



F1 Guide (Part 4) – F1 Cars

[Intro: Cedar Falls, Car Crash]

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.

[Out: Cedar Falls, Car Crash]