

## 2018 JAPANESE GRAND PRIX

04 - 07 October 2018

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<b>From</b>	The FIA Formula One Technical Delegate	<b>Document</b>	40
<b>To</b>	The Stewards	<b>Date</b>	07 October 2018
		<b>Time</b>	17:43

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### Technical Delegate's Report

#### Before the race:

A front wing deflection test was carried out on car numbers 55, 28 and 14.

A front wing flap deflection test was carried out on car numbers 55, 28 and 14.

A fuel sample was taken from car numbers 44, 05 and 27 and analysed during the race.

An engine oil sample was taken from car numbers 44 and 27.

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, 07, 33, 27 and 09.

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:

<b>Number</b>	<b>Car</b>	<b>Driver</b>
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
31	Force India Mercedes	Esteban Ocon
35	Williams Mercedes	Sergey Sirotkin
55	Renault	Carlos Sainz
10	Toro Rosso Honda	Pierre Gasly
08	Haas Ferrari	Romain Grosjean
02	McLaren Renault	Stoffel Vandoorne
09	Sauber Ferrari	Marcus Ericsson

The steering wheel of all classified cars has been checked.

Car numbers 03 and 55 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 03 and 55.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 03 and 55.

It was confirmed for car numbers 03 and 55 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 03 and 55.

The front and rear brake air duct dimensions were checked on car numbers 03 and 55.

It was checked that no car exceeded 80 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.

The plenum temperature was checked on all cars.

The oil consumption was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08.

It was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08 that the MGU-K was not used below 100 km/h at the race start.

It was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08 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, 11, 31, 55 and 08.

The lap energy release and recovery limits were checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08.

The maximum MGU-K speed was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08.

The maximum MGU-K torque was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08.

The MGU-K power limits were checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08.

The maximum MGU-H speed was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08.

It was verified on all cars that the MD5 checksum of the PCU8 (dash board display) used on the car matched the configuration lodged with the FiA prior to the qualifying session.

During the race it was verified for car numbers 44, 77, 05, 07, 03, 33, 11, 31, 55 and 08 that the limits for electrical power and state of charge for the MGU-K and ES were not exceeded.

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 car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 27, 55, 28, 10, 08, 20, 02, 09 and 16 was checked.

A fuel sample was taken from car number 03.

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 11.

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**