

# 2023 SPANISH GRAND PRIX

## 02 - 04 June 2023

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| <b>From</b> | The FIA Formula One Technical Delegate | <b>Document</b> | 36           |
| <b>To</b>   | The Stewards                           | <b>Date</b>     | 03 June 2023 |
|             |  | <b>Time</b>     | 20:38        |

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### Technical Delegate's Report

#### During the third free practice session:

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

The engine high rev limit bands were checked on all cars.

The fuel flow meter calibration checksum was checked on all cars.

The instantaneous fuel mass flow of all cars was checked.

The fuel temperature of all cars was checked.

The fuel pressure of all cars during the qualifying session was checked.

The logged pressure within the engine cooling system during the qualifying session was checked on all cars.

The plenum temperature of all cars was checked.

The IVT temperatures were checked on all cars.

The ES state of charge on-track limits were checked on all cars.

The lap energy release and recovery limits were checked on all cars.

The MGU-K power limits were checked on all cars.

The maximum MGU-K speed was checked on all cars.

The maximum MGU-K torque was checked on all cars.

The maximum MGU-H speed was checked on all cars.

The SECU custom software versions were checked on all cars.

An engine oil sample was taken from car number 10.

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

A fuel sample was taken from car numbers 22 and 02.

An engine oil sample was taken from car numbers 04 and 20.

It was confirmed for all cars that the gear ratios used during the remainder of this Competition belong to the gear ratios declared to the FIA technical delegate at or before the first Competition of the 2023 Championship.

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

Car numbers 01, 11, 16, 63, 44, 31, 10, 81, 77, 24 and 21 were weighed.

The weight distribution was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 77, 24 and 21.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 63, 77, 24 and 23.

The uppermost rear wing element adjustable positions were checked on car numbers 63, 77, 24 and 23.

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

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

Car numbers 01, 55, 44, 31, 10, 81, 04, 18, 14 and 27 were weighed.

The following aerodynamic component or bodywork areas were checked on car numbers 55, 18 and 27:

- |                   |                    |
|-------------------|--------------------|
| - Floor Body      | - TR Article 3.5.1 |
| - Floor Fences    | - TR Article 3.5.2 |
| - Floor Edge Wing | - TR Article 3.5.3 |
| - Nose            | - TR Article 3.6.1 |
| - Forward Chassis | - TR Article 3.6.2 |

- Mid Chassis - TR Article 3.6.3
- Mirror Housing - TR Article 3.6.4
- Sidepod - TR Article 3.7.1
- Coke Panel - TR Article 3.7.2
- Engine Cover - TR Article 3.7.3
- Tail - TR Article 3.8.1
- Front Wing Profiles - TR Article 3.9.1
- Front Wing Endplate body - TR Article 3.9.2
- Front Wing Tip - TR Article 3.9.3
- Front Wing Diveplane - TR Article 3.9.4
- Front Wing Endplate - TR Article 3.9.5
- Rear Wing Profiles - TR Article 3.10.1
- Rear Wing Endplate Body - TR Article 3.10.4
- Rear Wing Tip - TR Article 3.10.5
- Rear Wing Endplate - TR Article 3.10.7

An asymmetric front wing deflection test was carried on car numbers 10 and 04.

A front wing flap deflection test was carried on car numbers 10 and 04.

The engine high rev limit bands were checked on all cars.

The plenum temperature was checked on all cars.

The IVT temperatures were checked on all cars.

The ES state of charge on-track limits were checked on all cars.

The lap energy release and recovery limits were checked on all cars.

The MGU-K power limits were checked on all cars.

The maximum MGU-K speed was checked on all cars.

The maximum MGU-K torque was checked on all cars.

The maximum MGU-H speed 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 qualifying sessions.

The torque coordinator demands were checked on all cars.

The torque control was checked on all cars.

The rear brakes pressure control was checked on all cars.

The steering wheel of all cars has been checked.

It was verified on all cars that the PCU dash board display configuration was not changed.

Custom software version checks have been carried out on all cars.

SECU software version checks have been carried out on all cars.

The fuel pressure of all cars during the qualifying session was checked.

The logged pressure within the engine cooling system during the qualifying session was checked on all cars.

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

Fuel flow meter calibration checksums were checked on all cars.

The instantaneous fuel mass flow of all cars was checked.

The fuel temperature of all cars was checked.

A fuel sample was taken from car numbers 44, 10 and 04.

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 Competition.

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 Competition.

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

| Team                              | FIA Standard ECU system version |
|-----------------------------------|---------------------------------|
| Oracle Red Bull Racing            | SR1506                          |
| Scuderia Ferrari                  | SR1506                          |
| Mercedes-AMG PETRONAS Formula One | SR1506                          |

|  |        |
|--|--------|
| Team   |        |
| BWT Alpine F1 Team                             | SR1506 |
| McLaren Formula 1 Team                         | SR1506 |
| Alfa Romeo F1 Team Kick                        | SR1506 |
| Aston Martin Aramco Cognizant Formula One Team | SR1506 |
| MoneyGram Haas F1 Team                         | SR1506 |
| Scuderia AlphaTauri                            | SR1506 |
| Williams Racing                                | SR1506 |

All the above items were found to be in conformity with the 2023 FIA Formula One Technical Regulations.

**Jo Bauer**

**The FIA Formula One Technical Delegate**