

2023 HUNGARIAN GRAND PRIX

21 - 23 July 2023

From	The FIA Formula One Technical Delegate	Document	42
To	The Stewards	Date	23 July 2023
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Technical Delegate's Report

Before the race:

The floor of car number 02 was digitally scanned and the scanned data were compared with the team declared CAD drawings. Further the team declared CAD drawings were also compared with previously submitted versions and checked for conformance with the 2023 Formula One Technical Regulations.

The uppermost rear wing element adjustable positions were checked on car numbers 31, 81 and 03.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 31, 81 and 03.

A front floor deflection test was carried on car numbers 44, 77, 24 and 14.

A fuel sample was taken from car numbers 11, 16 and 63 and analysed during the race.

An engine oil sample was taken from car numbers 11 and 16.

On the grid it was checked that all cars had fitted their tyres when the 5-Minutes signal was given.

On the grid the temperature of the LHS and RHS front and rear tyre was checked on car numbers 01, 11, 55, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 03, 22 and 23.

On the grid the temperature and 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
01	Red Bull Racing RBPT	Max Verstappen
11	Red Bull Racing RBPT	Sergio Perez
16	Ferrari	Charles Leclerc
55	Ferrari	Carlos Sainz
63	Mercedes	George Russell
44	Mercedes	Lewis Hamilton
81	McLaren Mercedes	Oscar Piastri
04	McLaren Mercedes	Lando Norris
77	Alfa Romeo Racing Ferrari	Valtteri Bottas
24	Alfa Romeo Racing Ferrari	Zhou Guanyu
18	Aston Martin Mercedes	Lance Stroll
14	Aston Martin Mercedes	Fernando Alonso
20	Haas Ferrari	Kevin Magnussen
27	Haas Ferrari	Nico H lkenberg
03	AlphaTauri RBPT	Daniel Ricciardo
22	AlphaTauri RBPT	Yuki Tsunoda
23	Williams Mercedes	Alexander Albon
02	Williams Mercedes	Logan Sargeant

The steering wheel of all classified cars has been checked.

The following aerodynamic component or bodywork areas were checked on car numbers 11, 44 and 03:

- | | |
|----------------------------|--------------------|
| - 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 Endplate Body - TR Article 3.10.4
- Rear Wing Tip - TR Article 3.10.5
- Rear Wing Endplate - TR Article 3.10.7

A physical floor and a plank wear inspection was carried out on car numbers 55 and 63.

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

The oil consumption was 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 session type has been confirmed for all cars.

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

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 car numbers 01, 11, 16, 55, 63, 44, 81, 04, 77, 24, 18, 14, 20, 27, 03, 22, 23 and 02.

The brake temperature warnings were checked on car numbers 01, 11, 16, 55, 63, 44, 81, 04, 77,

24, 18, 14, 20, 27, 03, 22, 23 and 02.

The race start data of all cars have been checked.

The MGU-K use at the race start was checked on all cars.

It was checked on all cars that the ES was not charged while the car was stationary in the pits.

It was checked that no car exceeded 80 km/h when leaving the formation grid prior to the start of the race.

It was verified on all cars that the PCU dash display configuration was not changed during Parc Fermé.

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 mass flow of all cars 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 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 81.

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.

All car weights and the items checked were found to be in conformity with the 2023 FIA Formula One Technical Regulations.

Jo Bauer

The FIA Formula One Technical Delegate