

2018 SINGAPORE GRAND PRIX

13 - 16 September 2018

From	The FIA Formula One Technical Delegate	Document	38
To	The Stewards	Date	17 September 2018
		Time	00:02

Technical Delegate's Report

Before the race:

The following parts have been replaced today after 19:05 and before the start of the race:

Renault:

Car 27: LHS front wing flap adjuster

Mercedes:

Car 77: Telemetry antenna

A front floor deflection test was carried on car numbers 27, 10 and 16.

A fuel sample was taken from car numbers 11, 55 and 09 and analysed during the race.

An engine oil sample was taken from car numbers 08 and 09.

On the grid it was checked that all cars had fitted their tyres when the "3-Minutes" signal was given.

On the grid it was checked that the top ten cars had fitted the tyres which they had used when doing their fastest lap in Q2.

On the grid the temperature of the LHS and RHS front and rear tyre was checked on car numbers 77, 05, 07, 33, 18, 14, 02 and 16.

On the grid the minimum tyre starting pressure of the LHS and RHS front and rear tyre was checked on all cars.

After the race:

The following cars were weighed:

Number	Car	Driver
44	Mercedes	Lewis Hamilton
77	Mercedes	Valtteri Bottas
05	Ferrari	Sebastian Vettel
07	Ferrari	Kimi Räikkönen
03	RBR TAG Heuer	Daniel Ricciardo
33	RBR TAG Heuer	Max Verstappen
11	Force India Mercedes	Sergio Perez
18	Williams Mercedes	Lance Stroll
27	Renault	Nico Hülkenberg
55	Renault	Carlos Sainz
10	Toro Rosso Honda	Pierre Gasly
08	Haas Ferrari	Romain Grosjean
14	McLaren Renault	Fernando Alonso
16	Sauber Ferrari	Charles Leclerc

The steering wheel of all classified cars has been checked.

Car numbers 55, 14 and 16 were checked for the following:

- 1) Bodywork around the front wheels
- 2) Front wing height and overhang
- 3) Rear wing height and overhang
- 4) Front and rear wing width
- 5) Rear wing configuration
- 6) Rear bodywork area
- 7) Rear winglet height
- 8) Skidblock thickness
- 9) Stepped bottom
- 10) Diffuser height
- 11) Diffuser area
- 12) Overall height
- 13) Overall width

The profile of the in Article 3.3.2 of the 2018 Formula One Technical Regulations prescribed front wing section was checked on car numbers 55, 14 and 16.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 55, 14 and 16.

It was confirmed for car numbers 55, 14 and 16 that any vertical cross section of bodywork normal to the car centre line and situated in the volumes defined in Article 3.5.7 form one tangent continuous curve on its external surface with a radius no less than 75mm.

The concave radius of sections of the two rear wing elements which are in contact with the external air stream was checked on car numbers 55, 14 and 16.

The front and rear brake air duct dimensions were checked on car numbers 55, 14 and 16.

It was checked that no car exceeded 60 km/h when leaving the formation grid prior to the start of the race.

The race start data of all cars have been checked.

The units locking status was checked on all cars.

The session type has been confirmed for all cars.

Chassis FIA checksum was checked on all cars taking part in the race.

Single clutch paddle use for the race start has been checked on all cars.

Clutch paddle linearity checks have been carried out on car numbers 31 and 10.

The brake temperature warnings were checked on car numbers 44, 05, 33, 55, 14 and 16.

The plenum temperature was checked on all cars.

The oil consumption was checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

The MGU-K use at the race start was checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

It was checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16 that the ES was not charged while the car was stationary in the pits.

The ES state of charge on-track limits were checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

The lap energy release and recovery limits were checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

The maximum MGU-K speed was checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

The maximum MGU-K torque was checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

The MGU-K power limits were checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

The maximum MGU-H speed was checked on car 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

The MGU-K power model was checked on car numbers 44, 77, 05, 07, 03, 33, 27, 55, 14 and 16.

The tyre starting pressures of all cars during the race were checked.

The tyres used by all drivers during the race today have been checked.

Fuel flow meter calibration checksums were checked on all cars.

The instantaneous fuel flow of all cars was checked.

The total fuel mass used by every classified car during the race was checked.

The fuel temperature of all cars was checked.

A fuel sample was taken from car number 44.

The fuel samples have been checked for density and analysed by gas chromatography.

The results of all the fuel analyses show that the fuels were the same as ones, which had been approved for use by the relevant competitors prior to the Event.

Further the density change of the fuel samples taken today was within the permitted limits.

An engine oil sample was taken from car number 44.

The engine oil samples have been analysed by FTIR spectroscopy and viscometry.

The results of the FTIR analyses show that the sampled oils were consistent with reference engine oil samples which had been approved for use by the relevant competitors prior to the Event.

All car weights and the items checked were found to be in conformity with the 2018 FIA Formula One Technical Regulations.

Jo Bauer

The FIA Formula One Technical Delegate