



INTRODUCING THE NEW RANGE ROVER: SERENE CAPABILITY, ASSURANCE AND COMPOSURE ON AND OFF ROAD

- **Tailored experience:** Suite of technologies works in harmony to deliver peerless capability, composure and control – all governed by new Integrated Chassis Control system
- **Intelligent foundations:** New MLA-Flex architecture supports outstanding off-road suspension geometry while Dynamic Response Pro introduces electronic Active Roll Control
- **Dynamic agility:** Standard All-Wheel Steering makes this the most manoeuvrable Range Rover ever, providing superior high-speed stability and a turning circle smaller than 11m¹
- **Pre-emptive comfort:** Next-generation Electronic Air Suspension features industry-leading air spring volumes and intelligently primes the vehicle for approaching corners for supreme ride comfort
- **Efficient capability:** Intelligent All-Wheel Drive puts torque where it's needed most for optimum efficiency and control, both on and off-road
- **All-terrain guardian:** Intuitive Terrain Response 2 system tailors the driving dynamics to suit the conditions without any driver input
- **Brake-by-wire:** The New Range Rover includes world-first combination of next-generation braking technology with Active Brake Cooling
- **Practical luxury:** With a maximum towing capacity of up to 3,500kg, Electronically Deployable and Advanced Tow Assist technology, the New Range Rover is a refined tow vehicle

The New Range Rover delivers peerless refinement and combines the comfort of a luxury sedan with the all-conquering off-road capability and Command Driving Position that have been Range Rover hallmarks for more than half a century.

The flagship of the Land Rover family represents the pinnacle of refined capability thanks to advanced hardware and software systems working in harmony. This unrivalled breadth of dynamic capability is governed by Land Rover's Integrated Chassis Control System – its suite of advanced technologies tailor the vehicle to suit every mile of every journey using a network of sensors to pre-emptively and reactively fine-tune the driving characteristics.

Scott Higgins, Vehicle Engineering Senior Manager, Jaguar Land Rover, said: *"The New Range Rover delivers true breadth of capability and excels in any surroundings. Whether negotiating busy city streets, remote rural tracks or soft desert sand, its suite of dynamic technologies work in effortless harmony to automatically and predictively assist the driver. Our new Integrated Chassis Control System is the brain of the operation and delivers Land Rover's most refined and intelligent capability yet, using one of the most advanced combinations of chassis technologies ever fitted to a production vehicle."*

CAPABILITY



Flexible Modular Longitudinal Architecture (MLA-Flex)

New mixed-metal architecture uses the right material in the right places to create a safe and strong body that is up to 50 per cent stiffer than before, with a static torsional stiffness of 33kNm/deg. This generational improvement provides the perfect foundation for the advanced chassis systems to reach the optimum combination of ride quality and agility for the terrain.

The hardware is designed to accommodate the New Range Rover's 23-inch wheels – a first for Land Rover – and 815mm diameter wheel/tyre combinations – all while delivering suspension geometry to support customary Range Rover capability. The new flow-formed alloy wheels have been carefully engineered to reduce weight and, as a result, the new larger alloys provide no increase in unsprung mass over the previous 22-inch designs, contributing to the supreme ride comfort and control provided by the suspension.

	New Range Rover Standard Wheelbase	New Range Rover Long Wheelbase
BODY DIMENSIONS		
Length	5,052mm	5,252mm
Width (inc. mirrors)	2,209mm	
Height	1,870mm	
Wheelbase	2,997mm	3,197mm
Turning circle	10.95m	11.54m
OFF-ROAD CAPABILITY²		
Maximum ground clearance	295mm	294mm
Maximum articulation	510mm	510mm
Approach angle	34.7 degrees	34.7 degrees
Breakover angle	27.7 degrees	25.2 degrees
Departure angle	29.0 degrees	29.0 degrees
Wading depth	900mm	900mm
Maximum incline	45 degrees	45 degrees
PRACTICALITY		
Maximum tow capacity	3,500kg	
Maximum roof load	100kg	

CAPABILITY



All-Wheel Steering

Every New Range Rover features All-Wheel Steering for heightened high-speed stability and effortless agility at low speeds. It ensures the New Range Rover is the most manoeuvrable ever, equally at home at high cruising speeds or negotiating tight urban streets.

The electrically operated rear axle steering provides up to 7.3 degrees of steering angle and, at low speeds, turns out-of-phase of the front wheels for enhanced agility. This gives the New Range Rover a turning circle of less than 11m¹, which is the smallest of any Land Rover and the same as small hatchback.

At speeds above 50km/h the rear axle turns in-phase with the front wheels, for exceptional stability and confidence. All-wheel steering also enhances all-terrain performance, assisting drivers when steering out of ruts, or maintaining a straight path on softer surfaces.

Dynamic Response Pro

The New Range Rover is the first Land Rover to feature Dynamic Response Pro – an advanced 48-volt electronic active roll control system that is faster-acting and more efficient than hydraulic systems and has an industry-leading torque capacity of 1,400Nm – with 900Nm available within 200 milliseconds.

This advanced technology manages body roll from lateral acceleration by continually optimising the damping forces on the front and rear anti-roll bars and has been engineered by Land Rover to work in harmony with other chassis systems. In Dynamic mode, body roll is further reduced for sharper responses and enhanced agility while the anti-roll bars can de-couple in off-road scenarios to maximise wheel travel and improve ride comfort. The system's actuators even help the wheels to follow the terrain, improving traction on undulating surfaces.

As well as supporting capability and comfort, the electrified system also contributes to overall efficiency and provides a CO₂ saving of up to 8g/km compared to previous hydraulic systems. In this way, Dynamic Response Pro is a crucial element in delivering the New Range Rover's efficiency, composure and all-conquering capability.

CAPABILITY



Intelligent Electronic Air Suspension with Adaptive Dynamics and Twin Valve Damping

Fully-independent air suspension isolates the cabin from surface imperfections more effectively than ever before and combines industry-leading air spring volumes with twin-valve monotube dampers – all managed by in-house-developed next generation Adaptive Dynamics control software – for serene composure at all times.

The intelligent pre-emptive Electronic Air Suspension uses eHorizon Navigation data and a network of vehicle sensors to read its surroundings and prime the New Range Rover for any eventuality:

- **Collision prevention** – To enhance safety, the suspension automatically switches to Dynamic mode when the Forward Collision Warning system detects a collision risk, assisting the driver if evasive manoeuvres are required by delivering the most agile responses.
- **Cornering control** – eHorizon and vehicle speed data is used to determine when the New Range Rover is approaching a corner and to prepare the suspension for cornering forces, reducing body roll and enhancing the driving experience.
- **Enhanced efficiency** – Speed lowering makes use of eHorizon data for the first time, so the vehicle is able to detect dual carriageway driving more quickly and engage speed lowering sooner than before, to maximise the fuel efficiency benefit.
- **Cruising composure** – For supreme comfort, the system is also linked to the Adaptive Cruise Control, so the suspension is primed to cope with any pitching motions caused by changes to the vehicle speed.

The air suspension also provides variable ride height with four stages of elevation. Automatic Access Height allows customers to elegantly enter and exit the vehicle by lowering the vehicle by 50mm while Active Speed Lowering drops the body height by 16mm when cruising at above 105km/h for enhanced efficiency. In off-road situations, the body can be raised by 75mm and again by an additional 60mm to provide superior ground clearance.

Adaptive Dynamics is the second generation of Land Rover's intelligent suspension control system and monitors a range of data to calculate the optimum damper settings. It senses the road 500 times per second and can adjust individual dampers to enhance control and comfort.

New faster-acting twin-valve Bilstein active dampers are the enabler here. They can react within 12 milliseconds and provide a 63 per cent greater bandwidth of operation than before. Two continuously variable valves inside each damper adjust the damping force; one for the initial upwards movement, the other to control the forces generated during the downward rebound phase.

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Each Terrain Response 2 setting has its own bespoke calibration to ensure the New Range Rover maintains its peerless composure in all situations and, just like Dynamic Response Pro, the advanced dampers are efficient as they do not draw any current in the most frequently used Comfort mode.

Intelligent All-Wheel Drive with Intelligent Driveline Dynamics

The intelligent All-Wheel Drive (iAWD) transmission is controlled by Land Rover's Intelligent Driveline Dynamics (IDD) system, which monitors grip levels and driver inputs 100 times per second to predictively distribute torque between the front and rear axles, and across the rear axle, for optimum traction on and off-road.

All-wheel drive is always connected when driving off-road, pulling away from a standstill, in cold weather (below three degrees Celsius) and at speeds above 160km/h, and all New Range Rovers feature a smooth shifting eight-speed automatic gearbox with twin-speed transmission for supreme low-speed control in off-road situations.

The intelligent system optimises efficiency by disconnecting drive to the front axle at speeds above 35km/h and up to 160km/h, which reduces drag losses by 30 per cent and contributes to a reduction in CO₂ emissions of up to 4g/km.

The torque-on-demand technology improves handling dynamics and reduces both weight and drag losses compared to a traditional AWD system, yet provides four-wheel drive whenever needed. The system constantly monitors vehicle data to act pre-emptively, so traction is always maintained and New Range Rover has the added ability to distribute torque to the front or rear axles for instinctive driving dynamics and confidence-inspiring capability at all times.

Electronic Active Differential with Torque Vectoring by Braking

The New Range Rover features an Active Locking Rear Differential as standard to optimise traction from the rear axle during high-speed cornering, on slippery surfaces and during off-road wheel articulation. It provides enhanced capability and driver confidence and is controlled by the IDD system. Together, the IDD system along with Torque Vectoring by Braking deliver the maximum available torque to the rear wheel with the greatest traction.

Torque Vectoring by Braking (TVBB) enhances agility, grip and cornering stability by constantly monitoring the balance and distribution of torque. The system controls understeer and oversteer by applying controlled braking to the inner or outer rear wheel, with the Electronic Active Differential also capable of locking the rear axle and creating a 50/50 split of torque across each rear wheel.

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The Active Locking Rear Differential also enables heightened off-road capabilities. With the Electronic Active Differential acting as an open differential, it works with the Torque Vectoring by Braking system by braking the wheel that has the least grip or is spinning, and automatically transferring torque to the wheel with most grip to enable continuous progress.

Terrain Response 2 with Configurable Terrain Response

Land Rover's latest Terrain Response technology optimises all-terrain capability by harnessing all of the vehicle chassis systems – from the iAWD, Dynamic Response Pro and All-Wheel Steering to the Electronic Air Suspension, brakes and electric power steering – to provide the perfect vehicle settings for the surroundings.

Terrain Response 2 was first introduced on Defender and includes Comfort (general driving), Dynamic, Eco, Grass/Gravel/Snow, Mud & Ruts, Sand, Rock Crawl and Wade modes, while Auto mode detects, selects and deploys the most appropriate setting for the terrain at any given time.

Configurable Terrain Response allows the driver to tailor a bespoke combination of settings to suit their precise requirements. The differentials, throttle, traction control and ride height are all configurable and up to four custom profiles can be stored.

Wade Mode locks the driveline, sets ride height to its maximum and closes all cabin vents, to allow the New Range Rover to ford up to 900mm of water. It also activates the Wade Sensing screen on the Pivi Pro system, allowing drivers to see the depth of surrounding water to provide ultimate confidence when fording deep water. Terrain Response even applies the brakes to 'wipe' the discs when a different Terrain Response mode is selected – ensuring full braking performance is available from the first application.

Land Rover's All-Terrain Progress Control also supports drivers in extreme off-road situations, removing the stress of maintaining a low crawl speed, while Hill Descent Control ensures composure and control are maintained when driving down steep inclines.

Towing technology

The New Range Rover is available with technology that takes the stress out of hitching and towing a trailer. Advanced Tow Assist helps drivers complete difficult reversing manoeuvres by allowing them to steer trailers with their fingertips, using a rotary controller on the central console and trajectory lines projected on to the Pivi Pro touchscreen from the rear camera feed.

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In addition, Advanced Tow Assist, Hitch Assist and Trailer Stability Control combine to provide convenience and confidence for customers, while the Electronically Deployable Towbar preserves the elegant lines of the New Range Rover when not in use by raising into position at the touch of a button.

Next generation braking performance

The New Range Rover features brake-by-wire technology which provides quicker and quieter responses than conventional systems, improving safety and enhancing the driving experience. An actuator-controlled piston operated by the foot pedal applies braking effort, delivering finer braking control.

The system comes into its own during low-speed off-road manoeuvres. When the Traction Control and Autonomous Emergency Braking systems are triggered, it can lock a wheel within 150 milliseconds – versus 300 milliseconds with a conventional set-up. In everyday use, Hill Launch Assist with Enhanced Hill Hold prevents the New Range Rover from rolling back on steep inclines – with a smoother transition from the brakes to power in all environments.

Land Rover's new luxury SUV is the first vehicle in the world to combine this next generation braking technology with Active Brake Cooling. The active brake cooling ducts optimise aerodynamics by only opening when additional brake cooling is required – improving aerodynamic performance by six per cent – while lightweight brake discs contribute to both improved lifecycle emissions (up to 80kg reduction in CO₂ equivalent across the lifetime of the vehicle) and driving dynamics by minimising unsprung mass.

Sustainable development

The New Range Rover is the first Land Rover to have undergone virtual simulator testing to perform initial prototype testing. Over the last three years, Land Rover engineers have matched Formula 1 levels of simulator use and virtual development and have even mapped local roads around the Gaydon headquarters as part of this process. They have invested more than 140,000 hours of computational analysis prior to physical testing, reducing the number of real-world development miles required by the fleet of physical prototypes.

ENDS

¹ Standard Wheelbase PHEV data can differ

² PHEV data not certified, data will differ