



F1 Digest 2009 Season Preview – The Rules

Welcome to the final instalment of the F1 Digest 2009 Season Preview. We've covered the entire grid, both teams and drivers, and had a look at where they'll be throughout the year. Now it's time to investigate the changes to the rulebook.

Let's start with the technical regulations, because, if you're anything like me, the sporting ones are more fun and we should save the best till last.

Nick: Well, I think this is the biggest rule changes we have had in a long time. Hopefully, the target to reduce costs and even more to make racing more fun with more overtaking will work out, but we will only see in the future. With the slicks, and the reduced aerodynamics will just do that.

Lewis: The regulations for 2009 have completely changed, so therefore what that means is the complete design of the car, so every team has no idea what other teams are doing, what other cars will look like. You know, some people have taken the front wing off, or the horns off our car, and the BMW had that. And so, no one has any of things and can take it and try it and test it. It all starts from scratch. Everyone is just going to do the best job they can and when we get to the first race we'll see who's done the best job.

Pascal: The biggest regulation change since, I guess, 1998, when the track widths of Formula 1 changed. So basically, the most two important performance factors – aerodynamics and tyres – have changed at the same time.

That was Nick Heidfeld, Lewis Hamilton and Pascal Vasselon from Toyota. Now, let's get started.

Technical Regulations

The dimensions which the bodywork of the car must adhere to have been altered, this visibly gives us a high rear wing, and a lower, wider front wing. There are also very tight restrictions over what aero work is allowed on the chassis itself, with the flip ups and bits that stick out being removed. The changes are in place to reduce aerodynamic grip, lowering downforce, which is offset by the re-introduction of slick tyres.

The rear diffuser has been moved back, is longer and higher, and very controversial. There's an ongoing drama heading into the first race, over Williams', Toyota's and Brawn's clever interpretation of the rules. Some teams don't think it's legal, meaning we could see a protest in Australia.

The front wing also includes a moveable aero device – something the FIA have been trying to ban for years. In 2009, they are allowed, and it takes the form of a small flip up along the front wing. It can move only six degrees, and is controlled by the driver twice per lap. The aim is to help reduce the turbulent effects of following in another car's wake.

The engine regulations are changing dramatically as each year passes. This time round we're reduced to 18,000 rpm. The engine freeze is still in existence, however Renault were allowed to make some updates to their power plant, after protesting that it had a severe performance shortfall.

Of course, I hardly need mention that KERS is making its debut this season. A quick recap of how the devices work. There are several different types of storage device available, but the majority of the field are using batteries. Only Williams, that we know of, are using a mechanical flywheel. Under braking, the energy that is usually lost from the



rear wheels, is transferred through the driveshaft and on to the KERS device. With a flywheel, this is a moving wheel, capable of spinning at over 60,000 revolutions a minute. With a battery system, the kinetic energy goes through a generator to be turned into electrical energy, which is then stored in the battery.

The driver has a push to pass button, which is located on his steering wheel. When depressed, the energy is released, back the way it came giving an extra 400kj in any one lap. The driver has to be in full control of the power delivery – this isn't something that can be handled in the pitlane – and he has to make the decision when to push the button.

Although intended for use to make overtaking opportunities every lap, chances are the drivers will dispel the energy on a long straight to make room for the next big braking zone. The resulting lap time saving is only a few tenths of a second.

For safety reasons, the car is fitted with a KERS light that indicates whether the device is active or safe. Marshals will need to be careful when attending to a car due to the build up of electricity. However, there are provisions in the regulations for a quick KERS shut down, which should take no longer than two seconds from initiation.

Formula 1 has been on grooved tyres for ten years, but now, for 2009, we're racing with slicks. This was a hugely popular decision both in and outside of the paddock, but marred somewhat by the stripe situation. With no grooves, the white stripe down the centre is useless. In its place, we find ourselves looking at two green stripes per tyre, one on each sidewall. The wet tyres, however, are still differentiated with a central stripe, although it is, unfortunately, green. Also, Bridgestone have clarified that the wet tyres should now be known as intermediates and wets. I thought they always were, but apparently this is now fact. The dry tyres for each weekend are selected from an array of four compounds – hard, medium, soft and super soft. Last year, the chosen compounds were one step apart, ie. Soft and super soft. For 2009, they will be two steps apart – so in Melbourne, you'll see Medium and Super Soft.

Frank: There are some new rules this year, some very important, significant ones, insofar as they concern the aerodynamic regulations and aerodynamics play a pivotal role in one's success or not. Then it depends how good or bad your car is. It's a fresh start for almost everybody, a big opportunity for a team like us, who have languished in the second half of the field, too often.

Lewis: I think what you'll see today is you'll see the car and you'll say it looks completely different but you'll get used to it and what happens is the old car which is a beautiful car, will look old. It will look ancient, it will look like it's really aged in such a short period of time. I'm excited because it's a new challenge for me.

Jarno: Driving with slick tyres this year will be another great thing, feeling for me, because I've always loved slicks. With the grooved I've always had some problems with the graining, and I believe slick tyres are more race tyres. For sure, I'm going to have a lot of fun and for me, I think it is an advantage.

Thanks to Frank Williams, Lewis Hamilton again, and Jarno Trulli.

Sporting Regulations

The first thing that needs to be stated is that the points system remains as it was in 2008. The FIA tried to change it with just a few days to go before the start of the season, and it wasn't a popular decision. They were pushing for the driver with the most wins to become champion, but as the regulation change came so late and wasn't agreed with teams, they couldn't push it through. For now, the old 10-8-6 system remains, with a change likely to occur for 2010.



Testing has been banned from now until the 31st December 2009, but there is some provision to allow the cars to be worked on. Three young driver events are allowed between the end of the championship and the last day of the year, although young driver is defined as someone not having competed in more than two F1 races. There is also an allowance for eight one day straight line tests at locations approved by the FIA. That spans the 1st Jan 2009 to the end of the season. This is a little confusing because the rule only came in a few days ago but we have already seen a few teams straight line testing, and we don't know whether this falls under the regulation or not.

Wind tunnel usage is also restricted, with models only allowed to be 60% scale or smaller and speeds up to 50 metres per second.

Within two hours of qualifying, teams must declare their race starting weight, which is effectively their fuel load. This information is set to be published in a bid to make strategies more accessible. The FIA may also weigh the cars randomly before the start of the race, to make sure they fall within 3kg of the declared amount.

Back to engines again, a driver can only have eight per season, although really it should be the car can only have eight, as if the driver is swapped, the engine life still applies. Once the ninth engine is inserted into the car, the driver will receive a ten place grid drop at the next race. If he has to change again to a tenth engine, it's another ten place drop and so on. An engine only counts as being used as soon as it has left the pitlane, and engines can only be started when they are in the car, not just lying around the garage. The drivers can't just pick and choose which engines they use and where, as once a motor has been discarded, it can't be used again in any qualifying or race session - except Abu Dhabi.

With no testing, Fridays will be the main development platform. Gearboxes won't be developed, though, as they are now subject to a similar freeze to engines. They have to be used for four consecutive races without changing, otherwise there's a five place grid drop.

After many, many complaints last year that the Safety Car regulations made accidents a complete lottery, some changes have been made. Drivers are allowed to pit straight away under the safety car now, and can rejoin as long as there is a green light at the end of the pitlane. The lapped cars may overtake rule still remains in force, however.

Another safety aspect, is that the speed in the pitlane has been raised to 100km/h, which is down to 60 for Free Practice.

The FIA are now mandating media opportunities, which essentially requires drivers to be available for specific autograph sessions, and at the end of every session, they need to be prepared for media interviews. During the race, retirees have to be available for the press, as does anyone not on the podium when it's all over. A spokesperson from each team will be nominated to talk to TV broadcasters, if required.

These are just the visible changes to the sport, and there are so many new things to take in, that it's going to be a fascinating season from the start. I hope you've enjoyed this F1 Digest preview and remember, stay tuned for full race coverage throughout the year.