McLaren Speedtail Product Guide

Version 2.1
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Strictly Private & Confidential

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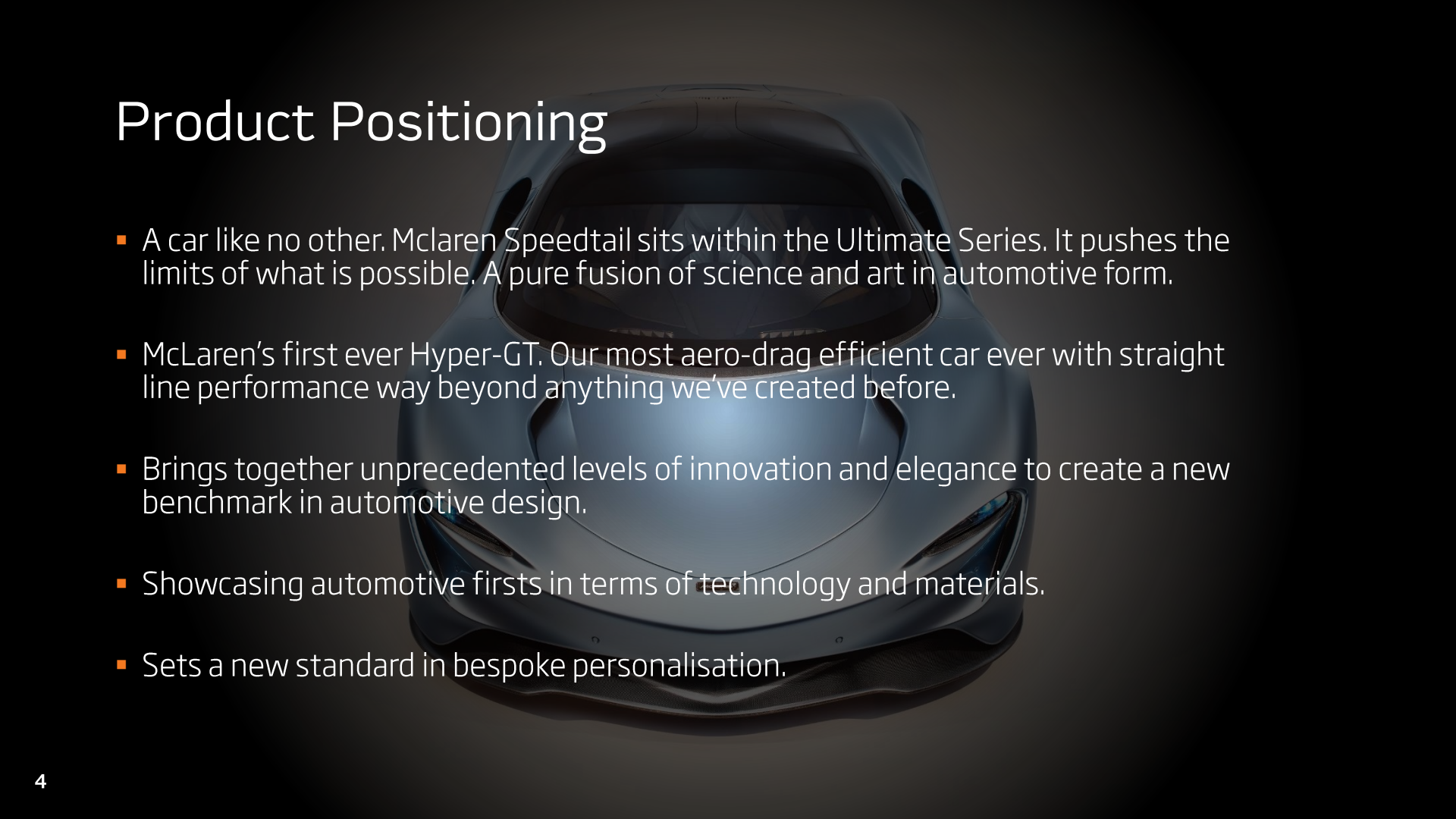
1. At a Glance

Product Positioning

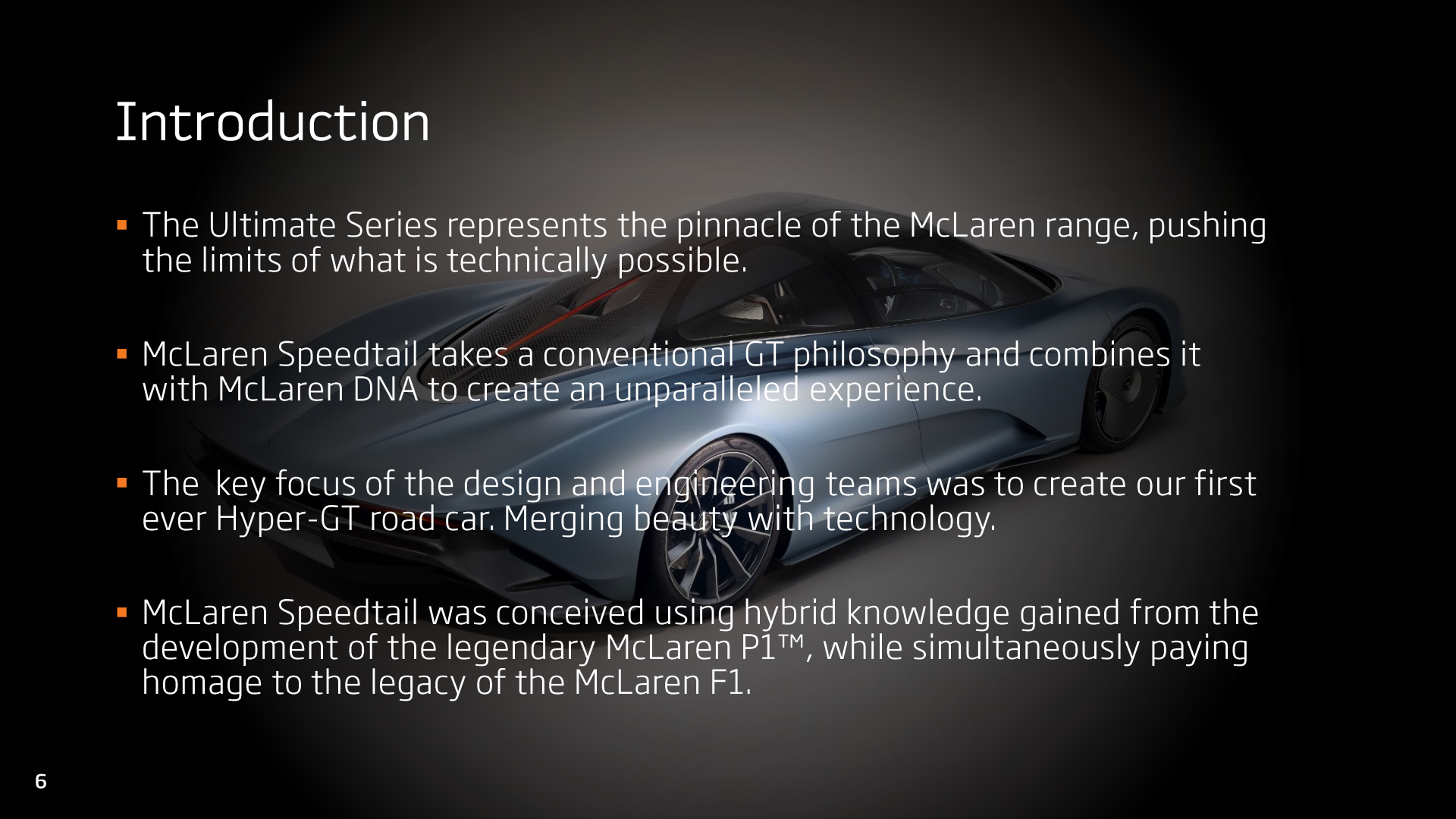


- A car like no other. Mclaren Speedtail sits within the Ultimate Series. It pushes the limits of what is possible. A pure fusion of science and art in automotive form.
- McLaren's first ever Hyper-GT. Our most aero-drag efficient car ever with straight line performance way beyond anything we've created before.
- Brings together unprecedented levels of innovation and elegance to create a new benchmark in automotive design.
- Showcasing automotive firsts in terms of technology and materials.
- Sets a new standard in bespoke personalisation.

USPs

- Design Philosophy
  - Everything for a reason. The design is one of pure streamline elegance. Created out of the single-minded vision to create our most aero-drag efficient car ever.
- Central driving position
  - Putting the driver at the centre of the action, maximising visibility with the ability to enjoy journeys with 2 passengers.
- Performance
  - Highest top speed and fastest accelerating McLaren ever made.
- Innovation
  - Automotive firsts; Thin Ply Technology (TPT) carbon accents, retractable digital rear view system & hinge-less active rear ailerons.
- Unique
  - Limited production, highly exclusive and setting a new standard of personalisation.

Introduction



- The Ultimate Series represents the pinnacle of the McLaren range, pushing the limits of what is technically possible.
- McLaren Speedtail takes a conventional GT philosophy and combines it with McLaren DNA to create an unparalleled experience.
- The key focus of the design and engineering teams was to create our first ever Hyper-GT road car. Merging beauty with technology.
- McLaren Speedtail was conceived using hybrid knowledge gained from the development of the legendary McLaren P1™, while simultaneously paying homage to the legacy of the McLaren F1.

The McLaren Design Philosophy

We have applied our symbiotic Design process, embodying both studio and technical design, to the latest Ultimate series vehicle; McLaren Speedtail.

Just as the McLaren Senna is the embodiment of extreme aerodynamics and weight saving, so too is McLaren Speedtail. This time though, the goal was to achieve a new level of design sophistication and extreme straight line acceleration. To achieve this we employed the same innovative open mind and obsession with weight saving, but this time pursued low aerodynamic drag. This has resulted in a host of advanced, innovative features and the most energy-efficient Hypercar to date.

Dan Parry-Williams, Director of Engineering Design

Silver Bullets

- Key Elements of McLaren Speedtail:
  - Highest top speed, power and torque output of any McLaren road car.
  - Central driving position emphasising driver focus.
  - Limited production, highly exclusive and setting a new standard of personalisation.
  - Beautiful yet purposeful design.
  - Pioneering hybrid technology.

Highlights : Structure

- New bespoke Monocage accommodates three, with the passenger seating sculpted into the rear bulk head.
- Offering the most glass ever seen on a McLaren.
- Design of doors, roof line and porthole add a sense of space and light.
- Impressive storage provides 236 litres of luggage space.

Highlights : Body

- When viewed from above, the car has a distinctive teardrop shape – the most speed-efficient natural form, as seen in high velocity birds and fish.
- In order to achieve the sleek almost unbroken shape of Speedtail, the number of visible shut lines had to be kept to a minimum. This creates the beautifully smooth form while keeping drag low.
- The long sweeping diffuser plays a crucial role in seamlessly integrating the two air streams as they reconnect after passing over and under the car.

Highlights : Design

- Showcar for the road.
- Beautiful yet purposeful design.
- Elegance through reduction.
- Extensive use of carbon fibre for body panels keeps weight to a minimum.
- Every element has been sculpted to reduce drag.
- Symmetry.

Highlights : Aerodynamics

- Advanced seamless active rear ailerons, control the centre of pressure. These extend at high speed to optimise aerodynamic balance, keeping the vehicle stable and they also provide airbrake functionality during heavy braking.
- Teardrop
- Static front wheel Carbon Fibre Aero Covers reduce drag by smoothing airflow along the side of the car.
- Retractable digital rear view camera system providing a far wider field of vision for the driver than conventional mirrors.
- The most aero-drag efficient McLaren road car ever produced.

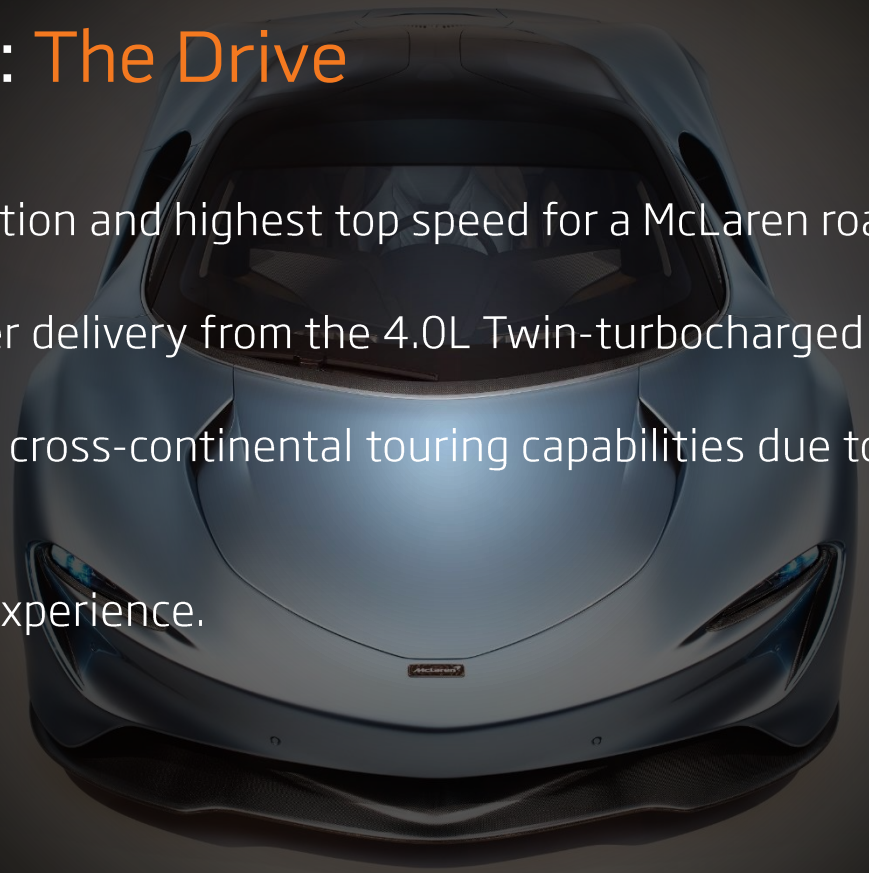
Highlights : Suspension

- Innovative suspension developed from the McLaren Senna.
- Optimised for highspeed handling and Hyper-GT touring credentials.
- Velocity Active Chassis Control gives McLaren Speedtail assured stability at highspeed whilst delivering comfort on the road.
- The suspension combined with the electro-hydraulic steering provide an unparalleled feeling of connection to the road.
- Velocity mode lowers the ride height of the car to minimise the drag created, maximising speed and acceleration potential.

Highlights : Interior

- Putting the driver at the centre of the action maximising visibility with the ability to enjoy journeys with 2 passengers.
- Central driving position flows into design symmetry throughout the well appointed cabin.
- Bespoke drivers seat designed to offer the support and comfort levels appropriate for a Hyper-GT.
- Digitally crafted interior with the highest quality materials.

Highlights : The Drive

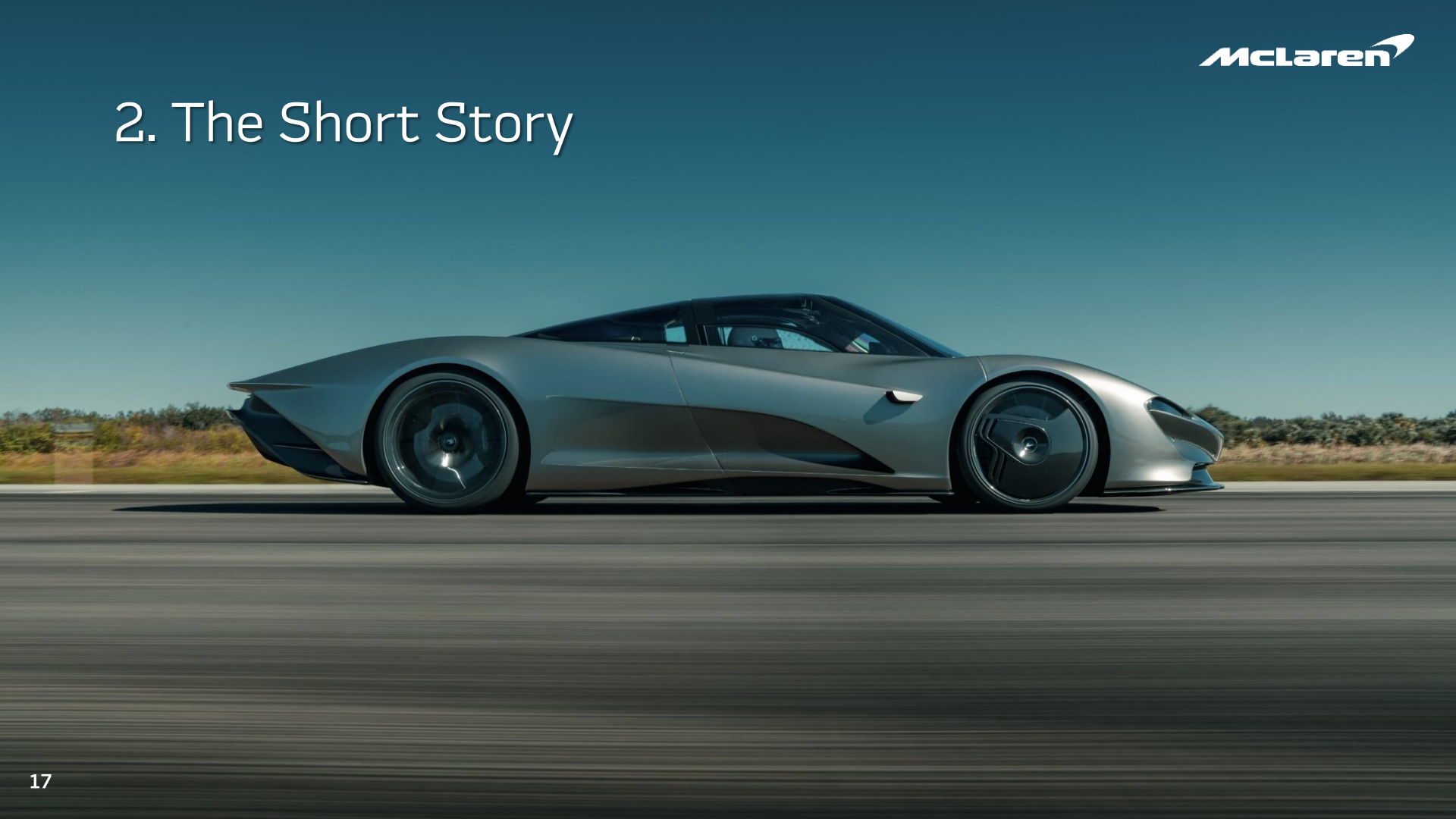


- Intense acceleration and highest top speed for a McLaren road car.
- Relentless power delivery from the 4.0L Twin-turbocharged V8 and E-Motor.
- Uncompromised cross-continental touring capabilities due to the centralised driving position.
- Unique driving experience.

Highlights : Powertrain

- 4.0L Twin Turbo ICE (M840TQ) – continuous evolution and development from the McLaren P1™, 720S and the McLaren Senna.
- Formula E – Gen 2 E-Motor.
- 800V 230Kw Hybrid System.
- Highest power density battery in the market.
- First automotive dielectrically cooled ESS (Energy Storage System).

2. The Short Story



Key Selling Points

Design and Aerodynamics

- **The most aerodynamically efficient McLaren ever created**
- **Striking presence** - created through a sculpted body; elegance through reduction
- **Rear Active Ailerons** – balance the car at high speed and add stopping power when needed but with minimal additional drag
- **Retractable Side View rear cameras** – retract into the main body when parked
- **Incorporated front wheel Carbon Fibre Aero Covers** - greatly reduce drag by smoothing the air flow around the sides of the car
- **Centralised driving position** - offers an unrivalled cross continental GT touring experience

Performance and Vehicle Dynamics

- **The most powerful McLaren ever** – McLaren 4.0L twin-turbocharged V8 combined with the Formulae E – Gen 2 E-Motor produces 1070PS / 1150NM of torque
- **Relentless acceleration** – utilising the inherent properties of an E-Motor, McLaren Speedtail produces uninterrupted acceleration regardless of vehicle speed of RPM
- **Velocity Mode** – activating velocity mode lowers the car by an average 22mm.
- **Bespoke Pirelli P-Zero tyres** - developed to accommodate the large amount of heat generated at such highspeed while still providing sufficient levels of grip

Key Selling Points

Driver Engagement

- **Central driving position** takes driver engagement to a similar level of the legendary McLaren F1
- **Electro-hydraulic steering** and new bespoke Pirelli tyres deliver sharper responses and fantastic road surface feedback
- **Velocity Active Chassis Control** – a unique McLaren suspension philosophy that provides excellent vehicle control while offering GT levels of comfort

Usability

- **7-speed twin clutch seamless shift gearbox** for smooth, fast gear changes in everyday use
- **Front and rear luggage bins** providing enough carrying capacity for 3 people with a total 236 litres of luggage volume
- **Powered F1-Style twin hinge dihedral doors** improve access to the cabin and enable the driver to effortlessly close/open the doors from their seat
- **Retractable digital rear view camera system*** provides a wider field of view than conventional optical mirrors

*Retractable when parked otherwise always open

Personalisation

- The most individual McLaren ever made
- A choice of 4 interior themes as standard
- Bespoke Speedtail 1K Visual Carbon Fibre Components
- Bespoke brightwork finishes and colours (interior and exterior)
- Visible carbon fibre interwoven with precious metal
- Interwoven graphics within 1K Carbon Fibre
- Precious metal badges (white gold / platinum)
- Unique paint effects – contouring
- Application of the finest materials – Full Aniline Leather and Nubuck
- Hidden until lit micro-perforated graphics
- First automotive application of TPT Carbon Fibre

Technical Highlights

4.0L Hybrid Twin-Turbocharged V8 (M840TQ)

ICE	Hybrid
Power 757 PS	Power 313 PS
Torque 800 Nm	Torque 350 Nm
1070 PS	1150 Nm

Standard Content

Powertrain

- M840TQ 4.0L (3,994cc) Twin-Turbocharged V8 Engine 757 PS / 800 Nm
- Twin electrically-actuated twin scroll turbochargers
- Formula E Gen 2 E-Motor 313 PS / 350 Nm
- Power dense dielectrically* cooled ESS (Energy Storage System)
- Titanium lightweight exhaust system
- 7 speed + reverse Seamless Shift Gearbox (SSG)
- 3 x powertrain modes (Comfort, Sport, Velocity)
- Twin multi-plate clutches
- Open differential with McLaren Brake Steer
- Launch control

Suspension

- Velocity Active Chassis Control (VCC) with Ride Height Control, Hydraulic Roll Control, Spring Rate Control & Adaptive Damping
- 4 x Chassis Modes (Non-Active, Comfort, Sport, Velocity)
- Vehicle Lift (Front and Rear)

Wheels, Tyres & Brakes

- Wheel sizes 20 x 8.0 J front and 21 x 10.0 J rear
- Tyre sizes: 235/R35/R20 front and 315/R30/R21 rear
- Lightweight 10-spoke Forged Alloy Wheels
- Gloss Black Diamond Cut Finish
- Front wheels with static Carbon Fibre Aero Covers
- Pirelli P Zero™ Tyres
- Carbon ceramic (CCM-R) brake discs
- 6-piston forged monobloc aluminium front calipers
- 4-piston forged aluminium rear calipers
- Tyre Pressure Monitoring System (TPMS) + tyre temperature gauge

Aerodynamics

- Hydraulic Rear Fender Ailerons x 2 with Satin Black Actuators
- Static front wheel Carbon Fibre Aero Covers

*See page 43 for more details

Standard Content

Driver Assistance Technologies

- Anti-Lock Braking System (ABS)
- Traction Control System (TCS)
- Electronic Stability Control (ESC) with Dynamic Mode
- Hill Hold Assist
- Brake Pad Wear Sensors - Front & Rear
- Brake Disc Wipe Technology (not in Velocity Mode)
- Brake Assist Technology
- Brake Pre-Fill Technology
- Cruise Control
- Electronic Parking Brake
- Speed Limit Function (LIM)
- Electronic Speed Limited to 359km/h
- 4 Front & 4 Rear Parking Sensors
- Rear View Camera - Rear bumper mounted

Body Structure

- Carbon Fibre Monocage IV
- Rear Upper Structure - Coupe (Outer) Painted Satin Black
- Door Opening Panel - Coupe - Painted Satin Black
- Door Opening Panel Extension - Coupe - Painted Satin Black
- Windscreen Surround (Outer) Painted Satin Black
- Windscreen Surround Top Hat - Painted Satin Black
- Front Aluminum Crash Structure
- Front Aluminum Subframe
- Rear Aluminum Frame and Engine Cradle
- Integrated Rear Carbon Fibre Crash Structure
- Front Floor and Rear Floor - Carbon Fibre as molded
- Front Floor Access Panels - Jacking Points x 2 - as moulded
- Access Panel - Barge Board - Jacking Points x 2 - as moulded
- Rear Floor - as moulded

Standard Content

Exterior Lighting

- Full LED Headlights with Static Adaptive Functionality
- Sequential LED Indicators
- Automatic Headlight Levelling
- Follow Me Home Headlights (Adjustable Time)
- Automatic Lights (in Conjunction with Rain-Light Sensor)
- Automatic LED Daytime Running Lights
- Side repeaters integrated into the front wheel arches
- Automatic LED Rear Lights and LED fog and reverse Lamp
- Central LED High Mounted Stop Light (CHMSL) – Spine
- Rear Reflectors

Exterior Features

- Twin-hinged dihedral powered doors with soft close function
- Side Mounted rearward facing cameras x 2 (retractable)
- Single wiper arm with hidden windscreen washer jets (windscreen cowl)
- Windscreen with electrochromic black out panoramic door upper and rear quarter glass with electrochromic functionality
- Leather lined front luggage bin (matched to interior)

Exterior Design

- McLaren Special and Elite paints
- Titanium exhaust finisher
- Gloss Visual Carbon Fibre Front Splitter
- Mega Applique Lower (Door Outer) - Gloss Visual Carbon Fibre
- Side Rear View Camera Retractable Arms – Aluminum body colour
- Door Lower Side Skirts - Gloss Visual Carbon Fibre
- Rear Fender Lower Side Skirts - Gloss Visual Carbon Fibre
- Gloss Visual Carbon Fibre Headlamp Bezel
- Gloss Visual Carbon Fibre Rear Diffuser
- Aluminium Badge Set

Interior Features

- Electrically Adjustable Steering Column (with Comfort Entry / Exit)
- Single Zone Climate Control (Driver + Passengers) and air conditioning
- Interior ambient lighting
- Machined from Solid Aluminum Interior Switches
- Electrochromic sun visor
- Dedication plate - mounted on rear bulkhead (backlit) – Titanium
- Satin Visual Carbon Fibre Door Sill

Standard Content

Interior Design

- Two Tone semi aniline Interior
- Interior brightwork – Zircon and Galvanic Grey (sandblasted)
- Satin Carbon Fibre interior elements
- Waldorf Nappa Leather wrapped steering wheel - Black
- Leather flooring with rubber inserts

Safety & Security

- Keyless entry, lock and start
- 2 Keys with Unlock / Lock / Front & Rear Luggage Open / Powered Door Operation + Mechanical Key Function
- External & internal secondary mechanical door releases
- Electronic External Door Entry Release Buttons (Both Sides)
- Alarm (Including doors, service panels, luggage compartments)
- Tilt Sensors
- Electronic immobiliser
- Driver airbag
- Emergency fuel shut-off feature via engine ECU
- Vehicle tracking system
- Emergency hybrid voltage cut off

Infotainment

- 2 x 8inch infotainment displays - behind curved glass with black out
- Audio media player and satellite navigation
- Bluetooth telephony
- Bowers & Wilkins 12 Speaker Branded Audio System
- USB Connectivity x2
- 12 volt power socket

Interior Controls & Displays

- Engine Start/Stop ignition button and transmission controls (DNR)
- Active Dynamics Panel with powertrain & handling Switches
- Electric windows

Accessories

- Lithium-ion Vehicle Battery Charger - 12v
- Wireless inductive charging system for High Voltage battery
- Tyre Repair Kit (Tyre Weld)
- Car Cover - VIN numbered
- Leather bound owners manual in Speedtail presentation box
- Speedtail branded 3D printed titanium toolkit – VIN numbered
- Fitted front luggage bag – black leather

Optional Content

Wheels, Tyres and Brakes	**Option**
▪ Colour forged Brake Callipers with Machined Logo (P15 Colours) + Speedtail Silver	Cost option
– Red, Azura Blue, Black, McLaren Orange and Speedtail Silver	
Body Structure	
▪ Carbon Fibre Monocage IV - Rear Upper Structure - (Outer) Painted Gloss Black	No cost option
▪ Carbon Fibre Monocage IV - Door Opening Panel - Painted Gloss Black	No cost option
▪ Carbon Fibre Monocage IV - Door Opening Panel Extension - Painted Gloss Black	No cost option
▪ Carbon Fibre Monocage IV - Windscreen Surround - Painted Gloss Black	No cost option
Exterior Features	
▪ Front McLaren Logo Lockup Badge - Platinum on Carbon TPT	Cost option
▪ Front McLaren Logo Lockup Badge - 18ct White Gold on Carbon TPT	Cost option
▪ Rear McLaren Logo Lockup Badge – Platinum	Cost option
▪ Rear McLaren Logo Lockup Badge - 18ct White Gold	Cost option

Optional Content

Exterior Styling	Option
▪ Special or Elite Paint	No cost option
▪ Gloss Visual Carbon Fibre Front Clam	Linked option
▪ Tinted Visual Carbon Fibre Front Clam	Linked option
▪ Satin Visual Carbon Fibre Front Splitter	Linked option
▪ Tinted Visual Carbon Fibre Front Splitter	Linked option
▪ Gloss Visual Carbon Fibre Bonnet	Linked option
▪ Tinted Visual Carbon Fibre Bonnet	Linked option
▪ Bonnet Rear Finisher bespoke colour	Cost option
▪ Wiper Cover Panel - Satin Visual Carbon Fibre	Linked option
▪ Gloss Visual Carbon Fibre Tow Eye Cover	Linked option
▪ Single Wiper Arm - Satin Visual Carbon Fibre	Linked option

Optional Content

Exterior Styling	Option
Tinted Visual Carbon Fibre Tow Eye Cover	Linked option
Gloss Visual Carbon Fibre Mega Applique	Linked option
Tinted Visual Carbon Fibre Mega Applique	Linked option
Mega Applique Lower - Satin Visual Carbon Fibre	Linked option
Mega Applique Lower - Tinted Visual Carbon Fibre	Linked option
Gloss Visual Carbon Fibre Rear Clam	Linked option
Tinted Visual Carbon Fibre Rear Clam	Linked option
Gloss Visual Carbon Fibre HTR Duct Blade	Linked option
Satin Visual Carbon Fibre HTR Duct Blade	Linked option
Tinted Visual Carbon Fibre HTR Duct Blade	Linked option
Side Rear View Camera Retractable Arms - Aluminium (galvanic grey)	No cost option
Side Rear View Camera End Cap - Aluminium Annodised to match Exteiror Brightwork	Linked option

Optional Content

Exterior Styling	Option
Door Lower Side Skirts - Satin Visual Carbon Fibre	Linked option
Door Lower Side Skirts - Tinted Visual Carbon Fibre	Linked option
Rear Fender Lower Side Skirts - Satin Visual Carbon Fibre	Linked option
Rear Fender Lower Side Skirts - Tinted Visual Carbon Fibre	Linked option
Waist Finisher - galvanic grey or zircon (sandblasted)	No cost option
Satin Visual Carbon Fibre Headlamp Bezel	Linked option
Tinted Visual Carbon Fibre Headlamp Bezel	Linked option
Satin Visual Carbon Fibre Rear Diffuser	Linked option
Tinted Visual Carbon Fibre Rear Diffuser	Linked option
Gloss Visual Carbon Fibre Rear Tailgate	Linked option
Tinted Visual Carbon Fibre Rear Tailgate	Linked option
Rear Tailgate Finisher - galvanic grey or zircon (sandblasted)	No cost option
Rear Fender Finsiher - galvanic grey or zircon (sandblasted)	No cost option

Optional Content

Interior Features	Option
▪ Backlit door sills microperforated - McLaren Logo	Cost option
▪ Backlit door sills microperforated – Bespoke	Cost option

Interior Styling	
▪ Two Tone semi aniline Interior - Concours Barolo and Cassis	No cost option
▪ Two Tone semi aniline Interior – Concours Porcelain & Jet Black	No cost option
▪ Two Tone semi aniline Interior - Concours VintageTan & Jet Black	No cost option
▪ Two Tone semi aniline Interior - Concours Jet Black & Ink	No cost option
▪ Interior Brightwork - galvanic grey or zircon (sandblasted)- switches, MRM stalks, gearshift paddles & Air vents	No cost option
▪ Gloss Visual Carbon Fibre Interior Elements - DBE, Steering Wheel Clasp, Win/Door Switch	Cost option
▪ Tinted Visual Carbon Fibre Interior Elements - DBE, Steering Wheel Clasp, Win/Door Switch	Cost option
▪ Gold Interwoven Visual Carbon Fibre Interior Elements - DBE, Steering Wheel Clasp, Win/Door Switch	Cost option
▪ Carbon TPT Interior Elements - DBE, Steering Wheel Clasp, Win/Door Switch Bezels and Gearshift paddles insert	Cost option
▪ White Quartz + Carbon TPT Interior Elements - DBE, Steering Wheel Clasp, Win/Door Switch Bezels and Gearshift paddles insert	Cost option
▪ Orange Quartz + Carbon TPT Interior Elements - DBE, Steering Wheel Clasp, Win/Door Switch Bezels and Gearshift paddles insert	Cost option
▪ Stainless Steel Speaker Grilles - Galvanic Grey or Zircon (Sandblasted)	No cost option
▪ Aluminum Machined Lower Speaker Grilles - Bespoke	Cost option

Optional Content

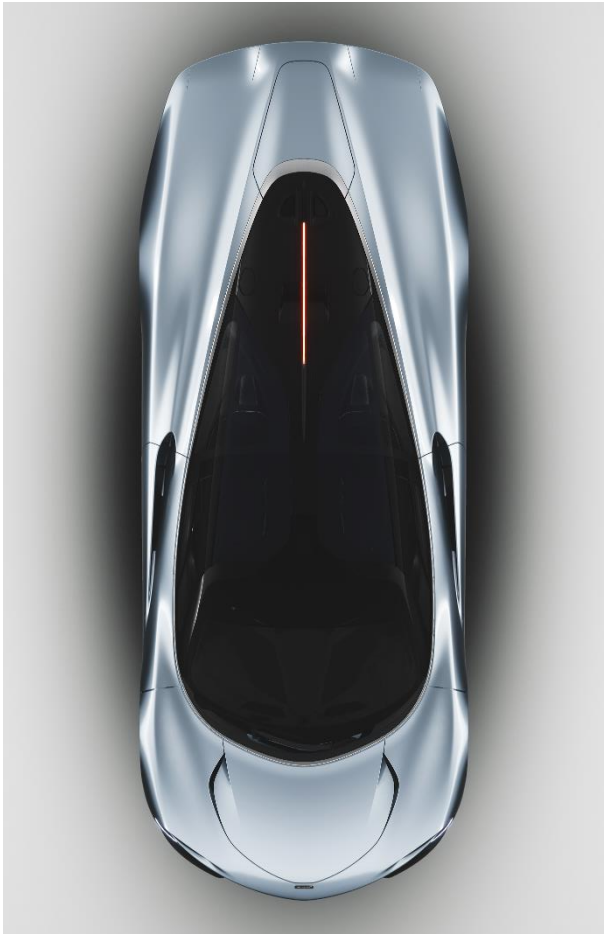
Interior Styling	Option
▪ Satin Visual 1K Carbon Fibre Interior - Door, Facia, Seat backs	Linked option
▪ Gloss Visual 1K Carbon Fibre Interior - Door, Facia, Seat backs	Linked option
Accessories	
▪ Wireless Inductive charging system - additional garage unit	Cost option
▪ Fitted luggage set matched to vehicle trim specification – 5 bags in total	Cost option
MSO Bespoke	
▪ Bespoke paints	Cost option
▪ Bespoke contouring paint effects	Cost option
▪ Bespoke Exterior Brightwork	Cost option
▪ Bespoke Steering Wheel	Cost option
▪ Bespoke finish seatbelt escutcheon & driver effective anchorage	Linked option
▪ Bespoke finish - Lower Speaker Grilles	Cost option
▪ Bespoke Etched Pedals	Cost option

3. The Long Story

Exterior – Design

Arguably the McLaren which places the most emphasis on design, the team behind Speedtail faced a huge challenge. Create a beautiful and striking car which is so slippery it can exceed 400km/h whilst also being unmistakably a McLaren.

Purity of form. This was part of the single-minded design brief for the Speedtail. And an objective that has been brought to life… with jaw-dropping results. But every line, every curve is there for a reason. To reduce drag. And to keep the airflow attached to the vehicle. When viewed from above, the car has a distinctive teardrop shape – the most speed-efficient natural form, as seen in high velocity birds and fish. It channels air in a seamless, uninterrupted way. Seen from the side, the Speedtail's strikingly sleek outline ends in the elongated tail. Shutlines – gaps in panels – are at an absolute minimum to prevent turbulent air over the body. Inspired by nature yet honed by the latest technology… the look of the Speedtail may be beautiful. But it is purposeful to the last millimetre.



Exterior – Carbon Fibre Monocage IV

Description

The carbon fibre Monocage IV features a lower structure, upper structure and bulkhead made of carbon fibre, creating a lightweight and extremely strong centre around which the car is built.

Customer Benefits

Monocage IV is a strong, rigid and ultra-lightweight chassis. The use of carbon fibre provides an extremely stiff structure and a lower centre of gravity compared to a chassis made of conventional materials, improving handling and stability.

Based on previous Monocage knowledge, the fourth iteration has been designed to accommodate both the three seater layout and a hybrid powertrain – the first time this combination has been used by McLaren.

Building the upper structure from carbon fibre means that the A pillars and windscreen surround can be much slimmer, giving the driver better forward visibility on the road.

Exterior – Aerodynamics

Body Shape Overview

Every aspect of the McLaren Speedtail has been considered in order to reduce drag to allow for a maximum top speed. The three main contributors of drag have all been extensively addressed:

- Body size and shape: a tear drop shape has been used for the entire body, creating the smoothest possible initial contact with the air keeping the airflow attached to the car and reducing turbulence at the rear.

- Wheel arch turbulence: static Carbon Fibre Aero Covers are a first for any McLaren car. Used in conjunction with multiple inner and outer ducts, they reduce drag, aid brake cooling and help to create downforce.

- Induced drag: drag is an unwanted side effect of downforce generation, but this has been greatly reduced through the use of dynamic Rear Active Ailerons.

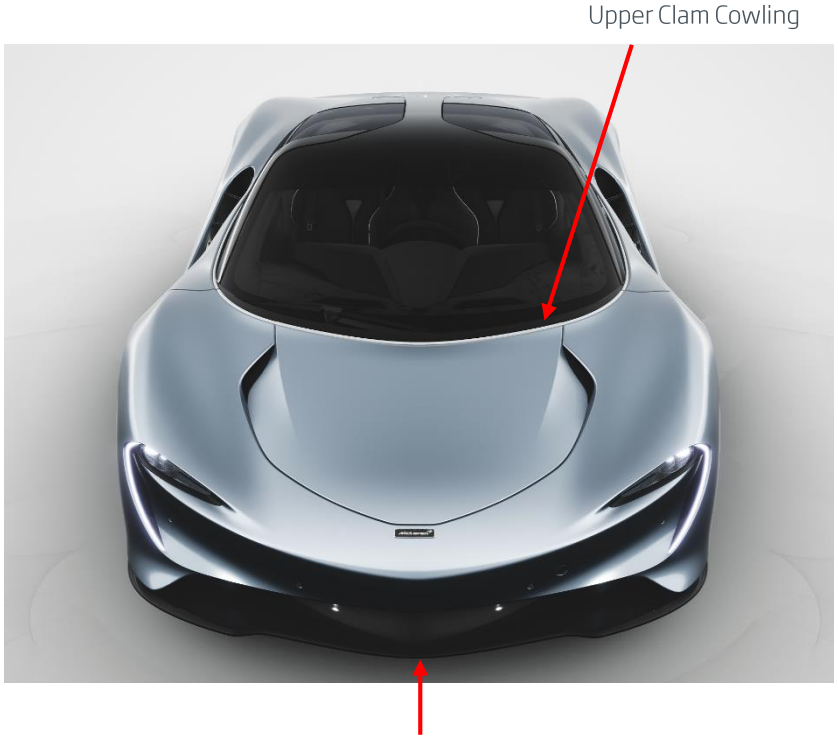
Exterior – Front Aerodynamics

Upper Clam Cowling

The upper clam cowling has been extended upwards towards the windscreen, completely encompassing the wiper and mechanism, maintaining smooth airflow.

Front Splitter

This creates a smooth airflow above and below the vehicle to maximise stability at speed and reduce drag. It also diverts the air either side of the vehicle and into the LTR (Low Temperature Radiator) aiding cooling effectiveness. This contrasts aero elements of the McLaren Senna which have a primary focus of maximising downforce.



Exterior – Front Aerodynamics

Front Headlight Duct

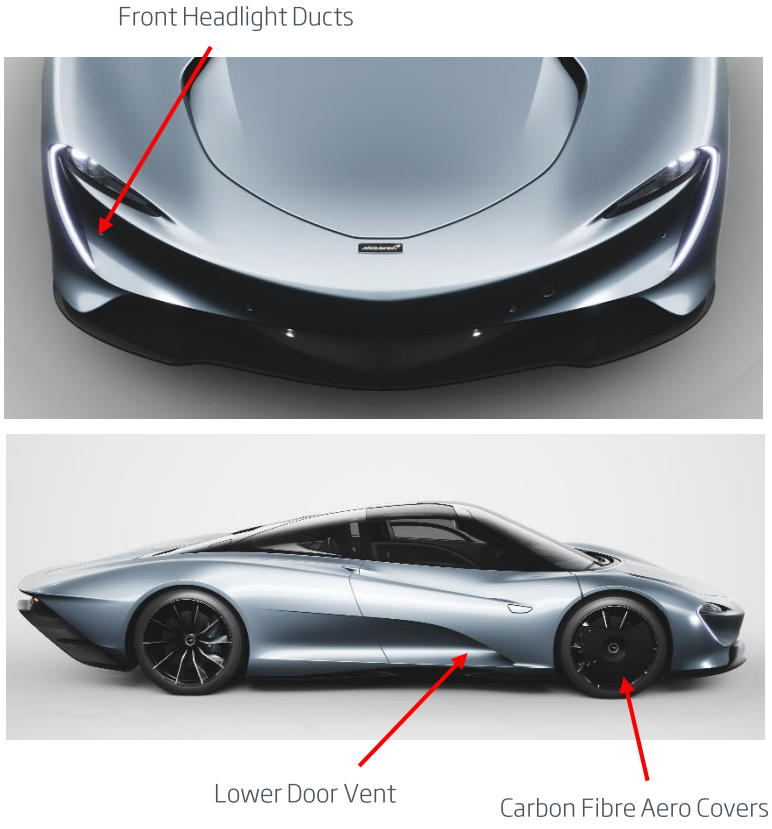
Designed to be as small as possible to keep drag to a minimum, while allowing sufficient air to pass through, and cool, the LTRs. The duct feeds air around the front corner of the car, keeping it attached to the body as it flows onto the Aero Cover.

Static Carbon Fibre Aero Covers

These aero covers significantly improve the smoothing of the airflow around the side of the car. They hold and transport air which has arrived either from the LTR or around the outer front bumper, along the wheel and onto the door blade.

Lower Door Vent

The lower door vent draws and directs the turbulent air, created by the rotating front wheel within the wheel arch, smoothly along the side of the vehicle.



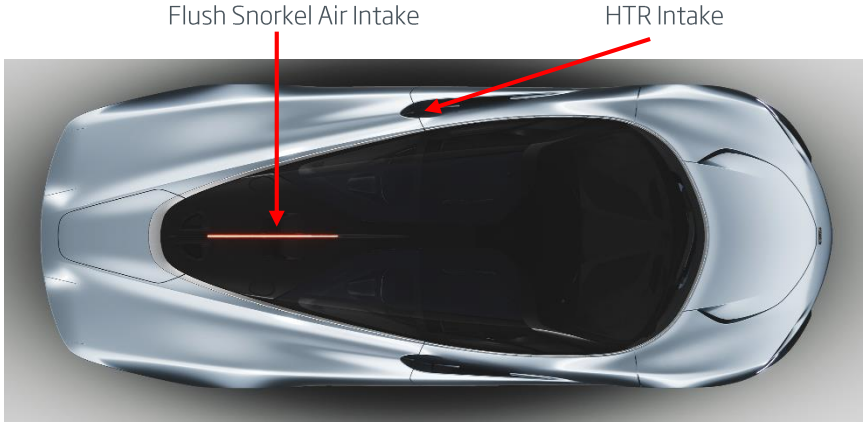
Exterior – Rear Aerodynamics

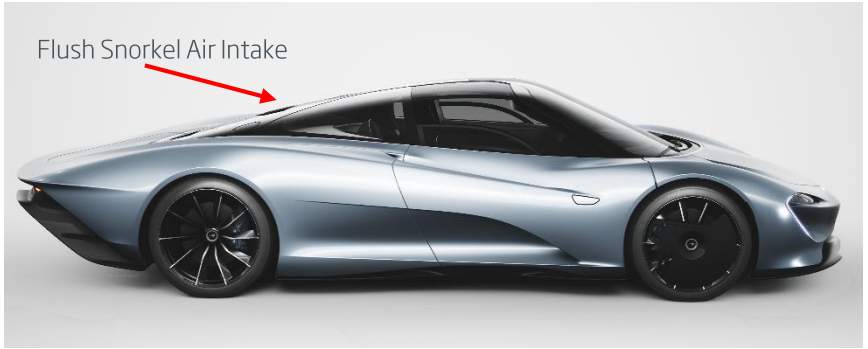
HTR (High Temperature Radiator) Intake

The opening in between the teardrop cabin and the outer door skin has been minimised in width as much as possible. Although smaller in size vs. previous McLaren cars, they still allow sufficient airflow to meet cooling requirements.

Flush Air Intake Snorkel

The air intake snorkel cannot be seen from a side profile of the car as there are no protruding elements to the system. A new design of snorkel was implemented on McLaren Speedtail with the main aim of keeping drag to a minimum. The system features two long, graduated slopes, starting just behind the glass canopy, before being drawn into the airbox. This extended slope is necessary is to ensure the flow of air is maintained downwards. A shorter more aggressive intake would cause the air to separate and pass straight over the top of the intake, starving the engine of oxygen (see page 67 for information on MSO roof scoop).





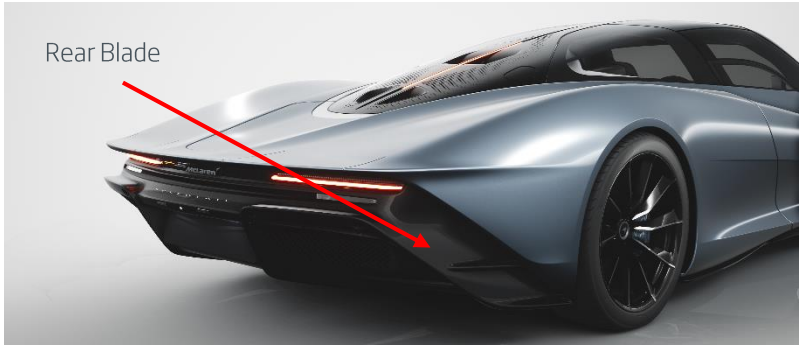
Exterior – Rear Aerodynamics

Rear Blade

The rear blade performs a similar function to that of the lower door vent. Its primary function is to exit the turbulent air created in the rear wheel arch and reintroduce this into the external environment as a smoothly as possible. It reduces drag and minimises the base pressure behind the vehicle.

Rear Diffuser

The rear diffuser is one of the most important aspects to be considered in aerodynamic design. It manages all of the airflow exiting the vehicle from the underside, which has potential to cause huge drag. Mounted directly onto the rear wishbone to start the diffuser earlier, the design reduces base pressure and therefore drag. It does this by merging the airflow from the top and the underside of the car as smoothly as possible. The long rear of the Speedtail allows for this gradual introduction of the two air streams.



Exterior – Active Features

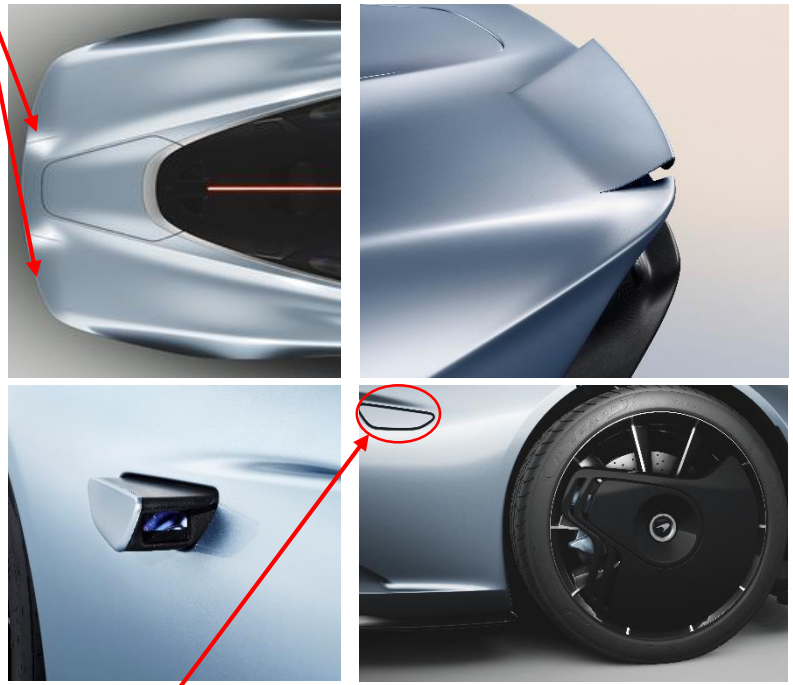
Rear Clam Shell Ailerons

The integrated pair of rear ailerons have been engineered to stow within the rear body, with no protruding elements at all. This means no additional induced drag is created when downforce is not required. The ailerons are active through a range of positions and constantly adjust to provide the optimal aerodynamic balance, improving braking or increasing traction as required.

Digital Rear Camera View System

As a significant contributor to drag the design team sought out a solution to remove traditional wing mirrors from the car. This has been achieved using a pioneering digital system utilising 2 x HD cameras and 2 x HD displays mounted on the facia. The cameras offer a clear view of the road behind with a wider field of vision than more traditional optical mirrors. The cameras come out when the car is unlocked and retract when the car is locked, making them flush with the bodywork while parked (similar to folding side mirrors). There is a setting that the customer can change which will leave the cameras out even when parked.

Rear Clam Shell Ailerons



Digital Rear View Camera System

Exterior – Cooling

Description

The cooling system features six radiators; two HTRs mounted behind each door while the two LTRs are positioned at the front of the car in front of the wheels. There are two MTRs (Medium Temperature Radiator) positioned behind the rear wheel arch liners and used to cool the clutch and hybrid Energy Storage System (ESS).

The design and engineering teams faced a huge challenge when designing Speedtail's cooling system. A significant level of cooling is required by the hybrid system due to the high power and torque it can provide. In addition to this, the high vehicle speeds Speedtail is capable of require additional clutch cooling. All of this needed to be balanced with the desire to make Speedtail the most drag efficient car McLaren has ever produced.

The two LTRs are in a common location to previous Sports and Super series models. This is unlike previous ultimate series vehicles such as the McLaren Senna which feature a central LTR. The position allows a valuable luggage space at the front of the car, a pre-requisite for a Hyper GT. HTRs are located in front of the rear wheels. These are fed by air channeled down the side of the doors. The air then exits via the top of the rear deck. The gurney on the rear bodywork creates an area of low pressure at the HTR exits, drawing hot air out from the HTRs and the engine bay, increasing the efficiency of the radiators, and ensuring the cooling requirements of the car can be met.

The HTRs are responsible for cooling the engine, turbochargers, engine oil cooler, transmission oil cooler and heater unit.

Exterior – Wheels

Lightweight 10-spoke Forged Alloy Wheels

The 20" Front 10-spoke forged alloy wheel with static Carbon Fibre Aero Cover is designed to minimise drag and smooth airflow around the car, improving top speed, efficiency and highspeed stability. Customers can opt to remove the Carbon Fibre Aero Cover as a no cost option.

The rear wheels are larger in diameter at 21". All the wheels are designed to be as light as possible. Constructed using a high grade alloy and a manufacturing process that allows the rim to be very thin whilst maintaining its strength. This reduces weight and importantly unsprung mass. All wheels are affixed using 5 Titanium Wheel Bolts.

The wheels are finished in a Gloss Black Diamond Cut (see right). MSO bespoke wheel finishes are available at varying costs.

Carbon Fibre Aero Cover

Gloss Black Diamond Cut

Powertrain – Engine

Description

M840TQ 4.0-litre (3,994 cc) twin-turbocharged V8 with 757 PS (557 kW) and 800 Nm (590 lb ft) of torque.

Customer Benefits

The new McLaren M840TQ is based upon the highly successful M838TQ that was installed in the McLaren P1™, from the M840T (used in the 720S). Both power and torque are increased whilst still allowing seamless integration of the upgraded hybrid system. These ICE changes as well as the hybrid system changes combine to produce the most powerful powertrain ever fitted to a McLaren road car.

The improved features over the M838TQ include a new light weight air intake system, improved head cooling, revised piston design and larger capacity (3.8 > 4.0 Litres).

To bring a more refined feel to the powertrain in keeping with the GT nature of Speedtail, the turbo charger now features an electronically controlled dump valve.

The fuel injection system remains unchanged from the McLaren P1™ but as with the 720s and the McLaren Senna, the high power output of the M840TQ means that a large amount of engine cooling is required. The cylinder head water jackets and water channels keep the engine at the optimum operating temperature as well as contributing significantly to the power output of the engine.

Powertrain – Hybrid

High Voltage Energy Storage System

The high voltage battery is a new implementation within McLaren. The Speedtail High Voltage battery uses a High Power cylindrical cell arranged in a unique array to provide the voltage and power required. The extremely compact battery pack of 1.647 kWh delivers the best power/weight ratio of any High Voltage battery available on the market today. This provides a power density of 5.2kW/kg, 4 times that offered by a McLaren P1™. The electrical output is 270 kW.

The cylindrical cells themselves, at the heart of the module design, are class leading in their electrochemical performance, and enable the extreme power to weight ratio of the modules and pack. The architecture of the module and the capability of the cells to work at high temperatures mean that the amount of cooling required to deliver the performance to be less than conventional battery pack, thereby reducing weight. The ESS (Energy Storage System) is dielectrically cooled meaning the cells are permanently immersed in a lightweight, electrically insulative oil which allows them to be cooled directly, the first of its kind in a production road car. This means more heat can be extracted and the cells can run harder and for longer.

E Motor

The Speedtail electric motor delivers over 230 kW of power to the hybrid system. Combined with extreme light-weighting, the electric motor has the highest performance installation (including cooling and integration) of any electric motor currently in use on road vehicles, delivering around 9kW/kg (the current average sports car power density is 3-5kW/kg).

Charging

The batteries are being constantly self-charged when the vehicle is in use, there is no 'plug-in' charging element to the Speedtail's battery. However the Speedtail will be provided with (and additional units can be purchased by customers if they desire) a wireless charging pad.

The wireless charging pad has been designed to maintain the Speedtail's battery status when not being driven. See page 86 for more details on the Wireless Charger.

Powertrain – Fuel System

McLaren Speedtail's fuel delivery system is a carry over from the McLaren Senna, an uprated version of the system used on the 720S and a significant jump in technology from the system used on the McLaren P1™. 3 brushed motor fuel pumps were used on the McLaren P1™, whereas, even with an increase in fuel demand, only two are now required on Speedtail due to the brushless motor technology.

The multiple pump system functions in a master-slave relationship. This allows the 'master' pump to provide the majority of the fuel flow while the 'slave' pump tops up the flow when demand is higher.

This configuration uses much less power than a single larger pump running at high rpm, and also uses less power than both pumps running in parallel at equal rpm. This increase in efficiency also improves evaporative emissions by generating less heat within the fuel tank.

The other benefit of a multiple pump system is that it allows some redundancy in the case of failure. If one pump were to fail, the other can supply sufficient fuel to the engine to safely continue driving the vehicle.

Powertrain – Gearbox

Description

McLaren Speedtail is fitted with a 7-speed Seamless Shift Gearbox (SSG) providing quick and smooth gear changes and either manual or automatic settings.

Customer Benefits

The 7-speed SSG gearbox blends the superfast gear changes required to achieve the staggering acceleration Speedtail is capable of with the smooth changes expected of a hyper GT vehicle. It features twin clutches that preselect the next gear before it is required, providing a near instant response. Clutch control is also extremely refined, making pulling away and manoeuvring easy.

A new and improved clutch design allows for Speedtail to deliver the full powertrain performance of 1150Nm. This allows both incredible overtaking performance but also breath-taking and world class standing start acceleration from 0-300 km/h and beyond.

The gearbox can be left in automatic mode or changed to manual mode. When in manual mode, the driver determines when to change gear using the steering wheel-mounted paddles, with the gearbox only overriding under certain circumstances:

- The gearbox will not change down if doing so would over rev the engine, causing damage.
- The gearbox will change down automatically when the revs are very low to prevent the engine from stalling.

In automatic mode, the car will change gear at the optimal point for efficiency or acceleration, depending on what is required. The driver can still override the gearbox by using the paddles.

The speed and aggressiveness of the gear changes varies depending on which powertrain mode is selected on the Active Dynamics Panel, and are optimised for the different requirements of each mode (see setup powertrains slide for full details).

Powertrain – VMax

VMax

To achieve it's top speed of 403 km/h, the Speedtail powertrain deploys a specific strategy. During a VMax launch the e-motor starts to deploy the battery at 5500rpm in 7th gear. This allows the car to accelerate beyond the maximum speed limit that can be achieved with just the ICE motor (366 km/h).

The battery will take 10-15 seconds to recharge fully by lifting off from VMax. If the brakes are used then the car will need to recharge the battery using the ICE motor. In Velocity mode the battery will never go below 5% State of Charge (SoC). In other modes it will always maintain a minimum of 20% SoC.

Setup – Powertrain Modes

	Non Active	Comfort	Sport	Velocity
Power	Same as Comfort mode	Peak Power 825 PS Peak Torque 800 Nm	Max Power 1070 PS Max Torque 1150 Nm	Please see next page
Stop /Start	Not available	Not available	Not Available	
Gearbox	Same as Comfort mode	The auto mode shift points have been optimized for both city and autobahn driving scenarios. The shift quality is focused to achieved a seamless feeling during the shifts	The auto mode shift points have been optimized for both performance or a mountain road driving scenarios. The shift quality is focused on the achievement of the best performances trough the usage of the Inertia push strategy	
Exhaust	Tuned to transfer natural exhaust noises, throttled depending on modes			
Battery Deployment	Torque infill on shifts and tips in/out	Torque infill on shifts and tips in/out	Torque infill on shifts and tips in/out Full deployment at full load	

Setup – Velocity Mode

Steering		Changed to maintain and optimise the steering feel for the high speed velocity straight line
ESC / TCS (VDC Inactive)	ESC On	OFF – ESP is OFF as soon the Velocity Mode is activated
	ESC Dynamic	OFF – ESP is OFF as soon the Velocity Mode is activated
	ESC Off	No change
VDC Active (TCS Only)		OFF – VDC is OFF as soon the Velocity Mode is activated
Roll Stiffness		Highest roll stiffness, higher than Sport mode
Adaptive Damping		Damping optimised for high speed velocity straight line running
K Dampers		Increased heave stiffness to improve body control and compensate the lower ride height
Ride Height		Reduced by an average 22mm Front and Rear at 0km/h
Active Aero		Active rear wing tuned for optimal high speed vehicle stability
Powertrain	Power	Specific powertrain power deployment to preserve energy for high velocity run (Max Power 1070 PS Max Torque 1150 Nm)
	Gearbox	Specific shift points to optimize the high velocity run

Setup – Control Panels

Roof Control Panel

This control panel is located in the centre of the car in the roof, and further adds to the unique feeling that drivers experience when sat in McLaren Speedtail. The panel includes the engine start button, door releases, window switches, central locking button and Velocity mode button (see below). Located centrally in descending order is the Drive, Neutral and Reverse buttons (DNR). Finally the driver also selects the powertrain and chassis settings here: Comfort or Sport.

Velocity Mode

Activated using the button in the roof control panel, Velocity mode allows the driver to further adjust the handling settings and reduce the ride height to provide the ultimate setup for high speed driving. The handbrake must be on to allow Velocity mode to be selected.

Velocity mode can be activated when the powertrain and chassis settings are active and in any of the modes (Comfort / Sport). Sport and Velocity modes both deliver the full 1150nm of torque (800nm in Comfort mode) and in Velocity Mode the ride height is lowered.

Chassis – Brakes

Description

The braking system consists of racing-developed CCM-R Carbon Ceramic discs with 6-piston forged monobloc aluminium front calipers and 4-piston forged aluminium rear calipers. The brake calipers are finished in a choice of five colours with a printed McLaren logo as standard.

Customer Benefits

The braking system is based on the same set up as seen on the McLaren Senna. The car is fitted with CCM-R brake discs, originally developed for racing. This system is necessary in order to slow and stop McLaren Speedtail from its 250 mph top speed in a controlled and measured manner. Each front disc measures 390 mm x 34 mm and takes seven months to create – seven times longer than a conventional carbon ceramic disc.

The cooling vanes are machined into each disc rather than conventionally moulded, allowing control of the vane design for the maximum amount of cooling.

The CCM-R discs have four times the thermal conductivity and are 60% stronger than the CCM discs fitted to the 720S, offering three key benefits:

1. Throughout prolonged heavy usage, the CCM-R discs are around 150 degrees cooler than conventional CCM discs.
2. Smaller front brake discs can be fitted to the car compared to conventional CCM discs, reducing unsprung mass.
3. The discs require less cooling, allowing the front wheels to feature the incorporated Aero Cover and reducing ducting hardware. This further improves aerodynamic efficiency and saves weight.

McLaren Speedtail also features the same brake boosting system as fitted to the McLaren P1™ GTR. This system helps to improve braking feel at low speeds and when the brakes are still cold, as well as ensuring the car has a very linear braking feel – the harder the brake pedal is pushed, the stronger the stopping force.

Chassis – Brakes

Customer Benefits

McLaren Speedtail is fitted with Monobloc front brake calipers, meaning that the caliper is forged then machined from a single piece of aluminum rather than being made up of two separate forged parts bolted together.

The benefits of monobloc calipers are that they are stronger, stiffer, can operate at a higher temperature and are lighter than conventional 2 piece calipers. The monobloc calipers offer the best stiffness to weight ratio inline with the McLaren Senna.

The calipers have been designed with the same philosophy as a Formula 1 brake caliper: the harder the car is braking, the more efficient the caliper becomes. Most calipers are made to sit squarely on the disc when stationary, and then twist slightly under braking, becoming less effective.

Speedtail calipers are designed to work the other way around. When under heavy braking, the calipers twist and become square, meaning that they are at their most efficient when the demands placed upon them are the greatest.

The front calipers feature six ventilated front pistons allowing even better cooling. The front pistons are installed into the calipers at an angle. This means that when the brakes are pressed and the caliper flexes, the pistons are pushing squarely onto the caliper, ensuring maximum braking efficiency.

Options

The brake calipers are available in five different colours: Black, McLaren Orange, Red, Azura Blue and Liquid Silver.

Chassis – Tyres

Description

McLaren and tyre partner Pirelli have worked closely together to create a bespoke P Zero™ tyre that is specifically designed to meet the requirements of McLaren Speedtail.

Pirelli P Zero™ Tyres

The P Zero™ tyre provides the optimum balance of handling, performance, grip and comfort for use in a wide range of road conditions.

The unique sidewall design can accommodate the forces involved of taking McLaren Speedtail up to 403 km/h. The Pirelli P Zero™ also places focus on road usage where there is a high probability of mixed dry and wet driving conditions or where the tyre temperature is likely to remain low.

Chassis – Steering

Description

An electro-hydraulic steering rack maximises feel compared to a fully electric system.

Customer Benefits

McLaren Speedtail's steering rack has been designed with refinement, feel and stability at speed as the key parameters. Electro-Hydraulic power steering is utilised throughout the McLaren range, ensuring a natural feel that can not be replicated with a fully electric setup.

The steering rack technology has been developed based on the McLaren Senna's system. However the rack design has undergone large recalibration to cater for the central driving position.

Suspension – Velocity Active Chassis Control

Description

Velocity Active Chassis Control (VCC) provides an incredible level of balance and vehicle body control whilst simultaneously offering extremely high levels of ride comfort.

Customer Benefits

Velocity Active Chassis Control is an adaptation of the Race Active Chassis Control II system used within McLaren Senna, in turn an evolution of the Race Active Chassis Control (RCC) seen within the McLaren P1™.

VCC makes a leap forward over RCC I used on the McLaren P1™ through the use of constant vehicle dynamics monitoring as well as monitoring driver inputs. The adaptive dampers are interconnected hydraulically, both left to right and front to back, with two valves per damper to independently adjust for compression and rebound.

The information is then analysed and reacted to in a mere 2 milliseconds by an incredibly advanced algorithm developed as part of a PHD at the University of Cambridge.

This helps VCC create the perfect damping response, meaning a suitable reaction is defined and implemented before the body is affected by the road surface, rather than afterwards. Crucially for the driver, the only sensation is an instantaneous dynamic response to their inputs.

This incredibly advanced system ensures that all four tyres maintain contact with the ground for more of the time as well as providing fantastic body control. This significantly increases grip, delivering incredible vehicle control that simply would not be achievable without it.

VCC is distinguished from the ProActive Chassis Control II system used on the 720S by the addition of the K damper system (see next slide for details).

Suspension – K Dampers

Description

The K damper system on McLaren Speedtail replaces the mechanical coil springs with a hydraulic system, providing VelocityActive Chassis Control with an additional degree of suspension freedom.

Customer Benefits

The K damper system was introduced on the McLaren P1™, and has been re-engineered for the different demands placed on it by McLaren Speedtail. The car features four K dampers; two at the front of the car and two at the rear. The K dampers are hydraulically connected left to right.

Replacing the mechanical system with K dampers to control heave and pitch provides many benefits:

1. The ride height of the vehicle can be easily changed, allowing the provision of Velocity mode on McLaren Speedtail, which gives huge drag reduction improvements.
2. The stiffness of the hydraulic system can be changed between handling modes, something not possible with mechanical springs. This means that when the car is in Velocity mode, it can be stiffened as it is lowered, ensuring the car does not contact the ground.
3. By hydraulically connecting the left and right hand side of the car, the K dampers allow for a stiff front axle but relatively soft individual wheel stiffness. This reduces pitch (the tilting of the car's nose upwards or downwards, under heavy breaking or acceleration for example), and means the car can easily absorb single wheel inputs such as a pot hole or road imperfections.
4. The stiffness of the K dampers is controllable. As the vehicle speed increases so do external forces such as downforce and drag acting on the car. The K damper stiffness can adjust accordingly to ensure consistent and predictable handling behavior.

Interior – Design

Four Interior Designs

As standard, customers have the ability to choose from 4 different interior designs.

Two Brightwork Finishes

- Interior Brightwork - Zircon (sandblasted) - switches, MRM stalks, gearshift paddles & air vents,
- Interior Brightwork - galvanic grey (sandblasted) - switches, MRM stalks, gearshift paddles & Air vents

Interior – Design

1K Carbon Fibre Weave

Standard carbon fibre has a raw and rough weave. All part of its appeal, of course. But for the Speedtail, the vision was a more refined look. One that could be used to show the car's true character and the owner's individual taste. So we redefined carbon fibre and went from our existing production standard of 3,000 fibres per thread to a finer 1,000 fibres per thread. This didn't just save weight, the lighter yarn also gave us the opportunity to introduce a Jacquard weaving process. This creates a brand-new, intricate pattern for Speedtail's visual carbon fibre.

Interwoven Graphics

With Jacquard weaving we can create a wide variety of complex designs. That could mean weaving the vehicle identification number into the very fabric of your car. Something as subtle as a unique pattern for visual carbon fibre components. Or as unmissable as an intricate personal marque behind the central driving seat. Carbon fibre has never been this tailored.

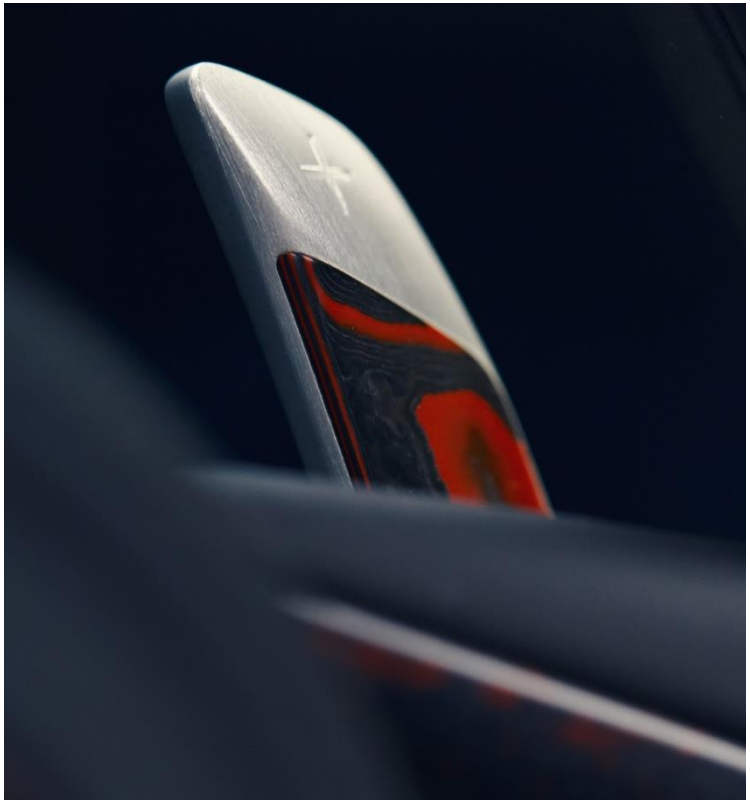
Interwoven Gold

Gold thread is woven into the visual carbon fibre. A delicate and challenging process that relies on the utmost skill. And attention to detail. Flawlessly consistent diameter of the thread must be maintained. Without breaks. Without variation in shape. Perfection is the only option. And only then is it ready for the Speedtail. A unique enhancement for a remarkable car… courtesy of the most enduring of precious metals.

Interior – Design

Thin-ply Technology Carbon (TPT)

A world-first for the automotive world: thin-ply technology carbon (or TPT for short). This uses many ultra-thin carbon layers – just 30 microns in depth – and positions each at a 45° angle. The surface can then be gently milled to expose a stratified, shimmering construction that resembles flowing water. To bring this material exclusively to the Speedtail, McLaren designers worked with expert Swiss watchmakers Richard Mille. They were the perfect partner. They share our passion for modern technology. For cutting-edge design. And precision engineering. TPT finishes can be integrated into areas of your Speedtail such as the overhead controls, gear paddles and badge. For statement highlights that capture the eye. No other car on the road has carbon fibre like this.



Interior – Leather

The best quality leather begins with the best quality hides. That's why North European cattle are so highly prized. Well-treated, grass-fed and protected in winter, the animals produce unblemished rawhides. Yet only the very finest of even these make the grade for the Speedtail. First-class. Specially selected. Experienced artisans work the rawhides into the finished article. It's a specialist process – comprising traditional liming, splitting and stretching techniques, as well as state-of-theart colouring, vacuum drying and computerized cutting. For the Speedtail, innovative finishes and forms then take these exceptional leathers to a new level.

Lightweight Leather

Speed isn't simply about aerodynamics. Saving weight is just as crucial. But how could McLaren offer a lightweight option for the Speedtail's cockpit leather – while always remaining uniform in depth, and endlessly customisable in colour? This was no ordinary automotive challenge. The answer lay in lateral thinking – creating a leather that is 30% lighter than other premium leather… yet that is exactly the same thickness. The Speedtail's lightweight leather has air infused below the surface during manufacturing. Reducing density. Not dimensions. There is no visual difference. And no loss of durability. In fact, the only loss is weight.

Aniline leather

To create leather this smooth, only the very best raw material will do. For the Speedtail, this meant first-class Scandinavian hides. Unblemished by nicks, scratches or branding. And virtually unaltered. The only addition is colour – the result of a five-week tanning process using vegetable oils. Pure. Natural. Almost impossibly soft to the touch. And like the grain of a tree, unique in character. The final product is the ultimate in rich leather – preserving the individual patina of the hide that only gets better with age.

Nubuck leather

The texture of the finest nubuck is irresistible. Its velvet-like finish is achieved by buffing the outer grain of the hide. This creates a soft, delicately frizzed surface – or nap, to use its official definition. Resulting in a supple leather that has similar characteristics to aniline, yet is stronger and more durable than suede. When contrasted with the smoothness of aniline, the combination is as rich and sophisticated as car interiors come. Bespoke colour development allows the customer to personalize the look of the nubuck.

Interior – Leather

Functional leather

Components such as the steering wheel. Surfaces like the seats or the floor lead to challenges. How could we develop materials that were as innovative in their function as they were in their finish? The team pushed the boundaries of functional surface design. They created a technical embossing that grips when you need it to (holding you in place on a tight turn, for example) yet flows seamlessly when you don't – like when sliding into your seat. Flooring leather has been coated to resist wear while protecting its unique look, feel and finish. And digitally printed, anti-glare gradients on the upper dashboard leather allow the customer to specify their bespoke colour theme to areas that are usually out of bounds.

Painted edge trimming

For the leather trim in the Speedtail, the vision was to transcend the standard approach to automotive interior materials. And to take references from industries that have pushed leather craftsmanship to the highest possible level. The painted edges that finish the Speedtail's interior leathers are testament to this approach. Hand-mixed in any colour the customer chooses. Hand-painted. Hand-polished. Techniques used in the finest of furniture and fashion design. But not details you expect to find in the automotive world. It is this clean, uncompromised aesthetic that is blurring the boundaries between one world and another

Leather quilting

Quilting offers a look and feel to leather that recalls heritage luxury. But as part of the Speedtail, it takes on a new characteristic – inspired by innovation and digital craftmanship. Applied selectively. Functionally. And seamlessly. To blur boundaries was our aim. Areas of quilting transition gracefully between standard leathers and back again. Stitching is kept to a minimum. The material flows. It draws the eye. While computerised template design allows customers to choose from 10 pre-defined patterns to set their quilting apart – in any thread colour.

Interior – Key

Bezel

The Bezel Zircon or Galvanic Grey (brushed) depending on customer preference.

Shell

The Shell is made up of an upper and lower area. The upper shell can be any colour, with SPEEDTAIL showing across the majority of the shell.

Interior – Technology

Parking Assistance

Front & Rear Parking Sensors

The McLaren Speedtail comes as standard with 4 front and 4 rear parking sensors.

Rear View Camera

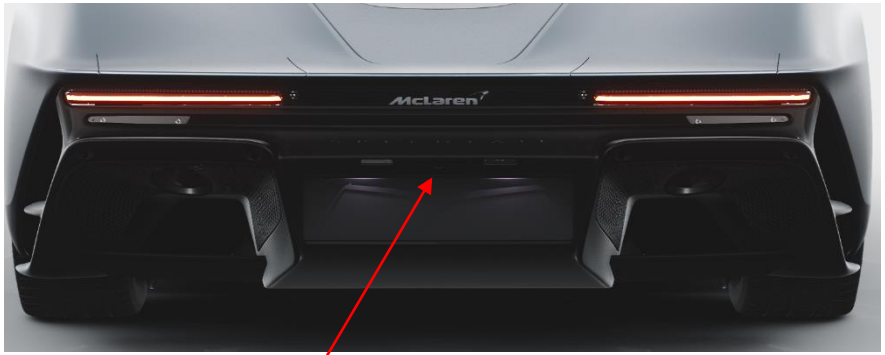
Located in the rear bumper, the rear view camera aides reversing and parking. Digital rear view assist, where the driver can choose to view the image from the rear camera when driving forwards, is also included. This feature is especially useful as the car features no central rear facing mirror.

The rear view camera is standard on Speedtail.

Vehicle Lift

Vehicle lift – operated by a stalk on the steering column – allows the driver to raise the nose and the rear of the car to clear obstacles such as speed humps or sharp gradient changes such as driveways. It uses the same hydraulic system used to lower the car when Race mode is activated.

This is fitted to Speedtail as standard.



Rear View Camera

Interior – Bowers & Wilkins Audio System

Description

McLaren has collaborated with Bowers & Wilkins to create a world-class 12-speaker audio system which has been specially designed for the McLaren Speedtail. This marks the second time a Bowers & Wilkins system has appeared in the McLaren Ultimate Series, following on from the successful system integration into the McLaren Senna.

Customer Benefits

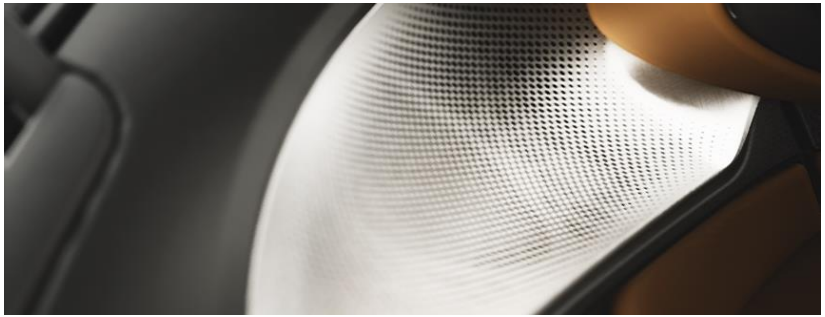
McLaren and Bowers & Wilkins worked closely on the McLaren Speedtail to create a system that seemlessly blends into the unique interior. The system not only needed to look flawless, but also deliver the audio quality expected in a world leading Hyper-GT. The speakers are placed in acoustically beneficial locations and utilise high performance materials. As a result, performance is maximised and sound becomes another key element in the user experience.

The ground-breaking system delivers pure, completely engaging sound through the implementation of key Bowers & Wilkins' acoustic technologies such as double dome tweeters and Continuum™ midrange drivers.

The Bowers & Wilkins audio system comprises of:

- 2x subwoofers, located behind each passenger footplate
- 5x 100 mm Continuum™ mid-range drivers, one in each door, centre of the dashboard and one in each rear quarter
- 5x 25 mm double dome diamond tweeter, one in each door, one in the centre of the dashboard and one in each rear quarter

The performance of an automotive sound system depends far more on the quality of the drive units' design, construction and integration to the structure of the car than it does on the number of speakers. The drive units and speaker cones utilise numerous state-of-the-art technologies and are positioned for optimum acoustics.



Interior – Heating and Ventilation

Single Zone Climate Control

Single zone climate control are installed as standard on the McLaren Speedtail, providing automatic fan speed adjustment.

The system features two face vents that can be opened and closed by twisting a fin either horizontally or vertically. They can also be easily adjusted for direction.

The automatic fan speed adjustment function has two modes: Auto or Auto Lo. Auto Lo uses lower fan speeds to obtain the desired cabin temperature whilst limiting fan noise within the cabin.

Air Conditioning

Full air conditioning – controlled in the same way as single zone climate control.

Interior – Electrochromic Glass

Electrochromic glass puts the customer in control

Speedtail is equipped with electrochromic glass to prevent glare from the sun through the windscreen or to reduce heat build up through the glass roof.

The tint of electrochromic glass is controlled by the amount of voltage applied to the glass. This is controlled through the HMI (see page 78).

The benefit of electrochromic glass is that the customer is in control of the amount of light that comes into the cabin and there is no need for additional sun blinds or visors.

Off

On

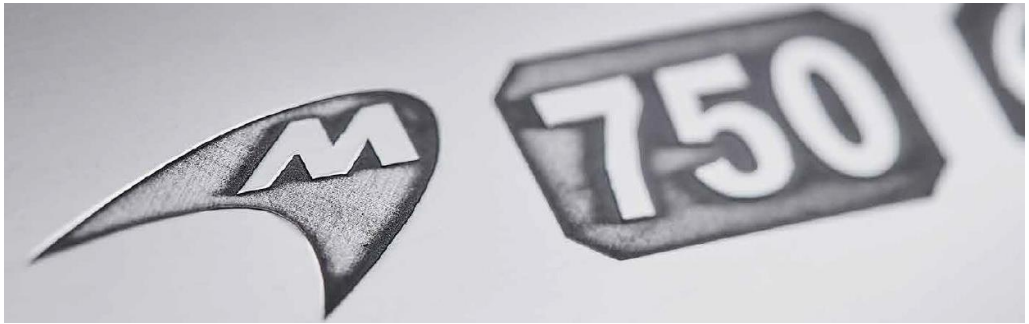
Badges – Precious Metal

Perfection in the detail

When it came to the precious metals on the Speedtail, nothing but perfection would do. Handmade precious metal badging, hall marked and stamped with the distinct McLaren logo. The anchor represents Birmingham where the badge was made. The number represents the purity of the metal and a letter denotes the year of production.

Featuring white metals, the badges are available in aluminium as standard or optionally with platinum or white gold. All are inlaid with TPT and feature on the front and rear of the car.

McLaren front badge in white gold with TPT inlay



MSO Bespoke

MSO (McLaren Special Operations) was established to help customers to realise their dreams. MSO Bespoke sits at the very heart of that mission, offering an almost limitless level of customisation.

With Speedtail, we are offering an almost unlimited level of personalisation to the customer, both interior and exterior.

Bespoke Leather

Roof Scoop

HMI in detail

3 screens centred around the driver

The unique central driving position in Speedtail afforded the designers an opportunity to create a symmetrical HMI enveloping the driver.

The HMI is a development of the McLaren Infotainment System (MIS) first launched in the McLaren GT.

The HMI is made up of 3 screens:

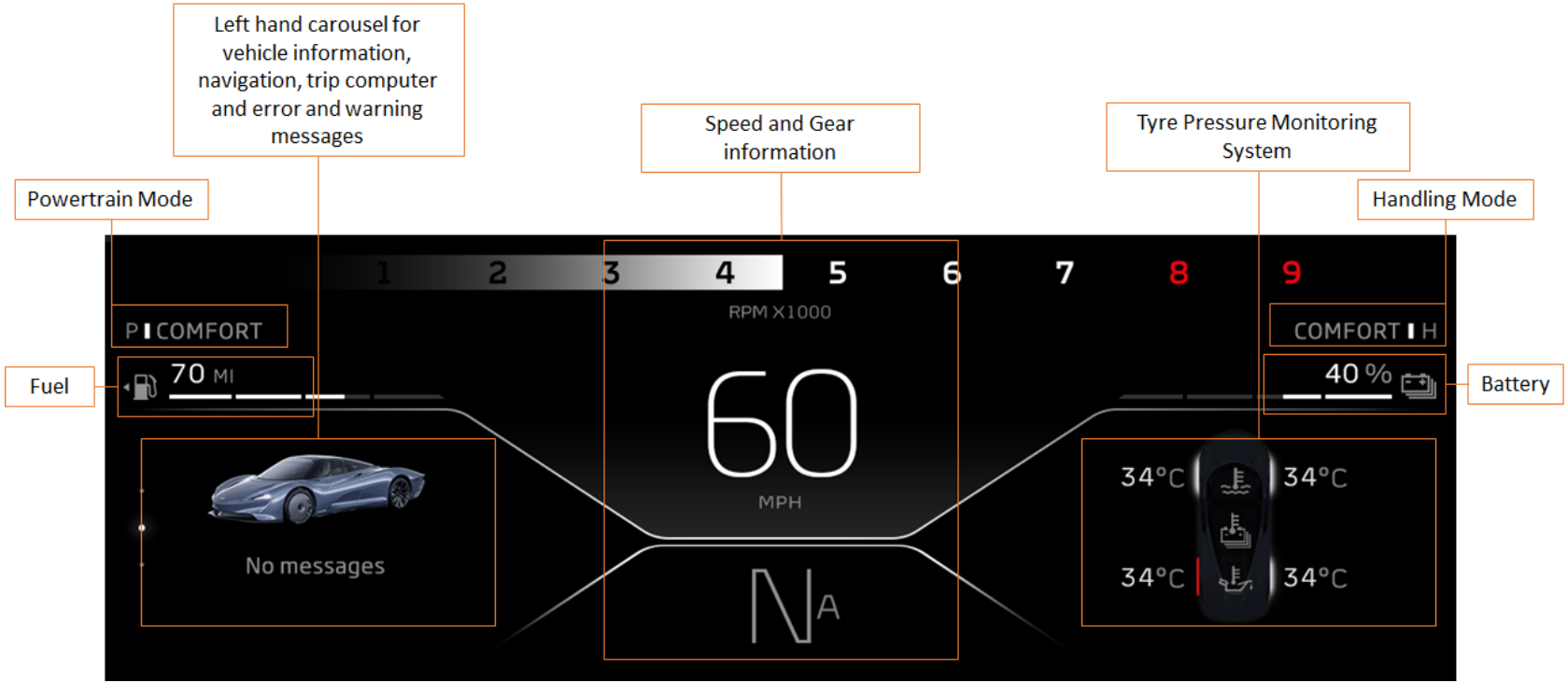
- Left hand screen = interior ambiance & navigation
- Centre screen = main cluster, including vehicle information, speed, tachometer and status
- Right hand screen = media & phone

The two outer screens are touch screens and each has a hard navigation rotary switch.

HMI Overview

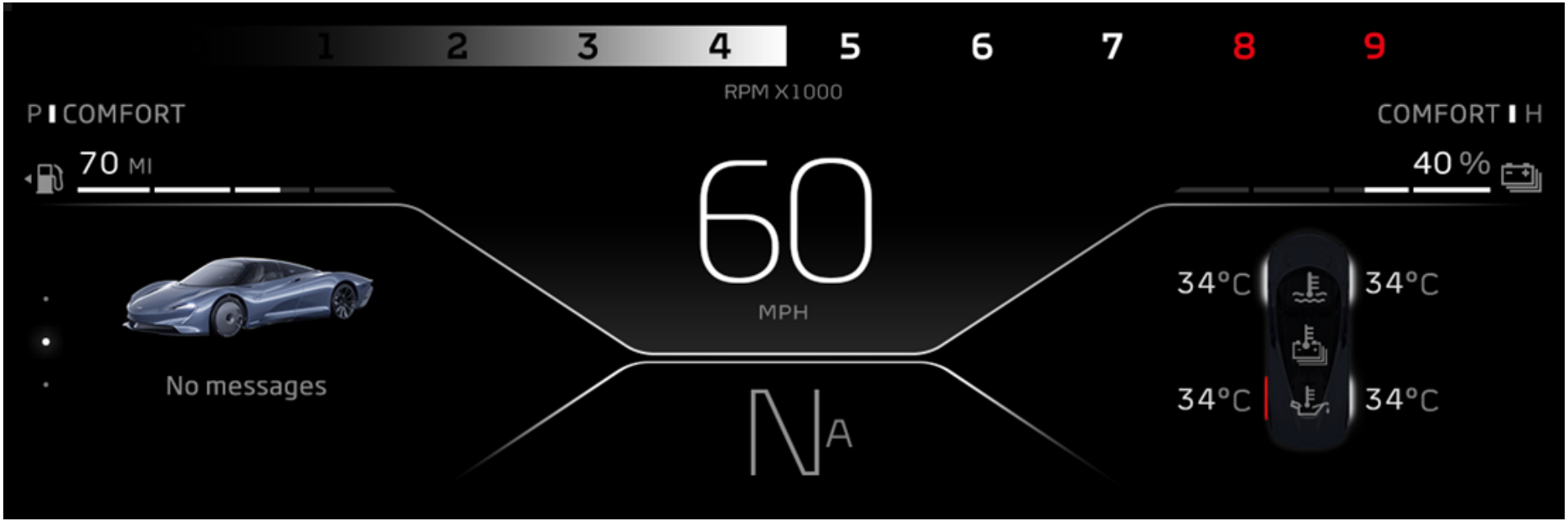
HMI Driver Display Overview

Familiar McLaren 3-column layout, centred around key driving information.



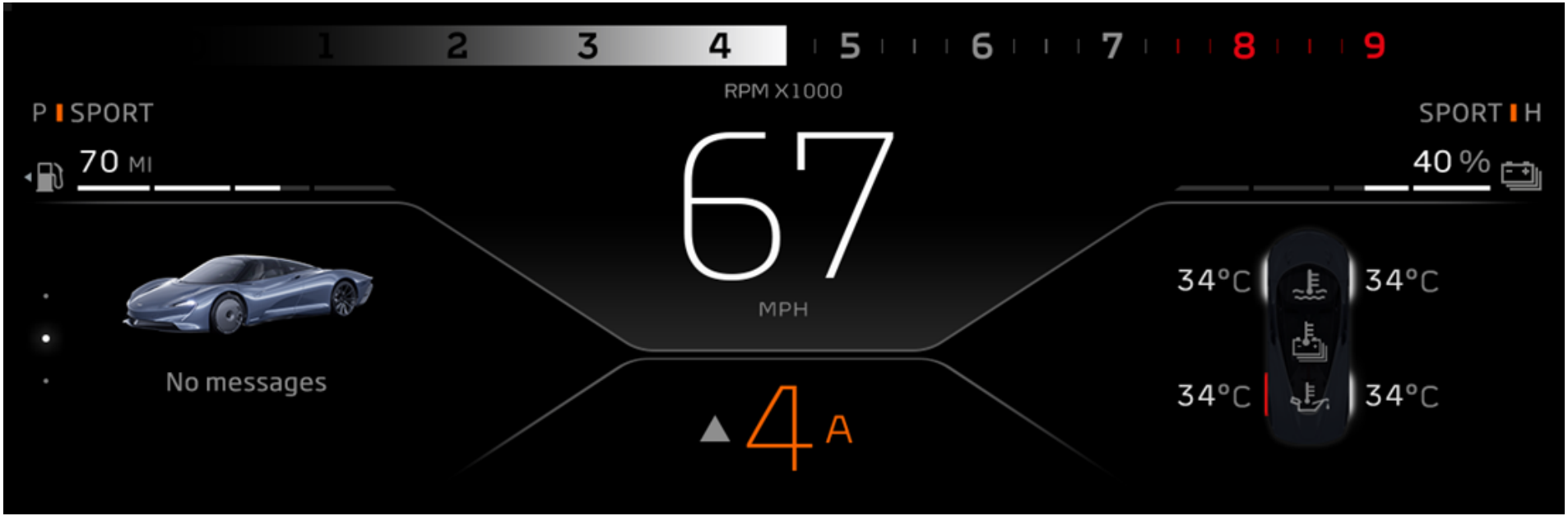
HMI Driver Display Comfort Mode

Ideal for relaxed drives and long journeys.



HMI Driver Display Sport Mode

Ideal for high speed, spirited driving.



HMI Driver Display Velocity Mode

Ideal for a straight-line, high-speed run.

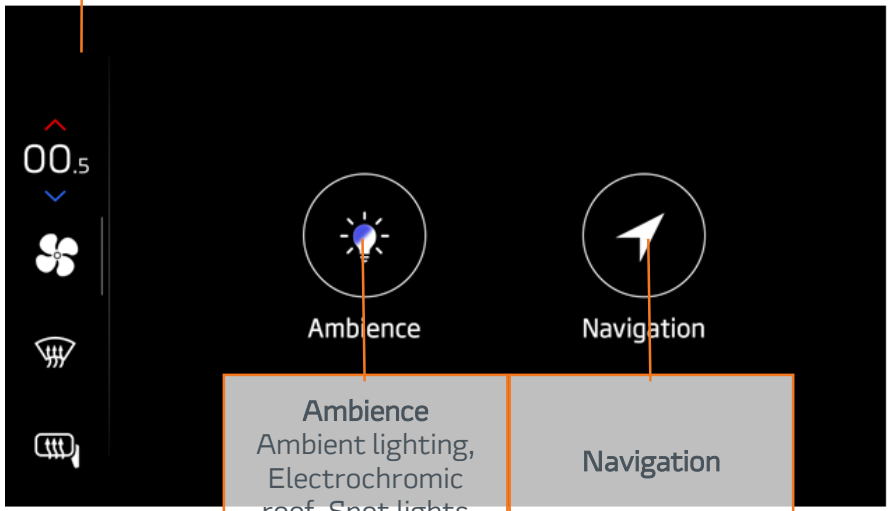
Offers crucial information with minimum distraction.
Blue is used as a calming colour to help the driver remain focussed.
In Manual mode, gear shift lights at the top of the display prompt the driver to shift gear at the optimal time

HMI Driver Display Rear View Camera

HMI Secondary Displays Overview

Left Screen

Left hand status bar
Tap/swipe right to access all Climate Controls



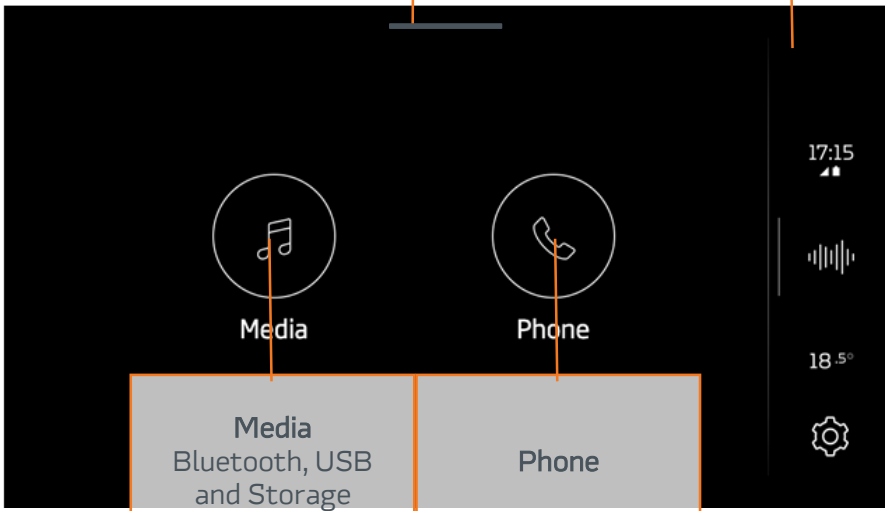
Ambience
Ambient lighting, Electrochromic roof, Spot lights

Navigation

Right Screen

Notifications
Swipe down for Notifications

Right hand status bar
Tap/swipe left to access Audio Controls and Settings



Media
Bluetooth, USB and Storage

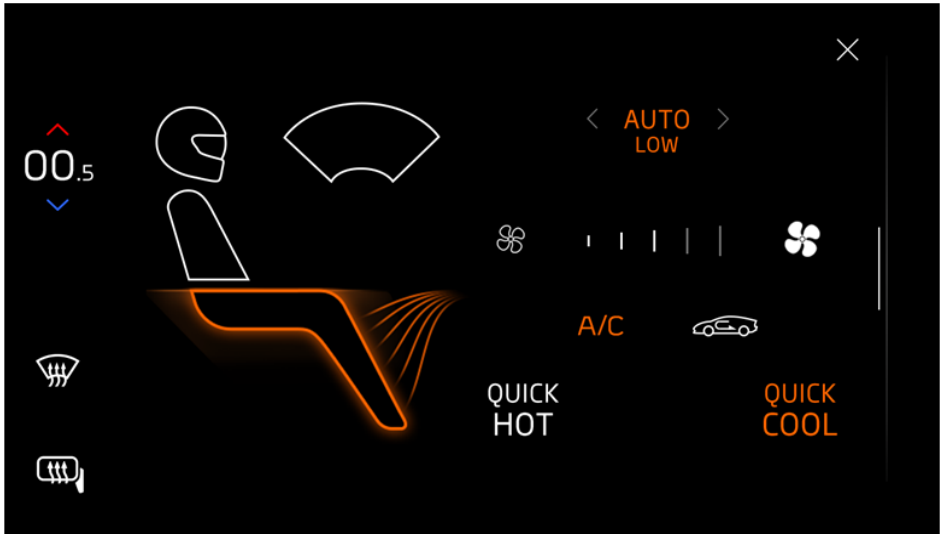
Phone

HMI Secondary Displays : Rotary Switches & Home Button

HMI Left Hand Display : Left hand status bar (Climate control)

Use left status bar to access full HVAC settings by dragging/swiping from left to right

Tap on arrows adjust cabin temperature or use LH rotary



Tap on screen to toggle features on/off

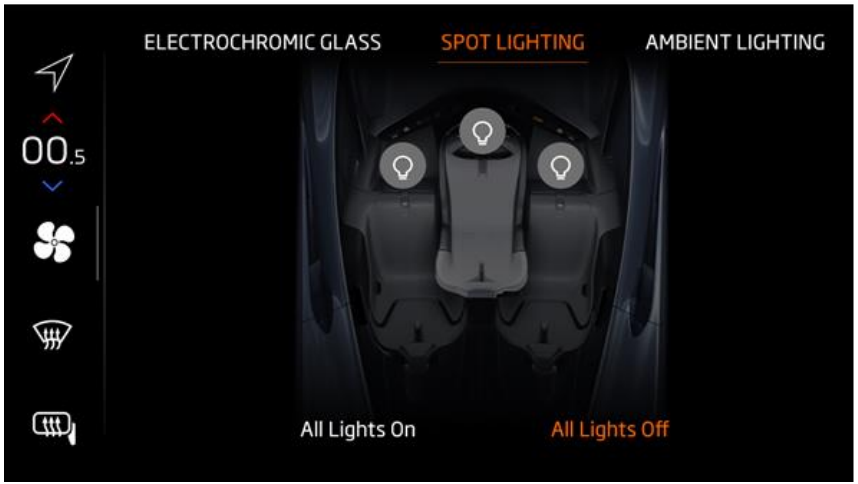
HMI Left Hand Display : Ambience (Elctrochromic Glass)

Tap on sections to make the roof opaque or transparent

Auto toggle, uses sensor for electrochromic glass

HMI Left Hand Display : Ambience (Spot Lighting)

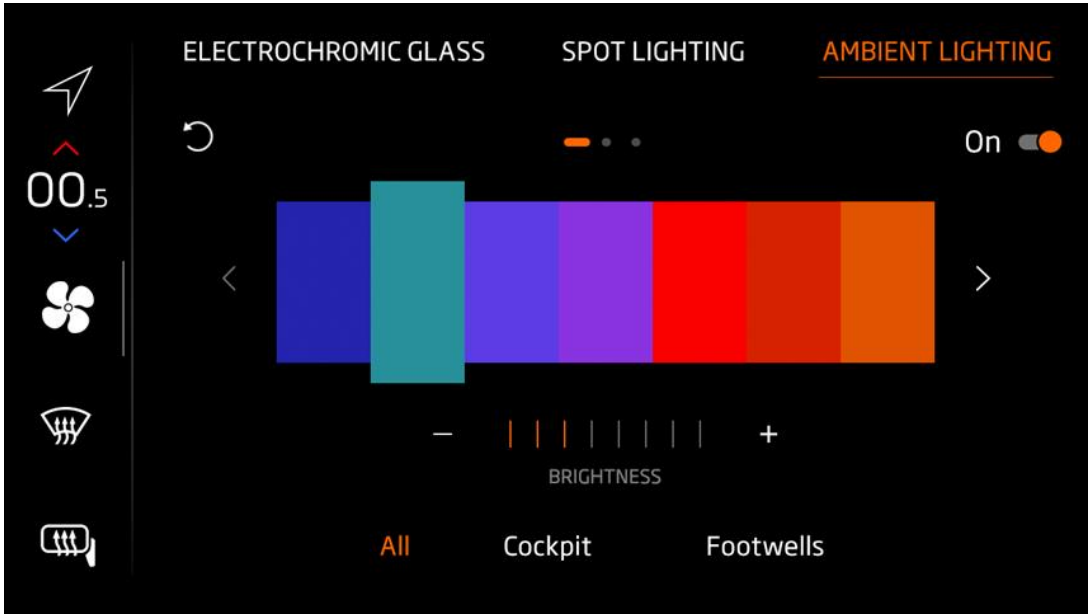
Tap on light bulb icons to turn sport lights on/off



HMI Left Hand Display : Ambience (Ambient Lighting)

20 colours available

Tap to select. Tap to turn on/off cockpit/footwell lighting



HMI Left Hand Display : Navigation

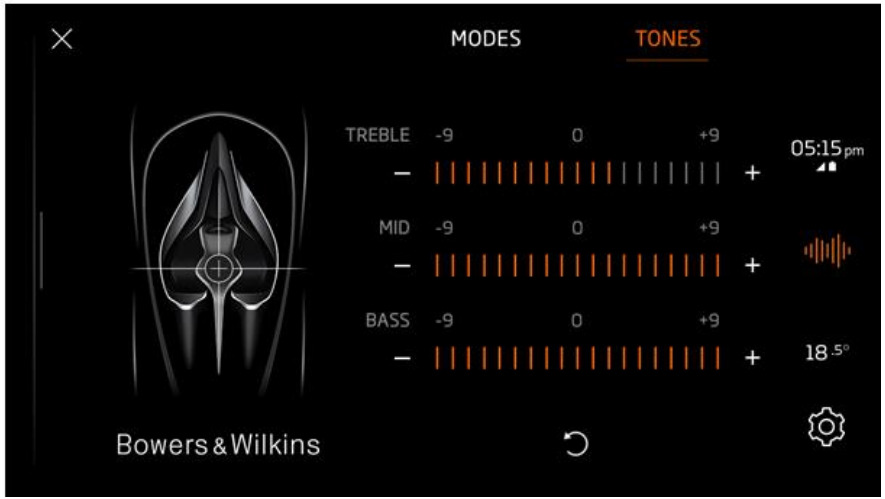
Navigation includes single search, POI search, 3D maps, junction view

Tap traffic icon to connect wi-fi, Tap cursor to toggle GPS speed

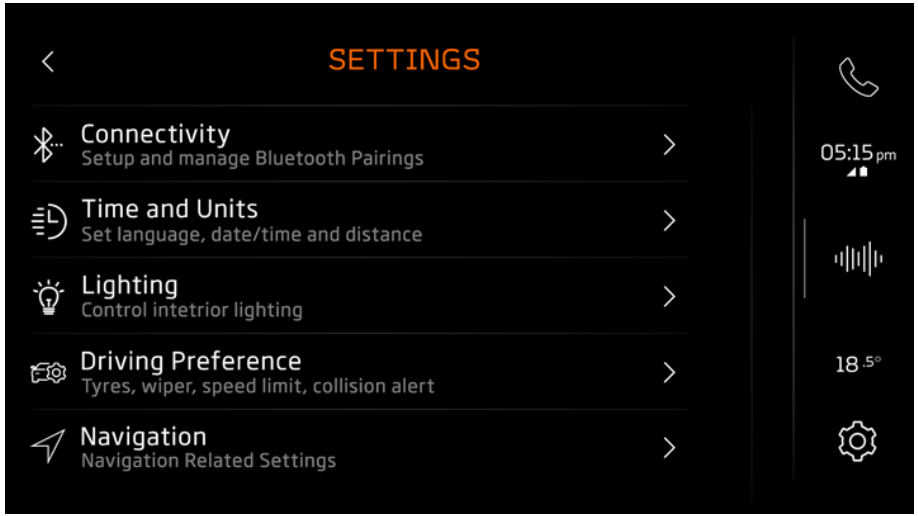
HMI Right Hand Display : Right Hand Status Bar (Audio)

Swipe/tap the right hand status bar to access Audio setup

Control Mode or Balance/Fade and Treble/Mid/Bass or restore to defaults



HMI Right Hand Display : Right Hand Status Bar (Settings)

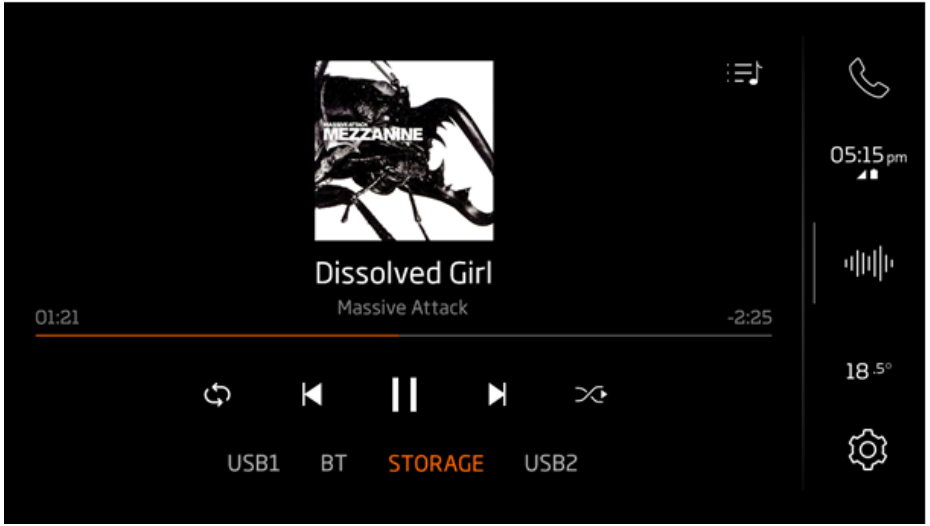


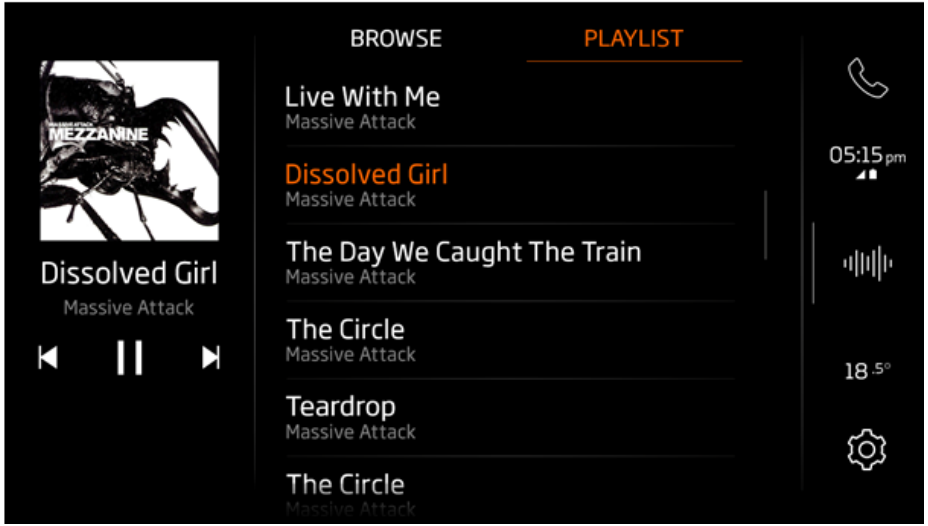
Settings include:

- Connectivity
- Time and Units
- Lighting
- Driving Preference
- Navigation
- Phone
- Media
- Security
- System

HMI Right Hand Display : Media

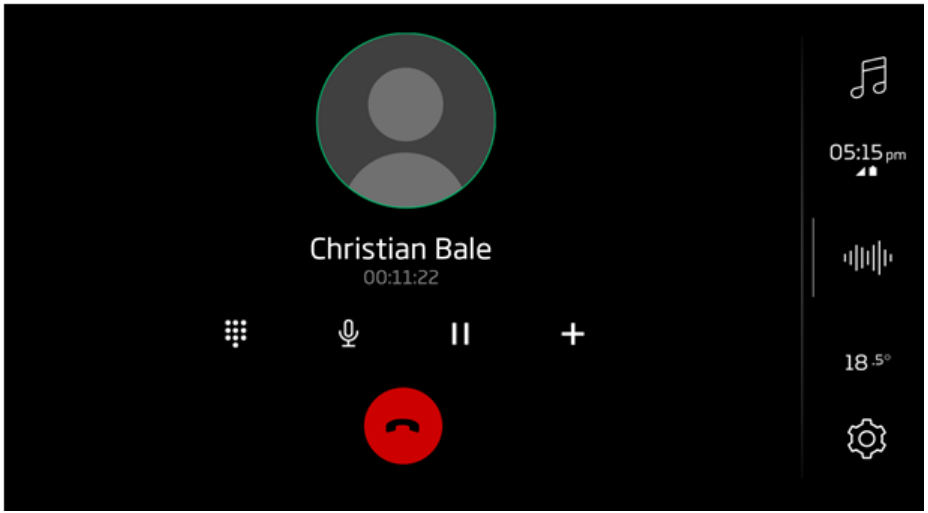
Media includes USB, Bluetooth and Storage
Tap top right icon to access playlist and browse





HMI Right Hand Display : Phone

Tabs provide quick access to recent calls, favourites and contacts.
Pair a device in Settings > Connectivity



Wireless Charger

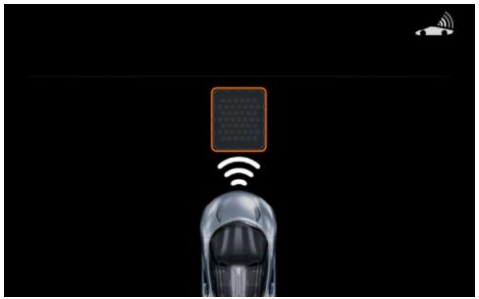
Speedtail is equipped with a standard wireless charger which maintains the battery charge when Speedtail is not being driven. It has been designed to be easy to use but in keeping with McLaren design standards. Each Speedtail will have one wireless charger, the customer can purchase more as an optional extra.

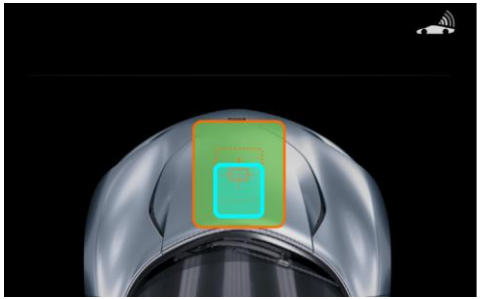
The wireless charger will sync with Speedtail via WiFi. All the functions of the wireless charger are controlled using a tablet that is built into the charger. The tablet will also display if Speedtail is in the correct position over the charger in order for it to function. There are no visual updates within the HMI itself.

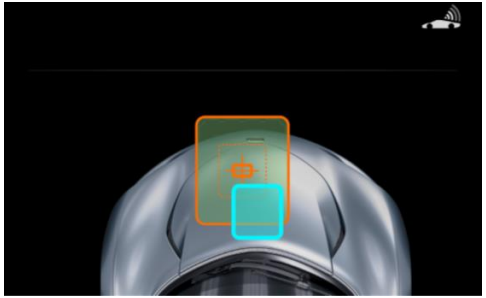
There is an APP that can be used to monitor SoC when Speedtail is connected to the charger. The wireless charger communicates to the APP either through the customer's own WiFi network or through a 3/4g connection using the wireless charger's dedicated SIM card.

When not driving Speedtail for longer periods of time (7 days+), it should be connected to the wireless charger to maintain the HV battery.

Screenshots from tablet



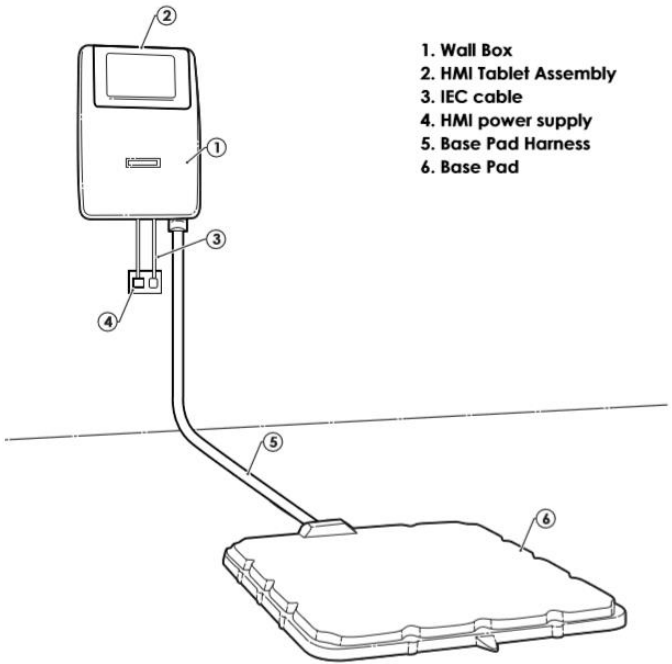




Wireless Charger in detail

How to use the wireless charger

Product Overview & Installation



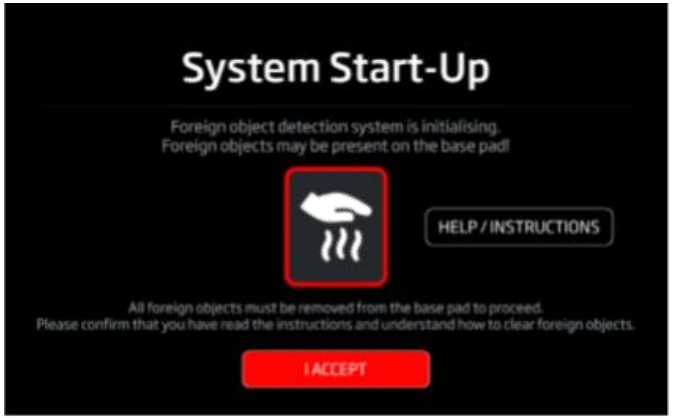
Weight: 51.6kg
Dimensions: 1060mm x 1260mm x 250mm
This includes the wall box, base pad and tablet for operating
Supplier: Lumen Freedom http://lumenfreedom.com/

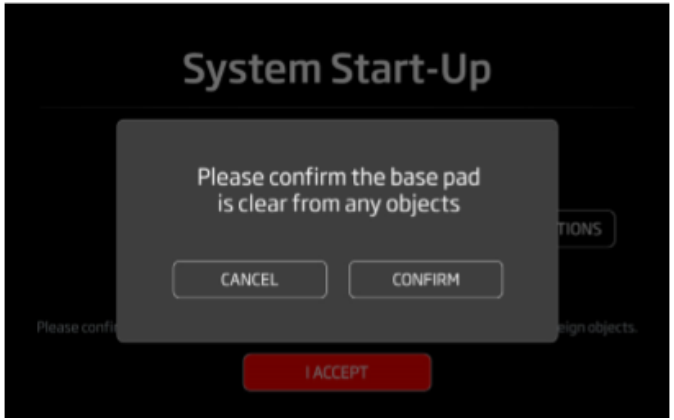
Installation process will be shipped with the charger

- Charger installation is the retailer's responsibility to organise
- To be installed at the customer's location of choice. The customer can nominate an electrician or the retailer can recommend one
- Please ensure the nominated electrician has inspected the location of charger installation (we recommend this is done 4 weeks prior to installation)

Wireless Charger : Set Up

- When the wireless charger initialises for the first time, it will calibrate to the base pad
- In order to calibrate, it requires the base pad to be free from foreign objects
- This step will require human interaction to confirm, then calibration will take place



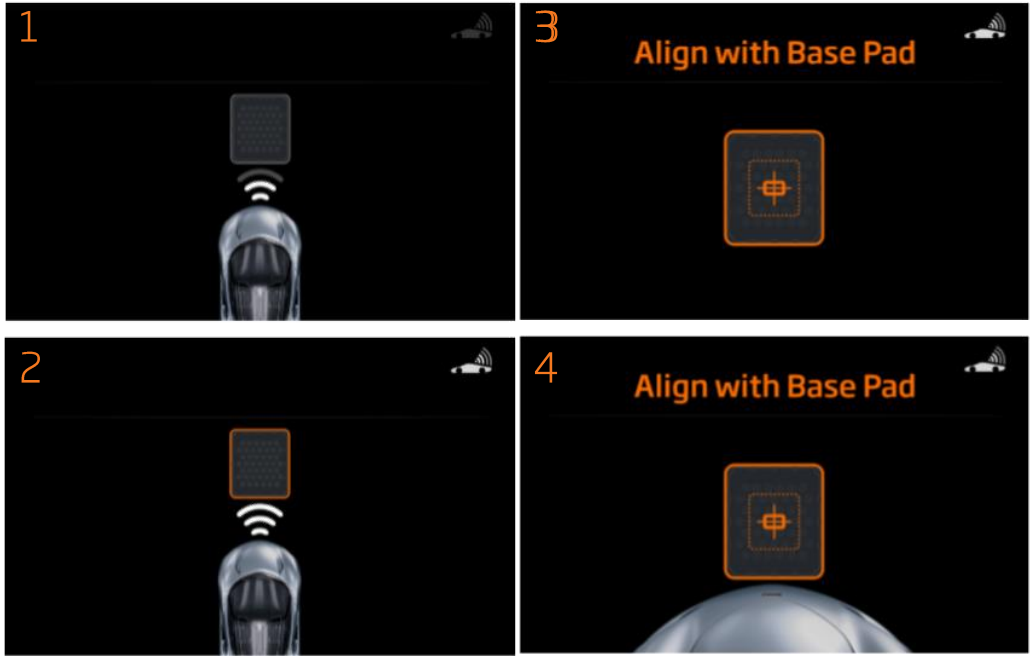


Wireless Charger : Charging

- When the car is not near the charger the system will remain in an idle state
- After a timeout period the screen will display a screensaver, reactivating when touched or if the Speedtail is detected

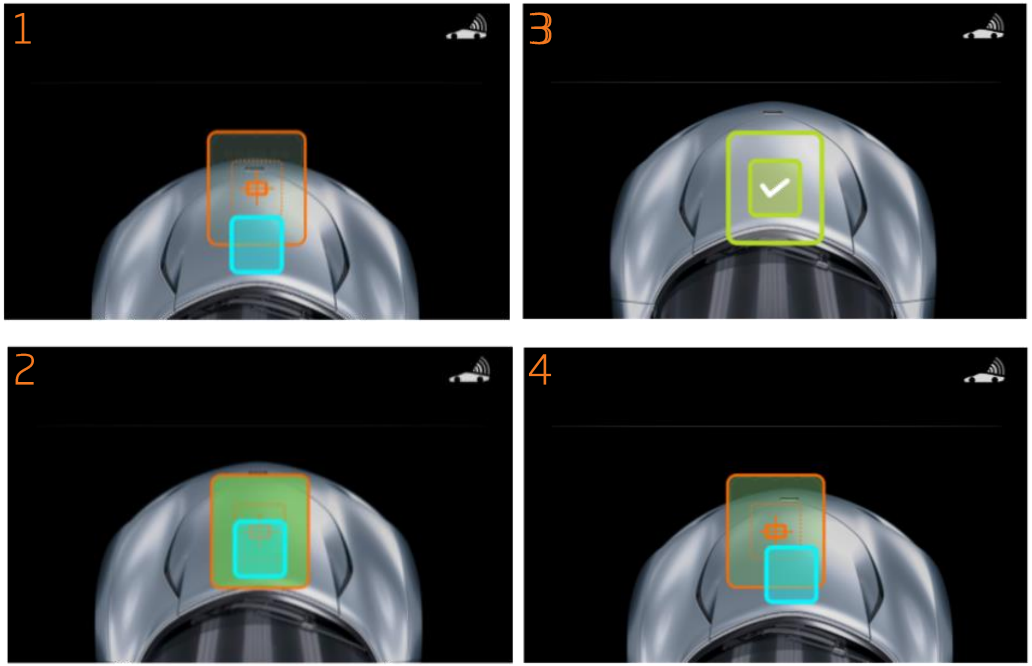
Wireless Charger : Charging

1. When the car is within range of the Wireless Charger, the in-car WiFi will automatically connect to the wall box
2. Once connected, the Connection icon will be highlighted and the WiFi strength is displayed
3. At this point drive over the centre of the pad
4. The car will appear as a silhouette as you move towards the pad



Wireless Charger : Charging

1. As the vehicle charging plate moves over the base pad, its exact position is shown on the screen
2. As partial coupling is achieved the base pad will begin to turn green
3. When sufficient coupling is achieved both rectangles will turn green and a large tick will be displayed
4. This shows an example where the car is not correctly aligned



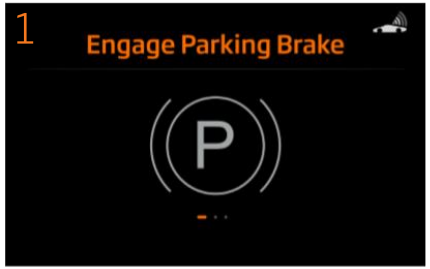
Wireless Charger : Charging

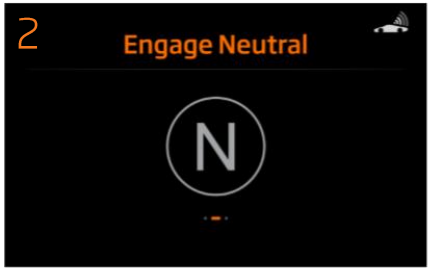
Once the charging pads are aligned, the customer will need to:

1. Engage neutral
2. Engage the parking brake
3. Stop the engine

As each step is completed, the on-screen display will be briefly highlighted in green

Charging will commence when all vehicle systems are shutdown and all openings are closed





Wireless Charger : Charging

1. Ready to charge

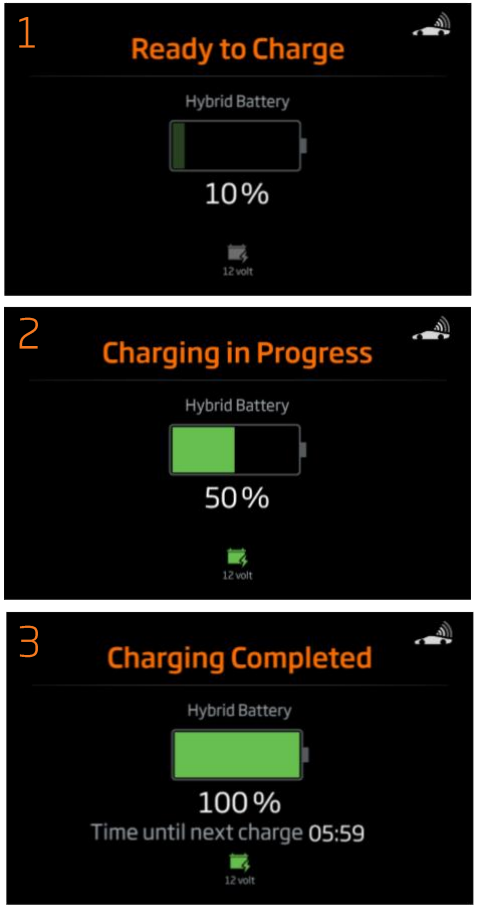
   Once the on-board systems are shutdown, the vehicle is ready to charge. The current level of the High Voltage battery will be displayed along with the charging state of the 12 volt battery

2. Charging in progress

   Shortly after the system is Ready to Charge, the charging cycle will begin. The charging level of the battery will be updated regularly

3. Charging completed

   When charging is complete, a notification will be displayed on-screen. To maintain the SoC, charging cycles will run every 6 hours when the vehicle remains on the charging pad



Wireless Charger : Charging

Whether the battery is fully charged or not, the system will detect when the car drives away from the charging pad

Wireless Charger : App

The McLaren Speedtail application allows you to view the status of your wireless charging system at any time from any location

- The App will need to be linked to the customer's wireless charger
  1. Open the settings screen on the tablet and click link to mobile
  2. Follow the on screen instructions
  3. The easiest way to link the App is to scan the AR code
- Once linked the customer will be able to see the same status information as displayed on the tablet

Technical Specifications

Technical Specifications

		McLaren Speedtail
Maximum Power	PS (BHP) (kW)	1,070 (1,055 (787) @ 7,000 rpm
Maximum Torque	Nm (lb-ft)	1150 (848) @ 5,500-6,500 rpm
0-100 km/h (0-62mph)	seconds	3.0
0-200 km/h (0-124mph)	seconds	6.6
0-300 km/h (0-186mph)	Seconds	13
0-60 mph	seconds	2.9
0-100 mph	seconds	5.1
0-400 metres (1/4 mile)	seconds	9.7
Stopping Distance: 100-0 km/h (62-0 mph)	metres (feet)	32 (105)
Stopping Distance: 200-0 km/h (124-0 mph)	metres (feet)	132 (433)
Stopping Distance: 300-0 km/h (124-0 mph)	metres (feet)	282 (925)
VMax	km/h (mph)	403 km/h (250mph) | electronically limited
DIN Kerb Weight [fluids + 90% fuel]	kgs (lbs)	1,597 (3521)
Curb Weight, USA [fluids + 100% fuel]	kgs (lbs)	1,601 (3530)
Dry Weight	kgs (lbs)	Dry Lightest*: 1,499 (3305)

* With lightweight options added

Technical Specifications

		McLaren Speedtail
CO_2 Emissions, EU : Weighted Combined (WLTP)	g/km	357
Fuel Efficiency, EU: Weighted Combined (WLTP)	litres/100kms (mpg)	15.6 (18.1)
Fuel Efficiency, USA: City	mpg	12
Fuel Efficiency, USA: Highway	mpg	22
Fuel Efficiency, USA: Combined	mpg	15
GHG (Greenhouse Gas Emissions): Combined	g/mi	476
Weight Distribution	% front: % rear	41:59
Vehicle Length	mm	5,137
Vehicle Width, Widest Point	mm	1,970 (without mirrors) 2,032 (with mirrors) 1,970 (mirrors folded)
Vehicle Width, Door Open: single (both)	mm	2,392 (2,813)

Technical Specifications

		McLaren Speedtail
Vehicle Height	mm	1,182
Vehicle Height, Door Open	mm	1,993 (Velocity Mode)
Overhang: Front | Rear	mm	1,079 | 1331
Wheel Base	mm	2,728
Track Front (Contact Patch Centre)	mm	1,683
Track Rear (Contact Patch Centre)	mm	1,627
Ground Clearance (Velocity) [Lift]	mm	85 (50) [115]
Ramp Angle	degrees (with vehicle lift)	(10)
Break Over Angle	degrees	9.43
Departure Angle	degrees	14.66
Wheel Sizes	inches	20 x 8.5 J Front 21 x 11.0 J Rear
Tyre Sizes	inches	235 / 35 / R20 Front 315 / 30 / R21 Rear
Turning Circle	Metres	13.21