

2023 HUNGARIAN GRAND PRIX

21 - 23 July 2023

From	The FIA Formula One Technical Delegate	Document	31
To	The Stewards	Date	22 July 2023
		Time	19:01

Technical Delegate's Report

During the third free practice session:

The tyre starting pressures of 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 second free practice session was checked.

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

The plenum temperature of all cars was checked.

The IVT code and calibration checksums were 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 MGU-K power model was checked on all cars.

The ES power model was checked on all cars.

The SECU custom software versions were checked on all cars.

After the third free practice session:

An engine oil sample was taken from car number 44.

Before the qualifying practice session:

A fuel sample was taken from car numbers 24, 20 and 03.

An engine oil sample was taken from car numbers 24 and 03.

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, 55, 44, 31, 10, 04, 18, 03, 22 and 23 were weighed.

The weight distribution was checked on car numbers 01, 11, 16, 55, 44, 31, 10, 04, 18, 03, 22 and 23.

The uppermost rear wing element adjustable positions were checked on car numbers 55, 63, 10 and 23.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 55, 63 and 10.

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

After the qualifying practice session:

Car numbers 01, 11, 16, 44, 81, 04, 77, 24, 14 and 27 were weighed.

The following aerodynamic component or bodywork areas were checked on car numbers 81, 24 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
- 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 Beam - TR Article 3.10.3
- 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

The uppermost rear wing element adjustable positions were checked on car numbers 01, 11, 16, 44, 04, 77, 18, 14 and 27.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 01, 11, 16, 44, 04, 77, 18, 14 and 27.

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

The plenum temperature was checked on all cars.

The IVT code and calibration checksums were 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 MGU-K power model was checked on all cars.

The ES power model was checked on all cars.

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 81 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 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 14.

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	SR1508
Scuderia Ferrari	SR1508
Mercedes-AMG PETRONAS Formula One Team	SR1508
BWT Alpine F1 Team	SR1508
McLaren Formula 1 Team	SR1508
Alfa Romeo F1 Team Stake	SR1508
Aston Martin Aramco Cognizant Formula One Team	SR1508
MoneyGram Haas F1 Team	SR1508
Scuderia AlphaTauri	SR1508
Williams Racing	SR1508

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