



By appointment
to HM The Queen
motor car manufacturers
Bentley Motors Limited
Crewe Cheshire



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BENTLEY

Press Information

A CHASSIS FOR CLASS-LEADING REFINEMENT AND PERFORMANCE

- The Continental GT is the first Bentley to introduce an all-new three-chamber air spring system to provide the foundation for the chassis. The three-chamber setup contains 60 per cent more air volume than the previous single-chamber springs, with the ability to switch chambers in and out of use, thus giving a range of spring stiffness – either softer or harder than the previous passive system. This gives a chassis setup to suit every occasion - from true limousine ride comfort to sporting levels of body control and stiffness.
- The set-up of the chassis (ride height, damping, roll control and torque distribution, together with the settings for the engine and drivetrain) is commanded centrally through one rotary control – the Bentley Drive Dynamics selector. This includes four driving modes:
 - Sport - for maximum body control and dynamic response
 - Comfort - for optimised comfort and refinement
 - Bentley - a careful blend of Sport and Comfort settings as recommended by our engineers
 - Custom - which allows the driver to pick and choose individual settings for various systems
- Front suspension is double wishbone, while rear wheels are controlled by a multilink design connected to the body via a lightweight subframe in a hollow aluminium casting with an extremely compact package. The suspension kinematics and compliance of the mounts of both axles have been carefully optimised in order to deliver best-in-class ride comfort and refinement without compromising vehicle handling.
- The Continental GT is the second model to incorporate Bentley Dynamic Ride – Bentley's electric active roll control technology with a class-leading 48-volt system. Steering feel and response, chassis response, handling balance and overall grip are all improved by this innovative system.
 - A dedicated control computer detects wheel inputs and instantaneously adjusts the position of electric rotary actuators built into the front and rear anti-roll bars, meaning minimal body roll under hard cornering but a soft, compliant and refined setup for relaxed driving. The system works with the three-chamber air springs to provide a chassis that is both dynamically capable and exceptionally comfortable.
 - The actuators can deliver up to 1,300 Nm (959 lb.ft.) of torque to resist roll, able to reach this peak figure in 0.3 seconds.

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- The system is tuned to maximise ride comfort.
- The use of a 48-volt system to power the actuators means silent, instantaneous response – making pre-sensing of road conditions irrelevant.
- Electric Power-Assisted Steering (EPAS) is also featured on the Continental GT. The new system improves feedback to the driver, while providing isolation from unwanted road disturbances. The steering system features a variable rack ratio, allowing increased response with higher steering angles to aid manoeuvrability whilst maintaining excellent stability at high speeds. The level of steering feedback stays the same in all driving modes but can be set individually by the driver as part of the Custom chassis mode.
- The all-wheel drive strategy for the new Continental GT is also all-new. Torque delivery between the front and rear axles is actively controlled by a dedicated traction management system working in harmony with Electronic Stability Control (ESC). In normal conditions, the maximum available power is sent to the rear axle, with torque distributed more towards the front axle when the system detects that additional traction is required. This results in reduced ESC intervention, while the car will also permit controlled oversteer when in Dynamic mode.
- In the lateral direction, torque is managed across each axle by the torque-vectoring-by-brake system first introduced on the Continental GT3-R and Supersports models. By braking the inside rear wheel during cornering, the nose of the car is able to turn in harder and faster, improving front-end response and agility. On acceleration out of a corner, the car can lightly brake the inside front wheel to move torque across the front axle to the outside wheel, optimising traction for best possible performance. The new development of the system intervenes less frequently than before, thanks to the newly developed hardware and inherently better vehicle balance.
- The powertrain mounting system complements the chassis as it is optimised to deliver the best balance between ride comfort, vehicle dynamics and powertrain NVH. The W12's unique Active Engine Mounts allow for high mount stiffness which leads to optimum dynamic engine-mass control and resultant ride comfort, whilst still delivering uncompromised refinement by cancelling the undesired noise and vibrations from the powertrain. A new torque reaction strut works in combination with the powertrain mounting to resist engine roll and lateral movement – meaning a sharper, more linear and controlled turn in.

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- The braking system is the most powerful iron system ever fitted to a Bentley, with a total of 28 pistons. Front brake discs measuring 420 mm are a two-piece construction utilising a cast-iron friction ring and aluminium mounting bell. Front calipers feature ten pistons each, while rear calipers contain four pistons each that clamp 380 mm single-piece discs. Brakes of this scale provide the reliable, repeatable stopping performance inherently important to a 200+ mph sporting Grand Tourer.
- Bentley has worked together with Pirelli to create bespoke tyres for the new Continental GT right from the very beginning of the design phase.
 - The car runs exclusively on Pirelli P Zero tyres, using a different tyre size between front and rear axles for the first time, to enhance dynamic ability. During the development process, Pirelli's engineers sat alongside their counterparts from Bentley, driving and refining the car-tyre package until the perfect balance was reached between performance and comfort.
 - The latest material compounds help the tyre respond more directly to driver inputs, ensuring a dynamic experience that is balanced and communicative.
 - The P Zero tyre fitted to the Bentley also has Pirelli's Noise Cancelling System which reduces road noise coming into the cabin. At the same time, rolling resistance is also improved on the latest P Zero tyres, creating less friction against the road without compromising grip. As a result, both wet and dry grip represent a step forward, with a noticeably reduced risk of aquaplaning.
- The front subframe is unique for the W12 and manufactured via an aerospace technique new to Bentley – Thixocasting. This innovative semi-solid casting method provides a component optimised for weight, stiffness, strength and durability. The front subframe is also an integrated part of the front vehicle body structure. Its design maximises its contribution to the whole body torsional stiffness as well as providing optimum suspension and engine attachment point stiffnesses to minimise the noise and vibration transfer into the cabin from the engine and road inputs.

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