

2024 QATAR GRAND PRIX

29 November - 01 December

From	The FIA Formula One Technical Delegate	Document	66
To	The Stewards	Date	01 December 2024
		Time	22:49

Technical Delegate's Report

Before the Race:

The upper bodywork of car number 27 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 2024 Formula One Technical Regulations.

An angled and vertical rear wing mainplane deflection test was carried out on car number 27.

A rear wing flap deflection test was carried out on car number 27.

The front wing flap adjustable range of car number 16 was digitally checked.

The front wing gurneys were checked on car numbers 63, 44, 16, 55, 81 and 04.

A symmetric and asymmetric front wing deflection test was carried out on car numbers 10, 22 and 27.

A front wing flap deflection test was carried out on car numbers 10, 22 and 27.

Clutch paddle linearity checks have been carried out on car number 43.

A fuel sample was taken from car numbers 81, 31 and 43 and analysed during the race.

An engine oil sample was taken from car numbers 55 and 81.

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, 44, 31, 23, 22, 24 and 27.

On the grid the 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:

<i>Number</i>	<i>Car</i>	<i>Driver</i>
01	Red Bull Racing Honda RBPT	Max Verstappen
63	Mercedes	George Russell
44	Mercedes	Lewis Hamilton
16	Ferrari	Charles Leclerc
55	Ferrari	Carlos Sainz
81	McLaren Mercedes	Oscar Piastri
04	McLaren Mercedes	Lando Norris
14	Aston Martin Aramco Mercedes	Fernando Alonso
10	Alpine Renault	Pierre Gasly
23	Williams Mercedes	Alexander Albon
30	RB Honda RBPT	Liam Lawson
22	RB Honda RBPT	Yuki Tsunoda
77	Kick Sauber Ferrari	Valtteri Bottas
24	Kick Sauber Ferrari	Zhou Guanyu
20	Haas Ferrari	Kevin Magnussen

The following aerodynamic component or bodywork areas were checked on car numbers 55, 04 and 24:

-	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
-	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

The fuel pressure of all cars during the race was checked.

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

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

Fuel flow meter calibration checksums were checked on all cars.

The instantaneous fuel mass flow of all cars was checked.

The partial load fuel mass flow of all cars was checked.

The fuel temperature of all cars was checked.

The plenum temperature was checked on all cars.

The oil consumption was checked on all cars.

The exhaust fluid mass flow 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 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.

The torque coordinator demands were checked on all cars.

The torque control 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 steering wheel of all cars has been checked.

The race start data of all cars have been checked.

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

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.

A fuel sample was taken from car number 01.

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 01.

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 2024 FIA Formula One Technical Regulations.

Jo Bauer

The FIA Formula One Technical Delegate