Rosberg. The son of former Formula One World Champion Keke Rosberg came through with nine wins in a field of 28 competitors from nine nations.

In 2003, 30 youngsters from 14 countries lined up on the starting grid in Germany. The duel between the two Germans Maximilian Götz and rookie Sebastian Vettel shaped the season – and was finally decided in that order.

The debut season for Formula BMW Asia saw the Chinese driver Ho-Pin Tung come out ahead. Like Rosberg the year before, he was rewarded with a Formula One test in the BMW WilliamsF1 Team.

Internationalisation of Formula BMW continues: sister series have been introduced in Great Britain (Formula BMW UK) and North America (Formula BMW USA) for the 2004 season.

8.2.2 BMW Motorsport – chronology of success.

17.6.1919	BMW's first world record – flying a plane powered by a BMW six-cylinder, Zeno Diemer reaches an altitude of 9,760 meters or 32,013 feet.
1925–1926	The BMW R37 motorcycle claims more than 200 wins and two German championships.
28.11.1937	World motorcycle speed record – riding a BMW, Ernst Jakob Henne reaches the speed of 279.5 km/h or 173.29 mph on an autobahn near Frankfurt.
1936–1953	Schorsch Meier wins seven motorcycle championships on a BMW boxer.
1940	The BMW 328 finishes first, second, fourth and fifth in the Mille Miglia road race in Italy.
1954–1973	Winning sidecars: Racing boxer motorcycles with fuel injection, BMW wins 19 World Championships in motorcycle sidecar racing.
1960	Hans Stuck senior wins the German Hill-Climb Championship in a BMW 700.
1964	Hubert Hahne wins the German Circuit Championship in a BMW 1800Ti.
1966	Josef Schnitzer wins the German Touring Car Championship at the wheel of a BMW 2000Ti; racing a BMW 2000Ti, Hubert Hahne becomes the first driver to lap the northern circuit of Nürburgring (22.835 km or 14.16 miles) in less than ten minutes; his exact time is 9:58.5.
1968	The radial four-valve power unit named after BMW designer Karl Apfelbeck makes its debut in Formula 2 and in the BMW Monti. Running on nitromethane, the engine sets up no less than eight world records; Dieter Quester driving a BMW 2002 wins the European Touring Car Championship.
1969	Dieter Quester again wins the European Touring Car Championship at the wheel of a BMW 2002 powered for the first time by a turbocharged engine.
1970	Hans-Joachim Stuck wins the 24 Hours of Nürburgring at the wheel of a BMW 2002Ti; BMW's 1600-cc Formula 2 engine scores its first victory in Salzburg, with Jacky Ickx at the wheel.
1973	Toine Hezemans wins the European Touring Car Championship in a BMW 3.0 CSL; Achim Warmbold/Jean Todt win the Austrian Alpine Race for the World Rally Championship, driving a BMW 2002.
1973–1982	Six drivers win the European Formula 2 Championship with BMW four-cylinder power: Jean-Pierre Jarier (1973), Patrick Depailler (1974), Jacques Laffite (1975), Bruno Giacomelli (1978), Marc Surer (1979), Corrado Fabi (1982).
1974	Hans-Joachim Stuck sets up a new lap record at Nürburgring at the wheel of a BMW 3.0 CSL – 8:09.6.

1977	The BMW Junior Team – Eddie Cheever, Marc Surer and Manfred Winkelhock – make their debut in the BMW 320.
1978	Driving for Team Schnitzer, Harald Ertl wins the German Motor Racing Championship at the wheel of a BMW 320 Turbo.
up to 1979	The BMW 3.0 CSL wins a total of six European championships.
1979–1980	Formula One and touring car drivers enter the Procar Series at Grand Prix events, introducing a top-class brand trophy featuring the BMW M1 sports car.
1980-1998	BMW Team Schnitzer score nine wins in the Macau Touring Car Race: 1980, 1981, 1983, 1987, 1988, 1991, 1992, 1994, 1998.
1980	Siegfried Müller jun, Team Eggenberger, wins the European Touring Car Championship in a BMW 635 Csi.
1981	Helmut Kelleners/Umberto Grano bring home the European Touring Car Championship in a BMW 635 CSi; Hubert Auriol riding a BMW R80 wins the motorcycle category in the Paris-Dakar Rally; Piquet and Riccardo Patrese at the wheel, score their first Formula One points on the 9th of May in Zolder at the Belgian Grand Prix (Piquet finishing fifth); first GP wins in Montreal on the 13th of June in the Canadian GP (fifth race, Piquet); first pole position in Zeltweg on the 15th of August, in the Austrian GP (Piquet).
1983	Nelson Piquet wins the Driver's Formula One World Championship at the wheel of a Brabham BMW; first appearance of the BMW Formula One engine with the ATS Team (Manfred Winkelhock); Dieter Quester, Team Schnitzer, wins the European Touring Car Championship in a BMW 635 CSi; Hubert Auriol riding a BMW R80 wins the motorcycle category in the Paris-Dakar Rally.
1984	Volker Strycek, Team Gubin, wins the German Touring Car Championship (DTM) at the wheel of a BMW 635 CSi; Nelson Piquet finishes fifth in the Formula One World Championship in a Brabham BMW; Teo Fabi, Corrado Fabi, and Manfred Winkelhock also drive a Brabham BMW; Gerhard Berger and Manfred Winkelhock drive an ATS BMW; Gaston Rahier wins the motorcycle category of the Paris-Dakar Rally on a BMW R80.
1985	Nelson Piquet finishes eighth in the Formula One World Championship at the wheel of a Brabham BMW; François Hesnault and Marc Surer drive a Brabham BMW, Gerhard Berger and Thierry Boutsen an Arrows BMW; Gaston Rahier wins the motorcycle category of the Paris-Dakar Rally on a BMW R80.
1985–1995	BMW Team Schnitzer wins the 24 Hours of Spa-Francorchamps no less than five times: 1985, 1986, 1988, 1990, 1995.

1986	BMW supplies engines to the Brabham (Riccardo Patrese, Elio de Angelis, Derek Warwick), Arrows (Marc Surer, Thierry Boutsen, Christian Danner), and Benetton (Gerhard Berger, Teo Fabi) Formula One teams; Berger brings home the last Grand Prix for a BMW 1.5-liter four-cylinder turbo in Mexico and finishes seventh in the World Championship; Roberto Ravaglia, Team Schnitzer, wins the European Touring Car Championship in a BMW 635 Csi.
1987	Roberto Ravaglia, BMW M Team, wins the World Touring Car Championship in a BMW M3; Winni Vogt, BMW M Team, wins the European Touring Car Championship in a BMW M3; Eric van de Poele, BMW Junior Team, wins the German Touring Car Championship (DTM); The BMW M3 wins the FIA Manufacturer's Trophy for Group A cars in the European Hill-Climb Championship; Helmut König wins the Austrian Touring Car Championship in a BMW M3; Per Gunnar Andersson wins the Swedish Touring Car Championship in a BMW M3; Hansueli Ulrich wins the Swiss Touring Car Championship in a BMW M3; Bernard Beguin/Jean-Jacques Lenne, Team ProDrive, win the Corsica race for the World Rally Championship in a BMW M3; Jose Maria Ponce/Jose Carlos Deniz win the Spanish Rally Championship in a BMW M3; Xavier Riera wins the Spanish Touring Car Hill-Climb Championship in a BMW M3; Matthias Moosleitner/Margit Tüchler win the Mitropa Rally Cup in a BMW M3; Brabham (Riccardo Patrese, Andrea de Cesaris, Stefano Modena) still use BMW engines in the Formula One World Championship; by the end of the turbo era, BMW engines look back at 91 starts, nine wins, 15 pole positions.
1988	Roberto Ravaglia, Team Schnitzer, wins the European Touring Car Championship in a BMW M3; Trevor Crowe wins the Asian-Pacific Championship in a BMW M3; Francis Dosierès wins the European Touring Car Hill-Climb Championship in a BMW M3; Jim Richards wins the Australian Touring Car Championship in a BMW M3; Fabien Giroix wins the French Touring Car Championship in a BMW M3; Mika Arpiainen wins the Finnish Touring Car Championship in a BMW M3; Arthur van Dedem wins the Dutch Touring Car Championship in a BMW M3; 'Pequepe' wins the Portuguese Touring Car Championship in a BMW M3.
1989	Roberto Ravaglia, Team Schnitzer, wins the German Touring Car Championship (DTM) in a BMW M3; Johnny Cecotto wins the Italian Touring Car Championship in a BMW M3; Frank Sytner wins the English Touring Car Championship in a BMW M3; Harri Toivonen/Heikki Salmenautio win the Finnish Touring Car Championship in a BMW M3; Jean Pierre Malcher wins the French Touring Car Championship in a BMW M3; Arthur van Dedem wins the Dutch Touring Car Championship in a BMW M3;

	"Pequepe" wins the Portuguese Touring Car Championship in a BMW M3; Lennart Bohlin wins the Swedish Touring Car Championship in a BMW M3; Marc Duez/Alain Lopes win the Belgian Rally Championship in a BMW M3; François Chatriot/Michel Perin win the French Rally Championship in a BMW M3; Giuseppe Zarpellon wins the Italian Hill-Climb Championship in a BMW M3.
1990	Roberto Ravaglia, Team Schnitzer, wins the Italian Touring Car Championship in a BMW M3; Jean-Michel Martin wins the Belgian Touring Car Championship in a BMW M3; Heikki Salmenautio wins the Finnish Touring Car Championship in a BMW M3; Per Gunnar Andersson wins the Swedish Touring Car Championship in a BMW M3; Josep Bassas/Antonio Rodrigues win the Spanish Rally Championship in a BMW M3; Xavier Riera wins the Spanish Touring Car Hill-Climb Championship in a BMW M3.
1991	Will Hoy wins the British Touring Car Championship in a BMW M3; Tony Longhurst wins the Australian Amscar Series in a BMW M3; Jean-Pierre Malcher wins the French Touring Car Championship in a BMW M3; Roberto Ravaglia wins the Italian Touring Car Championship in a BMW M3; Cor Euser wins the Dutch Touring Car Championship in a BMW M3; Francis Dosierès wins the French Touring Car Hill-Climb Championship in a BMW M3; Hansueli Ulrich wins the Swiss Touring Car Championship in a BMW M3; Peter Zakowski wins the private driver category in the German Touring Car Championship (DTM) in a BMW M3; Formula Junior, BMW's and ADAC's joint talent programme, enters its first season.
1992	Johnny Cecotto, Team Fina Motorsport, finishes fourth in the German Touring Car Championship (DTM) in a BMW M3; Team Bigazzi win the 24 Hours of Spa with a BMW 320i.
1993	Johnny Cecotto, Team Warthofer, wins the ADAC GT Cup in a BMW M3 GTR; Joachim Winkelhock, Team Schnitzer, wins the British Touring Car Championship in a BMW 318i.
1994	Johnny Cecotto, Team Warthofer, wins the ADAC Touring Car Cup in a BMW 320i; Joachim Winkelhock, Team Schnitzer, wins the Asian-Pacific Championship in a BMW 318is; Tony Longhurst wins the Australian Touring Car Championship in a BMW 318i; Thierry Tassin, Team Valier, wins the Belgian Touring Car Championship in a BMW 318is; Shaun van der Linde wins the South African Touring Car Championship in a BMW 318is; Roberto Ravaglia/Alexander Burgstaller/Thierry Tassin, Team Bigazzi, win the 24 Hours of Spa in a BMW 320i.

1995	Joachim Winkelhock, Team Schnitzer, wins the ADAC Super Touring Car Cup in a BMW 320i; Steve Soper, Team Schnitzer, wins the Japanese Touring Car Championship in a BMW 320i; Paul Morris wins the Australian Touring Car Championship in a BMW 318i; Thierry Tassin wins the Belgian Touring Car Championship in a BMW 318is; Yvan Muller, Team Oreca, wins the French Touring Car Championship in a BMW 318is; Per Gunnar Andersson wins the Scandinavian Touring Car Championship in a BMW 318is; JJ Lehto/Yannick Dalmas/Masanori Sekiya win the 24 Hours of Le Mans in a BMW V12-powered McLaren Formula One GTR; Roberto Ravaglia/Alexander Burgstaller/Marc Duez, Team Bigazzi, win the 24 Hours of Nürburgring in a BMW 320i; Joachim Winkelhock/Steve Soper/Peter Kox, Team Schnitzer, win the 24 Hours of Spa in a BMW 318is.
1996	Eric Cayrolle wins the French Touring Car Championship in a BMW 318is; Alexander Burgstaller/Thierry Tassin/Jörg Müller, Team Fina Bastos, win the 24 Hours of Spa in a BMW 318is.
1997	The BMW 320i wins the FIA Touring Car World Cup; Paul Morris wins the Australian Touring Car Championship in a BMW 320i; Didier de Radiguès wins the Belgian Touring Car Championship in a BMW 320i; Heikki Salmenautio wins the Finnish Touring Car Championship in a BMW 320i; Eric Cayrolle wins the French Touring Car Championship in a BMW 320i; Emanuele Naspetti wins the Italian Touring Car Championship in a BMW 320i; Duncan Huisman wins the Dutch Touring Car Championship in a BMW 320i; Craig Baird wins the New Zealand Touring Car Championship in a BMW 320i; Oscar Larrauri wins the South American Touring Car Championship in a BMW 318is; Charles Kwan wins the South-East-Asian Touring Car Championship in a BMW 320i; Bill Auberlen, Tom Milner Racing, wins the Exxon Supreme GT Series Driver's and Manufacturer's Championship, G T3 Class, in a BMW M3; Didier de Radiguès/Eric Hélary/Marc Duez, Team Fina Bastos, win the 24 Hours of Spa in a BMW 320is; Steve Soper, Team Bigazzi, wins the Macau Touring Car Race in a BMW 320i; Sabine Reck/ Johannes Scheid/Peter Zakowski, Team Scheid, win the 24 Hours of Nürburgring in a BMW M3; Geoff and David Brabham win the Bathurst 1000 in a BMW 320i; JJ Lehto/Steve Soper, Team BMW Motorsport, finish 2nd in the FIA GT Championship in a McLaren BMW; Jean Marc Gounon/Anders Olofsson/Pierre -Henri Raphanel, Gulf Team Davidoff, Peter Kox/Roberto Ravaglia/Eric Hélary, Team BMW Motorsport, finish second and third in the 24 Hours of Le Mans in a McLaren BMW (McLaren Formula One GTR with a BMW V12); Joachim Winkelhock, BMW Team Bigazzi, finishes second in the ADAC Super Touring Car Cup in a BMW 320i.

1998	Johnny Cecotto, BMW Motorsport Team Schnitzer, wins the German Super Touring Car Championship (STW) in a BMW 320i; Fredrik Ekblom, BMW Dealer Team, wins the Swedish Touring Car Championship in a BMW 320i; Charles Kwan, Team EKS Motorsport, wins the South-East-Asian Touring Car Championship in a BMW 320i; Eric Cayrolle, Team Sda, wins the French Touring Car Championship in a BMW 320i; Oscar Larrauri, Team Proas, wins the South American Touring Car Championship in a BMW 320i; Sinisa Kosutic, Team Valier, wins the Croatian Touring Car Championship in a BMW 320i; Arto Salmenautio, OS Motorsport, wins the Finnish Sport 2000 Touring Car Championship in a BMW 320i; Brett Riley wins the New Zealand Touring Car Championship in a BMW 320i; Luca Capellari, Team Duller, wins the International Group N above 3000 cc in a BMW M3; Cameron McLean wins the Private Driver's Category in the Australian Touring Car Championship in a BMW 320i; Mark Peters wins the private driver's category in the Bankfin Touring Car Championship South Africa in a BMW 318is; Thomas Winkelhock, Brinkmann Motorsport, wins the German Touring Car Challenge in a BMW 320i; Sabine Reck/Johannes Scheid, Team Scheid, win the German Veedol Nürburgring Endurance Trophy in a BMW M3; Mark Simo, PTG M3 Team, wins the Driver's, Constructor's and Team categories in the US Professional Sports Car Series in a BMW M3 GT3; Ross Bentley, PTG M3 Team, wins the Driver's, Constructor's and Team Categories in the US Road Racing Championship in a BMW M3 GT3; Tim Sugden/Steve O'Rourke win the English GT Championship in a BMW V12-powered McLaren Formula One GTR; Hans-Joachim Stuck/Christian Menzel/Marc Duez/Andreas Bovensiepen, Team Warthofer, win the 24 Hours of Nürburgring in a BMW 320d; Bill Auberlen/Marc Duez/Boris Said, PTG M3 Team, win the GT3 Class in the 24 Hours of Daytona in a BMW M3; Alain Cudini/Marc Duez/Eric van de Poele, Team Juma, win the 24 Hours of Spa in a BMW 320i; Joachim Winkelhock, Team Schnitzer, wins the Macau Touring Car Race in a BMW 320i; Markus Moufang/Rüdiger Hähner win the German Rally Challenge in a BMW M3; Otokar Kramski wins the European Touring Car Hill-Climb Championship in a BMW M3; Eric Pernot wins the French Touring Car Hill-Climb Championship in a BMW M3.
1999	Yannick Dalmas/Pierluigi Martini/Joachim Winkelhock, BMW Motorsport, win the 24 Hours of Le Mans in a BMW V12 LMR; Tom Kristensen/JJ Lehto/Jörg Müller, Team BMW Motorsport, win the 12 Hours of Sebring in a BMW V12 LMR; JJ Lehto/Steve Soper, Team BMW Motorsport, win the Sears Point, Laguna Seca and Las Vegas races for the American Le Mans Series in a BMW V12 LMR; BMW Team PTG wins the GT Class Team Cup in the American Le Mans Series with a BMW M3; Cor Euser wins the Dutch Touring Car Championship in a BMW 320i DTC; Vladimir Soukhov wins the Russian Touring Car Championship in a BMW 320i DTC;

Jason Richards wins the New Zealand Touring Car Championship in a BMW 320i DTC;
Paul Morris wins the Australian Touring Car Championship in a BMW 320i;
Charles Kwan wins the South-East-Asian Touring Car Championship in a BMW 320i;
Kim Esbjug wins the private driver's category in the Swedish Touring Car Championship in a BMW 320i;
Otokar Kramski wins the Czech Touring Car Championship in a BMW M3;
Dagmar Suster wins the Slovenian Touring Car Championship in a BMW M3;
Niko Pulic wins the European Touring Car Hill-Climb Championship in a BMW M3;
Georg Plasa wins the German Touring Car Hill-Climb Championship in a BMW 320i;
Slavko Dekleva wins the Slovenian Touring Car Hill-Climb Championship in a BMW M3;
Eric Pernot wins the French Touring Car Hill-Climb Championship in a BMW M3;
Robert Brooks/Robert Wilson win the International Special Car Series in a BMW M3;
Richard Sainct wins the motorcycle category of the Granada-Dakar Rally on a BMW F 650.

2000

Niko Pulic wins the FIA European Touring Car Hill-Climb Championship, Group A, in a BMW M3;
Franz Tschager wins the FIA Sports Car Hill-Climb Championship in an Osella BMW;
Franz Engstler wins the German Touring Car Challenge in a BMW 320i E46 DTC;
Mikhail Ukhov wins the Russian Touring Car Championship in a BMW 320i E36 DTC;
Duncan Huisman wins the Dutch Touring Car Championship in a BMW 320i E46 DTC;
Jason Richards wins the New Zealand Touring Car Championship in a BMW 320i DTC;
Alessandro Bertei wins the Italian Touring Car Championship, Group N1, in a BMW M3 E36 Group N;
Paolo La Neve wins the Italian Touring Car Championship, Group N2, in a BMW 325i E36 Group N;
Stefano Valli wins the Italian Touring Car Championship, Group N3, in a BMW 320i Group N;
Georg Severich/Luc Pensis win the Touring Car category of the Belgian Championship in a BMW 320i STC;
Xavier Riera Vilarrasa wins the Spanish Hill-Climb Championship in a BMW 320i;
First, second, third and fourth places in the motorcycle category of the Paris-Dakar-Cairo Rally go to Richard Sainct, Oscar Gallardo (both on BMW F 650 RR), Jimmy Lewis (BMW R 900 RR) and Jean Brucy (BMW F 650 RR) respectively; Jimmy Lewis wins the Dubai Rally (BMW R 900 RR).

2001	First place manufacturers', team and drivers' championship American Le Mans Series, Jörg Müller, Team BMW Motorsport, BMW M3 GTR; first place FIA European Super Production Championship, Peter Kox, Ravaglia Motorsport, BMW 320i E46 SPC; first place FIA European Hillclimbing Championship for Touring Cars, Niko Pulic, BMW M3, Group A; first place FIA European Hillclimbing Championship for Sports Cars, Franz Tschager, Osella BMW; first place German Touring Car Challenge, Markus Gedlich, BMW 320i E46 DTC; first place Dutch Touring Car Championship, Sandor van Es, BMW 320i E46 DTC; first place Italian Touring Car Championship Group N1, Stefano Valli, BMW M3; first place Italian Touring Car Championship Group N2, Alessandro Bernasconi, BMW 320i; first place ST class French Super Touring Car Championship, Yvan Lebon, BMW 320i STC; third place FIA Formula One Constructors' World Championship, BMW WilliamsF1 Team, Ralf Schumacher and Juan Pablo Montoya (four wins, four pole positions).
2002	Second place FIA Formula One Constructors' World Championship, BMW WilliamsF1 Team, Juan Pablo Montoya (third place) and Ralf Schumacher (fourth place), one double victory (Schumacher ahead of Montoya in Malaysia), seven pole positions (Montoya); second place Drivers' and Manufacturers' rankings of the FIA European Touring Car Championship (ETCC), BMW Team Germany (Schnitzer-Motorsport), Jörg Müller, BMW 320i; first place FIA European Hill-Climb Championship for Sports Cars, Franz Tschager, Osella BMW; first place Dutch Touring Car Championship, Duncan Huisman, BMW 320i; first place Italian Touring Car Championship (Super Production), Massimo Pigoli, BMW 320i; first place Russian Touring Car Championship, Komarov Grigory, BMW 320i; first place Campionato Italiano Velocità Turismo, Alberto Cerrai, BMW M3; first place Nürburgring Endurance Championship, Mario Merten, BMW 320i; first place German Hill Climb Championship, Herbert Stenger, Stenger BMW; first place Macau Touring Car Race, Duncan Huisman, BMW 320i.
2003	Second place FIA Formula One Constructors' World Championship, BMW WilliamsF1 Team, Juan Pablo Montoya (third place) and Ralf Schumacher (fifth place), two double victories (Schumacher ahead of Montoya, Europe and France), two single victories (Montoya, Monaco and Germany), four pole positions (three Schumacher, one Montoya); first place Manufacturers' Championship FIA European Touring Car Championship (ETCC) and second place Drivers' Championship, BMW Team Germany (Schnitzer-Motorsport), Jörg Müller, BMW 320i; first place German Touring Car Challenge (DTC), Claudia Hürtgen, BMW 320i DTC; first place Russian Touring Car Championship, Mikhail Ukhov, BMW 320i (E46); first place Speed World Challenge for Touring Cars in the US, Bill Auberlen, BMW 325i; first place German Hill Climb Championship, Group CN sports cars, Herbert Stenger, Stenger BMW; first place DMSB Mountain Trophy for Touring Cars, Jörg Weidinger, BMW 318is, Group G; first place Macau Touring Car Race, Duncan Huisman, BMW 320i.