

THE NEW TOYOTA RAV4 HYBRID

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TOYOTA

ALWAYS A
BETTER WAY





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All SUV – All Hybrid

In 1994, Toyota's launch of the original RAV4 introduced a new kind of car to the world, one that combined the go-anywhere performance and rugged stance of an SUV with compact dimensions and handling more akin to a hatchback.





ALL SUV – ALL HYBRID

THE SAME PIONEERING spirit is witnessed in the all-new fifth generation RAV4, a model which brings a new era of improved performance, capability and safety. These advances that are underpinned by the first use of Toyota's new GA-K platform in an SUV.

With its low centre of gravity and significantly increased body rigidity, the new RAV4's platform directly contributes to superior handling, ride comfort, a spacious interior, class-leading load space (580 litres VDA with seats in place) and the freedom to produce a strong, eye-catching design with lower roof and hood lines and higher ground clearance. As well as providing more space and comfort, the cabin displays exceptional quality and finish throughout.

The new RAV4 remains unique its class in offering customers a self-charging, hybrid powertrain – the choice of an overwhelming majority of customers for the model in Western Europe (85 per cent in 2018). The new 2.5-litre petrol hybrid Dynamic Force, offering 218 DIN hp in front-wheel drive form and 222 DIN hp with all-wheel drive, will strengthen customer appeal, delivering step-changes in power, responsiveness and efficiency, with best-in-class fuel economy and emissions levels.

At the same time, all-wheel drive systems have been comprehensively improved to achieve a "drive on any road" capability. The new RAV4 Hybrid's electric AWD-i system has been re-engineered and enhanced to provide much stronger performance in challenging conditions and secure handling on slippery surfaces.

The new RAV4 is also the first Toyota to benefit from additional Toyota Safety Sense features that extend the use of advanced technologies to help prevent accidents and provide greater driver assistance, including systems that introduce a degree of automated driving.

RAV4 HERITAGE AND MARKET SUCCESS

The Toyota RAV4 started out as a pioneering niche model but has gone from strength to strength to become one of the world's best-selling vehicles. It can be credited with creating a whole new market segment, one in which today every major manufacturer is represented.

The model now sits at the heart of Toyota's global business. Cumulative worldwide sales across four generations since 1994 have reached more than 8.5* million, while in 2017, RAV4 was the world's best-selling SUV and fourth best-selling model overall, with 810,953 sales.

In Europe, high customer demand for SUVs has seen the market increase four-fold in the past four years (accounting for 22.7 per cent of the new car market) and annual sales are expected to reach more than five million by 2023. Sales volumes in the D-SUV segment remain stable, at around 1.5 million a year.

* End of June 2018

TOYOTA NEW GLOBAL ARCHITECTURE **GA-K PLATFORM**

The foundation of the new RAV4's dynamic qualities is its all-new TNGA K platform. This gives the car the core strengths of a low centre of gravity, light weight and a strong, rigid and balanced chassis that delivers exceptional handling, stability and driver rewards.



TOYOTA NEW GLOBAL ARCHITECTURE GA-K PLATFORM

FOR THE CUSTOMER the new platform makes the car more fun to drive, while at the same time enabling great design inside and out, enhanced safety performance that gives greater peace of mind and greater comfort for everyone on board.

The lowest possible centre of gravity is achieved by making every component lighter and locating it lower down in the vehicle – everything from the engine to the seats in the cabin. The platform also allows for a 57 per cent increase in the RAV4's body rigidity, which contributes to a stable, flat ride with superior handling.

The GA-K platform underpins the “confident and natural” driving quality Toyota has sought for the new model: “confident” in not reacting adversely to disturbances and communicating a sense of stability, and “natural” in its intuitive, natural response to the driver's inputs. Beyond the benefits of the chassis itself, further detailed measures make important contributions to its overall quality, with Toyota's top engineers leading the development of the new RAV4's dynamic performance, fine-tuning its handling and driveability



FOR THE CUSTOMER

THE NEW PLATFORM MAKES THE CAR MORE FUN TO DRIVE, WHILE AT THE SAME TIME ENABLING GREAT DESIGN AND ENHANCED SAFETY PERFORMANCE

For example, the design and location of the fuel tank have been changed to achieve better handling and stability. The tank is now located laterally in front of the rear axle so that its load is spread evenly between the wheels, supporting flat, stable performance. Optimum weight balance is not only achieved front-to-rear (59/41) but also left-to-right.

Response from the Electric Power Steering has been improved by moving the assist motor from the column to the rack. The result is more linear increase in steering input torque and less strain on the steering shaft, which communicates a better, more direct feel to the driver as the steering loads up, and gives more faithful line tracing through corners. Summer-specification tyres are used in place of the



all-weather type, further adding to the precise driving quality and achieving top-class braking distances.

The RAV4's GA-K platform also distinguishes itself in its use of a double wishbone rear suspension system. Thanks to the low centre of gravity and high body rigidity, the suspension does not have to be rendered stiffer to meet dynamic targets. Nonetheless, precise adjustments have been made to the rear suspension to focus on better ride comfort, including a more upright setting for the shock absorbers and optimisation of the locating point for the trailing arms.

Handling is thus agile, faithful and neutral, giving the driver confidence with accurate responses to the driver's use of the steering wheel and throttle pedal and optimised shift patterns.

CONCEPT AND DESIGN

The TNGA GA-K platform was of great benefit to Toyota's designers in their mission to give the new RAV4 a strong SUV character and styling that sets it apart from other models in its segment.





THE FACT THAT TNGA introduces so many standardised parts “under the skin” simplifies the development process, giving the designers more time and scope to create an all-new look, inside and out. The exterior lines and detailing in the cabin are influenced by regular, polygonal shapes, communicating strength and coherence.

The powerful design combines with the unique new self-charging hybrid powertrain to give the new RAV4 the stand-out qualities required to attract customers in a highly competitive marketplace, in particular conquest sales to people new to the model and the Toyota brand.

Key elements in generating this impact include raising the ground clearance, using large diameter wheels and making the car suitable for multiple types of use.

The exterior look is powerful and individual, with a solid form that extends from the front the vehicle along the sides to the rear, giving the sense of a strong mass and authentic SUV capabilities. At the front the emphasis is on width and strength with extra volume added to the lower bumper section. There is a similar effect at the rear where the horizontal line created by the tail lights and back window angles sharply downwards at each edge, drawing the eye towards the rear wheels and expressing the “polygon” influence on the design.

The cabin is characterised by high sensory quality throughout and precision execution. Soft-touch surfaces abound, including the dashboard and door panels. Consistent patterns, textures, colours and ambient lighting are applied, with symmetrical shapes and use of the polygon motif seen in the Toyota FT-AC (Future Toyota – Adventure

CONCEPT AND DESIGN

Concept, premiered at the 2017 Los Angeles Auto Show) concept model. Switchgear is new, too, with cleanly integrated buttons and pleasingly tactile controls, such as the button/dial to adjust the air conditioning

The low-set instrument panel – a further benefit of the TNGA platform – has powerful horizontal lines that flow into the door panels, emphasising the cabin's generous width and giving the driver a clearer view of the road ahead. A larger, open centre console between the

front seats is in keeping with a welcoming, functional SUV interior. Special attention was paid to providing plenty of useful and easily accessible storage for the driver and front passenger.

The TNGA platform also helps secure impressive cabin space, best-in-class load space and all-round comfort. With all seats in place, the cargo area has a VDA capacity of 580 litres, 79 litres more than the previous generation RAV4 Hybrid. Reducing the front and rear overhangs by a combined 35 mm (-5 mm front, -30 mm rear) means the

THE TNGA PLATFORM ALSO HELPS SECURE IMPRESSIVE CABIN SPACE, BEST-IN-CLASS LOAD SPACE AND ALL-ROUND COMFORT



CONCEPT AND DESIGN



new model is shorter overall by 5 mm (4,600 mm) and retains its agile manoeuvrability, yet the wheelbase has been increased by 30 mm (2,690 mm), securing a more spacious cabin.

To add to the new model's purposeful, wide stance, overall width has grown by 10 mm (1,855 mm) and the front and rear treads have been increased. At the same time, overall height has been brought down by 10 mm.

ON-BOARD COMFORT AND CONVENIENCE

Securing better all-round visibility was a key consideration in the RAV4's design process. The TNGA platform allows the hood to sit 15 mm lower, adding two degrees to the driver's forward field of vision, and the external mirrors have been moved to a lower position on the front doors. The front pillars have been made slimmer, the belt line has been lowered and the rearward view from the driver's seat has been improved by enlarging the rear side windows and making a new digital rear-view mirror available (further details in the Equipment section).

The driver's comfort and sense of control when at the wheel are important considerations, and the new TNGA chassis allows for a more engaging driving position, without detracting from the commanding view of the road that's a defining quality of SUVs. The driver's hip point has been lowered by 15 mm and the range of steering wheel adjust-

THE DRIVER'S HIP POINT HAS BEEN LOWERED BY 15 MM AND THE RANGE OF STEERING WHEEL ADJUSTMENT HAS BEEN INCREASED BY 50 PER CENT



ment has been increased by 50 per cent. This, together with a generous seat adjustment range and precise positioning of the pedals and arm rest, ensures more customers are able to find their ideal position when driving.

Comfort for rear seat passengers has been improved with 40 mm added to the left/right couple distance, more spacious rear footwells and two air vents. By increasing the opening angle of the rear doors and reducing the distance from the hip point to the rocker panel, getting into and out of the vehicle and access to child seats has been made easier.

The load space behind the rear seats has been made larger and more user-friendly, notably thanks to a fully flat floor and a length extended

by 60 mm to secure best-in-class capacity, 79 litres more than in the previous, fourth generation RAV4. Flexibility is designed-in so that the space can easily be adapted to gain more cargo room when required: with the rear seats folded down, the new RAV4 can accommodate a 29-inch mountain bike without any wheels having to be removed.

There is a height-adjustable, two-level deck board that can be reversed when dirty items need to be carried. The rear seats have a 60:40 split-folding function and there are storage nets on each side of the boot. Clever details include a hand grip on the tailgate that can serve as a hanger and a power-operated tailgate with hands-free function.

POWERTRAINS AND PERFORMANCE

The new 2.5-litre Hybrid Dynamic Force combines fuel and emissions efficiency and quiet operation with more power and greater responsiveness.



POWERTRAINS AND PERFORMANCE

THE FULL SYSTEM maximum output of 222 DIN hp/163 kW in the all-wheel drive model (218 DIN hp/160 kW with front-wheel drive) compares to 197 DIN hp/145 kW for the fourth generation model, signalling how Toyota's latest self-charging hybrid technology is not lacking in strength; acceleration from rest to 100 km/h takes just 8.1 seconds.

The proposal of "power with no compromise" gives the new RAV4 a unique advantage in its class and, with the benefit of its improved



performance, driveability and efficiency, this new hybrid is expected to account for an even greater proportion of sales. Toyota expects that this will rise from the current 85 per cent to 90 per cent for the new model in Western Europe. Nevertheless, a brand new 2.0-litre direct injection petrol engine has also been developed to meet requirements in other global markets. This engine will be available in selected European markets, with a choice of manual or automatic transmissions.

Toyota's fourth generation self-charging hybrid system makes its debut in the new RAV4, delivering multiple benefits. Key components, including the power control unit (PCU) and the nickel metal-hydride battery are more compact and lighter in weight, and the transaxle and transmission have been engineered to reduce electrical and mechanical losses. The new battery pack is 11 per cent lighter than before and transmission losses have been reduced by 25 per cent compared to the previous system.

The system makes use of Toyota's new 2.5-litre Hybrid Dynamic Force engine, a four-cylinder unit with direct and indirect injection that targets best-in-class fuel consumption and emissions for the new RAV4: combined cycle fuel economy is 4.4 l/100km* (AWD-i correlated NEDC), with CO₂ emissions from as low as 100 g/km* (AWD-i correlated NEDC). Performance is also supported by a new transaxle structure with a pre-load differential. For the driver, the results are better acceleration from stationary, improved efficiency at higher speeds, overall smoother and more linear acceleration and better control when decelerating.

* Indicative value subject to final homologation

NEW 2.5-LITRE HYBRID DYNAMIC FORCE ENGINE

The 2.5-litre Hybrid Dynamic Force Engine is a completely new unit that makes significant advances on its predecessor, delivering a better balance between fuel economy and power and achieving world-class thermal efficiency. In the RAV4's self-charging hybrid powertrain, its CO₂ emissions are from just 100 g/km* (AWD-i with 17inch wheels), while maximum full system output is 218 DIN hp/160 kW for the FWD model and 222 DIN hp/163 kW with AWD-i.

The engine adopts the Atkinson cycle and features a longer stroke than its predecessor – 87.5 x 103.4 mm compared to 90.0 x 98.0. It also operates at a higher, 14.0:1 compression ratio (compared to 12.5:1 for the previous unit). It is equipped with D-4S direct and indirect fuel injection and intelligent variable valve-timing – electric VVT-iE for the intake and hydraulic VVT-i for the exhaust. The valve-timing range for both intake and exhaust has been increased.

A comprehensive range of engineering features destined to improve combustion and reduce friction losses has helped the new engine achieve high output, better fuel efficiency, low exhaust emissions and a high peak thermal efficiency of 41 per cent. The cylinder heads are designed to generate high tumble, with an enlarged valve included angle and laser-cladded valve seats. A variable cooling system with an electric water pump and electric thermostat is used to improve combustion by maintaining the required temperature. There is also a fully variable oil pump for efficient engine oil pressure management.

* Indicative value subject to final homologation

THE 2.5-LITRE HYBRID DYNAMIC FORCE ENGINE IS A COMPLETELY NEW UNIT THAT DELIVERS A BETTER BALANCE BETWEEN FUEL ECONOMY AND POWER, ACHIEVING WORLD-CLASS THERMAL EFFICIENCY

INTELLIGENT ALL-WHEEL DRIVE (AWD-i)

Toyota is introducing improvements to its intelligent all-wheel drive technology (AWD-i) in the new RAV4 to deliver enhanced performance, capabilities and control in all driving conditions, adding to the model's "go anywhere" spirit and driving pleasure. Its impressive all-wheel drive performance on-road and off will further distinguish the new RAV4 among its competitors, with secure cornering performance and grip in all conditions.

RAV HYBRID WITH SIGNIFICANTLY ENHANCED ELECTRIC AWD-i SYSTEM

The new RAV4 Hybrid is equipped with a significantly enhanced and more capable electric AWD-i system that comes with no penalties: it

POWERTRAINS

returns better fuel economy in urban driving, quieter performance at high speeds and better traction in slippery conditions. It is also more compact and lighter in weight than mechanical AWD systems, so fuel consumption and vehicle packaging are not compromised.

The system efficiently generates drive torque using power from the hybrid vehicle system and an additional motor on the rear axle. This design reduces energy losses, saves weight and optimises AWD operation in different driving conditions.

Compared to the fourth generation model, the maximum torque to the rear wheels has increased by 30 per cent, from 953 to 1,300 Nm, matching or surpassing the torque achieved by mechanical systems and giving more sure-footed performance, for example when pulling away on loose, slippery surfaces. Also, the front/rear split can vary from 100:0 to up to 20:80, depending on driving conditions.

The electric AWD-i system automatically optimises the torque ratio according to driving conditions, providing improved handling, stability and off-road performance, particularly in faithful line tracing through bends in slippery conditions, giving the driver a strong feeling of all four wheels being in good contact with the road.

The mechanical all-wheel drive system on the new RAV4 2.0-litre direct injection petrol CVT model is equipped with Toyota's first dynamic torque vectoring system with Rear Driveline Disconnect. Featuring twin couplings on the rear axle, this manages torque distribution between the left and right rear wheels to give stable performance and accurate response to the driver's steering inputs when cornering, both in dry and slippery conditions.





THE ELECTRIC AWD-i SYSTEM
AUTOMATICALLY OPTIMISES
THE TORQUE RATIO ACCORDING
TO DRIVING CONDITIONS,
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OFF-ROAD PERFORMANCE

AND PERFORMANCE

AWD INTEGRATED MANAGEMENT

The new RAV4's all-wheel drive performance is further improved with the introduction of AWD Integrated Management (AIM), a unique feature in its class. This automatically adjusts different vehicle systems – steering assist, brake and throttle control, shift pattern and drive torque distribution – according to the drive mode selected. In the new RAV4 Hybrid AWD-i, the driver can switch from Normal to Eco or Sport mode. When choosing Sport mode, AIM modifies the steering assist, throttle control shift schedule and drive torque distribution to gain better on-road performance.

GREATER “ESCAPE” CAPABILITY WITH TRAIL MODE

The RAV4 Hybrid gains a higher level of capability with the introduction of a new automatic limited-slip differential control – Trail Mode – which ensures the best possible grip and control on low-grip surfaces. It can also provide valuable assistance when tackling challenging off-road conditions.

With the fourth generation RAV4 Hybrid, there was a risk of the vehicle becoming stranded if a driven wheel lost contact with the ground on very uneven terrain. On the new model, by activating Trail Mode (via a button on the centre console), the free rotating wheel can be braked and drive torque directed to the grounded wheel. Throttle control and the transmission shift pattern are also adapted to help the driver keep the vehicle moving.

EQUIPMENT AND NEW TOYOTA SAFETY SENSE

Equipment specifications for the new RAV4 demonstrate how Toyota continues to apply technologies to deliver useful innovations in safety, comfort and everyday practicality.



EQUIPMENT AND NEW TOYOTA SAFETY SENSE

FEATURES THAT ARE AVAILABLE as standard or as options, according to model grade, include a power-operated sunroof, ventilated seats, wireless charging for smartphones and up to five USB ports around the cabin for the connection or charge of multiple devices.

The new RAV4 offers generous equipment specifications across its range in Europe, with all models equipped as standard with the latest iteration of Toyota Safety Sense and an E call emergency contact function.

SECOND GENERATION TOYOTA SAFETY SENSE

Since its introduction in 2015, Toyota has committed itself to the democratisation of advanced safety technologies in its cars, introducing Toyota Safety Sense to more than ten million new vehicles worldwide. Toyota Safety Sense's active safety systems provide effective means of avoiding collisions or mitigating the effects of an accident by warning the driver, preparing safety systems for optimum operation and, if necessary, triggering automatic braking or steering assistance.

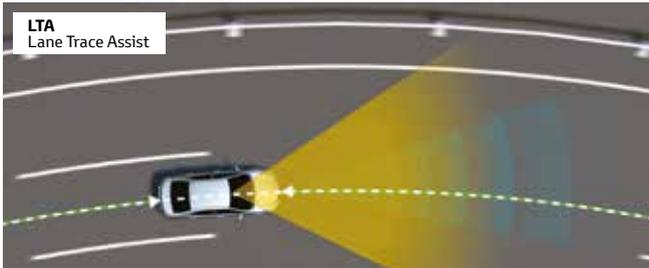
In its commitment to building a safe mobility society and the ultimate goal of zero road accident fatalities and injuries, Toyota has continued to develop Toyota Safety Sense to refine and enhance the operation its safety systems. The new second generation Toyota Safety Sense makes its debut on the new, fifth generation RAV4 where it is fitted as standard to all models in the range.

The improved system features a single-lens camera and millimetre-wave radar, both with enhanced performance to expand the scope of hazard detection and functionality. The unit has also been made smaller, so driver gains an even wider field of vision.



Second generation Toyota Safety Sense includes upgraded versions of the Pre-Collision System with Pedestrian Detection (PCS w/PD), intelligent Adaptive Cruise Control (iACC), Lane Departure Alert with Steering Assist (LDA w/SA), Road Sign Assist (RSA) and Automatic High Beam (AHB). In addition, it introduces Lane Tracing Assist (LTA), which provides more advanced driving support.

The functionality of the Pre-Collision System (PCS w/PD) has been extended so that as well as vehicles it can now detect pedestrians on the road ahead during low-light driving as well as in daylight. It also has the added capability of recognising bicycles in the vehicle's path*, at relative speeds of approximately 10 and 80 km/h, during daylight hours. Where vehicles are concerned, the system can determine collision risks at speeds from zero to 180 km/h. If it calculates an imminent



risk of collision, it will alert the driver and prepare the brakes (Pre-Crash Brake Assist) for maximum stopping force. If the driver fails to act, it will trigger Autonomous Emergency Braking, which can reduce vehicle speed by up to 40 km/h, potentially bringing the car to a stop and avoiding an impact.

The new intelligent Adaptive Cruise Control (iACC) is also able to work in conjunction with the car's Road Sign Assist system. When the car is travelling at a constant, pre-set speed, iACC can recognise new speed limits on major roads and let the driver adjust the speed to keep within the limit, simply by using switches on the steering wheel.

Road Sign Assist (RSA) itself has been enhanced to that it is able to recognise a wider range of road sign warnings and commands, presenting the information on the driver's multi-information display.

The RAV4's Toyota Safety Sense includes a new Lane Tracing Assist (LTA) function, which provides a degree of automated driving support. LTA monitors the line markings on motorways and principal routes and

applies steering assist to keep the car centred within its lane, when travelling at speeds above 50 km/h. This can reduce collision risks and the burden on the driver when making long motorway journeys.

The intelligent Adaptive Cruise Control and Lane Tracing Assist work together in slow, stop/go traffic, tracking the vehicle ahead within the traffic lane, maintaining a safe distance and speed, bringing the vehicle to a halt when necessary and moving off seamlessly when traffic flow resumes. This can relieve the driver of much of the stress of driving in slow traffic and significantly reduce the risk of common low-speed rear-end collisions.

Lane Departure Alert with Steering Assist (LDA w/SA) has also been improved so that it is able to recognise road margins on straight roads where there are no clear lane markings. If it is difficult or impossible for the system to detect lane markings, for example when driving in heavy traffic, it will track the path of the vehicle ahead, using the front-mounted camera and radar. Also, in combination with LTA, it performs corrective steering operation when lane departure without the driver's intention is detected.

EQUIPMENT FEATURES

The Active grade welcomes the customer to the RAV4 world with a range of standard features as TSS, 17-inch alloy wheels, roof rails, LED headlights, push-button start, a seven-inch display audio and 4.2-inch TFT multi-information display.

Features such as 18-inch alloys, smart entry, soft touch cabin trims, larger display screens, leather upholstery, projector LED headlights, rear privacy glass and a power-operated tailgate are also available.

EQUIPMENT AND NEW TOYOTA SAFETY SENSE

STYLE GRADE

The Style grade will stand out with its bi-tone paint finish, striking a contrast between the bodywork colour (a choice of four) and a black roof section, plus projector LED headlights and black 18-inch alloys. In the cabin, sports-style seats, a black headlining and blue trim accents further emphasise the car's distinctive quality. A wide range of option packs and accessories are available so owners can equip their RAV4 to perfectly meet their lifestyle preferences.

NEW DIGITAL REAR-VIEW MIRROR

The new RAV4 helps drivers gain a better view of their surroundings with a new digital rear-view mirror – a Toyota first. It can be used as a conventional, electrochromic auto-dimming mirror, directly reflecting the road and traffic behind the car, or as a digital monitor with a much wider field of vision.

At the touch of a switch, it presents real-time images relayed from an adjustable, high-definition camera mounted high up on the RAV4's back window. This ensures a clear view, for example when large items



in the load space or tall rear-seat passengers obscure the driver's line of sight. The camera also provides a wider field of vision and the driver can use touch controls to adjust the image, including a zoom function.

PANORAMIC VIEW MONITOR, PANORAMIC SUNROOF AND JBL AUDIO SYSTEM

Further premium features available on the new RAV4 include a Panoramic View Monitor, which provides the driver with a real-time 360-degree view of the area immediately around the vehicle, including a bird's eye aspect from above. This is of value both off-road, to better negotiate tricky terrain, and when manoeuvring in confined spaces where hazards can lurk outside the driver's line of sight.

The open and spacious cabin environment can be further enhanced with an opening panoramic sunroof. Where on-board entertainment is concerned, Toyota has worked with premium audio partner JBL to deliver a unique and immersive experience. Tailor-made for the new RAV4, the JBL audio system provides concert sound quality through its nine-speaker architecture. It features JBL-signature horn tweeters, a powerful new subwoofer and an amplifier with Clari-Fi™ music restoration technology.

CONNECTED SERVICES

Connected services will also be offered on the new RAV4. This all-new application makes numerous convenience and peace of mind features available to customers, including Last Mile guidance, Send to Car navigation, Find my Car, Driving analytics and Maintenance Reminder.

*System functionality may vary according to market



YOSHIKAZU SAEKI – CHIEF ENGINEER



YOSHIKAZU SAEKI joined Toyota in 1987 and has taken key roles in the development of the Toyota Avalon and Camry and the Lexus brand. More recently has been closely involved in Toyota's global expansion, bringing his experience to bear in the development of new technologies, platforms and models. As Chief Engineer of the new RAV4 he explains his ambitions for the car.

“The RAV4 has held a strong market presence since its introduction 25 years ago. It has gained a loyal following the world over, continually evolving to respond to changing customer needs. For the new RAV4, we set out to create a product that appeals to the next generation of customers.

“The first thing we considered was how we could redefine RAV4's product value. We addressed the fundamental reason for its being and thought about how we could create an SUV that can withstand the test of time – one that can last for the next 25 years.

“It is never easy to create a new concept in such a strictly segmented and increasingly competitive market. We needed to deliver a 'wow' factor to customers, inspire them with a vehicle that has exceptional presence and highlight the benefits of owning it. These were the foundations on which we developed the fifth generation RAV4.

“Since the first generation model, there have been two over-arching views of the RAV4 – 'driving performance suited to any road' and a 'user-friendly interior suited to any situation'. It was my mission to evolve these views.

“This means, the RAV4 should have a strong presence and reliable toughness on any road while offering a stress-free driving experience for driver and passengers.

“At the very beginning of the design process we thought about how best to evolve the original concept. This led us to the new concept of Adventure and Refinement. Adventure sends out a simple, strong message that drivers can drive anywhere they want, expressing waku-doki – the equivalent of ‘heart-pumping excitement’ in Japanese. Refinement is expressed in a sophisticated design that fits in with an urban setting.

“Combining these contrasting elements enhances the new RAV4’s unique value. Furthermore, its wide stance, large tyres and raised ground clearance create a strong image which have further empha-

sised with the polygon design theme and the vehicle’s multipurpose capabilities. Just looking at the new RAV triggers the urge to get in and go somewhere.

“Where vehicle performance, handling and stability are concerned, we defined the key concept as ‘Confident and Natural’ – with the driver’s sensibilities at the heart of everything. As a team we put great effort into improving the driving experience by focusing on enhancing tyre-to-ground contact, stable and natural cornering and smooth, responsive driving.

“We’ve improved the RAV4’s performance to meet the demands of any road. Whereas a conventional SUV suspension makes for an uncomfortable, unresponsive ride in off-road conditions, the RAV4 provides sedan-like comfort and an enjoyable ride.”

“THIS MEANS, THE RAV4 SHOULD HAVE A STRONG PRESENCE AND RELIABLE TOUGHNESS ON ANY ROAD WHILE OFFERING A STRESS-FREE DRIVING EXPERIENCE FOR DRIVER AND PASSENGERS”

SPECIFICATIONS

	HYBRID FWD	HYBRID AWD-i
ENGINE	2.5 HYBRID DYNAMIC FORCE	2.5 HYBRID DYNAMIC FORCE
Engine code	A25A-FXS	A25A-FXS
Type	4 in-line cylinders	4 in-line cylinders
Fuel type	91 unleaded petrol or higher	91 unleaded petrol or higher
Valve mechanism	DOHC 16-valve with VVT-iE (intake) and VVT-i (exhaust)	DOHC 16-valve with VVT-iE (intake) and VVT-i (exhaust)
Fuel system	D-4S (direct and indirect injection)	D-4S (direct and indirect injection)
Turbocharger	-	-
Displacement (cm ³)	2,487	2,487
Bore x stroke (mm)	87.50 x 103.48	87.50 x 103.48
Compression ratio (-:1)	14.0 : 1	14.0 : 1
Hybrid system		
Hybrid battery	Nickel-metal hydrid	Nickel-metal hydrid
Nominal voltage (V)	244.8	244.8
Capacity (Ah)	6.5	6.5
Front/Rear Motor/Generator	3NM/-	3NM/4NM
Type	Permanent Magnet synchronous motor	Permanent Magnet synchronous motor
Max Voltage (V)	650 (HV system max voltage)	650 (HV system max voltage)
Front /Rear Max output (kW)	88/-	88/40
Front Rear Max. Torque (Nm)	202/-	202/121
Total system Max. power (DIN hp/ kW)	218/160	222/163
Torque (Nm @ rpm) thermic engine only	221 @ 3,600 - 5,200	221 @ 3,600 - 5,200
Emissions level	Euro 6d-temp	Euro 6d-temp

	HYBRID FWD	HYBRID AWD-i
TRANSMISSION	Front wheel drive	All wheel drive
Type	Planetary Gear System	Planetary Gear System
Differential gear ratio (-:1)	3.605	3.605
PERFORMANCE		
Max. speed (km/h)	180	180
Acc. 0 - 100 km/h (sec)	8.4	8.1
FUEL CONSUMPTION l/100KM¹		
Urban 17"/18"	4.4/4.7	NA
Extra-urban 17"/18"	4.7/4.7	NA
Combined 17"/18"	4.5/4.6	4.4 ² /4.5 ²
Fuel tank capacity (l)	55	55
CO₂ EMISSIONS (g/km)¹		
Combined 17"/18"	102/105	100 ² /103 ²

¹ Correlated NEDC

² Pending final homologation

ENGINE	2.0 PETROL FWD		2.0 PETROL AWD	
	2.0 PETROL DIRECT INJECTION			
Engine code	M20A-FKS			
Type	4 in-line cylinders			
Fuel type	95 unleaded petrol or higher			
Valve mechanism	DOHC 16-valve with VVT-iE (intake) and VVT-i (exhaust)			
Fuel system	D-4S (direct and indirect injection)			
Turbocharger	-			
Displacement (cm ³)	1,987			
Bore x stroke (mm)	80.5 x 97.6			
Compression ratio (:1)	13.0 : 1			
Max. power (DIN hp/ kW @ rpm)	175/129 @ 6,600			
Max. torque (Nm @ rpm)	208 @ 4,300 - 5,200			
Emissions level	Euro 6d-temp			
TRANSMISSION	Front wheel drive		All wheel drive	
	Manual	Direct Shift-CVT	Manual	Direct Shift-CVT
Type				
Gear ratios (:1)				
1st	3.916		3.916	
2nd	2.047		2.047	
3rd	1.371	between	1.371	between
4th	1.025	2.236	1.025	2.236
5th	0.837	and	0.837	and
6th	0.687	0.447	0.687	0.447
Reverse	3.416	3.136	3.416	3.136
Differential gear ratio (:1)	4.312	4.262	4.312	4.262

PERFORMANCE	2.0 PETROL FWD		2.0 PETROL AWD	
	Manual	Direct Shift-CVT	Manual	Direct Shift-CVT
Max. speed (km/h)	190	190	190	190
Acc. 0 - 100 km/h (sec)	9.8	10.7	9.9	11.0
FUEL CONSUMPTION l/100KM ¹	Manual	Direct Shift-CVT	Manual	Direct Shift-CVT
Urban 17"/18"/19"	7.5/7.6/7.6	6.4/6.5/6.5	7.7/7.8/7.8	6.8/6.8/6.8
Extra-urban 17"/18"/19"	5.2/5.3/5.3	5.1/5.1/5.1	5.4/5.5/5.5	5.3/5.4/5.4
Combined 17"/18"/19"	6.0/6.1/6.1	5.6/5.6/5.6	6.2/6.4/6.4	5.8/5.9/5.9
Fuel tank capacity (l)	55	55	55	55
CO ₂ EMISSIONS (g/km) ¹	Manual	Direct Shift-CVT	Manual	Direct Shift-CVT
Combined 17"/18"/19"	138/140/140	127/128/128	142/145/145	134/136/136

¹ Correlated NEDC

SPECIFICATIONS

	HYBRID	2.0 PETROL
CHASSIS		
Front suspension	MacPherson strut	
Stabiliser bar diameter (mm)	25.4	24.2 (AWD)/25.4 (FWD)
Rear suspension	Double wishbone	
Stabiliser bar diameter (mm)	23.2	23.2 (AWD)/22.2 (FWD)
Steering		
Overall ratio (:1)	14.3	
Lock to lock	2.76	
Min. turning circle tyre/body (m)	11.0/11.8	
Brakes		
Front (mm)	Ventilated discs (328)	
Rear (mm)	Solid discs (317)	
Tyres	225/65 R17 - 225/60 R18	
EXTERIOR DIMENSIONS (mm)		
Overall length	4,600	
Overall width	1,855	
Overall height (with roof rail)	1,685	
Wheelbase	2,690	
Tread front	1,610	
Tread rear	1,640	
Front overhang	925	
Rear overhang	985	
Ground clearance	190	195
Angle of Approach (degrees)	17.5	17.5
Angle of Departure (degrees)	20	20
Cd Drag coefficient	0.32	

	HYBRID	2.0 PETROL		
CARGO (dm³ VDA)				
Capacity	580			
Rear seats down				
- up to the tonneau cover	1,189			
- up to the roof	1,690			
INTERIOR DIMENSIONS (mm)				
Length	1,890			
Width	1,515			
Height	1,230			
Effective leg room front/rear	1,040/ 960			
Shoulder room front/rear	1,470 / 1,430			
Hip room front/rear	1,380 / 1,210			
WEIGHT (kg)				
	FWD	AWD-i	FWD	AWD
Curb weight min	1,590	1,650	1,480 (CVT) / 1,450 (MT)	1,560 (CVT) / 1,510 (MT)
Curb weight max	1,680	1,730	1,600 (CVT) / 1,565 (MT)	1,670 (CVT) / 1,615 (MT)
Gross weight	2,135	2,225	2,065 (CVT) / 2,050 (MT)	2,155 (CVT) / 2,105 (MT)
Towing capacity braked	800	1,650	1,500 (CVT) / 2,000 (MT)	1,500 (CVT) / 2,000 (MT)
Towing capacity unbraked	750	750	750	750

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THE NEW TOYOTA RAV4 HYBRID

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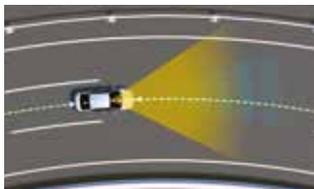
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