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GP79 Car-Owner's Manual

Introduction By Steve Smith
Foreword By Renato Simioni


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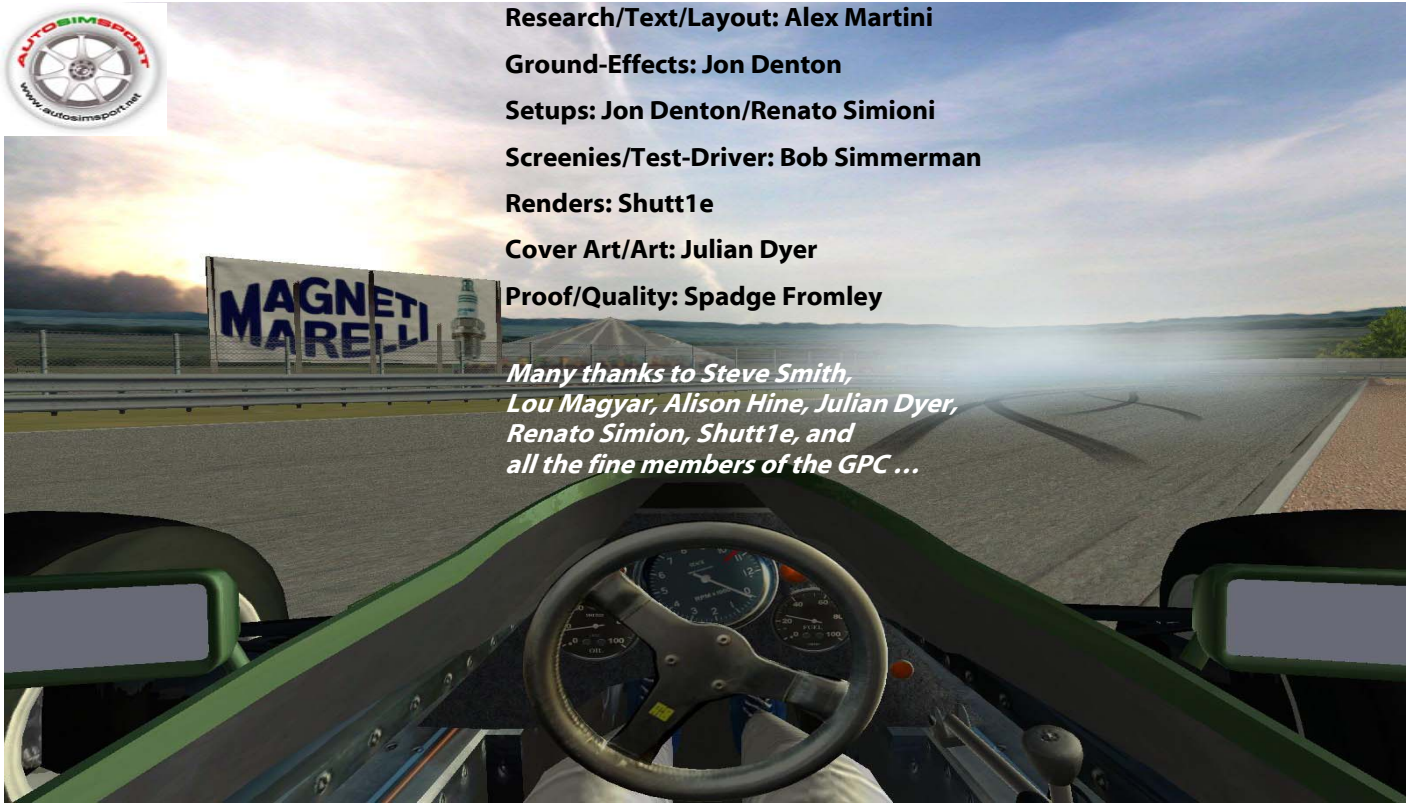
CREDITS



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Lou Magyar, Alison Hine, Julian Dyer,
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all the fine members of the GPC …

CONTENTS

FOREWORD

The Grand Prix 1979 mod has come a long way since Shutt1e began modelling the first Ferrari back in 2004 along with Tony X, originally for GP4. Since then, the project has constantly evolved, feeding from the passion of everyone who has been, or at one point were, involved in its creation. The goal has always remained the same: To recreate, as faithfully as we possibly could, all the excitement, drama, and romance of this fantastic era of the sport.

This demanded no small amount of dedication from all of its contributors, and consumed a good deal of our lives throughout its development period. It has, however, always remained an extremely rewarding exercise of passionate team work, from which friendships developed among folks who would otherwise have remained complete strangers. Irrespective of the quality of the end result, this has already paid off big time.

This manual, developed by the AutoSimSport magazine crew with the support from Grand Prix Classics team, has the purpose of not only feeding some hopefully pertinent tips to the users of the mod, but also of taking readers somewhere else, back to when this piece of the sport´s history was being written, by Villeneuve, Scheckter, Andretti, Chapman, and company.

We hope you all enjoy the ride!

—Renato Simioni (Grand Prix Classics team)

INTRODUCTION

Turn Up the Boost!

At last! 'Grand Prix Legends 2'—or something that looks and sounds very much like it—has arrived ... albeit half a decade late, and after the death of its intended parent, Papyrus. Renato Simioni and his multinational Grand Prix Classics crew have done what sim-impressario extraordinaire Dave Kaemmer and all the king's horses (well, the might of the French waterworks cartel, which begat Vivendi) couldn't do: bring a totally believable 'Dawn of the Turbo Era' simulation to life for our die-hard sim-racing community.

And it was ... it *is* ... good. Very good.

GPC's 'GP79' mod for rFactor is as rich in features, authenticity and detail as any commercial product could ever hope to be. Plus, of course, it's a blast to drive. But consider, if you will, the season it is simulating: 1979, a time of tumultuous change in Formula 1 (it was the first year a turbo-charged car won a proper Grand Prix), and of great diversity.

Looking at contemporary footage of that season (Paul Zimmerman, of motorsportcollector.com, who almost single-handedly got MGM to release 'Grand Prix' on DVD, was good enough to provide us with a copy of Duke Video's 'The Grand Prix Collection', a 10-volume history of Formula 1 in the 1970s), the most striking visual is the sheer number of cars on the grid. Up to twice as many cars sallied forth in those races as compete in Formula 1 nowadays, a plenitude faithfully duplicated in all the marques and models and upgrades represented in Grand Prix Classics's mod.

Many of the real-world 1979 cars were unabashed copies of the revolutionary ground-effects Lotus Type 79, which had won the World Drivers Championship for Mario Andretti the year before. Many copies were in fact superior (indeed, Lotus would not win another Grand Prix until 1982). Of these, the best newcomer was undoubtedly Frank Williams's FW07-Cosworth (Ford), but it didn't really come alive until the second half of the season, by which time Jody Scheckter and teammate Gilles Villeneuve (Jacques's father) had a firm grip on the Championship in their screaming 12-cylinder Ferrari T4s.

Another strong contender was Guy Ligier's JS11-Cozzie V8 which won the first two races (Argentina and Brasil) and later the Spanish GP. The Championship points system was bizarre that year, with drivers only allowed to count their best four finishes in each half of the 16-race season (15 after the Swedish GP was cancelled). The second half was dominated by the Williams drivers Alan Jones and Clay Regazzoni, who swept the British, German, Austrian and Dutch events in a row, and the Canadian GP thereafter.

But it was the Ferrari 312 T4 which won the Drivers Championship for Scheckter (with 51 points and wins at Belgium, Monaco and Italy; to Villeneuve's 47 points and wins at South Africa and the U.S., both East and West) as well as the Constructors Championship (113 points for Ferrari vs. Williams's 75; Ligier was third with 61). However, if you like driving for an underdog team, GPC's mod also offers you both the outclassed Lotus 79 as well as the troublesome Type 80 (its intended replacement; the best it got was a third in Spain), plus the lovely Tyrrell 009-Cosworth, the pointy-nosed Brabham-Alfa Romeo V12, the lone Wolf (sry.), the never-raced Renault RS11, not to mention backmarkers like the Rebaque, Merzario, ATS, and Emerson Fittipaldi's hard-to-pronounce Corpersucar (which scored a solitary point). Only the forgettable Kauhsen is absent.

Far and away the most significant car of the year, though, was the Renault RS10, which won only one race (the French GP), but which would usher in what many believe was postwar Grand Prix racing's 'Golden Age': the Turbo Era. And thanks to Renato and his band of merry men, it's now yours to drive, all 39 car models of it (according to SimHQ), and 27 drivers of the 34 who actually started that season (according to Wikipedia).

Enjoy!

—Steve Smith (fmr. Editor of 'Car and Driver', 'Motor Trend', 'PC Computing', etc.)

"To be honest, there was no such thing as cornering technique in the ground-effect era. 'Cornering' was a euphemism for rape practised on the driver ... When you came into a corner, you had to hit the accelerator as hard as you possibly could, build up speed as quickly as possible and, when things became unstuck, bite the bullet and give it even more. In a ground-effect car, reaching the limit was synonymous with spinning out ..."
—Niki Lauda


Jody


MARTINI
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THE 1970s

Disco Inferno!

Looking back at the history of Grand Prix racing, it would be difficult to argue against the disco-decade being the sport's most influential and finest: Technically, the cars had never been more experimental, with the grid packed (pre-qualifying was the norm in those years for the 30 or so cars that would turn up at every event to contest for the 24 starting berths) with anomalous shapes and solutions as designers were given the (comparative) freedom to test the limits of their imagination and technical understanding; the drivers, too, compared to today's commercial products, were seemingly bigger-than-life, involved, as they most certainly were, in a deadly sport, and it was still possible for a privateer team to buy an off-the-shelf DFV and go racing with the possibility of success (Lord Hesketh's mid-1970s adventure being a case in point). The tracks, too, remained terrifying tests of spirit and will, yet to be emasculated by the rise of commercialism, while the grid was chock-a-block with personalities, both in and out of the cockpits: James Hunt, Clay Regazzoni, Luca Cordero de Montezemolo, Bernie Ecclestone, Don Nichols, Mo Nunn ... Indeed, a

quick glance at the designers, their cars and drivers of that era is to shine a light on the very pulse of what Formula 1 racing was designed to be, and the 'formula' has never been so widely interpreted, with every season bringing about substantial evolutions in design implementation.

However, there really have only been three definitive revolutions in the technical development of Formula 1 cars since the formula's inception back in 1947, two of them serving as perfect bookends to the 1970s era: First, though, was the introduction of the rear-engined chassis by Cooper which debuted in a Formula 2 car driven by Jack Brabham at Monaco in 1957 (Enzo Ferrari was reputed to have noted that he'd never seen a horse push a carriage and, as a consequence, the English *garagisti* must be out of their minds) before the end of the 1960s saw the inauguration of wings by Jim Hall's Can-Am Chaparral team (which was imported to Formula 1 by Colin Chapman), and finally, the end of the 1970s (the winter of 1977) saw Colin Chapman introduce the voodoo-science of ground-effects to Grand Prix racing.

*(**Previous Page**: Still taken from the archives showing the aftermath, in 1973, of local hero Dave Charlton's lunge at Carlos Reutemann coming into Crowthorne Bend. Charlton spun, and collected an innocent Mike Hailwood in a Surtees. The rest of the drivers managed to brush past the wreckage until Clay Regazzoni, unsighted, smashed his BRM into Hailwood's stricken car. Regazzoni's BRM, along with Hailwood's Surtees, immediately burst into flames. Even worse, Regazzoni had been knocked unconscious by the impact. Hailwood, instants after this still (which AutoSimSport will release sometime next month, along with our Kyalami Super 8mm film), jumped from his burning wreckage, and literally dived into the flames to unstrap Regazzoni's belts. He then dragged the Swiss driver out as the marshals doused the flames. Hailwood—with flames engulfing him—would then desperately sprint across the track to extinguish the flames by rolling into the grass. He would later win the George Medal for his bravery.*
…10-time motor-bike world champion Hailwood would die in 1981, aged 40, when he, and his daughter, were involved in a senseless road-accident while driving to get dinner, a fate that this fine man did not deserve In 2006, Clay Regazzoni, too, would lose his life in a traffic accident.)


LUCKY STRIKE


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parmalat


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MARTINI

1979—The Turning Point

The 1979 Formula 1 season was (literally) a ground-breaking year as every team on the grid struggled throughout the winter to come to grips with the new buzz-terms of that era: ground-effects, mini-skirts, and the 'Venturi effect'.

Lotus came into the season expecting more of what they had achieved in 1978, a season which they had dominated with their startling ground-effects car, the Lotus 79 that had clinched the championship at a canter. The off-season in 1978 was a busy one for the competition, with every team on the grid desperately trying to develop their own ground-effects car in time for the new season. Judging by the variety of shapes and designs that would take the field in 1979, mastering Chapman's revolution would prove more of an art than a science, and the season saw constant refinements with many of the teams introducing evolved chassis throughout the year. Bookies, meanwhile, made Lotus's Mario Andretti odds-on favourite to retain his title (his team-mate this season being ex-Ferrari man Carlos Reutemann, drafted in to replace the glorious Ronnie Peterson who had died at Monza on the very day when Lotus and Andretti had sealed the championship the year before), secure in the knowledge that Chapman, who had single-handedly changed the very shape of Formula 1, would surely have an advantage over the competition.

As it turned out, the bookies, along with most of the pundits, got it completely wrong, and Lotus's championship of 1978 would prove to be the team's last. Almost unbelievably, the Lotus 80 turned out to be an absolute lemon (and not just because of its green Martini livery that replaced the infamous black JPS one). Chapman, never one to shy away from experimentation, had designed the evolutionary Lotus 80 to be a wingless car (the underbody 'wings' compensating for the loss of downforce along with the added bonus of having far less drag): In the laboratory (and the wind-tunnel), the car was reputed to have found an extra 30 per cent downforce over the Lotus 79, but throughout winter testing, the car remained off the pace as its long-nose cone proved to be far too brittle for real-world conditions; worse still was that the car suffered from the smallest alterations in ride-height (such as over bumps or kerbs), and both Andretti and Reutemann were unsettled by having a few thousand pounds of downforce vanish in the time it took to slap over a kerb. By the time the car made its debut in March, in South Africa, it had sprouted wings fore and aft, but this did very little to cure its fundamental problems—by August, Andretti had reverted back to the Lotus 79 (Reutemann having never raced it), and the 80 was shelved never to see the light of day again. (The 80 ran for the last time at Dijon.)

Even more incredibly, a minnow team from France, Ligier, who were in their third season of Formula 1, had stumbled—some (perhaps cruelly) have said by sheer chance—on an ideal ground-effects solution, aided considerably by the fact that they had dumped their French engine supplier (Matra, and its lustful V12), during the winter in favour of a factory-spec' DFV that moulded itself perfectly to the needs of their ground-effects designer, Gérard Ducarouge.

Ferrari, on the other hand, found themselves—for the third time that decade—at an impasse: The transverse gearbox solution that had brought them so much joy since 1975 was again, along with their ultra-wide 'Boxer' engine, a complete liability, and Forghieri and his engineers developed what can only be described as a fudged ground-effects car in response: It was an ugly but effective solution. A cursory look at the difference between 1978's 312T3 and the 312T4 goes a long way in demonstrating the quantum leap that the teams had to take in the winter of 1978 to remain competitive.

Lined up on the grid to race these cars (a very challenging experience since, optimally, a ground-effects car means stiff suspension, and strange {not to mention frightening} cornering characteristics {the faster the cars went, the more grip they generated}) was arguably one of the strongest fields in Grand Prix history: World Champions (past and present) included Nelson Piquet, Niki Lauda, James Hunt, Keke Rosberg, Mario Andretti, Jody Scheckter, and Emerson Fittpaldi, all of whom joined young chargers such as Gilles Villeneuve, Didier Pironi, veterans like Jacky Ickx along with an embarrassment of world-class talent and race winners such as Depailler, Reutemann, Watson, Jabouille, Tambay, Arnoux, Brambilla (and many others), for what would prove to be a topsy-turvy season rich in racing incidents that have since come down to us as legend.

Formula 1, too, was still in its 'infancy' commercially, and the field was sprinkled with privateers: Mexican millionaire Hector Rebaque bought himself an off-the-shelf DFV engine, then persuaded Colin Chapman to give him a Lotus 79 chassis, while Merzario and Fittipaldi continued their disastrous forays into oblivion: Meanwhile, at Williams—who were, by then, into their second decade of racing (and still seeking their first win—indeed, Williams was the veritable Minardi of the 1970s)—things were shaping up very well indeed with their strong driver line-up, and Head's soon-to-be celebrated FW07.


GILLES VILLENEUVE
FIAT

1979—The World Championship

The 1979 season remains one of the most competitive seasons of that—or any other—era. The season started in Buenos Aires in January with the unfancied—not to mention wonderfully Gallic—team Ligier winning in some style before making it two in a row in Brasil a few weeks later, both wins coming via the gifted Jacques Lafitte in the JS11. Many still wonder what the season would have brought for Ligier had Lafitte's experienced team-mate Depailler not managed to break his legs in a hang-gliding accident before the French Grand Prix—because that accident basically brought Ligier's championship run to an end, as the team—almost uniquely that year—failed to develop the astonishing-looking JS11.

From Kyalami, the third round of the season, the new 312T4 Ferraris began to dominate, claiming victory in the damp in South Africa, and then again at Long Beach with Gilles Villeneuve winning both, and looking good for the title. Ligier came back strong at Jarama, winning with Depailler, and it looked to everyone as if the season would be a battle between the JS11 and the 312T4.

At Zolder, and then Monaco, Ferrari fought back, finding their rhythm—this time with eventual World Champion Scheckter claiming both victories. In France, it was time for the ever-improving turbo Renaults to finally taste success in a season that saw them often at the head of the pack before the turbos expired: At Monaco, earlier in the year, they had introduced their twin-turbos to cure the notorious lag, and from then on, the ground-effects RS10 was nigh on unbeatable in qualifying. At Dijon, a rightly overjoyed Jabouille (whose race win was overshadowed—then as now—by the classic Arnoux vs. Gilles battle) claimed his first-ever victory after years of development work at Renault.

With the summer, though, came the heart of the season beginning at Silverstone where the Williams FW07 (that had been threatening, since its introduction earlier in the season, to dismantle the field) finally conquered its teething problems along with the rest of the field with a somewhat fortuitous Clay Regazzoni claiming Frank Williams's first-ever race win—at the British Grand Prix no less, breaking Williams's duck that extended back all the way to 1969. With the monkey finally off their back, a hat-trick of wins followed for an in-form Alan

Jones who must have rued the lost opportunities earlier in the season as he stormed off to victory in Germany, Austria, and Holland.

Monza, in the autumn, is always a good month to be in Milan, and 1979 saw the tifosi gather in the knowledge that a win for Scheckter would give Ferrari both the Drivers' and Constructors' titles. Indeed, Scheckter's persistence and experience (he'd collected points at virtually every round of the season) had left him virtually without challenge for the championship—everyone, that is, except for his own team-mate, Gilles Villeneuve, who spent the afternoon watching (and guarding) Scheckter's tail-pipe in a display of honour and team-work that would, in 1982, come back to haunt him—and Ferrari. But that afternoon was all about Ferrari's triumph, and Jody Scheckter's fulfillment of a life-time ambition.

Villeneuve was allowed free reign for his home Grand Prix, but the Williams of Jones was too good at Montreal, claiming victory before the circus finished up at Watkins Glen where Jones lost a wheel allowing Villeneuve to claim victory and ending the year on a high-note for the team from Maranello. Little did they suspect that it would be another two decades before they would taste such success again, three years after Gilles's own son would clinch the championship himself, and 18 years after Gilles would pass away at the wheel of a Ferrari.


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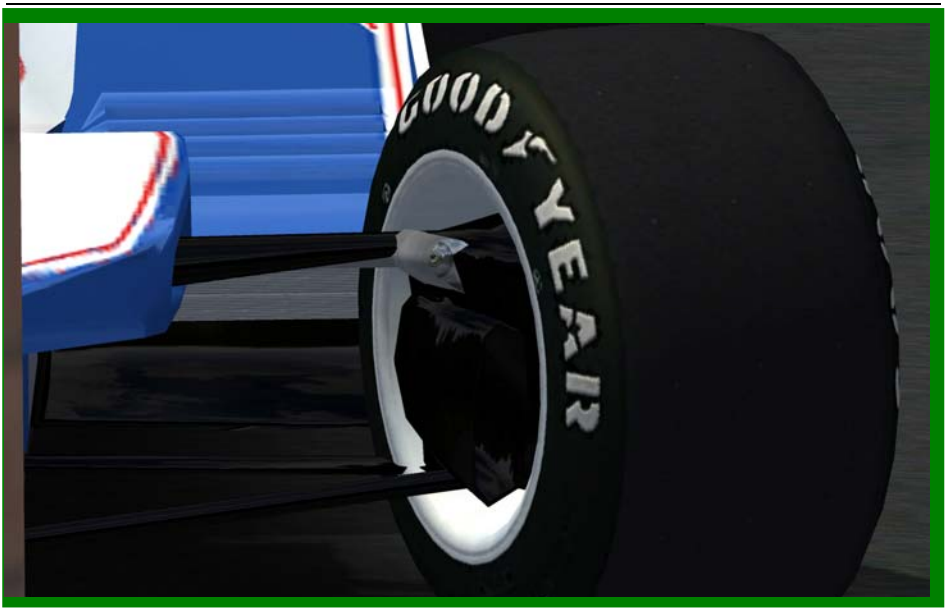
THE TYRE WAR



Michelin vs. Goodyear

France enjoyed something of a seminal year in 1979—along with having the most drivers on the grid, and two of the most competitive teams in Renault and Ligier, it also provided the tyres for the all-conquering Ferrari team.

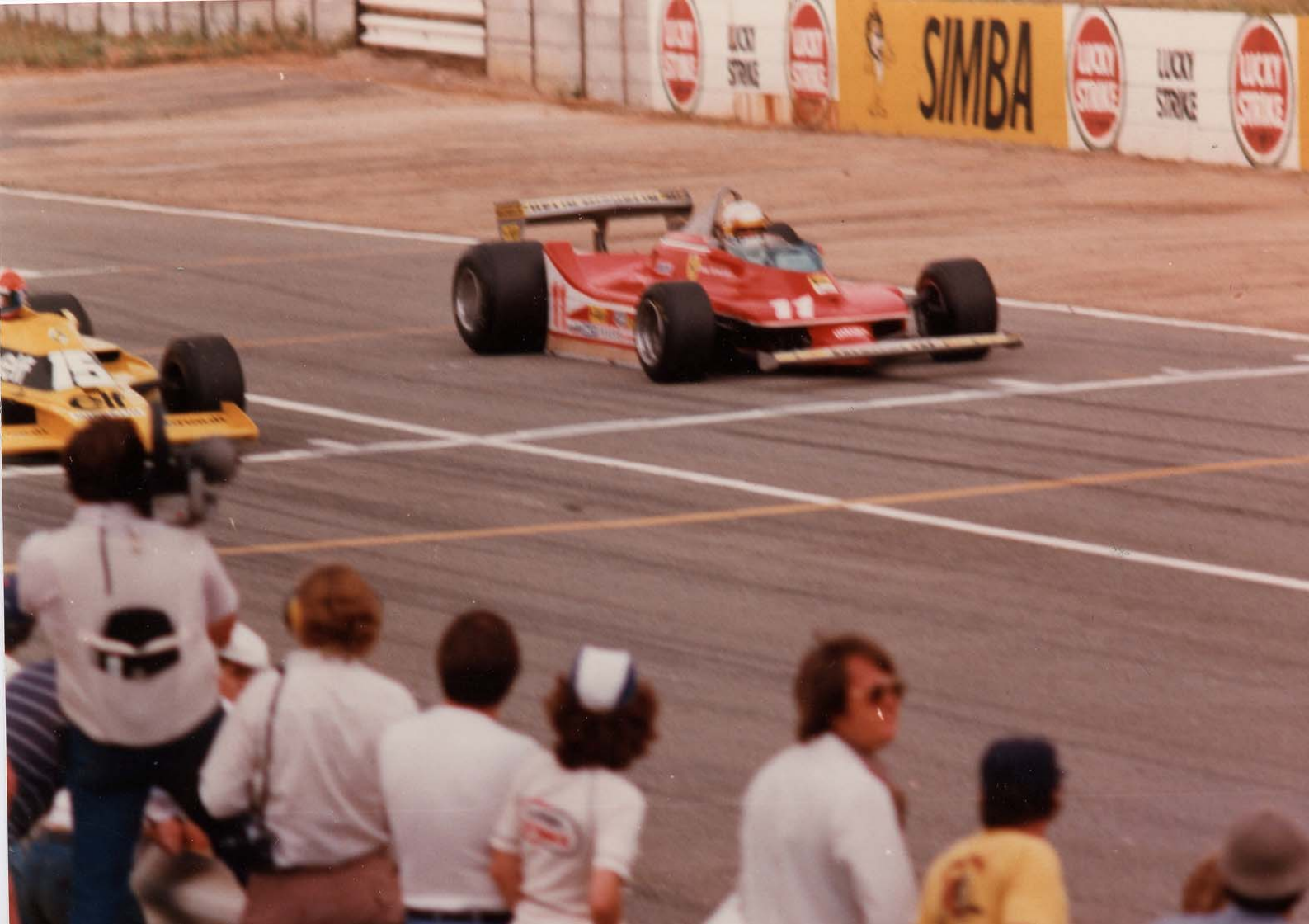
Michelin's history with Ferrari, however, can be traced back to 1969 when the two companies entered into a testing partnership that finally resulted in the *Scuderia* signing a deal to run Michelin tyres for the 1978 World Championship. Michelin introduced radial tyres to Grand Prix racing that year, and whilst 1978 saw them both struggle, 1979 was a very different story with both Ferrari, and Michelin's other clients, Renault, finding a competitive egde with the French outfit's avant-garde rubber.

Radial tyres allowed for better fuel consumption (imperative in the days before re-fuelling), as well as better grip (although they suffered from being much edgier on the limits of adhesion than their cross-ply rivals). It would be five years before Goodyear caught up, at which point, in 1984, Michelin would withdraw from Formula 1 all-together. But 1979 was a triumph for the radial tyre that Michelin had invented back in the late 1940s, and a triumph for the French company over its long-standing rival Goodyear, although the American concern still had the edge in qualifying with their ultra-grippy, two-or-three lap tyres that were a hallmark of those years.

THE ENGINE WAR

V6 Turbo vs. V8 vs. V12 vs. Flat 12

There was a provision (the 'formula') set-up in 1966—the year that heralded the return to 'power' in Grand Prix racing—which allowed for the use of two types of engines in Formula 1: Normally aspirated engines of 3 litres, and turbo engines of 1.5. Ford lined up for 1979 with its ultra-reliable decade-old DFV V8 which had enjoyed so much success since 1967, while Ferrari brought-back their powerful Flat 12 'Boxer' (an evolution of its 312 engine of 1966) that had won either the Constructors' or the Drivers' (or both) championships since 1975 (with the exception of 1978). Alfa Romeo, meanwhile, had a specially designed, narrower V12 ready in time for the first race of the season, in Argentina, for their Brabham customers (retaining the successful sports car Flat 12 for their own factory-run team that debuted mid-way through 1979). At Renault, though, the turbo experiment was in its third year, and development of the 1.5 litre 'teapot' turbo engine that had seen so much success in sports cars—including a Le Mans win in 1978 for Tyrrell driver Didier Pironi—was poised to finally make an impact on Formula 1. Which 'formula' would triumph?


SIMBA
LUCKY STRIKE

Renault Gordini 1.5 V6 Turbo

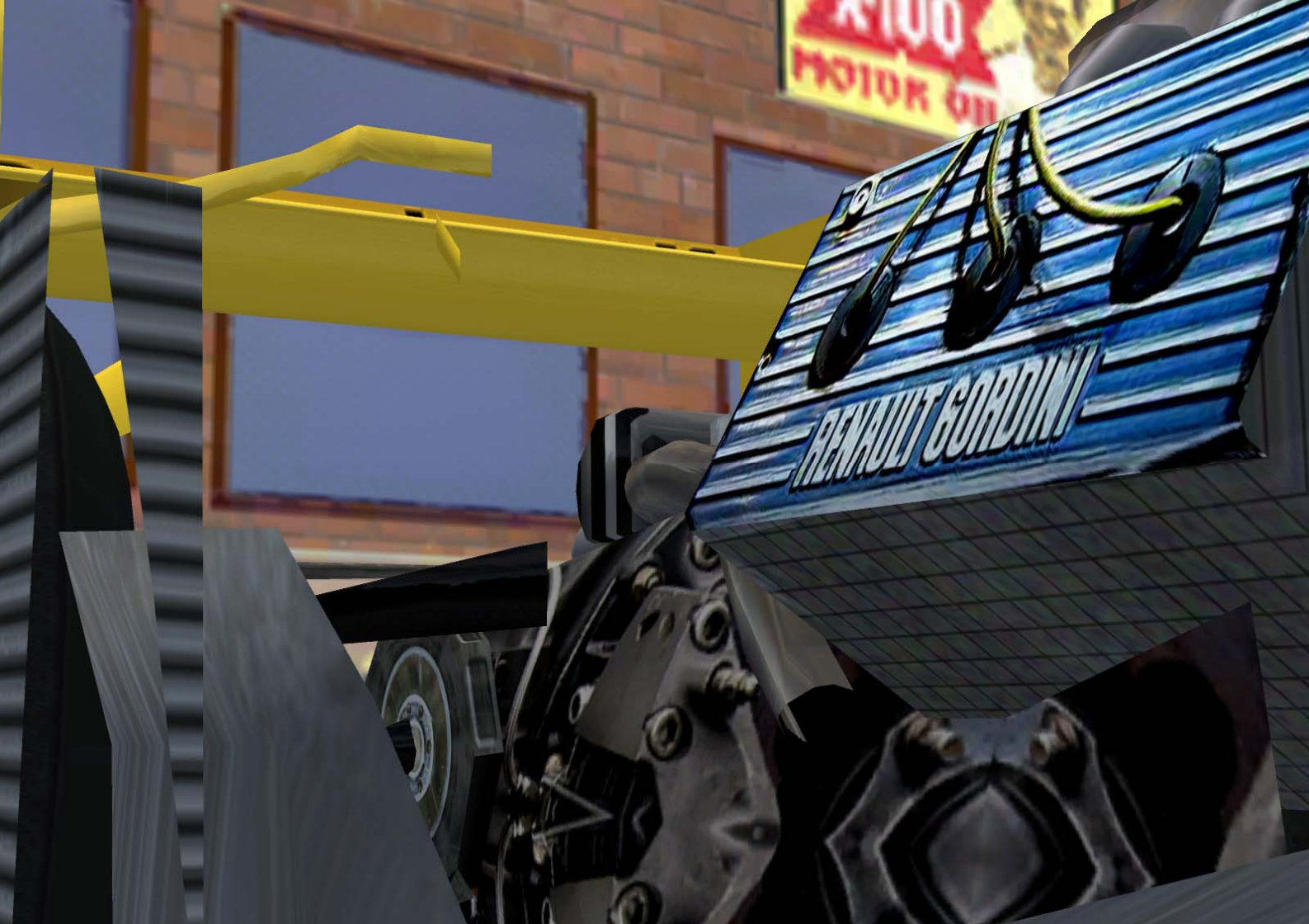
Designers: André de Cortanze, Francois Castaing

Silverstone 1977 saw the debut of Renault's turbo engine in Formula 1, an engine that had been in production since 1975 in the French manufacturer's sports car programme. It was instantly dubbed the 'yellow teapot' due to the smoke that seemed to be constantly sighing out from it … that is, before it exploded in a shower of broken bits and pieces. The Renault turbo was a bit of a joke in those days—and everyone in the paddock (except Renault themselves) thought it would last but a few races before saner heads prevailed. Even if, the paddock maintained, the reliability issues could be cleared up (a very big if), the turbo-lag inherent in turbo-chargers would make the cars all but undriveable under Formula 1 conditions.

What the paddock had discounted, however, was Renault's successful outing in sports cars using a 2.1 litre turbo engine in their Alpines that culminated in overall victory at Le Mans in 1978. But in Formula 1, the team struggled throughout those early years, fielding only one car (Jabouille) in 1977 and 1978, and achieving very little in the way of results or performance. With the triumph at Le Mans behind them, however, 1979 saw the company turn its focus—and considerable finances and talents—to conquering Formula 1. Their ambition was highlighted pre-season when they welcomed a second driver (Arnoux) to the 1979 line-up, and set about developing a new chassis too, a ground-effects car dubbed the RS10. Before its arrival, though, Renault and Jabouille—who had spent the last five years developing the engine—showed its potential by sticking the ancient RS01 on pole at Kyalami, mostly due to the 6,000 feet elevation of the track which literally choked the life out of the normally aspirated engines.

All the same, on a rain-soaked late summer's day in Johannesburg, Renault finally led a Grand Prix … until the valve spring broke mid-way through the race on Jabouille's car. The result, though, served to motivate Renault to finish-up their ground-effects RS10 which debuted at Jarama.

With the aero-package taken care of, Renault—at Monaco—introduced their technical solution to the turbo-lag barrier that had plagued them since 1977—a twin-turbo which was instantly met with approval by both Jabouille and Arnoux. Come the French Grand Prix early that summer at Dijon-Prenois, and Jabouille saw his half-decade's worth of thankless work pay off in the best way possible—pole position, win, and fastest lap … in France ... and Renault's first win since 1906. The RS10 would go on to be competitive throughout the season, with poles and podiums aplenty for Arnoux, while Jabouille—perhaps sated by his devotion and final success—continued to be plagued by technical failures. By 1982, though, turbos had become the only option for the front-running teams, with Honda, Ferrari, and BMW throwing their 1,500bhp monsters into the ring; the 'yellow teapot' had indeed exploded, but in a way that no-one in the paddock had thought possible on that cool afternoon at Silverstone in 1977.


RENAULT GORDINI


MICHELIN

Ferrari Flat 12 'Boxer'

Designer: Mauro Forghieri

The Ferrari V12 had been introduced in 1966 with the return of 'power' to Formula 1. It proved powerful but inadequate due to its heightened centre of gravity, and as the 1970s rolled on, Ferrari had to look back to 1964 for their last world championship (secured by motor-cycle champion John Surtees).

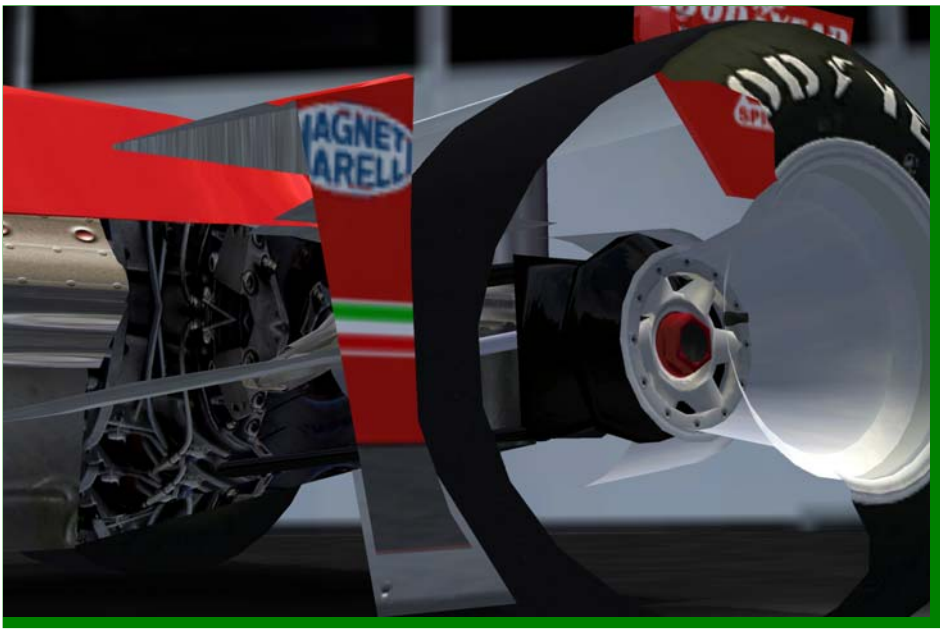
Mauro Forghieri—who was responsible for the original 312 engine—realized at the onset of 1970 that, despite the engine's superiority over the Ford DFVs, the handling problems the V12 created would continue to handicap Ferrari's challenge: His solution was to create, from the same V12, a 180 degree unit called the 'Boxer', which was installed into 1970's Ferrari 312B (B for 'Boxer'). The car proved immediately successful with both Regazzoni and Ickx claiming victories that season. Ickx, indeed, fought a valiant battle against Lotus's Jochen Rindt throughout 1970, with the Austrian Rindt—despite passing away at Monza—managing to accrue enough points during the season not to be overhauled. Ferrari, though, won the Constructors' Championship, and hopes were high that the 'Boxer' would deliver them the Drivers' Championship in 1971. But 1971's Tyrrell, with Jackie Stewart at the wheel, again beat Ferrari into second place and, with the momentum broken, the next two seasons saw Ferrari struggle mid-pack until, at the end of 1973, Enzo Ferrari decided to draft in Luca Di Montezemolo (fresh from Law School at Columbia) to shake things up at the *Scuderia*. Niki Lauda was promptly hired from BRM (along with Regazzoni), and Forghieri was re-instated in order to begin work on the 1975 Ferrari, an evolution of 1974's 312B3, dubbed the 'snow plough'.

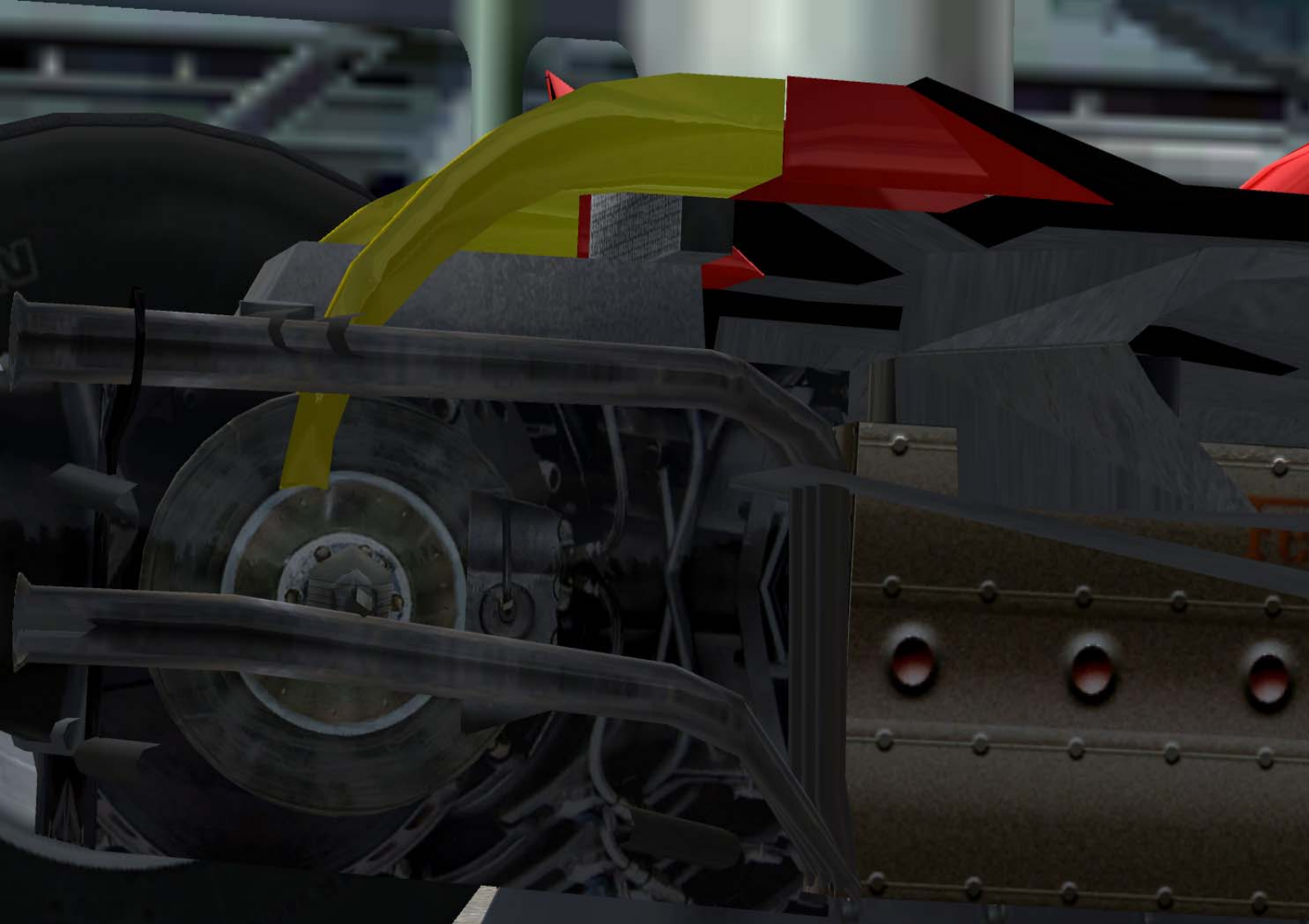
Forghieri, however, was faced with the not-so-simple task of finding a solution to the 'Boxer's' handling problems; while a step forward from the 312, the 'Boxer' was still not up to the task of competing against a field ever-more reliant on aerodynamic solutions. Forghieri's solution proved to be a stroke of genius: A transverse gearbox attached to the Flat 12. Niki Lauda developed the car throughout the winter of 1974 at Ferrari's newly-built Fiorano test-facility, putting in thousands of miles, and, with the dawn of 1975, he had developed a championship winning car dubbed the 312T ('T' for Transverse). The 312T, along with its evolutions (the T2, T3, and 1979's T4) would go on to dominate the mid-1970s, winning the championship in 1975, 1977, and 1979, and only missing out on 1976 due to Lauda's shunt at the 'Ring (but still claiming the Constructors title), and 1978 to the futuristic ground-effects Lotus 79.

But just like the early 1970s, Ferrari's 12 cylinder engine, in the era of ground-effects, proved troublesome, and not even Forghieri could find a solution to the Flat 12 being far too wide to allow for the effective use of underbody wings. Despite this, the reliability of the Flat 12 was still enough to secure the T series' fourth Constructors' title in 1979. This was to be its final hurrah—come 1980, the 'Boxer's' bulk, along with the rest of the fields' understanding and

implementation of ground-effects, saw the 312T5 struggle even to qualify—so bad was the 'shitbox' (Gilles's words), in fact, that it convinced Jody Scheckter to retire, and Ferrari to commit to their turbo-project with the 126C.

The T series, for those who see in Formula 1 strange coincidences, would win 27 races … the same number as the one worn by Gilles the year he died.



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Alfa Romeo V12 and Flat 12

Designer: Carlo Chiti

Any argument about the most beautiful car ever designed—for those who like their sports cars red and made in Italy—must include Alfa Romeo's Tipo 33 that were run in sports car races between 1967 through 1977. The cars initially featured a V8 engine, and were designed, prepared and run by Autodelta, Carlo Chiti's 'design-house' (ostensibly Alfa Romeo's competition department) that was charged with overseeing the entire Alfa sports car programme. Chiti, in the early 1970s, persuaded Alfa to fund the development of a V12 which finally clinched the World Championship for Makes in 1975. That victory set in course Alfa Romeo's unlikely return to Formula 1.

With Ferrari's 'Boxer' lump winning everything in sight during the mid-1970s, Bernie Ecclestone—who, in those days, was Brabham Team owner—was on the look-out for a bit more beef than was currently on offer from Cosworth, and he approached Alfa Romeo about the possibility of running their modified V12s from their sports car programme. The deal was duly agreed, Alfa being keen to return to Formula 1 after an absence of some 20 years, and Chiti himself (he had designed the 'shark nosed' Ferraris of the early 1960s that had taken American Phil Hill to the championship in 1961) was instrumental in completing the deal. 1976, then, saw Brabham run the bulky Alfa Flat 12s in their BT 44B. Rumour in the paddock suggested that the Alfa engines had around 515bhp—about 50bhp up on the Ford DFV Cosworths, and probably on a par with, or—if you listen to some who were there at the time—even more powerful that the all-conquering Ferrari 'Boxer'.

The Alfa engines, though, with their evolution in sports car, arrived with difficulties built-in (some already too familiar to Ferrari) such as their bulk (fine for sports cars, but problematic for Formula 1), and some unique to Alfa Romeo, such as their awkward design (changing spark plugs in the 1976 Alfa Romeo 3.0 B12 meant having to remove the entire engine from the chassis), and—perhaps most alarmingly—their gas-guzzling fuel-economy.

Brabham's chief designer, South African Gordon Murray (who would go on to win world championships with Brabham in the mid-1980s, as well as designing the fascinatingly complex 1978 'fan car', before ending his career by penning the McLaren F1 road car), was tasked with finding design-solutions to accommodate the Flat 12. After a difficult two years, success arrived in 1978 with the BT46 winning two races (including the 'fan car' victory in Sweden).

Murray, however, had seen the future in the ground-effects Lotus 79, and, during the winter of 1978, asked Chiti to re-design the Alfa Romeo Flat 12 to be narrower in order to fit with Brabham's ground-effects offering—narrow and long. This was duly delivered (in a V12 configuration) in early 1979, but the engine—created in such a short time-frame—proved to be both unreliable, and

far too thirsty, which all but made its legendary power (and sound!) meaningless. Murray—before the end of the 1979 season—convinced Ecclestone that a DFV engine, while less powerful, would be far better suited for his purposes, and Brabham reverted back to V8 power, a decision which caused Lauda—who had been driving high-revving V12s for seven years—to, promptly quit Formula 1. Chiti, meanwhile, perhaps sensing the winds, convinced Alfa Romeo to enter Formula 1 with their own team run by Chiti's Autodelta outfit that had brought the manufacturer so much success in sports cars … the car, however, the Tipo 177, would prove to be as unhandsome as it was slow (using the Flat 12) while its evolution, the Tipo 179, introduced later in the season (this time powered by the V12) didn't fare much better. Alfa Romeo would continue to persevere with a programme that was perpetually one breakthrough away from success, but after Depailler lost his life testing the 1980 Alfa at Hockenheim, and after Andretti had spent an entire year trying (and failing) to develop it, the project lost its way, and would eventually fold up in 1985.

The Alfa Romeo V12—and the Flat 12—were probably the most powerful engines in Formula 1 at the time … but its inherent faults made it unable to sustain a championship run, even in a team as well-funded and run as Brabham were in the late 1970s.


NICE
Le Casino'
ALFA ROMEO

Ford Cosworth DFV V8

Designers: Mike Costin, Keith Duckworth

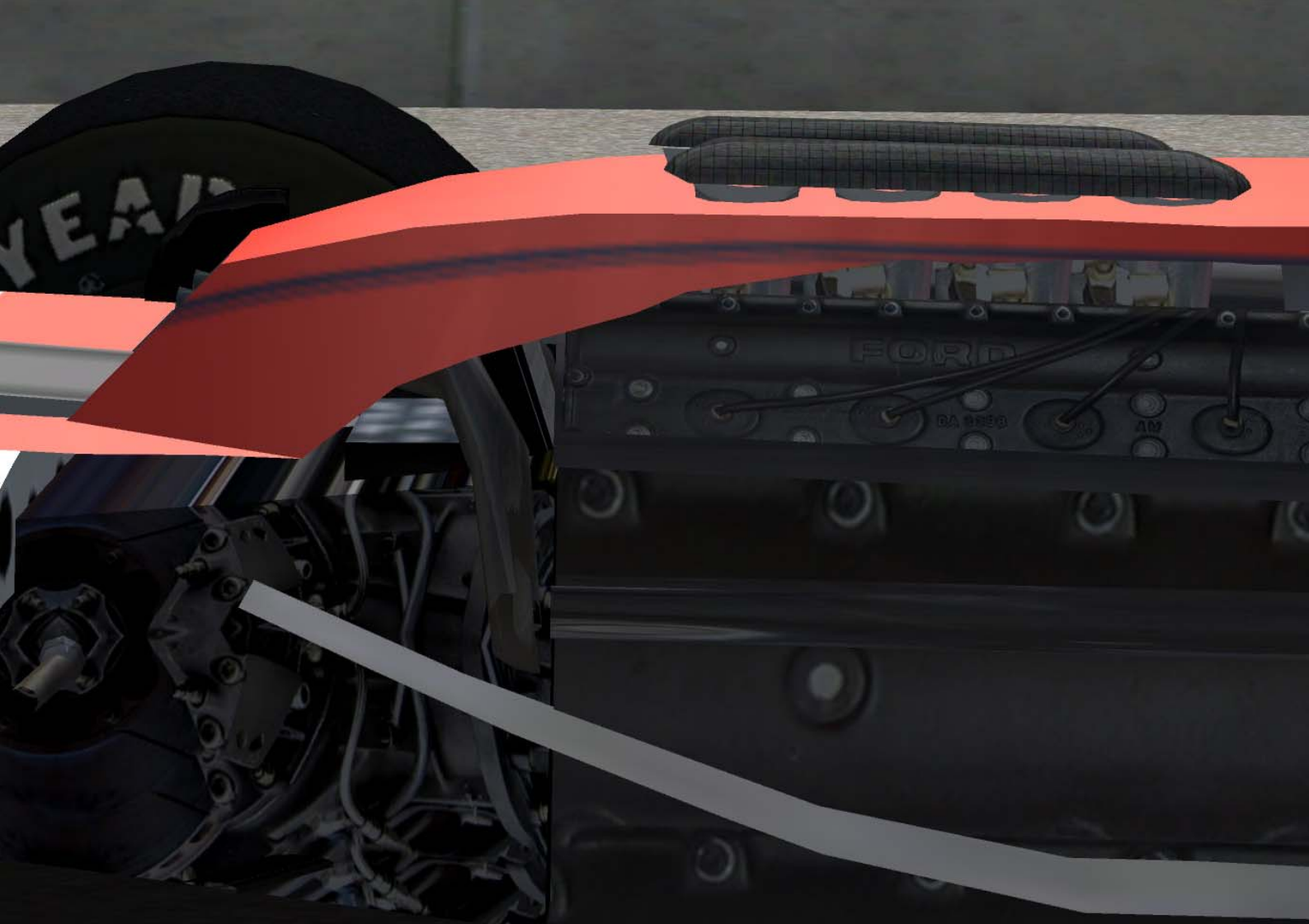
With the 1966 season bringing back the 3 litre engines to Formula 1, Colin Chapman had approached the Ford Motor Company and enquired whether they'd be interested in funding the development of an engine designed by the Cosworth Company (run by Keith Duckworth and Mike Costin) who had quoted Chapman the price of £100,000 for the engine's development. Ford agreed, and, in mid-1967, history was delivered at a seaside resort on the North Sea.

The engine's debut (so-named the DFV—Double Four-Valve) in 1967's Zandvoort Grand Prix was a barnstormer, and were it not for Lotus's reliability (or lack thereof) that season, would have powered Lotus to the championship straight out-of-the-box: By 1968, though, it was clear that the DFV was the engine to have in Formula 1, and Cosworth were more than happy to supply as many teams as could cough up the £20,000 price tag—much to the consternation of Colin Chapman!

During the early 1970s, the DFVs were the ubiquitous engines in Formula 1—with the exception of Matra, Renault, Alfa, Ferrari, and one or two other marques, virtually every car on the grid between 1969 through the early 1980s were DFV-powered. But by the mid-1970s, the DFV's future had been very much in doubt with their 470-or-so horsepower no longer competitive against the Ferrari 312Ts, forcing teams like Brabham to look elsewhere for their power units: Indeed, by 1977, it seemed as if the DFV had reached terminal decline.

As often happens in Formula 1, though, a strange coincidence was to bring the DFV back to the front of the field … at least for a few years longer than looked possible just two years before: Colin Chapman—who had initially brought Cosworth into Formula 1—created the ground-effects Lotus in 1978, and in so doing made the 12 cylinder engine into something of a liability, the wide and bulky design that gave them a low centre of gravity now no longer compatible with the optimum aerodynamics of the Ideal ground-effects car. The DFV, on the other hand, with its light weight and V-configuration, was perfectly suited for the new era. The DFV, back in vogue, would go on to win the championship in 1980, 1981, and 1982, 15 long years after its debut. Cosworth maintained a two-tier development programme, of course, which saw certain teams (Lotus, Ligier, Williams, McLaren, and other front-runners) provided with a 'factory-spec' version, which was probably about 20-30bhp up on the off-the-shelf customer engines provided to 'lesser' teams.

By 1982, the DFV's storied career began to whittle down in the midst of the turbo-era: Despite having been beefed-up to providing somewhere in the region of 500bhp, they were no match for the 1,500bhp turbos from BMW, and Honda. The Cosworth engine, though, enjoyed a superb run, and remains the second most 'winningest' engine in Formula 1 after Ferrari. The 2007 Formula 1 season will be first without a Cosworth engine since 1967 … 40 years of history has come to an end.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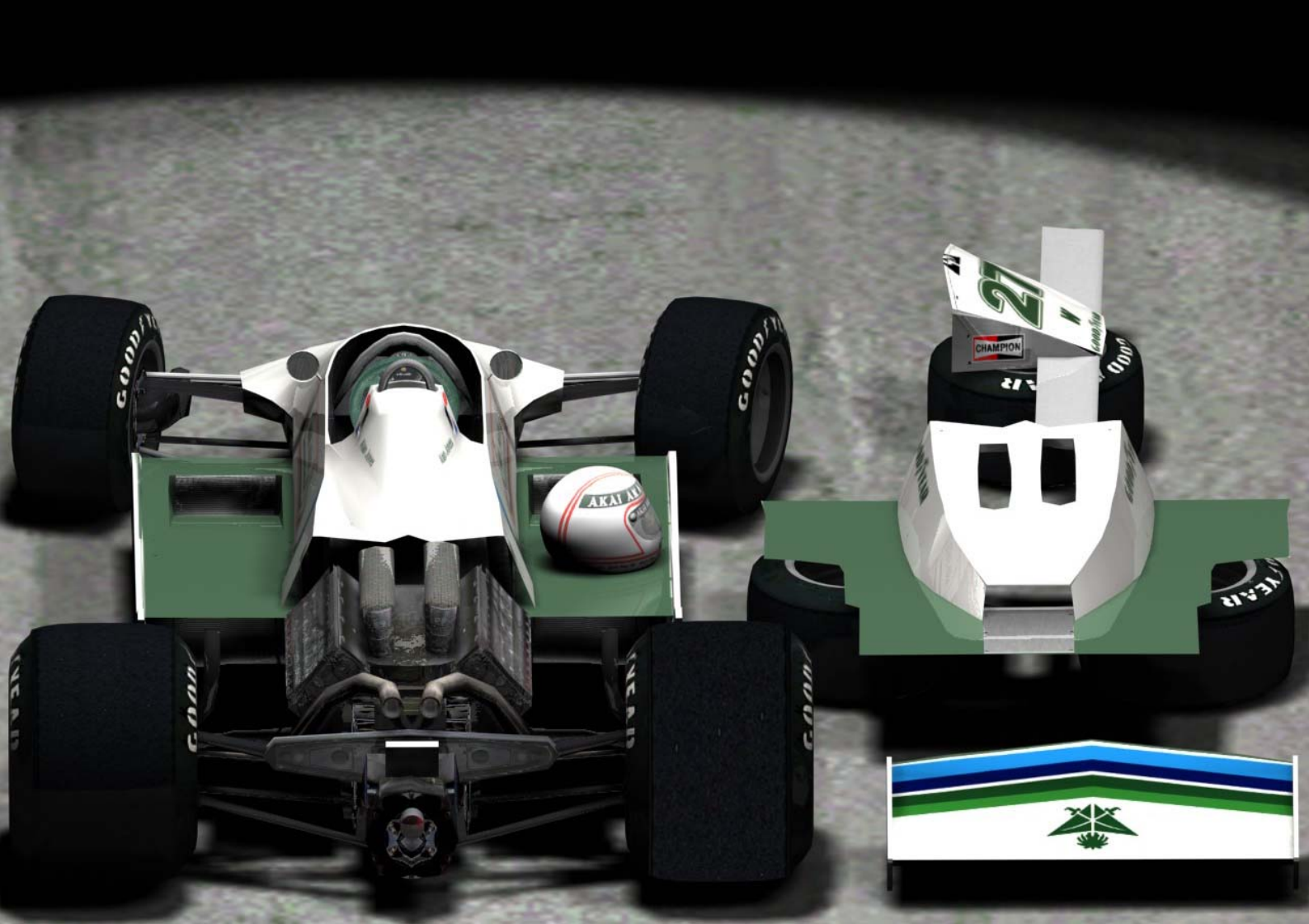
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GROUND-EFFECTS AND MINI-SKIRTS

The Holy Grail

When looked at through the peculiar periscope of time, Colin Chapman's brilliant adaptation of Bernoulli's Principle, as applied to a race car, is one of those inventions that begs the (hindsight-induced) question—how come no-one else thought of it, it's somehow so … *obvious* …

'Ground-effects' technology, which debuted (albeit in a semi-complete form) in 1977 as a direct result of a brainwave by Team Lotus's Colin Chapman, was an accurate description of what, in fact, was involved in the process itself: That is, how the very track could be harnessed to generate never-before seen (or even imagined) levels of downforce while, simultaneously, cutting down drag to equally astonishing levels.

Chapman, in the mid-1970s, had become intrigued by Bernoulli's Principle, and the further he examined the theory, the more he came to believe the central tenet was perfectly adaptable to a race car. Bernoulli's Principle of fluid dynamics, simply stated, holds that, should fluid flow through a restriction, its speed will rise, and its pressure will fall. When this Principle is applied to air (itself a fluid), it generates lift—something that is well-known in aircraft design—and, in so doing, produces flight. Aircraft use aerofoils to achieve this lift; Formula 1, on the other hand—Chapman had introduced them back in the late 1960s—used aerofoils for precisely the opposite reason—to achieve grip by reversing the concept (and the wings themselves). This reversal allowed cars to generate 'negative' lift, or 'downforce', thereby quite literally pushing the car down onto the track. The downforce, however, came—as with all things—with an inherent opposing force: Drag. So much so that, at the dawn of the rear-wing revolution in Formula 1, many teams would strip their cars of wings entirely at tracks like Monza and Hockenheim where grip played second fiddle to straight-line speed.

Chapman, however, showing himself yet again to be the post-war era's most radical innovator, began to consider how he could create an enormous wing that would not generate, as a direct consequence, enormous amounts of drag (since the bigger the wing, the slower the car would be on the straights—grip and final speed being in a direct and inverse relationship when it comes to running inverted wings at the rear of a race car). What he knew was that an 'upside down wing' on the rear of a car pushed it to the ground as a result of generating an area of low pressure beneath it; logically, therefore, the larger this aerofoil was, the greater the 'push', while, equally, the greater the aerofoil, the greater the drag. Chapman, though, believed Bernoulli's Principle held the perfect solution for creating downforce with, surprisingly, *less* drag. In essence, what he was seeking was to find a way in which air would not 'push' the car down to the track but, rather, *suck* it down.

Chapman, in 1976, conceptualised that the underbody of the car—that is, the largest single section of malleable surface area on a race car—could be manipulated in order to become one big aerofoil. In other words, rather than have wings on the car, the car itself could, in theory, *become* the wing—or, to put it simply, a 'wing car'.

Chapman subsequently emerged from his cupboard, and provided a document to his chief engineers, Peter Wright and Martin Ogilvie, detailing this theory, and prompted them to put it to the test.

Peter Wright was well suited to the job: Under previous roles at both BRM and March, he had considered the idea of running sidepods with deep diffusers in them, mostly for the benefit of tidying airflow around the wheels, but no significant advantage had been seen. This was mainly because the cars it was implemented on—those of the late 1960s—ran far too high from the ground to realise any benefits from the diffusers themselves.

The Lotus engineers, with Chapman's thesis at hand, set to work on realising Chapman's vision of a 'wing car'. They began in 1976 by shaping the underside of the sidepods into inverted aerofoils; immediately, the team found a notable increase in downforce. Notable … but certainly no quantum leap.

It was not until further into the development phase that the concept of 'skirts' came along, and with them, the final piece in the puzzle that would give Chapman his world beating car.

Testing the ground-effects technology (throughout the winter of 1976, in great secrecy) had given Lotus some rather tantalising feedback: It was found that, at higher speeds, when the car ran closer to the ground (due to the increase in download force), even greater amounts of downforce could be determined than at slower speeds. Wind-tunnel tests revealed the reason: When the test-car's ride-height was lowered, less air escaped from the sides of the car, meaning an increase in the amount of air that was pushed through the 'venturi'. The 'venturi-effect' is easily understood: Fluid (or air, itself a fluid) that flows through a tube with a constriction in it will speed the fluid up, thereby reducing its pressure and producing a partial vacuum; this, in turn, makes the diffuser more effective at the

rear of the sidepods. The need, then, to 'protect' the air from escaping from the side area of the sidepod became crucial; 'sealing' the air to the ground meant considerably less air could 'seep' out, and since more air meant more downforce, this was absolutely crucial for the ground-effects experiment to work. (Incidentally, this is the reason why many of the cars in the 1979 field had no front wing since ground-effects cars live or die by the amount of air they can force under the car: Logically, a front wing will 'spoil' the airflow that flows under the car: The larger the amount of air, the more of it will pass through the venturi, and the more downforce will be {potentially} generated.)

In order to avoid air 'slipping' away from the sides of the cars, then, Lotus began experimenting with 'skirts': Initial tests, using ceramic skirts, prompted unprecedented results. Laptimes dropped along with jaws as a near *doubling* of total downforce occurred simply by the addition of these skirts.

The skirts were not without their problems however; the ceramics were tearing out chunks of track, as well as upsetting the car itself since it was literally like running on a surfboard should ride-heights be compromised, leaving Lotus to search for alternative solutions: After much deliberation and testing of various materials, a flexible skirt was designed that would move up and down along with the car itself. With the skirts no longer 'fixed', they would not carve out divots from the track, while vehicle instability was equally cured. Even better, the skirts would also not wear away over the course of a race, as initial tests with rubber skirts had done.

The initial 'wing-car' was ready for the 1977 season: It would prove immediately competitive, scoring 5 wins and 7 poles, as well as 2 wins in the opening three races of 1978. Even more remarkably, the technology employed had remained a secret from the entire paddock!

In 1978, Lotus—still running the 78 model for the early long-haul races—was busy preparing and improving the ground-effects formula which would become known to the world as the Lotus 79, quite possibly the most important race-car ever created. Unlike the Lotus 78, the Lotus 79 was designed entirely with ground-effect principles in mind; this meant that the diffusers were larger, the chassis was stiffer (in order to 'hold' the weight of the increased downforce), and aerodynamic drag from the bodywork was significantly reduced.

This, indeed, was the real key to the success of ground-effects: That is, creating massive amounts of downforce using external wings is a simple thing, but the drag that it creates makes their use all but worthless. With ground-effects, on the other hand, the underbody will generate considerable amounts of downforce, but it does so with little or no drag penalty. The result is that the aerofoils placed on the car's bodywork—and the bodywork itself—can be designed to have a lower co-efficient of drag, or in other words, to be more 'slippery'. The net result is a car that can pull huge downforce through fast corners, but also maximise

top speed and acceleration on straights. Chapman's invention was the Holy Grail of race-car design.

The Lotus 79 went on to dominate the 1978 season, Lotus clinching both championships with Mario Andretti and Ronnie Peterson between them scoring 8 wins and 12 poles (6 wins and 10 poles for the Lotus 79). Ground-effects had truly arrived, and in 1979, it was time for everyone to catch up.

In following years, other teams copied and improved on the Lotus design until cornering speeds became dangerously high, resulting in several severe accidents which prompted the authorities to legislate for flat undersides for the 1983 season. Part of the danger of relying on ground-effects to corner at high speeds is the possibility of the sudden removal of this force; if the belly of the car makes contact with the ground, for instance, the airflow will be overly-constricted, resulting in almost total loss of any ground-effects. If this occurs in a corner where the driver is relying on this force to stay on the track, its sudden removal can cause the car to abruptly lose most of its traction, with inevitable results (made even more dangerous due to the fact that the car generated more downforce the faster it traveled due to the amount of air that was literally sucked-in from the front).

Aerodynamic efficiency is what Formula 1 aerodynamicists are employed to achieve; generating downforce is one thing, doing so without generating any drag, is another altogether. To look at a racing car's overall efficiency, we must look at firstly, how much downforce is generated, and, secondly, how much drag is generated, before finally determining the all-important lift-to-drag ratio for that car.

If we take a Sauber C9 sports car as an example here (which was racing at a period of the World Sports Car Championship when ground-effects was legal, and in full effect), we will find the following[3]:

1,253 Kgs @ 150 mph, with **313 Kgs of drag**
1,804 Kgs @ 180 mph, with **451 Kgs of drag**
2,227 Kgs @ 200 mph, with **557 Kgs of drag**
Lift-to-drag ratio: 4:1

As a comparison, a modern day Formula 1 car generates similar levels of downforce, but, significantly, greater drag. With smaller surfaces along with less design constraints, the pinnacle of the ground-effects cars of 1979—the Williams Cosworth FW07—boasted an unprecedented lift-to-drag ratio.

2,278 Kgs @ 150 mph, with **285Kgs of drag**
Lift-to-drag ratio: 8:1

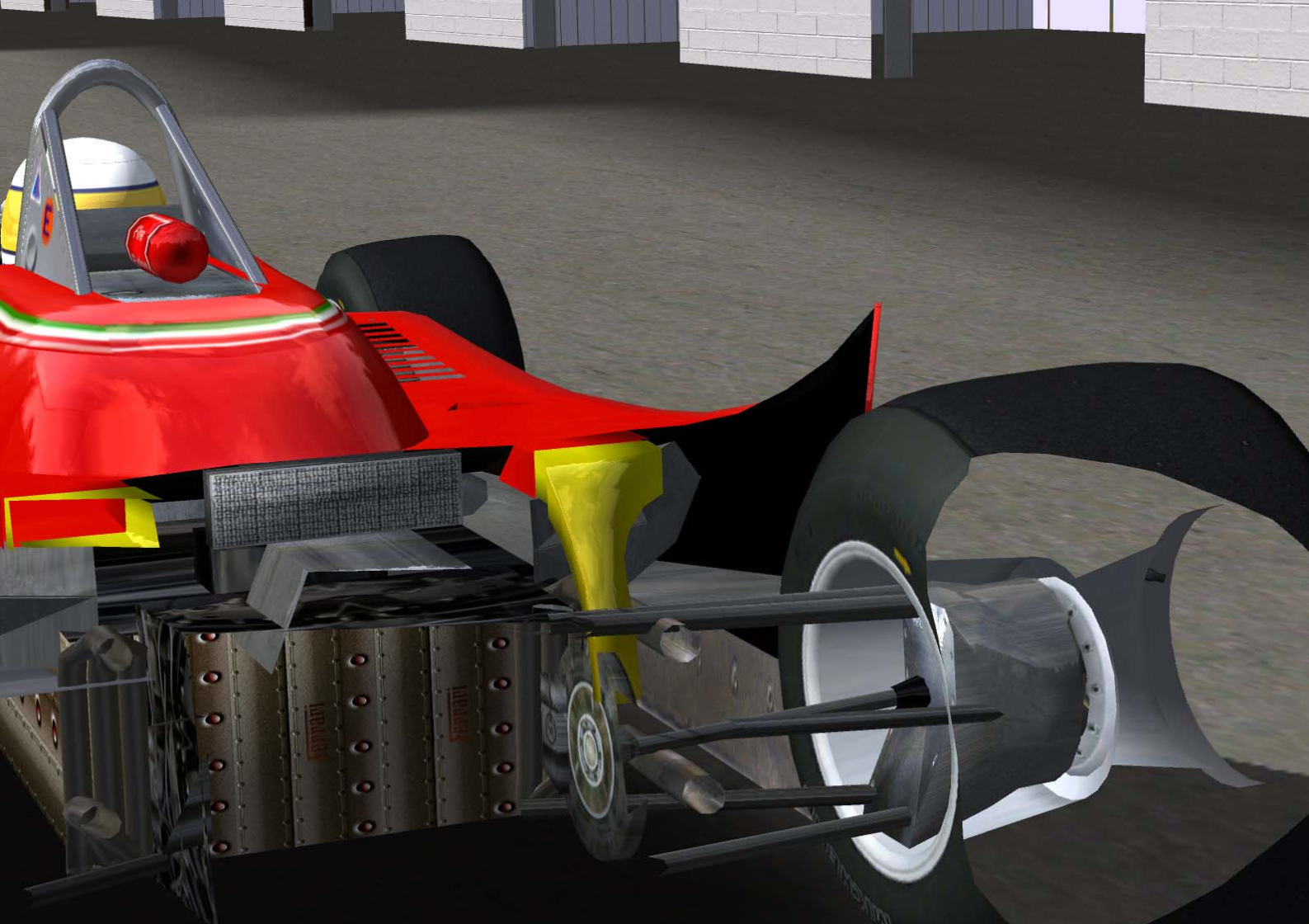
[3] *Downforce and drag figures for Sauber C9 1988—Sprint configuration*

Due to design constraints and safety requirements in more modern forms of motor-sports that continue to allow ground-effects, ground-effect Formula 1 cars were, indeed, the most aerodynamically efficient race cars there have been—before, or since. However, they also gained a reputation amongst the drivers of the time for being the trickiest to drive.

The reason for this, as mentioned earlier, was that the underbody airflow—and subsequent downforce generated—was extremely sensitive to ride height changes. If the rear ride height rose, for instance, then the angle of the diffuser would alter, causing the diffuser to 'stall', and thereby creating a critical drop in downforce. Similarly, a reduction of front ride height could bring about a drop in the air being 'fed' to the diffuser, which would constrict the venturi-effect, and provoke, yet again, a huge drop in downforce. This meant that cars had to be run very stiff in order to prevent (as much as possible) pitch-and-roll of the chassis so as to create as much consistency in the underbody airflow as the designer was able to generate.

This provided quite a challenge to the driver who was presented with a car that was extremely skittish, especially over bumps and kerbs which could provide an unexpected alteration in ride height and subsequent downforce loss.

The challenges that must be confronted when setting these cars up for the drivers and engineers of the time are now ours to master in GPC's GP79. It was not an era for the feint-hearted: By the end of 1979, 2 world champions would have quit mid-season, and as the speeds and grip simultaneously increased, Formula 1 entered one of its most deadly epochs. By 1983, with that generation's greatest talent Gilles Villeneuve dead, and engines scratching at the 1,000 BHP mark, the use of the undertray to create downforce was banned, ending what remains one of the most fascinating and intriguing technical developments in the ever-creative world of Formula 1 car design.

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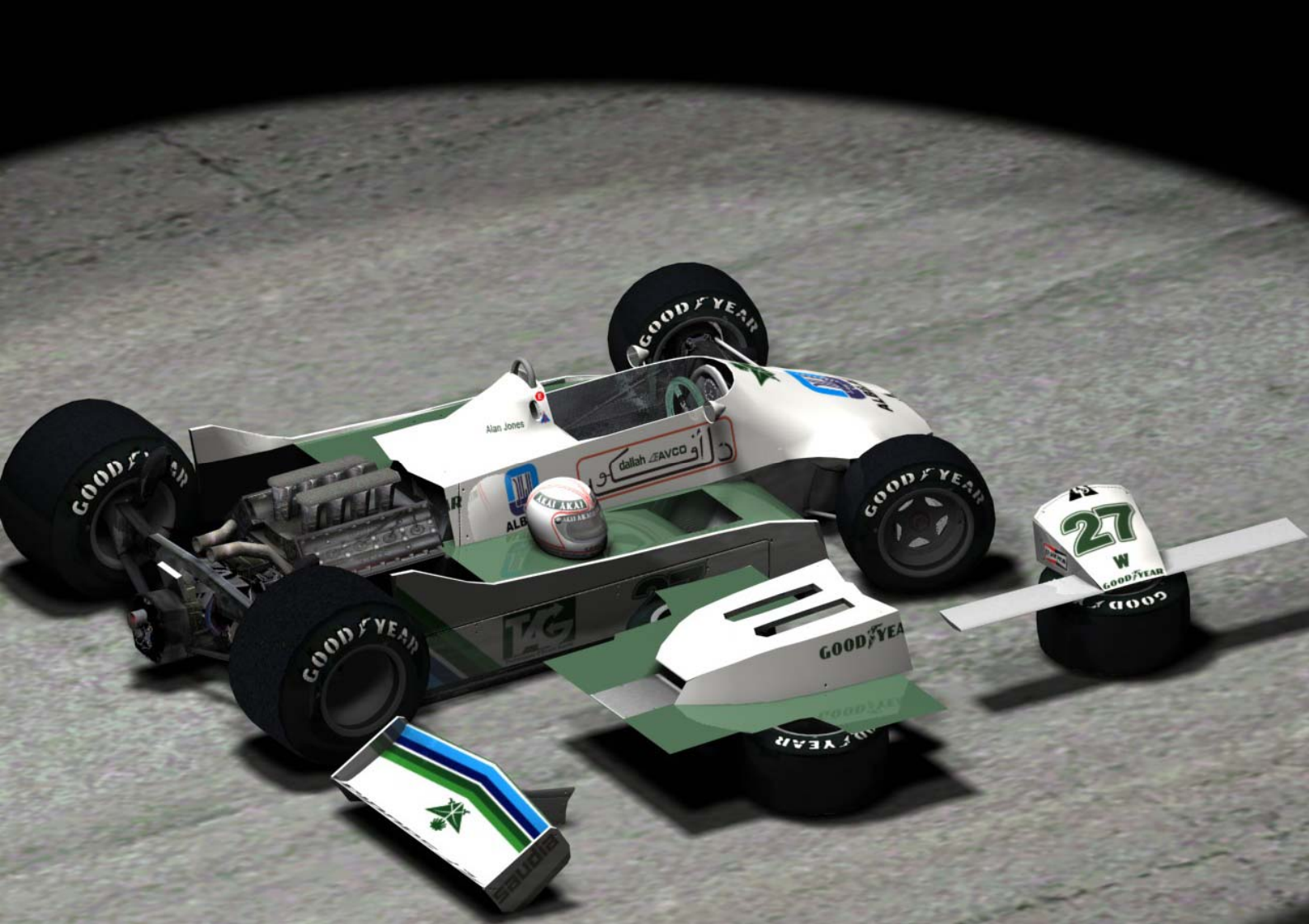
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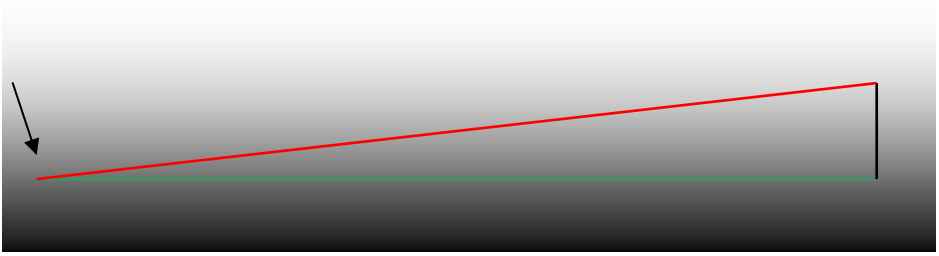
SETTING-UP A GROUND-EFFECTS CAR

Rake Angle, Packers, and Springs: Your Best Friends

The key to setting up a 1979 ground-effect car is in optimising underbody downforce which will enable you to minimise wing angles and, consequently, optimise top speed, whilst at the same time generating ample downforce in medium and high speed corners. This section assumes a degree of knowledge when it comes to 'traditional' car setup methods.

The main areas to look at for optimizing grip vs. top-end speed are the rake angle, packers, and spring stiffness, all of which are affected by wing angles.

The rake, simply stated, is the angle at which the front ride height differs from the rear. If we take the triangle below to represent the underside of a car, and the flat bottom edge to be the ground, with the arrow demarking the hypotenuse of that triangle, then the angle at the top edge of that triangle would represent the 'rake' angle.



In simple terms, the static rake angle is adjusted in the garage by changing the static ride height settings. If you set the front ride height to 20mm, and the rear to 40mm, then the rake angle is steeper than if you have the ride heights set at 20mm-and-30mm front-to-rear.

Careful adjustment of the rake is key when seeking to optimise the amount of air being pushed into the diffuser; moreover, it is also crucial in determining the velocity (the higher the better) of the air as it passes through the diffuser before it escapes out from the rear of the car.

Finding this optimum setting is critical for ground-effect cars since, if the front of the car (which must lower than the rear, to achieve a venturi) is set too low, it will constrict incoming airflow, and, if the rear is set too high, the diffuser will 'stall'.

Ride height remains the most obvious influence on rake; however, determining the ideal ride height is not as simple as a cursory glance at the static rake angle. This is because the static ride height that is visible when the car is parked in the garage can bear very little relation to what the rake angle 'becomes' when downforce is acting on the car—some thing that can only be determined when

the car is out on track, at high speed. As the car's speed increases, the aerodynamic devices on the bodywork, in conjunction with the underbody 'venturi', conspire to *push* the car downwards (by how much depends on spring stiffness, and overall available suspension travel). If you take a MoTeC trace of Kyalami on GP79 Version 1.0's default setup, you will find that the ride height at peak speed, just before braking for Turn 1, is considerably different to the static ride height.

What you will typically find is that, where the default setups offered high wing levels, (to help beginners), the rear of the car is pushed harder to the ground than the front, thus preventing the 'venturi' from doing its job because the rake angle is not providing an adequate venturi. For a ground-effects car, this is far from ideal, since downforce is generated not only by the wings. In fact, considerably more downforce can be achieved by the correct use of the underbody.

What you may also find from a MoTeC analysis is that the change in rake angle under hard acceleration and hard braking, due to the chassis pitching, is considerable. Both of these issues are problems that need to be resolved in order make the ground-effects car *work* for you.

Changes to static ride height must go hand-in-hand with the addition of packers to the suspension. Packers, as their name would imply, are inserted in order to physically restrict the amount of available suspension travel. This will potentially make the car skittish, but, at the same time, will provide high speed body control while restricting pitch-and-roll. Careful insertion of packers also determines the position at which the chassis will 'rest' when at high speed and under high aero load.

Packers provide an aid in giving you fine control over the rake angle at high speed and, whilst this makes them a good friend, they can also be a tad on the feisty side since, when the car is running packers, they will provide a finite limit to the suspension's travel, thereby causing the car to reach its grip limits very quickly. What this results in is a car that will be far 'edgier' than one that is setup without packers (an increase in pitch-and-roll giving the driver a far more comfortable ride): It will also, of course, be a faster car.

{*As an aside: When developing the FW07, Alan Jones, in testing at Paul Ricard early in 1979, pulled into the pit and reported back to Patrick Head that the car was so rock hard that the vibrations were making driving the car a really 'uncomfortable' adventure. Patrick Head responded by suggesting that Jones sit on his wallet. Jones, never one to suffer a jibe without a comeback, then suggested Head give him something to put in it!*}

Once you find the optimum high speed rake setting, you should feel, along with it, an increase in downforce: Once that has been achieved, you can then set to work on reducing drag (and therefore higher top speed and quicker acceleration) by reducing wing levels.

A lot of this will seem like trial and error at first, but in reality, because of the lack of complexity to the tracks in *rFactor*, once you get a basic 'feel' for the optimum settings for a given car, they can often be moved from track to track

Ride height settings usually want to be between 21mm-to-24 mm at the front, and 35mm-to-40mm at the rear, with varying levels of packers, and spring stiffness.

Testing and hard work will reveal the optimum, as will careful studying of MoTeC telemetry. While you may not see immediate improvement in laptimes, due possibly to changes in the car's driveability, what is worth noting is how the car feels. As the car picks up more underbody downforce, you will probably not notice an increase in cornering speed if you are still running high wing levels, but you may find that you are able to reduce wing levels, and still maintain the same corner speed. Of course, reducing those wing levels has an effect on the load being put upon the chassis, and thus the level of compression the suspension is put under, so a change in wing levels may require a re-assessment of spring rates, and packer depth.

Generally, one works carefully in this situation: Reduce wings until such a time as you find a notable decrease in downforce, at which point, begin to work with the high speed rake to try to claw some of the downforce back, then continue to reduce the wings until you can extract nothing more from the underbody. If the balance of under-to-overbody aero grip is predominantly coming from the underbody, you should find not only good levels of grip, but competitive straight-line speed also.

At the same time, because of the lack of pitch in the chassis due to the body control afforded by the packers, you should notice more stability under braking which will allow you to brake later. Compare laps in MoTeC between those you ran earlier, and look at exits from medium speed corners; you should find that, if things are going well, you will be getting on the throttle earlier, and mid-speed rear traction will have improved.

Due to the constraints of the ISI engine, this method works best on medium and high speed circuits since the inherent stiffness required makes the car something of a handful at low speeds. As such, lower speed circuits like Monaco or Long Beach require something of a trade off between a stiff car, and good downforce, and a compliant chassis at low speed.

However, even at Long Beach, there are improvements in traction out of middle speed corners to be seen though employing these methods.

Whilst at first the changes to the chassis may make if feel trickier to drive, adaptations to dampers, and roll bars, to adjust the balance more to you liking, should tie up with the increased grip, which, after some laps of acclimatisation, will bring results.

Other Considerations

Setting your wheel to speed up the steering 'rack' of the car is crucial. Do this by looking at the turn rate in degrees under car setup, and tying this up with the rotation setup on your wheel. For instance, if your wheel has 400 degrees of turn, you do not want to have to use that much steering lock all the time, so set the front wheel turn rate in the setup to be higher in order to provide a more direct steering rack. This setting will vary from wheel to wheel, and also from track to track. Some tracks, Monaco in particular, require more steering angle in the front wheels to be able to actually negotiate the tighter corners.

The simple formula is: The greater the degrees of rotation on your wheel, the higher the number of degrees in the car's setup. This will result in an increase in the angle of the front wheels for every degree of wheel rotation; a higher number in the car setup screen for wheel degrees denotes more direct steering. (Note, this is in contrast to real life where the steering ratio would be more direct for a lower number, where road cars often have a ratio between 12-20:1, and racing cars generally around 5-10:1).

Changes to the steering rack can be one of the most difficult things to get used to as a driver, but once you get there, you will find that power-slides become a matter of precision, not panic.

Tyre Manufacturer Specifications

The Michelin tyres, being radials, present a stiffer sidewall, and thus less compliance in the tyre. As a result, when compared to the Goodyears, you should notice a steeper drop-off in lateral grip when pushing the envelope of the slip curve; the Goodyears, you will find, are more compliant on the limit. At the same time, though, the Michelin tyres provide for a more precise feel on the limit.

Manufacturer	Opt. Temp. Range	Opt. Pressures F/R	Opt. Camber F/R
Goodyear	100C	125C	–3.0/–2.0
Michelin	100C	126C	–3.5/–2.5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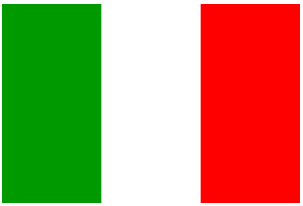
Technical Specs



Designers: Carlo Chiti, Robert Choulet

1979 Chassis: Tipo 177, Tipo 179

Engine: Alfa Romeo 3.0 B12—525BHP @12,300 RPM
Alfa Romeo 3.0 V12—525BHP @12,300 RPM
Weight♈: 665 Kg
Front Wheel Track: 1660mm
Rear Wheel Track: 1570mm
Wheel Base: 2740mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 0

Carlo Chiti's Engineering Debrief

Village of Settimo Milanese, December 10th, 1978

Welcome to Settimo Milanese! Let me show you our new car for this season. You will come to discover that the Tipo 179—because of our V12 (and the flatter 'B' variation)—has induced a high center of gravity along with a heavy rear-end which can lead to poor traction as well as mid-corner instability, particularly on longer curves. We believe, however, that the 179 will be very useful at tracks featuring long straights along with short turns where the 179's well-mannered turn-in will, we are quite sure, offer you some fantastic results. Some extra rear wing (which is possible due to the fact that our engines have perhaps 60bBHP more than the DFVs), coupled with softer rear roll bars (or stiffer fronts) will address the chassis's oversteering tendencies. We expect Top 6 finishes from you this season—no excuses! Now, come, let's get your seat fitted …

♈ *All weights include driver averaged at 70Kgs*

Drivers

36. Vittorio Brambilla
November 11, 1937—May 26, 2001
Wins: 1

The 'Monza Gorilla' (as much in tribute to his birthplace—Monza—as to his exuberant style of driving) started his Formula 1 career with the unforgettably orange Beta Tools March in 1974 after having enjoyed much success in the junior formulas. But it was in 1975 that Brambilla would demonstrate his blistering pace with a pole position in Sweden followed by a superb win in the rain in Austria. So happy was Brambilla at winning the race that he started punching the air after crossing the line—and promptly binned the victorious March into the wall. That, sadly, was the highlight of Brambilla's career; uncompetitive drives followed with Surtees before disaster struck—where else?—at Monza in 1978 in the accident that claimed Ronnie Peterson's life. Brambilla suffered serious head injuries that put the unfortunate Italian in a coma fighting for his life. His recovery was slow but, exactly one year later, at—where else?—Monza, in an Alfa Romeo, Brambilla would stage an emotional come-back … but he seemed ill-at-ease, and perhaps past his prime, although he was still capable of some scintillating laps such as his quite astonishing pole position at the Glen in 1980 in a very outclassed Alfa Romeo. He drifted into retirement thereafter, with the occasional forays in GT and saloons right up to the 1990s. He died of a heart attack while gardening at home.

35. Bruno Giacomelli
September 10th 1952
Wins: 0

Giacomelli, after storming to the 1978 Formula 2 title (while managing to compete five times in Formula 1 for McLaren) signed a very lucrative deal with the works Alfa Romeo team for 1979. The Autodelta run team, however, proved to be uncompetitive, and Bruno left in 1982 with a one single podium—Las Vegas in 1981—as reward for his loyalty. Without a doubt a very quick driver, his three years at Alfa Romeo pretty much closed his career in Formula 1 (along with a final season with Toleman), after which he migrated to the U.S. to compete in Indy Cars for a few years. He made a final attempt at Formula 1 in 1990 for the Life team, but didn't qualify. A talent that promised so much more, Bruno raced in the Porsche Supercup series that ran with the Formula 1 circus in the late 1990s, and was well-known for his glass of red wine before test-sessions. According to Mario Andretti, it made him faster, too!

Alfa Romeo

After dominating the early years of Formula 1 in the post-war years (using engine blocks built before the war, and a chassis designed in the mid 1930s), and clinching the first-ever Formula 1 World Championship in 1950 with Italian Farina at the wheel (beating out Fangio, also in an Alfa, the Argentinian winning the championship in 1952, again for Alfa), Alfa Romeo disappeared from the series in 1953 when the Italian government would not come to its aid, financially, to develop a replacement for their two-decade-old racer, the Tipo 158, which had finally been defeated by ex-Alfa employee Enzo Ferrari and his team of giant-killers.

Their absence from motor-sports' greatest arena would last until the mid-1970s when they were enticed back by a combination of Carlo Chiti's ambition, and Bernie Ecclestone's ... *savoir-faire*.

With Ferrari's 12 cylinder engine enjoying so much success, Brabham team-owner Bernie Ecclestone approached Carlo Chiti, the former Ferrari engineer who was now responsible for building Alfa's Flat 12 engine for their sports cars programme, about supplying Brabham with their engines—and this being Ecclestone, the deal had the proviso that the engines would be provided for free!

In 1976, Brabham began using the Flat 12s with some success, but it was only in 1978 that they tasted victory with Ferrari refugee Niki Lauda in the cockpit. With the development of the engine progressing well, 1979 saw Chiti convince Alfa's top-brass to make a full return to Formula 1, debuting at Zolder with a car—developed by Autodelta—that was as ugly as it was slow, the Tipo 177. This was quickly succeeded by the Tipo 179, with its very healthy sounding V12 tempting Patrick Depailler to join for 1980. Sadly, he was killed in testing, and the Alfa project never really recovered. A couple of decent races in the next five seasons, using its turbo-engine, was not enough for the management, and Alfa Romeo turned their back on Formula 1 yet again 1985, going on to enjoy great success in Touring Cars.


35
BRUNO
Alfa Romeo
SCAINI
GOODYEAR

WARSTEINER ARROWS RACING TEAM

Technical Specs

Designers: Tony Southgate, Dave Wass

1978 Chassis: Arrows A1 Mk1, and Mk2

Engine: Ford Cosworth DFV 3.0 V8—470BHP @10,600 RPM
Weight: 666 Kg
Front Wheel Track: 1686mm
Rear Wheel Track: 1589mm
Wheel Base: 2742mm

1979 Chassis: Arrows A2 Mk1, and Mk2

Engine: Ford Cosworth DFV 3.0 V8—470BHP @10,600 RPM
Weight: 666 Kg
Front Wheel Track: 1773mm
Rear Wheel Track: 1569mm
Wheel Base: 2768mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 2

Jackie Oliver and Alan Rees's Engineering Debrief

Milton Keynes, December 12th, 1978

Mornin'! Had a look around, did you? You'll find our facilities are second to none—purpose-built, you might say—a bit like Milton Keynes itself, yes? Except ours looks a little prettier—and speaking of which—you will find that our A1 is a well-balanced car which—rather unfortunately—features a rather crude and rough ground-effect implementation. The model's variation in rear wing construction provides for slightly more downforce, and trades that for slightly higher drag. We expect the A1 to give us some Top 10 finishes, yes? Indeed … But let me show you something—this is our A2 … and winter testing has shown that it—with the greater part of its downforce being provided by the undertray—is fundamentally unstable. Its high and heavy rear-end has resulted in unpredictable handling throughout the winter months, and has meant that we have had to re-design the rear of the car. The revised version of the A2, we believe, has addressed the handling problem by introducing an effective wing solution; however, the new wing takes away most of the advantage of running lower drag which the the concept was supposed to offer in the first place, and this has made us reconsider what we expect in terms of results this season. The A2 is run with excessively soft suspension (when compared with other ground-effects cars), which will make it a somewhat tamer ride in low-medium speed corners, but this won't aid the car's tendency to sudden balance shifts at high speed. So do be careful, yes? We expect some decent performances from you this season, and we don't think Top 6 finishes are beyond the A2's ability. Do give it a good bash, what?

Drivers

29. Riccardo Patrese
April 17th 1954
Wins: 6

The honour of having enjoyed Formula 1's longest career was not something many would have thought possible when Patrese started his career in 1977 for the Shadow team: Indeed, many felt he'd be lucky to walk away from the sport (as opposed to carried away in a box). Immediately branded as the bad-boy on the grid, Patrese was both quick and—to many of his fellow competitors—dangerous, and it all culminated in the 1978 pile-up at Monza that claimed the life of Ronnie Peterson. The drivers, looking for a scapegoat, quickly rounded up their victim—Patrese (unfairly, in many peoples' opinion, though James Hunt would take his animosity all the way to the commentator's box to verbally abuse Patrese at virtually every race that Hunt commentated on), who was duly banned from the following race as punishment. His speed and uncompromising commitment, though, was not affected, and it saw him almost claim a shock win at the South African Grand Prix in 1978 driving an outclassed Arrows. Patrese's pace kept him at the business-end of the grid for the new decade when he moved on to Brabham for the turbo-era, but by the mid-1980s, and without a championship to his name, Patrese slowly began to fade into mid-field obscurity. His savior would prove to be Frank Williams, who offered the Italian a drive in 1988, and so began Patrese's golden-era as he developed a tremendous technical relationship with Williams's head designer Patrick Head, a relationship that would see the Italian gun for the championship in 1991 (out-driving Mansell throughout the first half of the season) before being out-staged by an on-form Mansell in 1992. 1993 saw Patrese move on to the Benetton team where he was partnered with a new-arrival to Formula 1: Michael Schumacher. It was enough to convince Patrese that he had seen his best days … Patrese was probably Italy's best hope for a world champion since Ascari, but it never quite happened for the man from Padova.

30. Jochen Mass
September 30th 1946
Wins: 1

Jochen Mass is perhaps best remembered for his role in Gilles Villeneuve's life-ending smash at Zolder in 1982. However, this would be unfair to a man whose career was as varied as it was successful. In Formula 1, though, like Jacky Ickx, Mass never got the drive he deserved and, when he did, was unable to make the most of it. Debuting well in 1973 at Silverstone (the race in which Scheckter decimated half the field), Mass was given a full season in 1974 with the Surtees team before landing a plum ride for 1975 as team-mate to reigning world champion Emerson Fittipaldi at McLaren. Mass won one race that season, the shortened Barcelona event (in which four spectators died after a series of deadly mistakes), but wasn't able to compete against the Ferrari 312T of Niki Lauda. In

1976, he was partnered with James Hunt at McLaren in a car capable of challenging for the world championship—Hunt, indeed, would go on to win the championship, but Mass struggled all year: By season's end, Mass was definitely number two to Hunt. He left McLaren in 1978 for ATS before joining what looked like a promising Arrows venture for two unsuccessful years. It was after his retirement from Formula 1 that he would begin a healthy association with Mercedes in Touring and sports car racing, winning Le Mans in 1989. In 1990, he was hard at work training Mercedes's fledgling drivers—including such names as Wendlinger, Frentzen, and one Michael Schumacher …

Arrows

The birth of the Arrows team, in 1977, was, even by Formula 1 standards, a little eccentric. It started when the top echelons of the Shadow team (run by the rather mysterious Don Nichols) walked out, en-masse, at the end of 1977 in order to form their own concern—Arrows, which comprised the initials of, respectively, Franco Ambrosio (Arrows' financier, who would give the team the 'A' in its name), Alan Rees, ex-driver Jackie Oliver, and designers Dave Wass, and Tony Southgate.

The team, however, seemed cursed from day one: Ambrosio would be implicated in a financial irregularities scandal in Italy, while their first-choice driver—the highly-respected Gunnar Nilsson—would sadly be diagnosed with a fatal illness, and, finally, to top it all off, Shadow's chief Don Nichols would sue Arrows for allegedly basing their FA1 (which had been built in a scant 50 days!) on Shadow's DN9. Hardly surprising, of course, since Southgate had designed the DN9 before leaving Shadow! Knowing this, Southgate began designing a new car while the High Court in London deliberated over Nichols's claim: Meanwhile, the FA1 did rather well for itself, leading the 1978 South African Grand Prix with the very wild Riccardo Patrese at the helm, and finishing a solid second in Sweden. Lord Justice Templeman, however, would put an end to the FA1 by ruling in favour of Shadow—in his ruling, Templeman noted that 40 percent of the FA1 was directly taken from the Shadow DN9, and was therefore 'in breach' of Shadow's design.

Southgate, expecting the ruling, had his next car, the A1, ready in time for the next race of the 1978 season. But while that was a rush job, Southgate was far more deliberate with his next project—the A2 that would be his reply to Chapman's ground-effects revolution.

The A2 was a futuristic looking car dubbed the 'buzz-bomb' by the press, and had the distinction of not having any front wings at all. David Tremayne and Mark Hughes, in their 'Concise Encyclopedia of Formula 1', describe the A2 as follows: "… an extremely low bullet-shaped car with faired-in bodywork. Its engine and gearbox were canted upwards at the back to facilitate the use of a full-width under-tray to maximize the amount of downforce generated by the air flow. Unfortunately the engine installation raised the centre of gravity and, in this era of experimental engineering, the team never satisfactorily discovered the cure to persistent 'porpoising' at speed. This was an aerodynamic phenomenon in which the air forces acted upon the car—the centre of pressure—moved about constantly as it raced.".

Arrows continued racing in Formula 1 until, half-way through the 2002 season and under the stewardship of Tom Walkinshaw, they finally called it a day, having never won a race.


30
Warsteiner
Warsteiner
29
Warsteiner
GOODYEAR

ATS WHEELS

Technical Specs

Designers: Nigel Stroud, Giocomo Caliri

1979 Chassis: ATS D2

Engine: Ford Cosworth DFV 3.0 V8—470BHP @10,600 RPM
Weight: 695 Kg
Front Wheel Track: 1727mm
Rear Wheel Track: 1600mm
Wheel Base: 2750mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 2

Günther Schmid's Engineering Debrief

Bad Dürkheim, November 23rd, 1978

You come via the Hockenheimring, ja? Good-good—we hope that the team will see you win there next year, ja? I have poured my own considerable wealth into this venture, you understand, and we are not here to make up the numbers: However, despite our budget, and having run countless miles in pre-season testing, we have been unable to find any technical solutions to the D2's fundamental problems: Being overweight and underpowered. The Ford DFV we're using is a customer-build, and we find it is down on the factory-spec' engines. We have battled all winter long to implement our ground-effects solution, too, but Caliri cannot seem to make any progress—it is, to be honest, underdeveloped, and off the pace. The D2 will not offer you much chance of running at the—how do you say—business-end of the grid, ja?—but we hope you can give us some respectable Top 10s this season.

Drivers

9. Hans-Joachim Stuck
January 1st 1951
Wins: 0

Son of legendary pre-war racer Hans Stuck (of Auto Union fame), Hans Jr. entered Formula 1 in 1974 after handsomely claiming the European Formula 2 Championship. Stuck's speed was never in doubt, but his consistency proved somewhat turbulent at March that year. In 1977, though, with the death of Carlos Pace (a rare talent who, had he lived, Brabham would never have needed Niki Lauda, according to then Brabham-boss Bernie Ecclestone), a seat opened-up at the highly-fancied Brabham team, and Stuck responded by enjoying his best season to date … but Ecclestone's ambition required more, and Stuck found himself moving on to the Shadow team for 1978, before heading off to German outfit ATS for 1979. The season offered very little, and Stuck turned his back on Formula 1, which could offer him nothing more than mediocre drives, to enjoy a wildly successful career in sports cars.

ATS Wheels

Back in 1963, Carlo Chiti, along with a handful of exiled Ferrari engineers, abandoned Maranello to set up their own team called 'Automobili Turismo e Sport' (ATS) with financial backing from Count Giovanni Volpi. They entered the 1963 season with American world champion (1961) Phil Hill, and highly-touted Italian charger Giancarlo Baghetti. The venture, alas, would prove disastrous. A quarter of a century on, and ATS made a rather unexpected come-back to Formula 1 under the auspices of German alloy-wheel tycoon Hans Günther Schmid, whose ATS Wheels ('Auto Technisches Spezialzubehor') team was founded on the shoulders of Roger Penske's failed Formula 1 project, and whose assets were bought by Schmid. The ATS-Wheels team debuted in 1977 with a Penske chassis while Robin Herd got to work on the 1978 challenger. It was slow, and Schmid—who liked to tinker with his design team—soon hired Caliri to pen the 1979 D2—before replacing him with Nigel Stroud, who designed 1979's D3 that scored the team's first points at the U.S. East Grand Prix at Watkins Glen. Results, though, were never forthcoming for the team that ran many young Germanic drivers such as Gerhard Berger and Marc Surer, but it certainly wasn't from a lack of financing: Schmid was smitten with Formula 1, and even purchased BMW's turbo-engine for the 1983 season, while the D7 would be one of the first cars to feature a carbon fibre chassis; all of it proved fruitless, though, and the team kept struggling until Schmid shut down the operation at the end of the 1984 season.


ATS
9
ATS

PARMALAT RACING TEAM

Technical Specs

Designers: Gordon Murray, David North

1979 Chassis: BT48

Engine: Alfa Romeo 3.0 V12—525BHP @12,300 RPM/
Alfa Romeo 3.0 B12—525BHP @12,300 RPM
Weight: 670 Kg
Front Wheel Track: 1702mm
Rear Wheel Track: 1626mm
Wheel Base: 2743mm

1979 Chassis: BT49

Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 655 Kg
Tyre: Goodyear
Front Wheel Track: 1702mm
Rear Wheel Track: 1630mm
Wheel Base: 2662mm
Wins: 0
Poles: 0
Podiums: 0
Points: 7

Bernie Ecclestone's Engineering Debrief

Milton Keynes, December 24th, 1978

Right, not much time, so much to do, so let's get on with it, shall we? The BT48—with Chiti's specially developed V12 engine—offers honest handling that will enable you to fight for podiums and pole positions this season. And by fight, obviously, we mean achieve. The car, however, has been prone to suffer from a mild understeer condition at higher speeds, but nothing a bit of weight between your legs won't get around, okay? Although we don't believe the BT48 will be a championship contender, the extra horsepower from the Alfa lump will provide a useful advantage over the competition. Podiums and Top 6s are expected.

The BT49 is Murray's evolution on the BT48: We have cancelled our contract with Alfa Romeo, and signed a deal to run factory-spec' DFVs in order to fully exploit the ground-effect design introduced with the BT48. The BT49 offers a smaller, nimbler, bullet-shaped chassis with more effective aero, and you will find it is on a par with the top teams this season: We expect wins, and pole positions aplenty with this car, and the championship is certainly possible should you do your job. Should you not, we have a replacement already lined-up so—best of luck and all that. You still here?

Drivers

5. Niki Lauda
22nd February 1949
Wins: 25

Lauda's start to his illustrious career is a text-book study on how a man with self-belief can rise to the top despite the rest of the world's indifference. Indeed, much of his career was forged around him needing to prove people wrong. It all started when Lauda, in the early 1970s, was unable to secure himself a drive in Formula 1—with all roads bordered, Lauda mortgaged himself up and bought a ride in 1972 for the March team. The car, sadly, was awful, and it seemed as if Lauda's gamble had backfired … but his fighting spirit, along with his pace, did not go unnoticed, and come 1973, BRM offered him a third seat besides Clay Regazzoni and Jean-Pierre Beltoise, two of Formula 1's hardest-chargers. Lauda frequently out-paced them both that season and, by season's-end, found himself negotiating a lucrative deal with Ferrari. 1974 would prove a pivotal year for Lauda at Ferrari—quick all season, he secured nine pole positions, but his race-form was inconsistent, leaving him in a distant fourth place in the championship. For 1975, though, Lauda had matured through the winter—along with Forghieri's 312T—into world championship material, and he duly won the 1975 crown in some style. 1976 should have been his second championship, but fate had other ideas for the Austrian: His awful smash at the 'Ring resulted in Lauda listening to a priest reading him his last rights. Incredibly, he returned that same season to fight for the championship, but at a rain-soaked Japanese Grand Prix at Fuji, it appeared clear that the scarring was not only physical as a tired Lauda pulled his healthy Ferrari into the pits leaving James Hunt to edge to the world championship. Ferrari—never a man to allow emotion to interfere with business—decided that Lauda was no longer a driver capable of challenging for the world championship, and quickly set about hiring Carlos Reutemann to lead the Scuderia's challenge for 1977. Once again Lauda found himself isolated, and determined to prove the doubters wrong: With nothing more than his self-belief (and disfiguring scars), he went on to demolish not only Reutemann, but the entire field to clinch the 1977 World Championship. Having proven Ferrari wrong, and with relations with Maranello at a low-point due to what Lauda correctly perceived as a lack of faith in his abilities, he turned his back on Maranello and joined Brabham (for a reputed $1million a race contract) for 1978. The season offered little, but much was expected for 1979. Lauda, however, found himself at odds with the new ground-effects cars, and was frequently outpaced by young team-mate Nelson Piquet; when Brabham changed from V12s to the Cosworth V8s for the Canadian Grand Prix, Lauda found he had lost his motivation, and promptly quit Formula 1. He returned in 1982, and won his third championship in 1984, out-foxing the 'professor' Prost by half-a-point.

6. Nelson Piquet
August 19th 1952
Wins: 23

Piquet debuted in 1979 as team-mate to double world champion Niki Lauda—and so devastating was his pace that many believe it prompted Lauda's early retirement: That retirement promoted 25 year old Piquet into Brabham's *de-facto* number one driver in what was his first season—both in Formula 1, and in one of its top teams. Piquet was unflustered by his meteoric rise, and 1980 saw him challenge for the championship that he would ultimately claim three times—in 1981, 1983 (with Brabham), and in 1987 with Williams. In 1991, though, after three indifferent seasons, the three-time world champion would see history repeat itself when he was lined-up with a very young charger by the name of Michael Schumacher. Piquet promptly retired, heading for the U.S. where an enormous shunt in qualifying for the Indy 500 ended his top-level racing career.

Brabham

In 1963, Australian Jack Brabham—world champion in 1959, and 1960—decided to found his own company along with fellow Australian Ron Tauranac. The fledgling company was to be named MRD—until it was pointed out that the name sounded a lot like what the French refer to as crap! Brabham's team went on to secure its first win in 1964, before propelling Brabham (powered by Australian spare-parts supplier Repco) to his third championship in 1966. In 1971, with the team struggling and Brabham now retired, Tauranac sold the company to a London used-car salesman by the name of Bernie Ecclestone whose first decision was to retain—and indeed promote—one of Tauranac's designers, South African Gordon Murray, into the position of lead designer. Ecclestone also retained the 'BT' moniker that demarcated all Brabham's chassis (Brabham/Tauranac), and set about producing the first car of Brabham's new era, the BT42: It proved successful, and its evolution, the gorgeous BT44, went on to score three wins in 1974. For 1976, Ecclestone secured a 12 cylinder engine from Alfa Romeo (rendering Bernie's infamous quote: "Anyone who doesn't speak English isn't worth speaking to" pretty much dishonest), but, despite good showings through the next few seasons, it was not until 1981 that Ecclestone and Murray would win their first world championship using DFV power. Ecclestone would withdraw Brabham from racing in 1987—but it was returned in 1989 for an ungodly three years before vanishing for good at the end of 1992.


ALFA ROMEO
6
parmalat
GOODYEAR

TEAM ENSIGN

Technical Specs

Designers: John Baldwin, Shahab Ahmed

1979 Chassis: N179 Mk1, and Mk2

Engine: Ford Cosworth DFV 3.0 V8—470BHP @10,600 RPM
Weight: 690 Kg
Front Wheel Track: 1778mm
Rear Wheel Track: 1626mm
Wheel Base: 2670mm

1979 Chassis: N177

Engine: Ford Cosworth. DFV 3.0 V8—470BHP @10,600 RPM
Weight: 675 Kg
Front Wheel Track: 1473mm
Rear Wheel Track: 1575mm
Wheel Base: 2590mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 0

Mo Nunn's Engineering Debrief

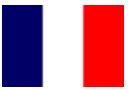
Walsall, December 10th, 1978

I started this team in my garage behind my house, did you know that? We've got a few problems with our budget this year, as you can tell … carries on like this, and we'll be back to the garage soon! Anyway, here's your car—the N177. It's a sweet handling little baby, one of our best: Unfortunately, the customer DFV is badly tuned, and it features no ground-effects …the good news, though, is that it will enable you to show yourself to the paddock in a good light with a car that is both reliable, and able to be taken by the scruff on the neck and pounded around any race track you care to name. It is, however, hopelessly obsolete in a field of ground-effect cars. Now let me show you the N179, our first ground-effects car. We are rapidly evolving the car as we test and learn more about how the undertray works, but, since we lack a budget and testing facilities (or a wind tunnel), progress will be slow. The first version of the N179 has been shown to suffer from enormous drag caused by the implementation of a front-nose-cone radiator: We are rapidly developing a new monocoque to reduce the drag; sadly, early testing reports on this developmental N179 state that the ground-effects implementation is far from optimal. All the same, we will continue to re-design and re-work the fundamentals of this car all season: We hope that you will remain patient, and try your best to qualify the car on at least one occasion this season. Good luck!

Drivers

22. Derek Daly
March 11th 1953
Wins: 0

Irishman Derek Daly started in Formula 1 in 1978 with Lord Hesketh's team that was already in terminal decline, having enjoyed its halcyon days with James Hunt (and an entourage of the beautiful people and their hangers-on) in the early 1970s. Daly was entered for three races, and failed to qualify for any of them. The Ensign team, though, must have seen some potential because they signed him up for the rest of the season. Daly would pay them back with a hard-fought sixth place in Canada. 1979 would see Daly return with the Ensign team for the first part of the season, but the pace of the Ensign was awful. Luck, though, was always on Daly's side, and Tyrell offered him a ride as replacement for Jean-Pierre Jarier. More luck was to follow the Irishman in 1982 when he inherited Carlos Reutemann's seat at Williams: It was the year his team-mate Keke Rosberg went on to win the world championship while Daly managed to secure not even one podium. With his career in Formula 1 now over, Daly went over to the U.S. to race in Indy Cars without much distinction, before transferring his talents to the commentary box for U.S. television.



22. Patrick Gaillard
February 12 1952
Wins: 0

Frenchman Gaillard was drafted into the Ensign team after a disillusioned Daly moved on after failing to qualify for the Monaco Grand Prix, and Ensign's first choice driver (and now big-time TV pundit) Tiff Needell was denied a superlicense. Gaillard attempted to qualify the Ensign five times, and was successful twice, before being dropped for Marc Surer. He went on to race sports cars before becoming an instructor at the AGS Racing School in France.

22. Marc Surer
September 18th 1951
Wins: 0

Marc Surer won the Formula 2 championship in 1979—the same year as his debut in Formula 1, taking over racing duties at the Ensign team for three races. He managed to qualify the rather reluctant N179 at Watkins Glen, and, based on this, secured a contract with Ensign's horrific 1980 season. The season was merely minutes old before Surer suffered an horrific accident at Kyalami which put him out for the season with badly damaged legs. Undeterred, he returned in 1981, again for Ensign, and promptly crashed again—at Kyalami, again—injuring his legs ... again. He would return—a year later—and raced on without incident until 1984 before turning to sports cars and a TV career.

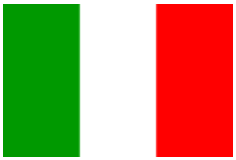
Team Ensign

Ensign was the team founded around the legendary figure of Morris 'Mo' Nunn. Having been successful in Formula 3 and 2, Nunn took the leap into Formula 1 in 1973, soon finding backing from the equally legendary Far-Eastern racing fan and millionaire Teddy Yip. Well-funded, the mid-1970s were relatively successful for the fledgling privateer team that had started life in Nunn's garage, but 1978 brought bad tidings: With costs sky-rocketing, the little team saw their money dry-up as Yip went off to found his own team, and it left Ensign with no new car for 1978. Right on the cusp of the ground-effects evolution, this gap-year sealed the team's fate, and designer Baldwin's N179 looked about as bad as it ran when it turned up at Kyalami for 1979's South African Grand Prix in March. Much evolution followed, but the car was unable to find any sort of pace, and found itself in the DNQ column for most of the season. 1980 was an even worse year for Ensign: It started well enough, though, with money secured through Unipart and with Regazzoni—who they'd run in the 1970s—as their number one driver. But at Kyalami, Surer endured a season-ending smash and, at Long Beach, things turned even uglier when one of the paddock's most loved drivers, Regazzoni, suffered an enormous smash that left him paralysed for life. Ensign, without a top-talent to develop their cars, found themselves adrift. The team soldiered on for two more indifferent seasons until Yip stepped in and bought the team out, combining it with his Theodore outfit that comprised the remnants of what was the Shadow team. Nunn then went to the U.S., where he enjoyed much success, including Fittipaldi's 1989 Indy Car title.


VARTA
VARTA

SCUDERIA FERRARI SPA SEFAC

Technical Specs



Designer: Mauro Forghieri

1978 Chassis: 312T3

Engine: Ferrari 3.0 B12 (Type 015)—520BHP @12,700 RPM
Weight: 670 Kg
Front Wheel Track: 1682mm
Rear Wheel Track: 1640mm
Wheel Base: 2670mm

1979 Chassis: 312T4, and 312T4B

Engine: Ferrari 3.0 B12 (Type 015)—520BHP @12,700 RPM
Weight: 670 Kg
Front Wheel Track: 1700mm
Rear Wheel Track: 1600mm
Wheel Base: 2715mm
Tyre: Michelin
Wins: 6
Poles: 2
Podiums: 13
Points: 113 (Constructors' and Drivers' Champions)

Daniele Audetto's Engineering Debrief

Maranello, December 19th, 1978

Are you impressed? You should be—every person you see working is not only the finest in his field, but shares *il commendatore*'s passion and ambition for success. As you know, our 1978 312T3 was a disappointment: We had hoped for a championship win with Reutemann and Villeneuve, but the car—while fast, reliable, and featuring our magnificent 12-cylinder 'Boxer'—was caught unprepared by the revolutionary Lotus 79. We tried to find a technical solution throughout 1978, but the T3 was not designed for a ground-effect set-up, and we were unable to compete with Lotus. Our engineering department is now furiously at work to conceive the 312T4, which will feature ground-effects, and winter testing has shown some encouraging pace. The T3—which you will find to be a beautifully balanced race car with a great heritage (the T series having won many championships for us since 1975)—will not be able to compete against the top teams this season, and the most we expect from this car is to finish and qualify in the Top 10.

Our 312T4 is ready: It has been tested extensively at our purpose-built facility at Fiorano all through the winter, and Gilles has broken the lap record there by over two seconds from last year's T3. The design department, along with the engine department, has worked relentlessly since the summer of 1978 to find a technical solution to the wide Boxer engine's centre of gravity which has proven

an obstacle to ground-effects implementation. The T4 is, we believe, a very neat and intelligent compromise. You will notice that the car is unusually wide and bulky, which is the exact opposite of what the wind tunnel suggested should be the most efficient shape for a ground-effects car (bullet-shaped), and has resulted in us having to rely on the wings to generate chassis downforce (far more than we would like, optimally), which means we recommend running higher wing values for optimal performance. Fortunately, our reliable and powerful Boxer engine can compensate for running higher wing angles, as it enjoys a significant horsepower advantage over the DFVs. You will find this is a well balanced car, with massive horsepower that comes in as smooth as a baby's bottom, and the team wants—*il commendatore* expects—Italy *demands*—nothing less than the championship and constant wins and pole positions throughout the season.

We have also, to aid you in your championship quest, designed a 'B' chassis, which features a rear wing configuration mounted right on top of the rear axle: This will assist greatly with traction on the slow tracks like Monaco. However, we have found the drag that is caused by this 'B' wing configuration to be uncompetitive on faster circuits, and we will only be transporting the 'B' chassis to Monaco and Long Beach this season, where we expect nothing less than pole positions and wins with this specially-designed chassis.


MICHELIN

Drivers

11. Jody Scheckter
January 29th 1950
Wins: 10

Scheckter won the local Formula Ford Championship in his native South Africa in 1970: The prize was a European scholarship. Scheckter made full-use of his opportunity (and raw talent) by tearing through the lower Formulas in the U.K. and, a scant 18 months after his arrival in England, he had secured his Formula 1 debut at the 1972 season-ending U.S. East Grand Prix for McLaren. Scheckter was quick, brave, and his early career peppered by a rather fruity scrapbook of shattered chassis along with a healthy mix of hard-charging drives. His youthful exuberance, though, would finally get the better of him in the 1973 British Grand Prix at Silverstone where he lost it in a big way around Woodcote, the spin triggering a mammoth pile-up that took out nigh on half the field. Ken Tyrrell, though—unquestionably the best judge of talent in Formula 1—quickly signed Jody up for the 1974 season to replace retired triple world champion Jackie Stewart, and his acumen was rewarded with a matured Jody who won twice and finished a solid third in the championship. Two more seasons at Tyrrell proved fruitful, with the six-wheeler P34 giving Scheckter (or 'Fletcher' as he was sometimes known, a nickname bestowed on him by his good friend James Hunt, in tribute to the clumsy bird out of 'Jonathan Livingston Seagull') yet another

third place in the championship. For 1977, Jody moved on to the Wolf team, a move that many felt was a step back in his career. Buy Jody's instincts—which proved quite uncanny both during and after his career (he seemed to have a nose for finding the right team just at the right time)—were proven correct, and he went on to win three races in Wolf's debut season, finishing runner-up to Lauda's Ferrari. Wolf's 1978 WR5, though, was a disappointment for both Jody and Bobby Rahal, and Jody quickly realized his career was running out of momentum. But by 1979, Scheckter was on the A-list of drivers, and fortune was but a phone-call away; when it came, Scheckter wasted no time in signing for Ferrari with, as he would confess later, only one goal in mind: To become World Champion. Pitted against him was the quickest Grand Prix driver on the grid—Gilles Villeneuve, who started the 1979 season by claiming back-to-back victories in South Africa and California. Jody, though, was undeterred, and had the experience to know that consistency was what won championships—a maturity no-one would have expected from the Jody of the early 1970s. At Monaco, for the start of the European season, he watched his team-mate continuously hammer over the notorious bump that led onto the front straight without lifting, and predicted what would happen in the race: Indeed, Villeneuve duly broke his transmission, giving Scheckter the win—and a lead in the championship which he would not relinquish all year. By Monza, Scheckter was South Africa's first (and so far last) world champion. In 1980, with Ferrari's star declining, Scheckter made yet another of his wise decisions, hanging-up his helmet to start a security firm in the U.S., after which he marshaled his son into a successful career in the IRL. Scheckter is now involved in the biodynamic agriculture sector on his farm in England.

12. Gilles Villeneuve
January 18th 1950—May 5th 1982
Wins: 6

The legend—and for anyone who is curious as to what would induce middle-aged men to go all dewy-eyed at the mention of the name Gilles, they need not look any further than his 1979 season: The blown tyre at Zandvoort, the duel with Arnoux at Dijon, the pass on Jones on the outside of Tarzan, the astonishing qualifying lap at Watkins Glen (a full *10 seconds* faster than anyone else in the rain!) defined the 1979 season, and along with it Gilles's enduring status as Formula 1's greatest ever *racer*. Starting off with snowmobiles in his native Canada, though, a poverty-stricken Gilles never even dreamed of getting into top-level racing: But fate—and a talent which remains unmatched to this day—saw him both meet—and find—men who would help his fledgling career, first in local formulas before, by the mid-1970s, Formula Atlantics in both Canada and the U.S. Villeneuve was untouchable in those years, but it was only in an invitational Formula Atlantic meeting (which featured world champion James Hunt) that Villeneuve's name began making the rounds of a notoriously insulated Formula 1 paddock: And indeed, it was Hunt who was doing Gilles's

P.R. work after having watched the Canadian make short work of the field at the invitational event. Hunt convinced McLaren to give Villeneuve a run for the British Grand Prix of 1977. In a two-year old car, and on a track that he had never seen, Gilles managed to cling grimly onto the coat-tails of the race leaders in what was described at the time as the most impressive debut in Formula 1 since Jacky Ickx had done similar at a rain-soaked German Grand Prix a decade before. For reasons that remain, to this day, unclear, McLaren chose to pass on Villeneuve's talents—but at Maranello, he had made a very deep impression on Enzo. Ferrari had seen something both unique and special in the Canadian, and a deal for the 1978 season—as replacement for the departing Niki Lauda—was quickly offered. Gilles, awe-inspired by the whole sequence of events, landed-up returning to Canada with a fist-full of dollars (secured by his manager and friend Gaston Parent, with whom Gilles had argued to 'just accept the fucking deal' while negotiating in Enzo's office at Maranello), and his specially fitted Ferrari seat for the his 1978 drive traveling shotgun alongside him! 1978 would prove a disappointment though, as the Lotus 79 swept all aside while Ferrari struggled with Michelin's radial tyres. Not that this diminished Gilles' appetite: The 'little' unpretentious man did not know how to drive except flat, and he thrilled the fans and tifosi alike with outrageous displays of sheer, raw passion. But the press, both British and—as the results did not come, Italian—turned on him, with the Italians clamouring for his dismissal as chassis-after-chassis, and engine-after-engine were binned throughout the season. Enzo Ferrari, though—who had been around Grand Prix racing for 60 years—had become deeply attached to his young charger, and Gilles's antics would frequently leave the Old Man grinning with delight in his office at Maranello. With everyone wanting Gilles out, the Canadian found a powerful ally in Enzo, who understood that all that needed to happen in order for Ferrari to enjoy the fruits of the most inimitable talent to emerge in Grand Prix racing since Tazio Nuvolari was patience and time. Enzo, in his 80s, enjoyed both. Villeneuve finally got it all together for his home Grand Prix at Montreal at the tail-end of 1978 and, throughout the winter of 1979, he prepared himself for what he knew would be his first assault on the world championship. Indeed, as early as the 312T4's debut in South Africa, it was clear that Ferrari had a car capable of winning the Championship: But Gilles was number two that season to veteran Jody Scheckter, and, come September, he duly accepted team orders at Monza to allow the South African to win the race—and the Championship along with it. Gilles had then to endure two agonizing seasons as Ferrari found itself outpaced and outclassed, and 1980 would see him score a total of 6 points. 1981 was not much better, even if it included two of his most celebrated wins: At Monaco, and, three weeks later, in Spain, Gilles took the turbo 126C to its maiden wins in what remain two of the most astonishing feats in Grand Prix racing. Indeed, at Jarama, Gilles's win came after he held back a group of much faster cars for the entire race, while his team-mate, Pironi, finished a full lap down. Monaco, on the other hand, was about nothing more than—put simply—a driving talent that had never been seen before—or since—

in Grand Prix racing. No-one at the time would imagine this would be his final triumph. The 1982 season, however, was to bear the fruit of Gilles' patience with Ferrari who had finally refined their turbo car into a winning one. Moreover, with many of the top runners stuck with underpowered DFVs, the pundits agreed it would take an exceptional set of circumstances to deprive Gilles of his first world championship. And so it would prove, Ferrari capturing the Constructors' Championship despite, by season's end, having lost both its drivers. The season started badly for Gilles: An expired turbo in South Africa, an accident in Brasil, and a DQ at Long Beach meant that Gilles arrived at the San Marino Grand Prix in April without any points. At Imola, though, the FOCA/FISA war had reached a critical level, and only 12 cars were entered for the race. This did nothing to dampen the enthusiasm of the tifosi as they gathered at Tosa to cheer as Ferrari, predictably, dominated, with Gilles slowing in the final laps to allow his team-mate Pironi to close-up for a photo-finish: Unbelievably, Pironi passed Gilles on the last lap and crossed the line in first place. Gilles was inconsolable: Angered at what he saw as Pironi's blatant indifference to team-orders, he was further hurt when Ferrari's management failed to back his cause—Gilles suddenly realized he had spent two agonizing years being loyal to Ferrari only for the team to betray him now, when finally he had a car worthy of his talent. He had allowed Scheckter to win the 1979 Championship, too, obeying team-orders—in short, he had paid his dues to deserve his number one status at Ferrari. Moreover, he could easily have won the San Marino Grand Prix on merit. His status as number one in the team had come through hard work, dedication, and a unique passion, and Gilles—along with the tifosi who would jeer at Pironi for the remainder of the season—were incensed. Bitter and disillusioned, Gilles arrived at Zolder in May with only one goal in mind—to destroy Pironi on-track. During qualifying, Gilles, trailing Pironi on the time-sheet, went out for one last run and came across a slowing Jochen Mass; Gilles, as always, was absolutely committed to his lap, and he was not about to lift: In a split second, he made his decision. Mass's intention was something else, and the two collided with Gilles's 27 Ferrari launching off the rear-tyres of Mass's March. The resulting accident proved fatal, Gilles's Ferrari barrel-rolling into infamy as the little Canadian was launched from the cockpit to what was an awful death. Gilles remains, for the tifosi, the greatest Ferrari driver of all time, and it is pretty much unquestionable that, had he survived, he would have won the 1982 World Championship. And from there, who knows what this talent would have gone on to achieve.

Scuderia Ferrari

The most successful team in Formula 1 history, and the oldest, having contested every round of the championship since its inception in 1950 (but one must look all the way back to the 1920s in order to trace the Scuderia's history), Ferrari is loved and loathed in equal measure, but even its most vehement detractors acknowledge that, without Ferrari, Formula 1 would, for many years, have been nothing more than a single-engine spec' formula. Indeed, for decades, Ferrari remained the only team willing to build both its chassis and engine in-house. Like many of the independents (though Ferrari was bought out many years ago by FIAT), Ferrari remains in Formula 1 for one reason only: To go racing. Back in The Day, Formula 1 was about Britain vs. England in Formula 1, and, at the dawn of aero, Ferrari—never the fastest to accept change—noted: "Aerodynamics is for those who cannot manufacture good engines."

Scheckter's 1979 title was the final one for 21 years. So long was the wait that Gilles's son, Jacques, would be crowned world champion before Ferrari managed to end what many felt as the French-Canadian's curse.


Chevron
BOSCH
JODY SCHECKTER
MICHELIN
12

FITTIPALDI AUTOMOTIVE

Technical Specs

Designer: Ralph Bellamy

1979 Chassis: F6A

Engine: Ford Cosworth DFV 3.0 V8—470BHP @10,600 RPM
Weight: 687 Kg
Front Wheel Track: 1702mm
Rear Wheel Track: 1620mm
Wheel Base: 2780mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 1

Wilson Fittipaldi's Engineering Debrief

Reading, December 9th, 1978

Olá! Welcome to Berkshire … *peço desculpa, mas* is not quite Brasil, yes? Our budget, too, is not too good either having been cut again this season. Worse still—*que pena*—our negotiations with Cosworth have not led to us being able to secure a customer-DFV. This is our 1979 car, the F6A, which was designed in very little time during the winter. It has been dramatically off the pace during our testing session on a damp Silverstone track—*claro*?—and we believe this is caused by our ground-effects solution (not optimal, but without the budget for wind-tunnel and extensive testing, we don't have a remedy), and an overweight chassis. Emerson's experience, however, has come in very handy, and we believe we can compensate for some of the F6A's design-flaws with setup adjustments: We strongly advise you to run softer front anti-roll bars, and lower rear wing settings, which will, to a certain extent, ease the car's chronic understeer, and lack of top-end power. Qualifying this car for a handful of Grands Prix would be a victory for us while we work on next year's chassis which will, we are sure, be a race winner. Any points would be welcomed! *Boa sorte*!

Drivers

14. Emerson Fittipaldi
December 12th 1946
Wins: 14

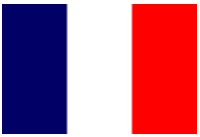
Emerson Fittipaldi was a winner from the day he started racing, and his rise in international motor-sport was spectacular. Only with Alonso's 2005 title did Fittipaldi lose his mantle as the youngest ever world champion, claiming his first in 1972 with Lotus, aged 25. He won his second with McLaren in 1974, before finishing runner-up to Lauda in 1975. At which point he made what was, with hindsight, a calamitous decision—he joined his brother Wilson's fledgling Formula 1 team for 1976. For five long years, Emerson struggled along at the back end of the field (though his talent managed to get him up the order on three memorable occasions) before finally giving it all up and heading off to the U.S. where, in 1989, he would win the Indy Car title to join his Indy 500 victory. Emerson continued racing well into the 1990s before retiring to his native Brasil from where he develops young drivers.

Fittipaldi Automotive

The team was conceived by Emerson's brother, Wilson, early in 1973 … with backing from Brasil's state sugar company, Copersucar, and Richard Divila designing the car, much was expected from Fittipaldi on its debut in 1975. Wilson drove the car throughout the season, but he—along with the car—proved to be uncompetitive. Come 1976, however, and Fittipaldi Automotive would have two-time world champion Emerson behind the wheel for the season opener in Brasil. Emerson qualified fifth, but didn't finish, setting the scene for what would be the team's story for the next six seasons. 1979 saw the introduction of the F6A designed by Ralph Bellamy, and it turned good toward the end of the year with some promising runs at Watkins Glen and Canada. 1980 saw designer Harvey Postlewaithe (who would go on to great success with Ferrari, penning their constructors' winning turbo cars of 1982, and 1983) join the team, but he was unable to get anything out of the Fittipaldi, and with Emerson's star fading, and the money drying up, it was only two years later—in 1982—that the team shut-up shop for good. It achieved very little, except for derailing the career of Fittipaldi himself, who spent the prime years of his life piddling around mid-field even as world championship winning manufacturers came begging for his services.


ERSUCAR
KOMI

LIGIER GITANES



Technical Specs

Designers: Gérard Ducarouge, Michel Beaujon, Robert Choulet, Paul Carillo

1979 Chassis: JS11

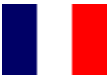
Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 660 Kg
Front Wheel Track: 1738mm
Rear Wheel Track: 1608mm
Wheel Base: 2800mm
Tyre: Goodyear
Wins: 3
Poles: 4
Podiums: 8
Points: 58

Guy Ligier's Engineering Debrief

Vichy, December 2nd, 1978

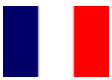
The Vichy government, as you know, did not do too well, but we are poised to become France's first world champions—last season's Lotus demonstrated to us that we have entered the era of ground-effects, and, with that very much in mind, our design and aero'-departments suggested we would struggle with the Matra V12 engine: As a consequence, we have signed a deal with Cosworth to run their factory-spec' DFV V8s for this season in our newly-designed JS11. As you can see, the car is by far the prettiest on the grid, and the Gitanes logo does nothing to take away from its innovative, swirling, avant-garde shape. Winter testing at Le Castellet suggests we have a car that is very much on the pace; even better, both Lafitte and Depailler report that the car is simple to setup, and enormously comfortable to drive, even on the limit. And speaking of—would you like another *pastis* perhaps? No? *Bon*. Now, while the JS11 ultimately doesn't—we believe—produce the same downforce loads of the Williams FW07, or the power output of a Ferrari or Renault, it is a competitive option with which we believe we can win the championship. How about a *Kir*? Yes? *Non*? Very well—I must confess to you that, for reasons I am unable and unwilling to explain, the JS11 will not be evolved much this season—but still, we expect wins and pole positions, as well as both championships come the autumn. Now, what about a nice *tarte aux pommes* with that Gitanes? It's never too early to celebrate success!

Drivers



26. Jacques Laffite
November 21st 1943
Wins: 6

Jacques Laffite was a late starter in Formula 1 (though for a driver to enter Formula 1 in his 30s was far from unique in the 1970s, or even before—Fangio was 43 when he won the first of five world championships), having served out a long apprenticeship in the lower formulas in France and Europe. For Laffite, however, the apprenticeship started on the wrong side of the cockpit—as a mechanic, in 1968, working on a Formula 3 car run by his best friend, Jean-Pierre Jabouille. That season's 'spannering' for his friend gave Laffite the racing bug, and he entered himself into Formula 3 the next year. It was a long haul for Laffite to finally enter Formula 1, but he got his break in 1974, in one of Frank Williams's ISO Marlboro Team cars. The pair hit it off, Laffite being the archetypal Williams driver with his quick wit and hard-charging nature, and the Frenchman was confirmed for 1975. Sadly, it ended when Williams's ISO team went under, but Laffite would be back in 1977, signed up for Guy Ligier's well-funded outfit. Lafitte went on to make history that season at the Swedish Grand Prix: His first victory was the first by a French driver in a French car with a French engine (the Matra V12). That was as good as it got, though, as Matra's V12 struggled until Ligier, fed-up, dropped them in favour of the Cosworth V8 in the winter of 1978. 1979 got off to a great start for both Ligier and Laffite, who promptly won the first two races of the season, and seemed well on his way to the title. But Ligier dropped the ball on development, and gone was their one and only chance at winning the world championship. Laffite soldiered on with Ligier until 1983, when he teamed-up again with Williams. By 1985, though, the 42-year old Laffite was past his prime, yet still had enough to offer—experience-wise—for Ligier to hire him once more: Lafitte went on to enjoy numerous podiums throughout 1986, until a shunt in the British Grand Prix closed-off his career. The good humoured Frenchman served in an advisory role for Ligier, (and later Prost), and remains a 'personality' on the Formula 1 grid to this day. Indeed, many believe that the stunt driver for Claude Lelouche's 'Rendezvous' was none other than Jacques Lafitte.



25. Patrick Depailler
August 9th 1944—August 1st 1980
Wins: 2

Debonair Patrick Depailler was the quintessential 1970s Grand Prix driver: Never without a smoke dangling from his lips, he debuted in Formula 1 in 1972 for Tyrrell just as the team began its steady decline: Still, the six-wheel Tyrrell improved Depailler's fortunes, but it was only in 1978, at Monaco, that he would record his first win. In 1979, he stepped into the Ligier team as their second driver—his ability in developing cars being much sought after—and looked set for a great season, winning in Spain before smashing his legs in a hang-gliding

accident. He returned in 1980 for the Alfa Romeo team, helping them develop their V12 programme but, while testing at Hockenheim, the suspension of his Alfa failed, pitching Depailler into the Armco at the Ostkurve, an accident that proved fatal.

25. Jacky Ickx
January 1st 1945
Wins: 8

Belgian Jacky Ickx was a victim of misjudgments throughout his career, landing up at the wrong team and the wrong time with uncanny regularity. In 1966, 21 year old Ickx was given a Formula 2 car by Ken Tyrrell at the 'Ring: He started at the back of the grid, and was pitched into battle against Grand Prix legends in Formula 1 machinery. Ickx put in an absolutely astonishing drive, rocketing up to fourth place and, in so doing, announced his arrival on the international motor-racing scene with a debut that has rarely been bettered. It secured him a contract with Ferrari for 1968 (after a season with Cooper) with whom he raced until 1974, winning often, and gunning for the championship in 1970. But Ferrari, by 1971, were struggling; Ickx stuck it out for another two years until, frustrated at Ferrari's inability to give him a championship winning car, he defected to the Lotus team for 1975—just as Ferrari came good again. Ickx then flirted with Williams, Ensign and finally—after Depailler's hang-gliding accident—landing up with Ligier for his final Formula 1 season in 1979. He left the circus at season's end to become a sports car legend … but never did secure the title that his talent so richly deserved.

Ligier

Guy Ligier's friend, Jo Schlesser, died while racing the magnesium, air-cooled experimental Honda RA302 in July 1968: His death would touch Ligier deeply, and the capped rugby player from Vichy, who had been toying with motor-racing for a number of years without much success, quit the sport all-together. He would return, however, some years later, this time as a manufacturer, and all of his cars would carry the 'JS' designation to honour Schlesser's life. Ligier, a well-connected and affable man who struck it rich in the construction business, began his new career as car builder in sports cars, and by 1975 had secured a second place at Le Mans. The year before, however, Ligier had bought out the assets of Matra Sports (the company that had seen much success with Jackie Stewart and Tyrrell in the early 1970s) with the intention of entering Formula 1, which he duly did, in 1976, with the JS5. His Le Mans sponsors, Gitanes, were more than happy to fund Ligier's foray into the top level of motor-sports, and Ligier paid them back almost immediately as the Ligier JS5 proved quick right off-the-bat, scoring its first pole position in 1976, followed by its first win in 1977. Come 1979, and Ligier's designer, Ducarouge, penned what was, with perhaps the exception of the Williams FW07, *the* best car in the field—the JS11. No-one really knew why it worked, but work it did, and with the Cosworth engine providing a solid and reliable platform, Ligier won the first two races of the season, and then scored a third in Spain. But the team lost its way mid-way through the season, and the Ferrari 312T4—and later the Williams FW07—would go on to dominate the season. Ligier carried its form on to 1980, however, with Didier Pironi providing the team with some fine drives, and Ligier itself finishing runner-up in the Constructors' Championship. Pironi, however, would move on to infamy at Ferrari for 1981, and from there, Ligier's fortunes went into decline despite Ligier's friend, Mitterand, becoming President of the Republic, and strong-arming companies (such as Renault) to fund the Ligier team that hit serious financial trouble in 1983. By 1992, though, with Ligier getting jeered at Monaco, Guy Ligier had had enough, and sold out the team. Ligier would go on to claim another fortune in the natural fertilizer business, while the team that carried his name would eventually fall into Alain Prost's hands; this proved a complete disaster, and this one great name faded into oblivion at the end of 1997.


Chevron
Chevron
BOSCH
25 GITANES
LIGIER
GITANES
GOODYEAR
25
GOODYEAR

MARTINI RACING TEAM LOTUS

Technical Specs

Designers: Colin Chapman, Geoff Aldridge, Martin Ogilvie, Peter Wright
1978 Chassis: Lotus 79
1979 Chassis: Lotus 80
Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 655 Kg
Front Wheel Track: 1778mm
Rear Wheel Track: 1646mm
Wheel Base: 2762mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 5
Points: 39

Colin Chapman's Engineering Debrief

Norwich, December 10th, 1978

Sit down, old boy, sit down—no, no, really, I inisist, believe me, you don't want to stand up for what I'm about to tell you. We know why you came here, so let's get the bad news out of the way first, shall we? Our new Lotus 80 does not appear to enjoy the massive superiority enjoyed by its predecessor, the Lotus 79, which—while having been, by far, the class of the field in 1978, having won the Championship without even breaking a sweat—has been pretty much outclassed by its more succesful 'clones' throughout the winter testing season. The 79, however, remains a well-balanced, light-weight chassis, and we believe it more than capable of putting up a fight if driven by the right driver. That, we're told, would be you, yes? Indeed—are you comfortable? Yes? Did you meet Carlos on your way in? Moody bugger that man—but on his day …

The Lotus 80, our evolutionary designed car which we had hoped would reign like its predecessor, has been, we must confess, a complete disappointment. We do hope you won't follow suit … In the wind-tunnel, our aero' specialists report that is is producing enormous amounts of downforce (up to 30 per cent more than the 79). With so much downforce, we took the decision, during the late summer, to finalise the design of the 80 to run with no wings at all, making it—in terms of straight line speed—unmatched by any other DFV-running car. However, once we got the car onto the track, we discovered that the Lotus 80 is inherently unstable, particularly over bumps and kerbs, and both Andretti and Reutemann (who has deemed the car unsafe) report that the car is an umpredictable, and, shall we say, dangerous beast. However, we continue to believe that the car can be evolved into a proven race winner, and Andretti will

continue in its development: Indeed, you will see that the 80 has now sprouted wings, front and rear, which, Andretti reports, has cured the instability issues. The problem, however, is that it has tamed our straightline advantage. We expect Top 6 finishes, though, and perhaps even some podiums with either the 79 or the 80, both of which we have found to be pretty comparable in overall performance, if not overall possibility. So, old hat, you can choose either chassis, though we'd prefer—and we hear you have the appendages to match our desires, what?—that you give the 80 a good run, there's a good man.

Drivers

1. Mario Andretti
February 28th 1940
Wins: 12

A triumph of the Will, Mario Andretti—a penniless immigrant whose family had become refugees in post-war Italy (his home-town having been annexed by Yugoslavia)—wanted nothing more than to race cars and emulate his hero, Alberto Ascari , who, legend has it, the young Mario had seen in action whilst peering over the wall at a test-session in Monza somewhere in the early 1950s. The Andretti family finally made their way to the U.S. after seven years displaced in the post-war mix-up, and after barely a few years in the U.S., Mario—along with his twin brother Aldo—began racing Sprintcars, debuting in 1959. Aldo would soon quit after an enormous shunt, but Mario's speed—not to mention fearlessness—soon earned him the moniker of 'SuperWop' as his career rapidly progressed through the local Sprintcar tracks in Pennsylvania to Indy Cars in the early 1960s, a series in which he would clinch the title in 1965, 1966, and 1969, (and in-between finding time to claim the Daytona 500 in 1967). Andretti was quick in whatever he raced, but his eyes—and heart—were always set on Formula 1: 1968 saw him debut for Lotus at Watkins Glen, and he qualified—almost inevitably—on pole for his first race. But that proved to be a one-off, as he then went on to struggle in Formula 1; unable to commit full-time (running both Indy Cars and Formula 1 throughout the early 1970s), stints at Ferrari and Lotus both proved unspectacular. 1974 saw Andretti settle full-time in Europe in order to take a final crack at the Formula 1 title. In 1976, he joined up with Colin Chapman's struggling Lotus concern, and this proved a fertile marriage indeed. With Andretti's guile and mechanical sympathy, and Chapman's design genius, Lotus went from strength-to-strength until both were rewarded with the World Championship in 1978. And from there, Andretti's form began to fade as Lotus went into a slump, and his year at Alfa Romeo (that had all the romantics in Formula 1 smiling in 1981) turned sour: By the end of the season, Andretti had retired. 1982, however, saw him asked to return for a swansong by none other than Enzo Ferrari after Pironi and Villeneuve's accidents, and he qualified on pole for that season's Monza Grand Prix at the sprightly age of 42. "The passport changes, but the blood doesn't," Andretti replied to the question of why he would return to drive for Ferrari. That would be his farewell to Formula 1; returning to the U.S. and Indy Cars, Andretti would secure his fourth title in 1984, and his final win in the series in 1993, at the age of 53. The only major event Andretti never won was the Le Mans 24-hours …

2. Carlos Reutemann
April 12th 1942
Wins: 12

Reutemann started his Formula 1 career in 1972 with Brabham, and his debut Grand Prix, in front of his home-fans, typified what would be his decade-long career—a superb pole position followed by a distant seventh place finish. Reutemann's decade in Formula 1 would be filled with such extremes as his natural pace ensured that he remained a title contender for practically every season of his career, all culminating in his failed push for the 1978 title with Ferrari. 1979 saw him join a fading Lotus concern, but a switch to Williams in 1980 brought him into yet another championship winning team, and he helped Jones claim the title before, in 1981, storming to a championship lead that looked, by August, pretty-much insurmountable. But then the 'Reutemann-factor' set in, and the second half of the season was strewn with sub-par performances concluding at the season-ending Las Vegas Grand Prix where he needed simply to finish ahead of Piquet to clinch the championship. Reutemann was on form for qualifying, sticking his Williams on pole—and the race was indeed won by a Williams (in the guise of Alan Jones) while Reutemann inexplicably slipped away into a distant eighth place, conceding the title to a barely-conscious Piquet who clinched fifth and the world championship (before feinting!). 1982 started well for Reutemann with a strong second place in South Africa—but he never turned up for the second round in Brasil, and announced his retirement from his home in Argentina. Reutemann drifted into a successful life in politics in his native Argentina and was, in the late 1990s, touted as a future president; in 2003, he won a seat in the National Senate.

Lotus Engineering

Colin Chapman belonged to that legendary group of engineers working in post-war Britain whose technical acumen and engineering brilliance lead Britain in becoming the world's leader in Formula 1 car design, a distinction which remains to this very day. Between 1958 and 1970, British teams and designers would claim no less than 11 Championships, and it is not coincidental that it all began the year Colin Chapman entered Formula 1. It would be a brave man indeed who would argue against Chapman being (along with Enzo Ferrari), the most innovative engineer in post-war motor-racing, founding Lotus Engineering Ltd. in 1952 (with a loan from his wife), before, after a handful of successful years in the smaller formulas, entering Formula 1 in 1958. Four years later, with legendary Jim Clark at the wheel, Lotus began its ascent into the dizzy-heights of world champions with the 1962 Lotus 25 that featured an innovative monocoque chassis and Jim Clark in all his glory. Clark would win two world championships with Lotus, and claim the Indy 500 in 1965. Clark's death in 1968, while a personal blow to Chapman, did little to slow the Lotus team's domination of the sport (1968 would see them win their third Constructors' title), and Rindt would help claim number four by winning the Drivers' Championship in 1970 (despite losing his life before the end of the season). 1972 then saw Fittipaldi win yet another championship for the Ketteringham Hall-based team, at which point the team fell into a slump that lasted until 1977 when Chapman introduced probably his most remarkable innovation (this from the man that had introduced the first monocoque in Formula 1, as well as the first car to have the engine as part of the chassis, not to mention the introduction of wings and, perhaps less significantly, the first team to don sponsored liveries)—this time, the innovation was ground-effects, an innovation he had set in motion after handing his designers a typed-up thesis on Bernoulli's Principle. 1978's Lotus 79 was a triumph of design and experimentation, and it stormed to the title with Andretti at the wheel. Sadly, on the day Andretti secured the title at Monza, his team-mate (and surely future world champion, Ronnie Peterson) lost his life in a first-turn pile-up. This would prove to be Lotus' final championship. 1979 saw Lotus take an enormous gamble on the 'wingless wonder', the Lotus 80, and for once Chapman got it completely wrong; the chassis proved not rigid enough to support the G-forces from the downforce loads the undertray developed, and the car was abandoned in favour of the Lotus 79 mid-season. This marked the beginning of the end for Lotus: With Chapman's rumoured involvement in the De Lorean fiasco in 1981, and his cars now off the pace and without turbo power, Chapman succumbed to the pressure and died of a heart attack in 1982, at age 54. Even Senna could not help the team re-establish itself in the mid-1980s, and Lotus, after having been salvaged by James Hunt's brother, vanished from Formula 1 in 1994, leaving behind one of the sport's most glorious and enduring legacies. Indeed, so advanced was Colin Chapman's designs that still today his Lotus 7 design of 1957 is being manufactured in the guise of Caterham 7s by Caterham Cars.


TISSOT
WATCHES
Valvoline
NGK
SPARK PLUGS
MARTINI RACING
1
ESSEX
GOODYEAR

MARLBORO TEAM MCLAREN

Technical Specs

Designers: Gordon Coppuck

1979 Chassis: M29

Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 660 Kg
Front Wheel Track: 1727mm
Rear Wheel Track: 1575mm
Wheel Base: 2692mm

1979 Chassis: M28 (B, C, and D)

Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 700 Kg
Front Wheel Track: 1778mm
Rear Wheel Track: 1626mm
Wheel Base: 2870mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 1
Points: 15

Teddy Mayer's Engineering Debrief

Woking, December 21st, 1978

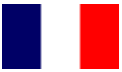
Down to business: grim day out there, isn't it? Well, don't worry too much, in a few weeks you'll be in sunny Argentina with the M28. She looks pretty square, right? Well, I'll tell you this—it's a docile thing: Some testers have called it a well-meaning dog of a chassis (but a dog all the same), and we would not necessarily dispute this description: Our ground-effects experiment has, unfornunately, been unsuccessful, and the M28's chassis is, judging by winter testing, the heaviest in the field. We expect you to struggle with this car but, both the chassis and the engine—a full factory spec' DFV—will, equally, give you a car which is almost bulletproof. We hope you'll be able to get some Top 10s with this chassis, but we recognize they will probably be inherited rather that on merit. Having said that, the M28 can be driven on the absolute limit for an entire race, and will hardly ever break nor put you in a bad situation.

The M29, on the other hand, you will find to be a significant step forward; winter testing has shown it to be quite capable of placing in the Top 6 if driven hard, and you will also find much of the M28 in this car—it enjoys a phenomenal level of durability, but it is far lighter than the M28. We believe points with this car as a distinct possibility, and anything under the Top 10 we would consider a complete failure. As I said: "Drivers are just interchangeable light bulbs—you plug them in and they do the job".

Drivers

7. John Watson
May 4th, 1946
Wins: 5

Watson debuted in Formula 1 in 1973, followed by a full season in 1974 running in a private ride sponsored by Paul Michaels. The mid-1970s saw him race for the Roger Penske's team (as replacement for Mark Donahue, who had died in Austria during morning practice in 1975), with whom he would win one race, before Penske's closure led Watson to Lotus. Unable to find a winning car there, he was on the move again by year end, landing up at Brabham, where he put in some notable performances, culminating in his move to McLaren for 1979, just when the team hit its lowest ebb. Watson, however, sensing McLaren would eventually get it right, struggled on with uncompetitive rides—until Ron Dennis's arrival in 1981 signalled a change in fortune for the Woking-based team. Watson became a title contender in 1982, only losing out to his team-mate Niki Lauda in the championship, while 1983 would seal his status in Formula 1 lore in what remains one of the great drives in Formula 1 history as he went from 22nd on the grid at Long Beach to an absolutely brilliant win. 1984 should have been his World Championship year, but Dennis summarily dropped him favour of Alain Prost, and that brought the curtain down on Watson's career. He would move on to sports cars and commentary work for Eurosport.



8. Patrick Tambay
June 25th 1949
Wins: 2

Parisian Patrick Tambay was educated in both France and the U.S., and he would use both countries as a stepping-stone to Formula 1: Frustrated by opportunities in Europe after competing in the lower formulas from the early 1970s, Patrick accepted the invitation to cross the Atlantic to take over injured Brian Redman's drive in the Haas-Hall Racing Lola T333CS-Chevrolet Can-Am with which he won the 1977 Can-Am Championship. The win attracted the attention of Formula 1, and he was entered for the British Grand Prix for 1977—joining fellow rookie Gilles Villeneuve, who debuted for McLaren; the two would go on to become very close friends (he is Gilles's son, Jacques Villeneuve's godfather), and it was Tambay who would be offered the McLaren ride for 1978, whilst Gilles would go on to Ferrari. Gilles got the better deal, as McLaren were in the doldrums by that stage; frustrated at the lack of race-winning machinery, Tambay left for the U.S. again in 1980, where he won his second Can-Am title. He returned to Formula 1 in 1981 to race for both Theodore (Teddy Yip's team), and then Ligier, who decided to drop him for the 1982 season. Angered, Tambay turned his back on Formula 1 for good. But fate had other plans: The death of his friend Gilles resulted in the call from Maranello, and Tambay raced for Ferrari in 1982 and 1983, the year in which he almost won the world championship (helping the team clinch the Constructors' Championship). Tambay, well-educated and

pleasant, was one of the good guys—and in the 'Piranha Club', the good guys rarely finish first. Dropped by Ferrari for 1984, Tambay drifted around Formula 1 for another season before hanging it all up for a career in broadcasting.

McLaren

New Zealander Bruce McLaren was spotted by Australian legend Jack Brabham in the late 1950s, and Brabham organized to have McLaren run in Formula 1 for Cooper in 1959. McLaren responded by becoming Formula 1's youngest-ever race winner (at 22), and by 1963, after four years in Formula 1, he formed his own team, 'Bruce McLaren Motor Racing Ltd'. He continued driving for Cooper, however, until the end of the 1965 season saw him commit to his own marque, running fellow New Zealander Chris Amon for 1966. McLaren himself secured the marque's first win, at Spa, in 1968. But it was in sports cars and Can-Am that McLaren made its biggest splash, winning the Can-Am series in 1969. McLaren, sadly, lost his life testing his Can-Am chassis at Goodwood in 1970, leaving behind a marque that had won at Le Mans, Can-Am, Formula 1, and Sebring, and Indy Cars: Three years later, the McLaren M23s driven by Peter Revson and Denny Hulme began challenging the top teams in Formula 1. 1974 brought them their first wocrld hampionship in Fittipaldi's hands, and 1976 delivered them their second with James Hunt. The ground-effects revolution, though, caught McLaren by surprise, and they were struggling until the early 1980s when team-owner Teddy Mayer sold part of the team to Australian Ron Dennis's 'Project Four' Formula 2 team. Dennis brought designer John Barnard with him, and together they set about creating a whole new legacy for McLaren's team (now simply rebranded McLaren Team) with a string of wins in the 1980s culminating in the glory of 1988 where they won every race but one—the Italian Grand Prix, in which Ferrari scored a 1-2 mere weeks after Enzo Ferrari had passed away.


Castrol
GOODYEAR
WATSON
7 Marlboro

TEAM MERZARIO

Technical Specs

Designer: Giorgio Valentini

1979 Chassis: A2

Engine: Ford Cosworth DFV 3.0 V8—470BHP @10,600 RPM
Weight: 677 Kg
Front Wheel Track: 1670mm
Rear Wheel Track: 1620mm
Wheel Base: 2640mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 0

Arturo Merzario's Engineering Debrief

Parma, December 2nd, 1978

Welcome to the team! Welcome to Parma—don't get too upset by the fog, it'll roll out by March sometime, and in the meantime, you can gorge yourself on panzerotti with cream and our very own Lambrusco. I'm afraid, though, that you'll be paying for that yourself, as our budget is limited, and our DFV is customer, and the ground-effects solution for our A2 has hardly been tested … all of this means, in all honesty, that we suspect the A2 to be the slowest car in the field. That Lambrusco any good? I hope so—it'll stiffen your resolve, and you'll need it since you want to test the car! Ready? Of course you are—you wouldn't be here unless you loved a great challenge! And the challenge, you will find, is as simple as—qualify for a race! So come on, let's go make you into a hero!

Drivers

24. Arturo Merzario
March 11th 1943
Wins: 0

Arturo Merzario became famed as much for his white cowboy hat and chain-smoking persona as for his driving talents, which were, on their day, quite formidable. In sports cars, for both Alfa Romeo and Ferrari, Merzario can boast the Spa 1,000 Km, the Targa Florio (twice), and the Rand 9-hours to his C.V. Indeed it was his sublime form in 1972—racing the Scuderia's sports cars—that resulted in Ferrari giving him his break in Formula 1. He raced for Ferrari through the end of 1973 when his talent was spotted by young team owner Frank Williams. Things didn't go according to plan, though, and Merzario left Williams in the middle of the 1975 season. He was back for 1976 in a privately run March, but results would not come his way and, tired of being offered no-hope rides, he chose to enter his own March again for the 1977 season. The rest is a steady mix of failure coupled with desperation that saw Merzario's slow decline into Formula 2 before he quit motor-racing for good in the mid-1980s.

Merzario

Merzario founded his fledgling team in 1976, buying a chassis (the 761) from March … the team struggled, however, leaving Merzario no choice but to accept a drive for Wolf for the last few races of that season, shelving his team's plans for 1977 when they would return, again with a March (the 761B), and again with not much distinction (for the seven races the team entered, they managed to qualify just four times). Fed up with what he perceived was March's failure to build a competitive chassis, Merzario went to work on designing his own car for 1978: The first 'Merzario' was named the A1—it was the product of budget constraints, and it is doubtful there were many talents around that could have done with it what the small Italian with the huge heart did: Despite all his efforts, though, he failed to qualify in any of that season's races. His heroic efforts, however, have gone on to become the stuff of legend as he wrestled the ugliest and slowest car on the field to some quite astonishing times. 1979 dawned with Merzario still—quite amazingly considering the dismal failure of the year before—racing the A1 until Spain, when his ground-effects A2 debuted. This car proved to be even worse than the A1, and it too never qualified for one race. Desperate, and with bankruptcy a hungry wolf at his door, Merzario bought out the still-born Kauhsen F1 team, and hired legendary Gianpaolo Dallara (who has set up the headquarters to his design-firm in Varano Melegari) to refine *that* chassis. It did absolutely nothing to alter the destiny of Merzario's team, and all the expense and time resulted in little Arturo never qualifying for another Grand Prix. Exhibiting, perhaps, the never-say-die attitude he'd displayed on the track throughout his career, Arturo next decided to ditch Formula 1 altogether, and take his team into Formula 2, where he struggled on for four long years, achieving one solitary ninth place in all that time, before he finally called it quits.


FLORBATH
Marlboro
RETE 7
24
FLORBATH

TEAM REBAQUE

Technical Specs

Designer: Geoff Ferris

1979 Chassis: HR79

Engine: Ford Cosworth DFV 3.0 V8—470BHP @10,600 RPM
Weight: 660 Kg
Front Wheel Track: 1778mm
Rear Wheel Track: 1646mm
Wheel Base: 2762mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 0

Hector Rebaque's Engineering Debrief

Poole, December 1st, 1978

Let me start by welcoming you to the team: The HR79, as you can probably see, is a chassis we have secured from Colin Chapman: It is a Lotus 79 in all but livery, but we have not been able to have it optimized to our liking by the Lotus concern. This is unfortunate, as the chassis itself you will find to be first-rate, and it could have been as good as the works Lotus had they seen fit to assist us. We have not, however, been able to secure a factory-spec' DFV, so you will find the HR79 is also underpowered. There is no reason why we shouldn't be able to collect some points this season though, and we are certainly Top 10 contenders at any venue except for those calling for high horsepower like Hockenheim and Monza. Do well, and perhaps one of the bigger teams will come calling—and that is why you're here, right?

Drivers

31. Hector Rebaque
February 5th 1956
Wins: 0

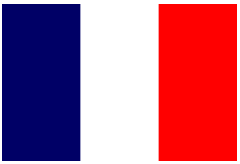
Mexican Hector Rebaque was the son of wealthy parents and, from a young age, wanted to emulate the exploits of the legendary Rodriguez brothers. His racing statistics certainly do not qualify for him to be spoken of in the same paragraph (let alone sentence) as those two legendary Mexicans, but Rebaque did indeed make history when he ran the first (and so far only) Mexican Grand Prix car in Formula 1. Aided by his father's considerable fortune, Rebaque began in the junior formulas in the U.K. at the very tender age of 18 before securing himself a ride with the Hesketh team in 1977, age 21. Results did not come though, and the string of DNFs resulted in the phone not ringing for 1978. Rebaque wsn't about to let that get in the way of his ambition: With financing secured from Mexico, Rebaque went about creating his own team, securing the use of an ex-Andretti Lotus 78. The 78 was a good chassis, even if a year old, and should have seen Rebaque do a lot better with it than he did—indeed, the first half of the season was a nightmare for the young man (including a DNF in Brazil when he quit due to fatigue), but the second half of the season saw a maturing Rebaque score one point. Still, there wasn't a rush for his services for 1979, which saw him re-enter as a privateer, again with a Lotus chassis—albeit in the guise of the 79 that had just won the 1978 World Championship. The season was a disaster though and, with what he felt was a lack of help from Lotus, he decided to build his own chassis for the final three races of the year. For this he hired John Barnard (who would go on to design successful Ferraris in the early 1990s), and had the chassis built at Penske's old H.Q. in Poole. Rebaque's on-track fortune, sadly, did not improve: But his luck did, for the start of the 1980 season saw Bernine Ecclestone's Brabham concern on the look-out for a pay-driver to replace the woeful Zunino, and Rebaque fitted the bill perfectly. He would spend 1980 learning alongside Nelson Piquet, and in 1981 he had a fair season in a car that was a not only a race winner, but good enough to give Piquet his first world championship. He spent a further year with Brabham before being replaced by Patrese, at which point Rebaque headed off to Indy Cars for 1982 where he won one race before a massive shunt at Michigan persuaded him that he had achieved all he was going to in the sport, and promptly retired.

Team Rebaque

Ostensibly a Lotus 79—which had given Andretti the title in 1978—the HR79 suffered from a low-end Cosworth engine, and very little development work. Towards the end of the season, Rebaque commissioned a new chassis built by Penske, (the HR100), and designed by legendary John Barnard; it too was based on the Lotus 78, but it proved a spectacular disaster. Rebaque closed the team down when he was offered the Brabham seat for 1980.


31
CARTA BLANCA

EQUIPE RENAULT ELF



Technical Specs

Designers: François Castaing, Michel Tétu, Marcel Hubert

1978 Chassis: RS01

Engine: Renault 1.5 V6T—525BHP @11,500 RPM
Weight: 690 Kg
Front Wheel Track: 1560mm
Rear Wheel Track: 1609mm
Wheel Base: 2490mm

1979 Chassis: RS10

Engine: Renault 1.5 V6T—540BHP @11,500 RPM
Weight: 690 Kg
Front Wheel Track: 1720mm
Rear Wheel Track: 1570mm
Wheel Base: 2860mm
Tyre: Michelin
Wins: 1
Poles: 6
Podiums: 4
Points: 26

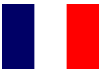
Gerard Larousse's Engineering Debrief

Boulogne-Billancourt, November 10th, 1978

This is the car that we have been running for the last two seasons: As you can see, it is a small and stocky thing we have called the RS01; we have not really developed the chassis much, and you will find its handling is very skittish. The reason why we haven't developed the car is because we have focused all our attention on our turbo programme: However, the RS01 still runs our first generation turbo engine, and we have been told you are a hard worker, which is a blessing, because this car is guaranteed to make you work: this car will not give you much time to watch the pretty girls in the stands. The engine still retains the turbo lag issue that has been plaguing us since 1977: Jabouille reports that the lag is not only a major factor in acceleration, but also during braking with the engine still feeding in some serious horsepower even after you come off the throttle—and this, you will find, will be followed by a major compression. Careful modulation of the brake pedal, as well as lower brake pressure along with higher brake map settings, are some of the ways Jabouille has found to circumnavigate the issue, but an earlier braking point will remain necessary in order to stay on the black stuff. We suggest that you treat this car with respect: It is not a front runner, and the turbo problems, coupled with the inherent handling problems, make for a dangerous—and potentially lethal—mix.

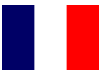
But don't be too discouraged, because we are already in the final stages of development for this, the RS10. You will be assigned chassis number RS13. This car features (after two years in the experimental phase) our twin-turbo solution, which Jabouille reports as a significant improvement on the engine management front. However, with its long wheelbase and heavy chassis, the RS10, we believe, will be more at home on high speed tracks (indeed, we shall be skipping Long Beach this year entirely for this reason) that on the tight circuits. With our ability to offer you a boost in-cockpit, there is no reason why you should not find yourself on pole position many times this season, and careful engine management could result in victories. We expect pole positions and victories in what we feel is the fastest car on the grid—*bon chance*!

Drivers



15. Jean-Pierre Jabouille
June 27th 1942
Wins: 2

Jabouille, who had studied art at the Sorbonne, and engineering at college, was a late starter in motor-racing; it was not until 1977 (age 33) that he had his first full-season in Formula 1 (single outings for Tyrrell and Williams the season before signaling his debut) after having spent his 20s dabbling in hillclimbs and the junior formulas, frequently helped by his mechanic and good friend Jacques Lafitte. The 1977 seat was with Renault, who hired him as much for his speed as his mechanical sensitivity, and engineering background, and he was charged with developing their entire Formula 1 programme—including their highly ridiculed turbo project which yielded very little besides blown engines for two long years until, in France, in 1979, Jabouille became the first man to win a Formula 1 race with a turbo-charged engine—the fact that it was in a French car, in France, added to the triumph which, indeed, had much to do with Jabouille's mechanical and engineering flair. So much so that his team-mate Arnoux—who began out-pacing Jabouille from Dijon on—benefited immensely from using Jabouille's set-ups (not to mention three years of mechanical development). Jabouille would have to wait another year, though, before he would win again—in 1980, in Austria, before, in Canada that year, he badly damaged his feet at the same spot Olivier Panis would break his legs a decade later driving for the Renault-powered Ligier team. Jabouille returned for Ligier in 1981, but after a handful of races it was obvious his best years were behind him, and he retired from Formula 1, having been offered a management role at Renault. But his desire for racing brought him back to Touring Cars where he raced with Peugeot for a number of successful seasons until—with Jean Todt leaving for Ferrari—Jabouille was offered the role of Race-Boss, all culminating in him running their dismal Formula 1 programme for two seasons, ending in the mid-1990s. Jabouille runs a restaurant in Paris, as well as his own sports car team, ISRS.



16. René Arnoux
July 4th 1948
Wins: 7

Arnoux was fast and blessed with a natural ability that has rarely been seen in Formula 1—sadly, he was also 'blessed' with a particular mindset that would see him pretty-much fired from not one, but two race-winning teams, along with—by the end of his career—having a feud with virtually every driver in the paddock. His debut in Formula 1 was in 1978—after a highly successful Formula 2 career—with Tico Martini's privateer outfit (Automobiles Martini), achieving an outstanding ninth place finish at Spa before the team ran out of money. But his talent was obvious, and for 1979 he stepped into the Renault team just as that project began to see the fruit of Jabouille's efforts. He had the titanic battle with Gilles at Dijon, which secured his status as a Formula 1 star, and he was soon out-pacing his team-mate (albeit using cars that were set-up for him by Jabouille himself), before a gang-buster start to the 1980 season made him into one of Formula 1's hottest properties. 1980 saw him claim two victories, but lose the support of Jabouille as the veteran injured himself in Canada. For 1981, however, Renault had signed a young man called Alain Prost, and things were different at the team as they became genuine title contenders. Arnoux would find himself marginalized within the team, winning nothing all year as Prost claimed three victories. 1982 was even worse, as Prost closed the team around his championship run; indeed, it looked as if he might even win it as the season progressed into the summer, leaving Arnoux not only as the number two—but the victim of team orders. Arnoux, though, was having none of it and, having secured a contract with Ferrari, disobeyed them, and beat Prost—first in France and then, on the eve of his announcement that he would be a Ferrari driver for 1983, in Italy. Renault was not appreciative. The drive for Ferrari in 1983 was Arnoux's golden year: Three victories saw him in with a shout for the world championship (Ferrari would clinch the Constructors' Championship), and much was expected for 1984 as Ferrari were running Italy's Michele Alboreto (another of Italy's great-hopes that would fail to bring the Drivers' Championship back to Italy—though he would get close!) who went on to outshine a disappointing Arnoux all season.Again, as had happened with Prost, Arnoux found himself marginalized: Except with Ferrari, things were different because, come Brazil 1985, and Arnoux found himself without a race seat, fired in favour of Stefan Johansson. Arnoux would sit out the season, and return for 1986 with Ligier. Ligier's team—whose flame had long-since dimmed from their glory years of the early 1980s—never gave Arnoux the drive he deserved, and he spent four unproductive years at the wrong-end of the field, where he became a little too-well known as the back-marker who would always find a way to slow the front-runners. He's just a total bloody idiot. Always was, always will be", was Derek Warwick's analysis.1988 saw Arnoux quit the sport, to focus on running the DAMS concern in Formula 3000, which went on to become fantastically successful. Arnoux made a return to racing in the Grand Prix Masters series in 2006 …

Equipe Renault Elf

Since 1966, Formula 1 had inaugurated their engine 'formula': Either 3 litre normally aspirated engines, or 1.5 litre turbo engines. No-one had even considered taking on the challenge of the 1.5 litre option until Renault entered Formula 1 in 1977. Renault had been running turbos in sports cars for years, and felt they had the key to creating an engine that would be able to do battle with the ever-reliable V8 Cosworths and V12 Ferraris. It was, however, only in 1979, with the introduction of the RS10 ground-effect car, along with their twin-turbo design, that the project threatened to get some results. The RS10 (the RS11, and the RS12, both of which made appearances throughout the 1979 season, were not evolved chassis, but rather the number applied to the chassis as the previous one was trashed: Hence Arnoux running the RS12 at Watkins Glen, which was, in all but name, a re-built RS10) on at Dijon before the early 1980s saw Renault chase the title with Alain Prost losing the title in 1983 by two points. That, sadly, would prove to be the zenith of the Renault turbo adventure: By 1984, turbo engines were being sported by most of the title runners, and Renault found themselves out-muscled by BMW, and Honda. They would, however, taste success in the early 1990s with Williams, but this was their normally aspirated 3 litre unit, and it would only be in 2005 that they would finally clinch the world championship as a manufacturer.


Renault elf
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Arnoux
Renault elf
elf
MICHELIN
MAGNETI MARELLI
MICHELIN
elf
MICHELIN
FERODO

SAMSON/INTERSCOPE SHADOW RACING TEAM

Technical Specs

Designers: John Gentry, Richard Owen

1979 Chassis: DN9 (B, and C)

Engine: Ford Cosworth DFV 3.0 V8—470BHP @10,600 RPM
Weight: 680 Kg
Front Wheel Track: 1715mm
Rear Wheel Track: 1588mm
Wheel Base: 2695mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 3

Don Nichols's Engineering Debrief

Weedon, December 10th, 1978

Lemme tell you something you should know about the DN9—'cause you're gonna find we ain't the type of fellas who'll be pissing down your back and tellin' you it be rainin' outside—the DN9 is slicker'n a harpooned hippo on a banana tree, and it'll bite you faster'n a skita in a Vietnam jungle. We did some serious miles testing this thing, and we ain't found no way of curing the chassis's nasty habit of shifting from understeer to oversteer—and when that happens, boy, it's gonna happen faster'n your sista takes off her prom dress. And in case you don't know what that means, lemme make it simple for ya: This here DN9 goes about as fast as molasses on a slow day, and she's so ugly we had to tie a pork chop around her neck to get the dogs to play with her. We figure, though, that softer suspension settings can help ease the nervousness of the chassis, but ride heights have to keep the undertray well clear of the road, otherwise she'll be about as useful as a tit on a boar hog. The DN9's gonna make you about as happy as a dead pig in sunshine, boy, and we figna it's gonna tan yer hide. Now go git us some points!

Drivers

17. Jan Lammers
June 2nd 1956
Wins: 0

Born in Zandvoort, it was perhaps inevitable that Lammers would land up in Formula 1. The Dutchman debuted in 1979 for the Shadow team alongside another up-and-coming youngster, Elio De Angelis. Strangely, at the start of the season, De Angelis was seen as just another wealthy pay-to-drive runner, while Lammers was perceived as the talented one who would inevitably secure a solid future in Formula 1—come the end of 1979, though, and it was De Angelis who had secured a drive with high-fliers Lotus while Lammers, who had failed to impress all season, moved on to the struggling ATS team. Alas, this was to set the scene for his career, with Lammers struggling with DNQs before moving on from Formula 1 to race various formulas and series until a final attempt at Formula 1 in 1992 resulted in failure.

18. Elio De Angelis
March 26th 1958—May 15th 1986
Wins: 2

For many, Elio De Angelis remains Italy's best chance at winning the driver's title since Alberto Ascari. Finding himself in Formula 1 at the tender age of 20—pretty much unheard of in those days, thanks to backing from his wealthy family—Elio quickly set out his stall that year with an impressive debut which culminated in his being offered a drive for Lotus in 1980. He spent five years with Lotus, winning two races and impressing many—including the entire paddock for his concert-level ability with the piano during the 1982 FOCA strike in South Africa. Indeed, his sister remains a popular musician in Italy. De Angelis found himself partnered with a young Aytron Senna for 1985, and, despite being a match for Senna's prodigious talents, he had become a marginal figure at Warr's Lotus by the end of the season, even after having led the championship by mid-season. He accepted a contract from Ecclestone, and moved on to Brabham for 1986. The Brabham BT55, however, proved to be uncompetitive, and De Angelis, in May, was testing the machine at Paul Ricard when the rear-wing failed, pitching the helpless Italian into the barriers, over which his BT 55 would vault, flip, and crash to earth in a burning wreck. Marshals—in those days virtually non-existent at test-days—were late getting to the scene, with De Angelis unable to flee his burning Brabham. He died of asphyxiation, and an autopsy would show that he had sustained nothing more than a broken collar bone: A death that could—and *should*—have been avoided.

Shadow

American Don Nichols, who set-up the Shadow Team in 1968 in the U.S., (entering the Can-Am series in 1970 with backing from Univeral Oil Products), was, to use the euphemism, the original international man of mystery—at least as far as international motor-sports is concerned. Indeed, Nichols' exact job for the U.S. Army—in both the Korean and Vietnam wars—remains classified by the U.S. government. Many, however, have long suspected him of being the boss of a shadowy group named the 6004th Air Intelligence Service Squadron. Whatever the truth, Nichols was based in Japan during the 1960s, from where he not only developed a small racing team, but also played a part in setting-up the Mount Fuji race track. By 1968, Nichols was back in the U.S., where he founded the 'Advanced Vehicle Systems' team whose first development was a 1970 Can-Am car. The car—the 'Shadow'—would feature a rather strange logo to go along with the name—a silhouette of a cloaked spy. It enjoyed mixed success with the black liveried cars that were both fast and unreliable, and this fuelled Nichols's ambition to enter Formula 1, which he duly did in 1973, setting-up his base in the U.K. The Southgate designed DN1 was immediately successful, and 1974 promised even better with hot-shoes Jean-Pierre Jarier and Peter Revson at the wheel. Revson's death, at Kyalami, meant Shadow drafted-in an even more prodigious talent by the name of Tom Pryce, and he and Jarier pushed the black-liveried UOP cars into the higher-reaches of the field. 1975 saw Jarier often competing with Lauda for pole, but the results just wouldn't come, and UOP withdrew sponsorship for 1976. Shadow struggled through the year, and 1977 saw Pryce teamed up with Renzo Zorzi who, at Kyalami, broke down just after the dip as Pryce, unsighted, came over the crest at something approaching 300km/h. Sadly, a young marshal by the name of Van Vuuren had decided to rush across the track to aid Zorzi, but he had misjudged the speed of the approaching Pryce who would cut the marshal in half before being struck in the face by Van Vuuren's fire extinguisher. Both marshal and driver were dead instantly. It was a sad end for a driver who promised much, in a car that had so much potential—a fact demonstrated by Alan Jones who would score Shadow's one and only victory later that season in Austria. 1977—with money yet again scarce—saw the split with Southgate and the top management as they left to found Arrows … Nichols sued, and won, but Shadow were by now in terminal decline. In 1980, fed-up, Nichols sold out to Macau businessman Teddy Yip, who shut down the Shadow concern mid-way through the season.


BOSCH
BOSCH
SAMSON
17
GOODYEAR
GOODYEAR
SAMSON
Coca-Cola
AKAI
MAGNETI MARELLI

CANDY TEAM TYRRELL

Technical Specs

Designer: Maurice Philippe

1979 Chassis: 009 (MK1, 2, and 3)

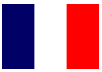
Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 660 Kg
Front Wheel Track: 1702mm
Rear Wheel Track: 1613mm
Wheel Base: 2795mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 4
Points: 28

Ken Tyrrell's Engineering Debrief

Ockham, December 12th, 1978

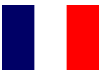
Let's walk to the woodshed, shall we? You're not the first driver to be astonished at finding that our cars are designed and built right here, in the woodshed that was part of our wood cutting business before we started building cars in it. Must be the most famous woodshed in the world by now, eh! So, here it is—the 009. As you can clearly see, it's pretty-much an unashamed copy of the Lotus 79. You will find, however, that we have not quite been unable to replicate the 79's handling—although we have come close, and we believe the design of the 009 to be a superlative answer to the ground-effects era. Testing has shown the chassis to be a well-balanced, comfortable ride, and it has been pretty much in the Top 6 throughout the winter testing season. A word to the wise, though: Make damn sure you run the chassis well clear of the bumps and kerbs because it can adversely effect the grip, which will result in a visit to the wall—in very short order. Clear? Now bring home some points and podiums: I would think even a win or two wouldn't be too much beyond the chassis's ability. And try not to hurt yourself too badly out there …

Drivers



4. Jean-Pierre Jarier
July 7th 1946
Wins: 0

Jarier discovered racing early on, but it was on bikes that he first began fulfilling his passion for speed. His mother, concerned, convinced him to race cars instead, and so began a promising career for the Parisian who enjoyed his debut in Formula 1 in 1971's Monza Grand Prix. 1972 saw him return to the lesser formulas, with money tight, but 1973 saw his talent—and he was fast, as well as fearless with a rather notorious ability at writing-off chassis—in Formula 1 yet again. 1974 saw him secure a couple of poles for the Shadow team in his first full season, although no wins followed, and by 1977, he'd moved on to ATS. Ronnie Peterson's death, at the tail-end of 1978, saw Jarier take his seat, and he almost won in his first race in the Lotus 79, but Chapman settled on Reutemann instead for the 1979 season. Jarier moved on to Tyrrell for 1979, but by then Uncle Ken's team were years past their glory-days, and in two years, they could not provide Jarier with a winning car. He drifted on to Osella and then Ligier before ending his Formula 1 career in 1983. He ran Vipers in the FIA GT series in the 1990s, and fans of John Frankenheimer will recognize Jarier as the guy who did most of the stunts for 1998's 'Ronin'.



Didier Pironi
March 26th 1952—August 23rd 1987
Wins: 3

The man who should have been France's first world champion, Pironi, like Alain Prost—who *would* become France's first champion—was a product of the Elf-funded racing programme that brought a host of world-class French talent to Formula 1. After clinching the Formula 3 race at Monaco in 1977, Pironi debuted for Tyrrell the next season (old Ken knowing a world-class talent when he saw one), and went on to have a brilliant season, scoring a string of Top 6 finishes; away from Formula 1, he also found time to win the Le Mans 24-hours. 1979 saw him struggle with Tyrrell, but he did enough to outpace the very quick Jarier for most of the year and, on the back of this, landed up with what seemed—on 1979 form at least—like a plumb drive for 1980: Ligier. He duly polished the floor with Jacques Lafitte, winning once along the way, and enjoying an absolutely sublime race at Brands Hatch. Maranello, on the look-out for a top-level number two for Villeneuve after Jody Scheckter's retirement, secured his services for 1981, the season in which Formula 1 fans would get to see two of Formula 1's hottest talents run side-by-side in the same team. Those new to Formula 1 often criticize Ferrari for not running two top-line team-mates: The events of 1982 may give an indication why. For the first time in his career, Pironi found himself outpaced throughout 1981, Gilles winning twice while Pironi's best finish was an inherited fourth place. But Pironi was made of stern stuff: He had frequently spoken of what he believed to be his destiny—the world championship—and throughout the winter of 1981, as Ferrari got to work on their

turbo for 1982, Pironi's relationships with the chiefs at Maranello became close. 1982 saw him well-prepared to challenge the driver many believe to have been the fastest in the history of the sport. The season, though, got off to a bad start for both Pironi and Gilles: But at San Marino, in front of the tifosi, things were destined to change. Sadly for all involved, the Ferrari 1-2 came at a cost that would haunt Maranello to this day as the rivalry between the two men would take on a sinister twist: Against team orders, Pironi beat Gilles in front of the tifosi and Gilles, angered, went on to Zolder with only one mission—to prove he was Ferrari's number one. In qualifying, Gilles would end his life in an appalling shunt, leaving Pironi in Formula 1's dominant car. Pironi, seemingly unaffected by Gilles's death, began putting together what, to everyone watching, seemed to be a world championship run, winning and scoring well, and taking a healthy lead as the season stretched into the dog days of summer. But those close to him began to see—and whisper—that Pironi was acting strangely; he seemed aloof, arrogant, and possessed of a self-belief that veterans in the paddock saw as dangerous in a sport that could end a career—and a life—in a split second. Prof. Sid Watkins—the resident doctor of the series—has since written that Pironi was about the only driver he had never been able to get along with, and insiders acknowledge that, after Villeneuve's death, Pironi's persona seemed to change dramatically. In Canada, at the track renamed 'Circuit Gilles Villeneuve' for 1982, Pironi had to endure a hostile reception from the partisan crowd: Almost unbelievably, Pironi stalled at the start,, and a young rookie from Italy named Paletti smashed into him at unabated speed. Paletti died on the spot, with Pironi and the marshals desperately trying to get him out of his burning wreck, but Pironi, to all accounts, took this too pretty much in stride: Odd, for a man who had been intimately confronted by two deaths in a few months, and whose marriage had just broken down. By the time Hockenheim came around, the title was really only his to lose. On a wet track, in a meaningless practice session, Pironi went out to stamp his authority on the field: In the spray, Pironi failed to see Alain Prost's Renault, and in a terrible accident that was almost the carbon-copy of Gilles's accident that May, Pironi's Ferrari was thrown into the air before smashing down to earth and crushing the Frenchman's legs. Ironically, it would be Alain Prost who would go on to become France's first world-champion. Pironi, almost dead on the side of the wet track, begged Prof. Watkins not to amputate his legs (Pironi would swear that he had heard Watkins say that he was about to do just this, though Watkins has always denied this version of events) before he was flown to hospital, critically injured. Pironi vowed to return to Formula 1, and, with gritty determination, endured over 30 operations to his shattered legs until—as he had vowed to do—he managed to return to Formula 1, testing for the AGS team in 1986, four long and painful years after his accident. He was still fast, but, unable to find a top-level team for 1987, Pironi turned his attention to power boat racing where he lost his life after hitting the wake of a tanker. His lover would deliver his twin sons after his death—she called them Gilles and Didier.

Tyrrell

Like compatriots Colin Chapman and John Cooper, Ken Tyrrell was a product of the fertile post-war racing scene in the U.K. Tyrrell started off as a driver, but soon realized he wasn't up to the task—in so doing, he would take the first decision for which he would later become famous—judging driver ability. By 1959, he had set up his racing team, operating out of his family business in a shed (which would remain the team's headquarters throughout its three decades in Formula 1), and the 1960s were spent competing successfully in the lower formulas. From the outset, Ken Tyrrell's eye was well-tuned to spotting talent, and he gave both Surtees and Ickx their single-seater debuts, along with a young Scotsman by the name of Jackie Stewart who, like Clark would do for Colin Chapman, would inaugurate Tyrrell's glory-years. In 1968, with help from Ford and Elf, Tyrrell finally entered Formula 1 running a chassis designed by the French company Matra (indeed, the team was ostensibly known as Matra International, with Tyrrell acting as Team-Boss). It was a phenomenal debut year for Matra, Tyrrell, and the young Stewart who would win races and finish runner-up in the championship to Lotus' Graham Hill. Indeed, so successful was Tyrrell's running of the team that, for 1969, Matra would cease their works team and focus all their energy on supplying Tyrrell and Stewart with a world championship winning car: It proved a brilliant partnership, with Stewart winning the championship in only Tyrrell's second year in Formula 1. Stewart would repeat the feat in 1971, but this time the team was called Tyrrell (Matra having been ditched for 1971), and he would clinch his hat-trick in 1973, the year that saw Stewart retire, and the man who was meant to assume his mantle, Cevert, die a most gruesome death at Watkins Glen. Tyrrell would never recover: Even though the team would keep winning races throughout the 1970s, as well as introducing to the world the one and only and unmistakable six-wheeler P34, Tyrrell's best days were already behind them, five short years after entering the top echelons of motor-racing. 1978 gave them their final win of the decade, as the ground-effects revolution left them struggling, and it was only in the early 1980s with Alboreto that they tasted one final win. Alesi came close a few times in the early 1990s, but by then Tyrrell's team was nothing but a nostalgic name with little chance of success, and they were finally bought out by what is now Honda in 1997. Ken Tyrrell died in 2001, and left behind him a rich legacy in Formula 1: Championships aside, perhaps 'Uncle' Ken's greatest contribution to the sport was to have been a talent-spotter for many of the best drivers and, until the final years, one thing was always expected from a car bearing the Tyrrell name: The driver would be a world-class talent.


GOODYEAR
PIRONI
Candy
GOODYEAR
3
Candy
GOODYEAR
GOODYEAR

ALBILAD-SAUDIA RACING TEAM

Technical Specs

Designers: Patrick Head, Neil Oatley

1978 Chassis: FW06

Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 665 Kg
Front Wheel Track: 1580mm
Rear Wheel Track: 1529mm
Wheel Base: 2590mm

1979 Chassis: FW07

Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 663 Kg
Front Wheel Track: 1737mm
Rear Wheel Track: 1610mm
Wheel Base: 2697mm
Tyre: Goodyear
Wins: 5
Poles: 3
Podiums: 10
Points: 75

Patrick Head's Engineering Debrief

Didcot, December 11th, 1978

Right, this is how it is: The FW06 has no sodding ground-effects so no point in sticking your nose under the tray looking for wings 'cause you won't find bloody any—clear? What you will find, if you stick you ass into the cockpit and drive the sodding thing, is a well-behaved, sleek car that won't amount to much in a field of ground-effect cars. We don't expect much from either you or this bloody thing. Fortunately for you, though, we have a solution, and it is called the FW07.

We haven't won a race since we started in Formula 1 in 1969. Which is why we hired you: But you're a lucky sod, 'cause we're done developing the FW07, and it will, once we iron out some of the bugs, be the fastest car in the field. Our ground-effect solution is beyond any car out there, beyond even Chapman's wildest fantasies, the poor sod: You will find the FW07 has a slightly skittish tendency in tight corners due to the required stiff suspension rates, but that will do very little—unless you balls it all up which, looking at you, wouldn't surprise me one bit—to damage its status as the thoroughbred of the field. So effective is the FW07's exploitation of underbody aero that we can afford to run very small wing angles, which means—still paying attention?—that we will be strong contenders even at the high speed circuits, despite the lack of horsepower from this Cosworth lump we got in there. Don't know why you're still here, actually—go win some bloody races! Now!

Drivers

28. Gianclaudio 'Clay' Regazzoni
September 5th, 1939—December 15th, 2006
Wins: 5

The epitome of the 1970's racing driver, Magnum-moustached, Swiss-Sicilian 'Clay' Regazzoni began his career in Formula 1 with Ferrari in 1970, scoring an unlikely win in his very first season—at the Italian Grand Prix, no less. The win assured him a place in the hearts of the tifosi who could not but love this open-hearted man who knew but one way to go racing—flat-out. Sadly for Regazzoni, his generous nature would be all that stood between him and what should have been the reward for his prodigious talent—a world championship. Instead, he suffered the indignity of being fired by Ferrari, not once, but *twice* in his career. He remained with Ferrari through 1972, as number 2 to Jackie Ickx but, in the winter of that year, he was mysteriously sacked from Maranello. He was quickly snapped up by BRM, though, where he lined up alongside a young Niki Lauda. One year on, Ferrari—having re-structured after an epically bad season (hiring Luca De Montezemolo, who re-hired the out-of-favour Forghieri)—Clay found himself back at Ferrari, this time with his BRM team-mate, Niki Lauda. 1974 would see Clay outpace the future triple world champion, and it would prove to be his most competitive year, narrowly losing out (by three points) to Emerson Fittipaldi. The year signaled Ferrari's return to form: But for Clay, the next two years would see him play the dutiful number two to Niki Lauda who went on to win his first championship in 1975. At the end of the 1976 season, Regazzoni would again fall victim to the Machiavellian politics that have always been a part of Ferrari: With the Old Man convinced that Lauda's 1976 shunt had made the Austrian no longer a title contender, but with Lauda's contract running until the end of 1977, Ferrari decided to draft in the man he thought would challenge for the title: Carlos Reutemann. Regazzoni was summarily let go to make way. Regazzoni's career would never recover, and it was unfortunate, because he had been offered a ride with top-teams for 1977, rides that he had turned down in good faith. Clay managed to secure a last-minute drive with Ensign (not much money, but the good-looking Regazzoni had a vast array of private sponsors), but this was an under-funded team, and Clay would move on to Shadow for one more sad and unproductive year. But just as it appeared as if his top-level career was now over, he was offered a seat at Williams for the 1979 season. He went on to score Williams' maiden win in the all-conquering FW07—in Britain no less—but, sadly, come 1980, Williams decided they wanted a top-level driver to challenge for the title. So they let Regazzoni go in favour of … Carlos Reutemann, who'd spent 1977, and 1978 at Ferrari, and 1979 at Lotus, producing very little in the way of results. Clay joined Ensign for the 1980 season: Ensign had just come into some money with Unipart sponsorship, and Regazzoni started the season brightly with a ninth in Kyalami before the circus went to the U.S. for the Long Beach Grand Prix. Regazzoni's career would come to an end that weekend: A stuck throttle along Shoreline Drive left Clay with very little

option but to veer into an escape road where he smashed into Zunino's stricken Brabham before the Ensign flew into the concrete wall. Regazzoni was left paralysed from the waist down. He continued racing, however, in rally cars specially designed for him, and entered the Paris-Dakar rally, and other high-profile motor-sports events (the Sebring 12-hours amongst them) until his sad death in December last year when, after attending the auto show in Bologna, he was involved in a head-on collision. Sadly missed, and another man whose soul was too good and kind for the vulture-like spirit that is Formula 1.

27. Alan Jones
October 2nd 1946
Wins: 12

Alan Jones has racing in his blood, his father, Stan, having been a local Australian Touring Car star. But Alan Jones did not have much family money to assure himself a place in racing and, with his stated ambition, from when he was a toddler, of being world champion, it would be a hard road for the young Jones as he traveled to Europe in the late 1960s, and began hunting for sponsorships and rides. It would take four long years in the lower formulas before he was spotted by Harry Stiller, a racing enthusiast and, as concerned Jones, a millionaire. He funded Jones to run Formula Atlantic in 1974, and with Jones winning, decided to buy a 1974 Hesketh to enter Jones for the 1975 Formula 1 season. Jones enjoyed for a handful of races, before Stiller's money ran out, at which point Jones took over at Graham Hill's Embassy team (who'd lost Stommelen to injury) where success prompted his move to the Surtees team for 1976. 1977 saw him gain his maiden win for Shadow, and secured him a move to Williams where he would go on to win the world championship in 1980. Indeed, were it not for the late arrival of the FW07 in 1979, and the unreliability of the 1981 Williams, Jones could easily have been a triple world champion. As it is, he retired at the end of 1981, returned for a swan song in 1983 for Arrows, before retiring again … and then returning for Haas Lola for two seasons between 1985 and 1986. He finished off his racing career in Australian Touring Cars, bringing his family's racing legacy full-circle.

Williams

Frank Williams has been around Formula 1 since the late 1960s … in fact, until Regazzoni's win at Silverstone in 1979, Williams had been the team owner who had suffered the longest non-winning streak in Formula 1 history. Williams's triumph in 1979 would have been on a par with Minardi winning a race in 2003! Frank Williams started off running his close friend Piers Courage in 1969, in a paid-for Brabham chassis, before securing a car from De Tomaso (a Dallara design) for 1970. Sadly, Courage would lose his life that year, and Williams was on the brink of quitting the sport altogether. He chose to continue, though, running pay-for drivers for five years until the mid-1970s saw him teamed-up with Canadian millionaire Walter Wolf, as a Team-Boss for the oil-tycoon's first foray into Formula 1. But that deal turned sour in early 1977, when the team informed Williams his services as Team-Boss were not required at the season opener in Argentina (which was promptly won by the Wolf), forcing Williams—along with designer-extraordinaire Patrick Head—to found 'Williams Grand Prix Engineering' with backing from Saudi Arabian airline Saudia. 1977 was merely a practice run for 1978, when Head designed the FW06 which gave Jones a fine car to put in some decent results. But it was the FW07 of 1979 that would give Williams its first taste of success that would culminate in the 1980 world championship. Incidentally, the 1979 Williams would carry the now infamous Bin Laden logo from Hockenheim until the end of the year and, rumour has it, Regazzoni had to forsake his champagne at Silverstone in favour of something non-alcoholic for his Saudi backers … all the same, the champagne would flow readily as Williams went from strength-to-strength throughout the 1980s and 1990s, winning 9 Constructors and 7 Drivers Championship to this day, soured only by Williams's paralysis due to a motor-accident in 1986. His passenger on that ill-fated trip from testing at Paul Ricard, Peter Windsor (who U.S. Formula 1 fans will recognize as the man-on-the-spot for the SPEED TV coverage), would walk away with nothing more than bruises.


saudia
GOODYEAR
ALBILAD
C.Regazzoni
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VARTA

OLYMPUS CAMERAS WOLF RACING

Technical Specs

Designer: Harvey Postlethwaite

1979 Chassis: WR8 (A, and B)

Engine: Ford Cosworth DFV 3.0 V8—485BHP @10,700 RPM
Weight: 665 Kg
Front Wheel Track: 1636mm
Rear Wheel Track: 1636mm
Wheel Base: 2775mm
Tyre: Goodyear
Wins: 0
Poles: 0
Podiums: 0
Points: 0

Walter Wolf's Engineering Debrief

Reading, December 9th, 1978

We've been in Formula 1 for a few seasons now, and every year has seen us feature toward the front. The WR8, however, has been problematic all through the winter. We honestly don't know why it is lacking in pace: As you can see, the car looks the business, it has what we believe to be an ideal ground-effects solution, we're running a factory-spec' DFV, and yet … we're just not on the pace. There's nothing particularly wrong with the chassis, but … we find ourselves constantly in mid-field. You will find the car has neutral, honest handling, and testing has shown it to be quite nimble at tighter circuits. We know you are here because you are seeking both a challenge, and a chassis that is a pleasure to drive, and you will find it with the WR8. But be prepared for some frustration: Even when you do what you regard as a beautiful lap, and have the car setup just right, you will find yourself constantly off the pace: Your surprise is shared by all of us here at Wolf. We hope you can get some points for us.

Drivers

20. James Hunt
August 29th 1947—June 6th 1993
Wins: 10

James 'the Shunt' Hunt (or something similar to those tifosi who watched him clinch the 1976 title after Lauda's accident) was risk personified throughout his career, which was something of a mystery to those who knew him, for rarely has Formula 1 seen a driver who would climb aboard his car with so much trepidation and nerves. Indeed, his early career was punctuated by an aggressive oversteering style, and an equally aggressive manner outside the cockpit (having decked a few fellow racers in his time): All the same, when he managed to avoid the shunt, Hunt was blisteringly quick and, with his 1970s rock-star good-looks and unabashed style, he was a natural for Formula 1, debuting for the equally brash Lord Hesketh's team in a specially prepared March in 1973. Hunt was in the points in only his second race, and ended the season with a barn-storming second place in the U.S. East GP. Indeed, Hunt and Lord Hesketh's Formula 1 debut season made the perfect vehicle for a burgeoning sport: Hesketh, with his yacht in Monte Carlo, and his personal helicopter, enjoyed an entourage of the rich and beautiful, and his team was seen as little more than a bunch of rich kids having some fun, while Hunt—with his long hair and always accompanied by a beautiful model—made the team, and Formula 1, into a sport that was featured in not only the back pages of the world's newspapers. 1975 saw Hunt clinch his first win—and along with it the front pages of Britain's tabloids for his off-the-track exploits. Sadly, Lord Hesketh ran out of money for 1976, the team having no sponsors (they ran a teddy-bear instead in 1975!), and Hunt found himself without a drive. As luck would have it, though, McLaren had just lost their number one driver, Fittipaldi, who'd gone off to join his brother's ill-advised (ad)venture, and Hunt was given the drive almost at the last minute. One of Hunt's first moves was to have his contract stipulate that he would not wear a suit—*ever*—for any reason, leaving a perplexed McLaren management enduring the sight of their number 1 driver attending sponsor-functions in his usual attire of an open shirt, old jeans, and barefeet. Despite that, McLaren had little to complain about as, by the end of the 1976 season, they—along with Hunt—were world champions, after Niki Lauda's shunt at the 'Ring had seen the Austrian's challenge end in a blazing inferno from which he was fortunate to escape (Lauda had, in fact, shared an apartment with Hunt earlier in their careers, and the two men were good friends). Hunt's lust for life was perhaps encapsulated by his motto—Sex, Breakfast of Champions—emblazoned on his overalls (both parts of the statement now being true) and, were he around in today's circus, his blood-test results would no doubt show-up traces of marijuana, along with copious quantities of alcohol, and nicotine. His lifestyle in Marbella was a parade of women, night-clubs, and drunken all-night parties, but still, he managed to remain a top-level driver throughout the mid 1970s at McLaren, for whom he raced until 1978. For 1979, he joined Wolf, but became

quickly disenchanted, and quit Formula 1 to become Murray Walker's side-kick in the commentary box. Patrese never had a peaceful weekend thereafter! Hunt's life would become settled as he grew older—his drinking and social life slowing with the birth of his two kids. Sadly, on the night he proposed to his long-time girlfriend, Helen, Hunt would die of a heart-attack aged 46. They don't make them like Hunt anymore …

20. Keke Rosberg
December 6th, 1948
Wins: 5
Swedisn-born Finn Keke Rosberg debuted in 1978 for three teams; Theodore, ATS, and Wolf. It proved to be a pointless season, as was 1979, when he was given Hunt's vacated seat at Wolf … in fact, until Williams came calling in 1982 (again, Rosberg was to inherit a seat vacated by a retiring world champion, this time in the guise of Alan Jones), it appeared that this wonderful talent would be yet another great driver who never found the car that warranted the talent (having spent the preceding two years at Fittipaldi where, albeit faster than Emerson, he had failed to score a single point in 1981). But with Ferrari's disastrous 1982 campaign, when they lost both their drivers, Keke found himself an unlikely world champion and, along with Hunt, Keke remains one of the lesser-paid drivers to claim the title. He remained with Williams until 1985, ending his career in 1986 at McLaren where he was pretty much obliterated by Alain Prost. He would admit to having retired too soon later on in his career, when he set up his own team to run in the German Touring Car Championship. His son is now driving for Williams …

Wolf

Walter Wolf, an Austrian-born Canadian who made his not-insignificant fortune in the oil business, began appearing in the Formula 1 paddock in 1975: By season end, he'd bought out a 60 per cent stake in Williams's floundering team (which was in debt to the tune of £140,000), and the assets of Hesketh's equally bankrupt team. With Frank Williams installed as Team-Boss, and Jackie Ickx driving, the Harvey Postlethwaite designed Hesketh 308C debuted for the 1976 season (albeit rebadged as the Wolf-Williams FW05). The car proved to be a disappointment, and come the end of the season, Wolf decided to shift Frank Williams from Team-Boss into a more administrative role, assigning Peter Warr (who would later be the man who brought Senna to Lotus) as Team-Boss, while retaining Postlethwaite to design the 1977 Wolf WR1. The car's debut was Argentina, the car's driver was Jody Scheckter, and Wolf made history by winning its first Grand Prix. Some said it was just luck, a win inherited by Hunt's misfortune, and that may have been, but the end of the season saw Scheckter as runner-up in the world championship, with Wolf fourth in the Constructors' Championship (this achieved despite running only one car, instead of the customary two). 1978, then, came along with great hopes for the team, but the WR5 proved not as competitive. Scheckter, ever-ambitious, saw which way the wind was blowing (Maranello), and went off to win the championship for Ferrari leaving Wolf with 1976 world champion James Hunt for the 1979 season. The WR7 was Postlethwaite's ground-effects car, and while it certainly looked the part, it never really did the job. Hunt became fed-up with risking his life for one or two points a race, and called it quits mid-way through the season, to be replaced by Keke Rosberg, but not even the speed-demon Rosberg, in his absolute prime, could wrestle anything out of the WR7, and Walter Wolf—accustomed to success in every facet of his life—folded up the team for good at the end of the season, selling out to Fittipaldi's ailing concern.


OLYMPUS
CAMERAS
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Walter Wolf Racing
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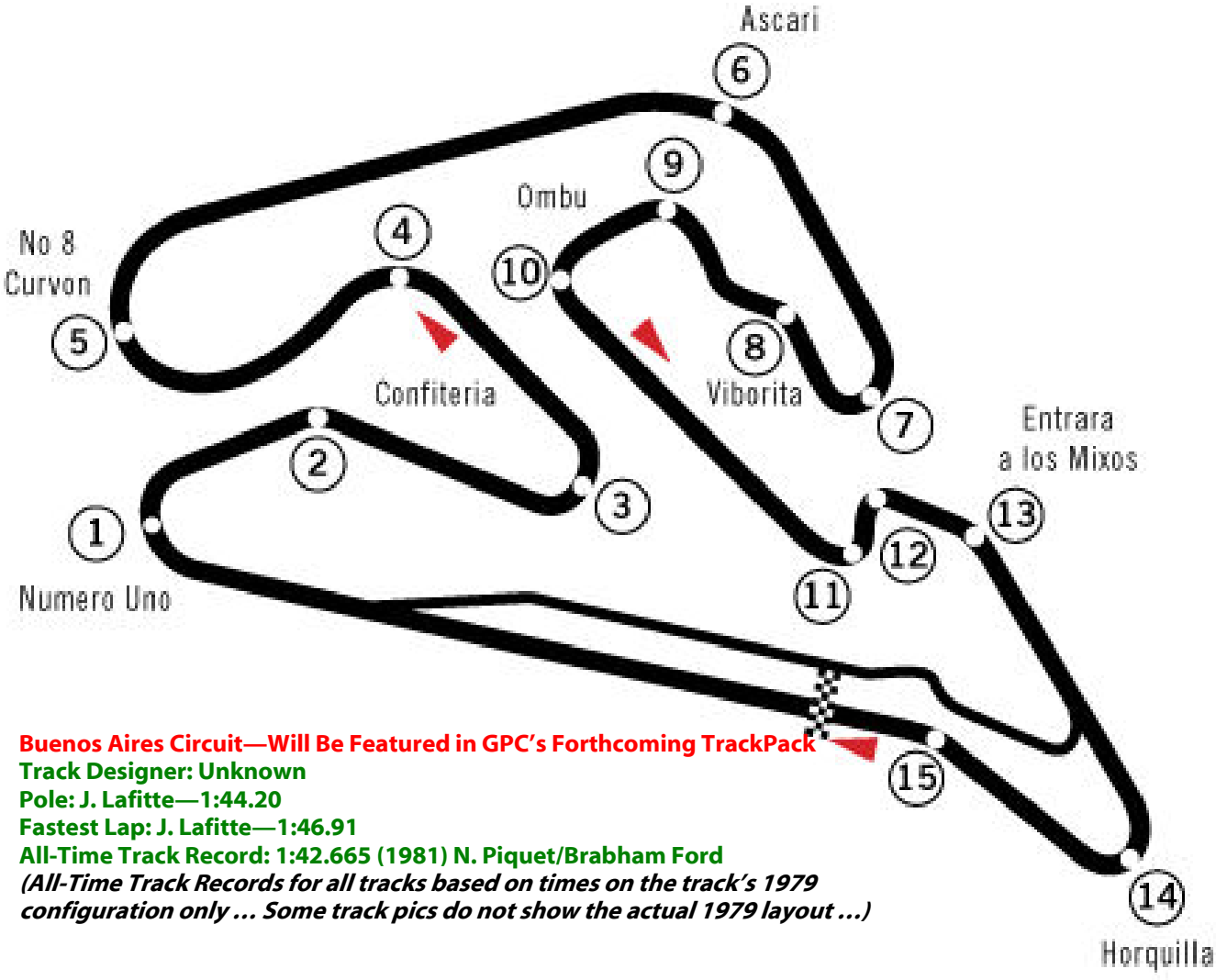
SEASON REVIEW—THE TRACKS OF 1979

Argentinian Grand Prix

January 21st, 1979
Buenos Aires
53 Laps
196.58 Miles
Hot, dry
Pole: J. Lafitte—1:44.20
Fastest Lap: J. Lafitte—1:46.91
Top 6: Qualifying
1. J. Lafitte (Ligier JS11)
2. P. Depailler (Ligier JS11)
3. C. Reutemann (Lotus 79)
4. J-P. Jarrier (Tyrrell 009)
5. J. Scheckter (Ferrari 312T3)
6. J. Watson (McLaren M28)
Top 6: Race
1. J. Lafitte (Ligier JS11)
2. C. Reutemann (Lotus 79)
3. J. Watson (McLaren M28)
4. P. Depailler (Ligier JS11)
5. M. Andretti (Lotus 79)
6. E. Fittipaldi (Fittipaldi F5A)

Buenos Aires Circuit

With the success of Juan Manuel Fangio in Europe (five-times a world champion), Argentina opened the doors to its own racing circuit named the Autódromo Municipal de al Cuidad de Buenos Aires in 1952. It boasted over a dozen configurations (many of which have been used through the years), and was used extensively during the 1950s. But with the decline of Fangio, racing left the consciousness of the Argentines for over a decade between 1960 and 1970. The 1970s, though, brought renewed interest in the sport when Carlos Reutemann became a contender for the world championship: In 1972, on his debut in Formula 1 at Buenos Aires, Reutemann stuck himself on pole position, and the Argentine Grand Prix remained the first port of call for the circus until 1982, when the event was cancelled due to the war in the Falklands. It returned in the late 1990s, but has not managed to secure itself a regular place on the Formula 1 calendar since.



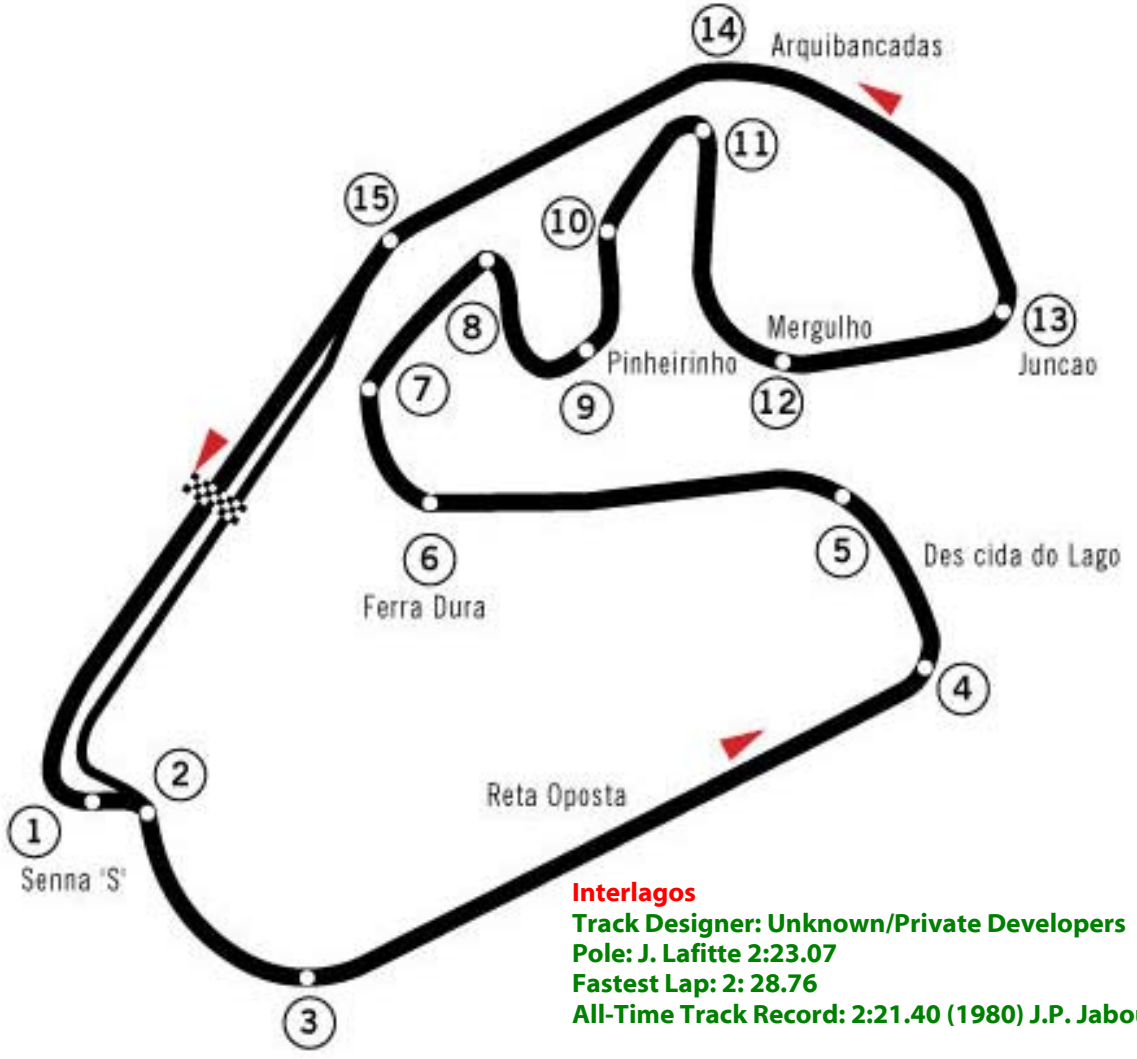
Buenos Aires Circuit—Will Be Featured in GPC's Forthcoming TrackPack
Track Designer: Unknown
Pole: J. Lafitte—1:44.20
Fastest Lap: J. Lafitte—1:46.91
All-Time Track Record: 1:42.665 (1981) N. Piquet/Brabham Ford
(All-Time Track Records for all tracks based on times on the track's 1979 configuration only … Some track pics do not show the actual 1979 layout …)

Brazilian Grand Prix

February 4th 1979
São Paulo
40 Laps
197.84 miles
Very hot, dry
Pole: J. Lafitte 2:23.07
Fastest Lap: 2: 28.76
Top 6: Qualifying
1. J. Lafitte (Ligier JS11)
2. P. Depailler (Ligier JS11)
3. C. Reutemann (Lotus 79)
4. J-P. Jarrier (Tyrrell 009)
5. J. Scheckter (Ferrari 312T3)
6. J. Watson (McLaren M28)
Top 6: Race
1. J. Lafitte (Ligier JS11)
2. P. Depailler (Ligier JS11)
3. C. Reutemann (Lotus 79)
4. D. Pironi (Tyrrell 009)
5. G. Villeneuve (Ferrari 312T3)
6. J. Scheckter (Ferrari 312T3)

Interlagos

Interlagos (literally, 'around the lakes') was built in 1954 in the suburbs of São Paulo, but it wasn't until the glory years of Fittipaldi that it began attracting Formula 1 races, starting with a non-championship race in 1972, and then a bona-fide round in 1973 in which Fittipaldi won, and then did the double the year after. The Formula 1 circus returned in 1979, after an hiatus in Rio. Interlagos, in those days, was a long and exceptionally fast track, both intensely bumpy and physically demanding, making it one of the most difficult races on the calendar which was not aided by its date—right in the middle of Brasil's summer. It would be chopped up, though, for the 1990 race, leaving its almost 8 kilometre configuration (used in 1979) as nothing more than lore.



Interlagos
Track Designer: Unknown/Private Developers
Pole: J. Lafitte 2:23.07
Fastest Lap: 2: 28.76
All-Time Track Record: 2:21.40 (1980) J.P. Jabouille/Renault RE20 1.5 V6T

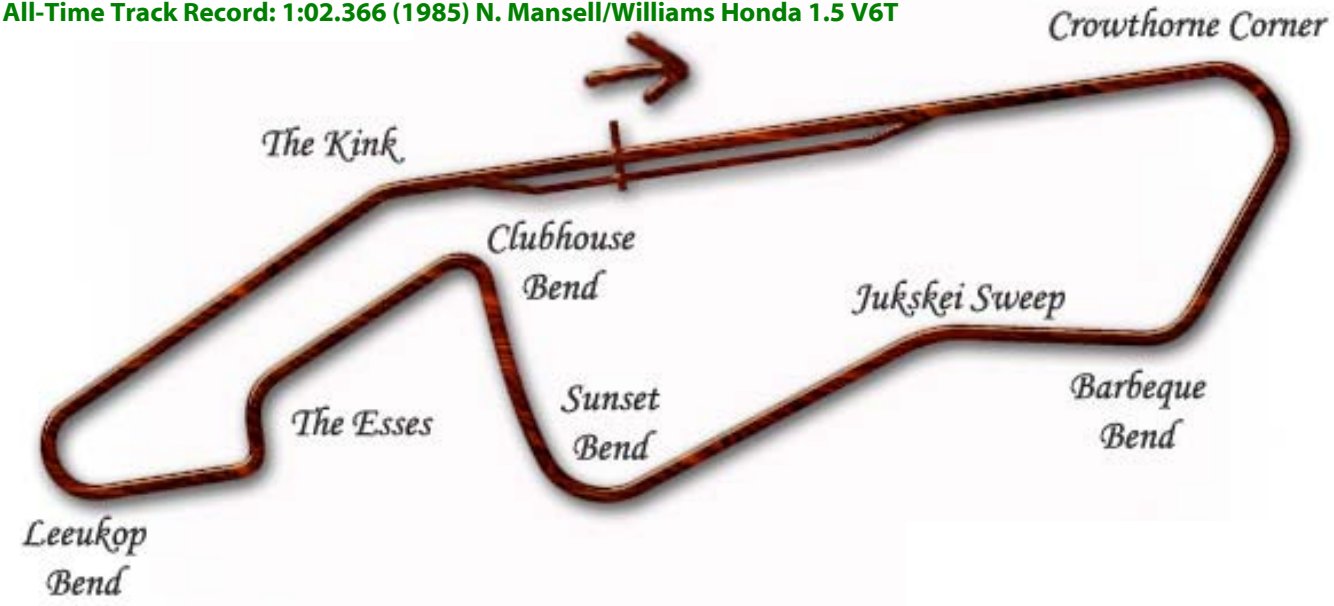
South African Grand Prix

March 3rd 1979
Johannesburg
78 Laps
198.90 miles
Rain, sunny, warm
Pole: J-P Jabouille 1:11.80
Fastest Lap: G. Villeneuve 1:14.412
Top 6: Qualifying
1. J-P Jabouille (Renault RS01)
2. J. Scheckter (Ferrari 312T4)
3. G. Villeneuve (Ferrari 312T4)
4. N. Lauda (Brabham BT48)
5. P. Depailler (Ligier JS11)
6. J. Lafitte (Ligier JS11)
Top 6: Race
1. G. Villeneuve (Ferrari 312T4)
2. J. Scheckter (Ferrari T312T4)
3. J-P Jarier (Tyrrell 009)
4. M. Andretti (Lotus 79)
5. C. Reutemann (Lotus 79)
6. N. Lauda (Brabham BT48)

Kyalami

South Africa staged its first Grand Prix in the late 1930s, but it was not until 1962 that it staged its first post-war Formula 1 race in East London. The Formula 1 circus, however, would come to a brand new circuit for the 1967 round: Kyalami, on the outskirts of Johannesburg. Kyalami had been designed to encourage close racing—a very fast and challenging final turn proceeded by a long straight, and a tight Turn One (called Crowthorne) setting the scene—and this it duly did many times, with 1978 a particular highlight that saw Patrese's implausible drive for Arrows, and the epic battle between Peterson and Depailler. But Kyalami also a grim history, particularly surrounding the circumstances of Tom Pryce's death in what remains one of the most gruesome accidents to ever blight the modern sport of Formula 1. Politics meant that the last race staged at Kyalami, in its classic configuration, was in 1985. The Formula 1 circus returned in 1992, but by then the track had been redesigned to modern standards, and pretty much emasculated. Since that last Grand Prix, practically every year brings rumours of a return to an African Grand Prix, but Kyalami and South Africa have lost their place in the pecking order to more lucrative venues in the Far East, which is a pity, because Formula 1 enjoys a loyal following (with over 100,000 fans attending a Williams test-session there some years back).

Kyalami
Track Designer: Edgar Hoal
Pole: G. Villeneuve 1:18.825
Fastest Lap: G. Villeneuve 1:21.200
All-Time Track Record: 1:02.366 (1985) N. Mansell/Williams Honda 1.5 V6T

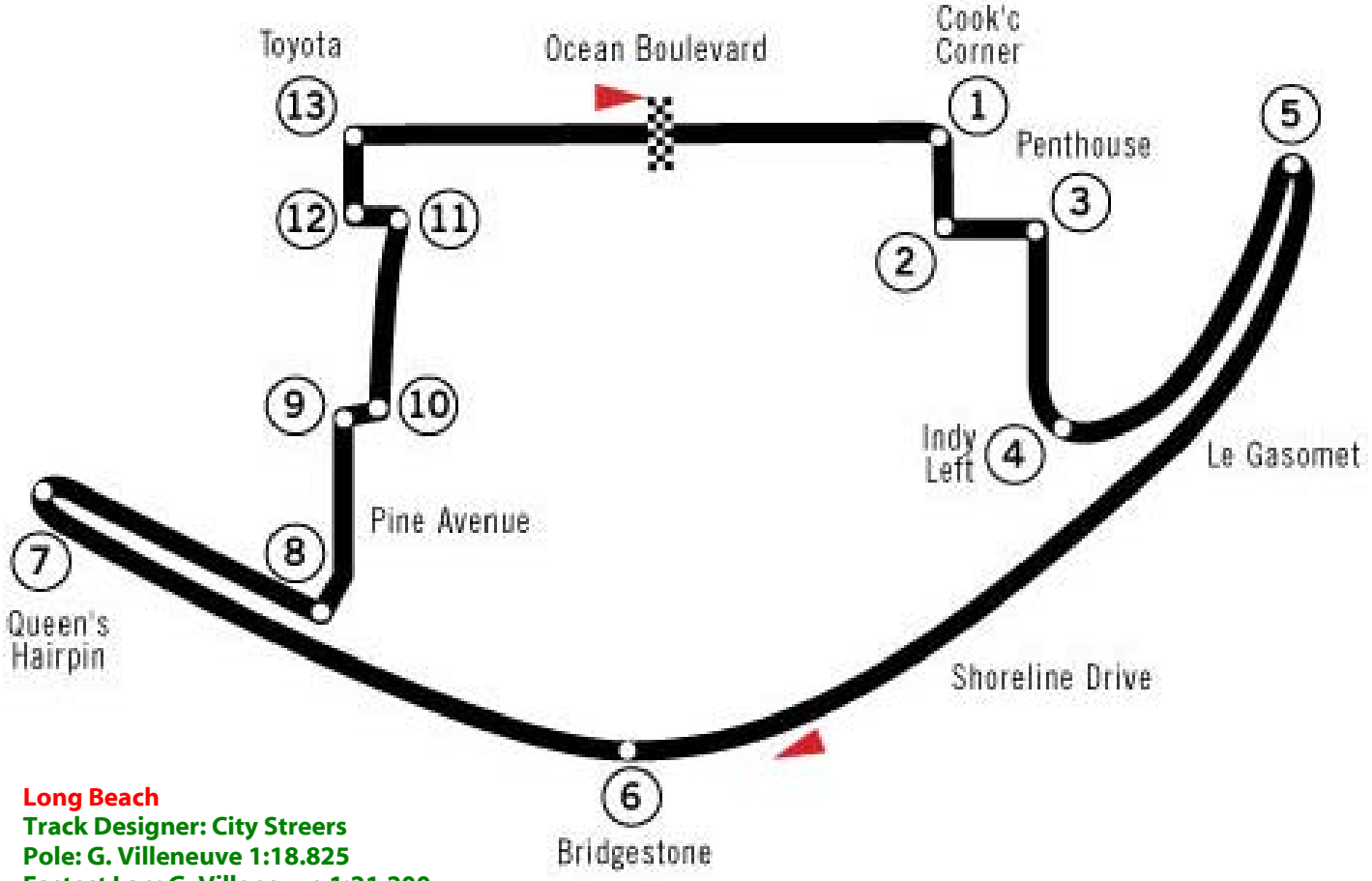


U.S. West Grand Prix

April 8th 1979
Long Beach
80 Laps
162.61 miles
Warm, dry
Pole: G. Villeneuve 1:18.825
Fastest Lap: G. Villeneuve 1:21.200
Top 6: Qualifying
1. G. Villeneuve (Ferrari 312T4)
2. C. Reutemann (Lotus 79)
3. J. Scheckter (Ferrari 312T4)
4. P. Depailler (Ligier JS11)
5. J. Lafitte (Ligier JS11)
6. M. Andretti (Lotus 79)
Top 6: Race
1. G. Villeneuve (Ferrari 312T4)
2. J. Scheckter (Ferrari 312T4)
3. A. Jones (Williams FW06)
4. M. Andretti (Lotus 79)
5. P. Depailler (Ligier JS11)
6. J-P Jarier (Tyrrell 009)

Long Beach

In the 1970s, the U.S. enjoyed two rounds of the Formula 1 season—the U.S. East, and the US West GPs, with the East scheduled for the autumn at its traditional venue of Watkins Glen, and the West in the early spring. In 1976, British promoter Chris Pook brought the Formula 1 circus to sunny California, to race on the streets of Long Beach, the inaugural race being won by Clay Regazzoni (who would be permanently paralysed from an accident on those very streets in 1980). The race would remain a fixture on the schedule until 1983 (Watson's epic 22nd to 1st race) when, with Formula 1 riding a crest of commercial interest, the entry fee became too much, and Pook abandoned Formula 1 to replace it with Indy Cars on the same date. The track, albeit slightly altered from its 1979 configuration, remains a classic event, and is spoken of in the same breath as Monaco and Macau.



Long Beach
Track Designer: City Streers
Pole: G. Villeneuve 1:18.825
Fastest Lap: G. Villeneuve 1:21.200
All-Time Track Record: 1:17.694 (1980) N. Piquet/Brabham Ford BT49 Cosworth DFV V8

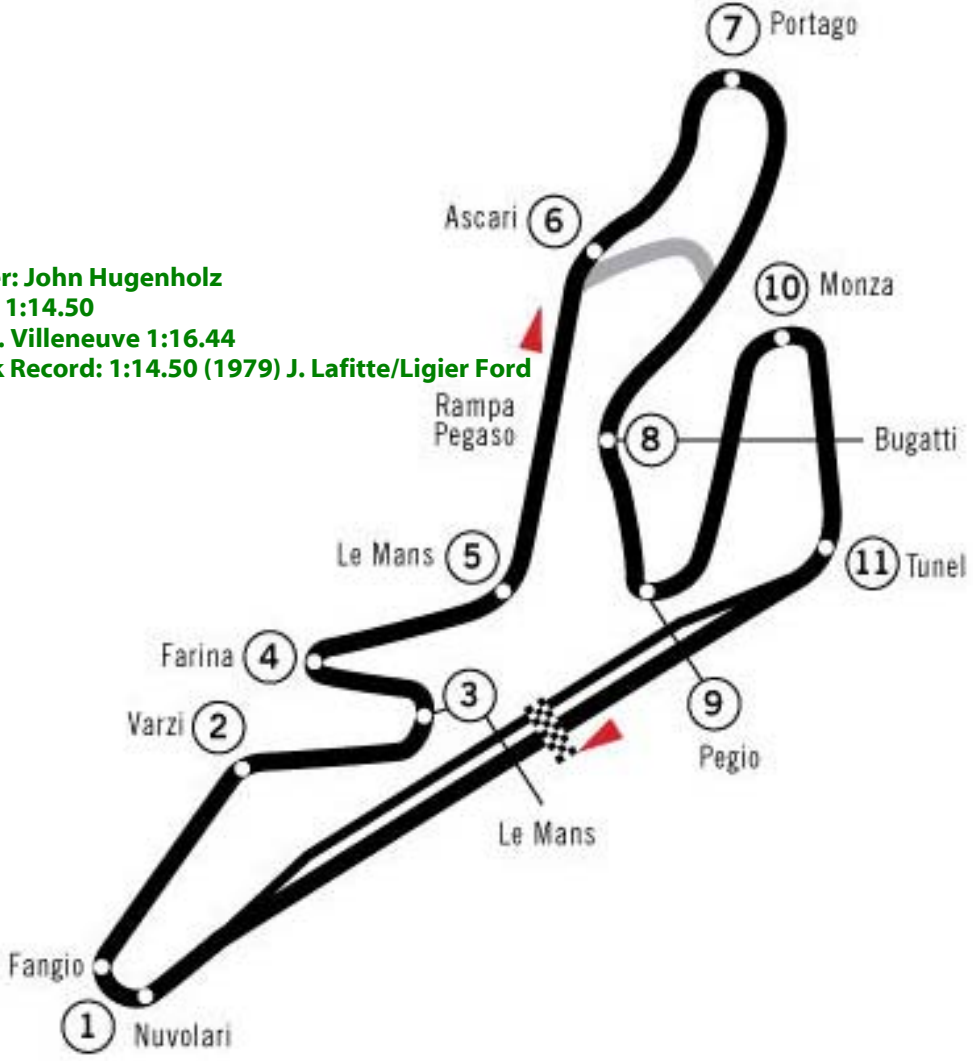
Spanish Grand Prix

April 29th 1979
Jarama
75 Laps
158.63 miles
Warm, dry
Pole: J. Lafitte 1:14.50
Fastest Lap: G. Villeneuve 1:16.44
Top 6: Qualifying
1. J. Lafitte (Ligier JS11)
2. P. Depailler (Ligier JS11)
3. G. Villeneuve (Ferrari 312T4)
4. M. Andretti (Lotus 80)
5. J. Scheckter (Ferrari 312T4)
6. N. Lauda (Brabham BT48)
Top 6: Race
1. P. Depailler (Ligier JS11)
2. C. Reutemann (Lotus 79)
3. M. Andretti (Lotus 80)
4. J. Scheckter (Ferrari 312T4)
5. J-P. Jarier (Tyrrell 009)
6. D. Pironi (Tyrrell 009)

Jarama

Jarama, built on the outskirts of Madrid, is yet another creation by the man many feel is the greatest race track designer of all time, John Hugenholtz (Zandvoort and Suzuka being his masterpieces). It was a tight track, but, like Kyalami, had a difficult final corner, followed by a massive straight that fed into a finicky Turn 1. Its tight confines, though, made it very much like a modern-day Hungaroring, and overtaking was difficult. Jarama would host Formula 1 races throughout the 1970s (with Barcelona getting the nod twice in that time) including its final race, and probably its best—the now epic 1981 race in which Villeneuve, in an outclassed Ferrari, grimly held on to first place followed by Lafitte, Watson, Reutemann and De Angelis—all finishing less than a second behind the Canadian who had spent 70 laps holding them back with nothing more than sheer guts and determination. Jarama continues to feature international events, but not Formula 1 that has now found its permanent home in Barcelona.

Jarama
Track Designer: John Hugenholz
Pole: J. Lafitte 1:14.50
Fastest Lap: G. Villeneuve 1:16.44
All-Time Track Record: 1:14.50 (1979) J. Lafitte/Ligier Ford

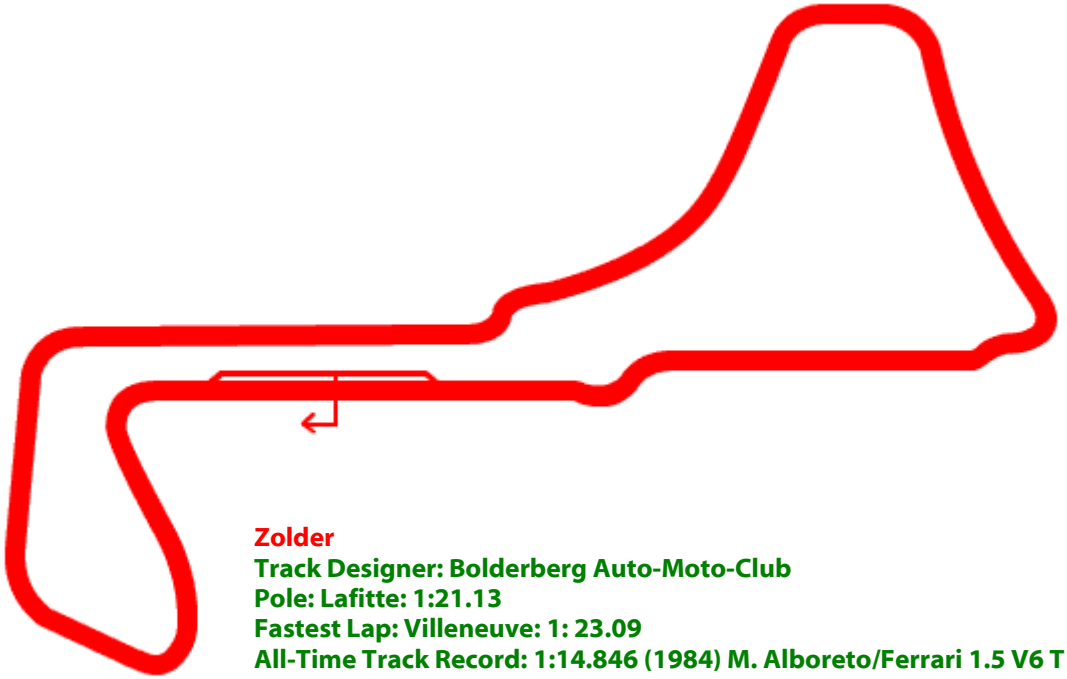


Belgian Grand Prix

May 13th 1979
Zolder
70 Laps
185.36 miles
Hot, dry
Pole: Lafitte: 1:21.13
Fastest Lap: Villeneuve: 1: 23.09
Top 6: Qualifying
1. J. Lafitte (Ligier JS11)
2. P. Depailler (Ligier JS11)
3. N. Piquet (Brabham BT48)
4. A. Jones (Williams FW07)
5. M. Andretti (Lotus 79)
6. G. Villeneuve (Ferrari 312T4)
Race: Top 6:
1. J. Scheckter (Ferrari 312T4)
2. J. Lafitte (Ligier JS11)
3. D. Pironi (Tyrrell 009)
4. C. Reutemann (Lotus 79)
5. R. Patrese (Arrows A1B)
6. J. Watson (McLaren M28)

Zolder

Introduced to the Formula 1 calendar in 1973, Zolder played host to the Belgium Grand Prix until 1982 (with the exception of 1974), meaning that Spa Francorchamps—probably the greatest track on the planet—missed out on staging the greatest era of Formula 1—the 1970s. Only the imagination can witness Gilles mounting Eau Rouge in his 312T3 … and Gilles, indeed, brought the end of Zolder as a Grand Prix venue when he died here in 1982. The track is not remembered for anything else, really, except perhaps Gilles's1979 drive when, having had an early spin, he pitted for repairs, re-joined, and then fought his way back to third, only to run out of fuel with a few laps remaining. Zolder continues to host major motor-races to this day—but, like Jarama, its Formula 1 heritage is two decades removed and not likely to return.



Zolder
Track Designer: Bolderberg Auto-Moto-Club
Pole: Lafitte: 1:21.13
Fastest Lap: Villeneuve: 1: 23.09
All-Time Track Record: 1:14.846 (1984) M. Alboreto/Ferrari 1.5 V6 T

Monaco Grand Prix

May 27th 1979
Monte Carlo
76 Laps
156.41 Miles
Warm, dry
Pole: J. Scheckter 1:26.45
Fastest Lap: P. Depailler 1: 28.82
Top 6: Qualifying
1. J. Scheckter (Ferrari 312T4)
2. G. Villeneuve (Ferrari 312T4)
3. P. Depailler (Ligier JS11)
4. N. Lauda (Brabham BT48)
5. J. Lafitte (Ligier JS11)
6. J-P. Jarier (Tyrrell 009)
Top 6: Race
1. J. Scheckter (Ferrari 312T4)
2. C. Regazzoni (Williams FW07)
3. C. Reutemann (Lotus 79)
4. J. Watson (McLaren M28)
5. P. Depailler (Ligier JS11)
6. J. Mass (Arrows A1B)

Monte Carlo

Hosting its first Grand Prix in 1929, Monaco is to Formula 1 what the White House is to Washington D.C. Only the best win here, and in 1979, only the best managed to finish—four drivers seeing the chequered flag after a race of typical attrition (if the bumps don't smash up the transmission, the 50-odd gear-shifts a lap will—and if that doesn't, then the walls certainly will). The track has remained essentially the same since its first Grand Prix (won by William Grover-Williams in a Bugatti), with the chicane being the section that has been remodeled on numerous occasions. In fact, the track length has altered only 5 times since 1929: until 1950, it was 3.180 Kms: From 1955-1972 it was 3.145 Kms: From 1976-1985 it was 3.278 Kms: From 1986-1996 it was 3.312 Kms: And then it was changed yet again in 1997 to 3.366 Kms. Of course, in the early years, they used to race 100 laps on the track, and there were no barriers ... and yes, many have made the plunge into the bay *á-la* Grand Prix!

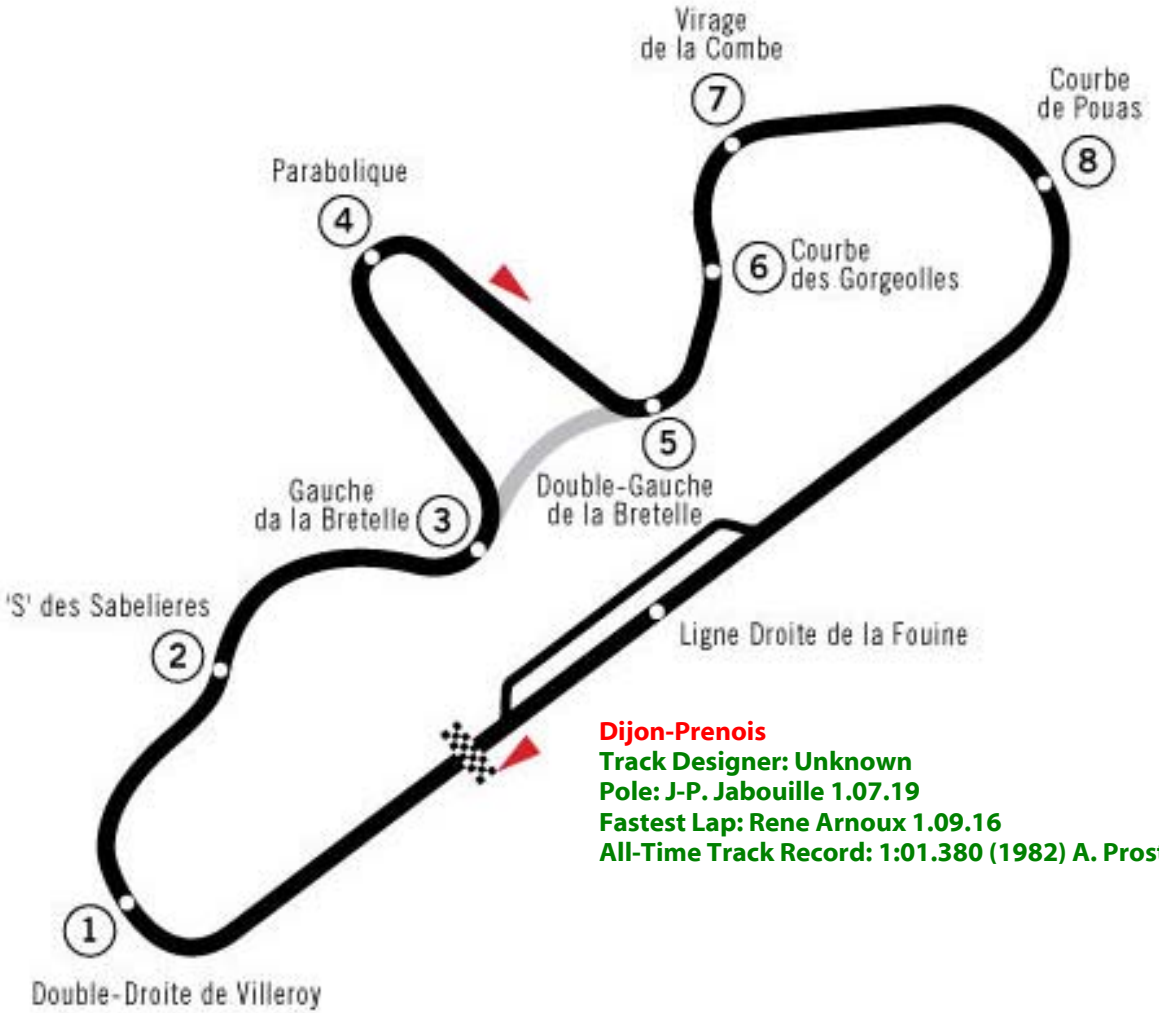
Monte Carlo
Track Designer: City Streets
Pole: J. Scheckter 1:26.45
Fastest Lap: P. Depailler 1: 28.82
All-Time Track Record: 1:20.450 (1985) A. Senna/Lotus Renault Lotus 97T

French Grand Prix

July 1st 1979
Dijon-Prenois
80 Laps
188.88 Miles
Warm, dry
Pole: J-P. Jabouille 1.07.19
Fastest Lap: Rene Arnoux 1.09.16
Top 6: Qualifying
1. J-P. Jabouille (Renault RS10)
2. R. Arnoux (Renault RS10)
3. G. Villeneuve (Ferrari 312T4)
4. N. Piquet (Brabham BT48)
5. J. Scheckter (Ferrari 312T4)
6. N. Lauda (Brabham BT48)
Top 6: Race
1. J-P. Jabouille (Renault RS10)
2. G. Villeneuve (Ferrari 312T4)
3. R. Arnoux (Renault RS10)
4. A. Jones (Williams FW07)
5. J-P. Jarier (Tyrrell 009)
6. Clay Regazzoni (William FW07)

Dijon-Prenois

With the French seemingly uncertain as to where they should hold their annual Grand Prix, the calendar shifted from Clermont-Ferrand to Paul Ricard, and then to Dijon in the 1970s. A very quick layout, Dijon, in its original configuration, was less than two miles long, meaning the Formula 1 cars that arrived there for its inaugural Grand Prix lapped the track in less that one minute. Cue much groaning from the front-runners about back-markers! The circus returned for 1977, but this time the track had been lengthened, with the additions of a few more turns. Dijon skipped 1978, but returned in 1979 to stage the greatest fight in Formula 1 history—Gilles vs. Arnoux. While up front, Jabouille triumphed with the Renault, it was the battle for second that captured the imagination of the world. Everyone has seen it by now, and words don't do it justice—if you've just returned from Mars, though, take a look. It would also be the home of the Swiss Grand Prix in later years, and remains part of the 'Swiss' club racing scene since racing is banned in Switzerland.



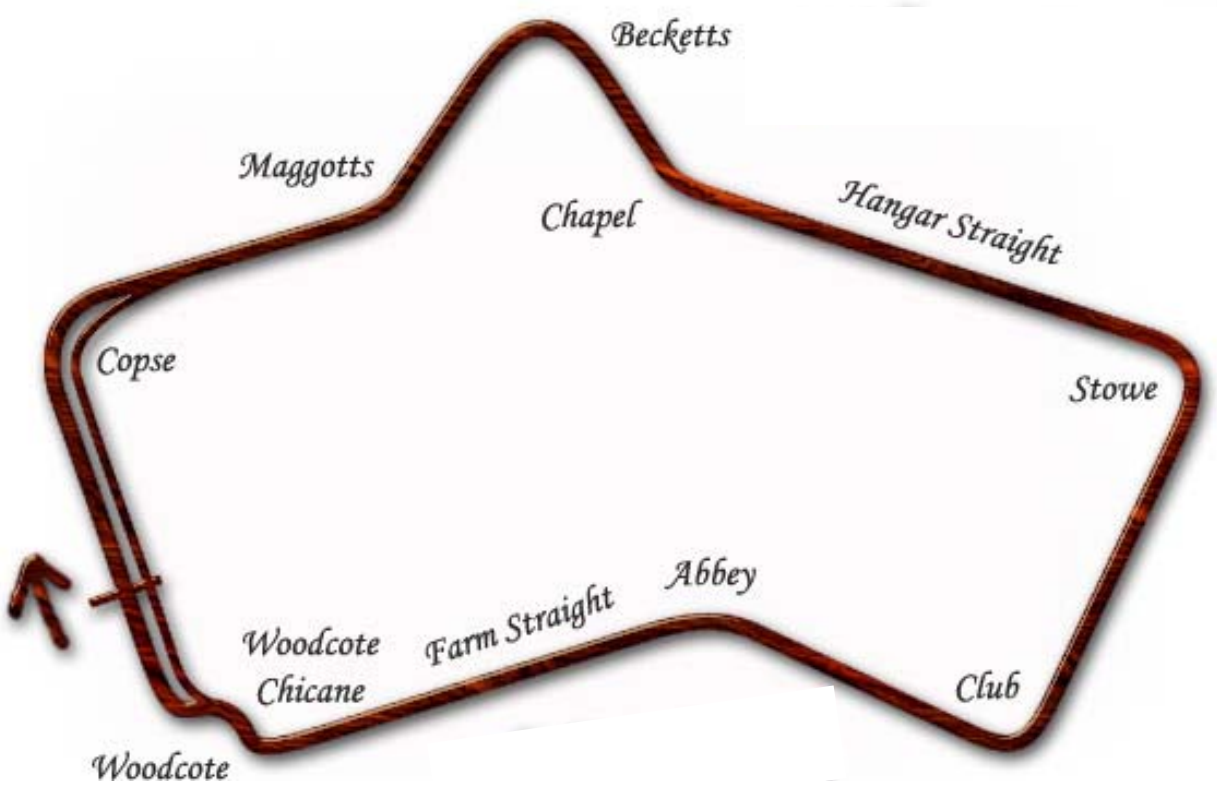
Dijon-Prenois
Track Designer: Unknown
Pole: J-P. Jabouille 1.07.19
Fastest Lap: Rene Arnoux 1.09.16
All-Time Track Record: 1:01.380 (1982) A. Prost/Renault RE30B

British Grand Prix

July14th 1979
Silverstone
68 Laps
199.38 miles
Warm, dry
Pole: Jones 1:11.88
Fastest Lap: Regazzoni 1:14.40
Top 6: Qualifying
1. A. Jones (Williams FW07)
2. J-P. Jabouille (Renault RS10)
3. N. Piquet (BRabham BT48)
4. Clay Regazzoni (Williams FW07)
5. R. Arnoux (Renault RS10)
6. N. Lauda (Brabham BT48)
Top 6: Race
1. Clay Regazzoni (Williams FW07)
2. R. Arnoux (Renault RS10)
3. J-P. Jarier (Tyrrell 009)
4. J. Watson (McLaren M29)
5. J. Scheckter (Ferrari 312T4)
6. J. Ickx (Ligier JS11)

Silverstone

The former airfield was used as a race track back in 1948, and was on the calendar for the first Formula 1 Championship season in 1950. It remained practically unchanged until 1975 when, with the rising speeds came the inevitable dangers (typified by Scheckter's shunt in 1973 at the butt-clenching sweep at Woodcote), the track was slowed by slipping in a chicane at Woodcote, the fast right hander leading onto the pit straight. But speeds kept rising, and the track had to be re-modified again, first in 1991 before, in 1994, it was chopped up into its current guise (more or less). Still, it retains much of its former glory, and remains a fast, flat track that always favours the well-balanced, aero'-heavy car more than any other track on the schedule.



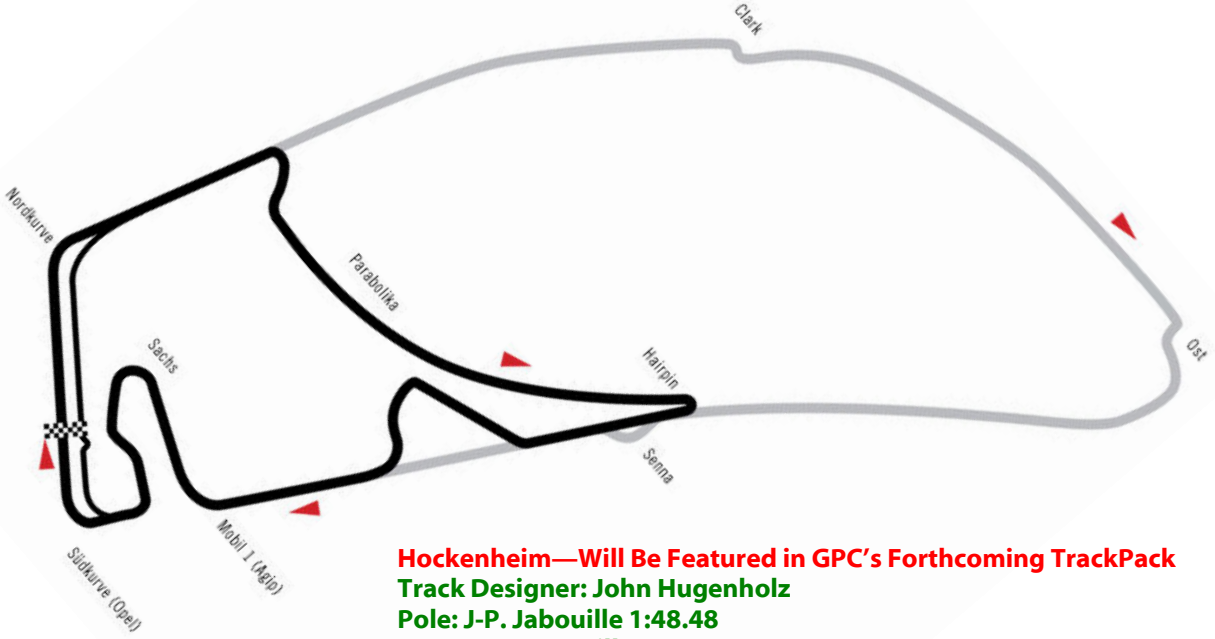
Silverstone
Track Designer: Former Airfield
Pole: Jones 1:11.88
Fastest Lap: Regazzoni 1:14.40
All-Time Track Record: 1:05.591 (1985) K. Rosberg/Williams Honda FW10

German Grand Prix

July 29th
Hockenheim
45 Laps
189.86 Mile
Very hot, dry
Pole: J-P. Jabouille 1:48.48
Fastest Lap: G. Villeneuve 1:51.89
Top 6: Qualifying
1. J-P. Jabouille (Renault RS10)
2. A. Jones (Williams FW07)
3. J. Lafitte (Ligier JS11)
4. N. Piquet (Brabham BT48)
5. J. Scheckter (Ferrari 312T4)
6. Clay Regazzoni (Williams FW07)
Top 6: Race
1. A. Jones (Williams FW07)
2. Clay Regazzoni (Williams FW07)
3. J. Lafitte (Ligier JS11)
4. J. Scheckter (Ferrari 312T4)
5. J. Watson (McLaren M29)
6. J. Mass (Arrows A2)

Hockenheim

Hockenheim was first used as a Formula 1 track in 1970, taking advantage of happenings at what everyone regards as the true home of motor-racing in Germany, the Nürburgring: The 'Ring was being modified in 1970. The circus would not return to Hockenheim, though, until 1977 when, again, it would benefit from the 'Ring's misfortune as, this time, it had become a subject of a 'boycott' by the drivers who refused to drive on the track that had almost claimed the life of Niki Lauda the year before. Hockenheim, of course, already carried its own ghosts, having taken the life of legendary Jim Clark in a Formula 2 race back in 1968. Even so, it was deemed far safer than the daunting 'Ring: Indeed, after Clark's death, the track had been modified for safety, and the chicanes for 1977 would take their toll on the cars. Hockenheim would claim the life of Depailler in 1980 while testing for Alfa Romeo at the Ostkurve, and in 1982, Didier Pironi would end his career here in a sickening smash in the rain. It was heavily modified in the new century for the new Formula 1, and gone are the endless straights through the countryside, leaving nothing more than memories, and a track that is as modern as it is soulless.



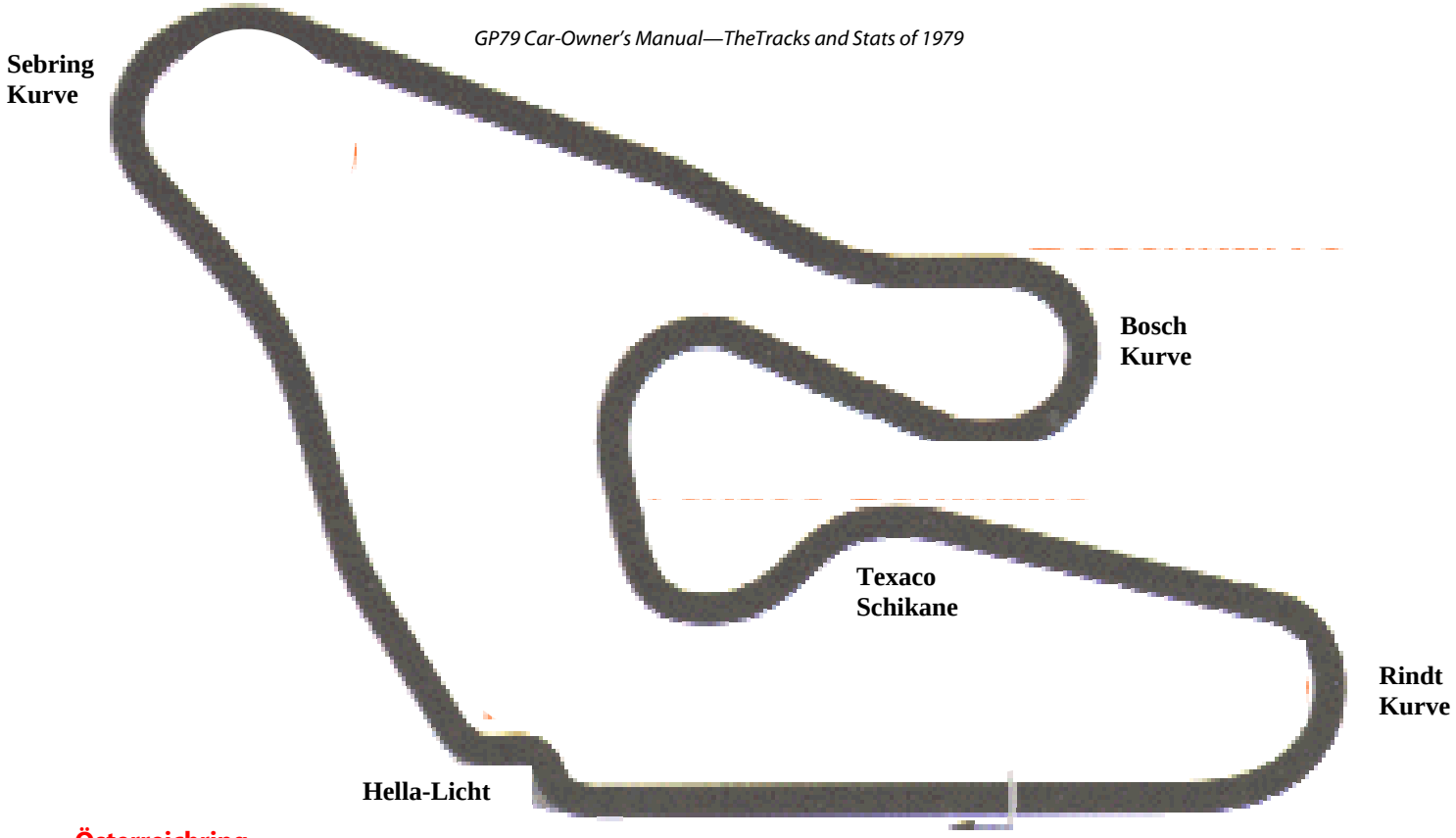
Hockenheim—Will Be Featured in GPC's Forthcoming TrackPack
Track Designer: John Hugenholz
Pole: J-P. Jabouille 1:48.48
Fastest Lap: G. Villeneuve 1:51.89
All-Time Track Record: 1:45.85 (1980) A. Jones/Williams Ford

Austrian Grand Prix

August 12th
Zeltweg
54 Laps
199.37 Miles
Warm, dry
Pole: R. Arnoux 1:34.07
Fastest Lap: R. Arnoux 1:35.77
Top 6: Qualifying
1. R. Arnoux (Renault RS10)
2. A. Jones (Williams FW07)
3. J-P. Jabouille (Renault RS10)
4. N. Lauda (Brabham BT48)
5. G. Villeneuve (Ferrari 312T4)
6. Clay Regazzoni (Williams FW07)
Top 6: Race
1. A. Jones (Williams FW07)
2. G. Villeneuve (Ferrari 312T4)
3. J. Lafitte (Ligier JS11)
4. J. Scheckter (Ferrari 312T4)
5. Clay Regazzoni (Williams FW07)
6. R. Arnoux (Renault RS10)

Österreichring

1970 saw the Formula 1 circus arrive for the second time in Austria (Zeltweg had hosted the first race, in 1964), for the newly opened Österreichring, and it was met with universal approval for both its location (in the Styrian area, and surrounded by snow-capped mountains), and design—a wonderfully fast track made up solely of massively quick sweepers, epitomized by two turns: The first turn, the Hella Licht Kurve, which lay just over a rise, and required nothing more than a feather on the throttle with a blind entry, and the Bosch Kurve, a right hander that just went on and on and on and … however, in 1975, a chicane was built around the Hella Licht curve after it caused the death of American Mark Donahue. Indeed, as the years wore on, the rapid turns made this event exceedingly dangerous, and it was dropped in 1987 after a three-time start-line pile-up. But the track, the location, and the surrounding beauty proved too much of a draw, and the track has returned, albeit in a very chopped-up way—it is now called the A1-Ring, and hosts the Austrian Grand Prix every year: But where the mighty-sweeps once were, there are now the usual gimmicky turns that define modern Formula 1.



Österreichring
Track Designer: Uknown
Pole: R. Arnoux 1:34.07
Fastest Lap: R. Arnoux 1:35.77
All-Time Track Record: 1:23.357 (1987) N. Piquet/Williams Honda

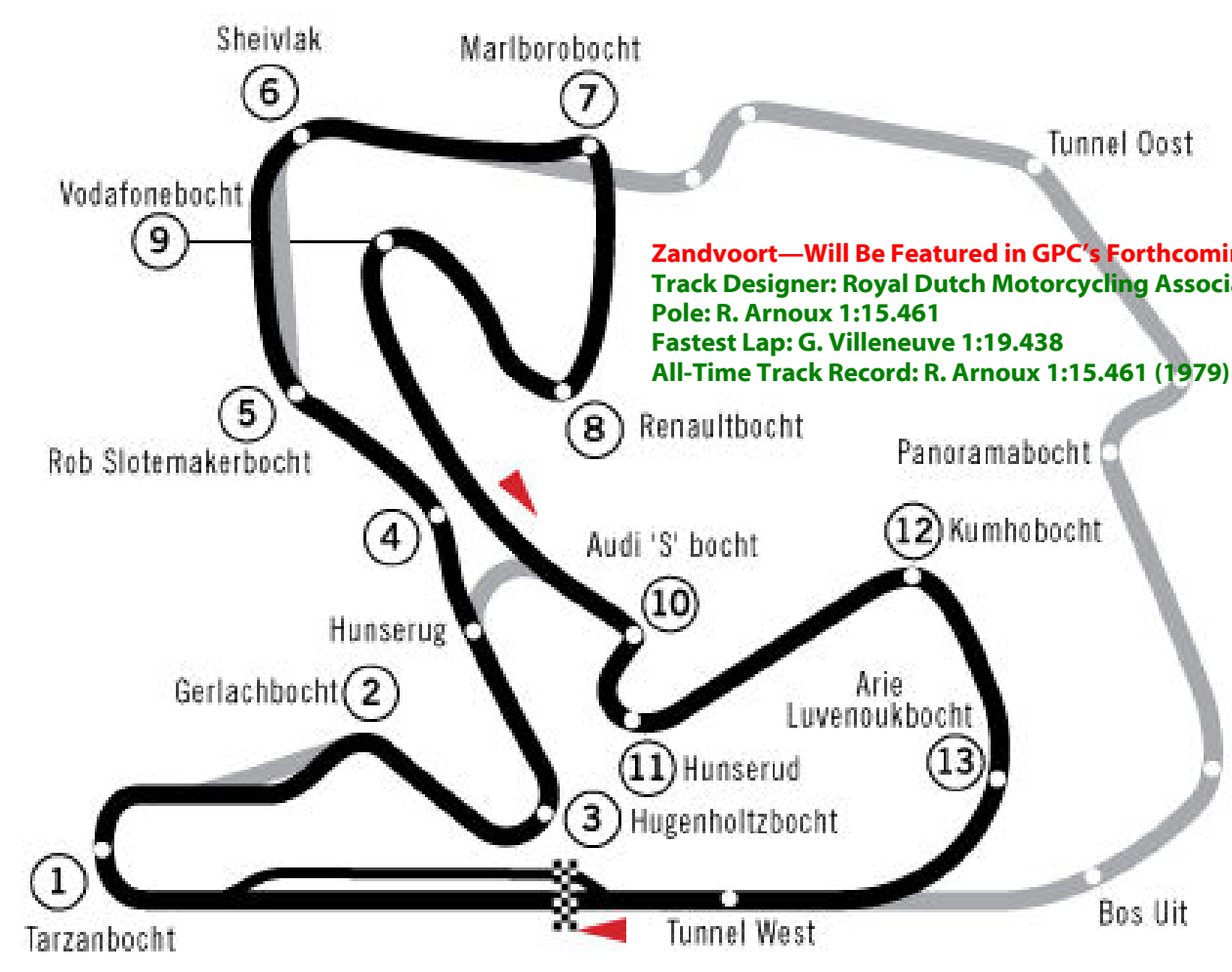
AUTOSIMSPORT Special—February 2007

Dutch Grand Prix

August 26th, 1979
Zandvoort
75 Laps
196.95 Miles
Cool, dry
Pole: R. Arnoux 1:15.461
Fastest Lap: G. Villeneuve 1:19.438
Top 6: Qualifying
1. R. Arnoux (Renault RS10)
2. A. Jones (Williams FW07)
3. Clay Regazzoni (Williams FW07)
4. J-P. Jabouille (Renault RS10)
5. J. Scheckter (Ferrari 312T4)
6. G. Villeneuve (Ferrari 312T4)
Top: 6 Race
1. A. Jones (Williams FW07)
2. J. Scheckter (Ferrari 312T4)
3. J. Lafitte (Ligier JS11)
4. N. Piquet (Brabham BT48)
5. J. Ickx (Ligier JS11)
6. J. Mass (Arrows A2)

Zandvoort

Of all the magnificent tracks that have come and gone through the years in Formula 1, the loss of this Dutch classic remains one of the most lamented. Staging its first championship race in 1952, Zandvoort featured all the hallmarks of a Hugenholtz track (even though he cannot be credited with the track's design itself): fast sweepers, undulating terrain, a difficult final turn, and a sharp Turn One (Tarzan) that was the scene of some of the finest overtaking in the history of Formula 1, including Gilles's pass—on the outside—of Alan Jones in 1979. Set about 100 metres in-land from the grim North Sea, the track, built beside a sea-side resort, was a popular destination until 1970, when Frank Williams's privately entered De Tomaso put a fiery end to his friend and driver Piers Courage. Worse, though, would befall Roger Williamson, in 1973, as he died in an inferno that really begged the question—what were the marshals thinking? Despite this, the track continued to host rounds of Formula 1 until 1985, when commercial opportunities in other nations saw an end to the Dutch round of the calendar. It has never returned to a country that has yet to develop a true world-class driver, but remains an active club-circuit, albeit one that has been chopped and changed considerably.



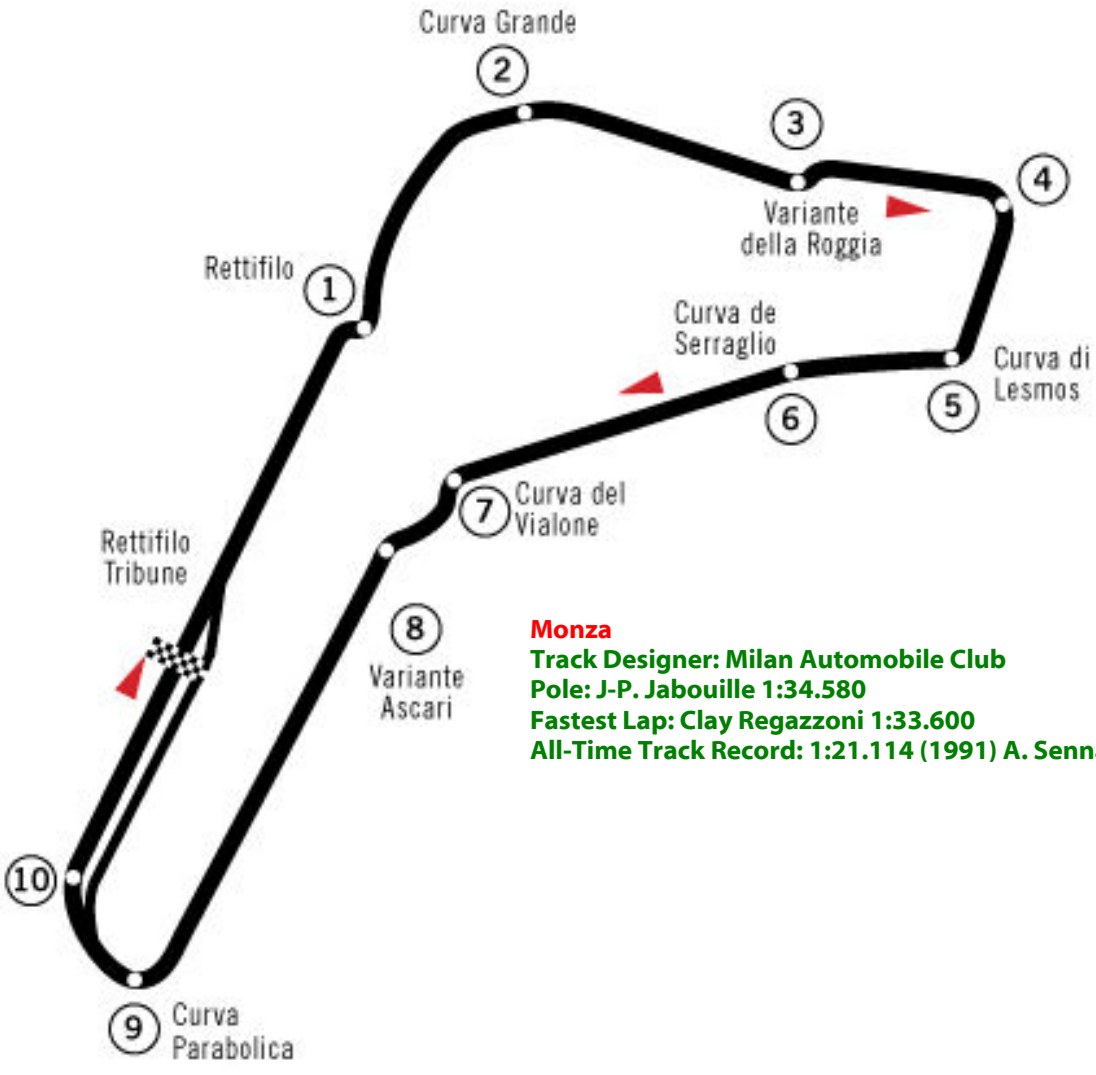
Zandvoort—Will Be Featured in GPC's Forthcoming TrackPack
Track Designer: Royal Dutch Motorcycling Association/Sammy Davis
Pole: R. Arnoux 1:15.461
Fastest Lap: G. Villeneuve 1:19.438
All-Time Track Record: R. Arnoux 1:15.461 (1979)

Italian Grand Prix

September 9th, 1979
Monza
50 Laps
180.20 Miles
Warm, dry
Pole: J-P. Jabouille 1:34.580
Fastest Lap: Clay Regazzoni 1:33.600
Top 6: Qualifying
1. J-P. Jabouille (Renault RS10)
2. R. Arnoux (Renault RS10)
3. J. Scheckter (Ferrari 312T4)
4. A. Jones (Williams FW07)
5. G. Villeueve (Ferrari 312T4)
6. Clay Regazzoni (Williams FW07)
Top 6: Race
1. J. Scheckter (Ferrari 312T4)
2. G. Villeneuve (Ferrari 312T4(
3. Clay Regazzoni (Williams FW07)
4. N. Lauda (Brabham BT48)
5. M. Andretti (Lotus 79)
6. J-P. Jarier (Tyrrell 009)

Monza

The venue that remains synonymous with Italian motor sports, Monza has hosted every round the Formula 1 circus since 1950 (with the exception of 1980). But to find the first race at this track set in a park near Milan, one has to look back to 1922. Many, however, imagine that the famous banking was part of the original configuration: It wasn't. The original track was just a flat run in its current guise (*sans* chicanes of course), with the banking only being added for the 1955 race, while it was in 1972 that the chicanes were added to slow the cars down. 1979, though, was one of its greatest years as not only did Ferrari claim a 1-2 in the race, but Scheckter's win gave Ferrari both titles.



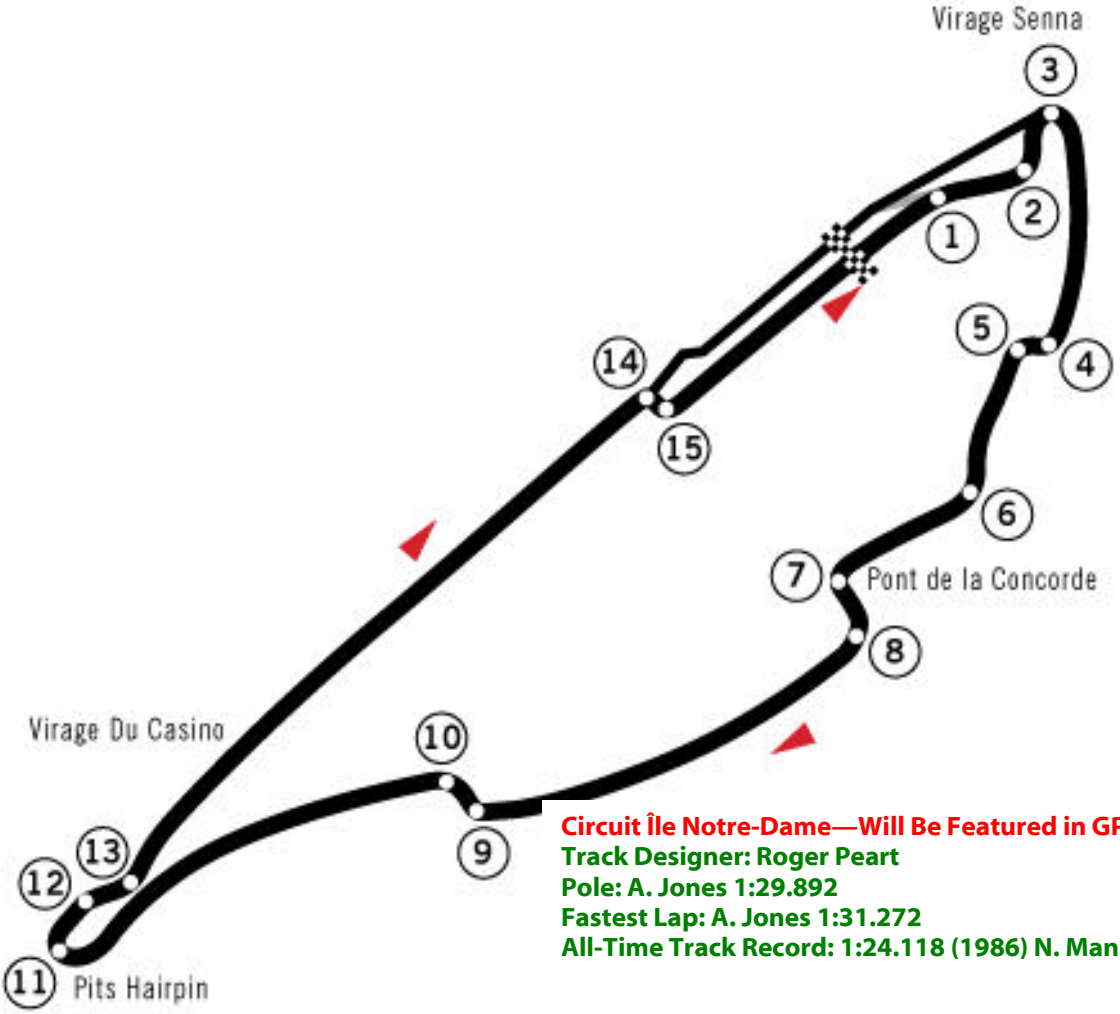
Monza
Track Designer: Milan Automobile Club
Pole: J-P. Jabouille 1:34.580
Fastest Lap: Clay Regazzoni 1:33.600
All-Time Track Record: 1:21.114 (1991) A. Senna/McLaren Honda MP4/6

Canadian Grand Prix

September 30th 1979
Montreal
72 Laps
197.28 Miles
Warm, dry
Pole: A. Jones 1:29.892
Fastest Lap: A. Jones 1:31.272
Top 6: Qualifying
1. A. Jones (Williams FW07)
2. G. Villeneuve (Ferrari 312T4)
3. Clay Regazzoni (Williams 312T4)
4. N. Piquet (Brabham BT49)
5. J. Lafitte (Ligier JS11)
6. D. Pironi (Tyrrell 009)
Top 6: Race
1. A. Jones (Williams FW07)
2. G. Villeneuve (Ferrari 312T4)
3. Clay Regazzoni (Williams FW07)
4. J. Scheckter (Ferrari 312T4)
5. D. Pironi (Tyrrell 009)
6. J. Watson (McLaren M29)

Circuit Île Notre-Dame

With Mosport deemed too dangerous for modern Formula 1, and with the rising star of Gilles Villeneuve, Canada opted to stage the 1978 Grand Prix in Montreal, an hour or so south of Gilles's hometown. Gilles, true to form, won on the day, and Montreal has remained a part of the Formula 1 calendar since. Unique in both its location (minutes from downtown, and accessible by subway), as well as its 'feel' (almost a street circuit, built on an island created for Expo 67), it remains a popular venue for both drivers and fans who are treated to a wonderful weekend in North America's most European city. In 1982, with Gilles's death, the track was renamed in his honour, and would see Gilles's arch-enemy, Didier Pironi, struck by young Riccardo Paletti, who would die barely seconds after the start of the Grand Prix.



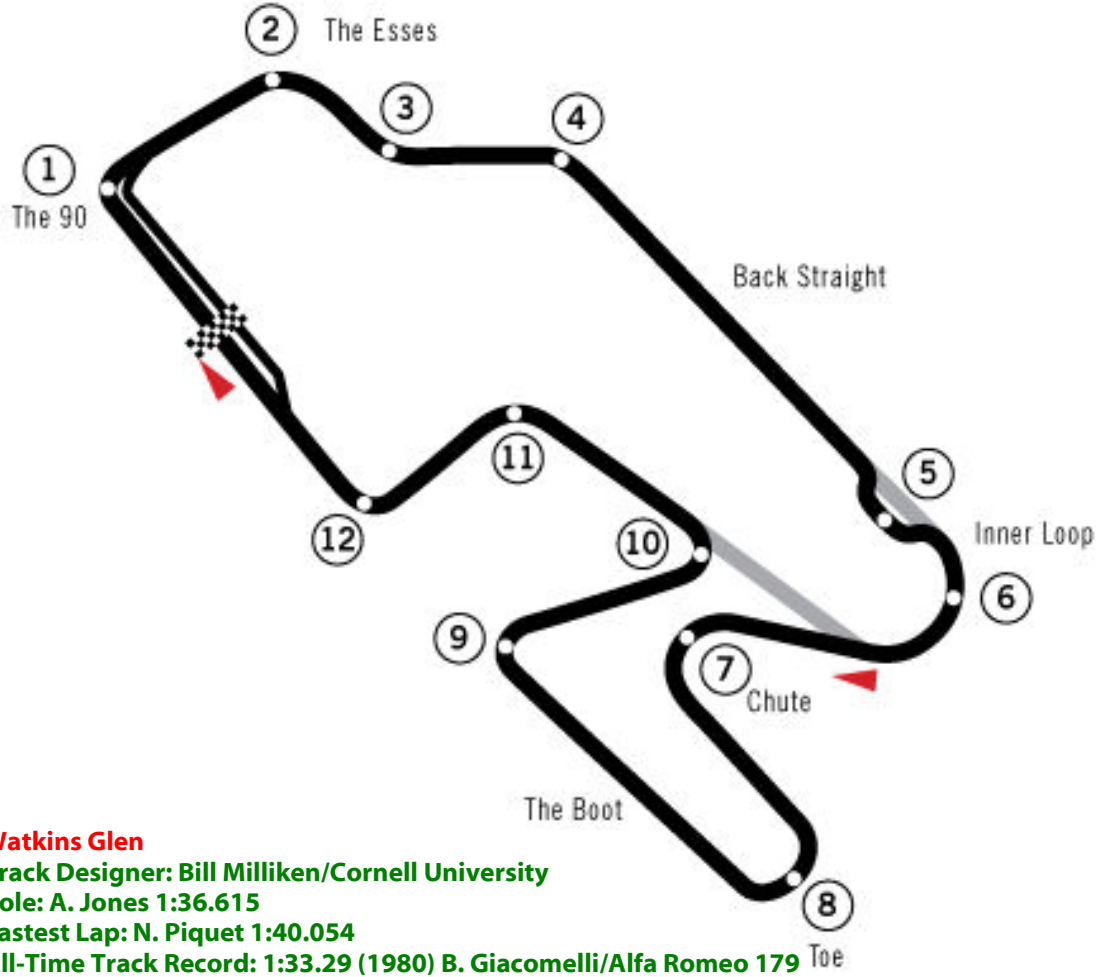
Circuit Île Notre-Dame—Will Be Featured in GPC's Forthcoming TrackPack
Track Designer: Roger Peart
Pole: A. Jones 1:29.892
Fastest Lap: A. Jones 1:31.272
All-Time Track Record: 1:24.118 (1986) N. Mansell Will Honda FW11

U.S East Grand Prix

October 7th, 1979
Watkins Glen
59 Laps
199.24 Miles
Cold, wet
Pole: A. Jones 1:36.615
Fastest Lap: N. Piquet 1:40.054
Top 6: Qualifying
1. A. Jones (Williams FW07)
2. N. Piquet (Brabham BT49)
3. G. Villeneuve (Ferrari 312T4)
4. J. Lafitte (Ligier JS11)
5. Clay Regazzoni (Williams FW07)
6. C. Reutemann (Lotus 79)
Top 6: Race
1. G. Villeneuve (Ferrari 312T4)
2. R, Arnoux (Renault RS10)
3. D. Pironi (Tyrell 009)
4. E. de Angelis (Shadow DN9)
5. H-J. Stuck (ATS D3)
6. J. Watson (McLaren M29)

Watkins Glen

Formula 1 found its U.S. home in upstate New York in 1961, and remained there until 1980. The first race at Watkins Glen, however, was run on city-streets in 1948: It was only in 1956 that the Watkins Glen of today opened its doors with a purpose-made facility, and race track. The 1979 race was staged in wet conditions on a cool autumn day, with Villeneuve clinching the win and the big prize (in those days, before the FIA, the drivers and teams actually won prize money, and the Glen offered the most lucrative pay-day on the calendar), but it was for the Friday practice that the weekend was remembered. In the rain, Gilles went out and lapped the circuit a full 10 seconds faster than the rest of the grid. 1980 would be the final race for the Glen; though, as the advent of turbos made the track far too dangerous for the 1,500 BHP monsters, and the Formula 1 circus would never return.



Watkins Glen
Track Designer: Bill Milliken/Cornell University
Pole: A. Jones 1:36.615
Fastest Lap: N. Piquet 1:40.054
All-Time Track Record: 1:33.29 (1980) B. Giacomelli/Alfa Romeo 179

AutoSIMSport

Profile on the simdependents! Mark Beckman on CanAm GPL
Gojon Camaj on rFactor, Victor van Vlaardingen on LFSs2, PLUS
Ashley McConnell, Lou Magyar's track-building and MUCH more!