



Guide to Formula 1 – Series Omnibus

Welcome to Sidepodcast's very first mini series – Guide to F1. These seven short shows were originally released over seven consecutive days but are now gathered together in this omnibus edition so you can enjoy them all at once.

Part 1 - Introduction

Welcome to the Sidepodcast Guide to Formula 1. This series is aimed at complete newbies to Formula 1, people who have never seen a race, or who had no idea what was happening when they did watch one. Trust me, I went through a year of watching every race without knowing who was who or why they were doing what they were doing. I know what you're going through. Once I made the decision to figure it all out though, it wasn't long before things started to click into place. And now I want to help you have the same experience.

So let's start at the very beginning and take a look at where Formula 1 fits in the world.

In the early 1900s, F1 began with rickety cars and older gentleman drivers, but the actual F1 Championship didn't begin until the 1950s. As the decades passed and the Championship developed, it soon became clear that Formula 1 was the pinnacle of motorsport. The cars were the fastest, the technology was the most advanced and the drivers were at the peak of their fitness coming from countries all across the world.

With the introduction of sponsorship, F1 took on its more commercial form and can now be considered big business – with figures reaching millions and billions with ease. With big business comes politics and sometimes it's who you know and how much money you have that gets you what you want. F1 is riddled with conspiracy theorists – I will admit to being one of them – but depending on how immersed you want to get in the Formula 1 world, that side of things is easily ignored. What really matters is what happens on the track.

Travelling across the globe for about eight months of the year, Formula 1 visits countries large and small, rich and not-quite-so-rich, with colourful backdrops, glamorous visitors and plenty of local culture to be soaked up. Covering Friday, Saturday and Sunday, a Formula 1 weekend is an intense ride, from early testing, to the closing laps of the race.

The basic structure features a race every fortnight. Sometimes the calendar is played with a little bit and there are races on back-to-back weekends, or sometimes you have to go a few weeks before seeing the familiar faces again. Once it is time for another race, you can monitor the news for your favourite team as they arrive at the destination. I'll get into the details of the weekend another time, but in brief, Friday involves practise sessions, Saturday is for qualifying and Sunday is race day. Then there is just time to digest the events of the weekend and catch up with all the press releases, before the teams are moving off to their next destination.

I won't lie and tell you there is never a dull moment in Formula 1. Being a fan is a frustrating business. The winter months can pass with no news whatsoever, and unless there is a race on that week, there's very little to keep you occupied. You have to be dedicated to find news that will keep you interested when nothing is going on. The races themselves are also quite sporadic. You can be leaping with excitement during the frantic action of the pit stops, and then there can be many laps just watching the traffic go by. But when you catch that fantastic overtaking move, or end up on the edge of your seat to see who comes out on top, it is absolutely, 100% worth it.

I think that's enough for our introduction – join me next time for a more in depth look at the race weekend.



Part 2 – Race Weekend

Welcome to the Sidepodcast Guide to Formula 1. You've heard the introduction and you know what F1 is about, so now you want to sit down and watch a race. The first thing you need to do is find out when the next race is on. The calendar for each year is available a couple of months before the season starts, and is published on many different websites. The official sites have calendars and countdowns, many blogs will post about the dates to come. A quick Google search will point you in the right direction.

The coverage you get will depend on where you are in the world. Here in the UK, we get both qualifying and the race on the TV, but have to rely on the internet for all the practice and testing results as and when they happen. Of course, if all else fails, you can subscribe to Sidepodcast for race reports and all the news you need to know. Anyway, shameless plug over, what can you expect from a race weekend?

Races usually take place every two weeks, but it seems to be getting more and more erratic, sometimes having races weekly, and then an entire month off. Once the teams have arrived at a circuit, the race weekend can really begin. Friday practice is so called because it takes place on the Friday before the race. It consists of two sessions, both 90 minutes, and the teams can run what they want, when they want, to get a feel of the track and the conditions. It's not always an accurate prediction of who's going to fare well during the race, but it can give you a good idea of who's fast and who is lagging behind. The teams like to get the fastest times because it's good publicity for them and their sponsors.

Saturday morning consists of another practice session. This one is 1 hour long and is more indicative of what is going to happen in qualifying later that day. Track conditions will be improving all the time, as the cars get more rubber from their tyres onto the tarmac, and again, drivers will be striving to get the fastest time.

The qualifying format has changed several times over the years, but the idea behind it is still the same. Throughout the hour-long session, the teams will run their cars to find an ultimate fast lap – one that will dictate the position they will start in for the race the following day. If a car fails to secure a time due to driver or mechanical error, it is most likely they will start at the back of the grid. Where you position yourself in qualifying is more than just aiming to get first – you also have to think about where on the track you end up. The racing line favours the driver in pole position, and when in grid formation, two cars are staggered next to each other all the way back, so the second place car will suffer the worst track surface.

Sunday is race day. Teams will get their cars set up and their drivers ready, and then wave them off around the track to form their grid position. All the mechanics are welcomed onto the grid to make their very last minute preparations and escort their famous guests around for the pursuing cameras. The atmosphere before the race begins is feverish and the anticipation is almost better than the race itself. However, it's when the track is cleared of people, and the drivers head off on their parade lap, that you know something good is about to happen. The five lights come on one by one and when they go out, its go, Go, GO!

Sorry, almost turned into a commentator then. The first corner is usually the most exciting, with 20+ cars bundling and jostling for position. After that, the 50 or so laps of a race fly by, with retirements, overtaking and pit stops, until eventually the winner crosses the start finish line for his share of the glory. The top eight drivers receive points, as do the top eight constructors. The race winner, and those in second and third get to partake in a little champagne on the podium, whilst receiving their trophies. The winning constructor of the day also receives a magnificent trophy for their contribution to a great race day.

After that, there's just time for a debrief in the following press conference, where the top three talk about how tough the conditions were and what they did to outsmart their fellow sportsmen, before everyone goes home for a rest.



Next time on the Sidepodcast Guide to Formula 1, I'll be looking at pit stops in more detail.

Part 3 – Pit Stops

Welcome to the Sidepodcast Guide to Formula 1.

Pit stops are a funny thing – absolutely necessary to keep the cars running for the length of the race, but ultimately a bit of an inconvenience.

The pit lane runs alongside the start/finish straight, with the entrance just before and the exit just after the line. The teams set up their garages there, with mechanics waiting to assist their team and engineers monitoring all that is happening out on track. Given the amount of people milling around the pit straight, a speed limit is imposed to try and improve safety.

The pit crew is not insubstantial. Some teams have as many as 22 people ready and waiting for each pit stop, including three on each wheel, two on the fuel rig, two with jacks, some people clearing the sidepods and the lollipop guy. In a normal racing pit stop, the car will be flagged to come into the lane via radio. It used to be that signs were held out by the pit crew over the race track, but technology has made that all but redundant. You do find the odd occasion when the radios aren't working and someone is risking their arms out on the pit wall.

Anyway, the car comes in to the pit lane and crosses a white line signalling an immediate reduction in speed. Drivers are often penalised for speeding in the pit lane. The lollipop man will be furthest away from the garage, indicating to his car where to pull in, and the driver will pull to a stop in the marked box. Immediately, the car is jacked up so that the wheels can be changed, and it will also be refuelled, and any adjustments made to tyre pressures and wing positions.

The average pit stop is probably about 6-8 seconds, and to get through the pit stop and out in front of your opponent, you probably need a 30 second advantage.

Teams can run any combination of pit stop strategies, fuelling their cars longer to run a one-stop strategy, or keeping the weight of the car down but having to stop two or even three times. There is no limit to the number of times a car has to pit, but the size of the fuel tank dictates that they must stop at least once during a race.

Sometimes, pit stops occur more often than the race engineer planned. When a car is in trouble and can manage to get back to the pit lane, mechanics can try their best to fix it and get it back out on track, albeit further down the running order. Often a car will limp into the pits and retire, if it makes it back to the garage at all.

If a driver breaks a rule, the stewards can impose a drive-through penalty which means the car has to visit the pit lane without stopping at his garage. Because of the speed limits within the pit lane, this can be disastrous.

The sport of F1 is notoriously lacking in overtaking – when it does happen it's usually quite an event – and so a lot of the jostling for position takes place in the pits. It can be based around strategy, but for those cars at the front of the grid, a good lead is essential. Each lap that you stay out longer than your opponent, will gain you a few seconds advantage. That's because you will still be running light, whilst the other driver will be full of fuel and heavier. So, of course, decisions need to be made about how heavy you will run to start with, which in turn impacts on your qualifying position as well.



It's then that you start to see what a rich tapestry the sport really is, where seemingly off-hand decisions can result in a podium position or a retirement from the race. Nowhere is this more obvious than in the pit lane.

In our fourth instalment of the Sidepodcast Guide to Formula 1, we'll be looking at how a Formula 1 car is different to that car out in your garage.

Part 4 – F1 Cars

Welcome to the Sidepodcast Guide to Formula 1.

A Formula 1 car is different to a regular road car. I mean, you know that already, because they make a lot more noise, they go a lot faster, and they look a lot different. But there's more to it than that. There is an enormous amount of technology that goes into just getting an F1 car started, let alone maintaining it throughout a race.

The most important thing about a Formula 1 car is the aerodynamics. Hundreds of people make a living back at the factory, designing and testing new bits and pieces of the car to make it smoother through the air and thus faster on the track. What you basically need the F1 car to be is low to the ground, with as little disruption to the air flow as possible. Of course, at the high speeds the cars go, precautions need to be in place to stop the cars taking off, and that's where the wings come in. Whereas aeroplane wings help get things skybound, F1 wings are designed to push the car into the ground.

The extra tenths that a good aero design can bring you will only be useful if you have the engine package in the car to go with it. With 7 gears, the engine and the car can get up to a top speed of 210mph, they produce about 800 brake horse power and can rev to 19,000rpm.

To control this much power, the drivers need some top technology at their fingertips. The steering wheel is small but holds an enormous amount of control, and is one of the most expensive items to be found on the car. Coming in at about \$40,000, the wheel doesn't just steer. It has paddle shift gear selection, can apply the pit lane speed limiter, contains an LCD screen with lap times, position and speed information displays, and lets the driver contact his crew with the radio. That's why the steering wheel is the first thing a driver will grab for when he flies off the track.

A team has two drivers and each has their own car. The teams bring various spare parts with them to each race, front and back wings, replacement body parts, spare noses, and a spare engine. But if a car is beyond repair, then look no further than the T car – a spare for use in emergencies only.

All this equipment costs buckets and buckets of money. The majority of teams are backed by road car manufacturers, which means new technologies can be passed in either direction. The paddle shift gears was an F1 invention – and is now available as standard on some top range sports cars. It's all supplemented by sponsors, and they are who really dictate what colours the cars are going to be. You can understand why Ferrari and Vodafone made such a great partnership, with their main brand colours both being red. With sponsor names scrawled across the bodywork, and all the nooks and crannies, angles and wings, F1 cars aren't your normal kind of beauty. But they hold a certain fascination about them that will only grow the more you watch.

We've looked at all the good stuff about Formula 1, the next instalment will be about the rules.

Part 5 – The FIA

Welcome to the Sidepodcast Guide to Formula 1.



We've had a look at all the good stuff about F1, the speed, the races, the cars. Now it's time to take a look at the flip side to that – the rule enforcers. Your boo's and hiss's should be aimed at the FIA, who represent the interests of the majority of motorsport worldwide. I'd tell you what it stands for but it's in French and I probably wouldn't do it justice. They are based in Paris, y'see.

The FIA's main remit is to increase motorsport safety, manage championships, specify regulations and set calendars. Basically this means they have to make all the important decisions. They're also heavily involved in everyday road safety.

Other than Formula 1, they also preside over the World Rally Championship and the World Touring Car Championship. F1 is their highest profile sport though – the one that gets them in the news all the time, for both good and bad reasons.

Within Formula 1, the FIA face a constant battle with the manufacturer's who wish to spend more money more often, whereas the FIA continue to try to reign in excess spending by introducing restrictions such as two-race engines, and single tyre suppliers. The idea behind the cost-cutting measures is to make sure that the sport can include independent teams such as Williams – a team who's sole reason for being is to race in F1. Manufacturer's come and go but it's the independents who really stay on in people's hearts.

When a team is doing something a little bit dodgy, that perhaps another team wants to complain about, they take it to the race stewards. These are the people who make the decisions about particular races, including safety cars, flags, and they have the power to start and stop the race. They can be compared to the referee's in a football game or the umpire in a tennis match. If teams disagree with the steward's decision, they can escalate their complaint to the International Court of Appeal. This is run by the FIA, and is more like a court case with lawyers and such like. The ICA decision is final.

When it comes to safety, the driver's get to have their say in the form of the Grand Prix Driver's Association. This is basically a union for Formula 1 drivers, chaired by a nominated current driver. The GPDA was formed after the death of Ayrton Senna, as a way for drivers to air their views over the state of Formula 1 safety. Often, they don't agree with the FIA decisions, but with their only power being access to the media, they rarely make a difference. One final thing that the FIA do which affects us all, is research into motorsport and the environment, including cleaner fuels, and renewable energy. They are involved in several carbon neutrality schemes, for example reforestation projects. This way, they can keep Formula 1 safe and secure for the future.

We mentioned safety briefly today. Our next instalment of the Sidepodcast Guide to Formula 1 will look at safety in more detail.

Part 6 - Safety

Welcome to the Sidepodcast Guide to Formula 1.

It's all about going as fast as you possibly can and beating your opponents at all costs. But at high speeds, and with such delicate equipment, safety is an important part of the sport. From the basics of a helmet and gloves, to specifics like fireproof underwear are all there to protect the driver when things go wrong.

Your driver is sitting in the cockpit, often referred to as the tub, or survival cell. This is because the basics of a driver's survival starts here. Constructed of carbon fibre, it is both light and strong. Crash structures are built into the front and rear of the cell along with the roll hoop whose job it is to protect the driver if the car rolls, hitting the ground before the driver's helmet.



Keeping the driver in his seat is more than your average seat belt. It comprises of four belts joined by a central buckle, shoulders and hips, to ensure the driver is fixed securely. His most vulnerable part is probably the head and neck. Aptly, this is protected by then HANS system – head and neck support system. It’s a device that joins the driver’s torso to his helmet and it’s goal is to reduce the loadings to a driver’s head and neck during the rapid deceleration caused by an accident.

Moving away from the driver to the car, you’ll find on each wheel a restraint system, which prevents the tyre from flying off uncontrollably. As well as protecting the driver, this also protects marshals and spectators, as do run off areas and tyre walls. These are in place for when a car loses control and leaves the track. Smashing into a tyre wall greatly reduces speed and impact, and run-off areas provide a safe haven for an out of control car.

Before a car can even take to a track, it has to pass a number of mandatory FIA crash tests. These are similar to the crash tests your average road car goes through, to ensure that the structure can absorb a certain amount of force on impact. This guarantees a minimum level of safety for the driver.

Now we understand how a driver is protected, the last thing to cover in the area of safety, is what happens immediately after an accident on track. If the accident is relatively inconsequential, marshals will be asked to wave a yellow flag, indicating that drivers must slow down around the affected area. If the accident is more serious, the safety car can be deployed. During a race, the safety car is constantly on standby. So, a car may be stranded in a dangerous position on the track, in which case a safety car will be deployed to slow down the remaining racers. With the safety car deployed and the cars slowed behind it, marshalls are able to clear an accident in relative safety so that the race can continue without further disruption. Cars remain queued up behind the safety car until stewards deem the course safe again, at which point the safety car peels into the pits and the cars resume racing when they reach the start / finish line.

Although it may seem quite a convoluted process, it’s important to keep your drivers running safely throughout the season.

Having covered all the basics of Formula 1, the last topic in our series will be how you can get to a race.

Part 7 – Attending a Race

Welcome to the Sidepodcast Guide to Formula 1.

We’ve covered pretty much everything you need to know to get you started watching Formula 1. For the last topic of the series, I think we should talk about what to do if you’re going to splash out and attend a race in person.

You need to decide which race you want to go to. If there’s one in your country, then that’s probably a good place to start. But you could go abroad to make it into more of a holiday. From the heat of Malaysia and Bahrain, to the more temperate European races, there’s plenty of choice. It’s a personal dream of mine to go to the Monaco GP, but time, money, and well, money are limiting factors.

A quick search of the web provides plenty of companies that do coach tours, direct flights, or package deals. You can usually find someone who will get you into the race and also put you up in a nice hotel somewhere for a semi-reasonable price. Alternatively you can get your tickets direct from the circuit and make your own plans. It really depends what you want out of your visit.



When buying your tickets, you usually have to decide which type of seat you want. The most basic pass is general admission - one that lets you in and lets you sit on the grass by the side of the track. There may or may not be a good view, and you'll probably get some good photos through a chain-link fence. As the ticket prices rise, the seats get better. You get grandstand seats, where you actually have a chair to sit in and are raised for a better view. You get covered grandstand seats, so that any inclement weather won't bother you. Then you have things like corporate boxes, but I think they're probably beyond the scope of Sidepodcast.

When you get inside, you need to get a programme. There really isn't a question mark over that – a programme is a necessity, but I wouldn't recommend the official programme. Very expensive and not high quality. You can buy whatever merchandise you feel is necessary, but if you're already a fan of a particular team, you may be wearing their shirts to the race.

There are big screens littered around the tracks, so that when the cars aren't flying under your nose, you can see just what it is they're getting up to. You can also rent a small screen from Kangaroo TV – a handheld media device with pretty much anything you need to know at the touch of a button.

When the cars are in view, snap as many pictures as you can, cheer as loud as you can – and think about investing in some ear plugs. Those cars are loud, and when there are 20 or more of them screaming round a corner, you might need some relief.

Going to a race is never going to be the same as watching it at home. You don't get the luxury of your arm-chair, of the nearby bathroom, of the commentators telling you every single thing you may have missed. What you have got is the atmosphere, the feeling of connection and closeness that can only come from actually being there. I hope you've enjoyed this beginner's guide, and make sure you let us know your thoughts of anything Formula 1, both on and off track.