All-new Land Cruiser

Media information

'Generally speaking, it is considered difficult to achieve both good off-road and on-road performance in the same vehicle. However, with the new Land Cruiser, rather than making a half-hearted attempt at offering a 50:50 ratio between on- and off-road capabilities, we put no less than 100% into developing both, and have succeeded in refining and improving both of these seemingly conflicting qualities at the same time.'

Makoto Arimoto, Chief Engineer

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While addressing the needs of tomorrow's motorists today through its drive towards sustainable mobility and the goal of the ultimate Eco Car, Toyota also continues to focus on the unique requirements of customers who expect their vehicles to perform perfectly whilst operating in the very toughest and most demanding working environments around the world.

An icon in the 4WD market, the Land Cruiser is one such vehicle. It combines a full off-road capability with superior on-road driving pleasure and even higher standards of quality and comfort. No other 4WD can offer this unique combination of on-road dynamics and off-road performance.

Inheriting the fundamental characteristics of the Land Cruiser family, the all new Land Cruiser has evolved to answer to ever-changing customer needs. It offers outstanding driving performance and refinement on even the toughest tracks, trails and terrain throughout the world, through the combination of three core product values:

— **Legendary Quality, Durability and Reliability (QDR)** -building on its long history and trusted performance together with its recognisable, robust design and high safety levels
— An **Unrivalled Balance of On-Road and Off-Road Driving Performance** -combining its durable, sophisticated engine line-up with advanced suspension and driver aid technologies
— A **Refined, Versatile Interior** -providing a functional yet luxurious environment with superior passenger comfort.

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Legendary QDR inheriting the Land Cruiser DNA

With a heritage that dates back over a half century, the Land Cruiser's unrivalled off-road performance and durability have earned it a rock-solid reputation for reliability.

To ensure the all new Land Cruiser not only meets, but exceeds, demanding customer expectations, it has been subjected to an intense level of development testing, both on-road and off-road, to ensure its highly-acclaimed standards of reliability and toughness.

Instantly identifiable as the latest generation of Toyota's legendary 4WD, its external size increases have been kept to a minimum, safeguarding the Land Cruiser's excellent on- and off-road agility. It benefits from numerous aerodynamic enhancements which have lowered the coefficient of drag from Cd 0.37 to 0.35.

The all new Land Cruiser is equipped with one of the most comprehensive, technically advanced ranges of active and passive, on- and off-road safety features ever launched by Toyota, to make driving more enjoyable as well as safer.

History

Stretching back almost 60 years, it could be argued that the history of Land Cruiser is the history of Toyota itself. The world beating 4WD has led the expansion of the company since the 1950s, taking it to all seven continents including Antarctica- and new, unexplored markets. Being the world's best selling 4WD, it has attracted over 5 million customers in 176 different countries and regions since its launch, a figure set to rise to 188 countries with the launch of the new generation of Toyota's iconic 4WD.

Initially developed for military use, the first generation Land Cruiser was called **BJ**. It had a 3.4 litre, six-cylinder petrol engine and the platform was derived from a Toyota truck.

In 1955 the latest version of the **BJ** was given the generic name Land Cruiser, which has been used ever since.

As Toyota began its worldwide export and growth programme during the 50s and 60s, it found that many established markets were already well penetrated by American and European car makers, and decided to focus, instead, on the emerging markets of the Middle- and Far East, and South America.

However, in 1966, the company responded to the popular trend in the American market for more refined 4WD vehicles with the launch of the **Station Wagon series**. This model line runs in parallel with the original, jeep-style off-road concept.

In 1984, Toyota saw the need to create a new series which combined the attributes of the easily manoeuvrable, uncompromised off-road, Heavy Duty series and the more refined and comfortable Station Wagon series. This led to the creation of the **Light Duty series** in 1985, running in parallel with the other two model lines: the Heavy Duty series and the Station Wagon series.

Thereafter the Light Duty, 2nd and 3rd generation, **90** and **120** series models of 1996 and 2002 continued to build the Land Cruiser's world-wide reputation for a unique combination of on-road comfort and refinement, peerless off-road ability and, of course, technological innovation.

And today, with the launch of the all new 150 series 4th generation Land Cruiser, Toyota once again introduces innovative new technologies and raises the bar even higher in the fields of quality, durability and refinement, for which the model remains respected throughout the world.

Development testing

The world's best selling 4WD, the Land Cruiser series has attracted over 5 million customers. To ensure the all new Land Cruiser not only meets, but exceeds, the demanding customer expectations inherent in such a peerless pedigree, it has been subjected to an intensive development testing.

Toyota's Tahara factory is equipped with an endurance course specially designed for off-road driving. Normal development testing includes 15,000 km of driving over various surfaces to simulate over 50,000 km of use. When developing the new Land Cruiser, however, prototypes were driven over 30,000 km of the most severe terrain, simulating some 100,000 km of everyday use. In addition, engineers performed inspections every 3,000 km to search both for faults and opportunities for further improvements.

Moreover, new Land Cruiser prototypes disguised as the current model were tested for 30,000 km off-road, followed by an additional 70,000 km on unimproved roads, for a total 100,000 km of real-world testing.

As a result, the highly-acclaimed Land Cruiser standards of reliability and toughness have been taken to new heights, providing users with even greater peace of mind and absolute confidence in the abilities of Toyota's all new Land Cruiser, whatever the working environment, wherever in the world.

Styling

Instantly identifiable as the latest generation of Toyota's legendary 4WD, the all-new Land Cruiser's exterior design combines the stylish aesthetics of a vehicle entirely at home in any environment with the robust image of durability and power expected from a genuine four-wheel drive machine.

A new, over-sized **front bumper** design incorporating integral fog lamps reinforces the Land Cruiser's broad, powerful stance and go-anywhere credentials, while the sharply trimmed lower section minimises the effect of the front overhang on the vehicle's off-road driving approach angle. A new **front grille** structure with vertical bars, for high grade versions combined with striking, chrome and silver pairs, is framed by large, functional headlamp clusters featuring cylindrical high and low beam lamps and outwardly extended turn signals for improved side visibility.

In profile, a cowl moved forwards by 65 mm and a belt line raised by 20 mm combined with a rearward flaring of the prominent integral front and rear **wheel arches** all create a fluid and dynamic appearance. The agility inherent in the all new Land Cruiser's compact dimensions is reinforced by the sharply trimmed lower sections of the bumpers, visually shortening both front and rear overhang lengths.

To the rear, flanked by prominent, high-visibility LED lamp clusters, the side hung tailgate is deeply indented into the rear bumper, providing a practical, flat and level access step – complete with hard-wearing cover - to the interior loadspace. The tailgate features a top-hinged glass hatch and an integral roof spoiler which houses the rear screen wiper and high-mounted, Light Emitting Diodes (LEDs) stop light.

Both the door mirror-mounted turn indicators and the rear lamp clusters use high-visibility LEDs in place of conventional lamps. LEDs illuminate more quickly than conventional bulbs – allowing following drivers to react more quickly to vehicle braking - yet consume far less electricity.

The Land Cruiser will be available with either 6 spokes **17"** or 5 twin spokes **18"** alloy wheels and in a choice of ten body colours, including seven new to the model range, and one newly developed colour: Deep Titanium.

Aerodynamics

Allied to smooth seamless bodywork featuring minimal panel gaps, the design of the all new Land Cruiser benefits from numerous aerodynamic enhancements. These have lowered the coefficient of drag from Cd 0.37 to 0.35, with a resultant marked improvement in high-speed cruising fuel economy.

The overall height of the 5- and 3-door models has been lowered by 20 and 30 mm respectively. Front and rear spoilers channel the airflow under the body and lead the airflow cleanly away from the back of the roof. Deflectors within the engine bay correct the flow of air through the radiator grille to reduce turbulence. The front bumper design incorporates extended corners to push airflow away from the sides of the front tires, enabling a smoother rearward flow of air. Front and rear spats further manage the airflow around the tyres and wheel arches to minimise turbulence.

In addition, the adoption of a fin-shaped, aero wiper blade cover and the concealing of the screen washer nozzles both reduces wind noise and enhances aerodynamic performance.

Packaging

External size increases to the all new Land Cruiser have been kept to a minimum, safeguarding its excellent on- and off-road agility. The new 5-door model is just 45 mm longer and 10 mm wider than its predecessor, maintaining its exceptional manoeuvrability and offering a minimum turning radius of just 5.8 metres.

The wheelbase and rear overhang lengths remain the same, while a new front bumper design ensures that, despite a 45 mm increase in front overhang lengths, the 32 degree approach angle is unchanged. Departure angle of 25 degree (24 degree if equipped with Electronically Modulated Rear Air Suspension) and ramp breakover angle of 22 degree ensure the all new Land Cruiser's renowned off-road abilities have not been compromised.

The **3-door model** is 85 mm longer and 10 mm wider than its predecessor, also featuring a 45 mm increase in front overhang length and an identical wheelbase length as the predecessor. Models equipped with a tailgate-mounted spare tyre have a 40 mm increase in rear overhang length. As with 5-door models, approach, departure and ramp breakover angles remain the same.

The bonnet now features raised front corners, which help the driver to precisely locate the vehicle's front extremities whilst manoeuvring both in confined urban environments and in close proximity to off-road obstacles.

Despite these minimal increases in exterior size, the new Land Cruiser benefits from significantly improved cabin packaging, fully described in the Interior Design section.

Safety

The all new Land Cruiser is equipped with one of the most comprehensive, technically advanced ranges of active and passive, on- and off-road safety features ever launched by Toyota.

The engineering advances and sophisticated electronic safety controls on the all new Land Cruiser are designed to enhance the driving experience while also providing a high level of protection; to make driving more enjoyable as well as safer; to allow drivers to go anywhere, exploring and enjoying the limits of the vehicle in safety and comfort.

Body structure

Collisions between a tall vehicle such as a 4WD and a passenger car often result in the taller vehicle riding up and over the car, causing an excessive amount of damage to the latter. To counter this, Toyota has a policy of ensuring that the safety systems of both vehicles involved in a collision are used to their maximum potential.

To that end, the front, **crumple zone section** of the all new Land Cruiser's frame is set at an equivalent height to that of an average passenger car, while the frame and body have been designed to effectively channel and absorb impact energies to help protect all parties involved, even those on the receiving end of a collision in a smaller car.

Numerous measures have been adopted to control body deformation in a frontal collision, whilst maintaining the structural integrity of the high strength cabin. The A pillar reinforcements feature a multi-layer construction between the roof rail reinforcement and cowl for increased buckling strength and improved energy sustainability when buckled, helping to limit body deformation. In addition, the lower front pillar reinforcements also feature a multi-layer construction, and high strength outer rocker reinforcements have been adopted.

Side collision performance has been enhanced through the use of high-tensile strength sheet steel for the front pillar and roof rail reinforcement. The roof header reinforcement employs a closed top and bottom cross section for an optimum balance of strength and other performance characteristics, reducing cabin deformation. And the floor cross-members have been optimally positioned to effectively distribute impact energy, thereby limiting cabin deformation.

Body deformation is further reduced by the adoption of a highly effective multiple load-path cross-member structure to distribute impact energy from the centre pillar, and inner rocker-to-frame load path brackets to distribute impact energy from the outer rocker.

The all new Land Cruiser's occupant protection performance is further enhanced through the use of foam padded door panels and door trim to help reduce pelvic injuries in the event of a side collision. And the optimised door profiles themselves feature a crushable armrest construction to help reduce abdominal injuries.

Pedestrian protection

The bonnet, cowl and front wings of the all new Land Cruiser have been specifically designed to absorb as much energy as possible in the event of a collision with a pedestrian.

The bonnet features a deep, energy absorbing profile incorporating longitudinal reinforcement ribs. Crush points and holes have been provided behind the bonnet striker reinforcement to maintain an ample impact absorption zone.

The front wing mounting brackets feature crush points for effective energy absorption, and the wings themselves incorporate energy absorbing protectors, the construction of which is designed to slip down in the event of a head impact, reducing the reactionary force sustained by the pedestrian.

Airbags and Active Headrests

The all new Land Cruiser is equipped with no less than seven SRS airbags; a driver's dual-stage front airbag, a new driver's knee airbag, a passenger front airbag and front side airbags, as well as two full-length side curtain airbags which now provide head protection to occupants of both two and three seating row models in the case of side impacts.

Allied to seatbelt pretensioners, the all new Land Cruiser's front seats are also equipped with **active headrests**, which help prevent whiplash in the event of a rear collision. The system features a new seat back structure and headrest design. The new headrest is designed to sit as close as possible to the passenger's head during normal use. In the event of a rear impact, the force of the occupant's body is applied to the seatback, popping the headrest upwards and forwards to effectively close the gap between occupant head and headrest, significantly reducing the risk of whiplash through excessive head movement.

Pre-Crash Safety system

The new Land Cruiser is equipped with a sophisticated Pre-Crash Safety system (PCS) that can help reduce collision damage and injury. The PCS system features a millimetre-wave radar sensor to detect obstacles in front of the car, even during cornering. Via numerous sensors, a pre-collision system computer helps determine in advance whether an impending collision is unavoidable.

If there is a high possibility of a collision, PCS will alert the driver via both a buzzer and a warning on the multi-information display and, when he begins to brake, provide Pre-Crash Brake Assist to supplement his own braking effort. If the driver does not brake and a collision is inevitable, Pre-Crash Brake will automatically apply the brakes to reduce impact speed and activate the Pre-Crash seatbelt pretensioners to retract all slack from the front belts.

Adaptive Cruise Control

Complementary to the PCS system, the all new Land Cruiser also features an Adaptive Cruise Control (ACC) system. The system offers two modes: constant speed control, and vehicle-to-vehicle distance control. The constant speed control functions in the manner of a conventional cruise control system. Capable of differentiating between vehicles directly ahead of the Land Cruiser and those in an adjacent lane, the vehicle-to-vehicle distance control system automatically slow the vehicle, match the speed of the vehicle in front and, once the road is clear ahead, accelerate to the previously selected cruising speed.

Via a steering wheel mounted switch, the driver can select long, middle or short vehicle-to-vehicle distances. The system control settings are indicated on the Land Cruiser's multi-information display.

High Intensity Discharge Headlamps and Adaptive Front Lighting

The low beam projectors may be fitted with High Intensity Discharge (HID) bulbs, which emit a natural daylight colour close to that of sunlight. Visibility is enhanced due to a wider and longer illumination range, and further advantages include low energy consumption and a long bulb life-span.

In conjunction with HID headlamps, the new Land Cruiser also benefit from an **Adaptive Front Lighting System (AFS)**, which swivels the low beam projector headlamps, according to steering operation and vehicle speed, helping to illuminate a bend as the driver steers into it. AFS is also equipped with a dynamic levelling function, which automatically maintains a constant beam height regardless of occupant and luggage loads or changes in vehicle posture. The combination of these two functions achieves optimum light distribution in all driving conditions.

Braking and Stability Control Systems

The all new Land Cruiser's servo assisted braking system features new 388 mm ventilated discs increased to 32 mm in width, with new, four-piston callipers of an increased piston size for maximum stopping power and fade-free performance. The rear brakes combine 312mm ventilated discs with floating callipers.

It offers the full range of braking, traction control and stability systems on the market today: anti-lock braking system, complete with Electronic Brakeforce Distribution and Brake Assist, Traction Control and Vehicle Stability Control system. And during **emergency braking**, the all new Land Cruiser's stop lamps flash automatically to alert following drivers, reducing the risk of rear-end collisions.

In addition, the Land Cruiser is equipped with several further brake control systems specifically tailored to enhancing its off-road performance and ease of use in even the most taxing terrain: Multi-terrain ABS function, Active Traction Control (A-TRC), Hill-start Assist Control and Down-hill Assist Control.

Multi-terrain ABS

Active TRC

Hill-start/Down-hill

Multi-terrain ABS

X Close

In addition to the conventional ABS, the all new Land Cruiser features a Multi-terrain ABS which has been optimised to give remarkable stopping power across a wide range of off-road conditions, including loose surfaces such as dirt, sand and gravel.

While the system prevents the wheels from locking on paved roads in the same manner as a conventional ABS system, it deliberately allows the wheels to lock to a certain extent on loose surfaces, helping them dig into the surface and provide increased stopping power.

Active Traction Control

X Close

Further enhancing the all new Land Cruiser's permanent four-wheel drive technology, an Active Traction Control (A-TRC) system uses both brake and engine control to distribute torque appropriately to all four wheels.

The system receives constant speed signals from each wheel, allowing it to detect which wheels are spinning and which have traction. By braking the spinning wheels, controlling the engine output and distributing torque to those with grip, **A-TRC** automatically provides maximum traction on rough terrain, as well as stable starts and acceleration on even slick roads and muddy trails.

Hill-start Assist Control and Down-hill Assist Control

X Close

Land Cruiser versions equipped with automatic transmission also benefit from Hill-start Assist Control and Down-hill Assist Control, fitted as standard.

Hill-start Assist Control detects if the vehicle is starting to move backwards during an uphill start. To prevent this from occurring, the system temporarily applies the brakes to the four wheels for a maximum of five seconds to reduce the backward speed of the vehicle. By controlling the rotation of each individual wheel, Hill-start Assist Control temporarily arrests the downhill motion and allows the driver to pull away without losing control.

Down-hill Assist Control is a brake control system which automatically controls vehicle speed to prevent the Land Cruiser from slipping downhill out of control. It is driver operated, and can be switched on when L4 is selected in the transfer range. It can be operated at speeds of less than 25 km/h, and with the brake and accelerator pedals untouched by the driver. Forward speed is controlled to around 5 and 7 km/h, and reverse speed to around 3 and 5 km/h.

Unrivalled balance of on-road and off-road driving performance

With almost 60 years of heritage and a reputation as the world's toughest and most reliable SUV, the all new Toyota Land Cruiser does not compromise in the field of off-road ability. It introduces a number of new technological innovations that improve the vehicle's usability over even the most challenging terrain.

However, it also acknowledges that for many of its owners, on-road performance is equally important. Hence, the all new Land Cruiser combines a full off-road capability with superior on-road driving pleasure and even higher standards of quality and comfort. No other SUV can offer this unique combination of off-road performance and on-road dynamics.

Driving stability & ride comfort

Body-on-frame

X Close

Unlike rival, monocoque SUVs, much of the Land Cruiser's legendary off-road toughness may be attributed to its robust, highly durable, body-on-frame construction. This is carried over from its predecessor, but with an 11% increase in rigidity. Another significant advantage of the ladder frame construction applies to on-road conditions, in that it allows vibrations and noise from the engine, drivetrain and road to be absorbed directly by the frame. This significantly limits the amount of Noise, Vibration and Harshness (NVH) entering the cabin. To that end, the Land Cruiser's **frame-to-body mounts** are packed with insulating rubber to further absorb NVH and enhance ride comfort.

In addition, the extensive use of high tensile steel within the body combines a lightweight construction with a marked increase in bodyshell rigidity.

Suspension

X Close

The new Land Cruiser benefits from an extensively revised version of the previous generation's suspension. The front independent double wishbone and rear four-link rigid suspension offer the handling stability and ride comfort essential to superior on-road performance, and have now been retuned to enhance both ride comfort and steering feel.

To the front, the long wheel stroke fundamental to on-road comfort and off-road ability has been retained, while the springs and shock absorbers have been optimised, and the shock absorbers themselves increased in size. The lower arm and knuckle have been reinforced, and all bushings retuned. In addition, the roll steer ratio has been modified from 5 to 8 degrees understeer to offer better handling stability.

To the rear the Land Cruiser's long wheel stroke is enhanced by optimised springs and shock absorbers, an increase in shock absorber size, retuned bushings and a reinforced axle housing for increased strength and durability.

Kinetic Dynamic Suspension system

X Close

The all new Land Cruiser may be equipped with a new, electronically modulated Kinetic Dynamic Suspension System (KDSS), which optimises the effect of the front and rear stabilisers for enhanced performance both on- and off-road. On-road, the system is designed to not only minimise body roll and improve steering response but also absorb rough road surface imperfections, awarding the all new Land Cruiser a unique combination of enhanced ride comfort and handling agility.

Both front and rear stabilisers have an individual hydraulic cylinder, and they are interconnected. Each cylinder contains an upper and lower chamber. Via two separate hydraulic lines, the front upper chamber is connected to the rear upper chamber, and the front lower chamber is connected to the rear lower chamber. Each hydraulic path between the front and the rear cylinder contains an accumulator.

When the vehicle begins to roll in a turn, equal wheel forces on the outer wheels occur. As a result, the fluid within the hydraulic lines stays still, holding the front and rear cylinder pistons in place. Thus, the stabilisers suppress the suspension stroke, and body roll is reduced.

On rough road surfaces, however, a slight uneven force between the front and rear wheels occur. In this case, the electrically controlled accumulator valves rapidly open and close to absorb the fluid movement within the hydraulic lines. This dampens vibrations by absorbing road surface imperfections, which significantly enhances ride comfort.

Adaptive Variable Suspension system with Roll Posture Control

X Close

An Adaptive Variable Suspension System (AVS), available on high grade versions, allows the driver to fine tune the Land Cruiser's ride characteristics with a choice of three damper settings activated via a switch; 'Normal' mode, for everyday driving, 'Comfort' mode, for enhanced ride comfort while cruising, and 'Sport' mode, for improved body control and precise responses to steering input whilst cornering.

AVS automatically adjusts the performance of the suspension at all four wheels independently, monitoring data from numerous sensors to continuously optimise the damping force of each shock absorber. Data from the sensors are interpreted by a control unit, which then activates the appropriate actuator within each shock absorber.

Hence, in response to driving operation, vehicle body motion and road surface conditions, AVS activates the adjustable damping force shock absorbers to fulfil a wide range of specific control functions:

— Vehicle speed-sensitive control gradually increases the damping force as speeds rise, combining low speed comfort with high speed driveability and stability

— Anti-dive control increases front end damping force under braking to reduce front end dive

— Anti-squat control increases rear end damping force to minimise squat during acceleration

Selecting the AVS system's 'Sport' mode automatically increases the difference between inner and outer shock absorber damping through corners to further reduce vehicle roll.

In addition, Roll Posture Control is incorporated within the AVS system to achieve a vehicle posture matching the driver's intuitive feeling. By controlling the damping force, phase difference between roll angle and pitch angle when cornering is minimised.

Electronically Modulated Rear Air Suspension

X Close

Operating in conjunction with AVS, an electronically modulated rear air suspension system maintains optimum control of the rear suspension, ensuring uncompromised stability and ride quality regardless of the number of vehicle occupants or the amount of cargo. The system also excels at absorbing high frequency vibrations to reduce road-generated NVH.

The electronically modulated rear air suspension system features five control modes:

— An **Auto Levelling function**, which maintains a constant rear body height regardless of the number of occupants or the cargo load

— A **switchable, Height Control function,** which allows the driver to select a Normal, High or Low vehicle height setting

— **Speed sensitive Control,** which ensures optimum stability and ride comfort by automatically returning the Land Cruiser from either High or Low vehicle height to the Normal height setting when a certain speed is reached

— **Ignition-off Linked Control** which, activated for a certain duration after the ignition is turned off, prevents the rear vehicle height from rising after passengers exit the vehicle

— **Height Control OFF switch,** which disables height control when lifting or towing the vehicle.

Variable Flow Control Power Steering

X Close

The all new Land Cruiser benefits from its predecessor's highly durable hydraulic power steering system, but incorporates various revisions and the addition of Variable Flow Control (VFC), which combines direct response and feel when cruising with effortless operation when parking, and a unique, dedicated off-road setting.

The steering gear ratio has been modified for a more agile response to steering inputs, and the steering rack support bushings have been retuned to reduce steering shake and vibration under braking, for a more comfortable ride.

VFC itself is an evolution of traditional speed-sensitive power steering that takes into account factors including vehicle speed, steering angle and steering rate to offer an ideal power steering fluid flow rate under all driving conditions. Controlling the fluid flow in this manner automatically adjusts how heavy or light the steering feels.

When the Land Cruiser is travelling in a straight line, VFC is in standby mode, reducing the power draw on the engine to improve fuel economy. When cornering or manoeuvring, VFC offers instant response to steering inputs with the correct fluid flow rate. At low speeds, the flow rate is increased to reduce steering effort, making the wheel easier to turn, for effortless parking and urban driving. As vehicle speed rises, the flow rate will progressively decrease to award the all new Land Cruiser a more direct and responsive steering feel.

Because it is hard to judge terrain conditions if the steering feel is constantly changing, VFC incorporates a dedicated off-road setting, automatically activated when the transfer case is shifted into L4 mode. This setting recalibrates the system to give a constant fluid flow rate regardless of vehicle speed, steering angle or steering rate. This constant level of steering assistance allows the driver to obtain a better idea of how much grip the tyres have through the steering wheel.

Quietness

Apart from the significant NVH advantages of its body-on-frame construction, the all new Land Cruiser also benefits from a variety of measures designed to minimise wind and road noise, resulting in an outstandingly quiet cabin environment.

Air cavities have been introduced into the bonnet silencer, reducing engine noise. Sound insulation materials have been introduced within the A, B, C and D pillars as well as the door sill and head sections to minimise the transmission of noise through the bodyshell. Sound dampening and sound insulating materials have been extensively used throughout the cabin, and include floor carpet, a dash silencer, door trims, roof headliners and luggage compartment side trim.

Wind noise reduction measures include the adoption of a sound insulating acoustic windshield featuring an inner layer of film. The step between the windshield and both the roof and the side rain gutter mouldings has also been minimised to further reduce wind noise. And a front spoiler and undercover have been designed to smooth the airflow under the front of the car, greatly reducing wind noise during high speed cruising.

Underbody clearance

- Suspension
- KDSS
- AVS & Air suspension

Underbody clearance and protection

An SUV capable of handling truly severe off-road terrain must be equipped with generous ground clearance. However, this involves more than simply the distance between the lowest point of the vehicle and the ground, three additional measurements are equally essential to optimum off-road performance: the approach angle, ramp breakover angle, and departure angle.

The new Land Cruiser has a minimum ground clearance of 220 mm. **The approach angle** - which determines the maximum gradient the vehicle can approach without the underside of the front bumper hitting the ground - is 32 degrees. **The ramp breakover angle** – measured from the underbody centre to the contact points of front and rear tyres, and determining the maximum gradient the vehicle can crest without underbody contact - is 22 degrees. And **the departure angle** – which determines the maximum gradient the vehicle can leave without the underside of the rear bumper hitting the ground - is 25 degrees (24 degrees on models with rear air suspension).

Reinforcing its outstanding off-road credentials, the new Land Cruiser can also be driven at a maximum **bank angle** of 42 degrees, a maximum **pitch angle** (either forwards or in reverse) of 42 degrees, and has a maximum **wading depth** of 700 mm.

Even with its superior ground clearances, there may be occasions during off-road driving when the new underside of the new Land Cruiser comes into contact with the roughest terrain. To that end, both front and rear bumpers, as well as the main ladder frame cross-member have been designed to slide easily over obstacles. Many other SUV's cross-members are box-shaped, which means they can easily become caught on obstacles and stop the vehicle, often simultaneously incurring damage. The all new Land Cruiser's slanted cross-member has been shaped to slide up and over such obstacles without damage.

Suspension

X Close

The all new Land Cruiser's revised front independent double wishbone and rear four-link with lateral rod systems combine strength, reliability and durability with the long wheel stroke essential to outstanding off-road performance. The left and right sides of the rear suspension are connected by a rigid axle to allow for greater ground clearance and body stability than that provided by independent designs. Acting in conjunction with the optional new Kinetic Dynamic Suspension System, the all new Land Cruiser's outstanding wheel articulation ensures maximum ground contact for all tyres over even the most severe terrain.

Kinetic Dynamic Suspension system

X Close

Its operation described fully in the On-road Performance section, the electronically modulated Kinetic Dynamic Suspension System (KDSS) optimises the effect of the front and rear stabilisers for enhanced off-road performance.

When driving over rough terrain, unequal front and rear wheel forces are generated. This causes the piston in each hydraulic cylinder to create an opposite stroke, which counteracts the resistance of the stabiliser bar and allows the **suspension to move freely**. With both front and rear stabiliser bars virtually disconnected, the available wheel stroke is maximised, ensuring that **all four tyres** remain in contact with the ground wherever possible to optimise the Land Cruiser's off-road abilities.

Adaptive Variable Suspension system and Electronically Modulated Rear Air Suspension

X Close

Their operation fully described in the On-road performance section, both AVS and the electronically modulated rear air suspension systems feature bespoke, off-road settings to maximise the Land Cruiser's all-terrain abilities.

AVS incorporates a new Damper Optimisation Control. When L4 mode is selected in the four-wheel drive transfer unit, shock absorber damping force is automatically optimised to suit the vehicle speed. At slow speeds, the dampers are optimised for crawling over the roughest terrain, while at moderate speeds they are optimised for normal driving conditions. Thus, this versatile control allows for uncompromised off-road ability while keeping the bumps and jolts generated by severe terrain to a minimum.

In addition, during off-road driving, the valve on a hydraulic pipe connection between left and right hand independent rear air suspension units remains open, to ensure maximum wheel stroke and articulation. This allows for maximum tyre contact when driving over large obstacles or the most uneven terrain.

Constant traction

- 4WD
- Active TRC
- Multi-terrain Select
- Crawl Control
- ABS
- Hill-start/Down-hill

As a vehicle designed to excel on sand, rocks and whatever diverse conditions it may encounter, maximum traction at all times is fundamental to the renowned off-road performance of the all new Land Cruiser.

Grip, slip and torque requirements from the Land Cruiser's permanent four-wheel drive system vary significantly with differing terrain. For instance, soft terrain such as sand requires the transfer of as much power to the ground as possible. This allows a large amount of slip to let the tyres dig in for maximum grip. By contrast, slowly traversing rocks or slippery terrain requires the precise regulation of power to the wheels in order to control wheelspin and ensure a constant, steady level of grip throughout.

Full time 4-wheel drive with Torsen® Limited Slip Differential

X Close

The all new Land Cruiser's proven permanent four-wheel drive employs a Torsen® Limited Slip Differential (LSD) in the centre differential. The Torsen® LSD uses low viscosity oil to reduce friction and improve fuel consumption, and features a motorised transfer shift actuator for easier High-Low gear ratio shifting. The shift effort itself has been reduced by some 30%, for improved cold weather performance.

Under normal driving conditions, torque is split in a 40:60 ratio, front to rear. However, the Torsen® LSD is capable of automatically varying torque distribution between the front and rear wheels from 50:50 to approximately 30:70, in order to provide optimum torque distribution for any given scenario.

The four-wheel drive system also features a new rear differential, which has been designed for even greater reliability and strength, with a 34% increase in torque capacity. An additional rear differential lock is also available to maximise the all new Land Cruiser's off-road capabilities.

The conventional transfer shift lever has been replaced by an easy to **use dial switch**, located, along with the centre and rear differential locking switches, on the centre console. Using these switches in combination allows the driver to choose between H4F, H4L, L4F and L4L modes, equating to High or Low gear ratio with the centre differential either Free or Locked, as well as locking the rear differential when traversing the most extreme terrain.

X Close

Active Traction Control

Further enhancing the all new Land Cruiser's permanent four-wheel drive technology, an Active Traction Control (A-TRC) system uses both brake and engine control to distribute torque appropriately to all four wheels.

The system receives constant speed signals from each wheel, allowing it to detect which wheels are spinning and which have traction. By braking the spinning wheels, controlling the engine output and distributing torque to those with grip, A-TRC automatically provides maximum traction on rough terrain, as well as stable starts and acceleration on even slick roads and muddy trails.

Multi-terrain Select

X Close

Available as an option on models with five-speed automatic transmission and evolved from the A-TRC system, the all new Land Cruiser's Multi-terrain Select system (MTS) is a Toyota first. It automatically modifies the vehicle's acceleration, braking and traction control systems to suit the off-road conditions, providing the driver with optimum traction and vehicle control for any given scenario.

Accessed via the steering wheel-mounted **multi-information switch** and the multi-information display, MTS offers drivers a choice of four terrain modes: Mud and Sand, Loose Rock, Mogul and Rock. The chosen mode is indicated on the multi-information display, and an additional prompt notifies the driver of the required H4 or L4 four-wheel drive transfer range.

Fully described in the Driver Information section, the Multi-terrain Monitor will automatically display the view ahead of the vehicle on either the 4.2" or 7" multi-information screen (model dependent) when MTS is in operation.

Drivers should choose an MTS mode based on the amount of observed wheelspin. For example, when excessive wheelspin prevents the vehicle from gaining sufficient traction, a more aggressive mode closer to the Rock setting should be selected. By contrast, when too little wheelspin prevents the vehicle from gaining sufficient traction, a less aggressive mode closer to the Mud and Sand setting is recommended.

In any of the four MTS modes, if the vehicle is stuck and the wheels spin freely, **the centre differential** may be locked for added traction. If the wheels continue to spin freely even after locking the centre differential in L4 range, **the rear differential** may also be locked for maximum traction. In addition, a Crawl Control function may be used to free the vehicle when stuck.

Mud and Sand Mode | Loose Rock Mode

Mogule Mode | Rock Mode

X Close

Mud and Sand mode

In either L4 or H4 transfer range, the Mud and Sand mode offers high wheel slip levels to allow the tyres to dig in and secure traction, the MTS traction control minimising selective braking to allow the necessary wheelspin. In combination, these functions act to prevent the vehicle from becoming bogged down in soft terrain.

Mud and Sand Mode | Loose Rock Mode

Mogule Mode | Rock Mode

X Close

Loose Rock mode

The Loose Rock mode combines with the L4 transfer range to allow a certain degree of wheel slip to retain tyre momentum and affect a stronger degree of selective braking to effectively control wheelspin. This mode is particularly effective at retaining vehicle momentum when climbing hills.

Mud and Sand Mode | Loose Rock Mode

Mogule Mode | Rock Mode

X Close

Mogul mode

With L4 transfer range selected, the Mogul mode prioritises grip by only allowing a moderate amount of wheel slip in order to maintain a slow and steady vehicle speed, while MTS traction control applies moderate selective braking to maintain grip. This mode is recommended for ANY scenarios that do not specifically match other MTS modes, and retains forward momentum over even the most sever, irregularly undulating terrain.

Mud and Sand Mode | Loose Rock Mode

Mogule Mode | Rock Mode

X Close

Rock mode

The Rock mode, also used in conjunction with the L4 transfer range, minimises wheel slip to allow for maximum grip, and simultaneously applies strong selective braking. With the slip ratio of each wheel controlled independently, maximum grip and traction is available when traversing even the largest obstacles.

Mud and Sand Mode | Loose Rock Mode

Mogule Mode | Rock Mode

Crawl Control

X Close

When the transfer switch is in L4 range, an optional Crawl Control function may be used, helping the driver slowly descent or ascend slopes at a walking pace, or free the vehicle when stuck, without the need to touch the pedals.

Operated via **a switch** on the centre console and now offering a choice of five speed settings, Crawl Control automatically controls the engine and brakes to maintain a set vehicle speed. Difficult pedal operations are no longer needed, allowing the driver to concentrate fully on steering alone.

As well as freeing the driver from the delicate pedal control work necessary to scale steep inclines and negotiate rough terrain, Crawl Control has several additional benefits. Through smooth application of control it maintains a slow and steady pace which prevents the wheels from spinning or locking up. This reduces body movement on severe terrain, preventing the body from bottoming out and causing damage. It also allows the all new Land Cruiser **to wade** through water at a slow, steady pace, helping prevent a risk of engine flooding or damage from submerged objects. The system also operates in reverse, helping the driver tackle rough terrain even when backing up.

X Close

Multi-terrain ABS

The new Land Cruiser features a Multi-terrain ABS system which has been optimised to give remarkable stopping power across a wide range of off-road conditions, including loose surfaces such as dirt, sand and gravel.

While the system prevents the wheels from locking on paved roads in the same manner as a conventional ABS system, it deliberately allows the wheels to lock to a certain extent on loose surfaces, helping them dig into the surface and provide increased stopping power.

Hill-start Assist Control and Down-hill Assist Control

X Close

Land Cruiser versions equipped with automatic transmission also benefit from Hill-start Assist Control and Down-hill Assist Control, fitted as standard.

Hill-start Assist Control detects if the vehicle is starting to move backwards during an uphill start. To prevent this from occurring, the system temporarily applies the brakes to the four wheels for a maximum of five seconds to reduce the backward speed of the vehicle. By controlling the rotation of each individual wheel, Hill-start Assist Control temporarily arrests the downhill motion and allows the driver to pull away without losing control.

Down-hill Assist Control is a brake control system which automatically controls vehicle speed to prevent the Land Cruiser from slipping downhill out of control. It is driver operated, and can be switched on when L4 is selected in the transfer range. It can be operated at speeds of less than 25 km/h, and with the brake and accelerator pedals untouched by the driver. Forward speed is controlled to around 5 and 7 km/h, and reverse speed to around 3 and 5 km/h.

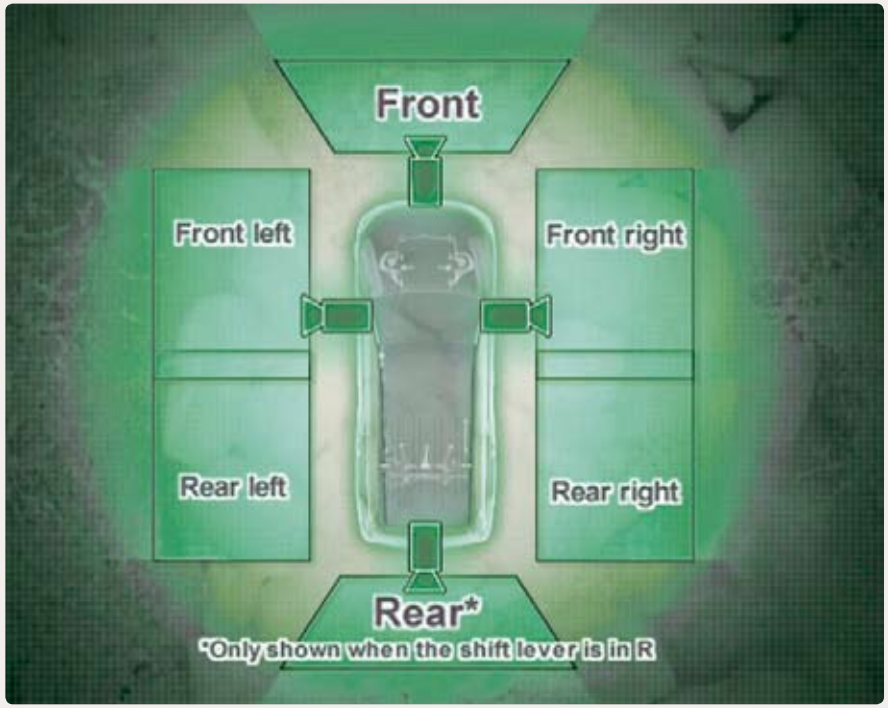
Driver information

- Multi-terrain Monitor
- Tyre Angle Display

Multi-terrain Monitor

X Close

Used in conjunction with MTS, the Multi-terrain Monitor displays images from four external cameras on the new Land Cruiser's 4.2" or 7" multi-information screen. Operational when MTS is activated, the system gives off-road drivers a comprehensive view of the areas immediately adjacent to the Land Cruiser which would otherwise be obscured from sight, whether driving forwards or in reverse.



In addition to **front** and **rear** cameras, the system features left and right door mirror-mounted cameras capable of projecting either a **front** or a **rear** side view. The Multi-terrain Monitor features a versatile display mode capable of showing either independent or combined front and side views. The viewing mode is changed using the **steering wheel mounted multi-information switch** and the multi-information display will indicate which cameras have been selected. When the shift lever is moved to the R position, the display will automatically switch to the rear view.

The **front camera** uses a wide angle lens to display the widest possible forward view. Areas traditionally out of sight, such as immediately in front of the bonnet, to within 50cm of the bumper, are now viewable.

The Multi-terrain Monitor also displays a comprehensive range of additional front view information, including the view range of the front camera and the locations of obstacles detected by the clearance sonar. In addition, steering linked guide lines which predict the path of the front tyres are also displayed to help the driver avoid obstacles. The inner and outer edges of the estimated front tyre paths are displayed in red (within 0.5 m) and yellow (within 1.0 m) to indicate the distance from the front of the vehicle.

The **side cameras** allow the driver to view an image of the area around the left and right, front or rear tyres simultaneously, whether the vehicle is moving forwards or in reverse.

next >>

X Close

Additional side camera information displayed on the Multi-terrain Monitor includes the view range of the cameras, the locations of obstacles detected by the clearance sonar and the position of the front and rear tyre contact patches. In addition, vehicle width parallel lines are displayed some 350mm from the sides of the Land Cruiser, and front and rear lines are displayed some 100 mm from the front and rear ends of the vehicle, helping the driver to judge distances and accurately place the SUV in even the tightest surroundings.

Only selected when the transmission is in reverse, the **rear camera** display also benefits from a camera view range indicator, as well as displaying the locations of obstacles detected by the clearance sonar system.

If the Land Cruiser accelerates to 12 km/h or more, the Multi-terrain Monitor will remain on for approximately eight seconds and then turn off. If the vehicle decelerates to under 12 km/h again during this interval, the monitor will remain on.

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Tyre Angle Display

X Close

Complimentary to the Multi-terrain Monitor's predicted tyre path guidelines, the all new Land Cruiser is also equipped with a Tyre Angle Display. Selected through the multi-information switch when MTS is activated, steering angle-linked guidelines are projected in real time onto the multi-information display. Moving through seven steps, they constantly inform the driver of changes in tyre angle between 0 and 45 degrees. The Tyre Angle Display is also convenient when parking, offering drivers an at-a-glance reminder of steering angle and tyre direction.

Engines and transmissions

Five door versions of the new Toyota Land Cruiser are available with a choice of two engines: a 3.0 litre turbodiesel or a 4.0 litre V6 petrol engine. Three door versions are only available with the 3.0 litre turbodiesel. The petrol V6 is mated to a five-speed sequential automatic transmission, whilst the diesel unit may be equipped with either a six-speed manual or a five-speed sequential automatic transmission.

3.0 litre D-4D

The 2982 cc, 16 valve, DOHC four-cylinder common rail unit develops 173 DIN hp (127 kW) at 3400 rpm and 410 Nm of torque from 1600 to 2800 rpm, accelerating the all new Land Cruiser from 0-100 km / h in 11.7 and on to a top speed of 175 km/h (5-door, A/T).

The highly durable 3.0 litre D-4D is compliant with EURO IV emissions standards. CO2 emissions have been reduced from 224 to a top class 214 g / km (5-door, A/T) and it returns 8.1 l / 100 km (5-door, A/T) in the combined cycle. Contributing to this improvement are the new generation high pressure and fast response injectors.

The engine features two balance shafts built into the cylinder block to reduce engine vibrations. Driven by the timing gear, the balance shafts rotate at twice of the speed of the crankshaft and in opposite directions to each other.

Under light engine loads, a valve-operated Exhaust Gas Recirculation (EGR) cooler bypass is used to prevent the combustion chamber temperature from dropping to an abnormally low level, thus ensuring optimum EGR operation and the lowest possible emissions.

4.0 litre Dual VVT-i

The further refined, lightweight, 3956 cc, 24 valve, chain-driven DOHC V6 develops 282 DIN hp (207 kW) at 5600 rpm and 385 Nm of torque at 4400 rpm, awarding the all new Land Cruiser performance figures of 0 - 100 km / h in 9.2 seconds and a top speed of 180 km / h.

The highly sophisticated 4.0 litre unit is already compliant with EURO V emissions standards. Despite a power increase of 13%, CO2 emissions have been reduced by 12%, from 291 to 256 g / km, and fuel consumption reduced by 13 % to 10.8 l / 100 km in the combined cycle.

The adoption of Dual VVT-i (Variable Valve Timing-intelligent) to both intake and exhaust camshafts also significantly improves engine performance. Dual VVT-i allows a greater intake/exhaust valve overlap, benefiting both low- and top-end torque as well as contributing to a reduction in exhaust emissions.

Roller rocker arms have been adopted for the chain-driven valve system, the marked reduction in friction between the cam and sliding components helping enhance fuel efficiency. In addition, the adoption of maintenance-free hydraulic lash adjusters helps reduce noise. The system requires no valve clearance adjustment over the life of the vehicle.

Various mechanical and electronic control improvements have been made to allow for a lower idle speed when the throttle valve is fully closed, thereby reducing fuel consumption.

The exhaust gas flow has been optimised to reduce exhaust pressure loss and enhance performance. An air injection system pumps additional, secondary air into the exhaust manifolds, shortening catalyst warm-up time to reduce emissions and ensure compliance with EURO V regulation.

5-speed sequential automatic transmission

Common to both engine variants, the five-speed sequential automatic transmission features manual override, Flex Lock-up Control, Artificial Intelligence (AI)-SHIFT Control and an Eco Driving indicator. In combination these features offer smooth shifting and low noise with excellent performance and fuel economy during both on- and off-road driving.

The adoption of a sequential manual override offers greater control and driver involvement, activated by simply selecting 'S' in the gear lever gate. The driver limits the gear range by selecting up to which gear the transmission will operate. The gear selected is displayed in the combination meter.

Flex Lock-up Control increases the operating range of the lock-up clutch by precisely controlling slippage to improve fuel economy. Under acceleration, the distribution of power transmission between the lock-up clutch (mechanical drive force) and the torque converter (fluid drive force) is adjusted in accordance with driving conditions to dramatically increase power transmission efficiency. Under deceleration, the lock-up clutch operates until the lowest possible vehicle speeds, increasing the fuel cut-off range for enhanced fuel economy.

The five-speed sequential automatic transmission also features an Artificial Intelligence (AI)-SHIFT Control that automatically changes the gear shifting schedule according to road conditions and driving style. Integral to AI-SHIFT Control, Road Condition Support Control promotes a more comfortable yet responsive drive by avoiding unnecessary upshifting when travelling uphill, whilst automatically downshifting to provide optimum engine braking when travelling downhill.

Automatic versions of the new Land Cruiser also benefit from an Eco Driving Indicator to help drivers use the accelerator in the most fuel efficient manner. Under Eco driving, the **Eco Driving Indicator light** will illuminate, while the Eco Driving Indicator Display shows accelerator operation within the most environmentally-friendly zone. When the use of the accelerator exceeds this zone, the Eco light goes out, and the right hand side of the display begins to flash.

6-speed manual transmission

The 3.0 litre D-4D may also be mated to a compact, lightweight six-speed manual transmission. The transmission features an output reduction system and triple-cone synchronisers to reduce shift effort. In addition, the shift lever mounting point has been moved backwards on the transmission tunnel for greater shifting comfort, while low-viscosity oil improves fuel economy.

The manual transmission also incorporates a Gear Shift Indicator display within the rev counter, which recommends up or downshifts to the driver to encourage more economical driving.

While it remains a tough, go anywhere off-roader in the long tradition of its name, the all new Land Cruiser is also a first-class on-road vehicle with a raised level of refinement for interior quality, comfort flexibility, convenience and advanced technology.

Design

The new dashboard is of a robust, functional, geometric design which features a strong horizontal form penetrated by a prominent vertical centre console. The **centre console** edges are trimmed in a metallic finish and the audio and air-conditioning controls, together with the 4.2" TFT colour multi-information screen (or 7" full-colour multi-information screen), are stacked in a tower configuration.

True to the Land Cruiser's roots as a highly durable, working off road vehicle, the strong horizontal and vertical emphasis of the dashboard design also offers drivers an ideal datum reference when tackling steeply banked terrain, and the large-size air conditioning and audio system knobs have been specifically designed to be easily operable in the most arduous conditions; for instance, in poorly lit environments, or when wearing thick gloves.

Similarly, the driver's instrument binnacle has been designed for maximum clarity under all working conditions. It features large, Optitron speedometer and tachometer dials illuminated in high-visibility white with turquoise accent rings. The scales have been made using a separate resin from the script to create a three-dimensional image for enhanced legibility.

Fully described in the Convenience section, a large multi-information display separates the dials. Providing the driver with a comprehensive range of vehicle information, the display may be used in conjunction with the steering wheel mounted multi-information switch to control various systems, customise electronic features and operate the Multi-terrain Select system.

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Driver seating position flexibility has been significantly improved through the addition of both reach and rake adjustment to the steering wheel, with either electrically assisted or manual operation. 5-door versions of the Land Cruiser offer a choice of an 8-way power operated or 6-way manually operated driver's seat with power lumbar adjustment, and 4-way power or 4-way manual adjustment to the front passenger seat. 3-door version driver's seats are equipped with 6-way manual adjustment with power lumbar support, and the passenger seat offers 4-way manual adjustment allied to an easy rear occupant access 'walk-in' function.

Further evidence of ergonomic attention to detail throughout the new cabin takes the form of a soft-touch kneepad integrated into the side of the centre console to improve comfort around the driver's knee and shin, a flexible urethane pad top to enhance centre armrest comfort, front and rear door padded armrests, and the positioning of the **off road control switch panel** at the base of the centre console for improved operability from either front seat.

Upholstered either in fabric or leather, the all new Land Cruiser is available with a choice of two interior colour schemes, Black over Grey, with complimentary, Light Grey door pillars and roof lining, or Dark Brown over Ivory, with matching Ivory door pillars and roof lining. Fabric upholstered versions of the former feature **Grey seats**, while leather versions offer **Black seating**. A choice of **Black**, **Geometric** or **Wood Grain** trim finishes is also available, complemented by silver-plated or metallic accents.

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Versatility

With five-door models now offering fold-flat third row seating, the all new Land Cruiser offers unprecedented levels of seating comfort, flexibility and practicality.

Both front and rear doors feature wider lower openings for easier access, and all three seating rows benefit from assist grips to help occupants enter or leave the vehicle.

Second row seats

Five-door versions of the Land Cruiser are equipped with a new, 40:20:40 split/folding/reclining second row seatback configuration offering total flexibility in the accommodation of passengers and luggage. The seat base slide independently through a range of 135 mm, allowing users to optimise second and third row legroom or maximise luggage space. In vehicles without third row seating, the second row seats may be double folded for even greater **loadspace** capacity.

The second row seat on the passenger side has a new, user-friendly, **walk-in function** requiring far less effort than a conventional seat tumble function and making it easier to access the third row seating. The simple, one-handed operation of a lever on the seat side simultaneously folds the seatback forwards and slides the seatbase the maximum length of travel, giving the widest possible access aperture to the third row.

The front passenger seat of three-door Land Cruiser versions shares the same walk in function for ease of access to the second row seats.

Third row seats

Far from the simple, 'occasional use' seats which typify third row seating, the five-door Land Cruiser's optional **third row** features two proper seats with integral headrests, which fold completely **flat into** the loadspace floor. The seating position has been made more comfortable by increasing the distance between hip point and foot with 50 mm, while the sliding second row seat function offers third row legroom of between 489 and 618 mm, more than double that of its predecessor.

Left and right hand seats may be raised and lowered independently for maximum occupant and **loadspace** flexibility. An optional power function allows this to be done at the touch of a button. Controls are mounted both **inside the tailgate** and **behind the second row seats** on the passenger side. This means that while the seats may be raised from the rear door for use in conjunction with the passenger side walk-in function, they may just as easily be lowered to make room for luggage using the controls inside the tailgate.

With no need for heavy lifting, the new Land Cruiser's third row seats are easily stored by anyone. The optional powered seats may be **independently reclined** for maximum comfort, while the headrests automatically fold down as the seats are stored.

Storage

The total flexibility of the all new Land Cruiser's three-tier seating is complimented by a comprehensive range of storage spaces benefiting each seating position. Front seat storage includes a capacious glove box, an overhead sunglasses holder, three sizes of cup holder, enlarged front door pockets with twin bottle holders, a small storage compartment equipped with a USB port for the connection and simultaneous charging of iPods, a 12V power outlet and a large storage box under the centre console arm rest.

Equipped with an upper level tray, this **centre console box** will accommodate four 500 ml bottles. An optional ventilation function allows the box to be cooled by air diverted from the air conditioning system. Alternatively, the console box may be equipped with a compact, high output refrigeration unit.

Second row passengers benefit from front seatback pockets, twin cupholders, generous door pockets with bottle holders and a 12V power outlet. Even third row occupants have their own cupholders, while the loadspace is comprehensively equipped with net and tie-down hooks, utility rails, a storage tray and 3.8 L capacity storage box, as well as a useful, 220V AC power outlet. In addition, the vehicle toolbox and warning triangle are stowed within the tailgate for easy accessibility.

Convenience

The Land Cruiser's all new interior further benefits from a comprehensive range of high-technology, user-friendly systems designed to enhance life on board.

Smart Entry & Start system and illumination

The all new Land Cruiser can be locked and unlocked without the need for drivers to remove the key fob from a pocket or bag. Touch sensors are located on the front outer door handles, and the tailgate door also incorporates a discrete, **lock/unlock button** to one side of the number plate housing. Thereafter, the engine may be started using the start/stop switch.

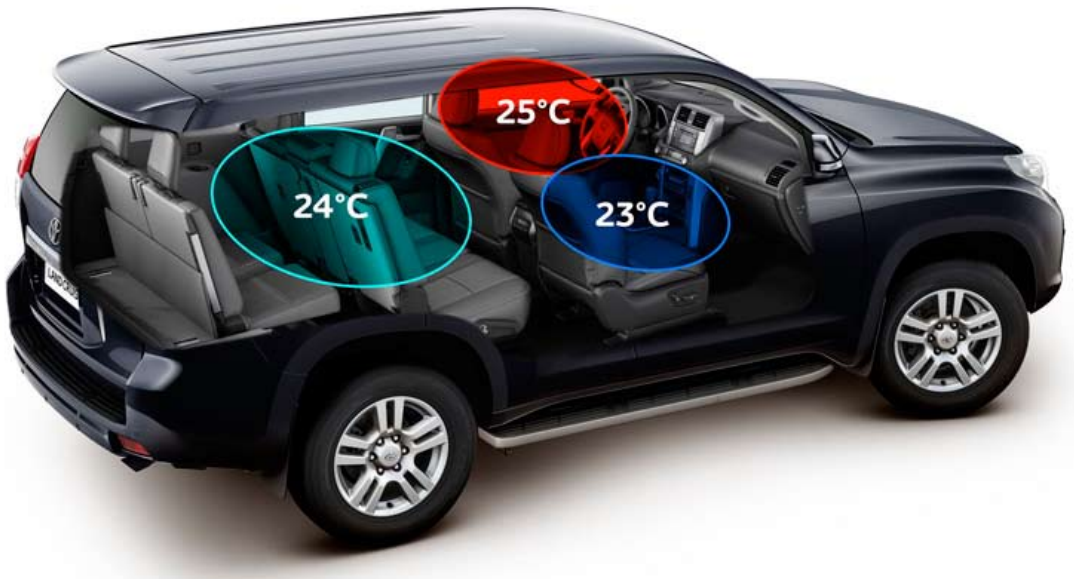
In addition to the illumination of the interior dome lamps and ignition cylinder light when the vehicle is opened, **incandescent bulb-type side step lamps** are also available. Both the top of the side step and the ground are illuminated in front of each door, for easier night-time entry and exit.

Comprehensive interior illumination further includes front footwell and seat map lights, shift lever and console illumination, vanity lamps, independent left and right second and third row reading lamps on high grade models, and front and rear door trim illumination incorporating inside door handle, door pocket and side trim LED lighting.

Triple-zone automatic air conditioning

In addition to automatic air conditioning with independent left and right hand temperature control, the all new Land Cruiser may be equipped with a separate compact, high performance rear air conditioning unit. This allows the driver, front passenger and **rear passenger zones** to each be set at different temperatures.

The dashboard air vent openings have been enlarged, and the centre vents repositioned further from the steering wheel to prevent it from obstructing airflow. In addition, a noise-deflecting wall integrated into the air duct helps reduce air conditioning unit noise, enhancing cabin quietness. Land Cruiser versions equipped with dual-zone air conditioning also benefit from rear air vents located on the back of the centre console for improved rear seat passenger comfort.



Personalised multi-information display

Linked to the multi-information display in the driver's instrument binnacle, the multi-information switch consolidates a wealth of control features, allowing for numerous operations to be performed without the need for drivers to remove their hands from the steering wheel.

The switch allows for extensive vehicle system customisation through four separate modes: Cruise Information mode, Electronic Features Control mode, Multi-terrain Select mode and User Customised mode.

Cruise Information mode gives access to a range of journey information from average speed and fuel consumption, to elapsed journey time and cruising range. The Electronic Features Control mode allows drivers to switch Multi-terrain Select, AFS, 2nd Start (when A/T equipped vehicle needs to start in 2nd gear) and the parking sensors on and off. The Multi-terrain select mode itself is fully described in the Off Road Driving performance section.

The User Customised mode allows as many as 16 different items to be tailored to the owner's preference, with functions displayed in the order of those most frequently used. Customisable items include headlamp (follow-me-home function) and exterior lights off time adjustment, light sensor sensitivity adjustment for automatic headlamps, automatic door lock adjustments, Eco Indicator display control, and both unit and language selection.

Wide-View Front and Side Monitor

Fully described in the Off Road Driving Performance section, the cameras employed by the Multi-terrain Monitor are also linked to a Wide-view **Front** and **Side** Monitor and a **Back Monitor** which allow for easy parking and confident approaches to blind corners during slow speed manoeuvring in urban environments.

When the Land Cruiser's shift lever is in 'D' or any other forward gear, drivers may use **the steering wheel-mounted Camera Mode button** to choose between the wide, 190 degree front view and the passenger side view on the centre console 4.2" multi-information screen. On vehicles equipped with the 7" multi-information screen, a combination of both the front view and the side view can be displayed. In Auto mode, the Wide-view Front and Side Monitor will automatically be displayed at vehicle speeds of less than 12 km/h or when stopped with the shift lever in 'D'.

As with the Multi-terrain Monitor, the Wide-view Front and Side Monitor also displays a comprehensive range of additional information, including vehicle width parallel lines, a front wheel ground contact line, a vehicle front end line, a predicted path line dependant on steering input and a predicted minimum turning path line.

If equipped with the 7" multi-information screen, the Back Monitor display incorporates guidelines linked to steering wheel angle, distance indicators and vehicle width indicators to assist drivers in parking manoeuvres.

JBL synthesis premium surround sound

The all new Land Cruiser builds on the high standards already established by Toyota in the field of in-car high fidelity with a choice of three powerful, newly developed audio systems, including the JBL Synthesis Premium Surround Sound system.

The entry level system features steering wheel mounted audio control switches and 6 speakers. DAB ready, the system also offers both USB and audio jack plug connectivity for the fully controlled use of portable music players such as iPods, and Bluetooth mobile phone connectivity with an audio streaming function.

Incorporating all of the above features plus a 6-disc, in-dash CD changer, a 9 speaker audio system is also available.

Established in 1946, the JBL brand has become synonymous with premium quality throughout their line-up of home theatre, car audio and professional audio systems.

Developed exclusively for the all new Land Cruiser's interior, the new top-of-the-range JBL Premium Synthesis Surround Sound System allows owners to enjoy perfect 7.1 channel surround sound on selected CDs and DVDs, with the ultimate in clarity, dynamic response and enhanced bass performance. Benefiting from the navigation system's Hard Disc Drive (HDD), the JBL audio system also features a 'Sound Library' facility to store up to 2000 tracks recorded from CDs.

A sophisticated Digital Signal Processing amplifier produces 605 watts of clean, crisp power with accuracy and uncoloured signal integrity. A highly stable, detailed sound image is presented through 11 channels and 17 advanced speakers to deliver a targeted, enveloping listening experience with exceptional spectral resolution. All channels are finely tuned to provide the best listening environment possible for every occupant, no matter where they are seated.

Four 19 mm, high-mounted tweeters elevate the sound stage, while three 80 mm coaxially-mounted surround speakers – combination of 80 mm mid-range speakers and 16 mm tweeters – together with the two 80 mm front mid-range speakers immerse listeners in their favourite music. Metal speaker grilles over the tweeters, midranges and surround speakers enhance clarity, and two 150 x 230 mm front and two 160 mm rear woofers mounted in the doors bolster the outstanding bass performance. Underneath it all, heart-thumping low-frequencies resonate powerfully from the 20 mm dual voice coil (DVC) subwoofer mounted in a custom sealed, 16.2 litre enclosure.

Rear seat entertainment system

The optional rear seat entertainment system features a large, 9", LED backlit ceiling mounted **VGA display** and powerful, 5.1 channel DVD surround sound (7.1 channel with the JBL Premium Surround Sound system), for a complete home theatre experience in the rear of the all new Land Cruiser.

The system is fully operable by remote control, and may also be switched on and off from the front seats when driving with small children or those unable to operate the system themselves. In addition to opening and closing the screen, the remote control can also be used to adjust the screen to one of four viewing angles.

Auxiliary inputs allow media from external entertainment sources such as video cameras or game consoles to be played through the system, and individual headphone jacks allow rear seat passengers to use the system without disturbing the driver.

Tailgate glass hatch

Linked to the Land Cruiser's door lock mechanism, unlocked using the smart key and operable with one hand via a discreet **button**, a top-hinged glass tailgate hatch gives access to the vehicle's loadspace even in tight spaces where full tailgate opening may be restricted.

Conversation mirror

Integrated into the sunglasses holder in the roof-mounted console above the rear view mirror, a wide-angle conversation mirror allows the driver to view all occupants of the second and third seating rows without the need to turn around.

Specifications

ENGINE	4.0 litre dual VVT-i V6	3.0 litre D-4D
Fuel type	Petrol	Diesel
Euro class	Euro 5	Euro 4
No. of cylinders, arrangement	6 cylinders, V type	4 cylinders, In-line
Valve mechanism	24-valve DOHC with dual VVT-i	16-valve DOHC
Fuel system	Electronic fuel injection	Direct injection with common rail and intercooler
Displacement (cc)	3956	2982
Bore x stroke (mm x mm)	94 x 95	96 x 103
Compression ratio	10.4 : 1	17.9 : 1
Max. power DIN hp / rpm (kW)	282 / 5600 (207)	173 / 3400 (127)
Max. torque (Nm / rpm)	387 / 4400	410 / 1600 - 2800

BRAKES	4.0 litre dual VVT-i V6	3.0 litre D-4D
Front	Ventilated discs	
Rear	Ventilated discs	

SUSPENSION	4.0 litre dual VVT-i V6	3.0 litre D-4D
Front	Double wishbone	
Rear	4-link with lateral rod	

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WEIGHTS	4.0 litre dual VVT-i V6	3.0 litre D-4D
Kerb weight (kg) 5-door / 3-door	2050 - 2290	2080 - 2400 / 1960 - 2140
Gross weight vehicle (kg) 5-door / 3-door	2900	2990 / 2600
Payload (kg) 5-door / 3-door	850 - 610	910 - 590 / 640 - 460
Towing capacity with brakes (kg)	3000	3000
Towing capacity without brakes (kg)	750	750

PERFORMANCE	4.0 litre dual VVT-i V6	3.0 litre D-4D	
	5-speed automatic	5-speed automatic	6-speed manual
0 - 100 km / h (sec.)	9.2	11.7	12.4
Max. speed (km / h)	180	175	175
Drag coefficient	0.35		

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EXTERIOR DIMENSIONS	3-door
Overall length (mm)	4315 (4485) *
Overall width (mm)	1885
Overall height (mm)	1830**
Wheelbase (mm)	2450
Overhang front (mm)	895
Overhang rear (mm)	965 (1135) *
Front tread (mm) 18" wheel (17" wheel)	1580 (1605)
Rear tread (mm) 18" wheel (17" wheel)	1580 (1605)
Turning radius - tyre (m)	5.2

* With spare tyre on back door ** With roof rails + 45 mm

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EXTERIOR DIMENSIONS	5-door
Overall length (mm)	4760
Overall width (mm)	1885
Overall height (mm)	1845**
Wheelbase (mm)	2790
Overhang front (mm)	895
Overhang rear (mm)	1070
Front tread (mm) 18” wheel (17” wheel)	1580 (1605)
Rear tread (mm) 18” wheel (17” wheel)	1580 (1605)
Turning radius - tyre (m)	5.8

* With spare tyre on back door ** With roof rails + 45 mm

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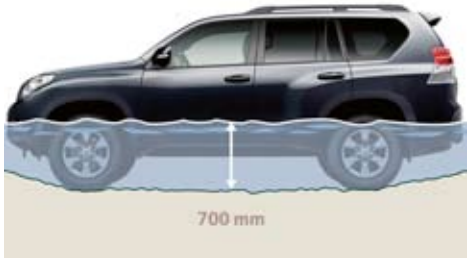
Climbing angle

Approach, ramp break over and departure angles



Wading capability

Limit angle of vehicle turnover

OFF-ROAD	3-door	5-door
Approach angle (°)	32	32
Departure angle (°)	26	25
Ramp break over angle (°)	25	22
Limit angle of vehicle turn over (°)	42	42
Climbing angle (°)	42	42
Min. running ground clearance (mm)	205	215
Wading depth (mm)	700	700

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TYRES AND WHEELS	Legend	Prestige	Executive
Wheels	17"	18"	18"
Tyre size	245 / 70 R17	265 / 60 R18	265 / 60 R18

FUEL CONSUMPTION	4.0 litre dual VVT-i V6	3.0 litre D-4D			
	5-speed automatic	5-speed automatic		6-speed manual	
	5-door	3-door	5-door	3-door	5-door
Fuel consumption (EU directive 80/1268 EEC as last amended by directive 2004/3/EC) (Euro 4) and EU directive 715/2007 as last amended by directive 692/2008) (Euro 5))					
Combined (l / 100 km)	10.8	8.0	8.1	8.4	8.5
Urban driving (l / 100 km)	14.7	10.2	10.4	10.5	10.6
Extra urban driving (l / 100 km)	8.6	6.6	6.7	7.1	7.3
Recommended fuel grade	95 unleaded petrol or higher	48 cetane diesel or higher			
Fuel tank capacity (l)	87				

The fuel consumption and CO_2 values are measured in a controlled environment, in accordance with the requirements of Directive 80/1268/EEC incl. its amendments, on a basic production vehicle. For further information about the basic production vehicle, please contact your local PR-officer.

The fuel consumption and CO_2 values of your vehicle may vary from those measured. Driving behaviour as well as other factors (such as road conditions, traffic, vehicle conditions, installed equipment, load, number of passengers, ...) play a role in determinging a car's fuel consumption and CO_2 emissions.

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CO_2 EMISSIONS	4.0 dual VVT-i V6	3.0 D-4D			
	5-speed automatic	5-speed automatic		6-speed manual	
		3-door	5-door	3-door	5-door
Carbon dioxide, CO_2 (EU directive 80/1268 as last amended by directive 2004/3/EC) and EU directive 715/2007 as last amended by directive 692/2008) (Euro 5))					
Combined (g / km)	256	210	214	220	224
Urban driving (g / km)	346	269	275	275	279
Extra urban driving (g / km)	203	175	178	189	192

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Equipment

EXTERIOR	Legend	Prestige	Executive
Front grille:			
- Black	●	-	-
- Chrome	-	●	-
- Premium	-	-	●
Door handles:			
- Black	●	-	-
- Body-coloured	-	●	●
Door mirrors:			
- Black, electric	●	-	-
- Body-coloured, electric, heated, retractable	-	●	●
Tailgate with opening glass hatch	●	●	●
Rear wiper - built into rear spoiler	●	●	●
Front fog lamps	●	●	●
High Intensity Discharge (HID) headlamps with Adaptive Front lighting System (AFS)	-	●	●
Follow-me home headlights	-	●	●
Headlamp cleaners	●	●	●
Dusk sensor	-	●	●
Rain sensor	-	●	●
Electrochromatic (auto-dimming) rear-view mirror	-	●	●
Privacy glass (rear)	-	●	●
Side step with illumination and puddle light	-	●	●

●= Standard ○= Optional - = Not available

next >>

4WD TECHNOLOGY AND MONITORS	Legend	Prestige	Executive
Full time 4WD	●	●	●
Centre differential lock with TORSEN® Limited Slip Differential (LSD)	●	●	●
Kinetic Dynamic Suspension System (KDSS)	-	●	●
Adaptive Variable Suspension system (AVS)	-	-	●
Variable Flow Control (VFC) power steering	●	●	●
Rear camera	-	●	●
Wide-view front & side monitor system	-	-	●
Multi-terrain monitor* and wide-view front & side monitor system	-	○	○
Crawl control*	-	○	○
Multi-terrain select *	-	○	○
Tyre angle display*	-	○	○
Rear electric differential lock*	-	○	○
Hill-start assist control* / downhill assist control* (if not equipped with crawl control)	●	●	●

* Only on A/T

●= Standard ○= Optional - = Not available

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COMFORT / INTERIOR	Legend	Prestige	Executive
Electric adjustable tilt and telescopic steering wheel	-	●	●
Leather steering wheel, gear shift lever and knob	-	●	-
Leather and wood grain steering wheel, gear shift lever and knob	-	-	●
Steering wheel with audio controls	○	●	●
Cruise control	-	●	●
Adaptive Cruise Control (ACC)*	-	-	●
2-zone automatic air conditioning	○	●	●
3-zone automatic air conditioning**	-	○	○
Chromed inside door handles	-	●	●
Geometric centre cluster inserts	-	●	-
Wood grain centre cluster inserts	-	-	●
Power windows with jam protection	●	●	●
Sunroof	○	○	○
220 V power outlet (boot)	-	●	●
Tailgate damper, step-less hold function	●	●	●

* Not available together with multi-terrain monitor, crawl control, multi-terrain select, tyre angle display and rear electric differential lock

** Only on 5-door, 7 seater

●= Standard ○= Optional - = Not available

INFORMATION AND AUDIO	Legend	Prestige	Executive
Cruise Information (cruising range, average fuel consumption, average fuel consumption after refueling, instant fuel consumption, outside temperature, average vehicle speed and total run time)	●	●	●
Multi-information display (cruise information mode, electronic features mode, user customised mode and multi-terrain select mode if equipped)	-	●	●
4.2" multi-information screen* (cruise information, rear camera and wide-view front & side monitor if equipped)	-	●	●
Audio system with radio, CD and Bluetooth®, Aux-in (3.5 mm & USB) - 6 speakers	○	-	-
Audio system with radio, 6-CD changer, Bluetooth®, aux-in (3.5 mm & USB) - 9 speakers	-	●	-
JBL Synthesis Premium Sound system and navigation system (7" screen) with 6-DVD changer, hard disk drive, Bluetooth® and aux-in (3.5 mm & USB) - 17-speakers	-	○	●
Rear entertainment system with 9" screen	-	○	○

* Not available with JBL Synthesis Premium Sound System

SEATS	Legend	Prestige	Executive
Seat trim:			
Legend, grey or ivory fabric	●	-	-
Prestige, grey or ivory fabric	-	●	-
Executive, grey or ivory leather (heated and power adjustable seats)	-	○	●
3rd row seats **	-	○	○

** Only on 5-door

●= Standard ○= Optional - = Not available

SEAT MODULARITY	Legend	Prestige	Executive
2nd row seats:			
- 5-seater: reclining seat backs 40:20:40 split, tumble fold 60:40 split	●	●	●
- 7-seater: sliding 60:40 split, reclining seat backs and fold flat 40:20:40 split	-	○	○
3rd row seats (reclining seat backs, fold flat underfloor 50:50 split):			
- manual operation	-	○	-
- electric operation	-	○	○

●= Standard ○= Optional - = Not available

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SAFETY	Legend	Prestige	Executive
Anti-lock Braking System (ABS) with Electronic Brake force Distribution (EBD) and Brake Assist (BA)	●	●	●
Emergency brake signal	●	●	●
Vehicle Stability Control (VSC) and Active Traction Control (A-TRC)	●	●	●
Pre-Crash Safety system*	-	-	●
Parking sensors, front (4) and rear (4)	-	●	●
Crash resistant body structure	●	●	●
Energy absorbing bumpers	●	●	●
Side impact bars	●	●	●
SRS front airbags: D (dual stage) and P	●	●	●
SRS curtain shield airbags: front and rear (also 3rd row for 7-seater)	●	●	●
SRS side airbags	●	●	●
Active front headrests: D and P	●	●	●
ISOFIX child restraint system (2nd row, 2 outer seats)	●	●	●

* Not available together with multi-terrain monitor, crawl control, multi-terrain select, tyre angle display and rear electric differential lock

SECURITY	Legend	Prestige	Executive
Immobiliser and alarm	●	●	●
Door lock switch (interior)	●	●	●
Double door lock	●	●	●
Intrusion and glass break alarm sensors	●	●	●

●= Standard ○= Optional - = Not available

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Print text

Full text version	
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Specifications	
Equipment	

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