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Up Next Five engine manufacturers will provide power units for the Formula 1's next rules cycle, which begins in 2026 and will run until the end of the 20230 season.That's an increase of one compared to the current list of providers, with Audi and a Ford-supported Red Bull Powertrains programme joining Ferrari, Mercedes and Honda - somewhat off-setting the loss of Renault at the end of 2025. Here's the complete list of the 10 existing teams and which supplier each is partnered with for 2026:Red Bull - Red Bull PowertrainsRed Bull was left in an awkward position when Honda announced its decision to leave F1 at the end of the 2021 season, one it has essentially rowed back from since, with a supply deal covering the 2022-25 seasons struck to help Red Bull work out a longer-term alternative.The end result was for Red Bull to set up an in-house engine division, Red Bull Powertrains, with its own power unit set to debut in 2026. It has since drafted in Ford as a partner for that project.MercedesMercedes' works team is officially split across two bases: its chassis facility is in Brackley, while the engine is produced by Mercedes-AMG High Performance Powertrains at Brixworth.The Mercedes name has officially badged F1 engines since the 1994 season with Sauber, though it was involved the season before when the 'concept by Mercedes-Benz' slogan appeared on the 1993 Saubers as it had worked with the team and the British manufacturer Ilmor it bought into on that year's programme.FerrariArguably F1's only true works team, Ferrari has every part of its operation at its Maranello base - which also houses its road car division and World Endurance Championship Hypercar project.McLaren - MercedesMcLaren's second engine arrangement with Mercedes might be very different to the one that secured three drivers' titles and one constructors' championship during its years as an F1 powerhouse in the late 1990s and 2000s, but a reunion for 2021 has nevertheless coincided with the team's most competitive seasons during the turbo-hybrid era.It announced an extension to that deal at the end of the 2023 season, which will mean McLaren uses Mercedes power units until at least the end of 2030.Aston Martin - HondaDespite announcing it would withdraw after the 2021 season, Honda has never really left F1. Red Bull has continued to use its engines under its Red Bull Powertrains banner since, with Honda effectively a supplying contractor, while Honda's name returned to the 'make of the engine' name for Red Bull and AlphaTauri for 2023.It also registered as a manufacturer with the FIA for the next F1 engine regulations, and in May last year a programme giving Aston Martin (currently supplied by Mercedes) exclusive use of its 2026 engine was announced.Alpine - Mercedes'Team Enstone' has already had the briefest of spells without Renault power - in the 2015 season it switched to Mercedes, before Renault bought the beleaguered squad back - but that was the one outlier since Benetton paired up with Renault for the 1995 season.From 2026 it will make a far more permanent change as it has effectively shutdown its engine programme, instead taking Mercedes power.Williams - MercedesWilliams announced on January 8 that it was extending its partnership with Mercedes into the 2026 rules cycle.That relationship is Williams's longest continuous one with an engine manufacturer and began in 2014 at the start of the turbo-hybrid era, with Williams recording back-to-back third-place finishes in the constructors' championship in the first two seasons.Racing Bulls - RBPTRed Bull's sister Racing Bulls squad will be supplied by the same Red Bull Powertrains-developed package used by the senior team from 2026.AudiAudi is joining F1 for the first time in 2026 and is currently building up its preparations for that programme, which involves a majority takeover of the Sauber squad that for the next two seasons will be known as the Stake F1 team.It has set itself the ambitious target of being in a position to fight for wins in its first three years in the championship with its own power unit, which is being developed at its Neuburg facility in Germany.Haas - FerrariHaas announced a new deal with Ferrari - which it has used since it entered F1 in 2016 - on July 16, extending the deal through the end of 2028. Team boss Ayao Komatsu said the "continued stability" the deal provides will be crucial entering the new rules era.Cadillac - FerrariF1's first new team in more than a decade will be powered by Ferrari engines when it joins the grid for 2026.What was originally an Andretti-fronted bid to join F1 eventually received primary approval for 2026 under the Cadillac Formula 1 banner (with no outright mention of Andretti, though it remains operationally crucial to the programme under its parent company TWG Global).No engine partner was named at the time of its approval, but Ferrari communicated in December 2024 that it would supply the team's engine and gearbox from 2026 - subject to the team receiving final approval to join the grid.Further down the line, a works engine project is planned for the Cadillac team through the brand's parent company General Motors. This was initially set to be from 2028 but GM's announcement of its agreement in principle with F1 avoided any reference to a specific year for its entry as an engine manufacturer. Regarding engine suppliers in Formula 1, many changes have occurred over the years.Here is a look at some of the former engine manufacturers in the sport.AcerAcer, an Italian-based former Formula 1 engine manufacturer, participated in 17 races but didn’t win any during the 2001 season. The company supplied engines to the Minardi and Prost teams. However, Acer’s engines were generally unreliable and uncompetitive, leading to the company’s withdrawal from F1 at the end of the 2001 season.Alfa RomeoAlfa Romeo, based in Italy, participated in 215 Formula 1 races between 1950 and 1987, winning 12 of them. The company’s best season was 1950, when it won the drivers’ and constructors’ championships. The company also won the constructors’ title in 1951. After a long absence from the sport, the company returned to Formula 1 in 1961 and won two races. It last competed in 1963. AltaAlta was a British Formula One constructor from 1950 to 1959. They participated in 26 World Championship Grands Prix. They failed to win any of those races. Geoffrey Taylor founded the company in Cambridge. The Company’s best results were a pair of fourth-place finishes in the 1959 British Grand Prix. The company ceased operations in 1960.ArrowsIn 1998, the British F1 engine manufacturer Arrows made its Formula 1 debut. The company was formed after the buyout of the financially struggling Footwork Arrows outfit.They started the 1998 season with high hopes, but unfortunately, they could never translate that into results on the track. In 32 races throughout two seasons, Arrows only managed to score a total of seven points. They also failed to register a single podium finish.AsiatechAsiatech was a French Formula One engine manufacturer that competed in the World Championship from 2001 to 2002. The company started 34 races but failed to win a single race. Asiatech’s best result was a fourth-place finish at the 2002 Austrian Grand Prix.The Minardi teams used Asiatech’s engines in 2001 and 2002, then switched to other suppliers for the 2003 season.Aston MartinAston Martin, a United Kingdom-based company, started participating in Formula 1 races in 1959. However, the company only competed in five races that year and did not win any of them. In the 1960 season, the company again only participated in some races and failed to win any of them.ATSIn 1963, the Italian-based ATS company entered Formula 1 as an engine manufacturer. They supplied engines to 7 different teams over the next three years but failed to win a single race. Their best result was a 4th-place finish at the 1964 German Grand Prix. As a result, the company withdrew from Formula 1 after the 1967 season.BMWBMW has been involved in Formula 1 for over 50 years, supplying engines to teams from 1952 to 1954, 1967 to 1968, 1982 to 1987, and 2000 to 2009. They’ve entered 270 races and racked up 20 wins in that time.But it’s not just about the wins. BMW has also scored good points in many races, helping their teams to secure podium finishes. Even when they’re not winning outright, BMW is often near the front of the pack.BorgwardBorgward, a former Formula 1 engine manufacturer based in Germany, entered one race in 1959, 1962, and 1963. They failed to win any races and did not score any points. This company was one of the many companies that withdrew from Formula 1 racing after the 1963 season.BPMAn Italian F1 engine manufacturer entered a race during the 1952 season but failed to win or score any points. The company’s only entry was at the 1952 Monaco Grand Prix, where its driver, Giuseppe Farina, retired after just 13 laps. BPM’s short journey into Formula 1 racing ultimately proved unsuccessful.BristolBristol was a Formula One constructor from the United Kingdom who entered seventeen races from 1952 to 1957. It achieved no World Championship points, and no wins. The company later entered other motorsport categories, including Formula Three and sports car racing.BRMBritish Racing Motors was a Formula 1 engine manufacturer based in the UK. They entered 189 races and scored 499 points. Their best season was in 1960, when they won the Constructors’ Championship. BRM last competed in 1977.BugattiIn 1956, Bugatti participated in 1 Formula 1 race and did not win. The French company based in France had been a successful engine manufacturer before entering into Formula 1, but its engines were not up to the competition’s standards. ButterworthIn 1952, the Butterworth company in the UK entered Formula 1 racing. They participated in 2 races but did not win either of them. Despite their lack of success, the company remained in operation until 1953, when it ceased production.BWT MercedesBWT Mercedes, a former Formula One engine manufacturer, appeared in the 2019-2020 season with 38 races and only won one. However, The company scored 268 points overall in the season.The Mercedes team was based in the UK and used its own engines. The team’s only win came at the British Grand Prix, with driver Lewis Hamilton. Hamilton also finished second in the drivers’ standing, behind Red Bull’s Max Verstappen.CastellottiIt was an Italian engine supplier participating in the 1960 Formula One season. The company supplied engines to three teams but failed to win a single race. So, they withdrew from the sport after failing to secure a victory. Their engines were unreliable and often failed to finish races. As a result, the company could not attract customers and ultimately went out of business.ClimaxClimax participated in 96 races from 1957 to 1969, scoring 40 wins and 684 points. In addition, the company supplied engines to several Formula One teams. It was one of the most successful engine suppliers in Formula One history, winning six Constructors’ Championship titles and four Drivers’ Championship titles.Climax’s success in Formula One ended in the late 1960s as new engine regulations were introduced. As a result, the company withdrew from Formula One at the end of the 1969 season. However, Climax continued supplying engines to other racing series, including Formula 5000 and Formula Two. The company closed its doors for good in 1977.ConeroIt was an Italian engineering company that participated in the Formula One season, supplying engines to the ATS team. During its brief time in Formula One, it entered only one race, the 1961 Monaco Grand Prix. Though the team did not win any races, it did score a total of two points over the season.Conrero’s engines were based on Ferrari designs, and the company had hoped to supply engines to Ferrari itself. However, Enzo Ferrari continued using his own company’s engines, and Conrero was left without a significant client.The company continued to produce engines for other racing series but was never able to achieve the same success as it had hoped in Formula One.CosworthCosworth participated in the 2000, 2006, 2010, and 2013 seasons. In total, the company entered 199 races and scored 179 points.It was founded in 1958 by Mike Costin and Keith Duckworth. The company has a long history of success in motorsports, supplying engines to several teams. In addition to Formula One, Cosworth has also supplied engines to IndyCar, World Rally Championship, and even Formula E.The company announced its withdrawal from Formula One in 2013 but remains active in other racing series. Cosworth is headquartered in the UK and employs around 300 people.De TomasoDe Tomaso, based in Italy, participated in the 1962 Formula One season as an engine supplier. However, they entered only one race and failed to score any points. The company was founded in 1959 by Argentine-born Alejandro de Tomaso. The company has produced several sports and racing cars over the years but is perhaps best known for its involvement in Formula One. In 1962, De Tomaso supplied engines to the BRM team. Unfortunately, the team only entered one Italian Grand Prix race and failed to score any points. As a result, de Tomaso withdrew from Formula One at the end of the season.EMWThe East German company EMW, an engine supplier for Formula One in the early 1950s, participated in the 1953 season with a single car. The team, based in Berlin, entered one race, the German Grand Prix, and failed to score any points.EMW had supplied engines to several teams during the 1952 season but withdrew from Formula One at the end of the year. However, the company returned for the 1953 season with a new car, the EMW 327, powered by a three-liter in-line six-cylinder engine.The company’s only driver was Hans Stuck Jr, who had raced for EMW in 1952. Stuck Jr. qualified 21st and last for the German Grand Prix but retired after four laps due to engine problems.ERAIn the early days of Formula One racing, ERA was a company that supplied engines to several teams. Based in the UK, they participated in the 1950-1951 season, entering four races. Unfortunately, they failed to score any points and withdrew from the sport at the end of the season.EuropeanIn 2001, European was a UK-based company that supplied engines to Formula 1 teams. They participated in 17 races that season but failed to score any points. It was the first and only season they competed, and the company ceased operations after the 2001 season due to financial difficulties.FiatFiat, a former engine supplier in Formula One teams, was founded in Italy in 1950. It participated in only one race that year and failed to score any points. As a result, the company withdrew from Formula One at the end of the season.FondmetalFondmetal was a British Formula One engine supplier that competed in 17 races between the 2000 and 2001 seasons. However, the company failed to score any points and withdrew from the sport at the end of the 2001 season.Founded in 1972 by Gabriele Rumi, Fondmetal supplied engines to Tyrrell Racing in 1992 and 1993. The team used a modified version of Ferrari’s 3.5-liter V12 engine, which was badged as a Fondmetal unit. In 1994, the company supplied its own 3.5-liter V10 engine to Larrousse. Fondmetal returned to Formula One in 2000, supplying engines to the Minardi team. The company used a customer version of Ferrari’s 3.0-liter V10 engine, again badged as a Fondmetal unit.FordIn 1903, Henry Ford founded the Ford Motor Company in the United Kingdom. The company quickly became a leading manufacturer of automobiles and trucks in the United Kingdom and the United States. In 1951, the company began participating in the Formula One World Championship, scoring its first win in 1963. The company supplied engines to several teams over the years and scored 176 wins before withdrawing from the sport in 2004. In 1999, Ford supplied engines to Jaguar Cars, and in 2003 it supplied engines to Land Rover. The two British brands were later sold to Tata Motors in 2008.GordiniGordini was a former engine supplier for the F1 race circuit. The company was based in France and participated in 40 races between 1950 and 1956. Although they did not win any races during that time, they did manage to place 2nd or 3rd in several races. Despite their lack of success on the track, Gordon’s engines were highly regarded for their power and reliability. Amédée Gordini founded the team in 1956.HartHart Racing Engines was a British Formula One engine supplier participating in 144 races between 1981 and 1997. The company scored 163 points but never won a race. In 1986 and 1993, Hart secured the third position in the Constructors’ Championship.Despite its lack of success on the track, they were considered one of the best engine suppliers in Formula One. The company’s engines were known for their reliability and power, and they helped power some of the sport’s biggest names to victory.HondaHonda, a Japanese company, entered the Formula One racing season in 1964, 1968, 1983, and 1992. They were a former engine supplier and participated in 481 races. They won 89 of those races and earned 3409 points.Honda first entered Formula One in 1964 as an engine supplier to Cooper. They supplied engines to Lotus in 1965 and Brabham in 1966. In 1967, they supplied engines to all three teams: Eagle-Weslake, Cooper, and Brabham. Honda first raced as a constructor in 1968 with driver Jo Schlesser.In 1983, Honda switched to supplying engines to McLaren. They provided them with engines from 1984 until 1992. In that period, McLaren won four Constructors’ Championships and four Drivers’ Championships with drivers Alain Prost and Ayrton Senna.IlmorIlmor, a British engineering firm, participated in 37 Formula One races between 1991 and 1994. The company supplied engines to several teams, including Leyton House, March, and Tyrrell. Ilmor’s best result was a third-place finish at the 1992 Hungarian Grand Prix.After 1994, Ilmor withdrew from Formula One. In the three years that the company competed, it never won a race but scored 12 points overall. Despite its lack of success on the track, Ilmor is considered one of the essential engine suppliers in Formula One history.JaguarJaguar is a British engineering company that was founded in 1922. The company has a long history of producing engines for a variety of applications. In 1950, Jaguar supplied engines for one race team, but the team did not win any races. Jaguar does not actively supply engines to F1 teams. The company has not been involved in the sport since 2004 because it is not seen as a competitive engine supplier in the current market. However, the company continues to supply engines to its customers in other series.JAPSince the Formula One world championship began in 1950, several different engine suppliers have existed. One of those suppliers was JAP, a UK-based company. They supplied engines for just one season, 1950, but they did not win any races.JAP had some success in other forms of motorsport, though. They were particularly successful in motorcycle racing, winning multiple Grand Prix races.Despite not winning any Formula One races, JAP scored a podium finish. In the 1950 British Grand Prix, their driver Reg Parnell finished in second place behind Alberto Ascari.JuddIn the 1980s and early 1990s, Judd was a Formula One engine supplier, participating in 76 races but never winning. Nevertheless, the company scored 86 points during its time in the sport.Judd was founded in 1971 by John Judd and Jack Brabham. The company initially supplied engines to various Formula Three teams before moving to Formula One in 1983. Judd’s first F1 victory came at the 1984 Detroit Grand Prix when Michele Alboreto drove a Tyrrell-Judd to victory. However, despite scoring some podium finishes, Judd was never able to win another race.KüchenThe German-based former F1 engine supplier, Küchen, participated in the 1952 season but did not win any races. The company had supplied engines to several teams during the season, but its best result was a fourth-place finish by Hans Herrmann in the Swiss Grand Prix. As a result, the company withdrew from Formula 1 at the end of the season.LamborghiniLamborghini, an Italy-based former F1 engine supplier, participated in seasons 1989 and 1993. They supplied engines to several teams over those two years but never managed a win. They participated in 80 races but were never able to take the top spot. Despite their lack of success, Lamborghini remained a popular choice for teams looking for an engine supplier.LanciaLancia, an Italian-based former F1 engine supplier, participated in seasons 1953 and 1955. The company participated in four races but did not win any of them. However, despite not winning any races, Lancia’s participation in the sport helped to increase interest in the company and its products.Lea-FrancisLea-Francis was a UK-based former F1 engine supplier participating in 10 races across the 1952 and 1954 seasons. However, the team never managed to win a race. The best result achieved by the team was the 2nd place finish at the 1953 British Grand Prix.Despite not winning any races, they did manage to score several podium finishes throughout their time in Formula 1. In addition, the company scored 33 points throughout its two seasons in the sport. However, they would ultimately withdraw from Formula 1 at the end of the 1954 season.LifeIn the 1990 Formula One season, life was a former F1 engine supplier. The company supplied engines to 12 World Championship teams but failed to win a race. The company’s best result was a second-place finish in the British Grand Prix.MaseratiMaserati, an Italian luxury car manufacturer, was once the engine supplier for Formula One racing teams. Founded in 1914, Maserati has a long history of producing high-performance cars. In the early 1950s, Maserati began supplying engines to Formula One teams. Over the next few decades, Maserati supplied engines to many of the sport’s most prominent teams, including Ferrari, McLaren, and Benetton. However, the company withdrew from Formula One in 2005 and has since focused on producing road cars.MatraIn the 1960s and 1970s, Matra was one of the most successful engine suppliers in Formula One. They supplied engines to teams like Tyrrell, Ligier, and Brabham, and their engines powered four World Drivers’ Champions.In total, Matra supplied engines to 125 F1 races, winning three times and scoring a total of 173 points. The company’s last victory came in 1972 when it supplied the engine for Lotus driver Emerson Fittipaldi.They withdrew from the F1 championship in 1969 and focused on other projects. Though they no longer participate in Formula One, Matra remains well-known in the automotive industry.MecachromeMecachrome was founded in 1937 as a subsidiary of the Matra Automobile company. The company supplied engines for Formula One teams from 1977 to 1996. In addition to Formula One, Mecachrome supplied engines for the 24 Hours of Le Mans and other endurance races.Mecachrome’s most successful season was in 1990, when the company supplied engines for 16 Formula One races. The company’s engines scored 38 points, and three podium finishes. Mecachrome’s success in 1990 helped establish the company as a leading supplier of racing engines.MegatronIn 1987 and 1988, Megatron was one of the engine suppliers for the Formula One racing circuit. In those two years, the company supplied engines for 32 races. Unfortunately, they did not win any of them but scored 35 points.Motori ModerniMotori Moderni was a Formula One engine supplier from 1985 to 1987. The company was founded by Carlo Chiti and Giotto Bizzarrini, two former Ferrari engineers. Motori Moderni supplied engines to the Minardi, Osella, and Ligier teams. The company’s best finish came at the 1986 British Grand Prix, where Michele Alboreto drove an Osella to sixth place.At the end of 1987, Motori Moderni withdrew from Formula One due to financial problems. The company failed to secure a significant sponsor and faced mounting debts. Mugen-HondaMugen-Honda was a Japanese company that supplied engines for Formula One between 1992 and 2000. In that time, they participated in 144 races and won 4. They also managed to get 16 podium finishes.After their success in Formula One, Mugen-Honda decided to focus on other projects and withdrew from supplying engines to Formula One teams. However, they left a lasting impression on the sport and are remembered fondly by many fans.OSCAOSCA was an Italian engine manufacturer participating in eight Formula One races between 1951 and 1962. The company supplied engines to several teams but never won a race. In 1958 and 1959, OSCA provided engines to the works Maserati team, which scored several podium finishes. However, the company’s best results came in 1961 and 1962, when it supplied engines to the privateer Rob Walker Racing Team. The team scored four podium finishes but never won a race during those two seasons.OsellaIn 1974, Osella was founded by Vincenzo Osella as a manufacturer of race cars. The company participated in 16 Formula One Grands Prix between 1983 and 1986, winning 0 races. In 1990, the company moved to Touring car racing and won the Italian Superturismo Championship in 1992. In recent years, Osella has focused on building customized race cars for private customers. Though they no longer compete at the highest level of motorsport, their cars are still highly regarded and sought after by racing teams and drivers.PetronasIn 1997, the Malaysian oil company Petronas made its Formula One debut as an engine supplier. They supplied engines to several teams for the next eight years and participated in 153 races. Although the company never won a race, it did achieve four podium finishes and scored 142 points. In 2005, Petronas ended its involvement in Formula One.PeugeotIn 1994, French car manufacturer Peugeot became an engine supplier for the Formula One racing circuit. For the next six years, Peugeot participated in 115 races and won 14 podium finishes. However, in 2000 the company’s F1 participation ended as it failed to score a single victory.Despite its lack of success on the track, Peugeot’s F1 engines were reliable and robust. In total, the company scored 128 points over six years of participation. So while it may be best remembered for its failure to win a race, Peugeot’s time in Formula One was significant.PlaylifePlaylife, a former F1 engine supplier, participated in 49 races from 1998 to 2000. It won 0 races and scored 69 points.In 2001, Playlife ceased operation as an F1 engine supplier. The company had been involved in the sport for three years and supplied engines to six teams.Playlife’s best results came in 2000 when it scored six podium finishes. After that, the company’s best finish was a third-place finish at the Monaco Grand Prix.PorschePorsche is a German automaker with a long and storied history in motorsports. The company was founded in 1931 by Ferdinand Porsche, and it quickly gained a reputation for building high-performance cars. In the 1950s, Porsche began supplying engines to Formula 1 teams, and it would participate in 35 races between 1958 and 1964. Unfortunately, Porsche won 0 races during this period, but it scored 48 points.In 1991, Porsche returned to Formula 1 as an engine supplier. However, the company only participated in five races before withdrawing from the sport again. Despite its limited success, Porsche remains one of the most respected brands in motorsports.Pratt & WhitneyPratt & Whitney, a former F1 engine supplier, based in the US, participated in 5 races during the 1971 season and failed to win any of them. The company supplied engines to the Lotus, March, and Brabham teams, but its best results were a 6th-place finish at the Monaco Grand Prix and a 7th-place finish at the Canadian Grand Prix. Pratt & Whitney’s failure to score any points in the Constructors’ Championship meant it finished the season in last place.RepcoRepco is an Australian engineering company formerly the exclusive engine supplier for the Formula One racing team. The company has a long history of success in the automotive industry, and its engines have powered some of the most iconic cars in motorsport history.Repco was founded in 1922 by four engineers who left their jobs at the Austin Motor Company to start their own business. The company quickly established itself as an engineering design and development leader and soon began supplying engines to several racing teams.In 1966, Repco became the exclusive engine supplier for the Formula One team. This partnership proved highly successful, with Repco-powered cars winning 8 World Championships with 126 scores and 25 podium finishes over the next decade.SauberSauber is a Swiss racing team that competed in Formula One between 1993 and 2005. The team was founded by Peter Sauber, who progressed through motor racing ranks, from karting to the World Sportscar Championship.In 1993, Sauber entered Formula One as an engine supplier, providing engines to the newly formed Jordan Grand Prix team. The following year, Sauber switched to supplying engines to the Benetton team.Sauber continued to supply engines to Benetton until 2001 when the team switched to using Ferrari engines. In 2002, Sauber switched engine suppliers again, using customer engines from Petronas.Sauber scored 12 points in 16 races in 1993 and 1994 combined. The team’s best result was a fourth-place finish at the 1994 Monaco Grand Prix.ScarabScarab was a former Formula One engine supplier based in the United States. The company supplied engines for the 1960 season.Scarab was founded in 1975 by Larry Smith. The company built race cars and engines for various motorsports, including Formula One.The company supplied engines for the 1960 Formula One season but ceased operations after that year. However, Scarab’s legacy continues in modern motorsports; their cars and engines have been used as the basis for many modern-day race cars.SerenissimaIn 1966, Serenissima was an engine supplier for the Formula One World Championship. The company was based in Italy and supplied engines to several teams, including Cooper, Brabham, and Eagle.Serenissima was founded by Count Giovanni Volpi di Misurata, who also owned the Scuderia Serenissima racing team. The team competed in several races in the early 1960s but withdrew from Formula One after the 1966 season.The Serenissima company continued to produce engines for a variety of racing series until it ceased operations in 1970.SubaruSubaru’s engine manufacturing journey began in 1989 when the company produced its first Formula 1 engine. The Benetton team used the engine for two seasons. Then, in 1991, Subaru switched to supplying engines to the Jordan team. The company continued to supply engines to Formula 1 teams until 2008 when it withdrew from the sport.After withdrawing from Formula 1, Subaru turned its attention to other motorsport disciplines, such as rallying and sports cars. The company has recently enjoyed success in the World Rally Championship with drivers such as Petter Solberg and Elfyn Evans.SupertecSupertec was a former Formula 1 engine manufacturer that supplied engines to several teams from 1999-2000. Flavio Briatore and Bruno Michel founded the company.In 2000, Supertec merged with Asiatech to form Asiatech International, which continued to supply engines to the Prost team until 2001.Supertec’s brief time in Formula One resulted in 36 starts, with three podium finishes. However, the company’s best result came at the 1999 Canadian Grand Prix, where Jean Alesi finished 2nd for the Sauber team.TAGIn the early 1980s, TAG Group, a German holding company, acquired a controlling stake in the struggling McLaren Formula One team. At the time, TAG was best known as a manufacturer of specialty automotive and industrial products, including exhaust systems and turbochargers.Under TAG’s ownership, McLaren enjoyed its most successful period in Formula One history, winning four Constructors’ Championships and three Drivers’ Championships between 1984 and 1991. TAG also supplied engines to several other teams during this period, including Tyrrell Racing (1984-1985) and Benetton Formula (1986-1987).However, TAG’s involvement in Formula One ended abruptly in 1987.TAG HeuerIn 2016, TAG Heuer became the exclusive watch sponsor and timing partner of the Renault Sport Formula One Team. The partnership marked TAG Heuer’s return to Formula 1 after an absence of 30 years.TAG Heuer has a long history with Formula 1, dating back to the 1970s when it first supplied watches to drivers and teams. In 1986, TAG Heuer became the official supplier of timing equipment to Formula 1.The partnership with Renault Sport is part of TAG Heuer’s strategy to increase its presence in motorsports. In addition to Formula 1, TAG Heuer is also a major sponsor of the FIA World Endurance Championship and the 24 Hours of Le Mans.TalbotTalbot was a French engine manufacturer that competed in Formula One from 1950 to 1951. Their first Formula One campaign came in 1950, supplying engines to the works Lago-Talbot team and privateer entrants Tony Rolt and Reg Parnell.The following year, Talbot expanded its involvement in the sport, supplying engines to privateer teams Equipe Gordini and Ecurie Rosier. Talbot’s best result came at the 1951 British Grand Prix, where Maurice Trintignant finished third driving for Ecurie Rosier. After that, however, the company pulled out of Formula One at the end of the season due to financial difficulties.ToyotaIn 2002, Toyota became the first Japanese company to win a Formula One constructor’s championship. The company supplied engines to five different teams from 2002 to 2009. In 2010, Toyota ended its involvement in Formula One due to the global economic crisis. Despite its short-lived stint in the sport, Toyota is considered one of the most successful engine manufacturers in Formula One history.VanwallIn 1954, the Vanwall F1 team made history by becoming the first British constructor to win a Grand Prix. The team used a 2.5-liter naturally aspirated engine designed by Tony Vandervell, based on a modified version of the Ferrari V12.The engine proved very competitive, and Vanwall won the Constructors’ Championship in 1958 and 1959. However, the company ceased operations in 1960 after failing to find a suitable replacement for the aging Vandervell engine.VeritasVeritas was a former Formula One engine manufacturer from Germany. The company only participated in six races between 1951 and 1953 but failed to win any of them. Despite this, Veritas remains an integral part of German motorsport history.WeslakeWeslake was a former Formula One engine manufacturer that competed in 18 races between 1966 and 1968. The company achieved two podium finishes during that time. Their only win came at the 1967 Belgian Grand Prix.Several teams used the Weslake engine during its time in Formula One. But the company ceased operations in 1968 after failing to find a suitable replacement for the then-outdated Cosworth DFV engine. In addition, the company had failed to create a turbocharged engine that met Formula One’s regulations.YamahaYamaha is a Japanese manufacturer involved in Formula One racing as an engine supplier for 116 races between 1989 and 1997. The company scored two podium finishes during this time.Yamaha first entered Formula One as an engine supplier in 1989, supplying engines to the Larrousse team. The following year, Yamaha supplied engines to the Jordan and Tyrrell teams. In 1991, Yamaha scored its first podium finish when Andrea de Cesaris secured the third position at the United States Grand Prix.The company continued to supply engines to various teams until 1997 when it withdrew from Formula One after scoring just one point in that year’s championship. Yamaha’s best result in Formula One was a second-place finish by Johnny Herbert at the 1995 British Grand Prix.ZakspeedZakspeed, a former German F1 engine manufacturer, started Formula One in 1985. They competed in 51 races over four seasons, scoring zero in podium finishes. Their best season was 1988, when they finished sixth in the constructors’ championship with two points.The company was founded by Willi Zakowski, who had previously worked as an engineer for Porsche and Ford. Zakowski also raced cars himself, including the 24 Hours of Le Mans. He started Zakspeed in 1968 to build race cars for road and track. Since the sport began, Formula 1 has been at the forefront of engineering, with teams always looking to find that extra edge over the rest of the grid. From roaring V12s to the current hybrid era, F1 engines have defined the sport and filtered into our everyday road cars. Alongside aerodynamics and driver safety, F1 has evolved incredibly over the past 70+ years. And while the drivers are the brains of these speed machines and receive much of the spotlight, the heart of any F1 car has always been its engine. What to know The origins of Formula 1 can be traced back to the early 20th century when motorsport was still in its infancy. Before World War II, the racing world was divided into various categories and engines. In the 1950s, the FIA gave us the DNA of what we know as F1 today, regulating cars and engines that were characterised by their large displacement and high cylinder counts. The 1960s saw mid-engined cars became the norm. During the 1980s, Formula 1 witnessed one of the most significant advancements in engine technology: turbocharging. Formula 1 transitioned back to naturally aspirated engines in the 1990s. In the early 2010s, F1 introduced hybrid power units, combining V6 turbocharged engines with energy recovery systems (ERS); this new era of Formula 1 has largely been dominated by two teams: Mercedes and Red Bull. As the 2025 Formula 1 season began, it became the final year for the power unit configuration that debuted in 2014. A new configuration would be introduced in 2026, eliminating the MGU-H but enhancing the MGU-K’s power output. Before there was a unifying body or championship for F1, open-wheel racing was divided into various categories, all with varying rules, cars, and engines that were typically large and naturally aspirated or with the aid of superchargers. The power output of these engines was modest, considering their large displacement, compared to today’s standards, although they were incredibly powerful for their time. The founding teams, some of which are synonymous with the sport even today, included Alfa Romeo and Mercedes. Between 1938 and 1951, Alfa Romeo was incredibly successful, fielding cars like the Alfa Romeo 158/159, also known as the Alfetta (Little Alfa in Italian), featuring a supercharged 1.5-litre inline-eight engine with around 200 horsepower. It dominated pre-war racing and the first two seasons of the official FIA World Championship of Drivers in 1950 and 1951. But even after these great early successes, the brand withdrew as an official team and would continue to support others by supplying their engines in later years. Mercedes-Benz also featured early in Grand Prix racing with its W125 in 1937. This monstrous 5.7-litre supercharged inline-eight engine produced an impressive 595 horsepower in race trim, setting speed records that stood for decades. However, in 1938, rules changed, and the engine capacity for a supercharged Grand Prix car was limited to 3000cc. The Mercedes-Benz W154 replaced the W125. In the 1950s, as the FIA founded the Formula 1 we know today, engines were known for their high cylinder counts. These V12 monsters were typically made of cast iron and were either naturally aspirated or featured superchargers to gain as much performance from them as possible. 1948 Ferrari 125 F1 Engine Teams like Ferrari and the Ferrari 125 F1 in 1950 raced with a naturally aspirated 1.5-litre V12 engine, but with little success, switched to the Ferrari 375 F1, a naturally aspirated 4.5-litre V12. Other successful teams of the era saw Maserati and the 250F featuring a 2.5-litre inline-six engine from 1954 to 1956, with the introduction of a 2.5-litre V12 in 1957. The Maserati cars were so powerful and reliable that they helped Juan Manuel Fangio win two of his five Drivers’ Championships. Another characteristic of Formula 1 at this time was that all cars were front-engined, with the engine positioned ahead of the driver rather than behind, like we see in F1 today. This layout would eventually be phased out as technology and aero knowledge grew. However, that didn’t stop teams from attempting to improve the limited weight distribution and handling capabilities that a front-engined car causes. The Lancia D50 from 1954–1955 was one of these and became the first car to feature a rear-mounted transmission designed to improve and balance the weight distribution away from the heavier front-engine layout. Other notable front-engined cars of the 1950s included the Vanwall VW5, which, in 1957, became the first British car to win a Formula 1 World Championship race. Sir Stirling Moss and Tony Brooks shared the victory at the British Grand Prix at Aintree. While F1 cars have never been regulated as ‘rear-engined,’ they do sit behind the driver. The switch from front-engine RWD to mid-engine RWD was for weight distribution, handling, and packaging. It was first seen in the 1958 Argentine Grand Prix with the Cooper T43 driven by Stirling Moss, who trounced the field. Come the 1959 season, everyone raced a mid-engined RWD car. Jim Clark at the German GP 1962 in the Lotus 25 After the sports’ first decade and creeping into the 1960s and 1970s, Formula 1 engines and the thinking behind them began to undergo significant changes. V8 and V10 engines became the norm, adding a new level of performance and understanding of engine technology. Smaller and lighter than their V12 predecessors, these engines allowed teams to build the car around the engine and improve its handling and aerodynamics. These newer engines could also rev much higher, produce more power, and become more efficient and reliable, making them the engines of choice for many teams. This time also sprouted some British home-grown powerhouses of F1 with the Copper and Lotus teams. The Copper T51 of 1959 was the first mid-engined car to win the F1 World Championship with Jack Brabham. Unlike the engine freezes of today, the T51 featured many engines from the 2.5-litre 4-cylinder engine that Cooper and Lotus had commissioned Coventry Climax to build specifically for their rear-engined machines to Ferrari-derived 2.5-litre units. Lotus would go on to produce more successful mid-engined cars, including the Lotus 25 in 1962. Designed by Colin Chapman, the 25 was a lightweight and innovative car featuring the first fully stressed monocoque chassis in F1. In the hands of Jim Clark, it took 14 World Championship Grand Prix wins and took him on to win the 1963 World Championship title. Its last World Championship win was at the 1965 French Grand Prix. It featured a 1.5-litre naturally aspirated Coventry Climax V8 engine. As the 1960s decade ended, Ford would develop one of the most successful engines in F1 history, powering cars to numerous World Championships with the Cosworth DFV (Double Four Valve) V8 engine. So successful was the engine that DFVs were used by almost every team in F1 from the late 1960s to the mid-1980s, with the exception of Ferrari, Alfa Romeo, Renault, BRM and Matra, However, it wasn’t until the 1980s that we witnessed one of the most significant advancements in F1 engine technology: turbocharging. Turbocharged engines began pushing the power output of engines beyond anything F1 had seen before with exponential increases in speed. In its simplest explanation, turbocharging uses the energy from the exhaust gases to power a turbine attached to the engine. The turbine compresses the incoming air to create a higher density of air entering the engine’s cylinders. This means that more fuel is burned, which significantly increases power output. The turbo engines of the late 1970s and 1980s were smaller than their predecessors but produced immense power. The Renault RS01 of 1977 was the first F1 car to use a turbocharged engine. Despite considerable reliability issues, earning the nickname ‘the yellow teapot’ for blowing up so often, it had showcased the potential of turbocharging. In 1981, the Ferrari 126C, powered by a turbocharged 1.5-litre V6 engine, producing around 600 bhp in qualifying trim and detuned to 550 bhp in race trim, replaced the previous V12 unit Ferrari raced with. The engine and car built around it showcased how turbocharged power units were the future, reducing weight and improving aero; it propelled the team to win back-to-back constructors in 1982 and 1983 with an evolution of the first engine and chassis design. More on F1 Qualifying Other teams took note, and the McLaren MP4/2 of 1984 was powered by a TAG-Porsche turbo engine. It dominated the 1984 season, winning 12 out of 16 races. Williams also found great success with the FW11 in 1986 and 1987, powered by a turbo Honda engine, with drivers Nelson Piquet and Nigel Mansell winning back-to-back Constructors’ Championships for the team. Nikki Lauda in the McLaren MP4-2 at the 1984 Dallas Grand Prix As the understanding of turbocharging evolved, V6 turbos of the 1980s began producing up to 1,200 to 1,500 horsepower, propelling cars and drivers to mind-boggling speeds. However, turbocharging also brings challenges, such as turbo lag. This is the delay in power delivery caused by the time it takes for the turbocharger to spool up and provide boost pressure. Drivers had to learn to manage this lag, anticipating when the power surge would kick in and adapting their driving style. Turbo lag also increased fuel consumption, which affected race strategies and the need for more frequent pit stops. It wasn’t uncommon for drivers to stop on the final and cool down laps after running out of fuel. Despite these challenges, turbocharging laid the groundwork for the hybrid technology we see in Formula 1 today. The current generation combines turbocharged V6 internal combustion engines with hybrid electric power units, a technology that has found its way back to the road cars we drive every day. Turbochargers were banned from the 1989 Formula 1 season because they were becoming so powerful; the FIA and Formula 1 were concerned over the safety of the sport, and introduced a 3.5 L naturally aspirated engine rule, giving way to a mixture of high-revving V10s, V8s and V12s. Alain Prost – Williams FW15C during practice for the 1993 British Grand Prix Williams, alongside the dominant V10 Mclaren-Honda’s, both continued to dominate the sport and in the hands of Alain Prost, in the Williams FW14 of 1991, powered by a Renault V10 engine, Prost secured his fourth and final Drivers’ World Championship. By the end of the 1994 season, Ferrari’s Tipo 043 V12 was putting out around 850 bhp, becoming, to date, the most powerful naturally-aspirated V12 engine ever used in Formula 1. It was also the most powerful engine of the 3.5-litre engine regulation era, before the FIA and Formula 1 reduced the engine capacity to 3 litres in 1995. The late 1990s and early 2000s V10 engines continued to dominate the grid, and the rivalry between Michael Schumacher for Ferrari and Mika Hakkinen for McLaren saw an intense battle that saw both drivers and teams share an impressive tally of Drivers’ and Constructors’ titles from 1999 to 2004. It wasn’t until 2005 that the Renault R25 and Renault’s own V10 broke the back of these two teams, with Fernando Alonso taking the Drivers’ title and Renault their first Constructors’ title. In 2006, Formula 1 made a bid to make F1 more efficient, introducing 2.4 L V8 power units. Renault, off the back of their 2005 success and despite the engine rule change, dominated the 2006 season with the R26, powered by a 2.4-litre V8 engine that allowed Fernando Alonso to secure his second consecutive World Championship. Despite less success than its predecessor, the 2007 R27 continued to show Renault’s strength with V8 engines. The team finished third in the championship. In 2014, Formula 1 adopted hybrid power units that combine a 1.6-litre turbocharged V6 internal combustion engine with an electric system that includes a battery, motor generator units, and control electronics. This combination increases engine efficiency, reduces emissions, and improves power delivery. Mercedes F1 W06 The system is designed to recover and store energy that would otherwise be lost during braking. The stored energy is then used to boost power in strategic situations, such as during overtaking or defending against an overtake. This part of the system is called the Energy Recovery System (ERS). As in any era when there is a major rule change, the dominance of a team or an engine supplier can change. Since 2014, there have been two teams, Mercedes and Red Bull (Honda), who have dominated the grid. Mercedes’ 2014 W05 marked the beginning of a dominant era, thanks to its powerful and efficient power unit. They would go on to win no less than eight consecutive Constructors’ Championships and seven consecutive Drivers’ titles with Lewis Hamilton and Nico Rosberg, only being stopped by Red Bull, which snatched away the Drivers’ title in 2021 with Max Verstappen in the RB16B and the Constructor’s title in 2022. Everything You Need to Know About the Mercedes Power Unit For the 2026 F1 World Championship, the FIA and Formula 1 will introduce more sweeping regulation changes that will affect F1 engines. The goal is to increase the sport’s sustainability and reduce its carbon footprint. One key directive will require all engines to run on fully sustainable fuels. By developing and promoting the use of 100% sustainable fuels, Formula 1 aims to reduce its carbon emissions. Like other technology, it’s very likely we’ll see this filter down into our road-going cars. The sustainable fuel will be produced from non-food sources, waste, and even out of the atmosphere. The existing 1.6-litre V6 turbocharged internal combustion engine will remain, but the MGU-K (Kinetic Motor Generator Unit) will change significantly by nearly tripling the electrical power output of the current hybrid elements. By storing the additional braking energy that would otherwise go to waste, the goal is to boost the MGU-K’s power production to approximately 350 kilowatts (kW) by 2026. This represents a substantial increase from the current 120 kW of energy generated by the MGU-K and MGU-H. Hybrid technology has undoubtedly had a positive impact on fuel efficiency in Formula 1, reduced the sport’s environmental impact, and changed how teams approach race strategies. It’s also had an impact on road car technology. Global car manufacturers are adopting the knowledge and expertise gained from Formula 1 to create more efficient and sustainable cars. It doesn’t end there. The sport is pursuing 100% sustainable fuels, reducing waste, increasing recycling of items like carbon fibre and tyres, and promoting sustainable practices throughout the entire paddock, from broadcasting to the construction of cars, trackside buildings and how a race weekend is run. As a leading hotbed of technology and innovation, it’s hard not to see why F1 can’t become net-zero by 2030, as they hope to. Lewis Hamilton, 2024 Las Vegas Grand Prix. Mercedes-AMG PETRONAS F1/Mercedes-AMG Formula 1, renowned as the pinnacle of motorsport, is not only a display of state-of-the-art aerodynamics and engineering but also a stage for groundbreaking engine technologies. The evolution of Formula 1 engines has been integral to the sport’s development, with the transition from naturally aspirated engines to turbocharged hybrids. This article explores the history of Formula 1 engines, the reasons gasoline has been the fuel of choice, and the future of F1’s engine and fuel technology. The History of Formula 1 Engines Since its inception in 1950, Formula 1 has seen significant changes in engine technology, driven by regulation shifts and the pursuit of higher performance. Below, we explore the evolution of engines used in F1 racing throughout the decades. 1950s - Early Years: Naturally Aspirated Engines The first Formula 1 engines were large, naturally aspirated units, typically inline-4s, inline-6s, or V12s. These early engines, though less powerful by today’s standards, set the foundation for performance racing. Notable in this era was Alfa Romeo’s 1.5-liter supercharged engine, producing 425 horsepower and dominating the early 1950s. 1960s and 1970s - The Golden Age: V8s, V12s, and Flat Engines The 1960s and 1970s are often considered the golden age of F1 engine development. During this time, manufacturers like Ferrari and Ford refined their V8 and V12 engines. The Ferrari V12s were known for their high revs, while the Cosworth DFV V8 became a legendary power unit, driving several cars to victory in the championship. 1980s - The Turbo Era The 1980s saw the introduction of turbocharged engines, allowing manufacturers to extract impressive power from smaller engine blocks. At their peak, 1.5-liter turbo engines produced over 1,000 horsepower, with some reaching 1,400 horsepower in qualifying. However, turbocharging was banned by the FIA in 1989 due to safety concerns and escalating speeds. 1990s - Return to Naturally Aspirated Engines After the ban on turbos, Formula 1 returned to naturally aspirated engines. The 3.5-liter V10 engines, used by manufacturers like Renault and Ferrari, became the standard. These engines were capable of revving up to 18,000 RPM and became famous for their high performance and iconic sound. 2000s - V10s to V8s The 2000s saw the transition from V10 engines to V8 engines, following the FIA's decision to limit engine displacement to 2.4 liters to improve safety and reduce speed. The V8 era, which lasted until 2013, saw engines producing between 750 and 850 horsepower while maintaining a high-revving capability of up to 18,000 RPM. 2014 to Present - The Hybrid Era In 2014, Formula 1 entered its hybrid era, introducing 1.6-liter turbocharged V6 engines combined with advanced Energy Recovery Systems (ERS). These hybrid engines produce approximately 1,000 horsepower while significantly improving fuel efficiency and reducing emissions, aligning with the sport’s sustainability goals. Why Formula 1 Uses Gasoline-Powered Engines Gasoline has always been the fuel of choice in Formula 1, providing several key advantages that align with the sport’s demands for performance and efficiency. High Power-to-Weight Ratio Gasoline engines are ideal for Formula 1 because of their high power-to-weight ratio. In F1, every kilogram matters, and gasoline allows for powerful engines without adding unnecessary weight to the car, which is crucial for rapid acceleration and speed. High RPM Capability Formula 1 engines are capable of revving beyond 15,000 RPM, a characteristic that gasoline engines excel at. Gasoline’s combustion properties allow for the high-revving power required in F1, whereas diesel engines, though fuel-efficient, lack the RPM range needed for peak power output in this sport. Cooling and Fuel Management Gasoline’s combustion characteristics enable precise engine tuning, allowing for optimal thermal management in F1 engines. This is vital for preventing overheating and ensuring reliable performance during races. Tradition and Regulation Formula 1 has a long tradition of using gasoline engines, and the sport's regulations have always been designed with gasoline-powered engines in mind. This heritage continues to influence F1’s use of gasoline despite the evolution of alternative fuels. The Modern Formula 1 Engine: The Hybrid Power Unit Today’s Formula 1 engines are complex hybrid power units that combine internal combustion engines with electric energy recovery systems. These systems maximize performance while improving fuel efficiency. Key Components of the F1 Hybrid Power Unit 1.6-Liter Turbocharged V6: The internal combustion engine, producing around 700 horsepower by itself. MGU-K (Motor Generator Unit – Kinetic): Recovers energy during braking, providing an additional 160 horsepower for acceleration. MGU-H (Motor Generator Unit – Heat): Recovers energy from exhaust gases, helping to reduce turbo lag. Energy Store (Battery): Stores energy for later use during the race. Turbocharger: Boosts power output by compressing the incoming air, improving overall efficiency. Formula 1 Fuel: Specialized Gasoline While F1 cars use gasoline, it is not the same as regular fuel. F1 fuel is specially formulated for performance, with a high octane rating and a blend of hydrocarbons that maximize energy output and engine efficiency. Fuel Regulations Octane Rating: F1 fuel typically has an octane rating of 95-102, providing high energy density for better performance. Biofuel Requirement: Starting in 2022, F1 fuel must contain at least 10% ethanol, promoting sustainability in line with global energy trends. Strict Composition Rules: F1 fuel must comply with FIA regulations to prevent teams from gaining unfair advantages with exotic fuels. The Future of Formula 1 Engines and Fuel As Formula 1 looks to the future, its engine and fuel technologies will continue to evolve. The sport aims to be carbon-neutral by 2030, focusing on synthetic and biofuels to power future engines. F1 is also exploring the potential for more powerful hybrid systems to reduce reliance on fossil fuels and further improve efficiency. Formula 1 engines have always pushed the boundaries of automotive technology, from the high-revving V12s of the past to today’s turbo-hybrid power units. As the sport moves toward a greener future, the blend of performance and sustainability will continue to define F1's legacy as the pinnacle of automotive engineering.