



F1 Safety – How safety has improved

Welcome to the sixth episode of F1 Safety. Having covered pretty much everything in modern safety from the helmet to the Medical Car, today we're going to look back through the years and see how safety has improved.

The first race of the new F1 World Championship took place at Silverstone in 1950. Grand Prix racing had been around for years, but this was the start of the official competition. Back then, Silverstone was simply an unused airfield, there was no particular thought to the safety of racing high speed cars. No medical backup was around, the only run off areas were a happy accident rather than a planned safety feature. The cars were built simply to be fast, to get round the lap in the quickest time, and that was all that mattered.

By the 1960s, it was clear that things had to change and safety needed to be a consideration. In 1961 the first rollover bars were introduced on the cars, and in 1963 helmets and fireproof overalls became mandatory. This same year, the FIA took over responsibility for safety during Formula 1 events, building procedures into the regulations. Fire extinguishers were introduced in 1969, and the next year circuit inspections were introduced. By this point, crash barriers were beginning to take shape, and a wall was mandatory between the pit lane and the home straight.

In 1972, the red rear lights on the cars were introduced, the aim being to try and reduce pileups. Circuits had benefitted from marshals and some even had a medical centre, but in 1975 these two safety features became part of the regulations. Permanent medical centres were mandatory in 1980.

A couple of years earlier, the FIA introduced the rule that a driver had to have a super licence to take part in a Formula 1 event. By this point, the car had the safety cell, otherwise known as the tub, that was strong enough to keep a driver safe. In 1981, the cell was extended so that it covered the driver's feet as well.

With medical centres a big part of each circuit, the next stage was to bring the helicopter in, and by 1986 the chopper had to be on stand by at all times. In 1988, we saw the introduction of crash tests for the safety cell and the fuel tank, and in the same year, Charlie Whiting was appointed as the permanent Race Director for the FIA.

We're into the '90s now, and entering the new decade saw the rear view mirrors grow larger – still useless though – and the steering wheels now had to be detachable and quickly removable in case of an accident. In 1992, the Safety Car was introduced, and so the regulations were tweaked to allow for a period following the slower car.

Next up, pit lane safety, as the refuellers and mechanics had to wear fireproof overalls, plus the speed through the pit lane was reduced. The FIA also began to take a dim view to the crowds of fans gathered at the circuit breaking onto the track at the end of the race. They started to encourage more stringent crowd control measures. Following a tough year in 1994, the FIA undertook some computer analysis of the circuits on the calendar and found 27 corners that were high risk and needed to be improved. The governing body also tightened up restrictions on getting a superlicence, only the best need apply.

In 1997, the black boxes were introduced, meaning accident data could be recorded and reviewed after the event. Preventative measures were also improved, with the crash tests broadened to include rear impact and gearbox safety as well.

Towards the millennium, we started to see safety improvements that have shaped how Formula 1 is, including tethered wheels, the introduction of asphalt run offs rather than gravel, increased number of medical cars, and the



ability to remove a driver with his seat in case of emergency. In 2001, the FIA turned their attention to marshal safety, and specified some more stringent protection for them.

In 2002, the crash tests became even more detailed, and in 2003, five tracks had to tighten up their run offs and safety zones to be allowed on the calendar. HANS also became mandatory.

Whilst safety improvements are happening all the time, little by little, most of the massive things that can be done have been done already. The FIA are turning to a new bigger picture, and following the McLaren fine of \$100 million, they set up a Motor Sport Safety Development Fund. The idea is that within five years they will have organised a safety program for young drivers, and set up training programs for officials and potential new circuits. There is plenty more still to be done.

That's it for this penultimate episode of F1 Safety. Tomorrow is the last show, and you can let me know what you think of this series by emailing Christine@sidepodcast.com or leaving a comment on sidepodcast.com.

