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THE TOYOTA RAV4 HYBRID

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.

The same pioneering spirit is witnessed in the fifth generation RAV4, launched in 2019, a model which opens a new era of improved performance, capability and safety. These advances 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, RAV4's platform directly contributes to superior handling, ride comfort, a spacious interior, class-leading load space (580 litres VDA with rear seats in place) and the freedom to produce a strong, eye-catching design with lower roof and bonnet lines and higher ground clearance. As well as providing more space and comfort, the cabin displays exceptional quality and finish throughout.

RAV4 is powered by a self-charging, full hybrid electric powertrain. The system's 2.5-litre petrol hybrid engine, offering 215bhp in front-wheel drive form and 219bhp with all-wheel drive, strengthens customer appeal, delivering step-changes in power, responsiveness and efficiency, with best-in-class fuel economy and emissions levels.

At the same time, the all-wheel drive system has been comprehensively improved to achieve a "drive on any road" capability. 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.

It also benefits 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 functionality.

TOYOTA NEW GLOBAL ARCHITECTURE GA-K PLATFORM

The foundation of RAV4's dynamic qualities is its TNGA GA-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.

For the customer this 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 more comfort for everyone on board.

The lowest possible centre of gravity has been achieved by making every component lighter and locating them 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 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 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 vehicle's dynamic performance, fine-tuning its handling and driveability.

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 helping achieve top-class braking distances.

The 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 use of the steering wheel and throttle pedal and optimised shift patterns.

CONCEPT AND DESIGN

The GA-K platform was of great benefit to Toyota's designers in their mission to give RAV4 Hybrid 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 a new self-charging hybrid powertrain to give RAV4 Hybrid 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 (up to 19-inch) 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 of 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 the 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, premiered at the 2017 Los Angeles Auto Show) concept model. The switchgear features 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 GA-K 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 GA-K 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. Reducing the front and rear overhangs by a combined 35mm (-5mm front, -30mm rear) means the vehicle is shorter overall by 5mm (4,600mm) and retains its agile manoeuvrability, yet the wheelbase has been increased by 30mm (2,690mm), securing a more spacious cabin.

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

On-board comfort and convenience

Gaining better all-round visibility was a key consideration in the design process. The GA-K platform allows the bonnet to sit 15mm lower, adding two degrees to the driver's forward field of vision. 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.

The driver's comfort and sense of control when at the wheel are also important considerations; the GA-K 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 15mm and the range of steering wheel adjustment 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 driving position.

Comfort for rear seat passengers has been improved with 40mm added to the left/right couple distance, more spacious rear footwells and the provision of 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 have 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 60mm 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, a 29-inch mountain bike can be carried 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 (Design grade and above).

POWERTRAINS AND PERFORMANCE

The new 2.5-litre hybrid engine combines fuel and emissions efficiency and quiet operation with more power and greater responsiveness.

The full system maximum output of 219bhp/163 kW in the all-wheel drive model (215bhp/160 kW with front-wheel drive) compares to 195bhp/145kW for the fourth generation model, signalling how Toyota's latest self-charging hybrid technology is not lacking in strength; acceleration from rest to 62mph takes just 8.1 seconds (FWD model).

Toyota's fourth generation self-charging hybrid system delivers 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 uses a 2.5-litre hybrid engine, a four-cylinder unit with direct and indirect injection. Combined cycle fuel economy is from 48.7-49.5mpg (Design FWD model, WLTP data), with CO_2 emissions from 129g/km (Design FWD model, WLTP data). 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.

2.5-litre Hybrid Engine

The 2.5-litre hybrid 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. The engine adopts the Atkinson cycle and features a longer stroke than its predecessor – 87.5 x 103.4mm compared to 90.0 x 98.0mm. 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 designed 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.

INTELLIGENT ALL-WHEEL DRIVE (AWD-i)

Toyota introduced improvements to its intelligent all-wheel drive technology (AWD-i) in 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 car among its competitors, with secure cornering performance and grip in all conditions.

Significantly enhanced electric AWD-i system

RAV4 Hybrid is equipped with a significantly enhanced and more capable electric AWD-i system that comes with no penalties: it 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 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 previous model, the maximum torque to the rear wheels has been increased by 30 per cent, from 953 to 1,300Nm, 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, confidence-inspiring feeling of all four wheels being in good contact with the road.

AWD Integrated Management

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, Normal, Eco or Sport. In 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

RAV4 gains a higher level of capability with 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 previous model, there was a risk of the vehicle becoming stranded if a driven wheel lost contact with the ground on very uneven terrain. On the current model, when Trail Mode is engaged (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 TOYOTA SAFETY SENSE

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

Features that are available as standard or as options, according to model grade, include a power-operated panoramic roof, smartphone integration with Apple CarPlay and Android Auto, heated seats and up to five USB ports around the cabin for the connection or charging of multiple devices.

All models are also fitted with the latest iteration of Toyota Safety Sense and an eCall emergency contact function.

Digital combimeter

It's a feature of all new Toyota models that the driver can view and take in key vehicle data at-a-glance, so there is least distraction from their focus on driving and the road ahead. RAV4 features a new digital combimeter in the instrument binnacle that comes with flexible display settings – technology first seen on the bZ4X battery electric SUV. There is a choice of four styles and three layouts and personalisation options for the 12.3-inch display so the driver can choose the most relevant information needed between the numerical speedometer and digital dials, as well as other information such as an eco-driving meter, audio track information, or Adaptive Cruise Control display, among others.

These layouts are presented in four different style themes for a more customised look-and-feel: Casual, Smart, Sport and Tough.

Toyota Smart Connect

The 2023 RAV4 adopts Toyota's latest multimedia system, Toyota Smart Connect, which features a 10.5-inch screen with a high-definition colour display.

Its functions include cloud-based navigation that allows for accurate journey planning with information that's constantly updated, plus live details of traffic and road events and how easy or hard it might be to find a parking place near your destination. When connection to the cloud is unavailable, there is also an embedded navigation system so journey planning is uninterrupted.

Thanks to the included four-year over-the-air "Smart Service" data package, customers can access Toyota's latest multimedia and navigation systems without having to pair their smartphones to the vehicle.

The user experience is seamless with the accompanying MyToyota smartphone app, so customers can keep track of various vehicle information, such as driving analytics, fuel levels, warnings and “find my car” function. There’s also the time-saving convenience of being able to use the app to book service and maintenance appointments at Toyota centres.

Smartphone integration with Android Auto (wired) and Apple CarPlay (wireless) is provided as standard.

There are more ways to communicate with your car using the new on-board voice agent that will respond to spoken requests to adjust the climate control, choose multimedia options, make a phone call, or open and close the windows. “Hey Toyota” is designed to understand conversational speech, so if you say “I’m cold” it will respond by closing the windows or raising the air conditioning temperature.

Remote services

RAV4 comes with more remote functions the driver can make use of without having to be in or near their vehicle. The familiar worries about whether you have left a window open, the doors unlocked or the lights on after you’ve walked away from your car are addressed with remote notifications to confirm the vehicle is secure. This feature is standard on all RAV4 models.

You can also lock and unlock the doors – a handy feature if someone without a key needs access, for example to drop off a parcel or to clean the car. The hazard lights can also be flashed, making the vehicle easier to spot in a big or busy car park. These features are newly standard on mid-grade models, together with remote operation of the climate control to warm up or cool the cabin before making a journey.

Toyota Safety Sense

Since its introduction of Toyota Safety Sense in 2015, Toyota has committed itself to the democratisation of advanced safety technologies in its cars. Its 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 of its systems.

The 2023 model year RAV4 benefits from the latest Toyota Safety Sense, with increased functionality and new features. The new RAV4 gains enhanced Toyota Safety Sense

functions that can warn the driver and help avoid a wider range of common road accident risks.

The Pre-Collision System (PCS) gains intersection support that can help with safer turns at junctions. It will detect if the car is about to cross the path of any oncoming traffic, and if there are any pedestrians crossing the road into which the vehicle is moving, alerting the driver and, if necessary, initiating braking control to help avoid an impact. It can detect pedestrians on the road ahead during low-light driving as well as in daylight. It has the added capability of recognising bicycles in the vehicle's path.

Emergency Steering Assist is also newly provided, helping the driver avoid a pedestrian who has stepped into the road, while keeping the car under control and within its traffic lane.

The intelligent Adaptive Cruise Control is 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 itself has been enhanced so that it can recognise a wider range of road sign warnings and commands, presenting the information on the driver's multi-information display.

RAV4's Toyota Safety Sense includes a Lane Tracing Assist 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 31mph. 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 can 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.

UK MODEL RANGE

RAV4 is available in three equipment grades, Design, Excel and GR Sport, offering a wealth of comfort, convenience and technology features that meet the requirements and preferences of today's SUV customers.

At the entry point to the range, the RAV4 Hybrid **Design** model can be specified with front or all-wheel drive and comes with standard features including: -

- 18-inch five-spoke alloy wheels
- Smart entry and start
- Poewr back door
- Front fog lights
- Front and rear parking sensors
- Rain-sensing wipers
- Dusk-sensing headlights
- Auto-dimming rear-view mirror
- Push-button start
- Roof rails
- Scuff plates
- Parabola LED headlights
- Rear privacy glass
- Electronic parking brake
- Power-adjustable heated door mirrors with auto-folding function
- Toyota Smart Connect multimedia system with cloubd-based and embedded navigation
- Smartphone integration with Apple CarPlay and Android Auto
- 12.3-inch digital combimeter
- DAB
- Toyota Safety Sense
- eCall
- Rear-view camera

The **Excel** model extends the Design specification with: -

- 19-inch alloy wheels
- Projector LED headlights
- Blind Spot Monitor and Rear Cross Traffic Alert

- Power-adjustable heated door mirrors with auto-folding function and puddle lights
- Heated front seats
- Driver's seat with power slide adjustment and lumbar support and memory function
- Full leather seat upholstery
- Heated steering wheel
- Panoramic View Monitor
- Optional panoramic roof

Striking a more sporting appearance, the RAV4 Hybrid **GR Sport** adopts (further to the Design specification): -

- 19-inch GR Sport black alloy wheels
- GR Sport Alcantara seat upholstery
- Bi-tone metallic paint
- Projector LED headlights
- Blind Spot Monitor and Rear Cross Traffic Alert with auto braking
- Intelligent Clearance Sonar
- Power door mirrors with auto-folding function and puddle lights
- Heated front sports seats
- Power-adjustable front seats with memory setting for the driver's seat
- Paddle shifts
- Panoramic View Monitor
- Optional panoramic roof
- Intelligent all-wheel drive
- Dark silver front and rear under-runs

Up to 10 years' warranty cover

In common with every new Toyota, the RAV4 Hybrid is eligible for Toyota warranty protection for up to 10 years or 100,000 miles (whichever comes first). This comprises an initial three-year manufacturer warranty, followed by up to a further seven years of service-activated warranty.

For the first three years of the car's life, owners can have it serviced at a place of their choice. When the new car warranty period expires, they can then benefit from an additional 12 months (or 10,000 miles) warranty when their vehicle has a qualifying service at an authorised Toyota workshop. The warranty is provided at no extra cost, up to a limit of 10 years/100,000 miles. Terms and conditions apply; full details are available at www.toyota.co.uk.

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 he 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.

"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 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 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 are further emphasised by the polygon design theme and the vehicle's multipurpose capabilities. Just looking at the new RAV4 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 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 saloon-like comfort and an enjoyable ride.”

TOYOTA RAV4 TIMELINE AND UK SALES

YEAR	MONTH	EVENT
1989		Original RAV4 concept is presented at the Tokyo Motor Show.
1994	June	First generation RAV4 launched in the UK, with a three-door body and 2.0-litre petrol engine.
1995	June	A five-door body style is introduced.
1997		An electric powered RAV4 is developed; a number are used for tourist transport on Jersey.
1998	January	The range is revised and a soft-top three-door version introduced.
2000	August	The second generation RAV4 is launched.
2001	July	A 2.0 D-4D diesel engine is made available.
2003	October	The range is revised and the XT grade structure adopted.
2004	July	Launch of the Granite special edition model.
	December	The flagship XT5 grade is launched.
2005	June	Launch of the XT-R feature model.
2006	February	The third generation RAV4 is launched in the UK, with 2.0 VVT-I and 2.2 D-4D 140 and 180 engines. The T180 becomes the new top-of-the range model. Three-door body style is discontinued.
2007	January	A new XT-R feature grade is launched.
	March	Integrated Active Drive is made available as an option on XT_3 models.
2008	July	SR180 model is introduced; T180 is deleted from the range.
	September	Grade structure revised to XT-R and SR180 trims.
2009	August	2009 RAV4 launched with Toyota Optimal Drive powertrains. Introduction of 2WD 2.0 Valvematic.
2010	January	2.0 Valvematic 2WD model is deleted from the range.

	June	New 2.2 D-4D 2WD becomes entry point to the range, and all models gain new frontal exterior styling.
	October	2.0 Valvematic and 2.2 D-4D engines revised to meet Euro 5 emissions standards.
	November	An electric-powered RAV4, developed with Tesla, is unveiled at the Los Angeles motor show.
2012	November	The fourth generation RAV4 makes its debut, at the Los Angeles motor show.
2013	March	First deliveries to UK customers of the new RAV4. The range adopts a new grade structure: Active, Icon and Invincible.
2014	January	Toyota extends the availability of its 2.0-litre D-4D engine in the RAV4 range, adding an all-wheel drive version in addition to the 2WD model. At the same time Toyota Touch 2 is introduced in higher grade models and specifications and option choices are improved.
2015	January	The new RAV4 Business Edition increases availability of the 2.0-litre D-4D engine with front-wheel drive.
	May	The 2.0-litre Valvematic engine becomes Euro 6-compliant, delivering improvements in fuel economy and CO_2 emissions.
	December	RAV4 re-styled for 2016 and equipped with more powerful and efficient 2.0-litre D-4D engine. 2.0-litre Valvematic petrol engine delivers better fuel economy. Revised equipment grades are introduced in a new line-up of Active/Business Edition/Business Edition Plus/Icon/Excel. Toyota Safety Sense is available on all versions apart from Active.
2016	January	The RAV4 Hybrid is added to the range.
	October	The 2017 RAV4 is introduced, with Toyota Safety Sense standard on all versions excepting Active.
2017	October	Introduction of the 2018 RAV4 with new grade structure and extended availability of hybrid power across the full range.
2018	March	World premiere of the fifth generation RAV4 at the New York Auto Show.
	October	The fifth generation RAV4 makes its European debut at the Paris Motor Show.
2019	April	Start of UK sales of the fifth generation RAV4.
	November	RAV4 Plug-in Hybrid is revealed at the Los Angeles Auto Show.
2020	April	Worldwide RAV4 sales pass 10 million units.
	July	The RAV4 Black Edition is launched in the UK.
2021	January	The RAV4 Plug-in is launched.

	September	Toyota reveals the RAV4 Adventure
2022	March	Adventure grade is introduced in the UK.
	June	The 2023 RAV4is announced with new Toyota Smart Connect multimedia system, digital combimeter and enhanced Toyota Safety Sense systems.
	October	A RAV4 GR Sport model is announced ahead of introduction in spring 2023.
2024	May	RAV4 celebrates its 30th anniversary
	August	Grade structure is revised with deletion of Icon grade.

Sales in UK markets in 2023: 4,147

Cumulative UK sales (all powertrains, since 1994): 223977

RAV4 TECHNICAL SPECIFICATIONS

ENGINE			
Engine code		A25A-FXS	
Engine type		4 cylinders in-line	
Valve mechanism		16-valve DOHC, VVT-i (intake) and VVT-i (exhaust)	
Fuel injection		D4S	
Displacement (cc)		2,487	
Bore x stroke (mm)		87.5 x 103.48	
Compression ratio		14.0:1	
Total system output (bhp/DIN hp/kW)		**215/218/160 FWD** **219/222/163 AWD-i**	
Max. engine power (bhp/DIN hp/kW @ rpm)		176/178/131 @ 5,700	
Max. engine torque (Nm @ rpm)		221 @ 3,600 – 5,200	
Emissions certification		Euro 6d	
HYBRID SYSTEM			
Electric motor (front)			
Type		AC permanent magnet, synchronous motor	
Max. power (kW)		88	
Max. torque (Nm)		202	
Electric motor (rear)			
Type		AC permanent magnet, synchronous motor	
Max. power (kW)		40	
Max. torque (Nm)		121	
Hybrid battery			
Type		Nickel-metal hydride	
Nominal voltage		244.8	
Number of modules		34	
System voltage		650	
TRANSMISSION			
Type		CVT	
Final drive ratio		3.605:1	
PERFORMANCE		**FWD**	**AWD-i**
Max. speed (mph)		112	
0-62mph (sec)		8.4	8.1
FUEL CONSUMPTION, EMISSIONS & INSURANCE		**FWD**	**AWD-i**
Combined fuel consumption – WLTP data (mpg)	Design	48.7-49.5	47.0-48.7
	Excel	48.7-49.5	47.0-48.7
	GR Sport	n/a	47.0-48.7
Fuel tank capacity (l)		55	
CO_2 emissions – combined, WLTP data (g/km)	Design	129-132	131-137
	Excel	130-132	131-137
	GR Sport	n/a	132-137
Insurance groups		25E-32A	
New vehicle warranty		3 years/60,000 miles	
SUSPENSION			

Front		MacPherson strut	
Rear		Double wishbone	
Anti-roll bar diameter (mm)	Front	25.4	
	Rear	23.2	
BRAKES			
Front (diameter, mm)		Ventilated discs, 328	
Rear (diameter, mm)		Solid discs, 317	
STEERING			
Type		Rack and pinion, electric power steering	
Ratio		14.3:1	
Turns lock to lock		2.76	
Min. turning radius – tyre/body (m)		5.5/5.9	
TYRES AND WHEELS			
Wheel size		18 or 19-inch	
Tyre size		225/60R18 235/55R19	
WEIGHTS		**FWD**	**AWD-i**
Kerb weight (min/max kg)		1,590 – 1,680	1,650 – 1,730
Towing capacity - unbraked (kg)		750	
Towing capacity - braked (kg)		800	1,650
Gross Vehicle Weight (kg)		2,135	2,225
DIMENSIONS – EXTERIOR			
Overall length (mm)		4,600	
Overall width (mm)		1,855	
Overall height (mm)		1,685	
Wheelbase (mm)		2,690	
Front track (mm)		1,610	
Rear track (mm)		1,640	
Front overhang (mm)		910	
Rear overhang (mm)		1,000	
Ground clearance (mm)		195	
Angle of approach (deg)		17.5	
Angle of departure (deg)		20	
Coefficient of drag (Cd)		0.32	
DIMENSIONS – INTERIOR			
Interior length (mm)		1,890	
Interior width (mm)		1,515	
Interior height (mm)		1,230	
DIMENSIONS – LUGGAGE COMPARTMENT			
Capacity – rear seats in place (l)		580	
Capacity – rear seats folded, up to tonneau cover (l)		1,189	
Capacity – rear seats folded, up to roof (l)		1,690	
Load area height (mm)		1,015	

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RAV4 EQUIPMENT SPECIFICATIONS

SAFETY	DESIGN	EXCEL	GR SPORT
Toyota Safety Sense: Pre-Collision System, Lane Departure Alert, Automatic High Beam, Road Sign Assist, Lane Trace Assist, intelligent Adaptive Cruise Control, Emergency Steering Assist	✓	✓	✓
Driver and front passenger front and side airbags	✓	✓	✓
Driver's knee airbag	✓	✓	✓
Curtain airbags	✓	✓	✓
Front passenger airbag occupant detection	✓	✓	✓
Front passenger airbag on/off switch	✓	✓	✓
Seatbelts with pre-tensioners and force limiters	✓	✓	✓
Front and rear seatbelt reminders	✓	✓	✓
Adjustable driver and front passenger seatbelt extender	✓	✓	✓
Driver and front passenger whiplash injury-lessening seats	✓	✓	✓
ISOFIX child seat fixings on outer rear seats	✓	✓	✓
ABS with Electronic Brakeforce Distribution	✓	✓	✓
Brake Assist	✓	✓	✓
Emergency brake light signal	✓	✓	✓
Vehicle Stability Control	✓	✓	✓
Traction Control	✓	✓	✓
Hill-start Assist Control	✓	✓	✓
Trailer Sway Control	✓	✓	✓
Tyre pressure warning system	✓	✓	✓
Speed limiter with memory	✓	✓	✓
Automatic headlight levelling	✓	✓	✓
Blind Spot Monitor and Rear Cross Traffic Alert	×	✓	✓
Rear Seat Reminder System	✓	✓	✓
COMFORT & CONVENIENCE	**DESIGN**	**EXCEL**	**GR SPORT**
Dual-zone air conditioning	✓	✓	✓
Rear cabin air vents	✓	✓	✓
Heated steering wheel	×	✓	×

Blue ambient lighting for front console and cup holders	×	✓	✓
Electric power steering	✓	✓	✓
Rear parking sensors	✓	✓	✓
Front parking sensors	✓	✓	✓
Intelligent Clearance Sonar	×	×	✓
Manual steering wheel tilt and telescopic adjustment	✓	✓	✓
Power windows	✓	✓	✓
Windscreen wiper de-icer	×	✓	×
Front and rear centre arm rests	✓	✓	✓
Front footwell lights	✓	✓	✓
Floor mats	✓	✓	✓
Auto-dimming rear-view mirror	✓	✓	✓
Panoramic view monitor	×	✓	✓
INSTRUMENTS & CONTROLS	**DESIGN**	**EXCEL**	**GR SPORT**
Drive Mode Select	✓	✓	✓
Hybrid system indicator	✓	✓	✓
Rear-view camera	✓	✓	✓
Rain-sensing wipers	✓	✓	✓
Dusk-sensing headlights	✓	✓	✓
Smart entry and push-button start	✓	✓	✓
Paddle shifts	×	×	✓
Follow-me-home headlights	✓	✓	✓
Remote tailgate release in cabin	✓	✓	✓
Electronic parking brake	✓	✓	✓
MULTIMEDIA & CONNECTIVITY	**DESIGN**	**EXCEL**	**GR SPORT**
Toyota Smart Connect+ multimedia system with cloud-based and embedded satellite navigation	✓	✓	✓
Audio, telephone and multimedia switches on steering wheel	✓	✓	✓
12.3-inch digital combimeter	✓	✓	✓
Smartphone integration via Apple CarPlay and Android Auto	✓	✓	✓
Remote services via MyToyota app	✓	✓	✓
SECURITY	**DESIGN**	**EXCEL**	**GR SPORT**
Remote central locking with double locking	✓	✓	✓
Remote perimeter alarm and microwave interior protection	✓	✓	✓
Speed-detecting automatic door locks	✓	✓	✓
eCall	✓	✓	✓
STORAGE	**DESIGN**	**EXCEL**	**GR SPORT**
Locking glovebox	✓	✓	✓

Double-sided load space deckboard	✓	✓	✓
Light in load space	✓	✓	✓
Front and rear bottle holders	✓	✓	✓
Pockets in front seat seatbacks	×	✓	✓
Front console box	✓	✓	✓
Sunglasses holder (not available with premium JBL audio)	✓	✓	✓
Underfloor storage in load space	✓	✓	✓
Retractable tonneau cover	✓	✓	✓
SEATING, UPHOLSTERY & TRIM	**DESIGN**	**EXCEL**	**GR SPORT**
Heated front seats	×	✓	✓
Reclining rear seats	✓	✓	✓
Manual driver's seat height adjustment	✓	×	×
Power-adjustable driver's seat with electric lumbar support	×	✓	✓
Memory setting for driver's seat	×	✓	✓
Power-adjustable front passenger seat	×	✓	✓
Black cloth upholstery	✓	×	×
Black leather upholstery	×	✓	×
Grey leather upholstery	×	Opt	×
Beige leather upholstery	×	Opt	×
GR Sport Alcantara seat upholstery with synthetic leather bolsters	×	×	✓
GR logo embossed on headrests	×	×	✓
Saddle brown/black or grey/black leather upholstery	Opt	Opt	Opt
Black Alcantara/leather upholstery with saddle brown or grey contrast piping and stitching	Opt	Opt	Opt
Leather steering wheel trim	✓	✓	✓
Alcantara door trim	×	✓	×
Grey headlining	✓	✓	×
Black headlining	×	×	✓
Soft-touch black upper dashboard with silver inserts	✓	✓	✓
Leather shift lever trim with chrome surround	✓	✓	✓
Leather steering wheel trim with chrome inserts	✓	✓	✓
EXTERIOR AND BODYWORK	**DESIGN**	**EXCEL**	**GR SPORT**
18in alloy wheels	✓	×	×
19in GR Sport black alloy wheels	×	×	✓
19in silver alloy wheels	×	✓	×
Rear privacy glass	✓	✓	✓

Black roof rails	✓	✓	✓
Gloss black wheel arch trims, side mouldings and back door garnish	×	×	✓
G-mesh grille and fog light bezels	×	×	✓
Black rear spoiler and shark fin antenna	×	×	✓
Body-colour rear spoiler	✓	✓	×
Body-colour door handles	✓	✓	✓
Parabola LED headlights	✓	×	×
Projector LED headlights	×	✓	✓
Headlight cleaners	×	✓	×
Front fog lights	✓	✓	✓
LED daytime running lights	✓	✓	✓
Power-adjustable heated, auto-folding door mirrors	✓	✓	✓
Power tailgate	✓	✓	✓
Shark fin antenna	✓	✓	✓
Silver front and rear under-runs	✓	✓	×
Spare wheel - alloy	✓	✓	✓
Tyre repair kit – standard with panoramic roof option	×	Opt	Opt
Metallic paint	Opt	Opt	×
Bi-tone paint finish	×	×	✓
Power opening panoramic roof	×	Opt	Opt
Sunroof	×	Opt	Opt

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ENDS