Formula One: Shakedown of the Mercedes-AMG F1 W11 EQ Performance

Mercedes-AMG F1 W11 EQ Performance – Technical Specification

Chassis

Monocoque:	Moulded carbon fibre and honeycomb composite structure
Bodywork:	Carbon fibre composite including engine cover, sidepods, floor, nose, front wing and rear wing
Cockpit:	Removable driver's seat made of anatomically formed carbon composite, OMP six-point driver safety harness, HANS system
Safety Structures:	Cockpit survival cell incorporating impact-resistant construction and penetration panels, front impact structure, prescribed side impact structures, integrated rear impact structure, front and rear roll structures, titanium driver protection structure (halo)
Front Suspension:	Carbon fibre wishbone and pushrod-activated torsion springs and rockers
Rear Suspension:	Carbon fibre wishbone and pullrod-activated inboard springs & dampers
Wheels:	OZ forged magnesium
Tyres:	Pirelli
Brake System:	Carbone Industries Carbon / Carbon discs and pads with rear brake-by-wire
Brake Calipers:	Brembo
Steering:	Power-assisted rack and pinion
Steering Wheel:	Carbon fibre construction
Electronics:	FIA standard ECU and FIA homologated electronic and electrical system
Instrumentation:	McLaren Electronic Systems (MES)
Fuel System:	ATL Kevlar-reinforced rubber bladder
Lubricants & Fluids:	PETRONAS Tutela

Transmission

Gearbox:	Eight speed forward, one reverse unit with carbon fibre maincase
Gear Selection:	Sequential, semi-automatic, hydraulic activation
Clutch:	Carbon plate

Dimensions

Overall Length:	Over 5000mm
Overall Width:	2000mm
Overall Height:	950mm
Overall Weight:	746kg

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Power Unit Specification

Type:	Mercedes-AMG F1 M11 EQ Performance
Minimum Weight:	145 kg
Power Unit Perimeter:	Internal Combustion Engine (ICE)
	Motor Generator Unit - Kinetic (MGU-K)
	Motor Generator Unit - Heat (MGU-H)
	Turbocharger (TC)
	Energy Store (ES)
	Control Electronics (CE)
Power Unit Allocation:	Three ICE, TC & MGU-H per driver per season
	Two MGU-K, ES, CE per driver per season

Internal Combustion Engine (ICE)

Capacity:	1.6 litres
Cylinders:	Six
Bank Angle:	90
No of Valves:	24
Max rpm ICE:	15,000 rpm
Max Fuel Flow Rate:	100 kg/hour (above 10,500 rpm)
Fuel Injection:	High-pressure direct injection (max 500 bar, one injector/cylinder)
Pressure Charging:	Single-stage compressor and exhaust turbine on a common shaft

Max rpm Exhaust Turbine:	125,000 rpm

Energy Recovery System (ERS)

Architecture:	Integrated Hybrid energy recovery via electrical Motor Generator Units
Energy Store:	Lithium-Ion battery solution of minimum 20 kg regulation weight
Max energy storage/lap:	4 MJ
Max rpm MGU-K:	50,000 rpm
Max power MGU-K:	120 kW (161 hp)
Max energy recovery/lap MGU-K:	2 MJ
Max energy deployment/lap MGU-K:	4 MJ (33.3 s at full power)
Max rpm MGU-H:	125,000 rpm
Max power MGU-H:	Unlimited
Max energy recovery/lap MGU-H:	Unlimited
Max energy deployment/lap MGU-H:	Unlimited

Fuel & Lubricants

Fuel:	PETRONAS Primax
Lubricants:	PETRONAS Syntium

Contacts:

Bradley Lord
Mercedes-Benz Motorsport Communications Director
blord@mercedesamgf1.com
+44 (0) 7785 682 893

Felix Siggemann
Head of Media Relations, Mercedes-AMG Petronas Formula One Team
fsiggemann@mercedesamgf1.com
+44 (0) 7864 609 468

Rosa Herrero Venegas
Public Relations Manager, Mercedes-AMG Petronas Formula One Team
rherrerovenegas@mercedesamgf1.com
+44 (0) 7469 353 191

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