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protect them from the harmful turbulence generated by the tires. Plus, the wings were also used as an aerodynamic brake, with all of the consequent dangers. It took the dramatic accident that involved Lotus drivers Hill and Rindt during the Gran Prix of Spain in 1969 to make experts study the problem in-depth and prohibit certain exaggerations.

### 1970

The great revolution regarding aerodynamics came with the Lotus 72. With this version Colin Chapman went from the "cigar" shape to the "wedge" silhouette, drastically reducing



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1983: McLAREN-FORD MP4/1C

the front section of the single-seater. To accomplish this modification the radiators were moved from the nose to the sides, where they were placed in two special lateral fairings.

### 1971

For the first time in Formula 1 tapered noses similar to those used in Sport cars appeared on the scene. In the same year Tyrrell, the first to introduce them in Gran Prix racing, also adopted an innovative airbox to feed the engine. As far as originality is concerned, the prize went to March that introduced a new elliptical wing on the front axle.



La supremazia della tipologia a freccia dura un solo anno: nel 1984 anche la Brabham BT/52 passa ai pontoni lunghi.

The supremacy of the arrow silhouette would only last one year: in 1984 even the Brabham BT/52 adopted the long pods.

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## 1972

Now the airbox (also known as snorkel or air intake) was used by almost all Formula 1 cars (with the exception of Ferrari which, due to its 12-cylinder boxer engine, had to do without it). Besides feeding the engine, the airbox was also used for aerodynamic purposes. In fact, if created in the right size it cleaned the air flow that hit the rear wing.

## 1973/74

At this point technicians primarily worked on improving the aerodynamics and fine

## 1975/76

In 1976 FISA was forced to intervene to regulate the size and height of airboxes because the one mounted on the Ligier JS/5 was totally out of proportion.

Therefore, starting with the Gran Prix of Spain all single-seaters were forced to race with slim snorkels that were clearly different from the old models. However, Tyrrell caused an aerodynamic "revolution" when Derek Gardner introduced his unique car with six wheels, four of which located at the front.



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points of the design. To increase the negative lift on the front axle, Ferrari mounted a wide raised wing, converting it into a high airbox for the engine. Brabham, on the other hand, created the BT/42 with trapezoid sides with the same slope as the Ford-Cosworth engine heads.

La soluzione migliore per le nuove F.1 a fondo piatto è rappresentata dalla rastremazione posteriore, detta Coca-Cola. Di grande interesse anche la complessa ala posteriore della Ferrari C/2B.

The best solution for the new flat-bottom car was rear tapering, also called the "Coca-Cola silhouette". The complex rear wing on the Ferrari C/2B was also a new and interesting feature.

Reducing the diameter of the tires from 13" to 10", the fore-carriage could be almost completely tapered, which created a sort of hybrid between a Formula 1 single-seater and a Sport car. This was a winning combination on paper but not on the track where the Tyrrell 8/34 won just one race.

## 1977/78

These were the years of the Lotus and the ground-effect car. For the first time ever, experts in aerodynamics were

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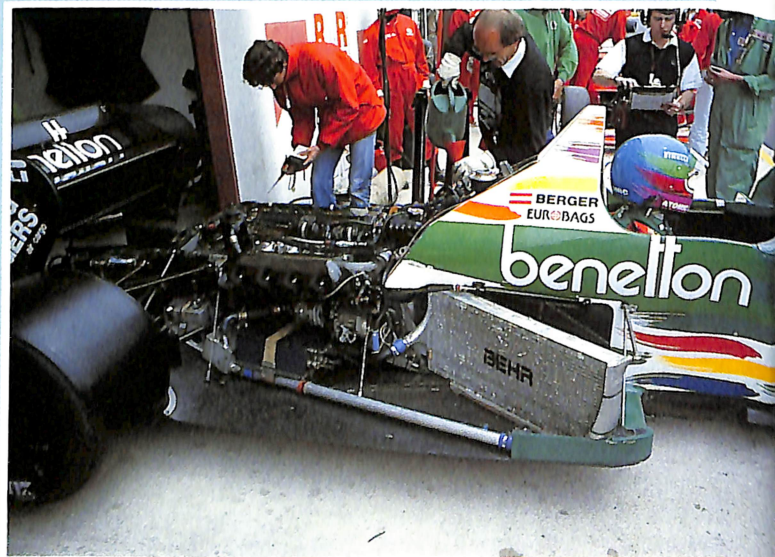
interested in the air flow that ran under the car, not only the air flow that hit and flowed across the sides. The ground-effect car totally upset the technical aspects of Formula 1. In fact, aerodynamics not only influenced the exterior shape of the cars, but also affected the design of the suspensions and chassis. To be able to obtain the same negative lift of the Lotus 79, Brabham's Gordon Murray applied an extracting fan on the BT/46B. As a result, Lauda won the Gran Prix of Sweden. However, after the Scandinavian race this device adopted by Brabham was prohibited by FISA.

### 1979/80

In 1979 all the cars participating in the world championship were wing cars. The aerodynamic advantages of this type of car were such to convince Formu-

Per migliorare l'aerodinamica interna delle monoposto nel 1985 la Benetton monta i radiatori e gli scambiatori di calore a ventaglio. Una moda che in breve tempo verrà ripresa anche dagli altri team.

To improve internal aerodynamics, Benetton mounted the radiators and heat exchangers in a fan configuration on its 1985 single-seater. This method would soon be adopted by all of the other teams.



# AERODINAMICA F1

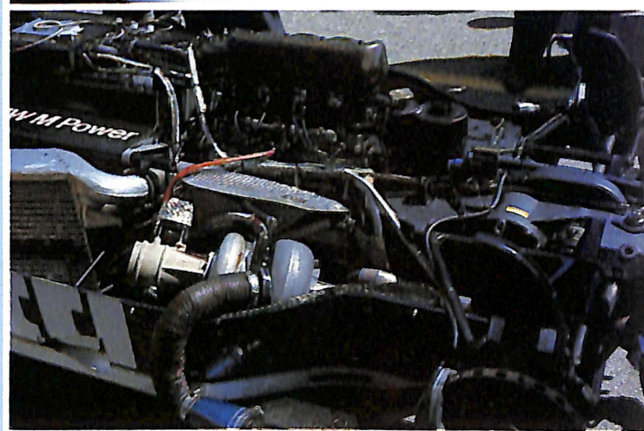
la 1 designers to implement this new form introduced by Lotus. However, Lotus lost its leadership just one year after dominating the scene since it ventured in the construction of the avant-garde yet hopelessly complex Lotus 80 furnished with "integral miniskirts". On the other hand, the more conventional modifications introduced by Williams, Brabham, and Ligier which improved the basic design proposed by Colin Chapman proved to be a success.

## 1981

FISA rejects the Lotus 88 with a double chassis yet gives the okay to pneumatic jacks which actually thwarted the rule that imposed the use of stationary miniskirts located 6 cm from the ground. The Formula 1 single-seaters are perfect wing cars, yet very difficult to drive and handle.

Le immagini di questa pagina chiariscono in maniera inequivocabile il concetto di vettura "sogliola".  
Notare anche l'inclinazione del motore BMW, coricato di 72° sul lato destro.

These photos clearly illustrate the "fillet" concept.  
Note the slant of the BMW engine, inclined at a 72 degree angle on the right-hand side.



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La tipologia "sogliola" diventa vincente solo nel 1988, grazie alla McLaren Honda MP4/4 che si aggiudica 15 dei 16 Gran Premi in calendario. Non altrettanto dicasi per la Ligier di quell'anno, che non riesce a raggiungere un accettabile livello di competitività:

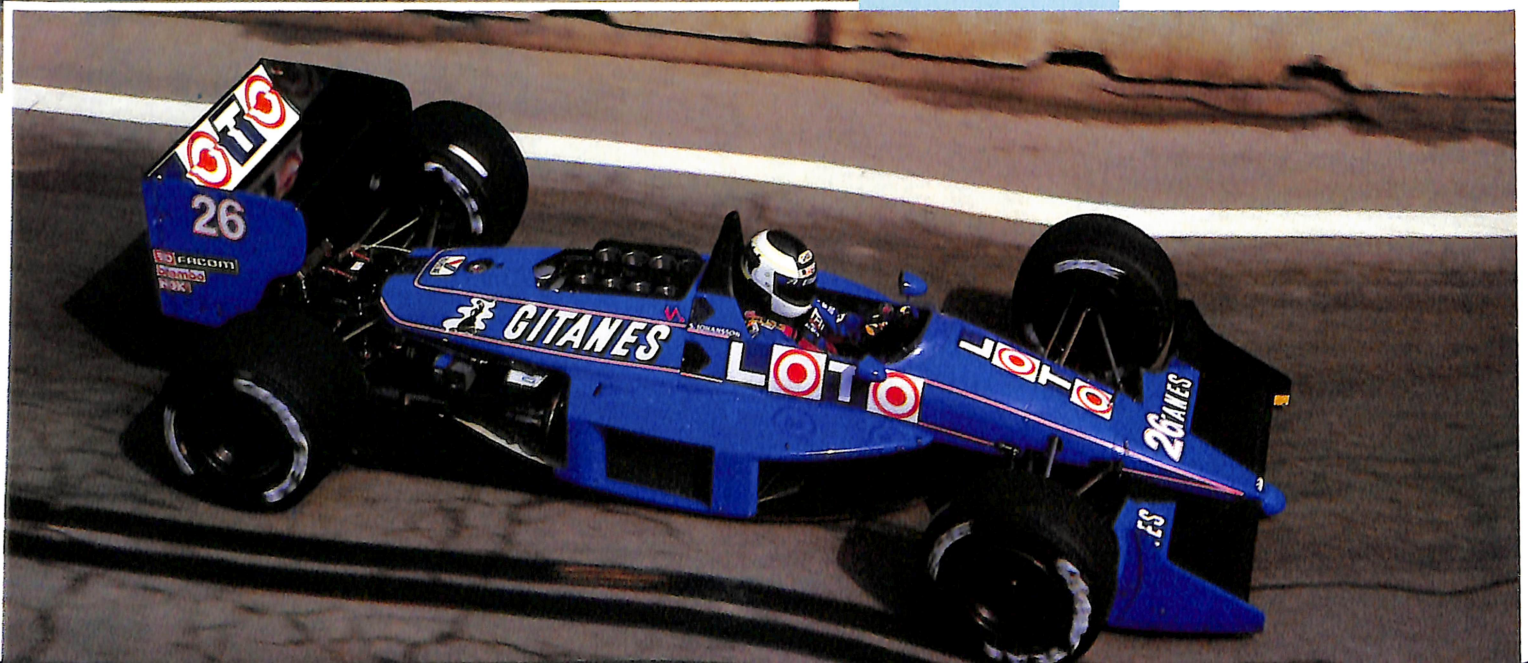
The "filler" silhouette became successful in 1988 thanks to the McLaren/Honda MP4/4 that won 15 out of 16 Gran Prix races. Ligier was not as fortunate: in fact, it never obtained an acceptable level of competitiveness that year.

## 1982

The negative lift obtained with the latest version of the wing car would reach incredible values (around 2,500 km). However, the consequences of the series of accidents caused by the cars' loss of adherence to the ground are alarming as well, and two Ferrari drivers pay the price: Villeneuve dies during qualifying sessions of the Gran Prix of Belgium while his teammate Pironi is forced to retire from Formula 1 after a dramatic accident at Hockenheim. To rectify this terribly dramatic situation, FISA is forced to abolish the miniskirts and lateral Venturi ducts, and return to the flat-bottom design.

## 1983

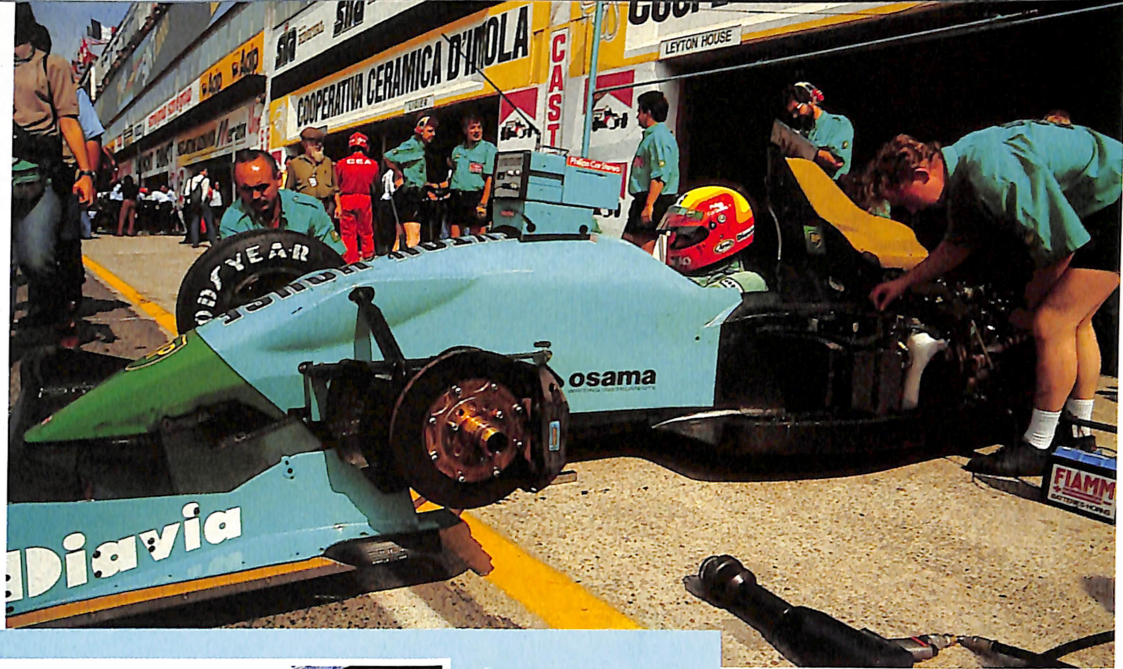
The return of the flat-bottom car marks the appearance of different types of single-seaters. The arrow silhouette introduced by Brabham/BMW (BT/52) would have success in this first season, yet its supremacy would be short-lived (in fact, it lasted only one season).



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## 1984/85

In 1984 rear tapering (also known as the "Coca-Cola silhouette") which was introduced back in 1983 by McLaren would draw the attention of the category. In fact, this shape greatly improved the Cx aerodynamics of the car, permitted the construction of an adequate Venturi duct near the rear axle, and favored the improved function



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Scocca rastremata, fiancate strette e alte e musetto rialzato hanno caratterizzato le monoposto dei primi anni novanta.

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A tapered body, high narrow sides, and a raised nose characterized the single-seaters of the early '90s.

PD'A

of the rear wing. This was an obvious solution to the problem that was quickly adopted by all designers. In 1985 Benetton improved the basic design when it placed the radiator core in an upside-down "V" configuration inside the side pods.

## 1986/87

The arrival of turbo engines in Formula 1 gradually raised the cars' center of gravity. To adju-





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st this problem, Brabham's Gordon Murray created the BT/55 model, better known as "fillet", which featured extremely low sides and the engine inclined at a 72 degree angle on the right-hand side. However, the project would ultimately fail, hampered by an inadequate chassis and insufficient rear tapering. Nevertheless, many believed in the "fillet" design, especially Williams whose FW/11 was a cross between regular cars and the exasperated "fillet" shape.

### 1988

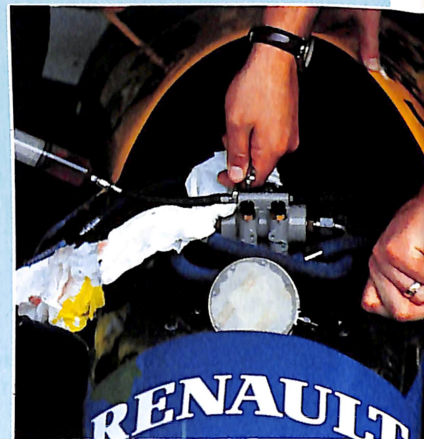
Gordon Murray would get his revenge working for McLaren, where he designed an extra-flat car (the MP4/4) which dominated the '89 season, winning 15 out of 16 races.

### 1989

The return of aspirated engines marked the great comeback of airboxes, and the new Ferrari 640 featuring unusually narrow, tall sides and a double tapering arrived on the scene.

La Williams FW/14 B con le sue minigonne anteriori, il suo musetto a formichiere e le famigerate sospensioni attive hanno monopolizzato le ultime due stagioni. E la storia rischia di ripetersi con la FW/15.

The Williams FW/14 B with its front miniskirts, "anteater" nose, and notorious active suspensions monopolized the past two seasons. And it looks like history will repeat itself with the FW/15.



These were aerodynamic concepts that contrasted with Murray's "fillet" silhouette, yet would be copied by various designers of the competition.

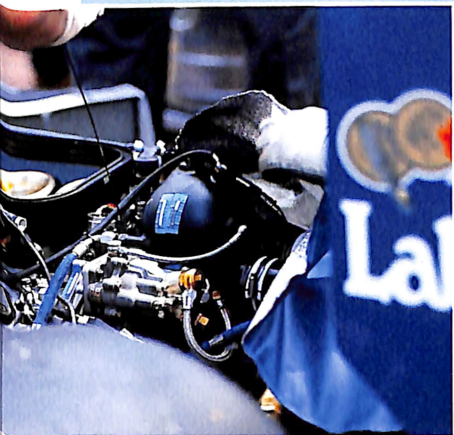
### 1990

Sometimes small teams introduce innovations. This was the case with Tyrrell that furnished its 1990 0/20 car with an innovative raised nose that greatly improved its aerodynamics. In fact, it would prove to be so successful that all of the other teams would adopt this modification.



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Nel Gran Premio del Sud Africa di quest'anno la McLaren MP4/8 ha sfoggiato degli inediti deflettori posti immediatamente dietro le ruote anteriori. Un dispositivo che potrebbe rivelarsi utilissimo su determinati tipi di circuito.

During the Gran Prix of South Africa this year, McLaren's MP4/8 featured innovative deflectors located right behind the front wheels. This device might prove to be very useful on certain types of circuits.

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### 1991/92

This is recent history that coincides with the creation of the Williams FW/14 featuring an "anteater" nose and small flexible front straps. This silhouette brought back the ground-effect in Formula 1 and would be improved in 1992 by the addition of active suspensions.

### 1993

The year has only just begun and yet there are quite a few innovations regarding aerodynamics, such as the deflector panels used by McLaren in South Africa. Now we'll just have to wait to see what innovations the competition comes up with.

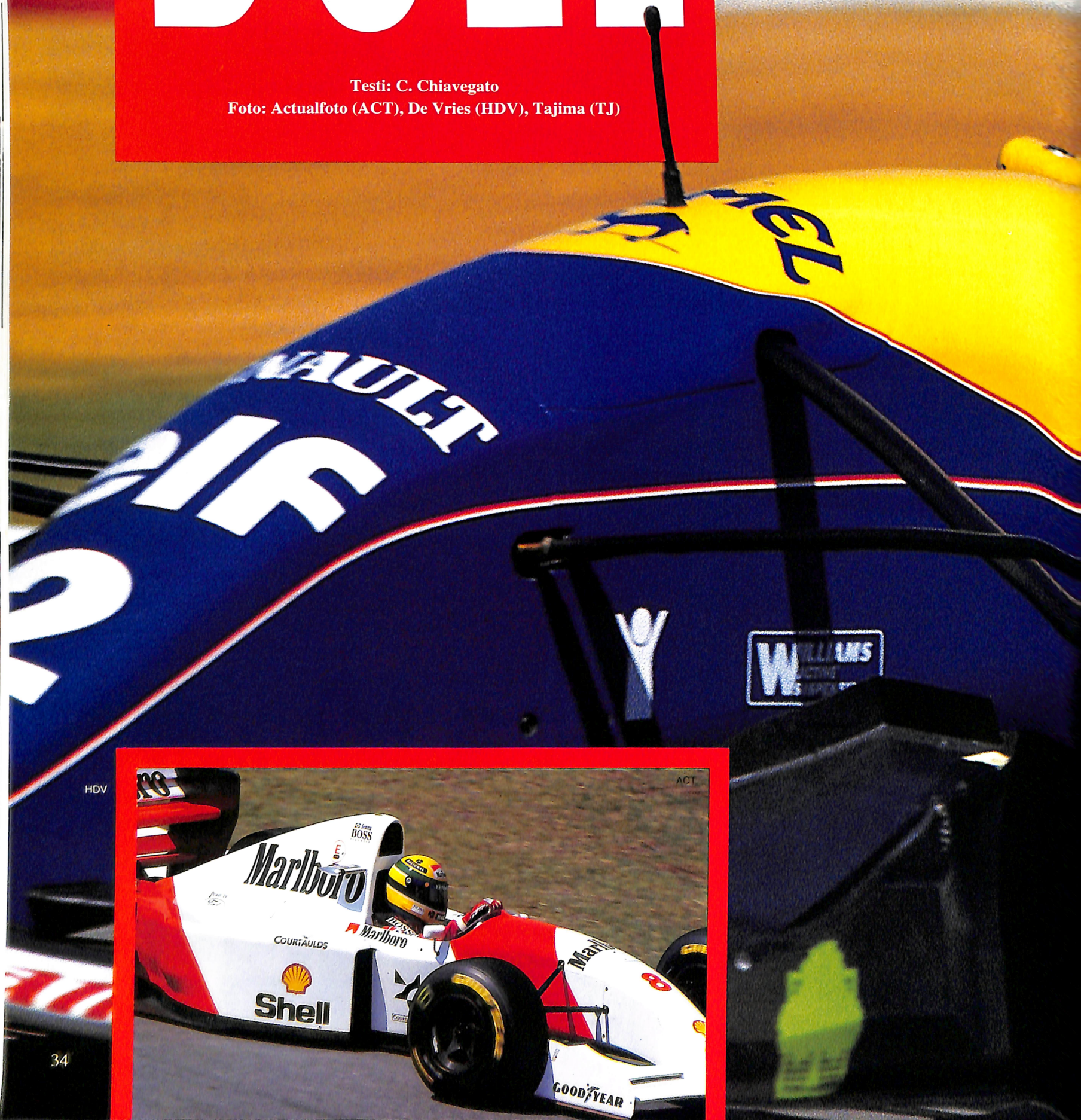




# DUEL

Testi: C. Chiavegato

Foto: Actualfoto (ACT), De Vries (HDV), Tajima (TJ)



HDV

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***Dopo i primi due Gran Premi della stagione la classifica mondiale è sorprendentemente guidata da Ayrton Senna, il pilota della McLaren che fino alla vigilia del Gran Premio del Sud Africa era incerto se prendere parte o meno alla stagione '93. Ma non illudiamoci troppo, la monoposto da battere rimane sempre la Williams-Renault***

***After the first two Gran Prix races of the season, McLaren's driver Ayrton Senna (who on the eve of the Gran Prix of South Africa was still undecided whether or not to participate in the 1993 season) was the unexpected leader of the classification. However, we shouldn't fool ourselves: Williams/Renault is still the single-seater that must be beat.***

**O**rmai è evidente. Lo scontro tra Formula 1 e Formula Indy è frontale. Gli americani si sono presi il transfuga Nigel Mansell e ne hanno fatto un vessillo per sfondare nel cuore degli appassionati di automobilismo di tutto il mondo. E lui, il Leone, ha ricambiato con la solita generosità; diventato il primo pilota della storia a debuttare nel campionato Cart, con pole position, vittoria e record di corsa in Australia, sul circuito cittadino di Surfer's Paradise.

Dall'altra parte la F1 ha rispolverato la sfida Prost-Senna ma soprattutto ha lasciato intendere l'intenzione di sbarcare definitivamente negli Usa per esibirsi sulle classiche piste ovali statunitensi.

Si tratta di un pro-

gramma che non potrà essere attuato subito, in quanto bisognerà rivedere in modo radicale l'impostazione costruttiva delle vetture, ma c'è una effettiva necessità secondo la Fisa (e soprattutto da parte di Bernie Ecclestone) di trovare nuovi mercati. Il boss inglese fra l'altro ha già annunciato pubblicamente che il prossimo anno ci sarà un ulteriore allargamento del mondiale verso l'Est. Ormai accantonato il secondo Gran Premio in Giappone (Autopolis), si parla di Malesia e Indonesia. C'è pure qualche possibilità che il prossimo anno si arrivi a correre anche nel Duabi. Gli arabi preoccupati perché da qualche tempo vengono «saltati» negli scali aerei dai jet a lunga autonomia diretti in Estremo Oriente e in Australia, sarebbe intenzionati a spendere un bel pacchetto di dollari per ottenere un rilancio pubblicitario internazionale. Nel contesto di questa battaglia, che nel corso dei prossimi anni sarà sempre più accesa, con l'obiettivo di strappare popolarità, pubblico, televisione e sponsor l'uno all'altro, il «circus» europeo dei motori vive un periodo di transizione in attesa



anche di un rilancio interno. Tutto è in discussione: costi, regolamenti tecnici e sportivi e in diversi settori si sta cercando di fare marcia indietro e con tutta probabilità nel 1994 si rivedranno vetture più semplici e più affidabili. Non dimentichiamo che fra incidenti e rotture solo sette auto sono state classificate nel recente Gran Premio del Sudafrica.

Detto questo, il tema agonistico dominante del 1993, sin dai primi istanti, riguarda la caccia alla Williams-Renault. In apparenza McLaren e Benetton si sono avvicinate alla squadra campione del mondo, ma bisognerà attendere almeno il termine del primo quarto del campionato per avere delle conferme, quando si saranno superate le gare su circuiti con caratteristiche diverse, in particolare quello di Imola che è veloce e mette alla prova anche i consumi di carburante.

Le ruote strette e la ridotta pressione aerodinamica per via degli alettoni più piccoli non sembrano avere inciso più di tanto sulle prestazioni delle vetture quest'anno guidate da Alain Prost e Damon Hill. Semmai il merito va a McLaren e Benetton per aver colmato, almeno parzialmente, l'enorme gap lo scorso anno che lo divideva dalle monoposto anglo-francesi.

Resta da vedere - come si è già accennato - se Prost sta facendo come il gatto

fa con il topo.

Cioè se il

francese limita volontariamente le sue prestazioni per non dare l'impressione di dominare con troppa facilità. In ogni caso per il momento il vantaggio principale della Williams è nell'affidabilità e nel motore Renault, molto più potente di quello dei rivali. La McLaren, che in extremis ha recuperato Senna al proprio servizio, è uscita miracolosamente con una vettura assai valida, se consideriamo che è stata realizzata in pochi mesi e che Ron Dennis aveva firmato il contratto per la fornitura dei motori Ford soltanto l'8 dicembre.

Ma, proprio sulla fornitura dei motori americani, si sta sviluppando una battaglia interna fra il team di Woking e la Benetton, che sino a poco fa aveva l'esclusiva assoluta di prima scelta dei propulsori della Casa di Detroit. Pare che la Ford stessa, resasi conto che per cercare di agguantare la Williams non potrà appoggiarsi solo sulle forze della scuderia diretta da Flavio Briatore, stia tentando un

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escamotage per fornire gli 8 cilindri più avanzati anche alle vetture di Senna e Michael Andretti.

È necessario ricordarsi fra l'altro che la McLaren gode dell'appoggio della Tag per la preparazione elettronica dei motori e questo potrebbe essere un vantaggio determinante.

Ovviamente si fa conto in particolare sull'abilità e la determinazione mostrati ancora una volta da Ayrton Senna, combattente indomabile. Ha invece destato, alla prima sortita, un'impressione meno favorevole Michael Andretti.

Il figlio di tanto padre ha certamente il piedone pesante, è cioè un pilota molto veloce. Ma vive grandi incertezze, in quanto non si può sfondare in F1 senza un minimo di esperienza e soprattutto senza conoscere a fondo i circuiti. In più il pilota americano di origine italiana vive un clima di lotta interna nel team, poichè la maggioranza degli uomini della McLaren gli preferirebbe l'appiedato (per ora) Mika Hakkinen.

Cresce invece la scuola di lingua tedesca.

Dopo Schumacher ha destato molto interesse quel Karl Wendlinger che lo scorso anno si era già messo in luce alla March e che ora con la Sauber potrebbe diventare uno dei giovani più interessanti, limitato solo dalla sua lunga statura che crea non pochi problemi ai progettisti delle vetture. La scuderia svizzera (che porta però le

insegne della Mercedes) sembra essere una squadra destinata a salire nelle quotazioni, anche perché dispone del motore Ilmor V10 che, opportunamente sviluppato, potrebbe mettersi in concorrenza diretta con il Renault. Nel panorama di questo campionato può essere considerata la novità più interessante con proiezioni future. E veniamo alla Ferrari. Dopo aver messo le mani ampiamente avanti («Siamo da dodicesimo posto», aveva detto Berger alla vigilia di Kyalami) la Scuderia di Maranello almeno in Sud Africa ha fatto meglio del previsto. Ci sono dunque le premesse per una stagione in crescita? Auguriamocelo.

Il lavoro di Barnard è una sicurezza, anche se la lentezza del progettista inglese non garantisce recuperi rapidi.

Soprattutto è piaciuto l'atteggiamento dei piloti: Berger si è detto disposto a sacrificarsi per mettere a punto il sistema di sospensioni modificato ed Alesi non ha certamente lesinato sforzi pur di riportare le rosse in posizioni consone al loro blasone. Del resto la situazione dei due corridori in seno alla scuderia italiana è ben diversa: Gerhard dispone di un contratto biennale, mentre Jean Alesi, se vorrà una conferma, sarà costretto a guadagnarsela in pista con il suo impegno e con la bravura.

## DUEL: AYRTON SENNA Vs. ALAIN PROST

**I**t's as plain as day: it's a head-on collision between Formula 1 and Formula Indy. The Americans welcomed the deserter Nigel Mansell and made him the emblem to reach the hearts of racing fans from all over the world.

And Mansell, the Lion, showed his appreciation with his usual generosity by becoming the first driver in the history of racing to make his debut in the Cart Championship in pole position, winning the race and establishing the track record on the city circuit at Surfer's Paradise in Australia.

On the other hand, Formula 1 brought back its Prost-Senna rivalry and has announced its intention to definitely come to the States and race on America's classic oval circuits.

This is a program that can't be implemented right away because the Formula 1 car construction must be radically modified. Nevertheless, FISA (and especially Bernie Ecclestone) sees a real need to find



**In Sud Africa il rientrante Alain Prost ha dovuto vedersela con un agguerrito Ayrton Senna che gli ha dato parecchio filo da torcere nei primi giri di corsa.**

new markets. The English manager also announced that Formula 1 will open its doors to the East. Since plans for a second Gran Prix of Japan (at Autopolis) have been definitely dropped, word is out that Malaysia and Indonesia may be the sites for new races.

There is also a chance that a race will be held in Dubai. It looks like the Arabs, worried because long-haul jets to the Far East and Australia are no longer making stopovers there, are planning to invest quite a lot of dollars towards international publicity relaunching of Dubai.

As both categories try to steal popularity, spectators, TV coverage, and sponsors from each other, this battle looks to be more and more exciting. In the meantime Formula 1 is undergoing a period of transition as it awaits internal reorganization. Everything - costs as well as technical and sports regulations - is under discussion. Various sectors are trying to take a step backwards and most probably we'll be seeing simpler, more reliable cars in 1994. One mustn't forget that between accidents and breakdowns only seven cars classified in the recent Gran Prix of South Africa.

Therefore, the dominating theme of 1993, right from the start, is how to catch up with Williams/Renault.

Apparently McLaren and Benetton got close to the world champion, but we'll have to wait at least until the first quarter of the championship is over to gauge their success after races on different types of circuits and especially Imola (which is a fast circuit that also puts fuel consumption to the test). The narrower tires and reduced aerodynamic pressure due to smaller wings haven't made much of a difference on the Alain Prost and Damon Hill's performance. At the most, the merit goes to McLaren and Benetton for having partially reduced the enormous gap that divided them from the Anglo-French single-seater last year. We'll have to wait and see whether Prost is playing cat and mouse, and whether the Frenchman is intentionally playing down his performance so that he doesn't give the impression of dominating the season too easily too soon.

At any rate, for the moment Williams' main advantage is in the reliability of its Renault engine which is much more powerful than its rivals. McLaren, which signed on Senna at the very last moment, miraculously came out with a very valid car, especially if one considers that it was prepared in just a few months and that Ron Dennis signed the contract for Ford engi-

nes as late as December 8th.

Precisely the supply of American engines has been creating a contrast between the team from Woking and Benetton which until recently had the exclusive for the engines from the

Detroit auto manufacturer. It seems that Ford has realized that if it wants to catch up with Williams it can no longer exclusively count on the team directed by Flavio Briatore. Therefore, it's doing a juggling act to furnish the most technically advanced 8-cylinder engines to Senna and Michael Andretti's cars as well. And one has to remember that since McLaren also has TAG preparing the electronic set-up of its engines, this could be an indispensable advantage. Obviously, they're counting on the skill and determination of combative Ayrton Senna.

Michael Andretti, on the other hand, made a less favorable impression. The son of a very famous father, Andretti certainly has a heavy foot on the gas pedal and is a very fast driver.

However, there is a lot of uncertainty because it's difficult to make it in Formula 1 with little experience and especially with a superficial knowledge of the circuits.

Furthermore, the Italian-American driver is working in a turbulent climate within the team because most of McLaren's men prefer Mika Hakkinen, who is temporarily the reserve driver.

The German school, however, seems to be



**In South Africa Alain Prost, returning to Formula 1, had to battle an aggressive Ayrton Senna who gave him lots of problems during the first laps of the race.**

ACT



**RENAULT**  
PROST HILL

ACT

growing. After Schumacher, Karl Wendlinger (who previously made a name for himself with March and is currently driving for Sauber) has caught the attention of many and might be one of the most interesting newcomers of the lot. His only drawback is his height which has caused quite a lot of problems for car designers. The Swiss team Sauber (which bears the mark of Mercedes) looks like it will improve its standings because it has an Ilmor V10 engine that, suitably developed, might become the direct rival of Renault. This might be the most interesting novelty of the current season.

After predicting a poor performance (on the eve of the race Berger announced they would probably take 12th place), Ferrari did much better than expected.

Are there possibilities that the team will do better during the season?

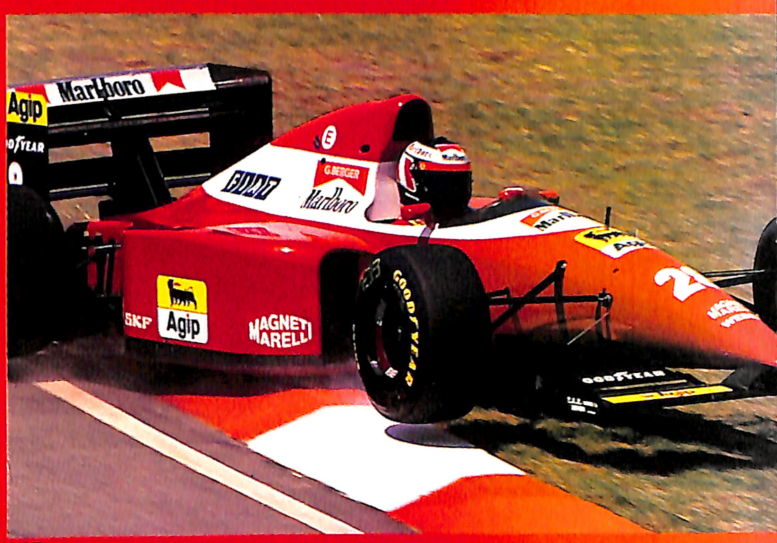
We certainly hope so.

Berger's accomplishments are a guarantee, even though the English designer's shyness doesn't promise a rapid recovery for the team from Maranello.

The drivers' attitudes were much appreciated: Berger said he was willing to make sacrifices to improve the modified suspension system, and Alesi certainly did his best to bring the team of the Prancing Horse back to more important standings. However, the two Ferrari drivers are in completely different situations: Gerhard has a two-year contract while Jean Alesi can only count on the results of his commitment and skill on the circuit to clinch a contract renewal.

A Kyalami la Ferrari ha raccolto un misero punticino con Berger. Una magra consolazione per un team del suo calibro, ma in questi periodi di profonda ristrutturazione, anche un sesto posto finale non è da gettare via.

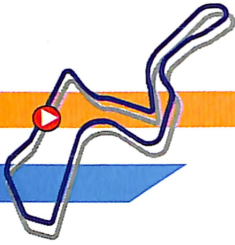
In Kyalami Ferrari obtained just one point with Berger, a meager consolation for the Prancing Horse. However, during this period of total reorganization, even sixth place is important. Alesi's luck ran out when he was forced to withdraw while he was in fourth place.



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FORZA  
FERRARI





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HDV

# KYALAMII



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HDV

## "IL RITORNO DEL PROFESSORE"

Il ritorno del «professore» ha fatto bene alla Formula 1. per tanti motivi. Alan Prost, infatti, non è soltanto un fuoriclasse ma anche un pilota molto intelligente. Può piacere e non piacere, essere simpatico o antipatico, resta il fatto che il francese con quel suo modo di dosare le forze, con quella sua tattica a volte prudente, mantiene in una corsa quel tanto di incertezza e di pepe che servono allo spettacolo.

Prendiamo il Gran Premio del Sudafrica, prima prova del Mondiale. A Kyalami, debuttando con la Williams-Renault, il trentottenne corridore transalpino, avrebbe potuto cercare di strafare. Invece con una partenza cauta, dovuta anche a un problema di frizione, è rimasto indietro lasciando spazio a Senna a Schumacher. Poi si è rifatto mostrando un'aggressività per lui inconsueta, in tentativi di sorpasso da brivido, prima rintuzzati dai suoi rivali, poi andati a segno, sino alla sua vittoria finale con largo margine sul brasiliano e su Mark Blundell, che ha riportato la nuova Ligier sul podio dopo sette anni di digiuno.

L'exploit dell'inglese non deve comunque sorprendere: già ai tempi della Brabham-Yamaha il coriaceo Blundell si era messo in evidenza ed è naturale che con una vettura un po' più competitiva le sue quotazioni salgano.

La gara d'apertura ha segnato un brusco stop per la Benetton che da quasi tre stagioni ci aveva abituati a piazzare almeno una delle sue due monoposto in zona punti. Ma il bilancio non è stato assolutamente negativo per la scuderia italiana con sede inglese: le monoposto progettate da Rory Byrne e Ross Brawn sono state fra quelle che hanno ottenuto il miglior progresso cronometrico rispetto all'anno precedente. Un segnale di vitalità che rende ancora più interessante il debutto del nuovo modello, previsto a brevissima scadenza (a Donington Park).

Preceduta anche dal brillante Christian Fittipaldi con la ritrovata Minardi e dalla impressionante Sauber di J.J. Lehto, la Ferrari ha colto il sesto posto con Gerhard Berger. Un premio di consolazione se si guarda alle catastrofiche previsioni della vigilia.

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## "THE RETURN OF THE PROFESSOR"

The return of "The Professor" did quite a lot of good for Formula 1. And for lots of reasons. Alain Prost, in fact, is not just an undisputed champion; he's also a very intelligent driver. People may like or dislike him and there are those that may consider him friendly or unpleasant. The fact remains that this Frenchman, with his method of measuring his strength and his prudent driving tactics, provides that little bit of spice and uncertainty in a race that makes great entertainment.



Take, for example, the Gran Prix of South Africa which was the first race of this season. Making his debut with the Williams in Kyalami, the thirty-eight-year-old French driver could have gone overboard and exaggerated. Instead, after a cautious start (also due to a problem with the clutch), Prost kept behind, leaving the way open to Senna and Schumacher. Then Prost made his move, revealing an aggressiveness that is unusual for him, trying to pass his rivals in thrilling maneuvers that were first repelled by his adversaries and later successfully accomplished, up until his final victory far ahead of Senna and Mark Blundell who brought the new Ligier to the winners' podium after seven meager years.

However, the Englishman's feat shouldn't be surprising: back in the days of Brabham/Yamaha tough Blundell proved his talent and it is only natural that he would have had success with a more competitive car. The opening race of the season, on the other hand, marked a brusque stop for Benetton that, for the past three seasons, was used to placing with points with at least one of its two cars. Nevertheless, the results weren't totally negative for this Italian team with headquarters in England: the single-seater designed by Rory Byrne and Ross Brawn was among those that obtained better results in the timed qualifying sessions compared to the previous year. This is a sign of vitality that makes the upcoming debut of the new model even more interesting. Behind brilliant Christian Fittipaldi with the Minardi and J.J. Lehto's remarkable Sauber, Gerhard Berger's Ferrari took sixth place. This was a consolation prize considering the catastrophic forecasts on the eve of the race.



ACT



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Fortune alterne per le scuderie italiane. La Minardi, con un arrobante Cristian Fittipaldi si è classificata al quarto posto, conquistando il migliore piazzamento della sua carriera. Ha invece deluso la Lola/BMS motorizzata Ferrari a corto di preparazione: per la vettura anglo-italiana si parla già di progetto sbagliato o di una nuova macchina in arrivo!

The Italian teams had alternate luck. Minardi, with an exhausted Cristian Fittipaldi, took fourth place, which was Fittipaldi's best placing of his career. On the other hand, Lola/BMS Ferrari was disappointing and ill-prepared: in fact, word is out that the design is totally wrong and a new car is currently being designed for the Anglo-Italian team.



ACT





Eccole, nelle loro nuove livree tutte le monoposto della stagione '93.  
Here are the single-seaters in their new livery for the 1993 season.

ACT



Poca fortuna anche per i piloti italiani nella prima gara dell'anno: Patrese, dopo prove molto travagliate è stato costretto al ritiro. Stessa sorte è toccata ad Ivan Capelli che in una paurosa uscita di strada ha distrutto la sua Jordan.

The Italian drivers were unlucky during the first races of the season: Patrese was forced to withdraw after the arduous qualifying sessions. The same thing happened to Ivan Capelli who totally destroyed his Jordan when he careened off the track.

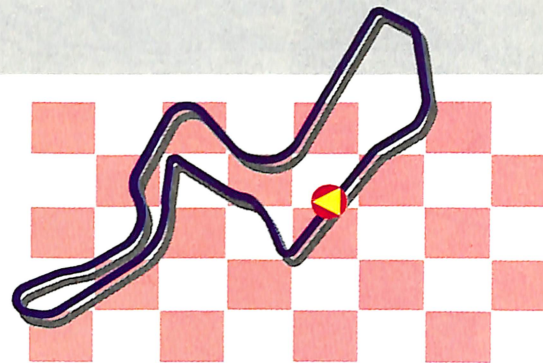


**ORDINE D'ARRIVO/RACE RESULT**

- 1 **ALAIN PROST** (Williams Fw15B)  
in 1.38'45"082 media km/h/186.403
- 2 **AYRTON SENNA** (McLaren Mp4/8)  
1.40'04"906 media km/h/183.925
- 3 **MARK BLUNDELL** (Ligier Js39)  
1.39'23"383 media km/h/182.633
- 4 **CHRISTIAN FITTIPALDI** (Minardi M193)  
1.40'08"496 media km/h/181.262
- 5 **J.J. LEHTO** (Sauber C12)  
1.40'37"248 media km/h/177.858
- 6 **GERHARD BERGER** (Ferrari F93A)  
1.37'01"274 media km/h/181.821
- 7 **DEREK WARWICK** (Footwork Fa13)  
1.38'43"185 media km/h/178.693
- 8
- 9
- 10
- 11
- 12
- 13



ACT



# KYALAMI

**I RITIRI / THE RETIREMENTS**

- 1 giro lazo **Andrea De Cesaris** (Tyrrell 020C)  
Trasmissione
- 2 giro lazo **Ukyo Katayama** (Tyrrell 020C)  
Trasmissione
- 3 giro lazo **Ivan Capelli** (Jordan 193)  
Incidente
- 4 giro lazo **Michael Andretti** (McLaren Mp4/8)  
Incidente
- 5 giro lazo **Alessandro Zanardi** (Lotus 107B)  
Incidente
- 6 giro lazo **Damon Hill** (Williams Fw15B)  
Incidente
- 7 giro lazo **Luca Badoer** (Lola Bms T93/30)  
Cambio
- 8 giro lazo **Aguri Suzuki** (Footwork FA13)  
Incidente
- 9 giro lazo **Fabrizio Barbazza** (Minardi M193)  
Incidente
- 10 giro lazo **Philippe Alliot** (Larrousse Lh93)  
Uscita di strada
- 11 giro lazo **Jean Alesi** (Ferrari F93A)  
Impianto idraulico sospensioni

**FORMULA 1 WORLD CHAMPIONSHIP** GRAND PRIX COLLECTION KYALAMI 14 - 3 - 1993

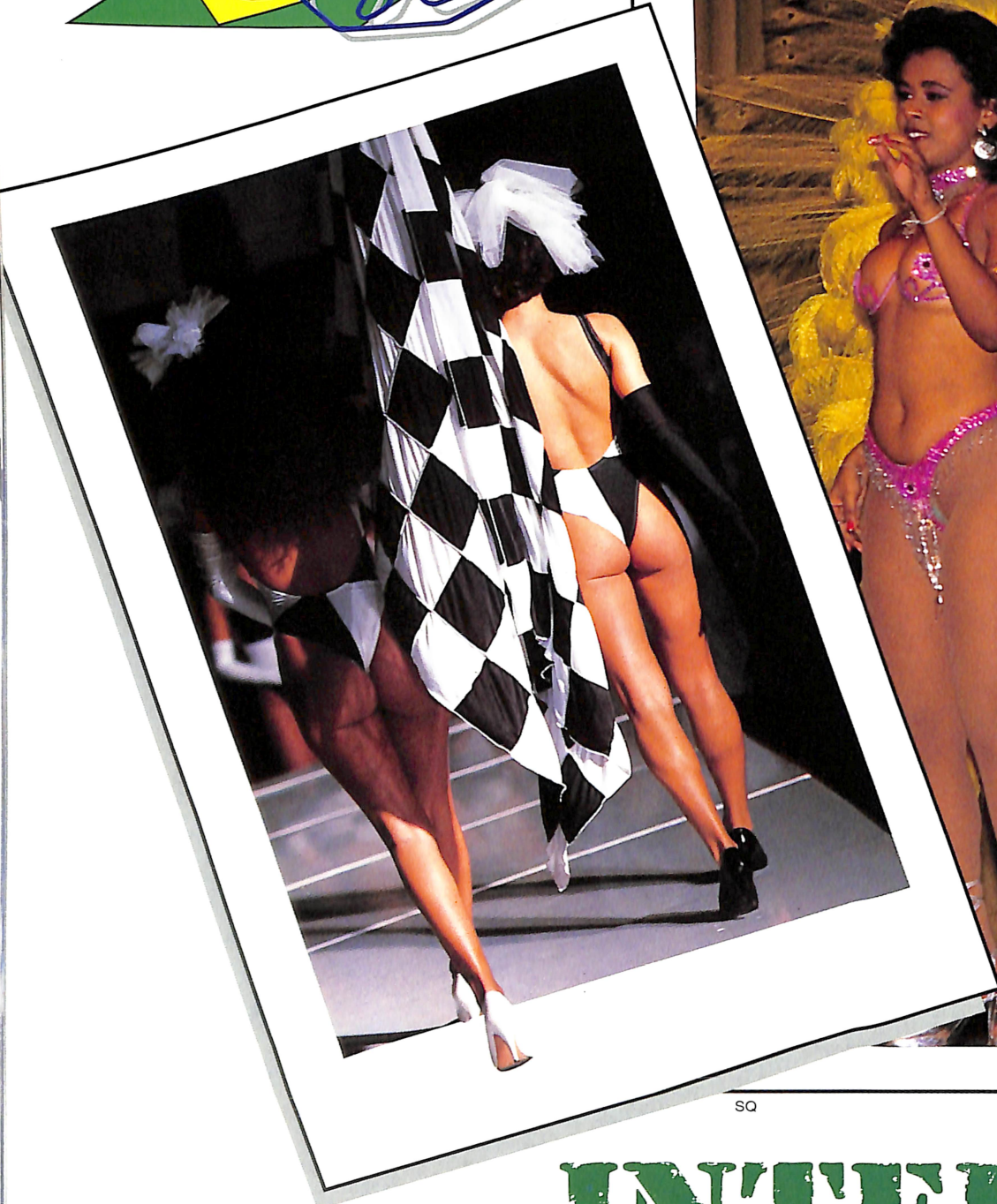
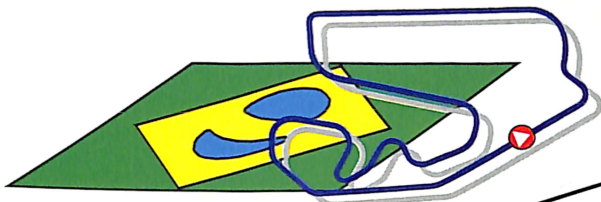
**SCHIERAMENTO / STARTING GRID**

<b>Alain Prost</b> 1'15"696 (Williams Fw15C)	<b>1</b>	<b>Ayrton Senna</b> 1'15"784 (McLaren Mp4/8)
<b>Michael Schumacher</b> 1'17"261 (Benetton B192B)	<b>2</b>	<b>Damon Hill</b> 1'17"592 (Williams Fw15B)
<b>Jean Alesi</b> 1'18"234 (Ferrari F93A)	<b>3</b>	<b>J.J. Lehto</b> 1'18"664 (Sauber C12)
<b>Riccardo Patrese</b> 1'18"676 (Benetton B192B)	<b>4</b>	<b>Mark Blundell</b> 1'18"687 (Ligier Js39)
<b>Michael Andretti</b> 1'18"786 (McLaren Mp4/8)	<b>5</b>	<b>Karl Wendlinger</b> 1'18"950 (Sauber C12)
<b>Philippe Alliot</b> 1'18"786 (Larrousse Lh93)	<b>6</b>	<b>Martin Brundle</b> 1'19"138 (Ligier Js39)
<b>Christian Fittipaldi</b> 1'19"285 (Minardi M193)	<b>7</b>	<b>Rubens Barrichello</b> 1'19"305 (Jordan 193)
<b>Gerhard Berger</b> 1'19"386 (Ferrari F93A)	<b>8</b>	<b>Alessandro Zanardi</b> 1'19"396 (Lotus 107B)
<b>Johnny Herbert</b> 1'19"498 (Lotus 107B)	<b>9</b>	<b>Ivan Capelli</b> 1'19"759 (Jordan 193)
<b>Erik Comas</b> 1'20"081 (Larrousse Lh93)	<b>10</b>	<b>Aguri Suzuki</b> 1'20"237 (Footwork Fa13)
<b>Ukyo Katayama</b> 1'20"401 (Tyrrell 020C)	<b>11</b>	<b>Derek Warwick</b> 1'20"402 (Footwork Fa13)
<b>Andrea De Cesaris</b> 1'20"660 (Tyrrell 020C)	<b>12</b>	<b>Fabrizio Barbazza</b> 1'20"994 (Minardi M193)
<b>Michele Alboreto</b> 1'21"893 (Lola Bms T93/30)	<b>13</b>	<b>Luca Badoer</b> 1'24"737 (Lola Bms T93/30)

**CLASSIFICHE MONDIALI**

PILOTI/DRIVERS		
<b>Prost</b>	punti/points	10
<b>Senna</b>	punti/points	6
<b>Blundell</b>	punti/points	4
<b>Fittipaldi</b>	punti/points	3
<b>Lehto</b>	punti/points	2
<b>Berger</b>	punti/points	1
COSTRUTTORI/TEAMS		
<b>Williams</b>	punti/points	10
<b>McLaren</b>	punti/points	6
<b>Ligier</b>	punti/points	4
<b>Minardi</b>	punti/points	3
<b>Sauber</b>	punti/points	2
<b>Ferrari</b>	punti/points	1





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# INTERLAGOS





**Q**ualcuno, dopo il Gran Premio del Brasile, ha detto che le corse di Formula 1 dovrebbero avere sempre la pioggia assicurata per garantire lo spettacolo. Si tratta di una battuta, ovviamente. Ma in realtà l'acquazzone che ha aiutato Ayrton Senna e la McLaren ad aggiudicarsi la seconda prova della stagione ha dato una grossa mano per evitare il ripetersi di una situazione temuta da tutti: il dominio della Williams. Chi se non l'improvviso temporale e la pista inondata, avrebbe potuto impedire a Prost di conquistare una seconda vittoria e di portarsi in testa alla classifica del Mondiale con un margine di vantaggio già troppo netto?

Invece al comando è andato il rivale numero uno del francese, il che basta al momento per rimescolare le carte e tenere desto l'interesse.

La corsa di Interlagos ha comunque fornito dati e notizie per poter stilare un primo bilancio e fare alcune considerazioni che riportano il discorso sulla supremazia della Williams stessa, che di certo non è uscita scalfita nella gara brasiliana. Su una pista abbastanza veloce, piena di saliscendi, dove oltre a telaio e aerodinamica contava molto anche il motore, il 10 cilindri della Renault ha fatto la differenza. E i tempi sul giro fatti segnare da Prost

TJ

Il gran premio del Brasile è stato condizionato dalla pioggia che ha letteralmente capovolto i valori delle forze in campo, esaltando l'abilità dei piloti. Ed in questi casi è risaputo che Ayrton Senna non teme confronti. L'unico a poterlo impensierire sotto la pioggia era Mansell. Ma ora Nigel è emigrato negli States.

The Gran Prix of Brazil was influenced by the rain that literally upset the results of the participating teams and revealed the drivers' skills. Under these conditions everyone knows that Ayrton Senna has no rival. The only person who could have given him some problems under the rain was Mansell, but now Nigel has immigrated to the States.



hanno dimostrato che in certe condizioni anche McLaren e Benetton sono troppo lontane. Altra valutazione ormai evidente: Prost è solissimo alla Williams. Comanda e fa quello che vuole, poichè Damon Hill, per quanto volenteroso non ha l'esperienza necessaria per puntare a qualcosa di più che non a qualche piazzamento. Ma questo, del resto, forse era già scontato.

Analizzando il comportamento della Ferrari, diciamo subito che il risultato negativo della gara può essere stato mitigato da quanto si è visto: Alesi avrebbe potuto arrivare nei punti se non fosse incappato in penalizzazioni ultrasevere, mentre Berger (che,



secondo Barnard, disponeva di una vettura migliore) ha fatto solo prove di crash-test, suo malgrado e con molta fortuna. Forse c'è stata una piccola crescita, ma è troppo poco per essere soddisfatti. Conferme positive, invece, per Sauber, Lotus e Ligier. Ma siamo ai rincalzi: al momento soltanto la Benetton con la nuova B193 e la McLaren, se farà progressi, possono pensare di dare qualche fastidio, su qualche pista, alla Williams.

and McLaren win the second race of the season was a big help in preventing the repeat of a situation everyone feared: the supremacy of Williams. If it weren't for the sudden thunderstorm and flooded track, who could have prevented Prost from winning his second race and jumping to the head of the World classification with an almost unbeatable margin? Instead, the Frenchman's number one rival took the lead, which was enough to reshuffle the deck and keep the interest from waning.

**A**fter the Gran Prix of Brazil someone said that Formula 1 races should make sure it rains to guarantee entertainment. Of course, whoever said that was just kidding. However, the downpour that helped Ayrton Senna

At any rate, the race at Interlagos offered information and news to be able to draw initial conclusions regarding Williams' supremacy, which certainly wasn't tarnished during the Brazilian race. On the relatively fast track full of roller



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coaster-like hills where, besides the chassis and aerodynamics, the engine was an important factor, the 10-cylinder Renault engine made a big difference. Furthermore, Prost's lap times showed that under certain conditions even McLaren and Benetton are too far behind. And another thing: Prost is all alone in Williams. He commands and does what he wants, since Damon Hill, although willing and eager, doesn't have the experience to hope in something more than a few good placings (something that everyone already knew).

Analyzing Ferrari's performance, we have to say that the negative outcome at Interlagos can be mitigated by what was observed during the race: Alesi might have made points if he hadn't been the victim of extremely strict penalization, while it looked like Berger (who, according to Barnard, had a better car) only made crash tests, reluctantly and with much luck. Maybe a small improvement had occurred, but it was too insignificant to satisfy. Although Sauber, Lotus, and Ligier made good showings, these teams are still secondary players.





TJ

Veramente sfortunata la prova di Alesi ad Interlagos. L'alfiere della Ferrari, che stava disputando una gara onorevole, è stato penalizzato di 30", scivolando dal quarto all'ottavo posto. Eccezionale invece la rimonta di Schumacher, che alla fine si è classificato terzo.

Alesi had a stroke of bad luck at Interlagos. Ferrari's driver, who was doing quite well, was given a 30" penalty which made him drop from fourth to eighth place. Schumacher, on the other hand, made an incredible comeback and ended up taking third place.

TJ







Per alcuni giri Herbert ha sognato di salire sul gradino più alto del podio, ma nel finale ha dovuto cedere la piazza a Schumacher. La sua prestazione è stata comunque maiuscola, come quella dei piloti Sauber, costretti però al ritiro, dopo aver battagliato a lungo con la Ferrari di Alesi. TJ

For a few laps Herbert hoped to take first place but in the end he had to relinquish his position to Shumacher. Nevertheless, Herbert made a great showing, as did the Sauber drivers who were forced to withdraw after a drawn-out battle with Alesi's Ferrari.

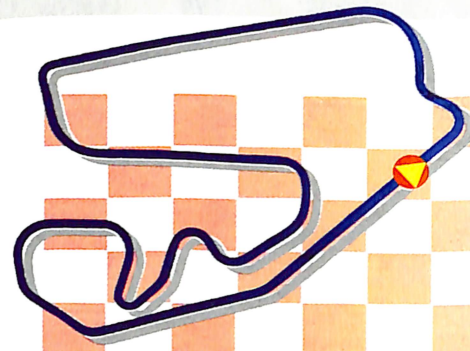


**ORDINE D'ARRIVO/RACE RESULT**

- 1 **AYRTON SENNA** (McLaren Mp4/8)  
in 1.51'15"485 media km/h/165.601
- 2 **DAMON HILL** (Williams Fw15c)  
1.51'32"110 media km/h/165.190
- 3 **MICHAEL SCHUMACHER** (Benetton B192B)  
1.52'00"921 media km/h/164.482
- 4 **JONNY HERBERT** (Lotus 107B)  
1.52'02"042 media km/h/164.454
- 5 **MARK BLUNDELL** (Ligier Js39)  
1.52'07"612 media km/h/164.318
- 6 **ALESSANDRO ZANARDI** (Lotus 107B)  
1.51'33"992 media km/h/162.818
- 7 **PHILIPPE ALLIOT** (Larrousse Lh93)  
1.51'54"153 media km/h/162.329
- 8 **JEAN ALESI** (Ferrari F93A)  
1.52'07"152 media km/h/162.015
- 9 **DEREK WARWICK** (Footwork Fa13)  
1.51'49"698 media km/h/160.116
- 10 **ERIK COMAS** (Larrousse Lh93)  
1.51'57"213 media km/h/159.937
- 11 **MICHELE ALBORETO** (Lola Bms T93/30)  
1.51'25"176 media km/h/158.374
- 12 **LUCA BADOER** (Lola Bms T93/30)  
1.51'56"440 media km/h/157.637



HDV



# INTERLAGOS

**I RITIRI / THE RETIREMENTS**

- 1 giro lap **Fabrizio Barbazza** (Minardi M193)  
Incidente
- 1 giro lap **Martin Brundle** (Ligier Js 39)  
Incidente
- 1 giro lap **Gerhard Berger** (Ferrari F93A)  
Incidente
- 1 giro lap **Michael Andretti** (McLaren Mp4/8)  
Incidente
- 3 giro lap **Riccardo Patrese** (Benetton B192B)  
impianto idraulico sospensioni
- 13 giro lap **Rubens Barrichello** (Jordan 193)  
Cambio
- 26 giro lap **Ukyo Katayama** (Tyrrell 020C)  
Incidente
- 27 giro lap **Aguri Suzuki** (Footwork FA13)  
Incidente
- 28 giro lap **Christian Fittipaldi** (Minardi M193)  
Incidente
- 29 giro lap **Alain Prost** (Williams Fw15c)  
Incidente
- 48 giro lap **Andrea De Cesaris** (Tyrrell 020C)  
Incidente

**FIA FORMULA 1 WORLD CHAMPIONSHIP** GRAND PRIX COLLECTION **INTERLAGOS** 28 - 3 - 1993 **2**

**CLASSIFICHE MONDIALI**

**PILOTI/DRIVERS**

<b>Senna</b>	punti/points	16
<b>Prost</b>	punti/points	10
<b>Hill</b>	punti/points	6
<b>Blundell</b>	punti/points	6
<b>Schumaker</b>	punti/points	4
<b>Fittipaldi</b>	punti/points	3
<b>Herbert</b>	punti/points	3

**CONSTRUTTORI/TEAMS**

<b>Williams</b>	punti/points	16
<b>McLaren</b>	punti/points	16
<b>Ligier</b>	punti/points	6
<b>Benetton</b>	punti/points	4
<b>Lotus</b>	punti/points	4

**SCHIERAMENTO / STARTING GRID**

<b>Alain Prost</b> 1'15"866 (Williams Fw15c)	<b>1</b>	<b>Damon Hill</b> 1'16"859 (Williams Fw15c)
<b>Ayrton Senna</b> 1'17"697 (McLaren Mp4/8)	<b>2</b>	<b>Michael Schumacher</b> 1'17"821 (Benetton B192B)
<b>Michael Andretti</b> 1'18"635 (McLaren Mp4/8)	<b>3</b>	<b>Riccardo Patrese</b> 1'19"049 (Benetton B192B)
<b>J.J. Lehto</b> 1'19"207 (Sauber C12)	<b>4</b>	<b>Karl Wendlinger</b> 1'19"230 (Sauber C12)
<b>Jean Alesi</b> 1'19"260 (Ferrari F93A)	<b>5</b>	<b>Mark Blundell</b> 1'19"296 (Ligier Js39)
<b>Philippe Alliot</b> 1'19"340 (Larrousse Lh93)	<b>6</b>	<b>Johnny Herbert</b> 1'19"435 (Lotus 107B)
<b>Gerhard Berger</b> 1'19"561 (Ferrari F93A)	<b>7</b>	<b>Rubens Barrichello</b> 1'19"593 (Jordan 193)
<b>Alessandro Zanardi</b> 1'19"804 (Lotus 107B)	<b>8</b>	<b>Martin Brundle</b> 1'19"835 (Ligier Js39)
<b>Erik Comas</b> 1'19"868 (Larrousse Lh93)	<b>9</b>	<b>Derek Warwick</b> 1'20"064 (Footwork Fa13)
<b>Aguri Suzuki</b> 1'20"232 (Footwork Fa13)	<b>10</b>	<b>Christian Fittipaldi</b> 1'20"716 (Minardi M193)
<b>Luca Badoer</b> 1'20"908 (Lola Bms T93/30)	<b>11</b>	<b>Ukyo Katayama</b> 1'20"991 (Tyrrell 020C)
<b>Andrea De Cesaris</b> 1'21"224 (Tyrrell 020C)	<b>12</b>	<b>Fabrizio Barbazza</b> 1'21"228 (Minardi M193)
<b>Michele Alboreto</b> 1'21"488 (Lola Bms T93/30)	<b>13</b>	