

How Ferrari and Bridgestone Stole the 2003 Formula 1 World Championships

By John Chuhran, Motorsports Editor

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Jaguar R4 piloted by Justin Wilson at Hungarian GP *Photo: Jaguar Racing*

After 13 rounds of the 16-race 2003 Formula 1 World Championship, race fans around the globe were savoring a classic championship battle. The top three drivers - from three different teams - were separated by just two points, and a hard-fought stretch run was expected to continue to the last lap of the final race.

Sadly, racing enthusiasts were deprived of an evenly fought competition to the end. The pressure of close competition was too intense for several major corporations supporting one of

the teams. The officials were pressured to re-interpret the legality of a key component used by the other two entrants and the Driver's and Constructor's World Championships were effectively decided with a letter and some telephone calls and meetings rather than on the race track.

It is helpful to set the stage. Entering round 13 of series (the Hungarian Grand Prix), Ferrari ace Michael Schumacher led the Driver's Championship with 71 points followed by Williams-BMW leader Juan Montoya (65) and McLaren-Mercedes youngster Kimi Raikkonen (62). The Constructor's Championship found Ferrari (120 points) leading Williams-BMW (118) and McLaren-Mercedes (103), a situation that could easily change with the 10 points that go with each race victory. Points in F1 are awarded on a 10-8-6-5-4-3-2-1 basis to the top eight finishers.

Alonso's Surprise

Renault's Fernando Alonso claimed his first F1 pole position in Hungary ahead of Ralf Schumacher's Williams-BMW and the unexpectedly quick Jaguar of Mark Webber. Montoya was the top championship contender in fourth ahead of the Ferrari of Rubens Barrichello, the second Renault of Jarno Trulli, Raikkonen, Michael Schumacher, and David Coulthard in the second McLaren.

The race provided another surprise as Alonso dominated throughout, leading the 70-lap race flag-to-flag and becoming, at 22, the first Spaniard and the youngest winner in the 54-year history of Formula 1. Behind, Raikkonen led Montoya, Ralf Schumacher, Coulthard, Webber, and Trulli to the checkered flag.

Michael Schumacher, the five-time world champion who had teamed with Ferrari to win the 2001 and 2003 championships, finished eighth and gained just a single point. More significantly, he was more than a second off the pace of his top challengers - even watching Coulthard pull away in the middle stages - and the mood in the Ferrari camp was far from happy. But the driver's championship had become a race fan's dream as Michael led the standings with 72 points - one more than Montoya and two more than Raikkonen. The constructor's championship tightened as Williams-BMW took the lead for the

first time this year with 129 points, followed by Ferrari with 121 and McLaren-Mercedes with 115.

While Ferrari and Williams-BMW both were using new cars introduced in 2003, McLaren-Mercedes was forced to enter a heavily modified version of the 2002 car after the new model failed to overcome durability problems.



**Jaguar R4 at speed during '03 Italian GP. The R5 debuts at Barcelona '04
Photo: Mark Thompson/Getty Images**

In the days following the Hungarian race, the Federacion Internationale d'le Automobile (FIA), the governing body of international auto racing, issued a letter to all F1 teams saying that, beginning at the Italian Grand Prix, tire tread width would be measured after races as well as before.

The implication was clear: some tires appeared to be in violation of article 77)c) of the FIA Sporting Regulations which says "the tread width of the front tires must not exceed 270mm." For such an accusation to arise after 13 of the 16 races had been completed, someone had to bring the situation the attention of the FIA. Someone, in this case, was Ross Brawn, Technical Director at Ferrari.

"We got hold of some photos taken in the paddock by a Japanese photographer," Brawn griped. "They showed in an unequivocal way that the front Michelin tires had an excessively large tread at the end of the race or after being used. We turned to (F1 race director) Charlie Whiting who, on the basis of his measurements and the photos, then sent the letter. We could have pretended to have seen nothing, to not let the FIA know and then lodged a complaint at the following race, but that didn't seem like the right thing to do."

There are two tire suppliers - Bridgestone and Michelin - in F1. Bridgestone had enjoyed a monopoly for several years until Michelin returned last year, and the Japanese manufacturer supplied tires to Ferrari, the team which dominated the first half of the 2002 season. But as the 2002 season progressed, Michelin began to score more victories, and this year the French manufacturer began to achieve more and more success (with Williams-BMW, McLaren-Mercedes and, as the year progressed, Renault), culminating in complete control of the Hungarian race where the two-time defending world champ was completely outclassed by, among others, Coulthard, the second-fastest McLaren-Mercedes driver who was using what was essentially a year-old car. Michelin was making Bridgestone and the new Ferrari look bad.

Given the literally hundreds of millions of dollars spent annually by Ferrari parent company FIAT and by Bridgestone in developing F1 equipment and promoting on-track success, there was a clear corporate philosophy at work: losing the F1 driver's and constructor's championships was to be avoided under all circumstances. So, if you can't beat the other guys on the track, beat them by convincing the officials to change the interpretation of the rules midway through the game.

Proof in The Scuffing?

"We have the proof, because the front tire contact patch of the Williams is 286 mm, 16 more than what is allowed by the rules," whined Hiroshi Yasukawa, Bridgestone motorsport director. "Personally, I was suspicious, but we didn't say anything because we didn't have any proof. We would have reacted before that, but we didn't have any proof until now."



Jaguar's Mark Webber at U.S. GP Indianapolis 2003 *Photo: Mark Thompson/Getty Images*

Whiting's letter to the F1 teams contained some significant wording: "With immediate effect, any part of the front tire which we consider has been in regular or systematic contact with the track will be deemed tread, and will be taken into account when measuring the width of the tire as defined in the regulations."

What the entire controversy boiled down to was a series of photographs appearing to show scuff marks ("evidence" or "proof" of contact with the pavement) extending about 8mm down each sidewall of the Michelin tires. Michelin apparently makes tires with softer sidewalls than Bridgestone and, under aggressive cornering, the Michelins apparently "roll" slightly onto the sidewall.

Since the Michelins had been having recent success, Bridgestone and Ferrari wanted to take away any performance advantage provided by the French rubber.

The Ferrari and Bridgestone position was quite disingenuous - the scuffs on the Michelin sidewalls had been evident for more than two years, but Bridgestone and Ferrari didn't seem to care

- as long as they were winning.

After the FIA letter was issued, Michelin might have considered that the implementation of new measuring standards in the middle of a season would be a violation of another aspect of article 77 of the FIA sporting regulations: "Tire specifications will be determined by the FIA no later than 1 September of the previous season. Once determined in this way, the specification of the tires will not be changed during the championship season without the agreement of the Formula One Commission." Michelin executives chose a different course of action and responded to the accusations.

A Matter of Measurement

"We presented our tires to the FIA in 2001," said Pierre Dupasquier, Michelin motorsport director, "and up to and including the (2003) Hungarian Grand Prix, the FIA has always authorized all our tires. The geometry of our tires has not changed at all since 2001. When new, the tread width of our front tires does not exceed 270mm.

"The procedure to measure the width of a contact patch as required now is unknown at the moment, which prevents any further work. We can expect some difficulties in the definition since a tire in its use can be in systematic contact with various 'objects', for example curbs, which, according to their profile and position, can touch up as far as the middle of the sidewalls.

"The new interpretation of the rules by the FIA has forced us to react. You don't think for one moment that Michelin would not respond to the challenge? Our people have been working 24 hours a day since last Wednesday and new tires are being tested in Monza as we speak. For anyone that knows anything about the tire world, to do what we've just managed is a huge achievement and this is only possible thanks to the hard work and fast reaction time of our teams here (at the Michelin factory) in Clermont-Ferrand (France)."

The problems were far from over when Michelin decided to produce new tires. Tires are not isolated components - they are part of a system that provides the best road holding for the car. By changing even a small aspect of a tire - either the width or the sidewall stiffness - the entire system is changed.

"Potentially, this whole affair is throwing the world championship out of the window for both of us (McLaren and Williams)," said Martin Whitmarsh, McLaren Managing Director. "We talked at length to Charlie (Whiting) but there is still a considerable concern about the issue of approving the tires' conformity at the end of the race, even though Michelin have produced some new rubber which we tested at Monza last week. Put simply, we can either use the existing tires and risk not conforming with these revised rule interpretations or we can use new tires and still risk being illegal despite a loss of performance. Michelin has done a great job, but the changes in set-up we have had to make - to toe-in, camber and tire pressures - have not worked to our advantage."



UK's Justin Wilson negotiates Hockenheim at German GP Photo: M.Thompson/Getty Images

Suddenly Illegal

In choosing not to challenge the FIA, several issues have been overlooked. Why did the FIA approve the Michelin tires as legal for more than two years (since originally presented for inspection in August 2001) and then decide that the exact same tires were suddenly illegal? When the tire "rolls" to one side, the opposite side tread invariably lifts off the pavement;

would that mean that the "total tread width" did not exceed 270mm? And since photos of both team cars at the same corner often show one car with apparent side "roll" and the other without, and those performances often vary from lap to lap depending on how a car is being driven at a particular moment, how could the terms "regular and systematic contact" possibly be defined? An aggressive defense of the existing tires might very well have proven their legality, but McLaren, Williams and Michelin decided to use new rubber rather than tarnish the championships (and the millions of dollars of associated product publicity that goes with the titles) by having the results decided in a legal proceeding, so the answers to these questions and others remain unknown.



Pushing the envelope: R4 receives a test of its mettle. Although great potential exists, Jaguar's performance has been largely disappointing, but the internal directive is to change that reality in the short term. *Photo: Mark Thompson/Getty Images*

What is known is that the FIA often has its own agenda. McLaren and Williams jointly challenged sweeping technical changes the FIA wanted to implement prior to the start of 2003 season, and the two teams successfully united the other teams in defeating the changes. Retaliation by the FIA for such actions cannot be easily dismissed. In addition, Ferrari has long been regarded as the only essential team in F1 and past FIA

rulings (such as the reinstatement of victory by the red cars in the 1999 Malaysian Grand Prix after the FIA review court determined - without any objective aerodynamic analysis - that the larger-than-allowed vertical stabilizers behind the front wheels provided no performance advantage) have often bent over backwards to favor the Italians.

Additionally, for more than two years there has been an ongoing threat of the creation of a rival top open-wheel series in 2007 supported by the top auto manufacturers including Mercedes-Benz and BMW. Called the GPWC (not an acronym, just four letters - but widely considered to stand for "Grand Prix World Championship"), the proposed series has caused FIA executives to fear the loss of hundreds of millions of dollars in F1 team funding and to worry about the impending destruction of the F1 series. If Ferrari can be persuaded to stay in F1 and to abandon the GPWC, then F1 will be strengthened and the GPWC will be damaged - perhaps to the point of failing, or possibly even to end before it begins.

"Tire-Gate"?

Those motivations and the long-term consequences of the FIA decision remain to be seen. But the short-term results saw Michael Schumacher and Ferrari win the next two races (the Italian and U.S. Grands Prix) and finish eighth in the Japanese finale to claim the 2003 championships. It was a disappointing end to a battle that saw tremendous balance for more than 80 percent of the season.

But following the limited publicity generated by the entire "Tire-gate" affair, one has to wonder if history will recall the most significant message of the 2003 F1 season: despite the illusion of sport, Formula 1 is little more than a billion dollar marketing exercise.

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Publisher's note: eMOTION! REPORTS.com Associate Publisher John Chuhran has for nearly two decades covered and participated in motorsports activities supported by multiple sanctioning/constructor bodies inclusive of NASCAR, CART and F1. emotionmag@emotionreports.com



Jaguar R4: Soon to be replaced by the R5 which debuts January 18th at the Barcelona GP

Photo: Mark Thompson/Getty Image

Final note:

Although Jaguar's efforts have not met or exceeded expectations, the 2004 season may well provide the litmus test for the capabilities and resolve of an engineering and management team revamped just over a year ago. We think the words of Jaguar Racing Managing Director David Pitchforth sums up the program's directions and goals rather succinctly: "We have clearly laid down responsibility within the team, by specifying the details of the car and the guidelines as to its design. There is no doubt that everyone involved in Jaguar Racing understands their responsibility for the design of the car. We have limited duplication by doing this and ensured that the key people are working in their area of strength. These people have become disciplined in delivering to deadlines, as a result of the work that was carried out on the R3 late in the season, the R4 had to be designed to a tight time-line. It is this sort of company ethos that we will look to carry forward with us in the build-up to R5. This philosophy is not just at Jaguar Racing, but also throughout both Cosworth Racing and Pi. By pulling our resources together and building on our relationship the responsibility factor has only strengthened. R4 has very much been the first step along the road to including all engineering and operation departments in the design of the car. As we move closer to R5, input will be expected from mechanics and electrical specialists, a truly holistic approach is now being taken."

Specifications for the R4 follow for your review, and we at eMOTION! REPORTS.com wish the Jaguar Team well in the 2004 season...

-- Myron D. Stokes

R4 TECHNICAL SPECIFICATION

Chassis	R4 composite monocoque structure, designed and built in-house, carrying the Cosworth Racing CR-5 V10 engine as fully stressed member, Jaguar steering and power assistance.
Engine	Cosworth Racing CR-5 V10
Capacity	2998 cc
Cylinders	90-degree vee 10
Fuel	Castrol Racing Fuel
Transmission	Jaguar seven-speed gearbox, longitudinally mounted high-pressure hydraulic system for power shift and clutch operation. AP Racing triple-plate pull-type clutch. Independent oil system using Castrol Fluid Technology.
Suspension	Front: Cast titanium uprights. Upper and lower carbon wishbones and pushrods. Torsion bar springing and anti-roll bar. Jaguar/Penske damper layout. Rear: Cast titanium uprights. Upper and lower carbon links and pushrods. Coil springs and torsion anti-roll bar. Jaguar/Penske damper layout.
Brakes	Front: AP Racing lithium alloy six-piston callipers. Carbon Industrie or Brembo carbon/carbon discs and pads.

Rear: AP Racing lithium alloy six-piston callipers. Carbon Industrie or Brembo carbon/carbon discs and pads.

Wheels	OZ Racing	Front: 12.7 in x 13 in	Rear: 13.4 in x 13 in
Tyres	Michelin		
Electronics	Pi 'VCS' System. Integrated engine/chassis electronic control system, DASM and DATA logger.		

COSWORTH RACING CR-5 V10 ENGINE TECHNICAL SPECIFICATION

Number of cylinders	10
Vee Angle	90
Number of valves	40
Capacity	2998 cc
Power output	Not disclosed
Maximum engine speed	Not disclosed
Construction	Aluminium block and heads cast in Cosworth Racing's own foundry. Aluminium alloy pistons. Steel crankshaft.
Engine Management	Pi
Ignition System	Cosworth Racing
Spark Plugs	Champion
Weight	Not disclosed

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