A new McLaren arrives

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(Photo by Chris Adamson).

First view of the McLaren Artura…

…By Chris Adamson.

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Hybrid hypercar pioneers McLaren first wowed the motoring world with the 2012 debut of the P1, now, almost a decade later, they are set to go hybrid mainstream – well, if you can call a car that costs over £180,000 mainstream that is.

Welcome to the Artura, a high performance supercar that combines a 3 litre twin-turbocharged V6 petrol combustion engine with a compact Axial Flux electric motor.

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McLaren is pushing the environmental credentials of the Artura with statistics such as zero emissions on electric only running up to 30 kilometres (about 19 miles), 81 mph in electric mode only, an overall emissions rating of 129 g/km and a combined fuel economy listed at 50 mpg.

The last two figures are very impressive for a car that has access to almost 700 bhp and can pound the tarmac at speeds in excess of 200 mph.

If you think this makes the McLaren the solution to high performance without damaging the environment then this is a bit of a smokeless smokescreen.

Forget the ‘clean’ running, the real point of combining an electric motor with a high performance combustion engine is to fill in the turbo gaps and deliver more instant and sustained acceleration – something at this stage I can only imagine as McLaren hasn’t yet allow me to put the technology to the test.

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At the heart of the Artura is an all-new compact 3 litre twin-turbocharged V6 petrol unit that is 190 mm (7.48 in) shorter, 220mm (8.66 in) narrower and 50 kg (110 lb) lighter that McLaren’s more familiar 4 litre V8 found elsewhere in the range.

The 585 PS power unit (that's nearly 200 PS per litre) is set in a 120 degree hot vee configuration to allow for compact packaging and to keep the centre of gravity as low as possible.

The wide angle of the six pot also enables the engineers to shoehorn the turbochargers within the banks – an added bonus is that this allows for a straighter exhaust layout.

This operates in combination with a 95 PS, lightweight Axial Flux E-motor which those clever boffins at Woking have kept small enough (about the same size as a McLaren brake disc and weighing only 15.4 kg or 33.95 lb) to integrate within the transmission bell-housing.

The Axial motor was selected as it is smaller and more power-dense than a conventional radial flux unit.

In turn this receives its power from a compact 7.4 kWh, five-module lithium ion hybrid battery pack that is incorporated into the floor low-down behind the driver where it is protected by the carbon fibre structure and the petrol engine.

It uses a cooling system (first developed for McLaren Speedtail) which is shared with the electric heating, ventilation and air conditioning.

As previously mentioned, the electric motors' real task is to provide torque fill-in (instant torque of up to 225 Nm or 166 lb.ft) which is filtered into the equation using an E-differential feeding power into the rear wheels.

McLaren says it will take just two and a half hours to charge the batteries to 80 per cent using an EVSE socket and (because it is needed to start the engine and reverse) smart technology prevents the battery from running out of power so there is always something in reserve to start the car and engage reverse.

One additional difference to most EVs is that the Artura doesn't harvest energy from

braking – McLaren feels this would detract from the brake pedal feel and overall handling so the on-board recharging comes from the combustion engine only.

The electric only maximum distance of 30 km (about 19 miles) isn't that great and McLaren was unable to tell me at what average speed this is assessed. I suspect that if you ran the electric motor at 70 mph your travel distance would be significantly curtailed.

This begs the question who would want to own a McLaren and then potter about at 30 mph – that only happens when the speed limits dictate. But if you want to, the driver can select the mode for EV running only.

There is a conventional 12v battery for the ancillary electronics but even this has been tweaked so it as an integrated power unit that acts as a converter for the system, removing the need for a separate alternator.

As a result of losing two cylinders on the petrol engine and fitting the compact electric motor the Artura claims a class-leading power to weight ratio of 488 PS/tonne and lightest in class kerb weight of 1,498 kg (3,303 lb).

For those who need to know, where permitted, the Artura will get to 100 kph (62 mph) in three seconds, 200 kph (124 mph) in 8.3 seconds and 300 kph (186 mph) in 21.5 seconds.

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This performance is directed through an all-new seamless shift twin-clutch eight-speed transmission driving the 20in rear wheels with the option of Electric, Comfort, Sport and Track modes.

What is missing from the transmission is a reverse gear – no, you don't have to get out and push it backwards, this function is managed by spinning the electric motor in the opposite direction. . . so all reversing will be emissions free.

Artura is the first model built on an all-new McLaren Carbon Lightweight Architecture which is constructed at the McLaren Composites Technology Centre in Sheffield.

Around this is wrapped a lightweight body featuring more carbon-fibre and superformed aluminium panels – the most eye-catching example of which is the complex one-piece clam-shell rear top panel that flows from the sides over the engine.

Although a completely new body and chassis, the Artura is instantly recognisable as a McLaren with its low, shark-like nose, short-wheelbase cab-forward profile, swollen rear arches with massive air intakes and its high-tail stance.

There are of course the signature dihedral doors that now shut closer to the body (meaning less of a step-over sill into the cabin) and door mirrors that fold more tightly.

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The overall effect the designers were going for was a shrink-wrap look and it seems to have come off.

Under the skin Artura is fitted with a new rear suspension which pairs an upper wishbone with two lower links and a tie rod in front of the wheel centre and independent adaptive dampers which, according to the makers, will maximise stability and reduce understeer while accelerating.

This comes with Proactive Damping Control featuring Comfort, Sport and Track modes while the E-differential enhances traction and reduces understeer.

McLaren fits an uprated electro-hydraulic steering system rather than an electric link because they believe this offers more feeling for the driver.

Stopping power comes from carbon ceramic disc brakes (390 mm or 15.35 in front and 380 mm or 14.96 in rear) with forged aluminium brake calipers and six pistons at the front and

four at the rear.

As we have come to expect from McLaren the soft-touch Alcantara trimmed high-tech cockpit is very much focused on the driver and the driving experience with few touches of luxury.

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Top priority is the driving mode selection with separate powertrain and handling controls (mentioned above) which have now been moved (from the central console) to the instrument binnacle, which in turn is mounted to the steering column and adjusts with the steering wheel.

The chunky controls are not the most elegant but should be positive to the touch.

For other features, such as the infotainment and communication systems, there is a new eight inch high definition touchscreen which protrudes from the otherwise Spartan dashboard like a pop-out iPad.

This accesses updated versions of familiar McLaren apps including McLaren Track Telemetry and Variable Drift Control and also features a redesigned navigation map in the instrument cluster while a stealth mode on the main binnacle hides non-essential content.

Part of the system utilises driver assistance features including Intelligent Adaptive Cruise Control with Stop/Go; Lane-Departure Warning; High-Beam Assist and Road-Sign Recognition.

It also includes a Bluetooth low-energy vehicle key which detects when the driver is heading towards the vehicle and powers up systems to welcome occupants. This includes ambient ‘hidden-until-lit’ lighting in the doors, also acting as puddle lamps.

Artura debuts an all-new Clubsport seat, which combines the range of motion of a moveable

backrest with the light weight and support of a bucket seat. The whole seat pivots as one through an elliptical arc when adjusted, combining under-thigh support, seat height and backrest in one movement. A Comfort seat option is also available.

A modest level of practicality is offered under the bonnet where you find 160 litres (5.65 cu.ft) of luggage space although some of this is taken up by the electric charge cables.



(Photo by Chris Adamson).

Priced from £185,500, Artura is being offered in a standard specification and three further trim levels: Performance, TechLux, and Vision.

There is also the option for customers to add a Practicality Pack as a no cost option, featuring Vehicle Lift; power-folding heated door mirrors with ‘dip in reverse’ function; four front and four rear parking sensors; rear-view camera; Homelink and soft-close doors. Additionally, Apple CarPlay and Android Auto are supported as standard by mobile phone integration into both the instrument cluster and central display screen.

Artura is listed as a supercar and sits in the middle of the current slimmed-down McLaren range between the GT and its Ultimate line-up.

It comes with a five year warranty package and six years or 75,000 km (46,600 miles) cover on the hybrid battery as standard as well as a three-year service plan.

McLaren has yet to announce any plans for an all-electric vehicle so, for the time being the Artura will have to serve those who want supercar performance with a green conscience.

Wheels-Alive Tech Spec:

McLaren Artura

Engine: 120 degree 2,993cc V6 petrol

Electric Motor: Axial Flux E-Motor

Transmission: 8 Speed twin-clutch

Power: Total of 680 PS – 585 PS from the V6 @ 7,500 rpm and 95 PS from electric motor

Torque: 585 Nm (431 lb.ft) @ 2,250-7,000rpm from petrol engine and 225 Nm (166 lb.ft) from electric motor

Performance:

0 – 60 mph: 3 seconds

Top Speed: 205 mph (limited)

Fuel Consumption (Official Figures):

Combined: 50 mpg

CO2 Emissions: 129 g/km

Price (On the Road), from: £182,500



(Photo by Chris Adamson).