



The New Toyota Auris

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- World debut for new, British-built Toyota Auris at Paris motor show
- Confident design adopts the new face of Toyota
- Interior features smart packaging and high quality materials
- Focus on weight management, chassis design and aerodynamics for a car that delivers better dynamic performance, fuel consumption and emissions
- Every model in the range achieves lower fuel consumption and CO₂ emissions than before
- Improvements in equipment specification at every level
- Built exclusively by Toyota Motor Manufacturing UK's Burnaston factory in Derbyshire
- UK specifications and prices to be announced later

Rejuvenating the family car market

New Auris is Toyota's first step in its new product offensive in the European compact/family car market (C-segment), a model that has stronger styling, better dynamic performance, higher equipment levels and lower running costs than its predecessor.

Its design and engineering reflect Toyota's determination to produce cars that are more appealing to own and engaging to drive, while building on its long-established reputation for quality, durability and reliability.

Improved aerodynamics, comprehensive weight saving and engine revisions all contribute to reducing fuel consumption and CO₂ emissions across the range, helping bring down running costs.

Toyota is the world's leading producer of family vehicles, having sold more than 39 million in 140 countries since the launch of the first Corolla in 1966.

New Auris has been designed for Europe, where it will command the highest sales. It will be built by Toyota Motor Manufacturing UK at the Burnaston factory in Derbyshire, alongside Avensis, reinforcing the company's commitment to its European operations.

TMUK celebrates its 20th anniversary this year, having produced more than 3.25 million vehicles since it began operating in 1992. Auris production is currently in the region of 418,000 units.

Improved packaging

Auris's overall length has been increased by 30mm to 4,275, while the wheelbase remains the same at 2,600mm. Although both front and rear overhangs have been increased by 15mm, it remains one of the most compact cars in its class.

Significantly, the frontal surface area has been reduced by four per cent compared to the current model and, without impacting on passenger space, the overall height has been lowered by 55mm (45mm in the cabin and 10mm in the ride height), making new Auris one of the lowest cars in its segment. Together these changes yield considerable aerodynamic benefits, contributing to better fuel efficiency and driving dynamics.

Extensive use of high tensile steel in the bodyshell has helped cut the car's overall weight by up to 40kg, and the reduction in vehicle height has lowered its centre of gravity. The driver's seat height has been reduced by 40mm and the tilt angle of the steering wheel has been lowered by two degrees to create a more connected driving position with a low hip point.

A new front seat design has allowed for an increase of 20mm in knee room for rear seat passengers. Easier access and loading have been achieved by widening the openings for both the rear doors and tailgate and adding an extra 50mm to the loadspace length. The boot is more flexible in design, too, with a dual-level deckboard and 60:40 split-folding rear seats on all versions, including Auris Hybrid. Luggage capacity (with the rear seats in place) has increased to 360 litres on all models.

Exterior design

Auris's all-new exterior design maximises the benefits of the car's lower height and centre of gravity.

Overall the styling is sleeker and more confident, most notably in the design of the front end where it adopts the new face of Toyota with a stronger grille design and keen-edged headlamps and LED daytime running lights. The result is a much more powerful road presence than the current model.

The details include a large, trapezoidal lower grille set within the front bumper, and smaller upper grille which runs the full width between the headlights. The low, sweeping bonnet line is dominated by a new, larger Toyota badge, set lower than before.

The upper grille features a central chrome-plated horizontal bar, which extends into the headlamps to accentuate the width of the vehicle, going on to form an "eyebrow". The headlamp packaging incorporates LED daytime running lights (standard on all grades) which give new Auris its individual lighting signature.

The larger lower grille is flanked by integrated fog light housings with chrome surrounds. It has a piano black finish with a floating, lower chrome accent on the lip spoiler - another detail that emphasises the car's width and planted stance.

The side profile view is distinguished by the steeply raked windscreen, which flows seamlessly into the new, lower, drag-reducing, stepped roofline. In a further styling shift, the side glazing has been extended into three panels above a more pronounced rising belt line crease.

The door mirrors have been moved to within the glazed area and the B-pillar has a piano black finish, which, together with chrome detailing on the beltline, accentuates new Auris's lower, sportier silhouette.

The ride height has been lowered by 10mm, reducing the gap between the wheel arches and the tyres and aligning the tyres more closely with the bodywork to further emphasise the car's sleeker and more streamlined appearance. New 15 and 16-inch wheelcaps and 16 and 17-inch

alloy wheel designs have been introduced.

At the rear new Auris has a wider opening tailgate, with an interplay of convex and concave surfaces, a wrap-around combination lamp design and new bumper profile, strengthening the car's broad stance.

In Europe, 10 exterior colours will be available, with four new shades: Avant-Garde Bronze, Dark Steel and Blue. Pearl White will be exclusive the new Auris Hybrid.

Class-leading aerodynamics

The all-new exterior design gives Auris excellent aerodynamics, contributing to better handling stability and lower fuel consumption.

The car's lower height and smaller frontal area significantly reduce wind resistance. The flowing lines from the lower bonnet line, over the steeply raked windscreen and the stepped roof profile further reduce drag. The rear spoiler is now fully integrated in the rear roofline, connecting seamlessly with the rear pillars to minimise turbulence in the airflow away from the back of the vehicle.

As well as reducing ride height by 10mm, Toyota has paid attention to ensuring the smoothest possible airflow beneath the car. Elements fitted to the underfloor include a front spoiler, front and rear spats and a series of undercovers, all of which help maximise aerodynamic efficiency. The attention to detail extends to a series of vertical wings fitted to the centre and rear floor undercovers to further smooth the airflow.

Higher quality, more unified interior design

New Auris's interior is more spacious and comfortable for everyone on board. There has also been an emphasis on raising the sensory quality of the cabin and creating a greater sense of visual unity through consistency of lighting, colours, finishes, and even the font used for the graphics.

The cleaner design introduces stronger shapes, improved functionality and high quality materials. By accentuating the horizontal, the new dashboard emphasises the width and spaciousness of the cabin, with driver-focused arrangement of the instruments and switchgear.

The more driver-oriented nature of the design is further expressed in the strong curve of the hood over the instrument binnacle, which flows down the side of the centre console to help create a cockpit feel.

The co-ordinated look is reflected in a marching satin silver finish used for the meter surrounds, centre stack, transmission tunnel trim, air conditioning and audio controls and the interior door handles.

The air vents, audio panel, transmission tunnel, steering wheel and gear lever all have a silver coloured trim, while on higher grade models the dashboard itself is leather trimmed.

Consideration has been given to the tactile quality of every area which the car's occupants will come into contact with. Soft touch materials feature on the instrument panel's upper surface and the door trim shoulder areas, and the A-pillars are fabric trimmed. The gear knob has a new design and the steering wheel is wrapped in Nappa leather with single baseball stitching. The

assist grips and door grips have a soft texture grain and the door armrests are padded.

The new front seats have longer fore and aft travel and an increase in height adjustment range. A new front sports seat design has also been introduced, with extra lateral support.

Entry level and mid-range models feature seats with a new fabric covering; sports grade models add contrasting red panels, and on higher grade models a combination of black velour with leather bolsters is used. An Ice Grey leather option will be exclusive to Auris Hybrid.

Driving dynamics

Fundamental steps have been taken to make new Auris more comfortable and more engaging to drive, including building extra rigidity into the bodyshell and improvements to the suspension, steering, driving position and NVH performance

New bracing and reinforcements to the car's underbody, front and rear structures and suspension have made the body more rigid. At the same time, extensive use of high tensile steel in the bodyshell has helped reduce overall vehicle weight by up to 40kg. This combines with the lower overall vehicle height and ground clearance and the lower position of the front seats to bring down the car's centre of gravity, improving stability at speed and cornering agility.

The reduction in the centre gravity allows for the spring rates and anti-roll bar diameter to be reduced, while numerous components in the front MacPherson strut suspension have been revised and shock absorbers retuned with the aim of delivering class-leading ride comfort, with improved body control and steering response.

The 1.33 petrol and 1.4 D-4D diesel models use a torsion beam rear suspension, while the 1.6-litre petrol and 1.8 Hybrid models use a double wishbone arrangement.

Improvements have been made to the electric power steering: a more rigid steering column attachment ensures a linear steering feel; a new control unit suppresses changes in steering force to further improve the linear performance; and a high gear ratio gives greater responsiveness. The result is steering that is more direct with better feedback and quicker turning, making new Auris more agile.

Extensive improvements to NVH measures mean that the new model is not only more comfortable, but also noticeably quieter. Extensive soundproofing in the engine bay, front wheel arches and dashboard has reduced engine and road noise intrusion in the cabin.

Petrol and diesel powertrains

Average CO₂ emissions for the Auris range have fallen steadily in recent years. When the first generation model was launched in 2007, the European average was 152g/km. This fell to 142g/km in 2009, and then to 125g/km two years later following the launch of Auris Hybrid.

With the introduction of new Auris, the level will fall to 109g/km, a further 13 per cent reduction.

This has been achieved by taking a total vehicle approach to reducing emissions and improving fuel consumption, while at the same time improving the car's driveability and dynamic performance.

Improvements to the powertrains are central to this, with the new line-up in the UK offering two

petrol engines and a diesel unit, all benefiting from Toyota Optimal Drive technologies.

At launch, Toyota expects the European sales mix to be approximately one third each for petrol, diesel and full hybrid. In the UK the balance will shift slightly, as only one diesel engine will be available. This prediction reflects how full hybrid has become a mainstream proposition that can be accessed by a large customer group.

Toyota Optimal Drive

Toyota Optimal Drive takes in a wide-range of advanced technologies and internal improvement programmes designed to optimise the balance of performance and driving enjoyment with fuel economy and low emissions.

These diverse core technologies focus on three aspects of powertrain development. Firstly, the reduction of powertrain weight by using super-lightweight and highly compact engine components and transmissions.

Secondly, the minimisation of mechanical losses through the adoption of Valvematic - a further development of VVT-i valve timing technology - in the 1.6 petrol engine, and new roller rocker technology and smaller, lighter pistons in both petrol engines. Low viscosity oil and six-speed manual transmissions are used throughout the new Auris engine range.

Thirdly, the maximisation of combustion efficiency, achieved with a high, 11.5:1 compression ratio for the petrol engines, Valvematic, the refinement of intake port and combustion chamber design and piston cooling by oil jet. The Auris diesel engine further benefits from a low compression ratio, optimised combustion chamber dimensions and higher Exhaust Gas Recirculation cooler efficiency.

1.33 Dual VVT-i petrol engine

The 1.33-litre petrol engine is equipped with dual intelligent variable valve timing (VVT-i) and runs with a high 11.5:1 compression ratio, which increases the unit's thermal efficiency. Maximum power is 98bhp (73kW) and peak torque of 128Nm is generated at 3,800rpm.

Strong performance is matched by fuel consumption of 52.3mpg and CO₂ emissions from 125g/km (provisional, pre-homologation figures), an improvement of 3.6mpg and 10g/km on the current model.

The engine's design benefits from Toyota's extensive motorsport experience, with its small bore and long stroke it is extremely compact and lightweight, contributing to the vehicles power to weight ratio. It uses a resin-type cylinder head cover and intake manifold, and the intake channel is streamlined for smoother airflow and higher combustion efficiency.

Dual VVT-i helps boost response levels across the entire rev range by varying the air-fuel intake and exhaust valve timing to suit the conditions at any given time. As well as improving torque at low and medium engine speeds, the system also reduces emissions and enhances fuel efficiency.

1.6 Valvematic petrol engine

Valvematic is a further development of Toyota's intelligent dual variable valve timing system, Dual VVT-i. It takes the technology forward by adding lift and duration control to the inlet valve timing, which improves inlet airflow volume and speed management, and thereby the combustion

process, too. This results in more power for less fuel, with reduced CO₂ emissions.

Valvematic also reduces friction and pumping losses under light engine loads, which further helps reduce fuel consumption. Its efficiency is improved thanks to a variable length inlet manifold. At low to medium engine speeds this acts as an accelerator, maximising inlet air speed to achieve the best possible combustion efficiency. At higher speeds the manifold is fully open, allowing air to enter the combustion chamber by the shortest route. Maximising the volume of air in the chamber in this way also maximises engine power output.

The 1.6 Valvematic engine is available with either six-speed manual or Multidrive S automatic (CVT) transmission. It produces 130bhp (97kW) and maximum torque of 160Nm at 4,400rpm. With manual transmission the combined cycle fuel consumption is 47.9mpg with 138g/km CO₂ emissions, an improvement of 5.1mpg and 15g/km over the current Auris 1.6 Valvematic. Figures are even better with the Multidrive S CVT, at 49.6mpg and 134g/km.

1.4 D-4D diesel engine

Toyota's 1.4 D-4D is matched to a six-speed manual transmission and develops 89bhp (66kW) and 205Nm of torque across a range from 1,800 to 2,800rpm.

The engine benefits from further Toyota Optimal Drive improvements, including the installation of a new two-step hydraulic control valve in the timing chain cover. This reduces friction when hydraulic pressure is low by opening and closing the relief valve, according to driving conditions.

There is also a new coolant by-pass system that helps reduce heat losses in the engine coolant during start up, helping reduce the time it takes for the engine to warm up.

New generation piezoelectric fuel injectors provide more accurate control of injection fuel volume and timing. The piezo injectors' quick reaction time makes multi-phase high speed injection possible, which has the effect of both lowering the rate of combustion expansion and effecting a more thorough burn in the combustion chamber, so further reducing particulate, NO_x and CO₂ emissions.

This combines with higher, 160Mpa common rail injection pressure, to give shorter injector times. The result is a faster engine response with better fuel economy and emissions.

Toyota Stop & Start

Toyota Stop & Start technology is available with the 1.33 Dual VVT-i petrol and 1.4 D-4D diesel engines. It automatically switches the engine off when the vehicle is stopped, and provides an immediate restart with virtually no engine sound or vibration.

Stop & Start delivers significant reductions in CO₂ emissions when driving around town and, depending on driving conditions, can reduce fuel consumption by up to three per cent.

The system automatically stops the engine when the gear shift lever is moved to neutral and the clutch is released. Automatic restart is within less than half a second when the clutch pedal is depressed.

It will continue to operate when the air conditioning is running, but the engine will not be stopped if the temperature inside the cabin has not yet reached the desired level; when that temperature is reached, the air conditioning will switch to Eco-run loading to allow the automatic

engine stop function to operate. The engine will restart if battery level is low, or if the vehicle begins to move.

Vehicles fitted with Stop & Start also have an Eco indicator on the dashboard which lights up during each automatic engine stop, and an Eco counter which shows the amount of time the engine has been switched off in the course of each journey. There is also a counter which shows the vehicle's accumulated idling stop time.

Multidrive S transmission

Multidrive S, available with the 1.6 Valvematic engine in new Auris, is a continuously variable transmission (CVT) which offers the choice of a fully automatic, seamless shift mode or stepped seven-speed Sport mode.

In automatic mode performance is optimised for quietness and fuel economy with the transmission precisely matched to the engine all times through monitoring of accelerator pedal angle, vehicle speed and braking force.

In Sport mode the system favours response and direct engine control. The stepped seven-speed CVT performs close ratio upshifts and has direct downshift feel. Sport mode also provides precise cornering control. When it detects deceleration, the system downshifts and applies engine braking to assist the braking force; mid-corner, it will suspend shifting when it detects lateral g-force. On exiting a corner, predictive downshift logic controls the system to ensure the right gear ratio is selected for the level of acceleration required.

Auris Hybrid

Since its launch in 2010, Toyota has sold around 60,000 of the British-built Auris Hybrid, making it Europe's second most popular hybrid vehicle, after Prius.

Further improvements have been made to its Hybrid Synergy Drive powertrain. The control logic of the planetary gear transmission has been modified to give a smoother and natural feel to vehicle acceleration, with a closer relationship between vehicle speed and engine revs.

The system's 1.8-litre VVT-i petrol engine and 60kW electric motor together generate a maximum power output of 134bhp (100kW), giving Auris Hybrid 0-62mph acceleration in 10.9 seconds and a 112mph top speed.

The new Auris Hybrid's improved aerodynamics and lighter weight have reduced CO₂ to less than 89g/km (with 15-inch wheels). It also produces significantly lower NOx and particulates than comparable diesel models.

When operating its switchable all-electric EV mode, Auris Hybrid generates zero CO₂, NOx and particulates for distances up to 1.2 miles at speeds up to about 31mph, according to the level of battery charge and driving conditions.

The powertrain is engineered so that the petrol engine is used as little as possible in city driving. Toyota data shows that the cumulative result is a high proportion of zero-emissions EV driving.

The battery pack has been reorganised in the new Auris Hybrid so that it sits beneath the rear seat. This means luggage space is now the same as in other models in the Auris range.

Auris Hybrid's low CO₂ emissions attract significant tax benefits in the UK and exemption from the London congestion charge, adding to its low running costs.

Design

Auris Hybrid shares the same exterior styling changes and extensive interior improvements as its new petrol and diesel-powered sister models. On the outside there are additional, hybrid-exclusive details, while inside there are a number of hybrid-specific instruments and switchgear and a dedicated upholstery design.

The lower grille and lower part of the rear bumper are finished in a graphite gloss paint, and the Toyota emblems on the bonnet and tailgate are finished in hybrid blue. Hybrid logos are featured on the front wings and there is a hybrid mark on the tailgate. Other features exclusive to the Hybrid also include LED rear light clusters and new 15 and 17-inch Turbine alloy wheels.

A hybrid meter and specific Eco Drive Support monitor feature on the dashboard. The gear lever is finished in hybrid blue and there is hybrid-specific ornamentation on the instrument panel. According to grade, the instrument panel has a hybrid blue brushed aluminium finish. Ice blue leather or black leather inserts will be available on higher grades.

Preliminary technical specifications

Data is provisional, prior to homologation

| 1.33 DUAL VVT-i | |
|--------------------------|-------------------------------|
| Engine Code | 1NR-FE |
| Type | Four cylinders in-line |
| Valve mechanism | DOHC 16-valve with Dual VVT-i |
| Displacement (cc) | 1,329 |
| Bore x stroke (mm) | 72.5 x 80.5 |
| Compression ratio | 11.5:1 |
| Max power (bhp/kW @ rpm) | 98/73 @ 6,000 |

| | |
|--------------------------|--------------------------|
| Max torque (Nm @ rpm) | 128 @ 3,800 |
| 1.6 VALVEMATIC | |
| Engine Code | 1ZR-FAE |
| Type | Four cylinders in-line |
| Valve mechanism | DOHC 16-valve Valvematic |
| Displacement (cc) | 1,598 |
| Bore x stroke (mm) | 80.5 x 78.5 |
| Compression ratio | 10.7:1 |
| Max power (bhp/kW @ rpm) | 130/97 @ 6,400 |
| Max torque (Nm @ rpm) | 160 @ 4,400 |
| 1.4 D-4D | |
| Engine Code | 1ND-TV |
| Type | Four cylinders in-line |
| Valve mechanism | SOHC 8-valve |

| | |
|--------------------------|--------------------------|
| Displacement (cc) | 1,364 |
| Bore x stroke (mm) | 73.0 x 81.5 |
| Compression ratio | 16.5:1 |
| Max power (bhp/kW @ rpm) | 89/66 @ 3,800 |
| Max torque (Nm @ rpm) | 205 @ 1,800 - 2,800 |
| 1.8 VVT-i HYBRID | |
| Engine Code | 2ZR-FXE |
| Type | Four cylinders in-line |
| Valve mechanism | DOHC 16-valve with VVT-i |
| Displacement (cc) | 1,798 |
| Bore x stroke (mm) | 80.5 x 88.3 |
| Compression ratio | 13.0:1 |
| Max power (bhp/kW @ rpm) | 134/73 @ 5,200 |
| Max torque (Nm @ rpm) | 142 @ 4,000 |

| TRANSMISSIONS | | 1.33 DUAL VVT-i | 1.6 VALVEMATIC | | 1.4 D-4D | 1.8 HYBRID |
|----------------------|-----------------|------------------------|-----------------------------------|------|-----------------|-------------------|
| Type | | 6-speed manual | 6-speed manual Multidrive S (CVT) | | 6-speed manual | E-CVT |
| Gear ratios | 1 st | 3.538 | 3.538 | | 3.538 | - |
| | 2 nd | 1.913 | 1.913 | | 1.913 | - |
| | 3 rd | 1.392 | 1.310 | | 1.310 | - |
| | 4 th | 1.029 | 0.971 | | 0.971 | - |
| | 5 th | 0.875 | 0.818 | | 0.714 | - |
| | 6 th | 0.743 | 0.700 | | 0.619 | - |
| | Reverse | 3.333 | 3.333 | | 3.333 | 2.683 |
| PERFORMANCE | | 1.33 DUAL VVT-i | 1.6 VALVEMATIC | | 1.4 D-4D | 1.8 HYBRID |
| Transmission | | 6 M/T S&S | 6M/T | MDS | 6M/T S&S | E-CVT |
| Max Speed (mph) | | 109 | 124 | 118 | 112 | 112 |
| 0-62mph (sec) | | 12.6 | 10.0 | 11.1 | 12.5 | 10.9 |

| FUEL CONSUMPTION | 1.33 DUAL VVT-i | 1.6 VALVEMATIC | | 1.4 D-4D | 1.8 HYBRID |
|-------------------------|--|-----------------------|------|-----------------|-------------------|
| Transmission | 6 M/T S&S | 6M/T | MDS | 6M/T S&S | E-CVT |
| Combined | 52.3 | 47.9 | 49.6 | 72.4 | 74.3 |
| Extra-urban | 60.1 | 58.9 | 58.9 | 78.5 | 76.3 |
| Urban | 42.8 | 35.8 | 38.2 | 62.8 | 76.3 |
| Tank capacity (l) | 50 | | | | |
| EMISSIONS | 1.33 DUAL VVT-i | 1.6 VALVEMATIC | | 1.4 D-4D | 1.8 HYBRID |
| Transmission | 6 M/T S&S | 6M/T | MDS | 6M/T S&S | E-CVT |
| Combined | 125 | 138 | 134 | 99 | 87 |
| Extra-urban | 110 | 113 | 111 | 93 | 86 |
| Urban | 152 | 181 | 173 | 118 | 85 |
| BRAKES | 1.33 DUAL VVT-i | 1.6 VALVEMATIC | | 1.4 D-4D | 1.8 HYBRID |
| Front (mm) | Ventilated discs $\varnothing 277 \times 26$ | | | | |

| | |
|--|---|
| Rear (mm) | Solid discs ø270 x 10 |
| Additional features | ABS, EBD, BA, VSC, TRC |
| <p>ABS = anti-lock braking system EBD = electronic brakeforce distribution BA = brake assist VSC = vehicle stability control TRC = traction control</p> | |
| SUSPENSION | |
| Front | MacPherson strut |
| Rear | Torsion beam (1.33. 1.4 D-4D Double wishbone (1.6, Hybrid) |
| STEERING | |
| Ratio | 14.8:1 |
| Turns lock-to-lock | 2.67 |
| Min turning radius - tyre (m) | 5.2 |
| EXTERIOR DIMENSIONS | |
| Overall length (mm) | 4,275 |
| Overall width (mm) | 1,760 |
| Overall height (mm) | 1,460 |

| | |
|-----------------------|-------|
| Wheelbase (mm) | 2,600 |
| Front track (mm) | 1,535 |
| Rear track (mm) | 1,525 |
| Front overhang (mm) | 920 |
| Rear overhang (mm) | 740 |
| Drag coefficient (Cd) | 0.28 |

INTERIOR DIMENSIONS

| | |
|----------------------|-------|
| Interior length (mm) | 1,830 |
| Interior width (mm) | 1,485 |
| Interior height (mm) | 1,180 |

| WEIGHTS (kg) | 1.33 DUAL VVT-i | 1.6 VALVEMATIC | 1.4 D-4D 90 | 1.8 HYBRID |
|----------------------|------------------------|-----------------------|--------------------|-------------------|
| Kerb weight | 1,180 - 1,240 | 1,250 - 1,295 | 1,270 - 1,335 | 1,370 - 1,425 |
| Gross vehicle weight | 1,815 | 1,805 | 1,815 | 1,815 |
| | | | | |

ENDS