

## 2018 SPANISH GRAND PRIX

10 - 13 May 2018

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<b>From</b>	The FIA Formula One Technical Delegate	<b>Document</b>	27
<b>To</b>	The Stewards	<b>Date</b>	12 May 2018
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### Technical Delegate's Report

#### **Before the third free practice session:**

An engine oil sample was taken from car number 31.

#### **During the third free practice session:**

The tyre starting pressures of all cars during P3 were checked.

The instantaneous fuel flow of all cars was checked.

#### **Before the qualifying practice session:**

An engine oil sample was taken from car numbers 10 and 02.

It was confirmed for all cars that the gear ratios used during the remainder of this Event belong to the gear ratios declared to the FIA technical delegate at or before the first Event of the 2018 Championship.

The thickness of the brake discs of all cars taking part in the qualifying session was checked.

#### **During the qualifying practice session:**

Car numbers 44, 77, 07, 31, 35, 27, 55 and 08 were weighed.

The weight distribution was checked on car numbers 44, 77, 07, 31, 35, 27, 55 and 08.

Car numbers 31 and 35 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) Stepped bottom
- 9) Diffuser height
- 10) Diffuser width
- 11) Overall height
- 12) 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 31 and 35.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 31 and 35.

It was confirmed for car numbers 31 and 35 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 31 and 35.

The front and rear brake air duct dimensions were checked on car number 31.

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

Fuel samples were taken from car numbers 10 and 09.

#### **After the qualifying practice session:**

Car numbers 44, 77, 05, 07, 03, 33, 55, 08, 20 and 14 were weighed.

Car numbers 44, 77, 05, 07, 03, 33, 55, 08, 20 and 14 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) Stepped bottom
- 9) Diffuser height
- 10) Diffuser width
- 11) Overall height
- 12) Overall width

The chassis identification transponders have been confirmed for car numbers 44, 77, 05, 07 and 08.

The profile of the prescribed front wing section in Article 3.3.2 of the 2018 Formula One Technical Regulations was checked on car numbers 44, 77, 05, 07, 03, 33, 55, 08, 20 and 14.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 44, 77, 05, 07, 03, 33, 55, 08, 20 and 14.

It was confirmed for car numbers 44, 77, 05, 07, 03, 33, 55, 08, 20 and 14 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 44, 77, 05, 07, 03, 33, 55, 08, 20 and 14.

The front and rear brake air duct dimensions were checked on car numbers 44, 77, 05, 07, 03, 33, 55, 08, 20 and 14.

A front floor deflection test was carried on car numbers 44, 05 and 33.

The flatness of the reference and step plane and their position to each other was checked on car numbers 44, 05, 33 and 14.

The units locking status was checked on all cars.

The session type has been confirmed for all cars.

Software version checks have been carried out on all cars.

Torque sensor software version checks have been carried out on all cars.

Torque sensor calibration checks have been carried out on all cars.

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

Gear shift data checks have been carried out for car numbers 05, 07 and 55.

The plenum temperature was checked on all cars.

The oil consumption was checked on car numbers 07, 03, 33, 55, 08, 20 and 14.

The torque coordinator demands were checked on car numbers 44, 05, 03, 31, 10, 14 and 16.

The torque control was checked on car numbers 44, 03, 31, 10 and 14

The rear brakes pressure control was checked on car numbers 44, 05, 03, 31, 10, 14 and 16.

The ES state of charge on-track limits were checked on car numbers 44, 77, 03, 33, 18, 27, 10, 14 and 02.

The lap energy release and recovery limits were checked on car numbers 44, 77, 03, 33, 18, 27, 10, 14 and 02.

The MGU-K power limits were checked on car numbers 44, 77, 03, 33, 18, 27, 10, 14 and 02.

The maximum MGU-K torque was checked on car numbers 44, 77, 03, 33, 18, 27, 10, 14 and 02.

The maximum MGU-K speed was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 35, 27, 55, 10, 08, 20, 14, 02, 09 and 16.

The maximum MGU-H speed was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 35, 27, 55, 10, 08, 20, 14, 02, 09 and 16.

The FiA power sensor calibration checksum was checked on car numbers 44, 77, 03, 33, 18, 27, 10, 14 and 02.

It was checked that car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 35, 27, 55, 10, 08, 20, 14, 02, 09 and 16 did not exceed 15000 rpm during the qualifying practice session.

The fuel pressure of car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 35, 27, 55, 10, 08, 20, 14, 02, 09 and 16 during the qualifying session was checked.

The logged pressure within the engine cooling system during the qualifying session was checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 35, 27, 55, 10, 08, 20, 14, 02, 09 and 16.

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

The fuel temperature of car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 35, 27, 55, 10, 08, 20, 14, 02, 09 and 16 was checked.

The instantaneous fuel flow of car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 35, 27, 55, 10, 08, 20, 14, 02, 09 and 16 was checked.

Fuel flow meter calibration checksums were checked on car numbers 44, 77, 05, 07, 03, 33, 11, 31, 18, 35, 27, 55, 10, 08, 20, 14, 02, 09 and 16.

Fuel samples were taken from car numbers 77, 05 and 14.

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

The results of 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 numbers 77 and 05.

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.

The following software versions have been used by the teams during the qualifying sessions:

<b>Team</b>	<b>FIA Standard ECU system version</b>
Ferrari	SR1010
Force India	SR1010
Haas	SR1010
McLaren	SR1010
Mercedes	SR1010
Red Bull	SR1010
Renault	SR1010
Sauber	SR1010
Toro Rosso	SR1010
Williams	SR1010

All the above items were found to be in conformity with the 2018 FIA Formula One Technical Regulations.

**Jo Bauer**

**The FIA Formula One Technical Delegate**