



# Formula One

**Formula One (F1)** is the highest class of worldwide racing for open-wheel single-seater formula racing cars sanctioned by the Fédération Internationale de l'Automobile (FIA). The **FIA Formula One World Championship** has been one of the world's premier forms of motorsport since its inaugural running in 1950 and is often considered to be the pinnacle of motorsport. The word *formula* in the name refers to the set of rules all participant cars must follow. A Formula One season consists of a series of races, known as Grands Prix. Grands Prix take place in multiple countries and continents on either purpose-built circuits or closed roads.

A points scoring system is used at Grands Prix to determine two annual World Championships: one for the drivers, and one for the constructors—now synonymous with teams. Each driver must hold a valid Super Licence, the highest class of racing licence the FIA issues, and the races must be held on Grade One tracks, the highest grade rating the FIA issues for tracks.






Formula One cars are the world's fastest regulated road-course racing cars, owing to high cornering speeds achieved by generating large amounts of aerodynamic downforce, most of which is generated by front and rear wings, as well as underbody tunnels. The cars depend on electronics, aerodynamics, suspension, and tyres. Traction control, launch control, automatic shifting, and other electronic driving aids were first banned in 1994. They were briefly reintroduced in 2001, and have more recently been banned since 2004 and 2008, respectively.<sup>[1]</sup>

With the average annual cost of running a team—e.g. designing, building, and maintaining cars; staff payroll; transport—at approximately £220 million,<sup>[2]</sup> Formula One's financial and political battles are widely reported. The Formula One Group is owned by Liberty Media, which acquired it in 2017 from private-equity firm CVC Capital Partners for US\$8 billion.<sup>[3][4]</sup>

## Formula One



Formula One logo since 2018

<b>Category</b>	<u>Open-wheel single-seater</u> <u>Formula auto racing</u>
<b>Country</b>	<u>International</u>
<b>Inaugural season</b>	<u>1950</u>
<b>Drivers</b>	<u>20</u>
<b>Teams</b>	<u>10</u>
<b>Engine manufacturers</b>	<u>Ferrari</u> <u>Honda RBPT</u> <u>Mercedes</u> <u>Renault</u>
<b>Tyre suppliers</b>	<u>Pirelli</u>
<b>Drivers' champion</b>	 <u>Max Verstappen</u> (2024) ( <u>Red Bull Racing</u> - <u>Honda RBPT</u> )
<b>Constructors' champion</b>	 <u>McLaren-Mercedes</u> (2024)
<b>Most titles</b>	<b>Drivers'</b>  <u>Michael Schumacher</u>  <u>Lewis Hamilton</u> (7 titles each) <b>Constructors'</b>  <u>Ferrari</u> (16)
<b>Official website</b>	<u>formula1.com</u> ( <u>https://www.formula1.com/</u> )



Current season

Media, which acquired it in 2017 from private-

# History

---

Formula One originated from the World Manufacturers' Championship (1925–1930) and European Drivers' Championship (1931–1939). The *formula* is a set of rules that all participants' cars must follow. Formula One was a formula agreed upon in 1946 to officially become effective in 1947. The first Grand Prix in accordance with the new regulations was the 1946 Turin Grand Prix, anticipating the formula's official start.<sup>[5][6]</sup> Before World War II, a number of Grand Prix racing organisations made suggestions for a new championship to replace the European Championship, but due to the suspension of racing during the conflict, the new International Formula for cars did not become formalised until 1946, to become effective in 1947. The new World Championship was instituted to commence in 1950.<sup>[7]</sup>

The first world championship race, the 1950 British Grand Prix, took place at Silverstone Circuit in the United Kingdom on 13 May 1950.<sup>[8]</sup> Giuseppe Farina, competing for Alfa Romeo, won the first Drivers' World Championship, narrowly defeating his teammate Juan Manuel Fangio. Fangio won the championship in 1951, 1954, 1955, 1956, and 1957.<sup>[9]</sup> This set the record for the most World Championships won by a single driver, a record that stood for 46 years until Michael Schumacher won his sixth championship in 2003.<sup>[9]</sup>

A Constructors' Championship was added in the 1958 season. Stirling Moss, despite often being regarded as one of the greatest Formula One drivers in the 1950s and 1960s, never won the Formula One championship.<sup>[10]</sup> Between 1955 and 1961, Moss finished second in the championship four times and third the other three times.<sup>[11][12]</sup> Fangio won 24 of the 52 races he entered—still the record for the highest Formula One winning percentage by an individual driver.<sup>[13]</sup> National championships existed in South Africa and the UK in the 1960s and 1970s. Promoters held non-championship Formula One events for many years. Due to the increasing cost of competition, the last of these was held in 1983.<sup>[14][15]</sup>



Juan Manuel Fangio's 1951 title-winning Alfa Romeo 159

This era featured teams managed by road-car manufacturers, such as Alfa Romeo, Ferrari, Mercedes-Benz and Maserati. The first seasons featured prewar cars like Alfa Romeo's 158, which were front-engined, with narrow tyres and 1.5-litre supercharged or 4.5-litre naturally aspirated engines. The 1952 and 1953 seasons were run to Formula Two regulations, for smaller, less powerful cars, due to concerns over the dearth of Formula One cars.<sup>[16][17]</sup> When a new Formula One formula for engines limited to 2.5 litres was reinstated for the 1954 world championship, Mercedes-Benz introduced its W196, which featured things never seen on Formula One cars before, such as desmodromic valves, fuel injection, and enclosed streamlined bodywork. Mercedes drivers won the championship for the next two years, before the team withdrew from all motorsport competitions due to the 1955 Le Mans disaster.<sup>[18][19]</sup>

## Technological developments

The first major technological development in the sport was Bugatti's introduction of mid-engined cars. Jack Brabham, the world champion in 1959, 1960, and 1966, soon proved the mid-engine's superiority over all other engine positions. By 1961 all teams had switched to mid-engined cars. The Ferguson P99, a

four-wheel drive design, was the last front-engined Formula One car to enter a world championship race. It entered the 1961 British Grand Prix, the only front-engined car to compete that year.<sup>[20]</sup>

During 1962, Lotus introduced a car with an aluminium-sheet monocoque chassis instead of the traditional space-frame design. This proved to be the greatest technological breakthrough since the introduction of mid-engined cars.

In 1968, sponsorship was introduced to the sport. Team Gunston became the first team to run cigarette sponsorship on its Brabham cars, which privately entered in orange, brown and gold colours of Gunston cigarettes in the 1968 South African Grand Prix on 1 January 1968.<sup>[21]</sup> Five months later, the first works team, Lotus, initially using the British racing green, followed this example when it entered its cars painted in the red, gold, and white colours of the Imperial Tobacco's Gold Leaf livery at the 1968 Spanish Grand Prix.

Aerodynamic downforce slowly gained importance in car design with the appearance of aerofoils during the 1968 season. The wings were introduced by Lotus's owner Colin Chapman who installed modest front wings and a rear spoiler on his Lotus 49B at the 1968 Monaco Grand Prix. In the late 1970s, Lotus introduced ground-effect aerodynamics, previously used on Jim Hall's Chaparral 2J in 1970, that provided enormous downforce and greatly increased cornering speeds. The aerodynamic forces pressing the cars to the track were up to five times the car's weight. As a result, extremely stiff springs were needed to maintain a constant ride height, leaving the suspension virtually solid. This meant that the drivers depended entirely on the tyres for any small amount of cushioning of the car and driver from irregularities of the road surface.<sup>[22]</sup>



Stirling Moss's Lotus 18 at the Nürburgring during 1961

## Big business

Beginning in the 1970s, Bernie Ecclestone rearranged the management of Formula One's commercial rights; he is widely credited with transforming the sport into the multi-billion dollar business it now is.<sup>[23][24]</sup> When Ecclestone bought the Brabham team during 1971, he gained a seat on the Formula One Constructors' Association, and in 1978, he became its president.<sup>[25]</sup> Previously, the circuit owners controlled the income of the teams and negotiated with each individually; Ecclestone persuaded the teams to "hunt as a pack" through FOCA.<sup>[24]</sup> He offered Formula One to circuit owners as a package they could take or leave. In return for the package, almost all that was required was to surrender trackside advertising.<sup>[23]</sup>

The formation of the Fédération Internationale du Sport Automobile (FISA) in 1979 set off the FISA–FOCA war, during which FISA and its president Jean-Marie Balestre argued repeatedly with FOCA over television revenues and technical regulations.<sup>[26]</sup> *The Guardian* said that Ecclestone and Max Mosley "used [FOCA] to wage a guerrilla war with a very long-term aim in view". FOCA threatened to establish a rival series and boycotted a Grand Prix, and FISA withdrew its sanction from races.<sup>[23]</sup> The result was the 1981 Concorde Agreement, which guaranteed technical stability, as teams were to be given reasonable notice of new regulations.<sup>[27]</sup> Although FISA asserted its right to the TV revenues, it gave FOCA the administration of those rights.<sup>[28]</sup>

FISA imposed a ban on ground-effect aerodynamics during 1983.<sup>[29]</sup> But by then, turbocharged engines, which Renault had pioneered in 1977, were producing over 520 kW (700 bhp) and were essential to be competitive. By 1986, a BMW turbocharged engine achieved a flash reading of 5.5 bar (80 psi) pressure, estimated to be over 970 kW (1,300 bhp) in qualifying for the Italian Grand Prix. The next year, power in race trim reached around 820 kW (1,100 bhp), with boost pressure limited to only 4.0 bar.<sup>[30]</sup> These cars were the most powerful open-wheel circuit racing cars ever. To reduce engine power output and thus speeds, the FIA limited fuel tank capacity in 1984, and boost pressures in 1988, before banning turbocharged engines completely in 1989.<sup>[31]</sup>

The development of electronic driver aids began in the 1980s. Lotus began to develop a system of active suspension, which first appeared during 1983 on the Lotus 92.<sup>[32]</sup> By 1987, this system had been perfected and was driven to victory by Ayrton Senna in the Monaco Grand Prix that year. In the early 1990s, other teams followed suit and semi-automatic gearboxes and traction control were a natural progression. The FIA, due to complaints that technology was determining races' outcomes more than driver skill, banned many such aids for the 1994 season. This resulted in cars that previously depended on electronic aids becoming very "twitchy" and difficult to drive. Observers felt the ban on driver aids was in name only, as they "proved difficult to police effectively".<sup>[33]</sup>

The teams signed a second Concorde Agreement in 1992 and a third in 1997.<sup>[34]</sup>

On the track, the McLaren and Williams teams dominated the 1980s and 1990s. Brabham was also competitive during the early 1980s, winning two Drivers' Championships with Nelson Piquet. Powered by Porsche, Honda, and Mercedes-Benz, McLaren won 16 championships (seven constructors' and nine drivers') in that period, while Williams used engines from Ford, Honda, and Renault to also win 16 titles (nine constructors' and seven drivers'). The rivalry between racers Ayrton Senna and Alain Prost became F1's central focus during 1988 and continued until Prost retired at the end of 1993. Senna died at the 1994 San Marino Grand Prix after crashing into a wall on the exit of the notorious curve

Tamburello. The FIA worked to improve the sport's safety standards since that weekend, during which Roland Ratzenberger also died in an accident during Saturday qualifying. No driver died of injuries sustained on the track at the wheel of a Formula One car for 20 years until the 2014 Japanese Grand Prix, where Jules Bianchi collided with a recovery vehicle after aquaplaning off the circuit, dying nine months later from his injuries. Since 1994, three track marshals have died, one at the 2000 Italian Grand Prix,<sup>[35]</sup> one at the 2001 Australian Grand Prix<sup>[35]</sup> and one at the 2013 Canadian Grand Prix.

Since Senna's and Ratzenberger's deaths, the FIA has used safety as a reason to impose rule changes that otherwise, under the Concorde Agreement, would have had to be agreed upon by all the teams—most notably the changes introduced for 1998. This so-called 'narrow track' era resulted in cars with smaller rear tyres, a narrower track overall, and the introduction of grooved tyres to reduce mechanical grip. The objective was to reduce cornering speeds and produce racing similar to rainy conditions by enforcing a smaller contact patch between tyre and track. According to the FIA, this was to reduce cornering speeds in the interest of safety.<sup>[36]</sup>



Stefan Johansson driving for Ferrari at the 1985 European Grand Prix

Results were mixed, as the lack of mechanical grip resulted in the more ingenious designers clawing back the deficit with aerodynamic grip. This resulted in pushing more force onto the tyres through wings and aerodynamic devices, which in turn resulted in less overtaking, as these devices tended to make the wake behind the car turbulent or 'dirty'. This prevented other cars from following closely due to their dependence on 'clean' air to make the car stick to the track. The grooved tyres also had the unfortunate side effect of initially being of a harder compound to be able to hold the grooved tread blocks, which resulted in spectacular accidents in times of aerodynamic grip failure, as the harder compound could not grip the track as well.



Damon Hill driving for Williams at the 1995 Canadian Grand Prix

Drivers from McLaren, Williams, Renault (formerly Benetton), and Ferrari, dubbed the "Big Four", won every World Championship from 1984 to 2008. The teams won every Constructors' Championship from 1979 to 2008, as well as placing themselves as the top four teams in the Constructors' Championship in every season between 1989 and 1997, and winning every race but one (the 1996 Monaco Grand Prix) between 1988 and 1997. Due to the technological advances of the 1990s, the cost of competing in Formula One increased dramatically, thus increasing financial burdens. This, combined with the dominance of four teams (largely funded by big car manufacturers such as Mercedes-Benz), caused the poorer independent teams to struggle not only to remain competitive but to stay in business. This effectively forced several teams to withdraw.

## Manufacturers' return

Michael Schumacher and Ferrari won five consecutive Drivers' Championships (2000–2004) and six consecutive Constructors' Championships (1999–2004). Schumacher set many new records, including those for Grand Prix wins (91, since beaten by Lewis Hamilton), wins in a season (13, since beaten by Max Verstappen), and most Drivers' Championships (seven, tied with Lewis Hamilton as of 2021).<sup>[37]</sup> Schumacher's championship streak ended on 25 September 2005, when Renault driver Fernando Alonso became Formula One's youngest champion at that time (until Lewis Hamilton in 2008 and followed by Sebastian Vettel in 2010). During 2006, Renault and Alonso won both titles again. Schumacher retired at the end of 2006 after 16 years in Formula One, but came out of retirement for the 2010 season, racing for the newly formed Mercedes works team, following the rebrand of Brawn GP.



Michael Schumacher (pictured here in 2001) won five consecutive titles with Ferrari.

During this period, FIA frequently changed the championship rules with the intention of improving the on-track action and cutting costs.<sup>[38]</sup> Team orders, legal since the championship started during 1950, were banned during 2002, after several incidents in which teams openly manipulated race results, generating negative publicity, most famously by Ferrari at the 2002 Austrian Grand Prix. Other changes included the qualifying format, the point-scoring system, the technical regulations, and rules specifying how long engines and tyres must last. A 'tyre war' between suppliers Michelin and Bridgestone saw lap times fall,



although, at the 2005 United States Grand Prix at Indianapolis, seven out of ten teams did not race when their Michelin tyres were deemed unsafe for use, leading to Bridgestone becoming the sole tyre supplier to Formula One for the 2007 season by default. On 20 December 2007 Bridgestone signed a contract that officially made it the exclusive tyre supplier for the next three seasons.<sup>[39]</sup>

During 2006, Max Mosley outlined a 'green' future for Formula One, in which efficient use of energy would be an important factor.<sup>[40]</sup>

Starting in 2000, with Ford's purchase of Stewart Grand Prix to form the Jaguar Racing team, new manufacturer-owned teams entered Formula One for the first time since Alfa Romeo's and Renault's departures in 1985. By 2006, the manufacturer teams—Renault, BMW, Toyota, Honda, and Ferrari—dominated the championship, taking five of the first six places in the Constructors' Championship. The exception was McLaren, which at the time was part-owned by Mercedes-Benz. Through the Grand Prix Manufacturers Association (GPMA), the manufacturers negotiated a larger share of Formula One's commercial profit and a greater say in the running of the sport.<sup>[41]</sup>

## Manufacturers' decline and return of the privateers

In 2008 and 2009, Honda, BMW, and Toyota all withdrew from Formula One racing within a year, blaming the economic recession. This resulted in the end of manufacturer dominance of the sport. The Honda F1 team went through a management buyout to become Brawn GP, with Ross Brawn and Nick Fry running and owning the majority of the organisation. Brawn GP laid off hundreds of employees, but won the year's world championships. BMW F1 was bought out by the original founder of the team, Peter Sauber. The Lotus F1 Team<sup>[42]</sup> was another, formerly manufacturer-owned team that reverted to "privateer" ownership, together with the buy-out of the Renault team by Genii Capital investors. But a link with its previous owners still survived, with its car continuing to be powered by a Renault engine until 2014.

McLaren also announced that it was to reacquire the shares in its team from Mercedes-Benz (McLaren's partnership with Mercedes was reported to have started to sour with the McLaren Mercedes SLR road car project and tough F1 championships, which included McLaren being found guilty of spying on Ferrari). Hence, during the 2010 season, Mercedes-Benz re-entered the sport as a manufacturer after it purchased Brawn GP and split with McLaren after 15 seasons with the team.

During the 2009 season, Formula One was gripped by the FIA–FOTA dispute. FIA President Max Mosley proposed numerous cost-cutting measures for the next season, including an optional budget cap for the teams;<sup>[43]</sup> teams electing to take the budget cap would be granted greater technical freedom, adjustable front and rear wings, and an engine not subject to a rev limiter.<sup>[43]</sup> The Formula One Teams Association (FOTA) believed that allowing some teams to have such technical freedom would



The three teams that debuted in 2010 all disappeared within seven years of their debuts. From top: 2012 HRT (originally Hispania Racing); 2014 Caterham (originally Team Lotus); 2016 Manor (originally Virgin Racing).

have created a 'two-tier' championship, and thus requested urgent talks with the FIA. But talks broke down and FOTA teams announced, with the exception of Williams and Force India,<sup>[44][45]</sup> that 'they had no choice' but to form a breakaway championship series.<sup>[45]</sup>

On 24 June, Formula One's governing body and the teams reached an agreement to prevent a breakaway series. It was agreed teams must cut spending to the level of the early 1990s within two years; exact figures were not specified, and Max Mosley agreed he would not stand for reelection to the FIA presidency in October.<sup>[46]</sup> Following further disagreements, after Mosley suggested he would stand for reelection,<sup>[47]</sup> FOTA made it clear that breakaway plans were still being pursued. On 8 July, FOTA issued a press release stating it had been informed it was not entered for the 2010 season,<sup>[48]</sup> and an FIA press release said the FOTA representatives had walked out of the meeting.<sup>[49]</sup> On 1 August, it was announced FIA and FOTA had signed a new Concorde Agreement, bringing an end to the crisis and securing the sport's future until 2012.<sup>[50]</sup>



Bernie Ecclestone, the former Chief executive of the Formula One Group

To compensate for the loss of manufacturer teams, four new teams were accepted entry into the 2010 season ahead of a much anticipated 'cost-cap'. Entrants included a reborn Team Lotus—led by a Malaysian consortium including Tony Fernandes, the boss of Air Asia; Hispania Racing—the first Spanish Formula One team; and Virgin Racing—Richard Branson's entry into the series following a successful partnership with Brawn the year before. They were also joined by the US F1 Team, which planned to run out of the United States as the only non-European-based team in the sport. Financial issues befell the squad before they even made the grid. Despite the entry of these new teams, the proposed cost-cap was repealed and these teams—which did not have the budgets of the midfield and top-order teams—ran around at the back of the field until they collapsed; HRT in 2012, Caterham (formerly Lotus) in 2014 and Manor (formerly Virgin, then Marussia), having survived falling into administration in 2014, at the end of 2016.

## Hybrid era

A major rule shakeup in 2014 saw the 2.4-litre naturally aspirated V8 engines replaced by 1.6-litre turbocharged hybrid power units. This prompted Honda to return to the sport in 2015 as the championship's fourth power unit manufacturer. Mercedes emerged as the dominant force after the rule shakeup, with Lewis Hamilton winning the championship closely followed by his main rival and teammate, Nico Rosberg, with the team winning 16 out of the 19 races that season. The team continued this form in the next two seasons, again winning 16 races in 2015 before taking a record 19 wins in 2016, with Hamilton claiming the title in the former year and Rosberg winning it in the latter by five points. The 2016 season also saw a new team, Haas, join the grid, while Max Verstappen became the youngest-ever race winner at age 18 in Spain.<sup>[51]</sup>

After revised aerodynamic regulations were introduced, the 2017 and 2018 seasons featured a title battle between Mercedes and Ferrari.<sup>[52][53][54][55]</sup> Mercedes ultimately won the titles with multiple races to spare and continued to dominate in the next two years,<sup>[56]</sup> eventually winning seven consecutive Drivers' Championships from 2014 to 2020 and eight consecutive Constructors' titles from 2014 to 2021. During

this eight-year period between 2014 and 2021, a Mercedes driver won 111 of the 160 races,<sup>[57]</sup> with Hamilton winning 81 of these and taking six Drivers' Championships during this period to equal Schumacher's record of seven titles.<sup>[58][59][60]</sup> In 2021, the Honda-powered Red Bull team began to seriously challenge Mercedes, with Verstappen beating Hamilton to the Drivers' Championship after a season-long battle that saw the pair exchange the championship lead multiple times.



Mercedes won eight consecutive constructors' titles and Lewis Hamilton won six drivers' titles during the beginning of the hybrid era.

This era has seen an increase in car manufacturer presence in the sport. After Honda's return as an engine manufacturer in 2015, Renault came back as a team in 2016 after buying back the Lotus F1 Team. In 2018, Aston Martin and Alfa Romeo became Red Bull and Sauber's title sponsors, respectively. Sauber was rebranded as Alfa Romeo Racing for the 2019 season, while Racing Point part-owner Lawrence Stroll bought a stake in Aston Martin to rebrand the Racing Point team as Aston Martin for 2021. In August 2020, all ten F1 teams signed a new Concorde Agreement committing them to the sport until 2025, including a \$145 million budget cap for car development to support equal competition and sustainable development.<sup>[61][62]</sup>

The COVID-19 pandemic forced the sport to adapt to budgetary and logistical limitations. A significant overhaul of the technical regulations intended to be introduced in the 2021 season was pushed back to 2022,<sup>[63]</sup> with constructors instead using their 2020 chassis for two seasons and a token system limiting which parts could be modified introduced.<sup>[64]</sup> The start of the 2020 season was delayed by several months,<sup>[65]</sup> and both it and 2021 seasons were subject to several postponements, cancellations, and rescheduling of races due to shifting restrictions on international travel. Many races took place behind closed doors and with only essential personnel present to maintain social distancing.<sup>[66]</sup>

In 2022, the F1 governing body announced a major rule and car design change intended to promote closer racing through the use of ground effects, new aerodynamics, larger wheels with low-profile tyres, and redesigned nose and wing regulations.<sup>[67][68]</sup> Red Bull emerged as the dominant force after the rule shakeup. The 2022 and 2023 Constructors' and Drivers' Championships were won by Red Bull and Verstappen, with multiple races to spare.<sup>[69][70][71][72]</sup>

In 2023 the FIA opened applications for new teams to enter Formula 1 in the then near future.<sup>[73]</sup> Of the teams that applied, only Andretti were approved by the FIA, with them then being rejected by Formula One Management, though they have launched an appeal.<sup>[74][75]</sup>

In early 2024, the Formula One landscape underwent a significant change in the sphere of team sponsorships and collaborations. Having competed for five seasons under the Alfa Romeo name, Sauber introduced a title partnership with the online casino Stake.com, resulting in the team's new identity as Stake F1 Team Kick Sauber. Sauber will hold Stake's sponsorship name until the end of 2025, after which it will become the Audi works team for the 2026 season onwards.<sup>[76][77]</sup> Scuderia AlphaTauri, Red Bull's junior team, dropped its name and took on sponsors from Hugo Boss and Cash App, becoming Visa Cash App RB, or VCARB for 2024. Also in 2024, Formula One announced partnerships with Mattel to release Hot Wheels die-cast cars,<sup>[78]</sup> and with Lego, with the first new sets releasing in 2025.<sup>[79]</sup> Previously, Lego sets based on Formula One cars had been released in 2024.<sup>[80]</sup>



The regulations governing Formula One are set to be revised for the 2026 season, with big changes planned to help encourage closer and more competitive racing.<sup>[81]</sup> Changes include:

- Move to fully sustainable fuels,
- Reduction in width and length for closer racing
- new Front and Rear wing regulations
- Electric Motor
- MGU-K (Motor Generator Unit – Kinetic) power increased from 120 kW to 350 kW
- More stringent safety requirements
- Tighter budget caps

In November 2024, General Motors reached an agreement to enter Formula 1 in 2026 with its Cadillac brand.<sup>[82]</sup>

## Racing and strategy

---

A Formula One Grand Prix event spans a weekend. It typically begins with two free practice sessions on Friday, and one free practice session on Saturday. Additional drivers (commonly known as third drivers) are allowed to run on Fridays, but only two cars may be used per team, requiring a race driver to give up their seat. A qualifying session is held after the last free practice session. This session determines the starting order for the race on Sunday.<sup>[83][84]</sup>

### Tyre rules

Each driver may use no more than thirteen sets of dry-weather tyres, four sets of intermediate tyres, and three sets of wet-weather tyres during a race weekend.<sup>[85]</sup>

### Qualifying

For much of the sport's history, qualifying sessions differed little from practice sessions; drivers would have one or more sessions in which to set their fastest time, with the grid order determined by each driver's best single lap, with the fastest getting first place on the grid, referred to as pole position. From 1996 to 2002, the format was a one-hour shootout. This approach lasted until the end of 2002 before the rules were changed again because the teams were not running in the early part of the session to take advantage of better track conditions later on.<sup>[86]</sup>

Grids were generally limited to 26 cars – if the race had more entries, qualification would also decide which drivers would start the race. During the early 1990s, the number of entries was so high that the worst-performing teams had to enter a pre-qualifying session, with the fastest cars allowed through to the main qualifying session. The qualifying format began to change in the early 2000s, with the FIA experimenting with limiting the number of laps, determining the aggregate time over two sessions, and allowing each driver only one qualifying lap.



The 2023 Pirelli tyres include (from left to right) the three slick compound tyres: soft, medium and hard – and the two wet-weather tyre compounds: intermediate and full-wet.

The current qualifying system was adopted in the 2006 season. Known as "knock-out" qualifying, it is split into three periods, known as Q1, Q2, and Q3. In each period, drivers run qualifying laps to attempt to advance to the next period, with the slowest drivers being "knocked out" of qualification (but not necessarily the race) at the end of the period and their grid positions set within the rearmost five based on their best lap times. Drivers are allowed as many laps as they wish within each period. After each period, all times are reset, and only a driver's fastest lap in that period (barring infractions) counts. Any timed lap started before the end of that period may be completed and will count toward that driver's placement. The number of cars eliminated in each period is dependent on the total number of cars entered into the championship.<sup>[87]</sup>

Currently, with 20 cars, Q1 runs for 18 minutes, and eliminates the slowest five drivers. During this period, any driver whose best lap takes longer than 107% of the fastest time in Q1 will not be allowed to start the race without permission from the stewards. Otherwise, all drivers proceed to the race albeit in the worst starting positions. This rule does not affect drivers in Q2 or Q3. In Q2, the 15 remaining drivers have 15 minutes to set one of the ten fastest times and proceed to the next period. Finally, Q3 lasts 12 minutes and sees the remaining ten drivers decide the first ten grid positions. At the beginning of the 2016 Formula 1 season, the FIA introduced a new qualifying format, whereby drivers were knocked out every 90 seconds after a certain amount of time had passed in each session. The aim was to mix up grid positions for the race, but due to unpopularity, the FIA reverted to the above qualifying format for the Chinese GP, after running the format for only two races.<sup>[87]</sup>

Each car is allocated one set of the softest tyres for use in Q3. The cars that qualify for Q3 must return them after Q3; the cars that do not qualify for Q3 can use them during the race.<sup>[88]</sup> As of 2022, all drivers are given a free choice of tyre to use at the start of the Grand Prix,<sup>[89]</sup> whereas in previous years only the drivers that did not participate in Q3 had free tyre choice for the start of the race. Any penalties that affect grid position are applied at the end of qualifying. Grid penalties can be applied for driving infractions in the previous or current Grand Prix, or for changing a gearbox or engine component. If a car fails scrutineering, the driver will be excluded from qualifying but will be allowed to start the race from the back of the grid at the race stewards' discretion.

2021 saw the trialling of a 'sprint qualifying' race on the Saturday of three race weekends, with the intention of testing the new approach to qualifying. The traditional qualifying would determine the starting order for the sprint, and the result of the sprint would then determine the start order for the Grand Prix.<sup>[90]</sup> The system returned for the 2022 season, now titled the 'sprint'.<sup>[91]</sup> From 2023, sprint races no longer impacted the start order for the main race, which would be determined by traditional qualifying. Sprints would have their own qualifying session, titled the 'sprint shootout';<sup>[92]</sup> such a system made its debut at the 2023 Azerbaijan Grand Prix and is set to be used throughout all sprint sessions in place of the traditional second free practice session. Sprint qualifying sessions are run much shorter than traditional qualifying, and each session required teams to fit new tyres – mediums for SQ1 and SQ2, and softs for SQ3 – otherwise they cannot participate in the session.<sup>[93]</sup>

## Race

The race begins with a warm-up lap, after which the cars assemble on the starting grid in the order they qualified. This lap is often referred to as the formation lap, as the cars lap in formation with no overtaking (although a driver who makes a mistake may regain lost ground). The warm-up lap allows drivers to

check the condition of the track and their car, gives the tyres a chance to warm up to increase traction and grip, and also gives the pit crews time to clear themselves and their equipment from the grid for the race start.

Once all the cars have formed on the grid, after the medical car positions itself behind the pack,<sup>[94]</sup> a light system above the track indicates the start of the race: five red lights are illuminated at intervals of one second; they are all then extinguished simultaneously after an unspecified time (typically less than 3 seconds) to signal the start of the race. The start procedure may be abandoned if a driver stalls on the grid or on the track in an unsafe position, signalled by raising their arm. If this happens, the procedure restarts: a new formation lap begins with the offending car removed from the grid. The race may also be restarted in the event of a serious accident or dangerous conditions, with the original start voided. The race may be started from behind the Safety Car if race control feels a racing start would be excessively dangerous, such as extremely heavy rainfall. As of the 2019 season, there will always be a standing restart. If due to heavy rainfall a start behind the safety car is necessary, then after the track has dried sufficiently, drivers will form up for a standing start. There is no formation lap when races start behind the Safety Car.<sup>[95]</sup>



Jacques Villeneuve qualifying at the 2005 United States Grand Prix in his Sauber C24

Under normal circumstances, the winner of the race is the first driver to cross the finish line having completed a set number of laps. Race officials may end the race early (putting out a red flag) due to unsafe conditions such as extreme rainfall, and it must finish within two hours, although races are only likely to last this long in the case of extreme weather or if the safety car is deployed during the race. When a situation justifies pausing the race without terminating it, the red flag is deployed; since 2005, a ten-minute warning is given before the race is resumed behind the safety car, which leads the field for a lap before it returns to the pit lane (before then the race resumed in race order from the penultimate lap before the red flag was shown).

In the 1950s, race distances varied from 300 km (190 mi) to 600 km (370 mi). The maximum race length was reduced to 400 km (250 mi) in 1966 and 325 km (202 mi) in 1971. The race length was standardized to the current 305 km (190 mi) in 1989, with the exception of the Monaco Grand Prix, which has a shorter distance due to its slower speeds and the need to keep the race under two hours.

Drivers may overtake one another for position over the course of the race. If a leader comes across a backmarker (slower car) who has completed fewer laps, the back marker is shown a blue flag<sup>[96]</sup> telling them that they are obliged to allow the leader to overtake them. The slower car is said to be "lapped". Drivers who are about to be lapped are supposed to literally go out of their way and let the "lapping" driver pass easily. Research documents that drivers - despite being supposed to - often do not defer to the lapping driver and engage in resistance.<sup>[97]</sup> Once the leader finishes the race, is classified as finishing the race "one lap down". A driver can be lapped numerous times, by any car in front of them. A driver who fails to complete more than 90% of the race distance is shown as "not classified" in the results.

Throughout the race, drivers may make pit stops to change tyres and repair damage (from 1994 to 2009 inclusive, they could also refuel). Different teams and drivers employ different pit stop strategies in order to maximise their car's potential. Three dry tyre compounds, with different durability and adhesion characteristics, are available to drivers. Over the course of a race, drivers must use two of the three

available compounds. The different compounds have different levels of performance and choosing when to use which compound is a key tactical decision to make. Different tyres have different colours on their sidewalls; this allows spectators to understand the strategies.

Under wet conditions, drivers may switch to one of two specialised wet weather tyres with additional grooves (one "intermediate", for mild wet conditions, such as after recent rain, one "full wet", for racing in or immediately after rain). A driver must make at least one stop to use two tyre compounds; up to three stops are typically made, although further stops may be necessary to fix damage or if weather conditions change. If rain tyres are used, drivers are no longer obliged to use two types of dry tyres.

## **Race director**

This role involves managing the logistics of each F1 Grand Prix, inspecting cars in parc fermé before a race, enforcing FIA rules, and controlling the lights which start each race. As the head of the race officials, the race director also plays a large role in resolving disputes among teams and drivers. The race director may also refer incidents to the race stewards, who may give penalties, such as drive-through penalties (or stop-and-go penalties), demotions on a pre-race start grid, race disqualifications and fines should parties break regulations. As of the 2024 Las Vegas Grand Prix, the race director is Rui Marques, with Herbie Blash as a permanent advisor.<sup>[98][99]</sup>

## **Safety car**

In the event of an incident that risks the safety of competitors or trackside race marshals, race officials may choose to deploy the safety car. This in effect suspends the race, with drivers following the safety car around the track at its speed in race order, with no overtaking permitted. Cars that have been lapped may, during the safety car period and depending on circumstances permitted by the race director, be allowed to un-lap themselves in order to ensure a smoother restart and to avoid blue flags being immediately thrown upon the resumption of the race with many of the cars in very close proximity to each other. The safety car circulates until the danger is cleared; after it comes in, the race restarts with a rolling start. Pit stops under a safety car are permitted, and in many cases can offer a great advantage to teams who are able to pit and change tyres prior to the end of the safety car period.<sup>[100]</sup> On the lap in which the safety car returns to the pit lane, the leading car takes over the role of the safety car until the timing line. After crossing this line, drivers are allowed to start racing for track position once more.

Mercedes-Benz has supplied a variety of its AMG models to Formula One to use as the safety car since 1996.<sup>[101]</sup> From 2021 onwards, Aston Martin has supplied the Vantage to share duties with Mercedes-AMGs.<sup>[102]</sup>

Since 2000, the main safety car driver has been German ex-racing driver Bernd Mayländer.<sup>[103]</sup> He is usually joined by FIA technical assistant Richard Darker, who relays information between the safety car and race control.<sup>[104]</sup>

## **Virtual Safety Car**

Following an accident at the 2014 Japanese Grand Prix, which saw driver Jules Bianchi suffer a serious head injury that led to his death, the FIA established an "accident panel" to investigate the dynamics of the accident and ways to minimise the risk of a crash during similar circumstances that do not warrant the deployment of a safety car and cannot be simply managed with yellow flags. When the virtual safety car



is deployed, the virtual marshal panels around the track display "VSC". All drivers receive a "VSC" notice on their steering wheels, and they must all keep their lap times above a pre-determined minimum, also known as keeping a positive delta.<sup>[105]</sup> The system was first implemented during the 2015 Monaco Grand Prix, before being upgraded to a full safety car, following a collision between Max Verstappen and Romain Grosjean.<sup>[106]</sup>

## Flags










Flags specifications and usage are prescribed by Appendix H of the FIA's International Sporting Code.<sup>[107]</sup>



The Mercedes-AMG GT R safety car at the 2019 Hungarian Grand Prix



An Aston Martin Safety Car during the 2022 Formula One World Championship

Flag	Name	Meaning
	<b>SC Board (Safety Car)</b>	Shown in conjunction with a yellow flag to indicate that the <u>Safety Car</u> is on track. Full course yellow flag applies. Drivers must hold position and slow down.
	<b>VSC Board (Virtual Safety Car)</b>	Shown in conjunction with a yellow flag to indicate that the <u>virtual safety car</u> is in use. During this time, the drivers are given <u>minimum sector times</u> that they must stay above. Full course double yellow flag applies. The car's time relative to this set time is measured at each marshalling post (approximately every 50 m), and the difference is referred to as the car's "delta" time. This delta time is reported to the driver, and must remain positive throughout the VSC period, or else the driver will be penalised. <sup>[108]</sup>
	<b>Yellow</b>	Indicates a hazard on or near the track (waved yellows indicate a hazard <i>on the track</i> , frozen yellows indicate a hazard <i>near the track</i> ). Double waved yellows inform drivers that they must slow down as marshals are working on or near to the track and drivers should be prepared to stop.
	<b>Green</b>	Normal racing conditions apply. This is usually shown following a yellow flag to indicate that the hazard has been passed. A green flag is shown at all stations for the lap following the end of a full-course yellow (or safety car). A green flag is also shown at the start of a session.
	<b>Yellow and red striped</b>	Slippery track, due to oil, water, or loose debris. Can be seen 'rocked' from side to side (not waved) to indicate a small animal on track.
	<b>Blue</b>	A blue flag indicates that the driver in front must let faster cars behind them pass because they are being lapped. If the flag is missed 3 times, the driver could be penalised. Accompanied by the driver's number.
	<b>White</b>	Indicates that there is a slow car ahead, either a race car or a course vehicle. Often waved at the end of the pit lane when a car is about to leave the pits.
	<b>Black and orange circle</b>	Car is damaged or has a mechanical problem, must return to the pit lane immediately. Will be accompanied by driver's number
	<b>Half black half white</b>	Warns a driver for poor sportsmanship or dangerous behaviour. Can be followed by a Black flag upon further infringement. Accompanied by the driver's number.
	<b>Black</b>	Driver is disqualified. Will be accompanied by the driver's number. This can be issued after a Half Black Half White flag.
	<b>Red</b>	A red flag immediately halts a race or session when conditions become too dangerous to continue.
	<b>Chequered flag</b>	End of the practice, qualifying, or racing session.

The format of the race has changed little through Formula One's history. The main changes have revolved around what is allowed at pit stops. In the early days of Grand Prix racing, a driver would be allowed to continue a race in their teammate's car should theirs develop a problem – in the modern era, cars are so carefully fitted to drivers that this has become impossible. In recent years, the emphasis has been on changing refuelling and tyre change regulations.

Since the 2010 season, refuelling – which was reintroduced in 1994 – has not been allowed, to encourage less tactical racing following safety concerns. The rule requiring both compounds of tyre to be used during the race was introduced in 2007, again to encourage racing on the track. The safety car is another relatively recent innovation that reduced the need to deploy the red flag, allowing races to be completed on time for a growing international live television audience.

Points system

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
25	18	15	12	10	8	6	4	2	1

Various systems for awarding championship points have been used since 1950. The current system, in place since 2010,<sup>[a]</sup> awards the top ten cars points in the Drivers' and Constructors' Championships, with the winner receiving 25 points. All points won at each race are added up, and the driver and constructor with the most points at the end of the season are crowned World Champions. Regardless of whether a driver stays with the same team throughout the season, or switches teams, all points earned by them count for the Drivers' Championship.<sup>[109]</sup>

A driver must be classified in order to receive points, as of 2022, a driver must complete at least 90% of the race distance in order to receive points. Therefore, it is possible for a driver to receive points even if they retired before the end of the race.<sup>[110]</sup>

From some time between the 1977 and 1980 seasons to the end of the 2021 season if less than 75% of the race laps were completed by the winner, then only half of the points listed in the table were awarded to the drivers and constructors. This has happened on only five occasions in the history of the championship, and it had a notable influence on the final standing of the 1984 season. The last occurrence was at the 2021 Belgian Grand Prix when the race was called off after just three laps behind a safety car because of torrential rain.<sup>[111][112]</sup> The half points rule was replaced by a distance-dependent gradual scale system for 2022.<sup>[113]</sup>

Constructors

A Formula One constructor is the entity credited for designing the chassis and the engine.<sup>[114]</sup> If both are designed by the same company, that company receives sole credit as the constructor (e.g., Ferrari). If they are designed by different companies, both are credited, and the name of the chassis designer is placed before that of the engine designer (e.g., McLaren-Mercedes). All constructors are scored individually, even if they share either chassis or engine with another constructor (e.g., Williams-Ford, Williams-Honda in 1983).<sup>[115]</sup> Constructors that share the engine with another constructor pay close attention - not just to their own performance - but also to the performance of other constructors using the same engine when assessing whether to extend their collaboration with an engine manufacturer.<sup>[116]</sup>



Ferrari (pictured with Lewis Hamilton) have competed in every season.

Since 1981,<sup>[117]</sup> Formula One teams have been required to build the chassis in which they compete, and consequently the distinction between the terms "team" and "constructor" became less pronounced, though engines may still be produced by a different entity.<sup>[118]</sup> This requirement distinguishes the sport from series such as the IndyCar Series which allows teams to purchase chassis, and "spec series" such as Formula 2 which require all cars be kept to an identical specification. It also effectively prohibits privateers, which were common even in Formula One well into the 1970s.

The sport's debut season, 1950, saw eighteen teams compete, but due to high costs, many dropped out quickly. In fact, such was the scarcity of competitive cars for much of the first decade of Formula One that Formula Two cars were admitted to fill the grids. Ferrari is the oldest Formula One team, the only still-active team which competed in 1950.

Early manufacturer involvement came in the form of a "factory team" or "works team" (that is, one owned and staffed by a major car company), such as those of Alfa Romeo, Ferrari, or Renault. Ferrari holds the record for having won the most Constructors' Championships (sixteen).

Companies such as Climax, Repcos, Cosworth, Hart, Judd and Supertec, which had no direct team affiliation, often sold engines to teams that could not afford to manufacture them. In the early years, independently owned Formula One teams sometimes also built their engines, though this became less common with the increased involvement of major car manufacturers such as BMW, Ferrari, Honda, Mercedes-Benz, Renault, and Toyota, whose large budgets rendered privately built engines less competitive. Cosworth was the last independent engine supplier.<sup>[119]</sup> It is estimated the major teams spend between €100 and €200 million (\$125–\$225 million) per year per manufacturer on engines alone.<sup>[120]</sup>

In the 2007 season, for the first time since the 1981 rule, two teams used chassis built by other teams. Super Aguri started the season using a modified Honda Racing RA106 chassis (used by Honda the previous year), while Scuderia Toro Rosso used the same chassis used by the parent Red Bull Racing team, which was formally designed by a separate subsidiary. The usage of these loopholes was ended for 2010 with the publication of new technical regulations, which require each constructor to own the intellectual property rights to their chassis,<sup>[121][122]</sup> The regulations continue to allow a team to subcontract the design and construction of the chassis to a third-party, an option used by the HRT team in 2010 and Haas currently.

Although teams rarely disclose information about their budgets, it is estimated they range from US\$66 million to US\$400 million each.<sup>[123]</sup>



McLaren won all but one race in 1988 with engine partner Honda.



Renault (pictured here with Nico Hülkenberg) has had an active role in Formula One as both constructor and engine supplier since 1977.



Entering a new team in the Formula One World Championship requires a \$200 million up-front payment to the FIA, which is then shared equally among the existing teams.<sup>[124]</sup> As a consequence, constructors desiring to enter Formula One often prefer to buy an existing team: BAR's purchase of Tyrrell and Midland's purchase of Jordan allowed both of these teams to sidestep the large deposit and secure the benefits the team already had, such as TV revenue.

Seven out of the ten teams competing in Formula One are based in England, in an area centred around Oxford. Ferrari have both their chassis and engine assembly in Maranello, Italy. The RB Formula One Team is based close to Ferrari in Faenza, whilst Sauber Motorsport is based near Zurich in Switzerland.<sup>[125][126]</sup>

## Drivers

---

Every team in Formula One must run two cars in every session in a Grand Prix weekend, and every team may use up to four drivers in a season.<sup>[84]</sup> A team may also run two additional drivers in Free Practice sessions,<sup>[84]</sup> which are often used to test potential new drivers for a career as a Formula One driver or gain experienced drivers to evaluate the car.<sup>[127][128]</sup> Most drivers are contracted for at least the duration of a season, with driver changes taking place in-between seasons, in comparison to early years when drivers often competed on an ad hoc basis from race to race. Each competitor must be in the possession of a FIA Super Licence to compete in a Grand Prix,<sup>[129]</sup> which is issued to drivers who have met the criteria of success in junior motorsport categories and having achieved 300 kilometres (190 mi) of running in a Formula One car. Drivers may also be issued a Super Licence by the World Motor Sport Council if they fail to meet the criteria.<sup>[129]</sup> Although most drivers earn their seat on ability, commercial considerations also come into play with teams having to satisfy sponsors and financial demands.



2005 Canadian Grand Prix: Kimi Räikkönen leading Michael Schumacher, with Jarno Trulli (Toyota) and Takuma Sato (BAR-Honda) fighting for position

Teams also contract test and reserve drivers to stand in for regular drivers when necessary and develop the team's car; although with the reduction on testing the reserve drivers' role mainly takes places on a simulator,<sup>[130]</sup> such as rFpro,<sup>[131][132]</sup> which is used by most of the F1 teams.<sup>[133][134]</sup>

Each driver chooses an unassigned number from 2 to 99 (excluding 17 which was retired following the death of Jules Bianchi)<sup>[135]</sup> upon entering Formula One and keeps that number during their time in the series. The number one is reserved for the reigning Drivers' Champion, who retains their previous number and may choose to use it instead of the number one.<sup>[136]</sup> At the onset of the championship, numbers were allocated by race organisers on an ad hoc basis from race to race.<sup>[137]</sup>

Permanent numbers were introduced in 1973 to take effect in 1974, when teams were allocated numbers in ascending order based on the Constructors' Championship standings at the end of the 1973 season. The teams would hold those numbers from season to season with the exception of the team with the World

Drivers' Champion, which would swap its numbers with the one and two of the previous champion's team. New entrants were allocated spare numbers, with the exception of the number 13 which had been unused since 1976.<sup>[138]</sup>

As teams kept their numbers for long periods of time, car numbers became associated with a team, such as Ferrari's 27 and 28.<sup>[137]</sup> A different system was used from 1996 to 2013: at the start of each season, the current Drivers' Champion was designated number one, their teammate number two, and the rest of the teams assigned ascending numbers according to previous season's Constructors' Championship order.<sup>[139]</sup>

As of 2024, a total of 34 separate drivers have won the World Drivers' Championship, with Michael Schumacher and Lewis Hamilton holding the record for most championships with seven. Lewis Hamilton achieved the most race wins, too, in 2020. Jochen Rindt is the only posthumous World Champion, after his points total was not surpassed despite his fatal accident at the 1970 Italian Grand Prix, with 4 races still remaining in the season. Drivers from the United Kingdom have been the most successful in the sport, with 20 championships among 10 drivers, and 319 wins.<sup>[140]</sup>



The trophy given to the F1 World Drivers' Champion at the end of the season

## Physical demands

Driving in Formula One is highly demanding physically, with drivers typically burning around 1,000 calories per hour and losing 2–4 kg (4–9 lb) of weight per race.<sup>[141][142]</sup> A key reason for the physical demands is the extreme g-forces generated by driving at high speeds, with modern Formula One cars capable of generating forces of up to 6.5 *gs* when cornering, 6 *gs* when braking and 2 *gs* when accelerating.<sup>[143][144][145]</sup> When a driver experiences 6 *g*, they will feel a force equivalent to six times their body weight; for a person weighing 80 kg (176 lb), this would be 480 kg (1,058 lb).<sup>[146]</sup> Another factor is the high temperature inside the car, as the engine is mounted directly behind the driver. The temperature in the cockpit of a Formula One car can be as high as 60 °C (140 °F) and drivers have to wear several layers of fireproof racing clothing.<sup>[147][148]</sup> The steering wheel and brake pedal also require considerable strength to operate. Before the introduction of power steering in the 2000s, drivers had to cope with steering forces of up to 40–50 newton-metres (30–37 lb·ft),<sup>[149][150]</sup> while achieving maximum braking power requires drivers to apply around 150 kg (330 lb) of force to the brake pedal.<sup>[151]</sup> Drivers also need to be light, as every extra kilogram of weight noticeably reduces performance.<sup>[141]</sup> Drivers also need to train on cardiovascular fitness since heart rates can average more than 170 bpm during a race; this is more than a healthy adult would typically experience while running.<sup>[152]</sup>

## Feeder series

Most F1 drivers start in kart racing competitions and then progress through traditional entry level European single-seater series such as Formula Ford,<sup>[153]</sup> Formula Renault,<sup>[154]</sup> and Formula 4.<sup>[155]</sup> From there, drivers typically progress to higher level regional championships at the Formula Three level. This included championships like British F3 and European F3 historically, although similar series now hold the Formula Regional designation. In addition to this, there are also international F3 championships,

A blue and black Williams FW35 Formula 1 car is shown on a racetrack. The car features prominent sponsor logos including YPF, Goodyear, and Agip. The driver's name, "GROJAN", is visible on the sidepods. The car is positioned on a dark asphalt track with a green grassy area in the background.

Drivers are not required to have competed at this level before entering Formula One. British F3 has supplied many F1 drivers, with champions, including Nigel Mansell, Ayrton Senna and Mika Häkkinen having moved straight from that series to Formula One, and Max Verstappen made his F1 debut following a single season in European F3. More rarely a driver may be picked from an even lower level, as was the case with 2007 World Champion Kimi Räikkönen, who went straight from Formula Renault to F1.<sup>[158]</sup>

## Grands Prix

Six of the original seven races took place in Europe; the only non-European race that counted towards the World Championship in 1950 was the Indianapolis 500, which was held to different regulations and later replaced by the United States Grand Prix. The F1 championship gradually expanded to other non-European countries. Argentina hosted the first South American Grand Prix in 1953, and Morocco hosted the first African World Championship race in 1958. Asia and Oceania followed (Japan in 1976 and

Australia in 1985), and the first race in the Middle East was held in 2004. The 19 races of the 2014 season were spread over every populated continent except for Africa, with 10 Grands Prix held outside Europe.

Some of the Grands Prix pre-date the formation of the World Championship, such as the French Grand Prix and were incorporated into the championship as Formula One races in 1950. The British and Italian Grands Prix are the only events to have been held every Formula One season; other long-running races include the Belgian, German, and French Grands Prix. The Monaco Grand Prix was first held in 1929 and has run continuously since 1955 (with the exception of 2020) and is widely considered to be one of the most important and prestigious automobile races in the world.<sup>[161]</sup>

All Grands Prix have traditionally been run during the day, until the inaugural Singapore Grand Prix hosted the first Formula One night race in 2008,<sup>[162]</sup> which was followed by the day–night Abu Dhabi Grand Prix in 2009 and the Bahrain Grand Prix which converted to a night race in 2014. Other Grands Prix in Asia have had their start times adjusted to benefit the European television audience.<sup>[163]</sup>

## **Contracted Grands Prix**

The following twenty-four Grands Prix, all of which appeared on the 2024 schedule, have a contract to be hosted at the listed circuits for the 2025 season:



<u>Grand Prix</u>	<u>Circuit</u>	<b>Contract ends</b>	<b>Ref.</b>
<u>Abu Dhabi Grand Prix</u>	 <u>Yas Marina Circuit, Abu Dhabi</u>	2031	[164]
<u>Australian Grand Prix</u>	 <u>Albert Park Circuit, Melbourne</u>	2037	[165]
<u>Austrian Grand Prix</u>	 <u>Red Bull Ring, Spielberg</u>	2030	[166]
<u>Azerbaijan Grand Prix</u>	 <u>Baku City Circuit, Baku</u>	2026	[167]
<u>Bahrain Grand Prix</u>	 <u>Bahrain International Circuit, Sakhir</u>	2036	[168]
<u>Belgian Grand Prix</u>	 <u>Circuit de Spa-Francorchamps, Stavelot</u>	2031	[169]
<u>British Grand Prix</u>	 <u>Silverstone Circuit, Silverstone</u>	2034	[170]
<u>Canadian Grand Prix</u>	 <u>Circuit Gilles Villeneuve, Montreal</u>	2031	[171]
<u>Chinese Grand Prix</u>	 <u>Shanghai International Circuit, Shanghai</u>	2030	[172]
<u>Dutch Grand Prix</u>	 <u>Circuit Zandvoort, Zandvoort</u>	2026	[173]
<u>Emilia Romagna Grand Prix</u>	 <u>Imola Circuit, Imola</u>	2025	[174]
<u>Hungarian Grand Prix</u>	 <u>Hungaroring, Mogyoród</u>	2032	[175]
<u>Italian Grand Prix</u>	 <u>Monza Circuit, Monza</u>	2031	[176]
<u>Japanese Grand Prix</u>	 <u>Suzuka International Racing Course, Suzuka</u>	2029	[177]
<u>Las Vegas Grand Prix</u>	 <u>Las Vegas Strip Circuit, Paradise, Nevada</u>	2025	[178]
<u>Mexico City Grand Prix</u>	 <u>Autódromo Hermanos Rodríguez, Mexico City</u>	2028	[179]
<u>Miami Grand Prix</u>	 <u>Miami International Autodrome, Miami Gardens, Florida</u>	2041	[180]
<u>Monaco Grand Prix</u>	 <u>Circuit de Monaco, Monaco</u>	2031	[181]
<u>Qatar Grand Prix</u>	 <u>Lusail International Circuit, Lusail</u>	2032	[182]
<u>São Paulo Grand Prix</u>	 <u>Interlagos Circuit, São Paulo</u>	2030	[183]
<u>Saudi Arabian Grand Prix</u>	 <u>Jeddah Corniche Circuit, Jeddah</u>	2030	[184]
<u>Singapore Grand Prix</u>	 <u>Marina Bay Street Circuit, Singapore</u>	2028	[185]
<u>Spanish Grand Prix</u>	 <u>Circuit de Barcelona-Catalunya, Montmeló</u>	2025	[186]
<u>United States Grand Prix</u>	 <u>Circuit of the Americas, Austin, Texas</u>	2026	[187]

- The Saudi Arabian Grand Prix will move to a purpose built circuit in Qiddiya in 2028.
- The Spanish Grand Prix will move to a street circuit in Madrid in 2026.

## Returning additions (2008–present)

**Bold** denotes the Grands Prix scheduled as part of the 2025 season.

- European Grand Prix at Valencia Street Circuit (2008–2012)
- **United States Grand Prix** at Circuit of the Americas (2012–2019, 2021–present)
- **Austrian Grand Prix** at Red Bull Ring (2014–present)

- Mexican Grand Prix at Autódromo Hermanos Rodríguez (2015–2019); renamed **Mexico City Grand Prix** (2021–present)<sup>[188]</sup>
- European Grand Prix at Baku City Circuit (2016; renamed the **Azerbaijan Grand Prix** for 2017–2019, 2021–present)
- French Grand Prix at Circuit Paul Ricard (2018–2019, 2021–2022)
- Portuguese Grand Prix at Algarve International Circuit (2020–2021)<sup>[b]</sup>
- Imola Circuit with the Emilia Romagna Grand Prix (2020–2022, 2024–present; previously hosted the Italian Grand Prix and the San Marino Grand Prix)<sup>[c]</sup>
- **Dutch Grand Prix** at Circuit Zandvoort (2021–present)

## New Locations Initiative (2008–present)

**Bold** denotes the Grands Prix scheduled as part of the 2025 season.

Since 2008, the Formula One Group has been targeting new "destination cities" to expand its global reach, with the aim to produce races from countries that have not previously been involved in the sport. This initiative started with the 2008 Singapore Grand Prix.<sup>[189]</sup>

Race	Years	Circuit	Notes
 <b>Singapore Grand Prix</b>	<u>2008–2019, 2022–</u>	<u>Marina Bay Street Circuit</u>	First race to take place outside of daylight hours. 2020 and 2021 races cancelled due to <u>COVID-19 pandemic</u> .
 <b>Abu Dhabi Grand Prix</b>	<u>2009–</u>	<u>Yas Marina Circuit</u>	
 <b>Korean Grand Prix</b>	<u>2010–2013</u>	<u>Korea International Circuit</u>	Discontinued due to poor attendance figures.
 <b>Indian Grand Prix</b>	<u>2011–2013</u>	<u>Buddh International Circuit</u>	Discontinued due to local government tax classification dispute.
 <b>Russian Grand Prix</b>	<u>2014–2021</u>	<u>Sochi Autodrom</u>	Planned to move to <u>Igora Drive</u> from 2023. <u>2022 event</u> cancelled and contract terminated following the <u>Russian invasion of Ukraine</u> . <sup>[190]</sup>
 <b>Azerbaijan Grand Prix</b>	<u>2017–2019, 2021–</u>	<u>Baku City Circuit</u>	Previously called the European Grand Prix in 2016. 2020 race cancelled due to COVID-19 pandemic.
 <b>Saudi Arabian Grand Prix</b>	<u>2021–</u>	<u>Jeddah Corniche Circuit</u>	
 <b>Qatar Grand Prix</b>	<u>2021, 2023–</u>	<u>Lusail International Circuit</u>	Called in last minute to replace the Australian Grand Prix. Has a ten-year contract from 2023. Was originally due to be held at a new venue from 2023 onwards, although this did not transpire.
 <b>Miami Grand Prix</b>	<u>2022–</u>	<u>Miami International Autodrome</u>	
 <b>Las Vegas Grand Prix</b>	<u>2023–</u>	<u>Las Vegas Street Circuit</u>	
 <b>Spanish Grand Prix</b>	<u>2026–</u>	<u>Madring</u>	Moving from <u>Circuit de Barcelona-Catalunya</u> to a brand new racetrack situated around the IFEMA Exhibition Centre in Madrid

## Circuits

Formula One races must be held on Grade One tracks, the highest grade-rating issued by the FIA for tracks.<sup>[191]</sup> The layout and lap distance of each circuit can vary significantly as long as they stay within the FIA's regulations. In most cases, the tracks run in a clockwise direction, although there are a handful of tracks in the Championship that run anticlockwise.

A typical circuit features a stretch of straight road on which the starting grid is situated, with the pit lane normally located right next to it. The pit lane is home to each team's garage, where cars are stored and serviced before a race. During a pit stop, drivers enter the pit lane to change their tyres, receive repairs or

aerodynamic adjustments from their pit crew, or retire from the race (if the car is in a condition to do so). Prior to the 2010 season, pit stops also facilitated mid-race refueling of the cars.<sup>[192]</sup> Special pit roads and track markings help to make sure drivers pit and rejoin the track safely.

Most of the circuits currently in use are specially constructed for competition, but the calendar also features several circuits that use converted public streets to varying degrees. These tracks include Monaco, Melbourne, Singapore, Baku, Miami, Jeddah, and Las Vegas. Three-time World champion Nelson Piquet famously described racing in Monaco as "like riding a bicycle around your living room".<sup>[193]</sup> The Monaco Grand Prix holds a unique exception to the FIA's minimum race distance requirement—the Grand Prix only needs to last enough laps to cover a distance of 260 km, versus the standard 305 km.<sup>[194][195]</sup>

Circuit design to protect the safety of drivers is becoming increasingly sophisticated, as exemplified by the Bahrain International Circuit, added in 2004 and designed – like most of F1's new circuits – by Hermann Tilke. Several of the new circuits in F1, especially those designed by Tilke, have been criticised as lacking the "flow" of such classics as Spa-Francorchamps and Imola.<sup>[196]</sup> His redesign of the Hockenheim circuit in Germany for example, while providing more capacity for grandstands and eliminating extremely long and dangerous straights, has been frowned upon by many who argue that part of the character of the Hockenheim circuits was the long and blinding straights into dark forest sections. These newer circuits, however, are generally agreed to meet the safety standards of modern Formula One better than the older ones.<sup>[197]</sup>

The Circuit of the Americas in Austin, the Sochi Autodrom in Sochi and the Baku City Circuit in Azerbaijan have all been introduced as brand new tracks since 2012. In 2020, Algarve International Circuit debuted on the F1 calendar as the venue of the Portuguese Grand Prix, with the country having last hosted a race in 1996.<sup>[b]</sup> In 2021, Circuit Zandvoort returned to the F1 calendar as the Dutch Grand Prix, having last hosted a race in 1985.<sup>[198]</sup> The Las Vegas Grand Prix entered the sport in 2023.<sup>[199]</sup>

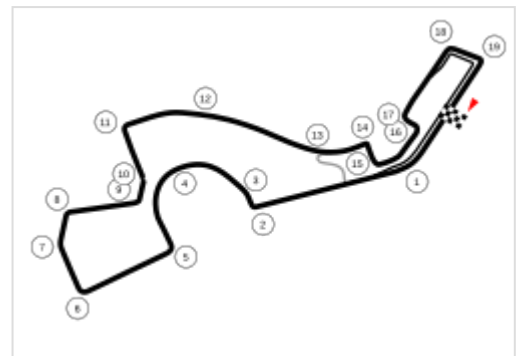
## Cars and technology

---

Modern Formula One cars are mid-engined, hybrid, semi-open cockpit, open-wheel single-seaters. The chassis is made largely of carbon-fibre composites, rendering it light but extremely stiff and strong. The whole car, including the driver but not fuel, weighs only 800 kg (1,800 lb) – the minimum weight set by the regulations.<sup>[200]</sup> If the construction of the car is lighter than the minimum, it can be ballasted up to add the necessary weight. The race teams take advantage of this by placing this ballast at the extreme bottom of the chassis, thereby locating the centre of gravity as low as possible in order to improve handling and weight transfer.<sup>[201]</sup>



The Autodromo Nazionale Monza, home to the Italian Grand Prix, is the oldest purpose-built track still in use today.



Sochi Autodrom, host venue for the Russian Grand Prix from 2014 to 2021



The cornering speed of Formula One cars is largely determined by the aerodynamic downforce that they generate, which pushes the car down onto the track. This is provided by "wings" mounted at the front and rear of the vehicle, and by ground effect created by low air pressure under the flat bottom of the car. The aerodynamic design of the cars is very heavily constrained to limit performance. The previous generation of cars sported a large number of small winglets, "barge boards", and turning vanes designed to closely control the flow of the air over, under, and around the car.



Jenson Button in the Brawn BGP 001

The other major factor controlling the cornering speed of the cars is the design of the tyres. From 1998 to 2008, the tyres in Formula One were not "slicks" (tyres with no tread pattern) as in most other circuit racing series. Instead, each tyre had four large circumferential grooves on its surface designed to limit the cornering speed of the cars.<sup>[202]</sup> Slick tyres returned to Formula One in the 2009 season. Suspension is double wishbone or multilink front and rear, with pushrod operated springs and dampers on the chassis – one exception being that of the 2009 specification Red Bull Racing car (RB5) which used pullrod suspension at the rear, the first car to do so since the Minardi PS01 in 2001. Ferrari used a pullrod suspension at both the front and rear in their 2012 car.<sup>[203]</sup> Both Ferrari (F138) and McLaren (MP4-28) of the 2013 season used a pullrod suspension at both the front and the rear. In 2022, McLaren (MCL36) and Red Bull Racing (RB18) switched to a pullrod front suspension and push rod rear suspension.<sup>[204][205]</sup>

Carbon-carbon disc brakes are used for reduced weight and increased frictional performance. These provide a very high level of braking performance and are usually the element that provokes the greatest reaction from drivers new to the formula. The carbon<sup>[206]</sup> material enhances the brakes by maintaining an effective performance<sup>[207]</sup> under extreme heat. To optimise this, the brakes feature 1,000 ventilation holes, ensuring for maximum performance and cooling.

In 2022, the technical regulations changed considerably in order to reduce the turbulence (commonly referred to as "dirty air") produced by the aerodynamics of the car. This includes a redesigned front and rear wing, larger wheels with a lower tyre profile, wheel covers, small winglets, the banning of barge boards, and the reintroduction of Ground effect downforce production. These have been changed to promote racing, meaning cars lose less downforce when following another car. It allows cars to follow another at a much closer distance, without extending the gap due to the turbulent air.<sup>[208]</sup> (See 2022 Formula One World Championship Technical regulations)

Formula One cars must have four wheels made of the same metallic material, which must be one of two magnesium alloys specified by the FIA.<sup>[209]</sup> Magnesium alloy wheels made by forging are used to achieve maximum unsprung rotating weight reduction.<sup>[210]</sup> As of 2022, the wheels are covered with "spec" (Standardised) Wheel Covers, the wheel diameter has increased from 13 inches to 18 inches (reducing the "tyre profile"), and small winglets have been placed over the front tyres.<sup>[211]</sup>

Starting with the 2014 Formula 1 season, the engines have changed from a 2.4-litre naturally aspirated V8 to turbocharged 1.6-litre V6 power-units.<sup>[212]</sup> These get a significant amount of their power from electric motors. In addition, they include a lot of energy recovery technology. Engines run on unleaded fuel closely resembling publicly available petrol.<sup>[213]</sup> The oil which lubricates and protects the engine from overheating is very similar in viscosity to water. The 2006 generation of engines spun up to 20,000 rpm

and produced over 580 kW (780 bhp).<sup>[214]</sup> For 2007, engines were restricted to 19,000 rpm with limited development areas allowed, following the engine specification freeze since the end of 2006.<sup>[215]</sup> For the 2009 Formula One season the engines were further restricted to 18,000 rpm.<sup>[216]</sup>



A BMW Sauber P86 V8 engine, which powered their 2006 F1.06

A wide variety of technologies – including active suspension<sup>[217]</sup> are banned under the current regulations. Despite this the current generation of cars can reach speeds in excess of 350 km/h (220 mph) at some circuits.<sup>[218]</sup> The highest straight line speed recorded during a Grand Prix was 372.6 km/h (231.5 mph), set by Juan Pablo Montoya during the 2005 Italian Grand Prix.<sup>[219]</sup> During qualifying for the 2016 European Grand Prix, Valtteri Bottas set a record top speed of 378 km/h (234.9 mph).<sup>[220]</sup> A BAR-Honda Formula One car, running with minimum downforce on a runway in the Mojave Desert achieved a top speed of 415 km/h (258 mph) in 2006. According to Honda, the car fully met the FIA Formula One regulations.<sup>[221]</sup>

Even with the limitations on aerodynamics, at 160 km/h (99 mph) aerodynamically generated downforce is equal to the weight of the car, and the oft-repeated claim that Formula One cars create enough downforce to "drive on the ceiling", while possible in principle, has never been put to the test. Downforce of 2.5 times the car's weight can be achieved at full speed. The downforce means that the cars can achieve a lateral force with a magnitude of up to 3.5 times that of the force of gravity (3.5g) in cornering.<sup>[222]</sup> Consequently, the driver's head is pulled sideways with a force equivalent to the weight of 20 kg in corners. Such high lateral forces are enough to make breathing difficult and the drivers need supreme concentration and fitness to maintain their focus for the one to two hours that it takes to complete the race. A high-performance road car like the Enzo Ferrari only achieves around 1g.<sup>[223]</sup>

As of 2019, each team may have no more than two cars available for use at any time.<sup>[224]</sup> Each driver may use no more than four engines during a championship season unless they drive for more than one team. If more engines are used, they drop ten places on the starting grid of the event at which an additional engine is used. The only exception is where the engine is provided by a manufacturer or supplier taking part in its first championship season, in which case up to five may be used by a driver.<sup>[225]</sup> Each driver may use no more than one gearbox for six consecutive events; every unscheduled gearbox change requires the driver to drop five places on the grid unless they failed to finish the previous race due to reasons beyond the team's control.<sup>[226]</sup>

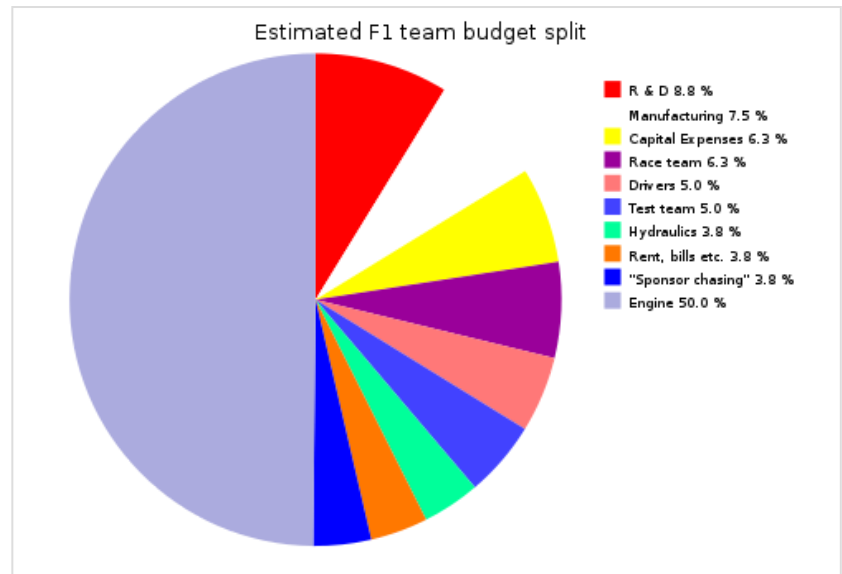
As of 2019, each driver is limited to three power units per season, before incurring grid penalties.

## Revenue and profits

---

In March 2007, *F1 Racing* published its annual estimates of spending by Formula One teams.<sup>[227]</sup> The total spending of all eleven teams in 2006 was estimated at \$2.9 billion US. This was broken down as follows: Toyota \$418.5 million, Ferrari \$406.5 m, McLaren \$402 m, Honda \$380.5 m, BMW Sauber \$355 m, Renault \$324 m, Red Bull \$252 m, Williams \$195.5 m, Midland F1/Spyker-MF1 \$120 m, Toro Rosso \$75 m, and Super Aguri \$57 million.

Costs vary greatly from team to team. Honda, Toyota, McLaren-Mercedes, and Ferrari were estimated to have spent approximately \$200 million on engines in 2006, Renault spent approximately \$125 million and Cosworth's 2006 V8 was developed for \$15 million.<sup>[228]</sup> In contrast to the 2006 season on which these figures are based, the 2007 sporting regulations banned all performance-related engine development.<sup>[229]</sup>



Estimated budget split of a Formula One team based on the 2006 season

Formula One teams pay entry fees of \$500,000, plus \$5,000 per point scored the previous year or \$6,000 per point for the winner of the Constructors' Championship. Formula One drivers pay a FIA Super Licence fee, which in 2013 was €10,000 plus €1,000 per point.<sup>[230]</sup>

There have been controversies with the way profits are shared among the teams. The smaller teams have complained that the profits are unevenly shared, favouring established top teams. In September 2015, Force India and Sauber officially lodged a complaint with the European Union against Formula One questioning the governance and stating that the system of dividing revenues and determining the rules is unfair and unlawful.<sup>[231]</sup>

The cost of building a brand-new permanent circuit can be up to hundreds of millions of dollars, while the cost of converting a public road, such as Albert Park, into a temporary circuit is much less. Permanent circuits, however, can generate revenue all year round from leasing the track for private races and other races, such as MotoGP. The Shanghai International Circuit cost over \$300 million<sup>[232]</sup> and the Istanbul Park circuit cost \$150 million to build.<sup>[233]</sup>

A number of Formula One drivers earn the highest salary of any drivers in auto racing. The highest-paid driver in 2021 is Lewis Hamilton, who received \$55 million in salary from Mercedes AMG Petronas F1 – a record for any driver.<sup>[234]</sup> The very top Formula One drivers get paid more than IndyCar or NASCAR drivers; however, the earnings immediately fall off after the top three F1 drivers, and the majority of NASCAR racers will make more money than their F1 counterparts.<sup>[235]</sup> Most top IndyCar drivers are paid around a tenth of their Formula One counterparts.<sup>[234]</sup>

In the second quarter of 2020, Formula One reported a loss revenue of \$122 million and an income of \$24 million. This was a result of the delay of the racing championship start as a result of the COVID-19 pandemic. The company grossed revenues of \$620 million for the same quarter the previous year.<sup>[236]</sup>

## Cost cap

Since the beginning of Formula 1 back in 1950, the sport's governing body has not had any regulations limiting the spending of a team. This has led to a pattern where teams with large budgets perform significantly better than their competitors and the gap has only continued to increase.<sup>[237]</sup>

For instance, in 2019, the richest teams such as Mercedes and Ferrari spent \$420 million and \$435 million respectively,<sup>[238]</sup> whereas teams such as Williams or Haas, only spent \$125 million and \$150 million respectively.<sup>[239]</sup> This gap was widening by the season and disparities like this prompted the FIA to introduce a cost cap in February 2021.

The FIA proposed the cost cap as a measure to reward engineering prowess over sheer expenditure. They did this in an effort to bridge the gap between the midfield teams and the teams challenging for the driver's and constructors' titles.

The cap was \$175 million in 2021, although was reduced further to \$145 million in response to economic turmoil due to the COVID-19 pandemic. For 2022, the cost cap was further reduced to \$140 million and in 2023 it fell to \$135 million where it will remain for the 2024 and 2025 seasons.<sup>[240][241]</sup>

The 2022 season served as a critical test for the effectiveness of the cost cap as it was the year the new regulations were introduced, allowing all teams to start from scratch and build a car that was independent of the previous years. Critics have argued that the cap might not be sufficient to close the gap in competition because it excluded certain expenses like driver salaries, compensation for the three highest paid-staff members, and marketing costs along with loopholes that allowed the likes of Adrian Newey's salary of Red Bull to be excluded from the cost cap.<sup>[240]</sup> They also contended that established teams could exploit existing infrastructures and resources accumulated over years, thus maintaining their competitive edge despite the spending limits.

However, an alternative perspective highlights that the cost cap encourages teams to maximise efficiency and foster innovation within their financial means. McLaren started the 2023 season as the slowest car on the track, with their drivers finishing outside the points with Lando Norris at P17 and Oscar Piastri at P20. Seven months later, with the right upgrades, they managed to be the fastest car on the grid throughout qualifying and race pace. Facing budgetary constraints similar to their competitors, McLaren focused on strategic engineering upgrades and talent development. Their significant mid-season improvements led to notable on-track success, demonstrating that with clever resource management and engineering talent, teams can challenge the dominance of traditionally wealthier competitors.

McLaren CEO Zak Brown said that "the cap has been outstanding for the sport." He also went on to say that there is a feeling that at any point in the season, any team can challenge for a place it wasn't equipped to do so at the start of the season.<sup>[242]</sup>

The critics have expressed that the impact of the cost cap suggests that engineering excellence and strategic ingenuity can indeed offset the advantages of larger budgets. By promoting a more balanced competitive environment, the cost cap has made Formula 1 more exciting for fans and more viable for teams.

## Future

---

The expense of Formula One has seen the FIA and the Formula One Commission attempt to create new regulations to lower the costs for a team to compete in the sport.<sup>[243][244]</sup>

Following their purchase of the commercial rights to the sport in 2017, Liberty Media announced their vision for the future of Formula One at the 2018 Bahrain Grand Prix. The proposal identified five key areas, including streamlining the governance of the sport, emphasising cost-effectiveness, maintaining the sport's relevance to road cars and encouraging new manufacturers to enter the championship whilst enabling them to be competitive.<sup>[245]</sup>



A sign announcing that the safety car (SC) is deployed

On 19 August 2020, it was announced that all 10 teams had signed the new Concorde Agreement.<sup>[246]</sup> This came into effect at the start of the 2021 season and changed how prize money and TV revenue is distributed.<sup>[247]</sup>

## Environmental impact

Formula One has initiated a plan to become carbon neutral by 2030. By 2025, all events should have become "sustainable", including eliminating single-use plastics and ensuring all waste is reused, recycled or composted.<sup>[248]</sup>

A report conducted by Formula One estimated that the series was responsible for 256,000 tonnes of carbon dioxide emissions in the 2019 season, finding that 45% of emissions were from logistics and only 0.7% were from emissions from the cars themselves.<sup>[249][250]</sup>

In January 2020, FIA and Formula One signed the United Nations "Sports for Climate Action" framework. After the signing was announced, FIA President Jean Todt said: "As an international Federation comprising 244 members in 140 countries and the leader in motor sport and mobility development, we are fully committed to global environmental protection. The signing of this UN Sports for Climate Action Framework reinforces the momentum that has been growing in our Federation for many years. Since the introduction of the hybrid power unit in F1 to the creation of the Environment and Sustainability Commission, the entire FIA community has been investing time, energy and financial resources to the benefit of environmental innovations. We aim to inspire greater awareness and best practice in sustainability motor sport standards."<sup>[251]</sup>

From the 2021–22 season, all cars increased the bio-component of their fuel, using E10 fuel, rather than the 5.75% of ethanol previously used. This percentage is expected to grow again in the future.<sup>[252]</sup> In December 2020, the FIA claimed that it had developed a fuel with 100% sustainability, to be used in Formula One from either 2025 or 2026, when new engine regulations come into force.<sup>[253]</sup>



## Social inequities

Prior to the beginning of the 2020 Formula One World Championship, F1 announced and launched the [#WeRaceAsOne](#) initiative.<sup>[254]</sup> The initiative primarily focuses on visible displays of solidarity in the fight against racism on Grand Prix Weekends, as well as the creation of a Formula 1 Task Force that will "listen to people from across the paddock [...] and make conclusions on the actions required to improve the diversity and opportunity in Formula 1 at all levels".<sup>[254]</sup> The move spurs from the growing questions about racism and global inequalities perpetuated by the sport. The 70-year history of the World Championship has been dominated by European and white drivers, with the first (and only) black driver, [Lewis Hamilton](#), participating in the world championship since 2007.<sup>[255]</sup>

In addition to organization-wide measures, individual teams have also acknowledged deficiencies in the sport's cultural and political activism. During the 2020 season, the [Mercedes-AMG Petronas F1 Team](#) conducted a study of its racial composition and found that approximately 95% of its workforce was white.<sup>[256]</sup> Due to the results of the study, the team changed the car's livery to promote anti-racism messages and also launched the Accelerate 25 programme. The program vows that approximately 25% of all new hires to the team will come from underrepresented minorities in the sport until 2025.<sup>[257]</sup>

The 20 drivers on the grid have also stood in solidarity on multiple occasions in the fight against racism both on and off the track. Following the [murder of George Floyd](#) in the summer of 2020, all twenty drivers wore "End Racism" shirts and took part in an organised anti-racism protest during the pre-race formalities.<sup>[258]</sup> In the year since, Lewis Hamilton has remained vocal in his pre-race attire, with other drivers occasionally wearing change-demanding clothing.<sup>[259]</sup>

## Women in Formula One

---

Since the creation of Formula One, in 1950, there have been five women to compete in a Grand Prix, and only one managed to score. The involvement of women in the Formula One paddock ranges from race engineers and strategists to media and communications personnel. With the release of the Netflix show, [Drive to Survive](#), the female viewership of the sport has risen. In 2019, 20% of the total Formula One viewership was female, and by 2022 this number had increased to 40%.<sup>[260]</sup>

## F1 Academy

[F1 Academy](#), created by Formula One in 2023, is the only female single-seater racing championship. Its inaugural championship was won by [Marta García](#) of [Prema Racing](#). The establishment of F1 Academy has attracted significant levels of attention to women in motorsport; [Netflix](#) has announced the release of a docuseries in 2025 about the academy. In addition to this companies such as [Tommy Hilfiger](#), [Charlotte Tilbury](#),<sup>[261]</sup> [Puma](#), and [Red Bull](#) have become sponsors of F1 Academy due to its increasing popularity.<sup>[262]</sup>

## Female Formula One drivers

[Maria Teresa de Filippis](#) was the first woman to compete in a Formula One Grand Prix at the 1958 Monaco Grand Prix. She competed in a total of five Grand Prix, racing under the Italian flag and has been hailed a pioneer of women in motorsport.<sup>[263]</sup>

Lella Lombardi is the only woman to place within the points at a Formula One Grand Prix. She competed in three seasons, entering seventeen races, and starting twelve. After finishing sixth in the 1975 Spanish Grand Prix, Lombardi became the first and only woman to score points during an official Formula Grand Prix. Due to the race not reaching full completion half points were awarded and Lombardi only gained .5 points.<sup>[264]</sup>

Desiré Wilson is the only woman to win a Formula One race of any kind, winning the second round of the 1980 Aurora AFX F1 Championship.

Giovanna Amati was the last female driver to attempt to qualify for a Formula One Grand Prix. In 1992, she was signed by Brabham and participated in three races—South Africa, Mexico, and Brazil—but failed to qualify for any of them. Amati faced significant challenges, including an underperforming car and limited testing opportunities. She was replaced by Damon Hill after Brabham struggled with financial difficulties and performance issues. Despite not making a race start, her entry remains significant, as no woman has attempted to qualify for a Grand Prix since. Her participation also marked the last time a female driver was officially listed on an F1 entry list until Susie Wolff took part in free practice sessions for Williams in 2014.<sup>[265][266][267]</sup>

## Race engineers

Hannah Schmitz currently holds the role of principal strategy engineer at Red Bull Racing. She has been with the team since 2009 and played a strong presence in its victories in 2021, 2022, and 2023. In 2023 Schmitz won the McLaren Applied Female Engineer of the Year Award winner for her role within Red Bull Racing.<sup>[268]</sup>

Beginning in 2025, Laura Müller has served as the race engineer for Esteban Ocon at Haas, making her the first female to serve as a race engineer on a full time basis.<sup>[269][270]</sup>

## Team principals

Susie Wolff is the current managing director of F1 Academy, however her presence within the Formula One paddock has lasted several decades. In the beginning of her career she was told to drive a pink car, although she was skeptical, Wolff obliged figuring that young girls would see the car and feel more inspired to begin racing.<sup>[271]</sup> In 2012 Wolff was a Williams Grand Prix Engineering development driver, during her four years at Williams, she competed in several free practice sessions for the team. After her time at Williams, Wolff became the team principal of Formula E team Venturi Racing, and saw the team to their most successful season to date.

Austrian Monisha Kaltenborn became the sport's first ever female Team principal when she took over the role at Sauber Formula 1 Team in 2010.<sup>[272]</sup>

## Media coverage

---

Formula One is broadcast live, or tape delayed, in almost every country and territory and attracts one of the largest global television audiences. The 2008 season attracted a global audience of 600 million people per race.<sup>[273]</sup> The cumulative television audience for the 2001 season, which was broadcast to 200 territories, was calculated to be 54 billion.<sup>[274]</sup>

During the early 1990s, Formula One Group introduced updated branding, an official logo, an official TV graphics package and in 2003, an official website in an attempt to give the competition a corporate identity.

All broadcasters are provided with an identical world feed produced by Formula One Management (FOM), though for some races it was previously provided by local broadcasters. The host broadcaster either had one feed for all, or two separate feeds – a feed for local viewers and a feed for international viewers. The one size fits all approach meant that there was bias to a certain team or driver during the event, which led to viewers missing out on more important action and incidents, while the two-feed approach meant that replays (for when returning from an ad break) and local bias action could be overlaid on the local feed while the international feed was left unaffected.

An enhanced package called F1 Digital+ was launched by FOM in 1996, which included live broadcast of all sessions live as well as additional channels including onboard and pit-lane cameras. It was initially only offered in Germany, Austria and Switzerland, though it later became available in France, Italy, Spain and the UK. The service was never financially viable and was discontinued at the end of the 2002 season.

On 12 January 2011, F1 announced that it would adopt the HD format for the 2011 season.<sup>[275]</sup>

The official Formula One website has live timing charts that can be used during the race to follow the leaderboard in real time. An official application has been available for the Apple App Store since 2009,<sup>[276]</sup> and on Google Play since 2011,<sup>[277]</sup> that shows users a real-time feed of driver positions, timing and commentary.<sup>[278]</sup> On 26 November 2017 Formula One unveiled a new logo, which replaced the previous "flying one" in use since 1993.<sup>[279]</sup>

In March 2018, FOM announced the launch of F1 TV, an over-the-top streaming platform that lets viewers watch multiple simultaneous video feeds and timing screens in addition to traditional directed race footage and commentary.<sup>[280]</sup> In April 2024, FOM launched a free ad-supported streaming television channel known as the Formula 1 Channel in the United States, which shows classic Grands Prix, documentaries and analysis from past races.<sup>[281]</sup>

## Television broadcasters

It was announced on 29 July 2011, that Sky Sports and the BBC would team up to show the races in F1 from 2012 to 2018. Sky launched a dedicated channel, Sky Sports F1 which covered all races live without commercial interruption as well as live practice and qualifying sessions, along with F1 programming, including interviews, archive action and magazine shows.<sup>[282]</sup> In 2012 the BBC broadcast live coverage of half of the races in the season.<sup>[283]</sup> The BBC ended its television contract after the 2015 season, three years earlier than planned.<sup>[284]</sup> The free-to-air TV rights were picked up by Channel 4 until the end of the 2018 season.<sup>[285]</sup> Sky Sports F1 coverage remained unaffected and BBC Radio 5 Live and 5 Sports Extra coverage was extended until 2021.<sup>[286]</sup> As of 2022, BBC Radio 5 Live and 5 Sports Extra has rights to such coverage until 2024.<sup>[287]</sup>

In south-east Asia, the middle east and north Africa, Formula One is broadcast by beIN Sports. In India, sessions are broadcast by streaming service FanCode and satellite television provider Tata Play. In China, the rights are held by Tencent, Guangdong TV and Shanghai TV.<sup>[288]</sup>

In the United States, ESPN has held the rights since 2013, carrying the broadcast and commentary feed provided by Sky Sports UK.<sup>[289]</sup> Some races are also broadcast free-to-air on ABC under the ESPN on ABC banner. According to *The Athletic*, the fee paid by ESPN is estimated at \$90 million per year as of 2025, with the current deal set to expire after the 2025 season.<sup>[289]</sup>

In Germany, Austria and Switzerland, the exclusive rights are held by pay TV broadcaster Sky Sport. The rights were previously shared with free-to-air channel RTL for many years, which had broadcast all Formula One qualifying and racing sessions since 1991, but lost its rights after the 2020 season due to being outbid by Sky Sport.<sup>[290]</sup> Despite no longer holding the rights themselves, RTL has broadcast selected sessions on free-to-air television and its streaming service RTL+ as part of various sublicensing agreements with Sky Sport.<sup>[291]</sup>

In France, Formula One is currently broadcast by pay TV channel Canal+, having renewed its broadcasting rights until 2024.<sup>[292]</sup>

## **Distinction between Formula One and World Championship races**

---

Currently, the terms "Formula One race" and "World Championship race" are effectively synonymous. Since 1984, every Formula One race has counted towards the World Championship, and every World Championship race has been run to Formula One regulations. However, the two terms are not interchangeable.

- The first Formula One race was held in 1946,<sup>[293]</sup> whereas the World Championship did not start until 1950.<sup>[293]</sup>
- In the 1950s and 1960s, there were many Formula One races that did not count for the World Championship.<sup>[294]</sup> In 1950, a total of twenty-two Formula One races were held, of which only six counted towards the World Championship.<sup>[293]</sup> The number of non-championship Formula One events decreased throughout the 1970s and 1980s, to the point where the last non-championship Formula One race was the 1983 Race of Champions.<sup>[294]</sup>
- The World Championship was not always exclusively composed of Formula One events:
  - The World Championship was originally established as the "World Championship for Drivers", i.e. without the term "Formula One" in the title. It only officially became the FIA Formula One World Championship in 1981.
  - From 1950 to 1960, the Indianapolis 500 race counted towards the World Championship.<sup>[294]</sup> This race was run to American Automobile Association, and later United States Automobile Club, Championship Car regulations, rather than to Formula One regulations. Only one of the World Championship regulars, Alberto Ascari in 1952, started at Indianapolis during this period.<sup>[295]</sup>
  - From 1952 to 1953, all races counting towards the World Championship (except the Indianapolis 500) were run to Formula Two regulations.<sup>[294]</sup> Formula One was not changed to Formula Two during this period; the Formula One regulations remained the same, and numerous non-championship Formula One races were staged during this time.<sup>[296][297]</sup>

The distinction is most relevant when considering career summaries and all-time lists. For example, in the List of Formula One drivers, Clemente Biondetti is shown with a single race against his name. Biondetti actually competed in four Formula One races in 1950,<sup>[298]</sup> but only one of these counted for the World Championship.

In the earlier history of Formula One, many races took place outside the World Championship, and local championships run to Formula One regulations also occurred. These events often took place on circuits that were not always suitable for the World Championship and featured local cars and drivers as well as those competing in the championship.<sup>[14]</sup>

## European non-championship racing

In the early years of Formula One, before the world championship was established, there were around twenty races held from late Spring to early Autumn in Europe, although not all of these were considered significant. Most competitive cars came from Italy, particularly Alfa Romeo. After the start of the world championship, these non-championship races continued. In the 1950s and 1960s, there were many Formula One races which did not count for the World Championship; in 1950 a total of twenty-two Formula One races were held, of which only six counted towards the World Championship.<sup>[293]</sup> In 1952 and 1953, when the world championship was run to Formula Two regulations, non-championship events were the only Formula One races that took place.

Some races, particularly in the UK, including the Race of Champions, Oulton Park International Gold Cup and the International Trophy, were attended by the majority of the world championship contenders. Other smaller events were regularly held in locations not part of the championship, such as the Syracuse and Danish Grands Prix, although these only attracted a small amount of the championship teams and relied on private entries and lower Formula cars to make up the grid.<sup>[14]</sup> These became less common through the 1970s and 1983 saw the last non-championship Formula One race; the 1983 Race of Champions at Brands Hatch, won by reigning World Champion Keke Rosberg in a Williams-Cosworth in a close fight with American Danny Sullivan.<sup>[14]</sup>

## South African Formula One championship

South Africa's domestic Formula One championship ran from 1960 through to 1975. The frontrunning cars in the series were recently retired from the world championship although there were also locally built or modified cars.

## British Formula One Championship

The DFV helped in making the UK domestic Formula One championship possible between 1978 and 1980. As in South Africa a decade before, second-hand cars from manufacturers like Lotus and Fittipaldi Automotive were the order of the day, although some, such as the March 781, were built specifically for the series. In 1980, the series saw South African Desiré Wilson become the only woman to win a Formula One race when she triumphed at Brands Hatch in a Wolf WR3.<sup>[299]</sup>

## See also

---



***Formula One portal***

- Formula One video games



## Notes

---

- a. From 2019 to 2024, an additional point was awarded to the car which set the fastest lap, if that car finished inside the top 10.
- b. The Portuguese Grand Prix featured on the 2020 calendar following the cancellation of events due to the COVID-19 pandemic. It featured on the 2021 calendar for reasons unrelated to the pandemic.
- c. The Emilia Romagna Grand Prix featured on the 2020 calendar following the cancellation of events due to the COVID-19 pandemic. It was later extended until 2025.

## References

---

1. "F1 bans traction control for 2008" ([http://news.bbc.co.uk/sport2/hi/motorsport/formula\\_one/6511907.stm](http://news.bbc.co.uk/sport2/hi/motorsport/formula_one/6511907.stm)). *BBC Sport*. 30 March 2007. Archived ([https://web.archive.org/web/20200103055756/http://news.bbc.co.uk/sport2/hi/motorsport/formula\\_one/6511907.stm](https://web.archive.org/web/20200103055756/http://news.bbc.co.uk/sport2/hi/motorsport/formula_one/6511907.stm)) from the original on 3 January 2020. Retrieved 3 January 2020.
2. Sylt, Christian (20 April 2020). "Formula One budget cuts are expected to crash 1,600 jobs" (<https://www.telegraph.co.uk/business/2020/04/20/formula-onebudget-cuts-expected-tocrash-1600-jobs/>). *The Telegraph*. Archived (<https://web.archive.org/web/20220614061916/http://www.telegraph.co.uk/business/2020/04/20/formula-onebudget-cuts-expected-tocrash-1600-jobs/>) from the original on 14 June 2022. Retrieved 14 June 2022.
3. Benson, Andrew (23 January 2017). "Bernie Ecclestone removed as Liberty Media completes \$8bn takeover" (<https://www.bbc.co.uk/sport/formula1/38723001>). *BBC Sport*. Archived (<https://web.archive.org/web/20200226064633/https://www.bbc.co.uk/sport/formula1/38723001>) from the original on 26 February 2020. Retrieved 23 January 2017. "Bernie Ecclestone has been removed from his position running Formula 1 as US giant Liberty Media completed its \$8bn (£6.4bn) takeover of the sport."
4. "Liberty Media Corporation Completes Acquisition of Formula 1" (<https://web.archive.org/web/20191212034434/http://ir.libertymedia.com/news-releases/news-release-details/liberty-media-corporation-completes-acquisition-formula-1>). *Liberty Media Corporation*. Archived from the original (<https://ir.libertymedia.com/news-releases/news-release-details/liberty-media-corporation-completes-acquisition-formula-1>) on 12 December 2019. Retrieved 7 December 2018.
5. Editrice La Stampa (1 September 1946). *La Stampa (1946-09-01)* ([https://archive.org/details/s/lastampa\\_1946-09-01/page/n1/mode/2up?view=theater](https://archive.org/details/s/lastampa_1946-09-01/page/n1/mode/2up?view=theater)) (in Italian). CSI Piemonte. Editrice La Stampa S.p.A. p. 3.
6. "L'Équipe : le stade, l'air, la route" (<https://gallica.bnf.fr/ark:/12148/bd6t5100156g/f2.item.zoom>). *Gallica*. 2 March 1946. Retrieved 13 September 2024.
7. Cooper, Adam (13 May 2020). "Remembering F1's first world championship race 70 years on" (<https://www.motorsport.com/f1/news/first-f1-race-silverstone-1950/4791619/>). *Motorsport.com*. Archived (<https://web.archive.org/web/20200606181346/https://www.motorsport.com/f1/news/first-f1-race-silverstone-1950/4791619/>) from the original on 6 June 2020. Retrieved 11 September 2024.
8. "Facts you may not know about Silverstone Circuit and its place on the F1 calendar" (<https://www.silverstonemuseum.co.uk/about-us/our-organisation/blog/facts-you-may-not-know-about-silverstone-circuit/>). *Silverstone Museum*. 27 May 2021. Archived (<https://web.archive.org/web/20230518141045/https://www.silverstonemuseum.co.uk/about-us/our-organisation/blog/facts-you-may-not-know-about-silverstone-circuit/>) from the original on 18 May 2023. Retrieved 18 May 2023.

9. "Michael Schumacher surclasse ses rivaux et dépasse Juan Manuel Fangio" ([https://www.lemonde.fr/archives/article/2003/10/13/michael-schumacher-surclasse-ses-rivaux-et-depasse-juan-manuel-fangio\\_337886\\_1819218.html](https://www.lemonde.fr/archives/article/2003/10/13/michael-schumacher-surclasse-ses-rivaux-et-depasse-juan-manuel-fangio_337886_1819218.html)). *Le Monde*. 13 October 2003. Archived ([https://web.archive.org/web/20230518140148/https://www.lemonde.fr/archives/article/2003/10/13/michael-schumacher-surclasse-ses-rivaux-et-depasse-juan-manuel-fangio\\_337886\\_1819218.html](https://web.archive.org/web/20230518140148/https://www.lemonde.fr/archives/article/2003/10/13/michael-schumacher-surclasse-ses-rivaux-et-depasse-juan-manuel-fangio_337886_1819218.html)) from the original on 18 May 2023. Retrieved 18 May 2023.
10. Lawton, James (18 September 2011). "Hamilton still on track to greatness" (<https://www.independent.co.uk/sport/motor-racing/james-lawton-hamilton-still-on-track-to-greatness-397525.html>). *The Independent*. London. Archived (<https://ghostarchive.org/archive/20220525/https://www.independent.co.uk/sport/motor-racing/james-lawton-hamilton-still-on-track-to-greatness-397525.html>) from the original on 25 May 2022. Retrieved 2 November 2021.
11. Lawton, James (28 August 2007). "Moss can guide Hamilton through chicane of celebrity" (<https://www.independent.co.uk/sport/football/news/james-lawton-abramovich-the-tinker-man-undermines-mourinho-s-own-vision-of-a-dream-team-5334983.html>). *The Independent*. ISSN 1741-9743 (<https://search.worldcat.org/issn/1741-9743>). OCLC 185201487 (<https://search.worldcat.org/oclc/185201487>). Archived (<https://archive.today/20240913003708/https://www.independent.co.uk/sport/football/news/james-lawton-abramovich-the-tinker-man-undermines-mourinho-s-own-vision-of-a-dream-team-5334983.html>) from the original on 13 September 2024.
12. Henry, Alan (12 March 2007). "Hamilton's chance to hit the grid running" (<http://sport.guardian.co.uk/formulaone/story/0,,2032039,00.html>). *The Guardian*. London. Archived (<https://web.archive.org/web/20080418205919/http://sport.guardian.co.uk/formulaone/story/0,,2032039,00.html>) from the original on 18 April 2008. Retrieved 30 October 2007.
13. Seymour, Mike (7 December 2023). "In Numbers: How Verstappen compares to other F1 greats at this stage of his career" (<https://www.formula1.com/en/latest/article/in-numbers-how-verstappen-compares-to-other-f1-greats-at-this-stage-of-his-m8QeD2t7xQGjmY4tqTd0q>). *Formula1.com*. Archived (<https://web.archive.org/web/20240521103406/https://www.formula1.com/en/latest/article/in-numbers-how-verstappen-compares-to-other-f1-greats-at-this-stage-of-his-m8QeD2t7xQGjmY4tqTd0q>) from the original on 21 May 2024. Retrieved 13 September 2024. "Juan Manuel Fangio—Stats after 51 Grands Prix: 5 world titles, 24 wins (47%), 35 podiums (68.6%), 29 pole positions (56.8%)"
14. "The last of the non-championship races" (<https://web.archive.org/web/20070227105027/http://www.forix.com/8w/roc83.html>). *forix.com*. Archived from the original (<http://www.forix.com/8w/roc83.html>) on 27 February 2007. Retrieved 17 November 2007.
15. Cooper, Adam (10 April 2021). "The beer and curry secret of F1's last non-points race" (<https://www.motorsport.com/f1/news/f1-race-champions-sullivan-1983/4779232/>). *Motorsport.com*. Archived (<https://web.archive.org/web/20230708190942/https://www.motorsport.com/f1/news/f1-race-champions-sullivan-1983/4779232/>) from the original on 8 July 2023. Retrieved 3 September 2024.
16. "Decade seasons 1950–1959" ([https://web.archive.org/web/20070807233339/http://www.autocoursega.com/season\\_decade~decade\\_id~1.htm](https://web.archive.org/web/20070807233339/http://www.autocoursega.com/season_decade~decade_id~1.htm)). Autocourse. Archived from the original on 7 August 2007. Retrieved 17 November 2007.
17. Note: at the time the only two cars competitive with the new Formula were the pre-war Alfa Romeo 158/159 Alfetta and the new BRM Type 15, the latter having a poor reliability-record when introduced, causing it not to finish a number of the first Formula One races, forcing the Alfa to complete the races against the remainder of a field consisting of uncompetitive cars.
18. Tuckey, Bill (28 January 1994). "Moss returns to scene of GP victory". *The Age*. Australia Company. "the all-conquering Mercedes-Benz cars... When the Germans withdrew from racing after the Le Mans 24-hour tragedy"
19. "Matters of moment, January 1956" (<https://www.motorsportmagazine.com/archive/article/january-1956/11/matters-of-moment-january-1956/>). *Motor Sport Magazine*. 7 July 2014. Retrieved 13 September 2024.

20. "Ferguson P99" (<https://web.archive.org/web/20080330231253/http://www.gpracing.net192.com/cars/data/186.cfm>). gpracing.net. Archived from the original (<http://www.gpracing.net192.com/cars/data/186.cfm>) on 30 March 2008. Retrieved 17 November 2007.
21. Bartunek, Robert-Jan (18 September 2007). "Sponsorship, the big business behind F1" (<http://edition.cnn.com/2007/SPORT/09/18/behind.sponsorship/index.html>). CNN. Archived (<https://web.archive.org/web/20100222045715/http://edition.cnn.com/2007/SPORT/09/18/behind.sponsorship/index.html>) from the original on 22 February 2010. Retrieved 8 November 2007.
22. Staniforth, Allan (1994). *Competition Car Suspension*. Haynes. p. 96. ISBN 978-0-85429-956-0.
23. Williams, Richard (28 March 1997). "The Formula for Striking It Rich". *The Guardian*. Guardian Newspapers.
24. "Mr Formula One" (<https://archive.today/20231014115131/https://www.economist.com/business/1997/03/13/mr-formula-one>). *The Economist*. Economist Newspapers. 13 March 1997. p. 72. Archived from the original (<https://www.economist.com/business/1997/03/13/mr-formula-one>) on 14 October 2023.
25. "Bernie Ecclestone timeline" (<http://en.espnf1.com/f1/motorsport/story/32358.html>). ESPN UK. Archived (<https://web.archive.org/web/20140817112028/http://en.espnf1.com/f1/motorsport/story/32358.html>) from the original on 17 August 2014. Retrieved 18 January 2022.
26. Blunsden, John (20 December 1986). "Filling Balestre's shoes is no job for a back-seat driver". *Financial Times*.
27. Roebuck, Nigel "Power struggles and techno wars" Sunday Times 7 March 1993
28. The Racing Analyst (12 September 2013). "The FISA-FOCA War | Allinsport" (<http://www.allinsport.ch/allinsport-opinion/the-fisa-foca-war/>). Allinsport.ch. Archived (<https://web.archive.org/web/20150712233304/http://www.allinsport.ch/allinsport-opinion/the-fisa-foca-war/>) from the original on 12 July 2015. Retrieved 13 October 2015.
29. Hamilton, Maurice (8 March 1998). "Pros and cons of being just Williams; A quiet achiever keeps his head down as the new season gets under way with familiar high anxiety and a squealing over brakes". *The Observer*. Guardian Newspapers.
30. Bamsey, Ian; Benzing, Enrico; Staniforth, Allan; Lawrence, Mike (1988). *The 1000 BHP Grand Prix cars*. Guild Publishing. pp. 8–9. ISBN 978-0-85429-617-0. BMW's performance at the Italian GP is the highest qualifying figure given in Bamsey. The figure is from Heini Mader, who maintained the engines for the Benetton team, though maximum power figures from this period were necessarily estimates; BMW's dynamometer, for example, was only capable of measuring up to 820 kW (1,100 bhp). Figures higher than this are estimated from engine plenum pressure readings. Power in race trim at that time was lower than for qualifying due to the need for greater reliability and fuel efficiency during the race.
31. "The technology behind Formula One racing cars". *The Press*. The Christchurch Press Company. 26 December 2005. "rivalling the 1200hp turbocharged monsters that eventually had to be banned in 1989"
32. "Active suspension" (<https://www.motorsportmagazine.com/archive/article/december-2001/69/active-suspension>). *Motor Sport Magazine*. 7 July 2014. Archived (<https://web.archive.org/web/20220105152745/https://www.motorsportmagazine.com/archive/article/december-2001/69/active-suspension>) from the original on 5 January 2022. Retrieved 26 January 2022.
33. Baldwin, Alan (17 February 2001). "F1 Plans Return of Traction Control". *The Independent*. Newspaper Publishing.
34. "Who owns what in F1 these days?" (<https://web.archive.org/web/20070312003448/http://www.grandprix.com/ft/ftjs031.html>). Grandprix.com. Archived from the original (<http://www.grandprix.com/ft/ftjs031.html>) on 12 March 2007. Retrieved 17 November 2007.

35. "F1's pressing safety question" ([http://news.bbc.co.uk/sport1/hi/motorsport/formula\\_one/1203620.stm](http://news.bbc.co.uk/sport1/hi/motorsport/formula_one/1203620.stm)). *BBC News*. 5 March 2001. Archived ([https://web.archive.org/web/20090301162432/http://news.bbc.co.uk/sport1/hi/motorsport/formula\\_one/1203620.stm](https://web.archive.org/web/20090301162432/http://news.bbc.co.uk/sport1/hi/motorsport/formula_one/1203620.stm)) from the original on 1 March 2009. Retrieved 26 December 2007.
36. "Mosley's Equations" ([http://www.formula1-dictionary.net/mosley\\_equations.html](http://www.formula1-dictionary.net/mosley_equations.html)). *Formula 1 Dictionary*. 20 May 2019. Archived ([https://web.archive.org/web/20190915195546/http://formula1-dictionary.net/mosley\\_equations.html](https://web.archive.org/web/20190915195546/http://formula1-dictionary.net/mosley_equations.html)) from the original on 15 September 2019. Retrieved 2 September 2019.
37. "Schumacher makes history" ([http://news.bbc.co.uk/sport1/hi/motorsport/formula\\_one/2141834.stm](http://news.bbc.co.uk/sport1/hi/motorsport/formula_one/2141834.stm)). *BBC Sport*. 21 July 2002. Archived ([https://web.archive.org/web/20090505185104/http://news.bbc.co.uk/sport1/hi/motorsport/formula\\_one/2141834.stm](https://web.archive.org/web/20090505185104/http://news.bbc.co.uk/sport1/hi/motorsport/formula_one/2141834.stm)) from the original on 5 May 2009. Retrieved 12 September 2006.
38. "FIA Rules & Regulations Sporting Regulations: 2006 season changes" (<https://web.archive.org/web/20061109185035/http://www.formula1.com/insight/rulesandregs/13/995.html>). *Formula1.com*. Archived from the original (<http://www.formula1.com/insight/rulesandregs/13/995.html>) on 9 November 2006. Retrieved 11 May 2006.
39. Noble, Jonathan (20 December 2007). "Bridgestone signs sole supplier contract" (<https://www.autosport.com/f1/news/bridgestone-signs-sole-supplier-contract-4418515/4418515/>). *Autosport.com*. Archived (<https://web.archive.org/web/20220103164629/https://www.autosport.com/f1/news/bridgestone-signs-sole-supplier-contract-4418515/4418515/>) from the original on 3 January 2022. Retrieved 3 January 2022.
40. "The last of the non-championship races" (<https://web.archive.org/web/20061017063932/http://www.fia.com/automotive/issue5/sport/article9.html>). FORIX. Archived from the original (<http://www.fia.com/automotive/issue5/sport/article9.html>) on 17 October 2006. Retrieved 17 November 2007.
41. Patrick, Mandidi (2010). *The Rain Drop and Other Shades of Prosetry* (<https://books.google.com/books?id=q24k0gAFopcC&q=Through+the+Grand+Prix+Manufacturers+Association+%28GPMA%29%2C+they+negotiated+a+larger+share+of+Formula+One%27s+commercial+profit+and+a+greater+say+in+the+running+of+the+sport.&pg=PA188>). Eloquent Books. ISBN 9781609113766. Archived (<https://web.archive.org/web/20230824233443/https://books.google.com/books?id=q24k0gAFopcC&q=Through+the+Grand+Prix+Manufacturers+Association+%28GPMA%29%2C+they+negotiated+a+larger+share+of+Formula+One%27s+commercial+profit+and+a+greater+say+in+the+running+of+the+sport.&pg=PA188>) from the original on 24 August 2023. Retrieved 18 October 2020.
42. This is not the same team as the 1954–1994 nor 2010–2011 iterations.
43. "£40 million budget cap and 13 teams for 2010" (<http://www.formula1.com/news/headlines/2009/4/9290.html>). *Formula1.com*. 30 April 2009. Archived (<https://web.archive.org/web/20100218045714/http://www.formula1.com/news/headlines/2009/4/9290.html>) from the original on 18 February 2010. Retrieved 21 March 2010.
44. "Mosley offers compromise on 2010" ([http://news.bbc.co.uk/sport1/hi/motorsport/formula\\_one/8107436.stm](http://news.bbc.co.uk/sport1/hi/motorsport/formula_one/8107436.stm)). *BBC News*. 18 June 2009. Archived ([https://web.archive.org/web/20220317125821/http://news.bbc.co.uk/sport1/hi/motorsport/formula\\_one/8107436.stm](https://web.archive.org/web/20220317125821/http://news.bbc.co.uk/sport1/hi/motorsport/formula_one/8107436.stm)) from the original on 17 March 2022. Retrieved 21 March 2010.
45. Briggs, Gemma (24 June 2009). "How the Formula One crisis unfolded" (<https://www.theguardian.com/sport/2009/jun/19/formula-one-crisis-timeline>). *The Guardian*. UK. Archived (<https://web.archive.org/web/20240605180441/https://www.theguardian.com/sport/2009/jun/19/formula-one-crisis-timeline>) from the original on 5 June 2024. Retrieved 23 June 2009.
46. "F1 deal ends threat of breakaway" ([http://news.bbc.co.uk/sport1/hi/motorsport/formula\\_one/8116756.stm](http://news.bbc.co.uk/sport1/hi/motorsport/formula_one/8116756.stm)). *BBC News*. 24 June 2009. Archived ([https://web.archive.org/web/20191016235200/http://news.bbc.co.uk/sport2/hi/motorsport/formula\\_one/8116756.stm](https://web.archive.org/web/20191016235200/http://news.bbc.co.uk/sport2/hi/motorsport/formula_one/8116756.stm)) from the original on 16 October 2019. Retrieved 21 March 2010.

47. Cary, Tom (26 June 2009). "Max Mosley makes dramatic U-turn over his future as FIA president" (<https://www.telegraph.co.uk/sport/motorsport/formulaone/f1news/5642225/Max-Mosley-makes-dramatic-U-turn-over-his-future-as-FIA-president.html>). *The Telegraph*. Archived (<https://web.archive.org/web/20180614013133/https://www.telegraph.co.uk/sport/motorsport/formulaone/f1news/5642225/Max-Mosley-makes-dramatic-U-turn-over-his-future-as-FIA-president.html>) from the original on 14 June 2018.
48. "Press release" (<https://web.archive.org/web/20090711161729/http://www.teamsassociation.org/press-release/2009-07-08/press-release>). Formula One Teams Association (FOTA). 8 July 2009. Archived from the original (<http://www.teamsassociation.org/press-release/2009-07-08/press-release>) on 11 July 2009. Retrieved 8 July 2009.
49. "Press Release" ([https://web.archive.org/web/20090710120028/http://www.fia.com/en-GB/mediacentre/pressreleases/f1releases/2009/Pages/2010\\_fia\\_fota.aspx](https://web.archive.org/web/20090710120028/http://www.fia.com/en-GB/mediacentre/pressreleases/f1releases/2009/Pages/2010_fia_fota.aspx)). FIA. 8 July 2009. Archived from the original ([http://www.fia.com/en-GB/mediacentre/pressreleases/f1releases/2009/Pages/2010\\_fia\\_fota.aspx](http://www.fia.com/en-GB/mediacentre/pressreleases/f1releases/2009/Pages/2010_fia_fota.aspx)) on 10 July 2009. Retrieved 8 July 2009.
50. Beer, Matt (1 August 2009). "New Concorde Agreement finally signed" (<http://www.autosport.com/news/report.php/id/77481>). Archived (<https://web.archive.org/web/20170621065909/http://www.autosport.com/news/report.php/id/77481>) from the original on 21 June 2017. Retrieved 1 August 2009.
51. Ostlere, Lawrence (15 May 2016). "F1: Max Verstappen wins Spanish GP after Lewis Hamilton and Nico Rosberg crash – as it happened" (<https://www.theguardian.com/sport/live/2016/may/15/f1-spanish-gp-live-lewis-hamilton-nico-rosberg>). *the Guardian*. ISSN 0261-3077 (<https://search.worldcat.org/issn/0261-3077>). Archived (<https://web.archive.org/web/20170731070554/https://www.theguardian.com/sport/live/2016/may/15/f1-spanish-gp-live-lewis-hamilton-nico-rosberg>) from the original on 31 July 2017. Retrieved 28 April 2023.
52. Brierty, William (28 December 2017). "2017 F1 Season Review – Top 10 drivers of the season" (<https://readmotorsport.com/2017/12/28/2017-f1-season-review-top-10-drivers-season/>). *Read Motorsport*. Archived (<https://web.archive.org/web/20180105161801/http://readmotorsport.com/2017/12/28/2017-f1-season-review-top-10-drivers-season/>) from the original on 5 January 2018. Retrieved 6 February 2017.
53. "Vettel: I believe we have the best car" (<https://www.grandprix247.com/2017/08/29/vettel-i-believe-we-have-the-best-car/>). *GRAND PRIX 247*. 29 August 2017. Archived (<https://web.archive.org/web/20170829134257/https://www.grandprix247.com/2017/08/29/vettel-i-believe-we-have-the-best-car/>) from the original on 29 August 2017. Retrieved 6 February 2023.
54. Parkes, Ian (1 December 2017). "An Exciting F1 Season That Still Ended With Mercedes on Top" (<https://www.nytimes.com/2017/12/01/sports/autoracing/mercedes-f1-season-review.html>). *The New York Times*. Archived (<https://web.archive.org/web/20230206222629/https://www.nytimes.com/2017/12/01/sports/autoracing/mercedes-f1-season-review.html>) from the original on 6 February 2023. Retrieved 6 February 2023.
55. "2018 F1 World Championship | Motorsport Database" (<https://www.motorsportmagazine.com/database/championships/2018-f1-world-championship/>). *Motorsport Database – Motor Sport Magazine*. 2018. Archived (<https://web.archive.org/web/20230206222630/https://www.motorsportmagazine.com/database/championships/2018-f1-world-championship/>) from the original on 6 February 2023. Retrieved 6 February 2023.
56. "The incredible origin story of the Mercedes F1 era" (<https://the-race.com/formula-1/the-incredible-origin-story-of-the-mercedes-f1-era/>). *The-Race.com*. 30 December 2020. Archived (<https://web.archive.org/web/20230109031646/https://the-race.com/formula-1/the-incredible-origin-story-of-the-mercedes-f1-era/>) from the original on 9 January 2023. Retrieved 9 January 2023.
57. "Mercedes – Seasons • STATS F1" (<https://www.statsf1.com/en/mercedes/saison.aspx>). *statsf1.com*. Archived (<https://web.archive.org/web/20230118222811/https://www.statsf1.com/en/mercedes/saison.aspx>) from the original on 18 January 2023. Retrieved 18 January 2023.



58. "Mercedes Formula 1 domination: How they created such a big advantage over their rivals" (<https://foxsports.com.au/motorsport/formula-one/mercedes-formula-1-domination-how-they-created-such-a-big-advantage-over-their-rivals/news-story/c63f5c9182e6deec9e1d5629792f3908>). *Fox Sports*. 23 March 2015. Archived (<https://web.archive.org/web/20230109031652/https://www.foxsports.com.au/motorsport/formula-one/mercedes-formula-1-domination-how-they-created-such-a-big-advantage-over-their-rivals/news-story/c63f5c9182e6deec9e1d5629792f3908>) from the original on 9 January 2023. Retrieved 9 January 2023.
59. Horton, Phillip (22 February 2022). "The Secret to Mercedes' F1 Dominance Is Really No Secret" (<https://www.autoweek.com/racing/formula-1/a39172422/secret-to-mercedes-f1-dominance-really-no-secret/>). *Autoweek*. Archived (<https://web.archive.org/web/20230109030156/https://www.autoweek.com/racing/formula-1/a39172422/secret-to-mercedes-f1-dominance-really-no-secret/>) from the original on 9 January 2023. Retrieved 9 January 2023.
60. "How does Mercedes' dominance of F1 compare to previous eras?" (<https://www.autosport.com/f1/news/how-does-mercedes-dominance-of-f1-compare-to-previous-eras-4999120/4999120/>). *Autosport.com*. 13 October 2015. Archived (<https://web.archive.org/web/20230118222809/https://www.autosport.com/f1/news/how-does-mercedes-dominance-of-f1-compare-to-previous-eras-4999120/4999120/>) from the original on 18 January 2023. Retrieved 18 January 2023.
61. Richards, Giles (23 May 2020). "F1 teams agree to introduce budget cap from 2021 onwards" (<https://www.theguardian.com/sport/2020/may/23/f1-teams-agree-to-introduce-budget-cap-from-2021-onwards>). *The Guardian*. Archived (<https://web.archive.org/web/20200629065814/https://www.theguardian.com/sport/2020/may/23/f1-teams-agree-to-introduce-budget-cap-from-2021-onwards>) from the original on 29 June 2020. Retrieved 28 June 2020.
62. Smith, Luke (19 August 2020). "All 10 Formula 1 teams sign up for new Concorde Agreement" (<https://www.autosport.com/f1/news/151511/all-f1-teams-sign-up-for-new-concorde-agreement>). *Autosport.com*. Archived (<https://web.archive.org/web/20201204120305/https://www.autosport.com/f1/news/151511/all-f1-teams-sign-up-for-new-concorde-agreement>) from the original on 4 December 2020. Retrieved 5 October 2020.
63. "FIA announce new F1 regulations to be delayed until 2022" (<https://www.formula1.com/en/latest/article.fia-announce-new-f1-regulations-to-be-delayed-until-2022.1lwtaLmpNcQd0z9SnMEyK8.html>). *Formula1.com*. 19 March 2020. Archived (<https://web.archive.org/web/20210112224909/https://www.formula1.com/en/latest/article.fia-announce-new-f1-regulations-to-be-delayed-until-2022.1lwtaLmpNcQd0z9SnMEyK8.html>) from the original on 12 January 2021. Retrieved 9 June 2021.
64. "Six key questions about F1's new token system answered" (<https://the-race.com/formula-1/six-key-questions-about-f1s-new-token-system-answered/>). *The-Race.com*. 2 June 2020. Archived (<https://web.archive.org/web/20201012115931/https://the-race.com/formula-1/six-key-questions-about-f1s-new-token-system-answered/>) from the original on 12 October 2020. Retrieved 20 August 2020.
65. Benson, Andrew (2 June 2020). "Formula 1 season to start with eight races in Europe" (<https://www.bbc.co.uk/sport/formula1/52883244>). *BBC Sport*. Archived (<https://web.archive.org/web/20210609183003/https://www.bbc.co.uk/sport/formula1/52883244>) from the original on 9 June 2021. Retrieved 9 June 2021.
66. Edmondson, Laurence; Saunders, Nate (8 May 2020). "F1 behind closed doors – how exactly will that work?" ([https://www.espn.com/f1/story/\\_/id/29149401/f1-closed-doors-how-exactly-work](https://www.espn.com/f1/story/_/id/29149401/f1-closed-doors-how-exactly-work)). *ESPN*. Archived ([https://web.archive.org/web/20210609183002/https://www.espn.com/f1/story/\\_/id/29149401/f1-closed-doors-how-exactly-work](https://web.archive.org/web/20210609183002/https://www.espn.com/f1/story/_/id/29149401/f1-closed-doors-how-exactly-work)) from the original on 9 June 2021. Retrieved 9 June 2021.

67. "10 things you need to know about the all-new 2022 F1 car" (<https://www.formula1.com/en/latest/article.10-things-you-need-to-know-about-the-all-new-2022-f1-car.4OLg8DrXyzHzdoGrbqp6ye.html>). *formula1.com*. Archived (<https://web.archive.org/web/20220525004734/https://www.formula1.com/en/latest/article.10-things-you-need-to-know-about-the-all-new-2022-f1-car.4OLg8DrXyzHzdoGrbqp6ye.html>) from the original on 25 May 2022. Retrieved 9 January 2023.
68. "7 key rule changes for the 2022 season" (<https://www.formula1.com/en/latest/article.7-key-rule-changes-for-the-2022-season.2E7JH9MywymU8xxw6r5yDS.html>). *formula1.com*. Archived (<https://web.archive.org/web/20220425005024/https://www.formula1.com/en/latest/article.7-key-rule-changes-for-the-2022-season.2E7JH9MywymU8xxw6r5yDS.html>) from the original on 25 April 2022. Retrieved 9 January 2023.
69. Parkes, Ian (9 December 2022). "This Formula 1 Season Was All Max Verstappen and Red Bull" (<https://www.nytimes.com/2022/12/09/sports/autoracing/f1-max-verstappen-red-bull.html>). *The New York Times*. ISSN 0362-4331 (<https://search.worldcat.org/issn/0362-4331>). Archived (<https://web.archive.org/web/20230109030145/https://www.nytimes.com/2022/12/09/sports/autoracing/f1-max-verstappen-red-bull.html>) from the original on 9 January 2023. Retrieved 9 January 2023.
70. Ramaswami, Sundaram (21 November 2022). "The F1 records Verstappen and Red Bull broke in 2022" (<https://us.motorsport.com/f1/news/the-f1-records-verstappen-and-red-bull-broke-in-2022/10403498/>). *Motorsport.com*. Archived (<https://web.archive.org/web/20230109030143/https://us.motorsport.com/f1/news/the-f1-records-verstappen-and-red-bull-broke-in-2022/10403498/>) from the original on 9 January 2023. Retrieved 9 January 2023.
71. Parkes, Ian (13 December 2023). "For Red Bull and Max Verstappen, 2023 Was a Dominant Year" (<https://www.nytimes.com/2023/12/13/sports/autoracing/f1-red-bull-max-verstappen-2023.html>). *The New York Times*. ISSN 0362-4331 (<https://search.worldcat.org/issn/0362-4331>). Archived (<https://web.archive.org/web/20240114170342/https://www.nytimes.com/2023/12/13/sports/autoracing/f1-red-bull-max-verstappen-2023.html>) from the original on 14 January 2024. Retrieved 15 January 2024.
72. Joseph, Samuel (9 October 2023). "Why Red Bull's RB19 is one of the most dominant F1 cars ever" (<https://www.cnn.com/2023/10/06/sport/red-bull-rb19-f1-motorsport-spt-intl/index.html>). *CNN*. Archived (<https://web.archive.org/web/20240115131543/https://www.cnn.com/2023/10/06/sport/red-bull-rb19-f1-motorsport-spt-intl/index.html>) from the original on 15 January 2024. Retrieved 15 January 2024.
73. Mitchell-Malm, Scott (2 February 2023). "FIA starts bid to find up to two new F1 teams as early as 2025" (<https://www.the-race.com/formula-1/fia-starts-bid-to-find-up-to-two-new-f1-teams-as-early-as-2025/>). *The-Race.com*. Archived (<https://web.archive.org/web/20250115184537/https://www.the-race.com/formula-1/fia-starts-bid-to-find-up-to-two-new-f1-teams-as-early-as-2025/>) from the original on 15 January 2025. Retrieved 24 April 2024.
74. Kisby, Cambridge (2 October 2023). "Which new teams applied to join F1? Andretti's winning bid and those that failed" (<https://www.motorsportmagazine.com/articles/single-seaters/f1/which-new-teams-are-bidding-to-join-f1-from-andretti-to-hitech/>). *Motor Sport Magazine*. Retrieved 24 April 2024.
75. Benson, Andrew (31 January 2024). "F1 rejects Andretti bid to join by 2026 but door left open for 2028" (<https://www.bbc.com/sport/formula1/68158107>). *BBC Sport*. Archived (<https://web.archive.org/web/20250117031948/https://www.bbc.com/sport/formula1/68158107>) from the original on 17 January 2025. Retrieved 24 April 2024.
76. "Drake launches Sauber's new era as they unveil rebrand" (<https://www.formula1.com/en/latest/article.drake-sauber-stake-f1-team-identity-rebrand-name.5pFuGt23QzaUwBZ7flxhww.html>). *formula1.com*. Archived (<https://web.archive.org/web/20240222113052/https://www.formula1.com/en/latest/article.drake-sauber-stake-f1-team-identity-rebrand-name.5pFuGt23QzaUwBZ7flxhww.html>) from the original on 22 February 2024. Retrieved 14 February 2024.

77. Smith, Luke. "New name, new goals: Stake bids to stop its F1 slide" (<https://www.nytimes.com/athletic/5254751/2024/02/06/stake-f1-alfa-romeo-car-launch/>). *The Athletic*. Archived (<https://web.archive.org/web/20240214133637/https://theathletic.com/5254751/2024/02/06/stake-f1-alfa-romeo-car-launch/>) from the original on 14 February 2024. Retrieved 14 February 2024.
78. "Formula 1 announces new multi-year partnership with Hot Wheels" (<https://www.formula1.com/en/latest/article/formula-1-announces-new-multi-year-partnership-with-hot-wheels.7yBhBIS17Bmt8hxLfVxqE2>). *Formula1.com*. 9 October 2024. Archived (<https://web.archive.org/web/20250128174631/https://www.formula1.com/en/latest/article/formula-1-announces-new-multi-year-partnership-with-hot-wheels.7yBhBIS17Bmt8hxLfVxqE2>) from the original on 28 January 2025.
79. The Lego Group (18 September 2024). "We're Putting Play in Pole Position! The LEGO Group and Formula 1® To Go Full Throttle On New Brand Partnership" ([https://www.lego.com/en-us/aboutus/news/2024/september/lego-f1-partnership-announcement?locale=en-us&consent-modal=show&age-gate=grown\\_up](https://www.lego.com/en-us/aboutus/news/2024/september/lego-f1-partnership-announcement?locale=en-us&consent-modal=show&age-gate=grown_up)). *Lego.com*. Lego. Retrieved 22 November 2024.
80. Perez, Jerry (1 February 2024). "New McLaren MP4/4 Ayrton Senna Lego Set Is the Coolest We've Seen in a While" (<https://www.thedrive.com/news/new-mclaren-mp4-4-ayrton-senna-lego-set-is-the-coolest-weve-seen-in-a-while>). *TheDrive*. Lego. Retrieved 22 November 2024.
81. "7 things you need to know about the 2026 F1 engine regulations | Formula 1®" (<https://www.formula1.com/en/latest/article/more-efficient-less-fuel-and-carbon-net-zero-7-things-you-need-to-know-about.ZhtzvU3cPCv8QO7jtFxQR>). *formula1.com*. Archived (<https://web.archive.org/web/20240403102337/https://www.formula1.com/en/latest/article/more-efficient-less-fuel-and-carbon-net-zero-7-things-you-need-to-know-about.ZhtzvU3cPCv8QO7jtFxQR>) from the original on 3 April 2024. Retrieved 3 April 2024.
82. Benson, Andrew (25 November 2024). "General Motors agrees deal to enter F1 in 2026" (<https://www.bbc.com/sport/formula1/articles/cy8nzwlpn83o>). *BBC Sport*. Archived (<https://web.archive.org/web/20250121201853/https://www.bbc.com/sport/formula1/articles/cy8nzwlpn83o>) from the original on 21 January 2025. Retrieved 25 November 2024.
83. "Practice and qualifying" ([https://web.archive.org/web/20100516014918/http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8686/](https://web.archive.org/web/20100516014918/http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8686/)). *Formula1.com*. Archived from the original ([http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8686/](http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8686/)) on 16 May 2010. Retrieved 21 October 2009.
84. "Driver changes and additional drivers" ([http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8694/](http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8694/)). *Formula1.com*. 10 June 2011. Archived ([https://web.archive.org/web/20110620024651/http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8694/](https://web.archive.org/web/20110620024651/http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8694/)) from the original on 20 June 2011. Retrieved 10 June 2011.
85. "2021 Formula 1 Sporting Regulations" ([https://www.fia.com/sites/default/files/2021\\_formula\\_1\\_sporting\\_regulations\\_-\\_iss\\_5\\_-\\_2020-12-16.pdf](https://www.fia.com/sites/default/files/2021_formula_1_sporting_regulations_-_iss_5_-_2020-12-16.pdf)) (PDF). 16 December 2020. Archived ([https://web.archive.org/web/20201217153320/https://www.fia.com/sites/default/files/2021\\_formula\\_1\\_sporting\\_regulations\\_-\\_iss\\_5\\_-\\_2020-12-16.pdf](https://web.archive.org/web/20201217153320/https://www.fia.com/sites/default/files/2021_formula_1_sporting_regulations_-_iss_5_-_2020-12-16.pdf)) (PDF) from the original on 17 December 2020.
86. "Deciding the grid – A history of F1 qualifying formats" (<https://www.formula1.com/en/latest/features/2016/3/deciding-the-grid-a-history-of-f1-qualifying-formats.html>). *Formula1.com*. 17 March 2016. Archived (<https://web.archive.org/web/20200830180030/https://www.formula1.com/en/latest/features/2016/3/deciding-the-grid-a-history-of-f1-qualifying-formats.html>) from the original on 30 August 2020. Retrieved 20 May 2021.
87. "Sporting regulations: Practice and qualifying" ([http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Practice\\_qualifying\\_and\\_race\\_start\\_procedure.html](http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Practice_qualifying_and_race_start_procedure.html)). *Formula1.com*. Archived ([https://web.archive.org/web/20160501104833/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Practice\\_qualifying\\_and\\_race\\_start\\_procedure.html](https://web.archive.org/web/20160501104833/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Practice_qualifying_and_race_start_procedure.html)) from the original on 1 May 2016. Retrieved 3 January 2016.

88. "2020 Formula One Sporting Regulations" ([https://www.fia.com/sites/default/files/2020\\_formula\\_1\\_sporting\\_regulations\\_-\\_iss\\_8\\_-\\_2020-05-27\\_0.pdf](https://www.fia.com/sites/default/files/2020_formula_1_sporting_regulations_-_iss_8_-_2020-05-27_0.pdf)) (PDF). *fia.com*. Federation Internationale de l'Automobile. Archived ([https://web.archive.org/web/20200604223100/http://www.fia.com/sites/default/files/2020\\_formula\\_1\\_sporting\\_regulations\\_-\\_iss\\_8\\_-\\_2020-05-27\\_0.pdf](https://web.archive.org/web/20200604223100/http://www.fia.com/sites/default/files/2020_formula_1_sporting_regulations_-_iss_8_-_2020-05-27_0.pdf)) (PDF) from the original on 4 June 2020. Retrieved 15 December 2020.
89. "F1 removes long-standing qualifying rule for 2022" (<https://racingnews365.com/f1-removes-long-standing-qualifying-rule-for-2022>). *RacingNews365*. 19 February 2022. Archived (<https://web.archive.org/web/20220220184322/https://racingnews365.com/f1-removes-long-standing-qualifying-rule-for-2022>) from the original on 20 February 2022. Retrieved 27 March 2022.
90. Rawcliffe, Tom (6 April 2021). "New F1 Sprint Races to be finalised by Imola" (<https://www.planetf1.com/news/sprint-races-finalised-imola/>). *Planetf1*. Planet F1. Archived (<https://web.archive.org/web/20210407000617/https://www.planetf1.com/news/sprint-races-finalised-imola/>) from the original on 7 April 2021. Retrieved 7 April 2021.
91. "Formula 1 to hold three Sprint events in 2022 – with more points on offer" (<https://www.formula1.com/en/latest/article.formula-1-to-hold-three-sprint-events-in-2022-with-more-points-on-offer.4UXmrMDm6We04ZFIW0leo9.html>). *Formula1.com*. 14 February 2022. Archived (<https://web.archive.org/web/20220226025032/https://www.formula1.com/en/latest/article.formula-1-to-hold-three-sprint-events-in-2022-with-more-points-on-offer.4UXmrMDm6We04ZFIW0leo9.html>) from the original on 26 February 2022. Retrieved 10 May 2023.
92. "Formula 1 announces venues for six F1 Sprint events across 2023 season" (<https://www.formula1.com/en/latest/article.breaking-formula-1-announces-venues-for-six-f1-sprint-events-across-2023.4tvAAXFGdkoHKE8Onjh8Ya.html>). *formula1.com*. 7 December 2022. Archived (<https://web.archive.org/web/20221207113722/https://www.formula1.com/en/latest/article.breaking-formula-1-announces-venues-for-six-f1-sprint-events-across-2023.4tvAAXFGdkoHKE8Onjh8Ya.html>) from the original on 7 December 2022. Retrieved 21 March 2023.
93. "Explained: Everything you need to know about the 2023 F1 Sprint format" (<https://www.formula1.com/en/latest/article.explained-everything-you-need-to-know-about-the-2023-f1-sprint-format.583WHWKbWVVBemPKi6pJxH.html>). *Formula1.com*. 25 April 2023. Archived (<https://web.archive.org/web/20230520011029/https://www.formula1.com/en/latest/article.explained-everything-you-need-to-know-about-the-2023-f1-sprint-format.583WHWKbWVVBemPKi6pJxH.html>) from the original on 20 May 2023. Retrieved 25 April 2023.
94. Baxter-Priest, Matthew (2 March 2023). "What is the car at the back of the F1 grid? | Esquire Middle East – The Region's Best Men's Magazine" (<https://www.esquireme.com/sports/what-is-the-car-at-the-back-of-the-f1-grid>). *Esquire Middle East – The Region's Best Men's Magazine*. Archived (<https://web.archive.org/web/20231103153821/https://www.esquireme.com/sports/what-is-the-car-at-the-back-of-the-f1-grid>) from the original on 3 November 2023. Retrieved 3 November 2023.
95. "Race start procedure" ([https://web.archive.org/web/20130704181035/http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8691/](https://web.archive.org/web/20130704181035/http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8691/)). *Formula1.com*. Archived from the original ([http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8691/](http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8691/)) on 4 July 2013. Retrieved 16 October 2010.
96. "Flags" ([https://web.archive.org/web/20080702120809/http://www.formula1.com/inside\\_f1/understanding\\_the\\_sport/5282.html](https://web.archive.org/web/20080702120809/http://www.formula1.com/inside_f1/understanding_the_sport/5282.html)). *Formula1.com*. 21 June 2003. Archived from the original ([http://www.formula1.com/inside\\_f1/understanding\\_the\\_sport/5282.html](http://www.formula1.com/inside_f1/understanding_the_sport/5282.html)) on 2 July 2008. Retrieved 3 July 2008.
97. Durand, Rodolphe; Piezunka, Henning; Reineke, Philipp (March 2025). "Difference in Deference: When Competitors Do Not Give in Despite Having Lost" (<https://doi.org/10.1287/2Forsc.2023.17474>). *Organization Science*. **36** (2): 940–966. doi:10.1287/orsc.2023.17474 (<https://doi.org/10.1287/2Forsc.2023.17474>). ISSN 1047-7039 (<https://search.worldcat.org/issn/1047-7039>).

98. "FIA abandons rotation of F1 race director for rest of 2022" (<https://the-race.com/formula-1/fia-a-abandons-rotation-of-f1-race-director-for-rest-of-2022/>). *The-Race.com*. 21 October 2022. Archived (<https://web.archive.org/web/20221204151300/https://the-race.com/formula-1/fia-a-abandons-rotation-of-f1-race-director-for-rest-of-2022/>) from the original on 4 December 2022. Retrieved 21 October 2022.
99. "F1 Race Director Niels Wittich to step down" (<https://www.formula1.com/en/latest/article/f1-race-director-niels-wittich-to-step-down.16N8MAvayeUNcM2mw2pXEv>). *Formula1.com*. 12 November 2024. Archived (<https://web.archive.org/web/20250112054445/https://www.formula1.com/en/latest/article/f1-race-director-niels-wittich-to-step-down.16N8MAvayeUNcM2mw2pXEv>) from the original on 12 January 2025. Retrieved 15 November 2024.
100. Coleman, Madeline (22 March 2023). "F1 safety cars explained: How caution laps shaped the Saudi Arabian Grand Prix" (<https://www.nytimes.com/athletic/4331763/2023/03/22/f1-safety-cars-explained-saudi-arabian-grand-prix/>). *The Athletic*. ISSN 0362-4331 (<https://search.worldcat.org/issn/0362-4331>). Archived (<https://web.archive.org/web/20241127044400/https://www.nytimes.com/athletic/4331763/2023/03/22/f1-safety-cars-explained-saudi-arabian-grand-prix/>) from the original on 27 November 2024. Retrieved 13 September 2024. "But there are benefits to teams, too. During actual safety car periods, teams practice fuel saving and make cheap pit stops. Drivers typically flood the pitlane to capitalize on the reduced time for a better pit stop as they swap for fresh tires. Tires tend to lose grip and temperature during this period, which makes the restart challenging."
101. Bart-Williams, Nadim (17 June 2023). "Timeline: The 50-year history of the Safety Car's evolution in Formula 1" (<https://www.formula1.com/en/latest/article/timeline-the-50-year-history-of-the-safety-cars-evolution-in-formula-1.3pYd8T6uM4dVWnp1VQ30Vz>). *Formula1.com*. Archived (<https://web.archive.org/web/20250114131435/https://www.formula1.com/en/latest/article/timeline-the-50-year-history-of-the-safety-cars-evolution-in-formula-1.3pYd8T6uM4dVWnp1VQ30Vz>) from the original on 14 January 2025. Retrieved 14 September 2024. "However, that all changed midway through the 1996 season, thanks to an agreement that has lasted until this day. Formula 1 and Mercedes joined forces, giving the German manufacturer the responsibility of supplying the Official Safety Car for all races."
102. "Check out the new Mercedes and Aston Martin Safety Cars that'll be used in F1 in 2021" (<https://www.formula1.com/en/latest/article.check-out-the-new-mercedes-and-aston-martin-f1-safety-cars-2021.6oPlsF0xEkmJXmwkvrp3Tu.html>). *Formula1.com*. 8 March 2021. Archived (<https://web.archive.org/web/20210308170924/https://www.formula1.com/en/latest/article.check-out-the-new-mercedes-and-aston-martin-f1-safety-cars-2021.6oPlsF0xEkmJXmwkvrp3Tu.html>) from the original on 8 March 2021. Retrieved 12 March 2021.
103. "New safety car driver announced" (<http://www.gpupdate.net/en/f1-news/2713/new-safety-car-driver-announced/>). GPUpdate.net. 8 March 2000. Archived (<https://web.archive.org/web/20160529171909/http://www.gpupdate.net/en/f1-news/2713/new-safety-car-driver-announced/>) from the original on 29 May 2016. Retrieved 30 January 2011.
104. Bradley, Charles (13 May 2023). "Why Bernd Maylander is the safest pair of hands in F1" (<https://www.motorsport.com/f1/news/bernd-maylander-f1-safety-car-interview/10468948/>). *Motorsport.com*. Archived (<https://web.archive.org/web/20230527143733/https://www.motorsport.com/f1/news/bernd-maylander-f1-safety-car-interview/10468948/>) from the original on 27 May 2023. Retrieved 13 September 2024.
105. "FIA clarifies new virtual safety car procedures" (<https://www.formula1.com/en/latest/headlines/2015/1/FIA-clarifies-new-virtual-safety-car-procedures.html>). *Formula1.com*. 9 January 2015. Archived (<https://web.archive.org/web/20240422185038/https://www.formula1.com/en/latest/headlines/2015/1/FIA-clarifies-new-virtual-safety-car-procedures.html>) from the original on 22 April 2024. Retrieved 14 September 2024.



106. Cooper, Adam (22 May 2023) [24 May 2021]. "When Mercedes "screwed up" Hamilton's race in Monaco" (<https://www.motorsport.com/f1/news/mercedes-hamilton-monaco-screwed-rosberg/4795991/>). *Motorsport.com*. Archived (<https://web.archive.org/web/20211021093557/https://www.motorsport.com/f1/news/mercedes-hamilton-monaco-screwed-rosberg/4795991/>) from the original on 21 October 2021. Retrieved 13 September 2024. "The reigning champion didn't simply consolidate his lead, he extended it, and by lap 63 he was 19.6s ahead of his teammate. But at Monaco you are always in the hands of the gods, and it was while Hamilton was on his 64th lap that Verstappen collided with Romain Grosjean at Ste Devote, and F1's first ever Virtual Safety Car was called for."
107. "FIA International Sporting Code: Appendix H" ([https://www.fia.com/sites/default/files/appendix\\_h\\_2021\\_published\\_09\\_03\\_2021.pdf](https://www.fia.com/sites/default/files/appendix_h_2021_published_09_03_2021.pdf)) (PDF). Archived ([https://web.archive.org/web/20210510213732/https://www.fia.com/sites/default/files/appendix\\_h\\_2021\\_published\\_09\\_03\\_2021.pdf](https://web.archive.org/web/20210510213732/https://www.fia.com/sites/default/files/appendix_h_2021_published_09_03_2021.pdf)) (PDF) from the original on 10 May 2021.
108. Westbrook, Justin T. (22 May 2018). "Here's How Virtual Safety Cars Work in Formula One" (<https://jalopnik.com/heres-how-virtual-safety-cars-work-1826237975>). *Jalopnik*. Archived (<https://web.archive.org/web/20190502064719/https://jalopnik.com/heres-how-virtual-safety-cars-work-1826237975>) from the original on 2 May 2019. Retrieved 5 April 2019.
109. "Sporting regulations: Points" ([http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8681/](http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8681/)). *Formula1.com*. Archived ([https://web.archive.org/web/20121003050849/http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8681/](https://web.archive.org/web/20121003050849/http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8681/)) from the original on 3 October 2012. Retrieved 12 January 2015.
110. "Sporting regulations: Classification" ([http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8682/](http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8682/)). *Formula1.com*. Archived ([https://web.archive.org/web/20150118032822/http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8682/](https://web.archive.org/web/20150118032822/http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8682/)) from the original on 18 January 2015. Retrieved 12 January 2015.
111. "Max Verstappen declared winner of aborted rain-hit Belgian Grand Prix" (<https://www.bbc.co.uk/sport/formula1/58377097>). *BBC Sport*. 29 August 2021. Archived (<https://web.archive.org/web/20210829172106/https://www.bbc.co.uk/sport/formula1/58377097>) from the original on 29 August 2021.
112. Cooper, Adam (1 September 2021). "How a 40-year-old rule turned F1 on its head at Spa" (<https://www.autosport.com/f1/news/how-a-40-year-old-rule-turned-f1-on-its-head-at-spa/6658250/>). *Autosport.com*. Motorsport Network. Archived (<https://web.archive.org/web/20220215115134/https://www.autosport.com/f1/news/how-a-40-year-old-rule-turned-f1-on-its-head-at-spa/6658250/>) from the original on 15 February 2022. Retrieved 1 September 2021.
113. "2022 Formula One sporting regulations" ([https://www.fia.com/sites/default/files/2022\\_formula\\_1\\_sporting\\_regulations\\_-\\_iss\\_5\\_-\\_2022-03-15.pdf](https://www.fia.com/sites/default/files/2022_formula_1_sporting_regulations_-_iss_5_-_2022-03-15.pdf)) (PDF). *FIA*. 15 March 2022. pp. 4–5. Archived ([https://web.archive.org/web/20220316112413/https://www.fia.com/sites/default/files/2022\\_formula\\_1\\_sporting\\_regulations\\_-\\_iss\\_5\\_-\\_2022-03-15.pdf](https://web.archive.org/web/20220316112413/https://www.fia.com/sites/default/files/2022_formula_1_sporting_regulations_-_iss_5_-_2022-03-15.pdf)) (PDF) from the original on 16 March 2022. Retrieved 18 March 2022.
114. Verlin, Kurt (10 October 2017). "Quick Guide to Formula One Constructors" (<https://thenewswheel.com/quick-guide-to-formula-one-constructors/>). *The News Wheel*. Archived (<https://web.archive.org/web/20201231220547/https://thenewswheel.com/quick-guide-to-formula-one-constructors/>) from the original on 31 December 2020. Retrieved 2 December 2020.
115. "1983 Constructor Standings" (<https://www.formula1.com/en/results.html/1983/team.html>). *Formula1.com*. Archived (<https://web.archive.org/web/20210201065752/https://www.formula1.com/en/results.html/1983/team.html>) from the original on 1 February 2021. Retrieved 2 December 2020.
116. Clough, David R.; Piezunka, Henning (1 December 2020). "Tie Dissolution in Market Networks: A Theory of Vicarious Performance Feedback" (<https://doi.org/10.1177/0001839219899606>). *Administrative Science Quarterly*. **65** (4): 972–1017. doi:10.1177/0001839219899606 (<https://doi.org/10.1177/0001839219899606>). ISSN 0001-8392 (<https://search.worldcat.org/issn/0001-8392>).

117. Diepraam, Mattijs (21 November 2007). "Poachers turned gamekeepers: how the FOCA became the new FIA *Part 1: Introduction and timeline*" (<http://forix.autosport.com/8w/fiasco-introduction-timeline.html>). 8W. FORIX/Autosport.com. Archived (<https://web.archive.org/web/20090611091438/http://forix.autosport.com/8w/fiasco-introduction-timeline.html>) from the original on 11 June 2009. Retrieved 16 October 2010.
118. Clough, David R.; Piezunka, Henning (1 December 2020). "Tie Dissolution in Market Networks: A Theory of Vicarious Performance Feedback" (<https://doi.org/10.1177%2F0001839219899606>). *Administrative Science Quarterly*. **65** (4): 972–1017. doi:10.1177/0001839219899606 (<https://doi.org/10.1177%2F0001839219899606>). ISSN 0001-8392 (<https://search.worldcat.org/issn/0001-8392>).
119. "Cosworth return unlikely says Stewart" (<https://web.archive.org/web/20080331163340/http://en.f1-live.com/f1/en/headlines/news/detail/071108095715.shtml>). *F1-Live.com*. Archived from the original (<http://en.f1-live.com/f1/en/headlines/news/detail/071108095715.shtml>) on 31 March 2008. Retrieved 1 February 2012.
120. Cooper, Adam. "Mosley Stands Firm on Engine Freeze" (<https://web.archive.org/web/20071105224446/http://www.speedtv.com/articles/auto/formulaone/27851/>). Speed TV. Archived from the original (<http://www.speedtv.com/articles/auto/formulaone/27851/>) on 5 November 2007. Retrieved 1 February 2012.
121. "First own-design for Toro Rosso" (<http://www.gpupdate.net/en/f1-news/227186/first-own-design-for-toro-rosso/>). *GPUpdate.net*. 1 February 2010. Archived (<https://web.archive.org/web/20150110192602/http://www.gpupdate.net/en/f1-news/227186/first-own-design-for-toro-rosso/>) from the original on 10 January 2015. Retrieved 10 January 2015. "Being recognised as a Constructor involves owning the intellectual property rights to what are defined as the listed parts: these are effectively the monocoque, the safety structures that are subject to homologation and crash testing, which means the rear and front structures, primary and secondary roll-over structures and the complete aerodynamic package, the suspension, fuel and cooling systems."
122. "Formula 1: Interview – Toro Rosso's Gerhard Berger" (<http://www.formula1.com/news/interviews/2008/3/7527.html>). *Formula1.com*. 23 May 2008. Archived (<https://web.archive.org/web/20100726075748/http://www.formula1.com/news/interviews/2008/3/7527.html>) from the original on 26 July 2010. Retrieved 23 May 2008.
123. "McLaren is F1's biggest spender" (<https://web.archive.org/web/20080209182616/http://www.f1i.com/content/view/4377/0/>). *F1i.com*. 16 June 2006. Archived from the original (<http://www.f1i.com/content/view/4377/0/>) on 9 February 2008. Retrieved 7 January 2007.
124. Rencken, Dieter; Collantine, Keith (12 September 2020). "\$200 million charge for new teams to stop 'random' entries like USF1" (<https://www.racefans.net/2020/09/12/200-million-charge-for-new-teams-to-stop-random-entries-like-usf1/>). *RaceFans.net*. Archived (<https://web.archive.org/web/20220313142946/https://www.racefans.net/2020/09/12/200-million-charge-for-new-teams-to-stop-random-entries-like-usf1/>) from the original on 13 March 2022. Retrieved 17 September 2020.
125. "Britain's Motorsport Valley – the home of Formula 1" (<https://www.bbc.co.uk/sport/formula1/23048643>). *BBC Sport*. 26 June 2013. Archived (<https://web.archive.org/web/20200927174311/https://www.bbc.co.uk/sport/formula1/23048643>) from the original on 27 September 2020. Retrieved 6 August 2021.
126. "Where are Formula One teams based?" (<https://www.sportskeeda.com/f1/where-are-f1-teams-based>). *sportskeeda.com*. Archived (<https://web.archive.org/web/20210806091344/http://www.sportskeeda.com/f1/where-are-f1-teams-based>) from the original on 6 August 2021. Retrieved 6 August 2021.
127. Saward, Joe (20 September 2010). "Jérôme d'Ambrosio and Virgin?" (<http://joesaward.wordpress.com/2010/09/20/jerome-dambrosio-and-virgin%E2%80%BD/>). *Joe Saward's Grand Prix Blog*. Archived (<https://web.archive.org/web/20110819015958/http://joesaward.wordpress.com/2010/09/20/jerome-dambrosio-and-virgin%E2%80%BD/>) from the original on 19 August 2011. Retrieved 11 June 2011.

128. "Klien signed as HRT Friday driver" (<http://www.grandprix.com/ns/ns22218.html>). Grandprix.com. 6 May 2010. Archived (<https://web.archive.org/web/20100708171222/http://www.grandprix.com/ns/ns22218.html>) from the original on 8 July 2010. Retrieved 10 June 2011.
129. "Appendix L to the International Sporting Code" ([https://web.archive.org/web/20111002144005/http://argent.fia.com/web/fia-public.nsf/C30FA5AA9E36713DC125786B004EDCFC/\\$FILE/11.04.07\\_Annexe%20L\\_%202011.pdf](https://web.archive.org/web/20111002144005/http://argent.fia.com/web/fia-public.nsf/C30FA5AA9E36713DC125786B004EDCFC/$FILE/11.04.07_Annexe%20L_%202011.pdf)) (PDF). *Fédération Internationale de l'Automobile*. 7 April 2011. Archived from the original ([http://argent.fia.com/web/fia-public.nsf/C30FA5AA9E36713DC125786B004EDCFC/\\$FILE/11.04.07\\_Annexe%20L\\_%202011.pdf](http://argent.fia.com/web/fia-public.nsf/C30FA5AA9E36713DC125786B004EDCFC/$FILE/11.04.07_Annexe%20L_%202011.pdf)) (PDF) on 2 October 2011. Retrieved 10 June 2011.
130. Allen, James (11 October 2010). "Inside an F1 team's driving simulator" (<https://web.archive.org/web/20110725155909/http://www.jamesallenonf1.com/2010/10/video-exclusive-inside-an-f1-teams-driving-simulator/>). *James Allen on F1*. Archived from the original (<http://www.jamesallenonf1.com/2010/10/video-exclusive-inside-an-f1-teams-driving-simulator/>) on 25 July 2011. Retrieved 10 June 2011.
131. "Taking the lag out of dynamics simulation" (<http://articles.sae.org/12760/>). *SAE Automotive Engineering Magazine*. Archived (<https://web.archive.org/web/20141004173929/http://articles.sae.org/12760/>) from the original on 4 October 2014. Retrieved 31 August 2015.
132. "Ferrari Changed His Simulator Software" (<https://web.archive.org/web/20150909023443/http://www.f1simulatoremaniac.com/formula-1-2014/ferrari-changed-simulator-software/>). *F1 Simulator Maniac*. Archived from the original (<http://www.f1simulatoremaniac.com/formula-1-2014/ferrari-changed-simulator-software/>) on 9 September 2015. Retrieved 31 August 2015.
133. Offermans, Marcel. "rFactor: Full Steam Ahead!" (<https://web.archive.org/web/20150426084556/http://www.planetmarrs.net/rfactor-full-steam-ahead/>). *Planet Marrs*. Archived from the original (<http://www.planetmarrs.net/rfactor-full-steam-ahead/>) on 26 April 2015. Retrieved 31 August 2015.
134. "History of the Image Space Inc. Software Engine" (<https://web.archive.org/web/20150924033750/http://www.imagespaceinc.com/software.php>). *Image Space Incorporated*. Archived from the original (<http://imagespaceinc.com/software.php>) on 24 September 2015. Retrieved 31 August 2015.
135. "Number 17 to be retired in Bianchi's honour" (<https://www.formula1.com/content/fom-website/en/latest/headlines/2015/7/number-17-to-be-retired-in-bianchis-honour.html>). *Formula1.com*. 20 July 2015. Archived (<https://web.archive.org/web/20150909203456/http://www.formula1.com/content/fom-website/en/latest/headlines/2015/7/number-17-to-be-retired-in-bianchis-honour.html>) from the original on 9 September 2015. Retrieved 31 August 2015.
136. Benson, Andrew (11 January 2014). "Formula 1's governing body confirm drivers' numbers" (<https://www.bbc.co.uk/sport/0/formula1/25694748>). *BBC Sport*. Archived (<https://web.archive.org/web/20140112134808/https://www.bbc.co.uk/sport/0/formula1/25694748>) from the original on 12 January 2014. Retrieved 21 March 2014.
137. Fearnly, Paul (5 December 2013). "F1's number conundrum" (<https://www.motorsportmagazine.com/articles/single-seaters/f1/f1s-number-conundrum>). *MotorSport Magazine*. Archived (<https://web.archive.org/web/20200204220739/https://www.motorsportmagazine.com/articles/single-seaters/f1/f1s-number-conundrum>) from the original on 4 February 2020. Retrieved 4 February 2020.
138. Collantine, Keith (7 January 2008). "Your questions: F1 and the number 13" (<http://www.f1fanatic.co.uk/2008/01/09/your-questions-f1-and-the-number-13/>). *F1Fanatic.co.uk*. Archived (<https://web.archive.org/web/20170915040555/http://www.f1fanatic.co.uk/2008/01/09/your-questions-f1-and-the-number-13/>) from the original on 15 September 2017. Retrieved 10 June 2011.
139. Collantine, Keith (8 August 2007). "Your questions: F1 car numbers" (<http://www.f1fanatic.co.uk/2007/08/08/your-questions-f1-car-numbers/>). *F1Fanatic.co.uk*. Archived (<https://web.archive.org/web/20111023113722/http://www.f1fanatic.co.uk/2007/08/08/your-questions-f1-car-numbers/>) from the original on 23 October 2011. Retrieved 10 May 2011.

140. "United Kingdom • STATS F1" (<https://www.statsf1.com/en/united-kingdom.aspx>). *statsf1.com*. Retrieved 27 May 2024.
141. Gaines, Cork. "Formula 1 drivers need to weigh the same at every race. See inside their intense training regimen" (<https://www.businessinsider.com/f1-drivers-weight-limit-fitness-training-diet-2023-10>). *Business Insider*. Retrieved 7 August 2024.
142. Hynes, Justin (25 February 2024). "Fit For F1: Why nutrition is so important for Formula 1 drivers" (<https://www.formula1.com/en/latest/article/fit-for-f1-why-nutrition-is-so-important-for-formula-1-drivers.1kODg9YslcgdxBgKZT8FQ5>). *Formula1.com*. Archived (<https://web.archive.org/web/20240807211658/https://www.formula1.com/en/latest/article/fit-for-f1-why-nutrition-is-so-important-for-formula-1-drivers.1kODg9YslcgdxBgKZT8FQ5>) from the original on 7 August 2024. Retrieved 7 August 2024.
143. "Video: Analysing 2017's massive rises in G-Force" (<https://www.formula1.com/en/latest/article/video-analysing-2017s-massive-rises-in-g-force.vX8lhGjqmsaCoyy2uKKOi>). *Formula1.com*. 31 March 2017. Archived (<https://web.archive.org/web/20241205025721/https://www.formula1.com/en/latest/article/video-analysing-2017s-massive-rises-in-g-force.vX8lhGjqmsaCoyy2uKKOi>) from the original on 5 December 2024. Retrieved 7 August 2024.
144. "G-Force in F1: What is it and how many G's do drivers experience during a race" (<https://www.gpfans.com/en/f1-news/1010709/f1-g-force/>). *GPfans*. 17 January 2024. Retrieved 7 August 2024.
145. Lane, Barnaby. "I went through testing to discover what it takes to be a Formula One driver and I was left super impressed by just how fit, strong, and fast they have to be" (<https://www.businessinsider.com/f1-how-fit-strong-fast-do-drivers-have-to-be-2022-6>). *Business Insider*. Retrieved 7 August 2024.
146. "G-Force and Formula One: Explained" (<https://www.mercedesamgf1.com/news/g-force-and-formula-one-explained>). *Mercedes-AMG PETRONAS F1 Team*. Retrieved 7 August 2024.
147. "Why cockpit heat is such a big issue for F1 drivers" (<https://www.motorsport.com/f1/news/why-cockpit-heat-is-such-a-big-issue-for-f1-drivers/10535663/>). 21 October 2023.
148. "Why the Singapore Grand Prix is F1's toughest race" (<https://www.autosport.com/f1/news/why-the-singapore-grand-prix-is-f1s-toughest-race/10617249/>). *Autosport*.
149. "Summary of Honda Third-Era Formula One Chassis Development" (<https://www.hondarandd.jp/point.php?pid=595&lang=en>). *Honda R&D Research Paper website*. Retrieved 7 August 2024.
150. "Development of Electric Power Steering System for F-1 Race Car" (<https://www.hondarandd.jp/point.php?pid=522&lang=en>). *Honda R&D Research Paper website*. Retrieved 7 August 2024.
151. "The Surprising Physical Demands of Being an F1 Driver" (<https://mph.com/news/54/the-surprising-physical-demands-of-being-an-f1-driver>). *mph*. Retrieved 7 August 2024.
152. Holding, Joe (22 March 2021). "F1 Driver Training, What's their workout regime, diet, cardio, & more" (<https://www.motorsport.com/f1/news/f1-driver-training-workout-regime-diet-cardio/5847575/>). *Motorsport.com*. Archived (<https://web.archive.org/web/20241228190543/https://www.motorsport.com/f1/news/f1-driver-training-workout-regime-diet-cardio/5847575/>) from the original on 28 December 2024. Retrieved 8 December 2024.
153. Nickless, Steve (7 January 2019). "Don't call it a comeback: Formula Ford at 50 is showing fresh legs" (<https://racer.com/2019/01/07/dont-call-it-a-comeback-formula-ford-at-50-is-showing-fresh-legs/>). *RACER*. Retrieved 15 March 2025.
154. Wood, Ida (20 November 2020). "Where Formula Renault is headed next, and how it got there" (<https://formulascout.com/where-formula-renault-is-headed-next-and-how-it-got-there/70938>). *Formula Scout*. Retrieved 15 March 2025.
155. Messham, Paul. "The Path to F1" (<https://atlasf1.autosport.com/97/jpn/messham.html>). *atlasf1.autosport.com*. *Autosport*. Retrieved 15 March 2025.

156. Wolff, Perceval (25 February 2023). "From F4 to F1: The feeder series ladder explained" (<https://feederseries.net/2023/02/25/from-f4-to-f1-the-feeder-series-ladder-explained/>). *Feeder Series*. Retrieved 15 March 2025.
157. Fiorucci, James (15 October 2022). "The F2 Report: A brief history of Formula 2" (<https://www.grandprix247.com/2022/10/15/the-f2-report-a-brief-history-of-formula-2/>). *GRANDPRIX247*. Retrieved 15 March 2025.
158. "Five F1 champions who wouldn't have made their debuts" (<http://www.crash.net/f1/feature/212868/1/five-f1-champions-who-wouldnt-have-made-their-debuts.html>). *crash.net*. Crash Media Group. 8 January 2015. Archived (<https://web.archive.org/web/20151002165320/http://www.crash.net/f1/feature/212868/1/five-f1-champions-who-wouldnt-have-made-their-debuts.html>) from the original on 2 October 2015. Retrieved 12 October 2015.
159. "Drivers active in both IndyCar and F1" (<https://honda.racing/indy-car-series/post/drivers-in-both-indycar-and-f1>). *Honda Racing Corporation*. 27 May 2022. Retrieved 15 March 2025.
160. "F1 Schedule 2021 – Official Calendar of Grand Prix Races" (<https://www.formula1.com/en/racing/2021.html>). *Formula1.com*. Archived (<https://web.archive.org/web/20210225102722/https://www.formula1.com/en/racing/2021.html>) from the original on 25 February 2021. Retrieved 1 March 2022.
161. "His Serene Highness Prince Rainier of Monte Carlo awarded the first FIA Gold Medal for Motor Sport" ([https://web.archive.org/web/20071115023910/http://www.fia.com/mediacentre/Press\\_Releases/FIA\\_Sport/2004/141004-01.html](https://web.archive.org/web/20071115023910/http://www.fia.com/mediacentre/Press_Releases/FIA_Sport/2004/141004-01.html)). *Fédération Internationale de l'Automobile*. 14 October 2004. Archived from the original ([http://www.fia.com/mediacentre/Press\\_Releases/FIA\\_Sport/2004/141004-01.html](http://www.fia.com/mediacentre/Press_Releases/FIA_Sport/2004/141004-01.html)) on 15 November 2007. Retrieved 23 April 2014.
162. "Singapore confirms 2008 night race" (<https://web.archive.org/web/20100517074908/http://www.formula1.com/news/headlines/2007/5/6063.html>). *Formula1.com*. Formula One Administration. 11 May 2007. Archived from the original (<http://www.formula1.com/news/headlines/2007/5/6063.html>) on 17 May 2010. Retrieved 30 August 2009.
163. "Malaysia start time under review" ([http://news.bbc.co.uk/sport1/hi/motorsport/formula\\_one/7985631.stm](http://news.bbc.co.uk/sport1/hi/motorsport/formula_one/7985631.stm)). *BBC Sport*. British Broadcasting Corporation. 6 April 2009. Archived ([https://web.archive.org/web/20200530094916/http://news.bbc.co.uk/sport2/hi/motorsport/formula\\_one/7985631.stm](https://web.archive.org/web/20200530094916/http://news.bbc.co.uk/sport2/hi/motorsport/formula_one/7985631.stm)) from the original on 30 May 2020. Retrieved 25 April 2014.
164. "Formula 1 renews Abu Dhabi Grand Prix contract until 2030" (<https://www.formula1.com/en/latest/article.formula-1-renews-abu-dhabi-grand-prix-contract-until-2030.4oNR96dTUunnErAiruurFd.html>). *f1.com*. 9 December 2021. Archived (<https://web.archive.org/web/20220612142007/https://www.formula1.com/en/latest/article.formula-1-renews-abu-dhabi-grand-prix-contract-until-2030.4oNR96dTUunnErAiruurFd.html>) from the original on 12 June 2022. Retrieved 2 February 2024.
165. "Formula 1 to race in Melbourne until 2035 in new agreement" (<https://www.formula1.com/en/latest/article.formula-1-to-race-in-melbourne-until-2035-in-new-agreement.7EeEIN0gG4wOKY1OJwHV94.html>). *Formula1.com*. 15 June 2022. Archived (<https://web.archive.org/web/20220708171912/https://www.formula1.com/en/latest/article.formula-1-to-race-in-melbourne-until-2035-in-new-agreement.7EeEIN0gG4wOKY1OJwHV94.html>) from the original on 8 July 2022. Retrieved 2 February 2024.
166. "Formula 1 to race in Austria until 2027 under new four-year deal" (<https://www.formula1.com/en/latest/article.formula-1-to-race-in-austria-until-2027-under-new-four-year-deal.3fHiSKtWExoCc3nLZt1kv9.html>). *f1.com*. 15 March 2023. Archived (<https://web.archive.org/web/20220612142007/https://www.formula1.com/en/latest/article.breking-formula-1-renews-deal-with-the-circuit-de-barcelona-catalunya-until.2kv0OwJ2uSikb4lhVC9Nh9.html>) from the original on 12 June 2022. Retrieved 2 February 2024.



167. "Formula 1 to race in Azerbaijan through 2026 after new deal agreed" (<https://www.formula1.com/en/latest/article.formula-1-to-race-in-azerbaijan-through-2026-after-new-deal-agreed.26BdEe6VEKCyyggjELgQMX.html>). *formula1.com*. 29 April 2023. Archived (<https://web.archive.org/web/20230607062246/https://www.formula1.com/en/latest/article.formula-1-to-race-in-azerbaijan-through-2026-after-new-deal-agreed.26BdEe6VEKCyyggjELgQMX.html>) from the original on 7 June 2023. Retrieved 2 February 2024.
168. "Bahrain Grand Prix to remain in F1 until 2036" ([https://www.espn.co.uk/f1/story/\\_/id/33265777/bahrain-grand-prix-signs-new-deal-remain-f1-2036](https://www.espn.co.uk/f1/story/_/id/33265777/bahrain-grand-prix-signs-new-deal-remain-f1-2036)). *ESPN.com*. 11 February 2022. Archived ([https://web.archive.org/web/20220211114147/https://www.espn.co.uk/f1/story/\\_/id/33265777/bahrain-grand-prix-signs-new-deal-remain-f1-2036](https://web.archive.org/web/20220211114147/https://www.espn.co.uk/f1/story/_/id/33265777/bahrain-grand-prix-signs-new-deal-remain-f1-2036)) from the original on 11 February 2022. Retrieved 2 February 2024.
169. "Formula 1 to race in Belgium until 2025 under new deal" (<https://www.formula1.com/en/latest/article.formula-1-to-race-in-belgium-until-2025-under-new-deal.1ABwI4lboaaHs6CmjEKrsv.html>). *Formula1.com*. 6 December 2024. Archived (<https://web.archive.org/web/20231213103053/https://www.formula1.com/en/latest/article.formula-1-to-race-in-belgium-until-2025-under-new-deal.1ABwI4lboaaHs6CmjEKrsv.html>) from the original on 13 December 2023. Retrieved 2 February 2024.
170. "Silverstone confirmed as host of the Formula 1 British Grand Prix until 2034" (<https://www.silverstone.co.uk/news/silverstone-confirmed-home-formula-1-british-grand-prix-until-2034>). *Silverstone Circuit*. 8 February 2024. Archived (<https://web.archive.org/web/20240209050007/https://www.silverstone.co.uk/news/silverstone-confirmed-home-formula-1-british-grand-prix-until-2034>) from the original on 9 February 2024. Retrieved 8 February 2024.
171. "Canadian GP cancelled due to COVID-19, contract to hold race in Montreal extended" (<https://www.coastreporter.net/national-sports/canadian-gp-cancelled-due-to-covid-19-contract-to-hold-race-in-montreal-extended-3672727>). *CoastReporter*. 28 April 2021. Archived (<https://web.archive.org/web/20210513083455/https://www.coastreporter.net/national-sports/canadian-gp-cancelled-due-to-covid-19-contract-to-hold-race-in-montreal-extended-3672727>) from the original on 13 May 2021. Retrieved 2 February 2024.
172. "Formula 1 to race in Shanghai until 2030 with new five-year extension" (<https://www.formula1.com/en/latest/article/formula-1-to-race-in-shanghai-until-2030-with-new-five-year-extension.773NjupGSMZ1sBQZUfTgY3>). *Formula1.com*. 6 December 2024. Archived (<https://web.archive.org/web/20241207062217/https://www.formula1.com/en/latest/article/formula-1-to-race-in-shanghai-until-2030-with-new-five-year-extension.773NjupGSMZ1sBQZUfTgY3>) from the original on 7 December 2024. Retrieved 7 December 2024.
173. "Formula 1 to celebrate final Dutch Grand Prix in 2026 after one-year extension confirmed for Zandvoort" (<https://www.formula1.com/en/latest/article/formula-1-to-celebrate-final-dutch-grand-prix-in-2026-after-one-year.7EYLHSMGIJyqefl5tMjLrZ>). *Formula1.com*. 4 December 2024. Archived (<https://web.archive.org/web/20250201220318/https://www.formula1.com/en/latest/article/formula-1-to-celebrate-final-dutch-grand-prix-in-2026-after-one-year.7EYLHSMGIJyqefl5tMjLrZ>) from the original on 1 February 2025.
174. "Formula 1 announces it will race at Imola until 2025" (<https://www.formula1.com/en/latest/article.formula-1-announces-it-will-race-at-imola-until-2025.Rrtuijub7DtSJKD1uqmlq.html>). *Formula1.com*. 7 March 2022. Archived (<https://web.archive.org/web/20220612143511/https://www.formula1.com/en/latest/article.formula-1-announces-it-will-race-at-imola-until-2025.Rrtuijub7DtSJKD1uqmlq.html>) from the original on 12 June 2022. Retrieved 2 February 2024.
175. "Formula 1 to race in Hungary until 2032" (<https://www.formula1.com/en/latest/article.formula-1-to-race-in-hungary-until-2032.hKn4fTq1yH00eDOYi3Pbg.html>). *Formula1.com*. 22 July 2023. Archived (<https://web.archive.org/web/20230728013023/https://www.formula1.com/en/latest/article.formula-1-to-race-in-hungary-until-2032.hKn4fTq1yH00eDOYi3Pbg.html>) from the original on 28 July 2023. Retrieved 2 February 2024.

176. "F1 News:Italian GP deal extended by an extra year to 2025" (<https://www.autosport.com/f1/news/f1-news-italian-gp-deal-extended-by-an-extra-year-to-2025-4982229/4982229/>). *Autosport*. 1 June 2020. Archived (<https://web.archive.org/web/20210513083456/https://www.autosport.com/f1/news/f1-news-italian-gp-deal-extended-by-an-extra-year-to-2025-4982229/4982229/>) from the original on 13 May 2021. Retrieved 2 February 2024.
177. "Formula 1 renews Suzuka contract until 2029" (<https://www.formula1.com/en/latest/article.formula-1-to-race-in-japan-until-2029-after-new-five-year-extension.7yAIDYf8uDZBUBZn5fBcLx.html>). *f1.com*. 9 December 2021. Archived (<https://web.archive.org/web/20220612142007/https://www.formula1.com/en/latest/article.formula-1-renews-abu-dhabi-grand-prix-contract-until-2030.4oNR96dTUunnErAiruurFd.html>) from the original on 12 June 2022. Retrieved 2 February 2024.
178. Reed, Tashan (18 October 2023). "Why F1 decided to hold the Las Vegas Grand Prix and how the city is preparing for the race" (<https://www.nytimes.com/athletic/4951339/2023/10/18/formula-one-las-vegas-grand-prix-race-preparations/>). *The Athletic*. Archived (<https://web.archive.org/web/20231122125504/https://theathletic.com/4951339/2023/10/18/formula-one-las-vegas-grand-prix-race-preparations/>) from the original on 22 November 2023. Retrieved 2 February 2024.
179. "Formula 1 to race in Mexico City until 2025" (<https://www.formula1.com/en/latest/article.formula-1-to-race-in-mexico-city-until-2025.dpLkSgbCkshDVicgClqAP.html>). *Formula1*. 28 October 2022. Archived (<https://web.archive.org/web/20221027212415/https://www.formula1.com/en/latest/article.formula-1-to-race-in-mexico-city-until-2025.dpLkSgbCkshDVicgClqAP.html>) from the original on 27 October 2022. Retrieved 2 February 2024.
180. "Miami Grand Prix to join F1 calendar in 2022, with exciting new circuit planned" (<https://www.formula1.com/en/latest/article.miami-grand-prix-to-join-f1-calendar-in-2022.44Dqc0CfhQzb7bb7MljkqX.html>). *Formula1.com*. 18 April 2021. Archived (<https://web.archive.org/web/2020123124353/https://www.formula1.com/en/latest/article.miami-grand-prix-to-join-f1-calendar-in-2022.44Dqc0CfhQzb7bb7MljkqX.html>) from the original on 23 January 2022. Retrieved 2 February 2024.
181. "Monaco GP date to change from 2026 as Formula 1 agrees six-year extension to keep famous event on calendar" (<https://www.skysports.com/f1/news/12433/13254041/monaco-gp-date-to-change-from-2026-as-formula-1-agrees-six-year-extension-to-keep-famous-event-on-calendar>). *Sky Sports*. 14 November 2024. Archived (<https://web.archive.org/web/20241228190543/https://www.motorsport.com/f1/news/f1-driver-training-workout-regime-diet-cardio/5847575/>) from the original on 28 December 2024. Retrieved 14 November 2024.
182. "F1 to hold first Qatar Grand Prix at Losail this November" (<https://www.motorsportmagazine.com/articles/single-seaters/f1/f1-to-hold-first-qatar-grand-prix-at-losail-this-november>). *Motor Sport Magazine*. 30 September 2021. Archived (<https://web.archive.org/web/20210930114809/https://www.motorsportmagazine.com/articles/single-seaters/f1/f1-to-hold-first-qatar-grand-prix-at-losail-this-november>) from the original on 30 September 2021. Retrieved 2 February 2024.
183. Noble, Jonathan (12 November 2020). "Sao Paulo agrees deal with F1 to host Brazilian GP until 2025" (<https://www.autosport.com/f1/news/153465/sao-paulo-to-keep-f1-brazilian-gp-until-2025>). *Autosport.com*. Archived (<https://web.archive.org/web/20201114162101/https://www.autosport.com/f1/news/153465/sao-paulo-to-keep-f1-brazilian-gp-until-2025>) from the original on 14 November 2020. Retrieved 2 February 2024.
184. "Jeddah expects to host F1 race until Qiddiya circuit is ready in 2027" (<https://racer.com/2023/01/19/jeddah-expects-to-host-f1-race-until-qiddiya-circuit-is-ready-in-2027/>). *RACER*. 19 January 2023. Archived (<https://web.archive.org/web/20230707162122/https://racer.com/2023/01/19/jeddah-expects-to-host-f1-race-until-qiddiya-circuit-is-ready-in-2027/>) from the original on 7 July 2023. Retrieved 2 February 2024.

185. "F1 signs 7-year contract extension with Singapore Grand Prix" (<https://web.archive.org/web/20220127104245/https://www.usatoday.com/story/sports/motor/formula1/2022/01/27/f1-signs-7-year-contract-extension-with-singapore-grand-prix/49726135/>). *USA Today*. Paris. Associated Press. 27 January 2022. Archived from the original (<https://www.usatoday.com/story/sports/motor/formula1/2022/01/27/f1-signs-7-year-contract-extension-with-singapore-grand-prix/49726135/>) on 27 January 2022.
186. "Formula 1 renews deal with the Circuit de Barcelona-Catalunya until 2026" (<https://www.formula1.com/en/latest/article.breaking-formula-1-renews-deal-with-the-circuit-de-barcelona-catalunya-untill.2kv0OwJ2uSikb4lhVC9Nh9.html>). *f1.com*. 26 November 2021. Archived (<https://web.archive.org/web/20220612142007/https://www.formula1.com/en/latest/article.breaking-formula-1-renews-deal-with-the-circuit-de-barcelona-catalunya-untill.2kv0OwJ2uSikb4lhVC9Nh9.html>) from the original on 12 June 2022. Retrieved 2 February 2024.
187. "Austin's U.S. Grand Prix extends F1 deal to 2026" ([https://www.espn.com/f1/story/\\_/id/33318813/austin-us-grand-prix-extends-f1-deal-2026](https://www.espn.com/f1/story/_/id/33318813/austin-us-grand-prix-extends-f1-deal-2026)). *ESPN*. 18 February 2022. Archived ([https://web.archive.org/web/20220619202223/https://www.espn.com/f1/story/\\_/id/33318813/austin-us-grand-prix-extends-f1-deal-2026](https://web.archive.org/web/20220619202223/https://www.espn.com/f1/story/_/id/33318813/austin-us-grand-prix-extends-f1-deal-2026)) from the original on 19 June 2022. Retrieved 2 February 2024.
188. "Formula 1 to race in Mexico City until at least the end of 2022" (<https://www.formula1.com/en/latest/article.formula-1-to-race-in-mexico-city-until-at-least-the-end-of-2022.4XwqaV1ECZS5vZBKM1wEEK.html>). *Formula1.com*. Archived (<https://web.archive.org/web/20190808164911/https://www.formula1.com/en/latest/article.formula-1-to-race-in-mexico-city-until-at-least-the-end-of-2022.4XwqaV1ECZS5vZBKM1wEEK.html>) from the original on 8 August 2019. Retrieved 23 October 2019.
189. Alcheva, Martina (26 March 2021). "Formula 1: Everything you need to know about the New Locations Initiative" (<https://bolavip.com/en/sports/everything-you-need-to-know-about-the-formula-1-new-locations-initiative-20210326-0020.html>). *Bolavip US*. Archived (<https://web.archive.org/web/20210508095454/https://bolavip.com/en/sports/everything-you-need-to-know-about-the-formula-1-new-locations-initiative-20210326-0020.html>) from the original on 8 May 2021. Retrieved 8 April 2021.
190. "No more Sochi or Igora Drive races as Formula 1 terminates contract with Russian Grand Prix" (<https://www.news24.com/wheels/formulaone/no-more-sochi-or-igora-drive-as-formula-1-terminates-contract-with-russian-grand-prix-20220303>). *Wheels*. 3 March 2022. Archived (<https://web.archive.org/web/20220304082603/https://www.news24.com/wheels/formulaone/no-more-sochi-or-igora-drive-as-formula-1-terminates-contract-with-russian-grand-prix-20220303>) from the original on 4 March 2022. Retrieved 4 March 2022.
191. "International Sporting Code" ([https://web.archive.org/web/20090806060829/http://www.fia.com/resources/documents/1797101136\\_Appendix\\_L\\_a.pdf](https://web.archive.org/web/20090806060829/http://www.fia.com/resources/documents/1797101136_Appendix_L_a.pdf)) (PDF). FIA. 28 March 2007. Archived from the original ([http://www.fia.com/resources/documents/1797101136\\_Appendix\\_L\\_a.pdf](http://www.fia.com/resources/documents/1797101136_Appendix_L_a.pdf)) (PDF) on 6 August 2009. Retrieved 30 August 2009.
192. "Formula 1 – 2010 season changes" ([https://web.archive.org/web/20100417224427/http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8692](https://web.archive.org/web/20100417224427/http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8692)). 17 April 2010. Archived from the original ([http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/sporting\\_regulations/8692](http://www.formula1.com/inside_f1/rules_and_regulations/sporting_regulations/8692)) on 17 April 2010. Retrieved 11 September 2024.
193. Widdows, Rob (24 May 2011). "Monaco Challenge Remains Unique" (<https://web.archive.org/web/20120424210656/http://www.motorsportmagazine.com/f1/monaco-challenge-remains-unique/>). *Motor Sport Magazine*. Archived from the original (<http://www.motorsportmagazine.com/f1/monaco-challenge-remains-unique/>) on 24 April 2012. Retrieved 18 April 2024.
194. Hardy, Ed (4 December 2023). "How long is an F1 race? Laps, time, distance and more explained" (<https://www.motorsport.com/f1/news/how-long-is-an-f1-race-laps-time-distance-explained/10554259/>). *Motorsport.com*. Archived (<https://web.archive.org/web/20250102100530/https://www.motorsport.com/f1/news/how-long-is-an-f1-race-laps-time-distance-explained/10554259/>) from the original on 2 January 2025. Retrieved 11 September 2024.

195. Fédération Internationale de l'Automobile (31 July 2024). "FIA 2024 Formula 1 Sporting Regulations – Issue 7" ([https://www.fia.com/sites/default/files/fia\\_2024\\_formula\\_1\\_sporting\\_regulations\\_-\\_issue\\_7\\_-\\_2024-07-31.pdf](https://www.fia.com/sites/default/files/fia_2024_formula_1_sporting_regulations_-_issue_7_-_2024-07-31.pdf)) (PDF). p. 4. "5.4 The distance of all races, from the start signal referred to in Article 44.10 to the end-of-session signal referred to in Article 59.1, shall be equal to the least number of complete laps which exceed a distance of 305km, with the exception of the two following circumstances: a) The distance of the race in Monaco shall be equal to the least number of complete laps which exceed a distance of 260km."
196. Scott, Mark (1 October 2019). "Hermann Tilke responds to criticism of his track designs" (<https://www.planetf1.com/news/hermann-tilke-responds-to-criticism>). *PlanetF1.com*. Archived (<https://web.archive.org/web/20250119072652/https://www.planetf1.com/news/hermann-tilke-responds-to-criticism>) from the original on 19 January 2025. Retrieved 28 December 2024.
197. Briggs, Gemma (21 March 2009). "Tilke, tailor, circuit maker" (<https://www.theguardian.com/sport/2009/mar/21/hermann-tilke-formula-one-designer>). *The Guardian*. ISSN 0261-3077 (<https://search.worldcat.org/issn/0261-3077>). Archived (<https://web.archive.org/web/20250120181721/https://www.theguardian.com/sport/2009/mar/21/hermann-tilke-formula-one-designer>) from the original on 20 January 2025. Retrieved 11 September 2024.
198. "Verstappen beats Hamilton at Dutch GP, retakes championship lead" ([https://www.espn.com/f1/report/\\_/id/600001768](https://www.espn.com/f1/report/_/id/600001768)). *ESPN*. 5 September 2021. Archived ([https://web.archive.org/web/20241127054216/https://www.espn.com/f1/report/\\_/id/600001768](https://web.archive.org/web/20241127054216/https://www.espn.com/f1/report/_/id/600001768)) from the original on 27 November 2024. Retrieved 11 September 2024.
199. "Las Vegas to host Formula 1 night race from 2023" (<https://www.formula1.com/en/latest/article/breaking-las-vegas-to-host-formula-1-night-race-from-2023.69O9nKLwKraqAhR5rr8TQg>). *Formula1.com*. 31 March 2022. Archived (<https://web.archive.org/web/20241214183737/https://www.formula1.com/en/latest/article/breaking-las-vegas-to-host-formula-1-night-race-from-2023.69O9nKLwKraqAhR5rr8TQg>) from the original on 14 December 2024. Retrieved 27 May 2024.
200. Elshebiny, Yara (23 March 2025). "The F1 Car Weight Rule That Cost Leclerc And Gasly 2025 Chinese GP Results" (<https://www.forbes.com/sites/yaraelshebiny/2025/03/23/the-f1-car-weight-rule-that-cost-leclerc-and-gasly-2025-chinese-gp-results/>). *Forbes*. Archived (<https://web.archive.org/web/20250323141021/https://www.forbes.com/sites/yaraelshebiny/2025/03/23/the-f1-car-weight-rule-that-cost-leclerc-and-gasly-2025-chinese-gp-results/>) from the original on 23 March 2025. Retrieved 9 April 2025.
201. "A racing revolution? Understanding 2014's technical regulations" (<https://web.archive.org/web/20141109221052/http://www.formula1.com/news/features/2014/1/15408.html>). *Formula1.com*. 24 January 2014. Archived from the original (<http://www.formula1.com/news/features/2014/1/15408.html>) on 9 November 2014. Retrieved 17 March 2014.
202. "Tyres" ([https://web.archive.org/web/20081218202246/http://www.formula1.com/inside\\_f1/understanding\\_the\\_sport/5283.html](https://web.archive.org/web/20081218202246/http://www.formula1.com/inside_f1/understanding_the_sport/5283.html)). *Formula1.com*. Archived from the original ([http://www.formula1.com/inside\\_f1/understanding\\_the\\_sport/5283.html](http://www.formula1.com/inside_f1/understanding_the_sport/5283.html)) on 18 December 2008. Retrieved 4 July 2008.
203. "2012 Ferrari – pre-launch overview" (<http://www.formula1.com/news/technical/2012/0/930.html>). *Formula1.com*. Archived (<https://web.archive.org/web/20120202081523/http://www.formula1.com/news/technical/2012/0/930.html>) from the original on 2 February 2012. Retrieved 2 February 2012.
204. "Oracle Red Bull Racing" (<https://www.redbullracing.com/int-en>). *redbullracing.com*. Archived (<https://web.archive.org/web/20220301212942/https://www.redbullracing.com/int-en>) from the original on 1 March 2022. Retrieved 2 March 2022.

205. "Analysis: The key feature on the MCL36 that McLaren are hoping will give them an edge on rivals" (<https://www.formula1.com/en/latest/article.analysis-the-key-feature-on-the-mcl36-that-mclaren-are-hoping-will-give-them.6laZdMm4KfhJmt9toSxVTO.html>). *formula1.com*. Archived (<https://web.archive.org/web/20220212182234/https://www.formula1.com/en/latest/article.analysis-the-key-feature-on-the-mcl36-that-mclaren-are-hoping-will-give-them.6laZdMm4KfhJmt9toSxVTO.html>) from the original on 12 February 2022. Retrieved 2 March 2022.
206. "F1 infographics" (<https://www.brembo.com/en/car/formula-1/f1-infographics>). *Brembo*. 8 March 2024.
207. "Formula One Breaking Systems" (<https://www.mercedesamgf1.com/news/formula-one-braking-systems-explained>). *AMG Petronas Formula One Team*. 8 March 2024.
208. "10 things you need to know about the all-new 2022 F1 car" (<https://www.formula1.com/en/latest/article.10-things-you-need-to-know-about-the-all-new-2022-f1-car.4OLg8DrXyzHzdoGrbqp6ye.html>). *formula1.com*. Archived (<https://web.archive.org/web/20220525004734/https://www.formula1.com/en/latest/article.10-things-you-need-to-know-about-the-all-new-2022-f1-car.4OLg8DrXyzHzdoGrbqp6ye.html>) from the original on 25 May 2022. Retrieved 2 March 2022.
209. "Tyres and wheels" (<https://www.formula1.com/en/championship/inside-f1/rules-regs/tyres-and-wheels.html>). *Formula1.com*. Archived (<https://web.archive.org/web/20170301141640/https://www.formula1.com/en/championship/inside-f1/rules-regs/tyres-and-wheels.html>) from the original on 1 March 2017. Retrieved 19 May 2017.
210. Minskovsky, Paul. "F1 Wheels" (<http://www.f1wheels.com/>). *f1wheels.com*. Archived (<https://web.archive.org/web/20171014131517/https://f1wheels.com/>) from the original on 14 October 2017. Retrieved 19 May 2017.
211. "Formula 1 in 2022: Explaining the new rules and car changes as teams prepare for first launches" (<https://www.skysports.com/f1/news/12433/12524402/formula-1-in-2022-explaining-the-new-rules-and-car-changes-as-teams-prepare-for-first-launches>). *Sky Sports*. Archived (<https://web.archive.org/web/20230210030411/https://www.skysports.com/f1/news/12433/12524402/formula-1-in-2022-explaining-the-new-rules-and-car-changes-as-teams-prepare-for-first-launches>) from the original on 10 February 2023. Retrieved 2 March 2022.
212. "2013 engine changes approved, but postponement possible" (<https://web.archive.org/web/20130117085257/http://www.formula1.com/news/headlines/2011/6/12134.html>). *Formula1.com*. 3 June 2011. Archived from the original (<http://www.formula1.com/news/headlines/2011/6/12134.html>) on 17 January 2013. Retrieved 16 December 2012.
213. "FIA Sporting Regulations – Fuel" ([https://web.archive.org/web/20100908052019/http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/technical\\_regulations/6852/default.html](https://web.archive.org/web/20100908052019/http://www.formula1.com/inside_f1/rules_and_regulations/technical_regulations/6852/default.html)). *Formula1.com*. Archived from the original ([http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/technical\\_regulations/6852/default.html](http://www.formula1.com/inside_f1/rules_and_regulations/technical_regulations/6852/default.html)) on 8 September 2010. Retrieved 23 May 2008.
214. "Renault F1 engine listing" (<https://web.archive.org/web/20100918030815/http://allf1.info/engines/renault.php>). Archived from the original (<http://www.allf1.info/engines/renault.php>) on 18 September 2010. Retrieved 1 June 2007.
215. "FIA Sporting Regulations – Engine" ([https://web.archive.org/web/20100501075024/http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/technical\\_regulations/6851/](https://web.archive.org/web/20100501075024/http://www.formula1.com/inside_f1/rules_and_regulations/technical_regulations/6851/)). *Formula1.com*. Archived from the original ([http://www.formula1.com/inside\\_f1/rules\\_and\\_regulations/technical\\_regulations/6851/](http://www.formula1.com/inside_f1/rules_and_regulations/technical_regulations/6851/)) on 1 May 2010. Retrieved 23 May 2008.
216. "FIA Formula One World Championship – 2009 Technical Regulations" ([http://argent.fia.com/web/fia-public.nsf/7C4F8D883039AF6AC125757D00369C58/\\$FILE/1-2009\\_F1\\_TECHNICAL\\_REGULATIONS\\_Showing-Alterations\\_17-03-2009.pdf](http://argent.fia.com/web/fia-public.nsf/7C4F8D883039AF6AC125757D00369C58/$FILE/1-2009_F1_TECHNICAL_REGULATIONS_Showing-Alterations_17-03-2009.pdf)) (PDF). *FIA*. Archived ([https://web.archive.org/web/20090407080302/http://argent.fia.com/web/fia-public.nsf/7C4F8D883039AF6AC125757D00369C58/\\$FILE/1-2009\\_F1\\_TECHNICAL\\_REGULATIONS\\_Showing-Alterations\\_17-03-2009.pdf](https://web.archive.org/web/20090407080302/http://argent.fia.com/web/fia-public.nsf/7C4F8D883039AF6AC125757D00369C58/$FILE/1-2009_F1_TECHNICAL_REGULATIONS_Showing-Alterations_17-03-2009.pdf)) from the original on 7 April 2009. Retrieved 4 April 2009.

217. "F1 regulations: Suspension and steering systems" ([http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Suspension\\_and\\_steering\\_systems.html](http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Suspension_and_steering_systems.html)). Archived ([https://web.archive.org/web/20150822064341/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Suspension\\_and\\_steering\\_systems.html](https://web.archive.org/web/20150822064341/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Suspension_and_steering_systems.html)) from the original on 22 August 2015. Retrieved 9 August 2015.
218. "Grand Prix of Italy" ([https://web.archive.org/web/20120609113707/http://www.fia.com/sport/Championships/F1/F1\\_Circuits/2006/Italy/circuit.html](https://web.archive.org/web/20120609113707/http://www.fia.com/sport/Championships/F1/F1_Circuits/2006/Italy/circuit.html)). Archived from the original ([http://www.fia.com/sport/Championships/F1/F1\\_Circuits/2006/Italy/circuit.html](http://www.fia.com/sport/Championships/F1/F1_Circuits/2006/Italy/circuit.html)) on 9 June 2012. Retrieved 12 October 2006.
219. "The Fastest F1 Cars of All-Time" (<https://f1chronicle.com/the-fastest-f1-cars-of-all-time/>). 9 October 2021. Archived (<https://web.archive.org/web/20220102024112/https://f1chronicle.com/the-fastest-f1-cars-of-all-time/>) from the original on 2 January 2022. Retrieved 2 January 2022.
220. Coleman, Madeline (12 September 2024). "F1 Azerbaijan GP track breakdown: Baku's unique challenge requires compromise" (<https://www.nytimes.com/athletic/5760603/2024/09/12/f1-azerbaijan-gp-track-breakdown-baku-circuit/>). *The Athletic*. ISSN 0362-4331 (<https://search.worldcat.org/issn/0362-4331>). Archived (<https://web.archive.org/web/20250126130823/https://www.nytimes.com/athletic/5760603/2024/09/12/f1-azerbaijan-gp-track-breakdown-baku-circuit/>) from the original on 26 January 2025. Retrieved 12 September 2024.
221. "Bonneville 400" (<http://www.racecar-engineering.com/articles/bonneville-400/>). Racecar Engineering. 5 August 2008. Archived (<https://web.archive.org/web/20150924083901/http://www.racecar-engineering.com/articles/bonneville-400/>) from the original on 24 September 2015. Retrieved 30 August 2015.
222. "Aerodynamics" ([https://web.archive.org/web/20140326180548/http://www.formula1.com/inside\\_f1/understanding\\_the\\_sport/5281.html](https://web.archive.org/web/20140326180548/http://www.formula1.com/inside_f1/understanding_the_sport/5281.html)). *Formula1.com*. Archived from the original ([http://www.formula1.com/inside\\_f1/understanding\\_the\\_sport/5281.html](http://www.formula1.com/inside_f1/understanding_the_sport/5281.html)) on 26 March 2014. Retrieved 30 August 2009.
223. "Ferrari Enzo" (<http://www.fast-autos.net/vehicles/Ferrari/2003/Enzo/>). Archived (<https://web.archive.org/web/20100507085803/http://fast-autos.net/vehicles/Ferrari/2003/Enzo/>) from the original on 7 May 2010. Retrieved 15 March 2007.
224. "F1 regulations: Spare Cars" ([http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Spare\\_cars.html](http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Spare_cars.html)). Archived ([https://web.archive.org/web/20150822063733/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Spare\\_cars.html](https://web.archive.org/web/20150822063733/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Spare_cars.html)) from the original on 22 August 2015. Retrieved 9 August 2015.
225. "F1 regulations: Power unit and ERS" ([http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Power\\_Unit\\_and\\_ERS.html](http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Power_Unit_and_ERS.html)). Archived ([https://web.archive.org/web/20150812044522/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Power\\_Unit\\_and\\_ERS.html](https://web.archive.org/web/20150812044522/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Power_Unit_and_ERS.html)) from the original on 12 August 2015. Retrieved 9 August 2015.
226. "F1 regulations: Gearboxes" ([http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Transmission\\_gearbox.html](http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Transmission_gearbox.html)). *Formula1.com*. Archived ([https://web.archive.org/web/20150822064019/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Transmission\\_gearbox.html](https://web.archive.org/web/20150822064019/http://www.formula1.com/content/fom-website/en/championship/inside-f1/rules-regs/Transmission_gearbox.html)) from the original on 22 August 2015. Retrieved 9 August 2015.
227. "Budgets and Expenses in Formula1" ([https://web.archive.org/web/20200228063816/http://www.f1scarlet.com/budgets&expenses\\_f1.html](https://web.archive.org/web/20200228063816/http://www.f1scarlet.com/budgets&expenses_f1.html)). *F1scarlet.com*. Archived from the original ([http://www.f1scarlet.com/budgets&expenses\\_f1.html](http://www.f1scarlet.com/budgets&expenses_f1.html)) on 28 February 2020. Retrieved 30 August 2015.
228. "The real cost of F1" *F1 Racing* (March 2007) Haymarket Publishing
229. "2007 FIA Regulations" (<https://web.archive.org/web/20070520021421/http://www.mclaren.com/f1season/regulations.php>). McLaren. Archived from the original (<http://www.mclaren.com/f1season/regulations.php>) on 20 May 2007. Retrieved 23 May 2007.



230. Sylt, Christian (28 October 2013). "The Price of Power". *Autoweek*: 64–66.
231. "F1 faces possible investigation from the European Union" (<https://www.theguardian.com/sport/2015/sep/29/formula-one-possible-investigation-european-union-force-india-sauber>). *The Guardian*. Press Association. 29 September 2015. Archived (<https://web.archive.org/web/20170305012755/https://www.theguardian.com/sport/2015/sep/29/formula-one-possible-investigation-european-union-force-india-sauber>) from the original on 5 March 2017. Retrieved 14 December 2016.
232. Benson, Andrew (27 September 2004). "High price takes shine off F1" ([http://news.bbc.co.uk/sport2/hi/motorsport/formula\\_one/3692888.stm](http://news.bbc.co.uk/sport2/hi/motorsport/formula_one/3692888.stm)). *BBC News*. Archived ([https://web.archive.org/web/20101202022406/http://news.bbc.co.uk/sport2/hi/motorsport/formula\\_one/3692888.stm](https://web.archive.org/web/20101202022406/http://news.bbc.co.uk/sport2/hi/motorsport/formula_one/3692888.stm)) from the original on 2 December 2010. Retrieved 30 August 2009.
233. "Pioneer Investors" (<https://web.archive.org/web/20090823025428/http://www.pioneer-investors.com/news2.asp?newsid=2785>). Pioneer Investors. 7 February 2006. Archived from the original (<http://www.pioneer-investors.com/news2.asp?newsid=2785>) on 23 August 2009. Retrieved 30 August 2009.
234. "Hamilton" (<https://www.forbes.com/sites/brettknight/2021/07/22/formula-1-highest-paid-drivers-hamilton-verstappen/?sh=728e249f1182>). *Forbes*. Archived (<https://web.archive.org/web/20220408110203/https://www.forbes.com/sites/brettknight/2021/07/22/formula-1-highest-paid-drivers-hamilton-verstappen/?sh=728e249f1182>) from the original on 8 April 2022. Retrieved 9 October 2021.
235. Tutor, Chris. "Red Bull infographic compares and contrasts NASCAR and F1" (<http://www.autoblog.com/2012/11/16/red-bull-infographic-compares-and-contrasts-nascar-and-f1/>). *Autoblog*. Archived (<https://web.archive.org/web/20170504060325/http://www.autoblog.com/2012/11/16/red-bull-infographic-compares-and-contrasts-nascar-and-f1/>) from the original on 4 May 2017. Retrieved 19 May 2017.
236. Agini, Samuel (10 August 2020). "F1 revenues almost wiped out by pandemic halt to races" (<https://ghostarchive.org/archive/20221210/https://www.ft.com/content/67515b3a-9db9-49b0-9f56-130317ed3f08>). *Financial Times*. Archived from the original (<https://www.ft.com/content/67515b3a-9db9-49b0-9f56-130317ed3f08>) on 10 December 2022. Retrieved 10 August 2020.
237. Beggs, Luke (11 March 2021). "Visualising F1 performance and budget" (<https://luke-beggs.medium.com/visualising-f1-performance-and-budget-f7ad71460ec>). *Medium*. Archived (<https://web.archive.org/web/20230730231412/https://luke-beggs.medium.com/visualising-f1-performance-and-budget-f7ad71460ec>) from the original on 30 July 2023. Retrieved 5 October 2024.
238. Rencken, Dieter (2 January 2020). "The cost of F1 2019 part two: What the top teams spent" (<https://www.racefans.net/2020/01/02/the-cost-of-f1-2019-part-two-what-the-top-team-s-spent/>). *RaceFans.net*. Retrieved 5 October 2024.
239. Rencken, Dieter (27 December 2019). "The cost of F1 2019: Team budgets analysed – part one" (<https://www.racefans.net/2019/12/27/the-cost-of-f1-2019-team-budgets-analysed-part-one/>). *RaceFans.net*. Retrieved 5 October 2024.
240. "What You Need to Know About the F1 Cost Cap" (<https://www.globalsportsadvocates.com/blog/understanding-the-f1-cost-cap.cfm>). *Global Sports Advocates, LLC*. Archived (<https://web.archive.org/web/20241103094545/https://www.globalsportsadvocates.com/blog/understanding-the-f1-cost-cap.cfm>) from the original on 3 November 2024. Retrieved 14 September 2024.
241. Chowdhury, Tasnim (23 February 2024). "F1 2024: A guide to the season – including calendar, sprint races, teams and drivers" (<https://www.bbc.com/sport/formula1/67787837>). *BBC Sport*. Archived (<https://web.archive.org/web/20250117032143/https://www.bbc.com/sport/formula1/67787837>) from the original on 17 January 2025. Retrieved 14 September 2024.

242. Noble, Jonathan (1 February 2024). "McLaren: Backmarker "threat" shows F1's cost cap is working" (<https://www.motorsport.com/f1/news/mclaren-backmarker-threat-shows-f1-cost-cap-working/10570752/>). *Motorsport.com*. Archived (<https://web.archive.org/web/20250114131526/https://www.motorsport.com/f1/news/mclaren-backmarker-threat-shows-f1-cost-cap-working/10570752/>) from the original on 14 January 2025.
243. Roberts, James; Noble, Jonathan (23 January 2015). "Small F1 teams hopeful of progress on cost cuts before season start" (<http://www.autosport.com/news/report.php/id/117446>). *Autosport.com*. Haymarket Media. Archived (<https://web.archive.org/web/20150323012933/http://www.autosport.com/news/report.php/id/117446>) from the original on 23 March 2015. Retrieved 8 March 2015.
244. Benson, Andrew (13 February 2015). "Mercedes & Red Bull split on changes to F1 cars for 2016" (<https://www.bbc.co.uk/sport/0/formula1/31454550>). *BBC Sport*. Archived (<https://web.archive.org/web/20150216000634/http://www.bbc.co.uk/sport/0/formula1/31454550>) from the original on 16 February 2015. Retrieved 8 March 2015.
245. "Liberty Media tables F1 2021 vision to teams" (<https://www.speedcafe.com/2018/04/07/liberty-media-tables-f1-2021-vision-teams/>). *Speedcafe*. 7 April 2018. Archived (<https://web.archive.org/web/20180524143850/https://www.speedcafe.com/2018/04/07/liberty-media-tables-f1-2021-vision-teams/>) from the original on 24 May 2018. Retrieved 7 April 2018.
246. "All 10 teams reach new Formula 1 Concorde Agreement" (<https://www.formula1.com/en/latest/article.breaking-all-10-teams-reach-new-formula-1-concorde-agreement.4jufgsSeN47TYwLhbcznXi.html>). *formula1.com*. 19 August 2020. Archived (<https://web.archive.org/web/20201004003924/https://www.formula1.com/en/latest/article.breaking-all-10-teams-reach-new-formula-1-concorde-agreement.4jufgsSeN47TYwLhbcznXi.html>) from the original on 4 October 2020. Retrieved 28 August 2020.
247. Barretto, Lawrence (19 August 2020). "What the new Concorde Agreement means for Formula 1" (<https://www.formula1.com/en/latest/article.analysis-what-the-new-concorde-agreement-means-for-formula-1.1Z97Z6vRwfDTHVhGbSS510.html>). *formula1.com*. Archived (<https://web.archive.org/web/20200822142434/https://www.formula1.com/en/latest/article.analysis-what-the-new-concorde-agreement-means-for-formula-1.1Z97Z6vRwfDTHVhGbSS510.html>) from the original on 22 August 2020. Retrieved 28 August 2020.
248. "Formula 1 announces plan to be Net Zero Carbon by 2030" (<https://www.formula1.com/en/latest/article.formula-1-announces-plan-to-be-net-zero-carbon-by-2030.5laX2AZHyy7jqxl6wra6CZ.html>). *formula1.com*. 12 November 2019. Archived (<https://web.archive.org/web/20191112101211/https://www.formula1.com/en/latest/article.formula-1-announces-plan-to-be-net-zero-carbon-by-2030.5laX2AZHyy7jqxl6wra6CZ.html>) from the original on 12 November 2019. Retrieved 12 November 2019.
249. "Net Zero Carbon: How Formula 1 is going to meet this ambitious target by 2030" (<https://www.formula1.com/en/latest/article.net-zero-carbon-how-formula-1-is-going-to-meet-this-ambitious-target-by-2030.5QsK9NpYbz7pXp7423I3iJ.html>). *formula1.com*. Archived (<https://web.archive.org/web/20230705222000/https://www.formula1.com/en/latest/article.net-zero-carbon-how-formula-1-is-going-to-meet-this-ambitious-target-by-2030.5QsK9NpYbz7pXp7423I3iJ.html>) from the original on 5 July 2023. Retrieved 4 July 2023.
250. "2019 Carbon Dioxide Report" (<https://corp.formula1.com/wp-content/uploads/2019/11/Environmental-sustainability-Corp-website-vFINAL.pdf>) (PDF). Archived (<https://web.archive.org/web/20220401202335/https://corp.formula1.com/wp-content/uploads/2019/11/Environmental-sustainability-Corp-website-vFINAL.pdf>) (PDF) from the original on 1 April 2022. Retrieved 4 July 2023.
251. "FIA and Formula 1 sign UN Sports for Climate Action Framework" (<https://formulaspyspy.com/f1/fia-and-formula-1-sign-un-sports-for-climate-action-framework-67105>). *FormulaSpy.com*. 22 January 2020. Archived (<https://web.archive.org/web/20200731181801/https://formulaspyspy.com/f1/fia-and-formula-1-sign-un-sports-for-climate-action-framework-67105>) from the original on 31 July 2020. Retrieved 22 January 2020.

252. "10 things you need to know about the all-new 2022 F1 car" (<https://www.formula1.com/en/latest/article.10-things-you-need-to-know-about-the-all-new-2022-f1-car.4OLg8DrXyzHzdoGrbqp6ye.html>). *formula1.com*. Archived (<https://web.archive.org/web/20220525004734/http://www.formula1.com/en/latest/article.10-things-you-need-to-know-about-the-all-new-2022-f1-car.4OLg8DrXyzHzdoGrbqp6ye.html>) from the original on 25 May 2022. Retrieved 18 November 2021.
253. Benson, Andrew (17 December 2020). "F1: FIA says it has developed 100% sustainable fuel" (<https://www.bbc.co.uk/sport/formula1/55352108>). *BBC Sport*. Archived (<https://web.archive.org/web/20201217163521/https://www.bbc.co.uk/sport/formula1/55352108>) from the original on 17 December 2020. Retrieved 18 December 2020.
254. "Formula 1 launches #WeRaceAsOne initiative to help fight challenges of COVID-19 and global inequality" (<https://www.formula1.com/en/latest/article.formula-1-launches-we-race-as-one-initiative.3s2AhNDApNDzrCoQDc1RY8.html>). *formula1.com*. Archived (<https://web.archive.org/web/20200810004101/https://www.formula1.com/en/latest/article.formula-1-launches-we-race-as-one-initiative.3s2AhNDApNDzrCoQDc1RY8.html>) from the original on 10 August 2020. Retrieved 11 January 2022.
255. "Lewis Hamilton | Biography, Titles, & Facts" (<https://www.britannica.com/biography/Lewis-Hamilton>). *britannica.com*. Archived (<https://web.archive.org/web/20210428185929/https://www.britannica.com/biography/Lewis-Hamilton>) from the original on 28 April 2021. Retrieved 11 January 2022.
256. Smith, Luke (7 August 2020). "Lewis Hamilton Is Demanding Change" (<https://www.nytimes.com/2020/08/07/sports/autoracing/lewis-hamilton-formula-1-diversity.html>). *The New York Times*. ISSN 0362-4331 (<https://search.worldcat.org/issn/0362-4331>). Archived (<https://web.archive.org/web/20200807151729/https://www.nytimes.com/2020/08/07/sports/autoracing/lewis-hamilton-formula-1-diversity.html>) from the original on 7 August 2020. Retrieved 11 January 2022.
257. "Mercedes Launches 'Accelerate 25' Diversity & Inclusion Programme" (<https://www.mercedesamgf1.com/en/news/2020/12/mercedes-launches-accelerate-25-diversity-inclusion-programme/>). *mercedesamgf1.com*. Archived (<https://web.archive.org/web/20220111030404/http://www.mercedesamgf1.com/en/news/2020/12/mercedes-launches-accelerate-25-diversity-inclusion-programme/>) from the original on 11 January 2022. Retrieved 11 January 2022.
258. "Formula One drivers wear 'End Racism' shirts and take a knee before season opener" (<https://www.nbcnews.com/news/world/formula-one-drivers-wear-end-racism-shirts-take-knee-season-n1232925>). *NBC News*. 5 July 2020. Archived (<https://web.archive.org/web/20220111025332/https://www.nbcnews.com/news/world/formula-one-drivers-wear-end-racism-shirts-take-knee-season-n1232925>) from the original on 11 January 2022. Retrieved 11 January 2022.
259. "Lewis Hamilton admits change of approach in fight against racism" (<https://www.theguardian.com/sport/2021/apr/01/lewis-hamilton-admits-change-of-approach-in-fight-against-racism>). *The Guardian*. PA Media. 1 April 2021. Archived (<https://web.archive.org/web/20250211101512/https://www.theguardian.com/sport/2021/apr/01/lewis-hamilton-admits-change-of-approach-in-fight-against-racism>) from the original on 11 February 2025. Retrieved 26 October 2024.
260. "'Leading the way to change' – How the growth of female fans and F1 ACADEMY are encouraging women to explore opportunities in motorsport" (<https://www.f1academy.com/Latest/6Rcggc1UglZIVXmoW2TphW/leading-the-way-to-change-how-the-growth-of-female-fans-and-f1-academy-are>). *F1® Academy*. Retrieved 8 October 2024.
261. Tilbury, Charlotte (16 February 2024). "Charlotte Tilbury X F1 Academy" (<https://www.charlottetilbury.com/us/secrets/charlotte-tilbury-f1-academy>). *Charlotte Tilbury*. Retrieved 8 October 2024.

262. Adgate, Brad (11 March 2024). "Here's Why Formula 1 Racing Is Growing In Popularity With Women" (<https://www.forbes.com/sites/bradadgate/2024/03/11/heres-why-formula-1-racing-is-growing-in-popularity-with-women/>). *Forbes*. Archived (<https://web.archive.org/web/20250114134736/https://www.forbes.com/sites/bradadgate/2024/03/11/heres-why-formula-1-racing-is-growing-in-popularity-with-women/>) from the original on 14 January 2025. Retrieved 8 October 2024.
263. hr. "Information about Maria-Teresa de Filippis from [historicracing.com](https://www.historicracing.com)" (<https://www.historicracing.com/driverDetail.cfm?driverID=1366>). *historicracing.com*. Retrieved 3 October 2024.
264. Motorsport, Females in (25 December 2023). "Women in Motorsport: Lella Lombardi | History of Motorsport" (<https://www.femalesinmotorsport.com/post/women-in-motorsport-lella-lombardi>). *FinM*. Retrieved 29 September 2024.
265. Nathanson, Patrick (13 November 2015). "Giovanna Amati: The remarkable story of F1's last female driver" (<https://www.bbc.co.uk/sport/formula1/34771317>). *BBC Sport*. Archived (<https://web.archive.org/web/20240717071053/https://www.bbc.com/sport/formula1/34771317>) from the original on 17 July 2024. Retrieved 10 February 2025.
266. Collantine, Keith (5 February 2022). "How F1's last female racer stood little chance in a once-great team close to collapse" (<https://www.racefans.net/2022/02/05/how-f1s-last-female-racer-stood-little-chance-in-a-once-great-team-close-to-collapse/>). *RaceFans.net*. Archived (<https://web.archive.org/web/20241012040741/https://www.racefans.net/2022/02/05/how-f1s-last-female-racer-stood-little-chance-in-a-once-great-team-close-to-collapse/>) from the original on 12 October 2024. Retrieved 10 February 2025.
267. Hilton, Christopher. *Grand Prix Women: The History of Women in Formula 1*. Haynes Publishing, 2007.
268. "mclaren-applied" (<https://mclarenapplied.com/news/meet-hannah-schmitz---mclaren-applied-female-engineer-of-the-year-award-winner>). *mclarenapplied.com*. Retrieved 1 October 2024.
269. Elshebiny, Yara (22 January 2025). "Haas' Laura Mueller Becomes First Female Race Engineer In F1 History" (<https://www.forbes.com/sites/yaraelshebiny/2025/01/22/haas-appoints-laura-mueller-as-first-female-race-engineer-in-f1/>). *Forbes*. Retrieved 16 March 2025.
270. "Mueller becomes F1's first female Race Engineer at Haas" (<https://www.formula1.com/en/latest/article/laura-mueller-becomes-f1s-first-female-race-engineer-as-haas-confirm-key.3gFdZ46OphteLHNKnGAIM6>). *Formula 1*. 21 January 2025. Retrieved 16 March 2025.
271. "Susie Wolff" (<https://leanin.org/stories/susie-wolff#!>). *Lean In*. Retrieved 3 October 2024.
272. "Ms Monisha KALTENBORN, AUSTRIA" (<https://www.fia.com/profile/ms-monisha-kaltenborn-austria>). *Federation Internationale de l'Automobile*. 16 April 2012. Retrieved 3 October 2024.
273. "Formula 1's Global TV Audience Expands" (<https://web.archive.org/web/20111123131907/http://www.paddocktalk.com/news/html/modules.php?op=modload&name=News&file=article&sid=100719>). *paddocktalk.com/Global Broadcast Report*. Archived from the original (<http://www.paddocktalk.com/news/html/modules.php?op=modload&name=News&file=article&sid=100719>) on 23 November 2011. Retrieved 29 June 2009.
274. "F1 viewing figures drop" ([http://news.bbc.co.uk/sport2/hi/motorsport/formula\\_one/1842217.stm](http://news.bbc.co.uk/sport2/hi/motorsport/formula_one/1842217.stm)). *BBC Sports*. 26 February 2002. Archived ([https://web.archive.org/web/20080407064920/http://news.bbc.co.uk/sport2/hi/motorsport/formula\\_one/1842217.stm](https://web.archive.org/web/20080407064920/http://news.bbc.co.uk/sport2/hi/motorsport/formula_one/1842217.stm)) from the original on 7 April 2008. Retrieved 10 March 2007. "The cumulative figure, which exceeds the total population of the planet by many times, counts all viewers who watch F1 on any programme at any time during the year."
275. "Formula One Coverage goes HD for 2011" (<http://www.formula1.com/news/headlines/2011/1/11634.html>). *Formula1.com*. 12 January 2011. Archived (<https://web.archive.org/web/20140806015846/http://www.formula1.com/news/headlines/2011/1/11634.html>) from the original on 6 August 2014. Retrieved 16 June 2014.

276. "Official timing application for iPhone announced" (<https://web.archive.org/web/20090617083209/https://www.formula1.com/news/headlines/2009/6/9499.html>). *Formula1.com*. 15 June 2009. Archived from the original (<https://www.formula1.com/news/headlines/2009/6/9499.html>) on 17 June 2009. Retrieved 20 November 2017.
277. "Google Play Store" (<https://play.google.com/store/apps/details?id=com.softpauer.f1timingapp2014.basic>). Archived (<https://web.archive.org/web/20140314100356/https://play.google.com/store/apps/details?id=com.softpauer.f1timingapp2014.basic>) from the original on 14 March 2014. Retrieved 11 January 2014.
278. "F1 launches Live Timing in dedicated app" (<https://web.archive.org/web/20220310010157/https://www.formula1.com/en/subscribe/download-the-official-f1-live-timing-app.html>). *Formula1.com*. Archived from the original (<https://www.formula1.com/en/subscribe/download-the-official-f1-live-timing-app.html>) on 10 March 2022. Retrieved 10 March 2022.
279. "Formula One unveils new logo" ([http://www.espn.in/f1/story/\\_/id/21568245/f1-formula-one-unveils-new-logo](http://www.espn.in/f1/story/_/id/21568245/f1-formula-one-unveils-new-logo)). *ESPN*. 26 November 2017. Archived ([https://web.archive.org/web/20171128012416/http://www.espn.in/f1/story/\\_/id/21568245/f1-formula-one-unveils-new-logo](https://web.archive.org/web/20171128012416/http://www.espn.in/f1/story/_/id/21568245/f1-formula-one-unveils-new-logo)) from the original on 28 November 2017. Retrieved 27 November 2017.
280. "Formula 1 to launch F1 TV, a live Grand Prix subscription service" (<https://www.formula1.com/en/latest/headlines/2018/2/formula-1-to-launch-f1-tv-a-live-grand-prix-subscription-service.html>). *F1*. 1 March 2018. Archived (<https://web.archive.org/web/20180228041604/https://www.formula1.com/en/latest/headlines/2018/2/formula-1-to-launch-f1-tv-a-live-grand-prix-subscription-service.html>) from the original on 28 February 2018. Retrieved 10 March 2018.
281. Cleeren, Filip (25 April 2024). "F1 announces 24/7 streaming channel in the US" (<https://www.autosport.com/f1/news/f1-announces-24-7-streaming-channel-in-the-us/10603093/>). *Autosport.com*. Archived (<https://web.archive.org/web/20240525111344/https://www.autosport.com/f1/news/f1-announces-24-7-streaming-channel-in-the-us/10603093/>) from the original on 25 May 2024. Retrieved 25 April 2024.
282. Mills, Adam (13 December 2011). "Q&A with Sky F1" (<https://web.archive.org/web/20120108034339/http://badgergp.com/2011/12/qa-with-sky-f1-a-chat-with-martin-david-and-ted/>). *Badger GP*. Archived from the original (<http://badgergp.com/2011/12/qa-with-sky-f1-a-chat-with-martin-david-and-ted/>) on 8 January 2012. Retrieved 21 December 2011.
283. "BBC reveals F1 coverage schedule for 2012" ([http://news.bbc.co.uk/sport2/hi/formula\\_one/15893254.stm](http://news.bbc.co.uk/sport2/hi/formula_one/15893254.stm)). *BBC Sport*. 25 November 2011. Archived ([https://web.archive.org/web/20111125173432/http://news.bbc.co.uk/sport2/hi/formula\\_one/15893254.stm](https://web.archive.org/web/20111125173432/http://news.bbc.co.uk/sport2/hi/formula_one/15893254.stm)) from the original on 25 November 2011. Retrieved 25 November 2011.
284. Sweney, Mark (21 December 2015). "F1 snapped up by Channel 4 as BBC exits deal early" (<https://www.theguardian.com/media/2015/dec/21/formula-one-channel-4-bbc-deal>). *The Guardian*. Archived (<https://web.archive.org/web/20200731202843/https://www.theguardian.com/media/2015/dec/21/formula-one-channel-4-bbc-deal>) from the original on 31 July 2020. Retrieved 24 May 2020.
285. "Channel 4 becomes terrestrial home of Formula 1" (<http://www.channel4.com/info/press/news/channel-4-becomes-terrestrial-home-of-formula-1>). Channel 4. 21 December 2015. Archived (<https://web.archive.org/web/20151222115714/http://www.channel4.com/info/press/news/channel-4-becomes-terrestrial-home-of-formula-1>) from the original on 22 December 2015. Retrieved 23 December 2015.
286. "BBC to end Formula 1 television contract early" (<https://www.bbc.co.uk/news/uk-35149963>). *BBC News*. 21 December 2015. Archived (<https://web.archive.org/web/20151221113336/http://www.bbc.co.uk/news/uk-35149963>) from the original on 21 December 2015. Retrieved 21 December 2015.
287. "BBC Secures UK Radio Rights For F1" (<https://web.archive.org/web/20220318135119/https://www.sportindustry.biz/news/bbc-secures-uk-radio-rights-f1>). *Sport Industry Group*. 18 March 2022. Archived from the original (<https://www.sportindustry.biz/news/bbc-secures-uk-radio-rights-f1>) on 18 March 2022.

288. "Broadcast Information" (<https://www.formula1.com/en/toolbar/broadcast-information.html>). *Formula1.com*. Archived (<https://web.archive.org/web/20190210152612/https://www.formula1.com/en/toolbar/broadcast-information.html>) from the original on 10 February 2019. Retrieved 9 February 2019.
289. Smith, Luke (19 March 2025). "Netflix? ESPN? Amazon? Why the race for F1's U.S. TV rights could change the sport" (<https://www.nytimes.com/athletic/6129337/2025/02/12/f1-tv-rights-netflix-espn-amazon-streaming/>). *The Athletic*. ISSN 0362-4331 (<https://search.worldcat.org/issn/0362-4331>). Retrieved 11 May 2025.
290. Niemeier, Timo (25 January 2018). "Nach fast 30 Jahren: RTL steigt aus der Formel 1 aus" ([https://www.dwdl.de/nachrichten/78157/nach\\_fast\\_30\\_jahren\\_rtl\\_steigt\\_aus\\_der\\_formel\\_1\\_aus/](https://www.dwdl.de/nachrichten/78157/nach_fast_30_jahren_rtl_steigt_aus_der_formel_1_aus/)). *DWDL.de* (in German). Retrieved 11 May 2025.
291. Weis, Manuel (5 March 2021). "Formel 1 zurück bei RTL, Sky bekommt Europa-League-Rechte" ([https://www.dwdl.de/nachrichten/96092/formel\\_1\\_zurueck\\_bei\\_rtl\\_sky\\_zwei\\_europaleaguespiele\\_pro\\_woche/](https://www.dwdl.de/nachrichten/96092/formel_1_zurueck_bei_rtl_sky_zwei_europaleaguespiele_pro_woche/)). *DWDL.de* (in German). Retrieved 11 May 2025.
292. "Droits TV : Canal+ prolonge la F1 jusqu'en 2024 et la Moto GP jusqu'en 2029 – MediaSportif" (<https://www.mediasportif.fr/2021/08/31/droits-tv-canal-prolonge-la-f1-jusquen-2024-et-la-moto-gp-jusquen-2029/>). 31 August 2021. Archived (<https://web.archive.org/web/20211029171706/https://www.mediasportif.fr/2021/08/31/droits-tv-canal-prolonge-la-f1-jusquen-2024-et-la-moto-gp-jusquen-2029/>) from the original on 29 October 2021. Retrieved 14 October 2021.
293. "Timeline of Formula One" (<http://en.espn.co.uk/f1/motorsport/page/2825.html>). ESPN. Archived (<https://web.archive.org/web/20180104154747/http://en.espn.co.uk/f1/motorsport/page/2825.html>) from the original on 4 January 2018. Retrieved 29 May 2016.
294. "The Formula One Archives" (<http://www.silhouet.com/motorsport/archive/f1/title.html>). *silhouet.com*. Archived (<https://web.archive.org/web/20070809033827/http://www.silhouet.com/motorsport/archive/f1/title.html>) from the original on 9 August 2007. Retrieved 29 May 2016.
295. "Alberto Ascari" ([https://web.archive.org/web/20160430164558/http://historicracing.com/driver\\_detail.cfm?driverID=1061](https://web.archive.org/web/20160430164558/http://historicracing.com/driver_detail.cfm?driverID=1061)). *historicracing.com*. Archived from the original ([http://www.historicracing.com/driver\\_detail.cfm?driverID=1061](http://www.historicracing.com/driver_detail.cfm?driverID=1061)) on 30 April 2016. Retrieved 29 May 2016.
296. "1952 Non-World Championship Grands Prix" (<http://www.silhouet.com/motorsport/archive/f1/nc/1952/1952.html>). *silhouet.com*. Archived (<https://web.archive.org/web/20151107181439/http://www.silhouet.com/motorsport/archive/f1/nc/1952/1952.html>) from the original on 7 November 2015. Retrieved 29 May 2016.
297. "1953 Non-World Championship Grands Prix" (<http://www.silhouet.com/motorsport/archive/f1/nc/1953/1953.html>). *silhouet.com*. Archived (<https://web.archive.org/web/20160305033208/http://www.silhouet.com/motorsport/archive/f1/nc/1953/1953.html>) from the original on 5 March 2016. Retrieved 29 May 2016.
298. "Clemente Biondetti Formula One race entries" (<http://www.chicanef1.com/query.pl?action=Submit&exact=on&driver=Clemente%20Biondetti&nc=nc>). *ChicaneF1*. Archived (<https://web.archive.org/web/20220421205629/https://www.chicanef1.com/query.pl?action=Submit&exact=on&driver=Clemente%20Biondetti&nc=nc>) from the original on 21 April 2022. Retrieved 29 May 2016.
299. "Desiré Wilson" (<https://web.archive.org/web/20070605215016/http://www.f1rejects.com/drivers/wilson/biography.html>). *f1rejects.com*. Archived from the original (<http://f1rejects.com/drivers/wilson/biography.html>) on 5 June 2007. Retrieved 17 November 2007.

## Further reading

---

- Arron, Simon & Hughes, Mark (2003). *The Complete Book of Formula One*. Motorbooks International. ISBN 0-7603-1688-0.



- Gross, Nigel et al. (1999). "Grand Prix Motor Racing". In, *100 Years of Change: Speed and Power* (pp. 55–84). Parragon.
- Hayhoe, David & Holland, David (2006). *Grand Prix Data Book (4th edition)*. Haynes, Sparkford, UK. [ISBN 1-84425-223-X](#).
- Higham, Peter (2003). *The international motor racing guide*. David Bull, Phoenix, AZ, USA. [ISBN 1-893618-20-X](#).
- "Inside F1" ([http://www.formula1.com/inside\\_f1/](http://www.formula1.com/inside_f1/)). *Formula1.com*. 2011. Archived ([https://web.archive.org/web/20111111070300/http://www.formula1.com/inside\\_f1/](https://web.archive.org/web/20111111070300/http://www.formula1.com/inside_f1/)) from the original on 11 November 2011. Retrieved 11 November 2011.
- Jones, Bruce (1997). *The Ultimate Encyclopedia of Formula One*. Hodder & Stoughton.
- Jones, Bruce (1998). *Formula One: The Complete Stats and Records of Grand Prix Racing*. Parragon.
- Jones, Bruce (2003). *The Official ITV Sport Guide: Formula One Grand Prix 2003*. Carlton. Includes foreword by Martin Brundle. [ISBN 1-84222-813-7](#).
- Jones, Bruce (2005). *The Guide to 2005 FIA Formula One World Championship: The World's Bestselling Grand Prix Guide*. Carlton. [ISBN 1-84442-508-8](#).
- Lang, Mike (1981–1992). *Grand Prix! volumes 1–4*. Haynes, Sparkford, UK.
- Menard, Pierre (2006). *The Great Encyclopedia of Formula 1, 5th edition*. Chronosport, Switzerland. [ISBN 2-84707-051-6](#)
- Miltner, Harry (2007). *Race Travel Guide 2007*. egoth: Vienna, Austria. [ISBN 978-3-902480-34-7](#)
- Small, Steve (2000). *Grand Prix Who's Who (3rd edition)*. Travel Publishing, UK. [ISBN 1-902007-46-8](#).
- Tremayne, David & Hughes, Mark (1999). *The Concise Encyclopedia of Formula One*. Parragon
- Twite, Mike. "Formula Regulations: Categories for International Racing" in Northey, Tom, ed. *The World Of Automobiles*, Volume 6, pp. 701–3. London: Phoebus, 1978.

## External links

---

- [Official website \(https://www.formula1.com\)](https://www.formula1.com/) 
  -  Media related to [Formula One](#) at Wikimedia Commons
- 

Retrieved from "[https://en.wikipedia.org/w/index.php?title=Formula\\_One&oldid=1295826203](https://en.wikipedia.org/w/index.php?title=Formula_One&oldid=1295826203)"