2023 AZERBAIJAN GRAND PRIX
28 - 30 April 2023

From	The FIA Formula One Technical Delegate	**Document**	50
To	The Stewards	**Date**	29 April 2023
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Technical Delegate's Report

Before the ShootOut session:

The suspension set-up was checked and compared with the set-up figures declared before the start of the qualifying session on car numbers 16, 55, 10, 77, 24, 27 and 21.

It was confirmed for car number 10 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.

A fuel sample was taken from car number 21.

An engine oil sample was taken from car number 21.

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

During the ShootOut session:

Car numbers 11, 81, 24, 20 and 23 were weighed.

The weight distribution was checked on car numbers 11, 81, 24, 20 and 23.

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

After the ShootOut practice session:

Car numbers 01, 11, 16, 55, 63, 44, 04, 18, 14 and 23 were weighed.

The following aerodynamic component or bodywork areas were checked on car number 23:

- 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
- 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 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 63, 04, 77, 18 and 14.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 63, 04, 77, 18 and 14.

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.

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

The rear brakes pressure control was checked on car numbers 01, 11, 16 and 44.

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.

A fuel sample was taken from car number 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 04.

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	SR1505
Scuderia Ferrari	SR1506
Mercedes-AMG PETRONAS Formula One Team	SR1506
BWT Alpine F1 Team	SR1505
McLaren Formula 1 Team	SR1506
Alfa Romeo F1 Team KICK	SR1506
Aston Martin Aramco Cognizant Formula One Team	SR1505
MoneyGram Haas F1 Team	SR1505

Scuderia AlphaTauri	SR1506
Williams Racing	SR1506

Before the Sprint:

A fuel sample was taken from car number 31.

An engine oil sample was taken from car number 31.

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, 16, 55, 63, 81, 18 and 23.

On the grid the minimum tyre starting pressure of the LHS and RHS front and rear tyre was checked on all cars.

After the Sprint:

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
31	Alpine Renault	Esteban Ocon
10	Alpine Renault	Pierre Gasly
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 Hülkenberg
21	AlphaTauri RBPT	Nyck de Vries
23	Williams Mercedes	Alexander Albon

The steering wheel of all classified cars has been checked.

The following aerodynamic component or bodywork areas were checked on car numbers 24, 14 and 20:

- 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 81 and 24.

The minimum distance between the adjacent rear wing sections at any longitudinal vertical plane was checked on car numbers 81 and 24.

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 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 race.

The rear brakes pressure control was checked on all cars.

The brake temperature warnings were checked on all cars.

The race start data of all cars have been checked.

Single clutch paddle use for the race start has been checked on all cars.

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 16.

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 16.

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