

## 2023 QATAR GRAND PRIX

06 - 08 October 2023

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<b>From</b>	The FIA Formula One Technical Delegate	<b>Document</b>	88
<b>To</b>	The Stewards	<b>Date</b>	08 October 2023
		<b>Time</b>	23:55

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### Technical Delegate's Report

#### Before the Race:

The following parts have been replaced today after 17:55 and before the start of the race:

#### Ferrari:

Car 55: Fuel tank to chassis loom  
LHS and RHS fuel hatch gasket

The floor of car number 22 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 following aerodynamic component or bodywork areas were checked on car numbers 02:

- Floor Body - TR Article 3.5.1
- Floor Fences - TR Article 3.5.2
- Floor Edge Wing - TR Article 3.5.3
- Bib - TR Article 3.5.4
- 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
- Exhaust Pipe - TR Article 3.8.2
- 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
- Pylons - TR Article 3.10.2
- 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

A symmetric and asymmetric front wing deflection test was carried out on car numbers 10, 81, 14 and 27.

An asymmetric front wing deflection test was carried out on car number 23.

A front wing deflection test was carried out on car numbers 10, 81, 14, 27 and 23.

The pressure relief valve of the coolant header tank of car numbers 01, 55, 10 and 81 was checked.

On the grid it was checked that all cars had fitted their tyres and the tyre heating blankets were disconnected, 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, 16, 63, 44, 77, 24, 18, 14, 22, 23 and 02.

On the grid the minimum tyre starting pressure of the LHS and RHS front and rear tyre was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

### **After the Race:**

The following cars were weighed:

<b>Number</b>	<b>Car</b>	<b>Driver</b>
01	Red Bull Racing RBPT	Max Verstappen
11	Red Bull Racing RBPT	Sergio Perez
16	Ferrari	Charles Leclerc
63	Mercedes	George Russell
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
40	AlphaTauri RBPT	Liam Lawson
22	AlphaTauri RBPT	Yuki Tsunoda
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 16, 63 and 77:

- 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 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
- Pylons - TR Article 3.10.2
- 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 engine high rev limit bands were checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The oil consumption was checked on car numbers 01, 11, 16, 63, 31, 81, 04, 77, 24 and 14.

The plenum temperature was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The IVT temperatures were checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The ES state of charge on-track limits were checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The lap energy release and recovery limits were checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The MGU-K power limits were checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The maximum MGU-K speed was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The maximum MGU-K torque was checked on car 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The maximum MGU-H speed was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The MGU-K power model was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The ES power model was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The session type has been confirmed for car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

Chassis FIA checksums were checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The torque coordinator demands were checked on car numbers 01, 11, 16, 63, 31, 81, 04, 77, 24 and 14.

The torque control was checked on car numbers 01, 11, 16, 63, 31, 81, 04, 77, 24 and 14.

The rear brakes pressure control was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The brake temperature warnings were checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The race start data of car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22,

23 and 02 have been checked.

Single clutch paddle use for the race start has been checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The MGU-K use at the race start was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

It was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02 that the ES was not charged while the car was stationary in the pits.

It was checked that car numbers 01, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02 exceeded 80 km/h when leaving the formation grid prior to the start of the race.

It was verified on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02 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.

The fuel pressure of car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02 during the race was checked.

The logged pressure within the engine cooling system during the race was checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

Fuel flow meter calibration checksums were checked on car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02.

The instantaneous fuel mass flow of car numbers 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02 was checked.

The fuel temperature of car 01, 11, 16, 63, 44, 31, 10, 81, 04, 77, 24, 18, 14, 20, 27, 40, 22, 23 and 02 was checked.

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**