



AMG
PETRONAS
FORMULA ONE TEAM

Press Information

2 March 2021

Formula One: Launch of the Mercedes-AMG F1 W12 E Performance

Mercedes-AMG F1 W12 E Performance – Technical Specifications

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





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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: 752kg

Mercedes-AMG F1 M12 E Performance – Technical Specification

Power Unit Specification

Type: Mercedes-AMG F1 M12 E 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





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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





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Fuel & Lubricants

Fuel: PETRONAS Primax

Lubricants: PETRONAS Syntium

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