

Press Release

NEW TOYOTA RAV4 HYBRID

Prestige, Comfort And Efficiency

The launch of the new RAV4 model range marks the introduction of Toyota's first hybrid compact SUV to the highly competitive European C-SUV segment.

Frankfurt, Germany- Its full hybrid drive system combining a 2.5 litre Atkinson Cycle petrol engine with a powerful electric motor, the new RAV4 Hybrid is available in both front-and all-wheel drive variants. The RAV4 Hybrid AWD has a second, rear mounted electric motor that offers increased traction and a 1,650 kg towing capacity without the added weight and complexity of a central prop shaft.

Developing total system power of 145 kW/197 hp, the new RAV4 Hybrid marries a seamless, 0-100 km/h acceleration time of just 8.7 seconds to class-leading fuel consumption of only 4.9 l/100 km* and remarkably low, highly tax-efficient CO₂ emissions as low as 115 g/km*.

The new RAV4's full hybrid powertrain heads up a revised, fully Euro 6 compliant engine line-up for the 2015 model range.

A new 2.0 litre turbodiesel develops 105 kW/143 hp and a substantial 320 Nm of torque, whilst targeting CO₂ emissions of only 123 g/km*. And an improved 2.0 litre petrol unit offered with a choice of manual or CVT transmissions now combines 111 kW/151 hp and 195 Nm of torque with CO₂ emissions from 149 g/km*.

Reinforcing the uniquely quiet, refined and sophisticated driving experience offered by Toyota's Hybrid technology, the new RAV4 further benefits from enhanced ride comfort and driving dynamics, a quieter cabin environment, stronger, more dynamic exterior design, improved interior sensory quality and functionality, and all the latest innovations in safety and advanced technology.

The Toyota Safety Sense system features a newly developed set of active safety technologies; a new Panoramic View Monitor displays a 360 degree, bird's-eye view of the vehicle's immediate surroundings to aid parking and slow speed manoeuvring; and the restyled interior benefits from the enhanced functionality of both a 4.2" multi-information screen set between the combi-meters and a 7", full-colour centre console screen incorporating the Toyota Touch 2 multimedia system.

Hybrid Heritage From Revolutionary Idea to World-leading Technology

The idea of an alternative powertrain for cars was already alive at Toyota in the 1960s. But it is in the early 90s that the company actually initiated a production-based development programme of environmentally-responsible automotive technologies.

In 1994, Toyota initiated the G21 project. Its aim was to create a 'green and environmentally friendly car' for the 21st century which, despite impeccable environmental credentials, offered all the convenience and driving pleasure of a conventional vehicle.

With the 1997 launch of the first generation Prius, the world's first mass-produced hybrid vehicle, Toyota instigated a modern day revolution in automotive electrification, and a major industry milestone in vehicle powertrain development and sustainable mobility.

Following the launch of the third generation Prius in 2009, the model became the first full hybrid vehicle available as a complete, stand-alone model range; the 2012 addition of Prius+ and the Prius Plug-in Hybrid creating the Prius Family.

Successive generations of Toyota's Hybrid powertrains became ever more powerful, yet lighter and more fuel and CO₂ efficient. Toyota expanded its hybrid model line-up with the introduction of the Auris Hybrid in 2010, the Yaris

Hybrid (the only full hybrid vehicle in the B-segment) in 2012 and the practical Auris Hybrid Touring Sports in 2013. In 2014, European sales of TOYOTA Hybrid models reached 178,041 units, a 13% increase over the previous year. This brings cumulative TOYOTA hybrid sales in Europe to a total of almost 1 Million vehicles since the European launch of the first Prius in 2000.

Today, Toyota Motor Corporation has sold over 8 million full hybrid vehicles worldwide. This is more than any other manufacturer, and gives the company an unquestionable lead in the drive towards sustainable mobility. Concrete, tangible proof of Toyota's

hybrid powertrains environmental record, is that these sales have already contributed to an estimated reduction in automotive emissions of approximately 58 million tonnes of CO₂.

RAV4 Heritage

From Niche Model to Global Car

Toyota can rightfully claim to have created the compact SUV market with the launch of its first Recreational Active Vehicle with 4-Wheel Drive (RAV4) in 1994.

When the first generation RAV4 was revealed at the Geneva Motor Show that year, it was quite different to a traditional 4x4. Launched as a compact (3.695 M) 3-door model, the first 'Urban 4WD' featured a relatively small, 2.0 litre engine mounted transversally within a monocoque bodyshell, and all-rounded independent suspension. The compact SUV market was born.

In 1994, Toyota sold 53,000 units of RAV4. The following year the sales figures doubled, then tripled the year after that, in 1996. Since then, annual sales have steadily grown with each successive generation, turning Toyota's pioneering compact SUV from a niche model to a global car. In 2013, RAV4 sales figures outstripped those of 1994 by a factor of 10.

Today, available in 170 countries, four generations of RAV4 have sold more than 6 million units around the world, 1.5 million of them to European customers.

Since 1994, the C-SUV segment has changed and matured. Where early customers often bought compact SUVs as an alternative to sporting hatchbacks and coupes, today's segment growth is fuelled by families looking for a more engaging and fashionable but nevertheless practical alternative to MPVs and estate cars.

The Power of Two

The perfect response to the demands of a more mature, sophisticated and competitive C-SUV market, Toyota's new RAV4 Hybrid combines the company's unparalleled experience gained through over 20 years of compact SUV evolution with the latest generation of its innovative, full hybrid powertrain technology.

The new RAV4 Hybrid marries dynamic styling, premium interior quality, ingenious packaging and versatility with a full hybrid powertrain offering customers improved driving feel for an even more sophisticated driving experience. The new RAV4 hybrid offers class-leading fuel consumption figures and remarkably low CO₂ emissions, promoting significant taxation and Benefit-in-Kind savings. On top the RAV4 hybrid AWD offers the same benefits in

combination with Toyota's ingenious E-Four electric motor-powered AWD system with increased traction and towing capacity.

Hybrid Powertrain

The RAV4 Hybrid's full hybrid system features a 2.5 litre Atkinson Cycle petrol engine, a powerful electric motor, a generator, a 204 cell nickel-metal hydride battery located under the rear seats, a power control unit, and a power split device.

On the AWD version, Electric all-wheel drive (E-Four) capability is provided by a second, rear-mounted electric motor, thus avoiding the added weight, cost and complexity of central prop shaft.

Total system output is 145 kW/197 hp, equipping the RAV4 Hybrid with a 0-100 km/h acceleration time of 8.7 seconds and a maximum speed of 180 km/h. Conversely, the RAV4 Hybrid returns class-leading fuel consumption figures of only 4.9 l/100 km* in the European homologation combined cycle, and remarkably low, highly tax-efficient CO₂ emissions of just 115 g/km*.

The Hybrid system uses power from both the petrol engine and electric motor in tandem, as well as alone, maximising the efficiencies of both units to achieve the optimum balance of driving performance and fuel efficiency. During deceleration and under braking, the electric motors act as a high-output generator to effect regenerative braking. Normally wasted as heat, kinetic energy is recovered as electrical energy for storage in the high performance battery.

The system's seamless, E-CVT electric continuously variable transmission is controlled by Shift-by-Wire technology, using an electronic shift lever system.

The RAV4 Hybrid features four 'on-demand' drive modes to increase the capabilities of the full hybrid powertrain, including a full hybrid-unique, EV mode which allows for ultra-quiet running on electric motor power alone, resulting in zero fuel consumption and CO₂, NO_x and PM emissions.

The full hybrid powertrain is designed to eliminate the need for the petrol engine as often as possible during city driving. Toyota's own data show that the cumulative effect of full hybrid operation leads to high proportions of zero-emissions, EV driving.

E-Four electric powered Hybrid AWD system

A first for Toyota vehicles in Europe, the RAV4 Hybrid AWD is equipped with a 50 kW high-voltage, high-speed rear electric motor which gives the vehicle all-wheel drive capability without the need for a central prop shaft.

Operating independently from the hybrid system's front electric motor and driving the rear wheels alone, E-Four smoothly switches the RAV4 to all-wheel drive status on slippery road surfaces and from stationary starts, maximising traction, stability and controllability under the most demanding driving conditions.

Generating drive torque through the efficient use of power from the vehicle's hybrid system E-Four system not only optimises all-wheel drive performance in a variety of driving conditions, but also reduces energy loss, contributing to better fuel economy than that normally associated with AWD vehicles.

The significant extra traction provided by the E-Four system also provides considerable recreational benefits, equipping the new RAV4 Hybrid AWD with a 1,650 kg towing capacity -one of the highest capacities yet achieved by a hybrid vehicle.

Improved Driving Feel, Sequential Shiftmatic and Power Mode

The control logic of the Hybrid Synergy Drive system's seamless, planetary gear transmission has been designed to give a smooth, natural feeling to vehicle acceleration, with a close relationship between vehicle speed and engine revs, for a more engaging driving experience.

The addition of both a Sequential Shiftmatic gear change function and a Power mode to the RAV4 Hybrid's 'on-demand' drive modes offers customers a more sporting drive, improving responsiveness and throttle response on winding and mountainous roads.

By selecting the Sequential Shift gear lever position, engine braking force is enhanced and, because engine rpm is kept higher than in the standard, 'D' lever position, throttle response is also improved. Activating Power mode increases traction force.

Driving dynamics - Enhanced Ride Comfort and Steering Feel

The new RAV4 model range benefits for numerous measures designed to enhance ride comfort and driver involvement without sacrificing either stability or controllability.

The number of spot welds on the rear cross-member support has been increased from 105 to 138, and patches were added to the rear suspension member and floor cross-member.

The resultant increase in rear bodysell rigidity not only improves vehicle stability, but also enhances harshness damping and reduces high frequency waves, improving ride quality.

The new RAV4 shares the MacPherson strut front and lightweight trailing arm double-wishbone rear suspension of its predecessor. However, the shock absorbers and coil springs of both systems have been revised to give a flatter, more comfortable ride and enhance straight line stability.

The linear-type shock absorber had been changed to combine degressive- and choke-type valves, allowing for better adaptation of damping force to differing vehicle speeds and road conditions, and improving ride comfort. The coil spring constant has also been optimised to create a flatter ride feel.

The steering gear box benefits from an increase in rigidity of the installation fastening points, promoting a better steering feel.

Improved NVH for a Quieter Cabin

With a particular emphasis on rear seat occupant comfort and ease of conversation within the cabin, the NVH (Noise, Vibration and Harshness) performance of the new RAV4 has been comprehensively improved.

The surface area of the floor silencer has been increased by some 55%, the rear finish plate reshaped, and sound absorbing material added in several locations around the rear deck, reducing road, tire and exhaust noise.

The sound insulation efficiency of both front and rear doors has been improved through an increase in sound absorbing material and the addition of door trim outer insulator, further lowering wind and road noise.

And the instrument panel silencer size has been increased to reduce the transmission of engine noise into the cabin.

Innovation - Safety and Advanced Technology

The new RAV4 range is equipped with 'Toyota Safety Sense', a newly developed set of active safety technologies designed to help prevent or mitigate collisions across a wide range of traffic situations.

Combining a camera and millimetre-wave radar for a high level of detection performance, the RAV4's Toyota Safety Sense system features a Pre-Collision System (PCS) with a Pedestrian Detection function, Lane Departure Alert (LDA), Adaptive Cruise Control (ACC) and Automatic High Beam (AHB) technology.

At speed ranges of between 10 km/h and the vehicle's top speed Pre-Collision System detects objects ahead of the vehicle and reduces the risk of hitting the car in front. When there is a possibility of a collision it prompts the driver to brake with an audible and visual alert. PCS also primes the brake system to deliver extra stopping force when the driver presses the brake pedal. If the driver fails to react in time, the system automatically applies the brakes, reducing speed by approximately 40 km/h or even bringing the car to a complete stop, in order to prevent the collision or mitigate the force of impact.

The system is also able to detect potential collisions with pedestrians, in the event of which automated braking operates at relative speeds of between 10 to 80 km/h, and can reduce speed by approximately 30 km/h.

Adaptive Cruise Control helps the driver to keep a safe distance from the car in front. It detects preceding vehicles and determines their speed. ACC then adjusts vehicle speed (within a set range) to ensure that there is a safe distance between both cars. By using the forward-facing camera and millimetre-wave radar in combination to monitor vehicles merging into or out of the lane ahead, ACC helps maintain smooth acceleration and deceleration while driving.

The Lane Departure Alert system monitors lane markings and helps prevent accidents and head-on collisions caused by leaving lanes. If the vehicle starts to deviate from the lane without the indicators having been engaged, LDA warns the driver with an audible and visual alert, and can provide steering input depending on the model.

Automatic High Beam helps ensure excellent forward visibility during night-time driving. It detects both the headlights

of oncoming vehicles and the tail lights of preceding vehicles, automatically switching between high and low beams to avoid dazzling other drivers. By using high beams more frequently the system enables earlier detection of pedestrians and obstacles.

Thanks to the reduced risk of being involved in traffic accidents, vehicles equipped with Toyota Safety Sense can benefit from lower insurance costs or a more advantageous insurance reclassification.

New RAV4 will continue to offer Blind Spot Monitor and Rear Cross Traffic Alert within its safety equipment on top of newly introduced Toyota Safety Sense.

Panoramic View Monitor

A new Panoramic View Monitor uses four cameras, mounted on the underside of each door mirror, and the front and rear of the new RAV4 to display a 360 degree, bird's-eye view of the vehicle's immediate surroundings.

Unique to Toyota, the system may be activated to give a clear, 3D visualisation of the surroundings whilst the vehicle is still parked, before a gear is selected and the parking brake released.

The monitor can display a composite view which combines the images from any of the four cameras, as well as the path guidance lines of the Rear View Monitor system, providing an invaluable aid to parking and slow speed manoeuvring.

The system's wide, 180 degree front and rear view screen projections allow the driver to check blind spots to the front and rear sides of the vehicle. The side cameras remain operable even when the door mirrors are retracted. And a panoramic zoom view function allows for the closer observation of nearby objects that would otherwise be difficult to see.

4.2" Multi-information Screen

The newly designed instrument binnacle of the RAV4 is equipped with a 4.2" colour TFT (Thin Film Transistor) multi-information screen. Controlled by the steering wheel switch gear, with the possibility to coordinate its display with that of the 7" full-colour centre console screen, the multi-information screen offers a wide variety of functions and displays.

These include the customisation of vehicle settings, trip computer information, Smart Stop & Start telemetry, a hybrid powertrain energy monitor, turn-by-turn navigation and real-time AWD vehicle posture and steering lock indication.

Exterior Design - Stronger, More Dynamic Image

The front of the new RAV4 reflects its stronger, more dynamic styling with a powerful, more prominent execution of Toyota's Under Priority and Keen Look design language.

The Toyota logo is prominently set within a slender upper grille which anchors new, Keen Look LED or halogen headlamp clusters, both of which incorporate LED Daytime Running Lights (DRL) to give the new compact SUV a readily identifiable frontal signature.

The middle grille has been widened, and the lower, trapezoidal grille significantly enlarged in keeping with Toyota's Under Priority family model styling. The extremities of both middle and lower grille combine to form deep, foglamp-housing pockets placed at the very extremities of the front bumper to emphasise the RAV4's wide, stable front track. The front underguard has been restyled to give it a stronger visual emphasis, reinforcing the new SUV's rugged, off-road credentials.

To the side, a new wheel arch and rocker garnish places a cleaner, bolder emphasis on a vehicle profile further enhanced by a choice of new 17" and 18" alloy wheel designs.

The rear of the vehicle features new rear lamp clusters incorporating LED technology, giving the new RAV4 a high-tech light signature. The bumper has been restyled to give it greater prominence and place a greater emphasis on the vehicle's width and broad stance. And the rear underguard has also been redesigned to give it greater visual prominence.

The model range flagship, the RAV4 Hybrid may be identified through the use of exclusive, hybrid blue logos and 'Hybrid' badging, as well as model-specific 17" alloy wheels.

The new RAV4 will be available in choice of nine exterior body colours, of which two -Dark Red metallic and Blue metallic- are new.

Interior Design -Improved Sensory Quality and Functionality

The sophisticated and stylish architecture of the RAV4 interior has been enhanced to combine better functionality with greater visual harmony and consistency and improved sensory quality.

The driver's instrument binnacle, centre console and gear lever surround console have been redesigned, the dashboard, door panel and centre armrest trims restyled, and new, more consistent, premium quality finishes adopted throughout.

The driver's instrument binnacle now features a prestigious, twin analogue dial design incorporating a 4.2" multi-information screen. The centre console panel has been redesigned to incorporate a large, 7" multimedia system touch-screen.

The dashboard, door panel and centre armrest trims have been restyled for greater comfort and tactility, and matt black and neutral silver finishes applied throughout for improved sensory quality. Further interior visual harmonisation has been achieved through the use of consistent, blue back-lit instrument, and ambient, lighting.

An expanded range of interior colour schemes will be available, including four high grade leather upholstery choices, Beige and Grey being refreshed in colour and style while Tan being the new offer.

*Subject to final homologation

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