Spanish Grand Prix
Circuit de Catalunya, Barcelona, 4th May 2003
5th round of the World Championship
Summary

Tolerable end to a difficult weekend.

Barcelona (ESP). For the BMW WilliamsF1 Team, it was a reasonable ending to a difficult Formula One weekend. At the Spanish Grand Prix in Barcelona, Juan Pablo Montoya and Ralf Schumacher claimed fourth and fifth places on Sunday before a crowd of 100,000, earning the team nine points in the contest for the Constructors' World Championship. World Champion Michael Schumacher in a new Ferrari celebrated his second victory of the season after 65 laps of the 4.730-kilometer Circuit de Catalunya, ahead of acclaimed local hero Fernando Alonso (Renault) and Brazilian Rubens Barrichello (Ferrari). Both McLaren-Mercedes retired early.

In the World Championship rankings following the 5th of the season's 16 races, Michael Schumacher now has 28 points, putting him within four points of the Finnish leader Kimi Raikkonen (McLaren-Mercedes). In third place is Alonso (25), ahead of Barrichello (20) and the second McLaren driver, David Coulthard (Scotland/19). Ralf Schumacher is in sixth place with 17 points, ahead of Montoya (15). It means that Ralf Schumacher and Alonso remain the only drivers who have so far managed to claim points in every race of 2003 so far. Despite coming away empty-handed, McLaren-Mercedes still top the Constructors' World Championship with 51 points, just ahead of Ferrari (48). In fourth place close behind Renault (34) is the BMW WilliamsF1 Team (32).

"After we struggled in free practice and qualifying, fourth and fifth positions for us are a reasonable result, even if we were only able to keep pace with the leaders in the first part of the race," said BMW Motorsport Director Mario Theissen after the weekend on the challenging circuit in Catalonia. Montoya was pleased with a fourth-placed finish, his second-best result of the season after coming second in the opening event in Melbourne: "I enjoyed the racing and I'm glad we could collect some points."

Ralf Schumacher, meanwhile, admitted that he had "higher expectations" after testing, but conceded after a race that proved particularly difficult for him, "We got off lightly again." That's because, when he went off into the gravel trap, the cooling air supply to the engine was damaged, turning the last eight laps into an extreme test in terms of the water and oil temperature – "one which the BMW P83 passed with flying colours," said Theissen.

An exciting race.
Championship leader Raikkonen didn't get very far. While launching from the grid he smashed into the back of Antonio Pizzonia's Jaguar, and both had to abandon the race. Another driver to be reckoned with similarly didn't get past the first lap – Jarno Trulli's Renault ended up on the trackside after a scrum at the start of the race. Before the safety car came out to lead the field around the circuit for three laps, Ralf Schumacher and Montoya had already moved up into fourth and sixth

places. The safety car phase had consequences for the BMW WilliamsF1 Team. Sam Michael, Chief Operations Engineer WilliamsF1, explains: “During the slow laps behind the leading car you naturally save fuel. Originally we had planned on three pit stops for both our cars, but after the safety car phase we switched to two stops. In retrospect,” concludes Michael, “it would have been better to stick with three stops.”

After the flying restart, Montoya applied a very late braking manoeuvre to squeeze past Jenson Button’s BAR, moving up to fifth position behind his teammate. Heading the field were the two Ferraris, in front of Alonso. That order was to remain until the first pit stops. Ralf Schumacher returned for more fuel after 18 laps, also taking on a set of fresh tyres with higher air pressure. Montoya pitted a lap later and had his front wing setting adjusted.

In the meantime, the second McLaren-Mercedes had retired. David Coulthard had to abandon the race after a collision with Button. After the leaders had completed their first pit stops, Michael Schumacher was in the lead ahead of Alonso, Barrichello, Ralf and Montoya. Cristiano da Matta in his Toyota was fast catching up with Montoya, closing the gap to the Colombian by up to a second a lap. His car was lighter as he was on a three-stop strategy – as were the Ferraris and the Renault.

Shortly before the second pit stops were due for the BMW WilliamsF1 Team, Ralf Schumacher came off the track under pressure from Alonso and damaged part of his bodywork. That affected not only the engine cooling for the remainder of the race, but also the aerodynamics, leading to oversteer.

Ralf Schumacher refuelled for the second and final time at the end of lap 24, with Montoya again following a lap later. Although it was long obvious that the leading threesome would all have to pit one more time, it soon became equally evident that the gaps were too great to be closed. Ralf Schumacher in particular could do nothing to prevent himself from losing more and more ground. Struggling with oversteer and an instruction to go easy on his engine for a while because of the impaired cooling system, he was lapped by his brother Michael on lap 62.

The fact that he managed nevertheless to salvage a fifth-placed finish was thanks to a thermically healthy engine. The temperatures even stabilized to the extent that he was able to apply more power again in the final laps and his battle against da Matta.

Montoya’s race was less spectacular: “The car wasn’t easy to drive, and I was desperate to get into the points, so I held back a bit at times,” he explained. “We had adjusted the balance one more time for the race, which made the car more difficult to drive at first, but towards the end of the race, when there was more grip on the track, the tyres worked much better and the car felt pretty good.”

Mysterious Circuit de Catalunya.
On Friday morning everything was in apple-pie order. Ralf Schumacher claimed a best time of 1:17.015 minutes in the morning’s free practice session. During

testing at the end of March he had even managed a dream time of 1:15.345 minutes. But during the first qualifying session on Friday he was suddenly 1.4 seconds slower than in practice (1:18.409 minutes) and had dropped to eleventh place. Excepting accidents or the like, there had never been such a dramatic time difference between practice and qualifying in the BMW WilliamsF1 Team's experience. Montoya slipped from sixth place in practice to 14th in qualifying.

The team was faced with a characteristic Barcelona puzzle. The technicians pored over the figures until late in the night, but after the second free practice session on Saturday morning they weren't much happier – Montoya and Schumacher ended up 15th and 16th. During final qualifying on Saturday, things began to look up a bit at last: the German driver claimed seventh place on the grid, the Colombian ninth. "Not great," was Schumacher's comment, "but at least we're in the top ten and aren't fighting a losing battle."

What was the explanation for this fluctuating performance? Schumacher suggested two reasons: "Firstly, the Circuit de Catalunya is an exceptional place. The track conditions here are constantly changing." The circuit is situated on a rise north of the city and the sea is near by – these two factors mean there's often a strong wind blowing at the circuit. This not only blows sand onto the racing line, but above all it causes strong variations in the air and track temperature. "I don't think it's ever been as hot as it was on Friday afternoon during any of our test drives," noted the driver from Kerpen.

Five deg rees more or less make a significant difference for a Formula One car. Firstly, the higher the outside temperature, the larger the cooling air intakes for the engine and transmission have to be. Any increase in any aperture, however, reduces downforce.

The other crucial factor relates to the tyres. Michelin fine -tunes its tyre compounds according to certain asphalt temperatures. As a general rule of thumb, the hotter the asphalt, the more grip a tyre can develop. If the track surface is too cool for the selected compound, the asphalt and the tyre tread don't connect well with each other. The rubber develops small pellets that detach themselves – an effect known as graining, which can turn a race into a slippery business.

In order to prevent this and to enable the tyres to develop grip even if temperatures aren't ideal, the balance – or the dynamics of the car – has to be adjusted, which involves a lot of parameters. Essentially, it's a question of roll stiffness distribution, individual aerodynamic downfo rce at the front and rear, the distribution of the tare weights front and rear, springs and dampers, and ride height. In short, if the wind rises and alters the track conditions, a lot of detailed alterations, all interacting with one another, have to be c arried out as quickly as possible. That's why it is so easy, especially in Barcelona, to get the balance wrong, although this particular track is where more testing is done than anywhere else. Extremely hot races or bad weather conditions, by comparison, present relatively simple balance tasks.

"Secondly," adds Schumacher, "we're still at an early stage of experience with the new car. We had a better hang of the FW24 and were fairly familiar with its reactions to various set-up adjustments. That's a routine we still have to develop

with the FW25." With its shorter wheelbase, the FW25 represents a completely new concept. It's a crucial turning point that makes a lot of empirical data redundant. But, says Schumacher, "I have no doubt that the new car is the better one. At Imola, for example, we showed that, as soon as we get the set-up spot on, we're up there at the front."

The fact that the BMW WilliamsF1 Team has no longer been posting the top speeds on a regular basis of late "certainly has nothing to do with the BMW engine," stresses the German driver, "but far more with our aerodynamics. Both mechanically and aerodynamically we still have a lot of work to do," he summarizes. "It's bound to take another two or three races before we have understood all that."

In brief

- Private tennis match with steep learning curve: on the Thursday morning before the Spanish Grand Prix, Juan Pablo Montoya and Arantxa Sanchez Vicario won a mixed doubles tournament at the Academia Sanchez-Casel, Barcelona. Opposing this powerful line-up were tennis-playing Formula One drivers, including test driver Marc Gené.
- On Friday, the BMW WilliamsF1 Team presented its latest merchandising collection on Barcelona's Montjuic in a glamorous show featuring stars from the international fashion scene that included top model Nadja Auermann. The collection ranges from high-quality clothing for women, men and children to numerous fashion accessories that allow fans large and small to display their allegiance in style. There are three trendy lines to choose from: the BMW WilliamsF1 Team Line, the Juan Pablo Montoya Line and the Ralf Schumacher Line. All three include a variety of shirts, sweaters and jackets, as well as the range of bestselling caps. All the items in the BMW WilliamsF1 Team collection are available from select BMW dealers or on the internet at www.bmw-motorsport.de.
- While BMW's weekend guest Nadja Auermann also made a stage appearance at the fashion show, skiing icon Sven Hannawald and his girlfriend Suska along with several-times Olympic luge champion Georg Hackl and tennis star Arantxa Sanchez Vicario remained among the spectators at both the Formula One and the fashion event. On Sunday, tennis star Tommy Haas also called on the BMW WilliamsF1 Team. Top models or leading athletes, what all the guests had in common was a keen interest in and fascination for Formula One.
- Also attending the World Championship event in Spain to assess the skills of the BMW WilliamsF1 Team were Stefan Krause, BMW Group Board Member responsible for Finance, and BMW's Chairman of the Supervisory Board, Volker Doppelfeld.

Results

Race results:

1. Michael Schumacher (Scuderia Ferrari Marlboro), 65 laps in 1 min 33:46.933 sec
2. Fernando Alonso (Mild Seven Renault F1 Team), + 5.716 sec
3. Rubens Barrichello (Scuderia Ferrari Marlboro), + 18.001 sec
4. Juan Pablo Montoya (BMW WilliamsF1 Team), + 62.022 sec
5. Ralf Schumacher (BMW WilliamsF1 Team), - 1 lap
6. Cristiano da Matta (Panasonic Toyota Racing), - 1 lap

Drivers' standings:

1. Raikkonen (32)
2. M. Schumacher (28)
3. Alonso (25)
4. Barrichello (20)
5. Coulthard (19)
6. R. Schumacher (17)
7. Montoya (15)
8. Fisichella (10)
9. Trulli (9)
10. Frentzen (7)
11. Villeneuve (3)
12. Da Matta
13. Button (3)
14. Webber (2)
13. Heidfeld (1)

Constructors' standings:

1. West McLaren Mercedes (51)
2. Scuderia Ferrari Marlboro (48)
3. Mild Seven Renault F1 Team (34)
4. BMW WilliamsF1 Team (32)
5. Jordan Ford (11)
6. Sauber Petronas (8)
7. Lucky Strike BAR Honda (6)
8. Panasonic Toyota Racing (3)
9. Jaguar Racing (2)