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Bentley Motors

Press release

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THE ALL-NEW BENTLEY FLYING SPUR

- ***Ultimate high luxury sedan with unrivalled performance***
- ***New Flying Spur brings more comfort and refinement***
- ***Fastest, most powerful four-door Bentley model ever***
- ***Sleek and elegant new styling***
- ***Contemporary cabin design with traditional hand-crafted luxury***
- ***Lighter overall despite enhanced specification***
- ***Connectivity and infotainment with own Wi-Fi hotspot***
- ***Global debut at Geneva Motor Show 2013***

(Crewe, 20th February 2013) Bentley establishes a new luxury performance sedan benchmark with the launch of the new Flying Spur. With its unrivalled blend of effortless driveability, exquisite luxury and craftsmanship, sculpted design and state-of-the-art technology, the new Flying Spur takes the worldwide success of its iconic predecessor further. Bentley's most powerful four-door model ever makes its global debut at the 2013 Geneva Motor Show on 5th March.

Bentley's styling team has developed an athletic design for the new Flying Spur that combines traditional Bentley styling cues with a sporting stance and contemporary details. Sharp feature lines complement muscular rear haunches, while LED day-time running lights, dipped headlights and taillights characterise the front and rear profiles. The interior designers have created a luxurious, spacious cabin that dresses advanced acoustic and electronic technologies in exquisite hand-crafted leather hides and wood veneers.

Driver and passengers alike interface with the car and the outside world through touch-screen infotainment, mobile connectivity including Wi-Fi, a Rear Seat

Entertainment suite and a new hand-held Touch Screen Remote which allows rear-cabin occupants to control an extensive range of features from the comfort of their seat. An eight-channel, eight-speaker audio system with Balanced Mode Radiators provide high quality sound clarity, with the 1100W Naim® for Bentley premium system available as an option.

Powering the new Flying Spur is Bentley's renowned 6.0-litre, twin turbo W12 engine, coupled to a ZF eight-speed transmission. Developing 625 PS (616 bhp) and 800 Nm of torque, the new Flying Spur features more power than any other Bentley four-door in history. A 14 per cent improvement in the power-to-weight ratio over the outgoing model delivers a breath-taking 0-60 mph time of 4.3 seconds and a top-speed of 200 mph (322 km/h). In the modern Bentley tradition, power is delivered to the road via all-wheel drive with a 40:60 rear-biased torque split for a sure-footed, engaging drive in all road and weather conditions.

Bentley Chairman and Chief Executive, Dr Wolfgang Schreiber, comments "Bentley's new Flying Spur is the ultimate luxury performance sedan. Our engineers have worked tirelessly to ensure that the Flying Spur is the perfect combination of power, comfort, refinement and hand-crafted quality. Fitted with the very latest technology, the new Flying Spur is equipped both for business and relaxation whilst remaining a car to enjoy from behind the wheel."

A SLEEK AND STRIKING EXTERIOR

The styling of the new Flying Spur establishes a new design character for Bentley's performance sedan. An elegant direction is reflected by a lower, wider appearance with sharp lines and gently curvaceous surfaces. A lower roof line, deeply sculpted panels, precise feature lines and a muscular rear haunch give the Flying Spur a more aggressive stance and a powerfully dynamic profile.

The front fenders feature a striking new wing vent complete with an elegant Bentley "B" motif. From here, an additional feature line forms a sharply defined

edge running from the front wheel all the way to the rear bumper, underlining the shape's dynamic character.

At the front of the car, a more upright chrome grille sits between the pairs of jewel-like LED headlamps. Emphasising the lower, wider stance, the outer lamps are the larger of the two. Beneath the front grille, the lower intake is now full width with no vertical divisions, but instead with a chromed horizontal accent that completes the dramatic face of the new Flying Spur.

At the rear, a longer and lower boot lid lends a more swept appearance to the side profile. Horizontal single ellipse LED tail lamps combine with a new interpretation of the Bentley "Horse Shoe" feature line, now running the full width of the car and encapsulating a graceful concave section.

Beneath the elegant skin of the new Flying Spur, a wide range of materials are applied in an intelligent and efficient manner. Designed to improve overall body stiffness and refinement whilst meeting stringent crash performance targets and pedestrian protection legislation, the new body structure includes reinforcement to the B-posts, sills and front crossmembers together with deformable components in the floorpan for optimal load transfer. A deployable bonnet that includes both new reinforcement panels and deformation elements helps to improve pedestrian impact performance.

The bonnet and front fenders are constructed in aluminium, with the fenders shaped using the aerospace-industry superforming technique, employing compressed air to shape heated sheets of alloy in to the required form at over 500°C. Exceptionally clean lines with sharp radii and lighter-weight components are the result, giving the new Flying Spur an unmistakably Bentley front end with extremely taut shut lines.

The new door structures are completely redesigned with fewer individual parts for improved quality and refinement. An optimisation of the doors realised through efficient use of materials contributes to much improved door

kinematics and feel. Meanwhile, further weight savings are achieved through the crafting of the bootlid in a polymer composite material that also integrates the main antennae for the car's electronic systems.

The exterior design, manufacturing processes and carefully optimised materials selections combine to provide a bodyshell that is not only muscular and clean, with minimal shutlines, but also one that performs exceptionally well on the road. With a torsional stiffness of 36,500 Nm/degree, a 4% increase over the previous generation Flying Spur, the new bodyshell provides an extremely rigid platform for the chassis components and a stable foundation for NVH reduction. The sleek shape also has outstanding aerodynamic properties for a large sedan, with an overall drag coefficient of just 0.29 and ensuing benefits to emissions performance.

Weight savings in the body structure and throughout the car mean that the new Flying Spur is 50 kg lighter than the first generation car, despite the additional refinement measures, enhanced technology specification and stronger structure.

A CONTEMPORARY CABIN OF HAND-CRAFTED MATERIALS

The sumptuous interior of the new Flying Spur includes 600 new parts, with only the sun visors, grab handles, armrests and some of the front console and controls carried over from the previous generation. Class-leading entertainment and information technologies are married with traditional hand-crafted materials and stunning contemporary design to create the ultimate high-luxury sedan cabin.

Available in both four- and five-seat configurations, the new Flying Spur features redesigned front and rear seats trimmed in natural premium-quality leather. The new seats use a softer yet more durable hide unique to Bentley and available in twelve different colours.

Careful use of different foam specifications and densities creates seats that are both supremely comfortable and supportive, with 14-way adjustment including

memory and lumbar functions. Every occupant is offered seat heating as well as seat ventilation, while additional stowage sections are incorporated to the rear of the front seats.

For the four-seat variant, the centre console sweeps from the front to the rear cabin and introduces an additional storage area together with a beautifully crafted stowage case, trimmed in veneer to match the car.

The interior designers, together with the craftsmen and women of Bentley's renowned woodshop, have applied the finest wood veneers to finish the cabin of the new Flying Spur. Utilising almost ten square metres of sustainably sourced natural wood per car, the Flying Spur features book-matched and mirror-polished veneer to the fascia panels, consoles, waistrails and picnic tables. To enhance the "wrap-around" feel of the forward cabin, the veneer of the dashboard meets that of the doors in a perfectly aligned curve, giving the impression of an unbroken arc of wood around the interior. Crafted entirely by hand, cured for 72 hours and clear-lacquered to enhance the natural beauty of the wood, a range of seven sophisticated veneers are available (two as standard - burr walnut or dark fiddleback eucalyptus).

To complete the luxurious and opulent nature of the cabin, the roof lining and pillars are also trimmed in natural leather. Layers of supple foam are applied to all tactile surfaces beneath the hide, harmonising the touch and feel of all areas of the cabin. Electrically-operated rear side blinds, fitted as standard, permit privacy for rear-seat passengers if desired. Customers may also specify an optional glass sunroof at no additional cost. Behind the central rear armrest, a nine litre bottle cooler can be specified to keep drinks perfectly chilled. The interior designers also focused on improving interior stowage around the cabin, whilst including new electronic technologies discretely applied throughout the interior.

CONNECTION TO THE OUTSIDE WORLD

Complementing the hand-crafted interior, the Flying Spur is equipped with carefully selected state-of-the-art technology, for both the driver and passengers. Central infotainment is controlled through a high resolution 8" touch-screen interface, complete with Bentley's advanced satellite navigation system and Bluetooth connectivity, while infotainment features can be controlled by voice activation.

An eight-channel, eight-speaker audio system featuring Balanced Mode Radiator technology for optimum sound clarity and frequency range can play music from an on-board hard drive, CDs, DVDs, SD cards and via an iPod. The Naim® for Bentley Premium Audio System, featuring redesigned separate subwoofers for improved bass extension and 1100 Watts of power, is available as an option for those wishing for the ultimate in-car audio experience.

Rear seat passengers have access to an extensive array of infotainment technology. A new Touch Screen Remote (TSR), deployed from a housing in the rear console at the touch of a button, allows passengers to control a variety of different systems. From climate controls and seat heating and ventilation through to the satellite navigation and multimedia systems, the TSR means passengers can interface with the car from the comfort of their seat.

Customers wishing to work on the move may order the new Flying Spur with the new Multi-Media Specification. Central to this is the Bentley Connectivity Unit (BCU) which allows portable devices, laptops and tablet computers to connect to the internet through the car's own Wi-Fi hotspot with an active SIM and includes 64 GB of internal storage capacity. Two 10" LCD screens are installed to the backs of the front seats, while top-loading multimedia players sit in pockets fitted beneath, allowing the user to load and enjoy video, photo and music content from DVDs, SD cards, USB devices including iPods and iPads, and HDMI devices.

Each rear passenger can view separate content, or stream media from the BCU. A USB charging port keeps batteries fresh, and wired headphone ports complete

the connections, allowing music and internet radio to be played directly through the BCU. Bentley wireless headphones complete the specification for the ultimate in rear-seat infotainment.

DESIGNED FOR EXCEPTIONAL COMFORT

Achieving class-leading comfort and refinement was a priority during the development of the new Flying Spur and the acoustic isolation of the cabin from external noise inputs was a particular focus. Bentley's development and use of lightweight acoustic underfloor panels to minimise road noise continues, with aerodynamically optimised insulating sections applied to almost the entire underfloor of the car. Side glazing and both front and rear screens are made in acoustic glass, featuring a specially developed interlayer that reduces noise transmission. An improved sealing system around the side glazing now features two individual sealing points to reduce wind noise to a minimum regardless of road speed. The redesigned doors are also fitted with additional insulation to the outer skin, reducing noise diffusion in to the cabin. Enlarged rear mufflers reduce exhaust noise by 12 dB at 3000 rev/min for enhanced passenger comfort.

The heating and ventilation system is improved with the addition of a new Thermostatic Expansion Valve which drastically decreases the time taken to cool the cabin. An optional Climate Boost function features an enhanced blower system for improved cooling of the rear cabin.

With comfort paramount for the new Flying Spur, a new 19" tyre has been specifically developed, utilising a 12% relative increase in sidewall height combined with greater vertical compliance to improve impact isolation. During development, 12 different tyre constructions were tested and refined to find the optimum balance between refinement and handling performance.

EIGHT GEARS, SIX LITRES AND FOUR DRIVEN WHEELS

As Bentley's most powerful engine, the 6.0-litre, twin turbocharged, 48-valve W12 is the natural choice to power the fastest ever Bentley four-door. Now

delivering 625 PS (616 bhp) at 6,000 rev/min and a staggering 800 Nm (590 lb ft) of torque from only 2000 rev/min, the W12 has recently undergone a complete engine management system upgrade to the latest Bosch ME17 interface. Improved torque management, turbocharger control, driveability and emissions performance all result from the adoption and optimisation of the new system, with a resulting improvement in low speed responsiveness.

Coupled to the W12 is the very latest eight-speed, quick-shift automatic transmission from ZF. All Bentley models now feature this state-of-the-art gearbox. Delivering seamless and imperceptible shifts in under 200 milliseconds, the gearbox is not only designed to handle the mighty torque output of the W12 but also to ensure smooth and refined delivery of power to the wheels. An optimised set of gear ratios keep the engine in its most efficient operating range during light loads and cruise, contributing in an overall improvement in fuel consumption and CO₂ emissions of more than 13 per cent over the outgoing model. The new Flying Spur delivers a combined cycle fuel economy of 19.2 mpg (14.7 litres/100 km), and CO₂ emissions of 343 g/km – impressive figures for a 12-cylinder ultra-luxury, high performance sedan.

The transmission feeds power to all four wheels via Bentley's renowned all-wheel drive system. With a standard torque split of 60 per cent to the rear wheels and 40 per cent to the front, but the ability to vary this division up to 85 per cent to the rear axle or 65 per cent to the front depending on available traction, the Flying Spur's drivetrain ensures optimal grip regardless of prevailing road or weather conditions. The assurance provided by such a sure-footed set-up means that the spirited driver can deploy all of the car's available power and torque in a controlled and dependable manner, in virtually any circumstances.

A REFINED RIDE WITH DYNAMIC DELIVERY

With outstanding ride comfort of vital importance, the independent computer-controlled air suspension of the new Flying Spur is redesigned to maximise impact absorption and isolation. Compared to the outgoing model, suspension

spring rates are softened front and rear by 10 per cent and 13 per cent respectively, for improved ride comfort in the normal operating region. The rate of stiffness increase during harder cornering has been increased for improved control of heave, pitch and roll. Anti-roll bars are softened by 13 per cent and 15 per cent to improve single wheel impact absorption. Suspension lever bushes all-round are softened by at least 25 per cent for reduced road surface-induced noise and vibration.

Working with the new springs, a damper hydraulic specification has been developed to maximise ride comfort. Working with a revised damper electronic control (CDC) strategy, this enables exceptional low speed ride performance while damping force increases significantly with speed, providing the optimum balance between body control and stability at all speeds. A four-position suspension control, with a widened range of settings, allows drivers to choose the level of damping to suit their preference.

The power steering system provides a comfort-orientated balance whilst maintaining optimum steering feel and precision throughout the speed range. A new specification of steering gear, together with a new calibration of the speed-sensitive system that regulates hydraulic fluid flow, provides variable assistance depending on vehicle speed. The new system delivers both high levels of isolation from surface deformations whilst ensuring driver confidence through the combination of accurate steering precision and a measured increase in steering effort when cornering.

As the new Flying Spur approaches its 200 mph (322 km/h) top speed, the ride height is automatically lowered via the air suspension system in order to compensate for aerodynamic forces. This helps not only to improve vehicle stability by optimising aerodynamic balance along the car, but also reduces drag, with benefits both to top speed and CO₂ output. The new car has a two-stage lowering strategy, firstly lowering by 5 mm at the front and 10 mm at the rear at 121 mph (195 km/h) and then by a further 8 mm and 13 mm respectively at 149 mph (240 km/h).

The multiple-mode Electronic Stability Control (ESC) system is recalibrated to work in combination with the new chassis specification. The system is calibrated to ensure that the enthusiastic driver is not hindered by stability interventions and, where appropriate through the selection of the ESC Dynamic Mode, the driver can further explore the handling limits of the vehicle whilst still maintaining appropriate levels of stability control.

THE PERSONAL CHOICES

As with the entire Bentley range, the new Flying Spur is built to individual customers' exacting specifications. A range of seventeen standard exterior paint colours includes Dark Cashmere, a sophisticated and contemporary addition to the Bentley palette. The extended paint range of over 100 colours is joined by Damson, a rich hue inspired by the extremely rare purple diamond, and one that is complemented by an optional matching hide colour.

A new 19-inch Classic wheel is fitted exclusively to the new Flying Spur, either bright-painted or with a diamond turned finish. The new design consolidates a wider range of 20-inch five-spoke, 21-inch six-spoke and 21-inch ten-spoke wheels available as cost options.

Customers wishing to extend the range of available options further can choose to include the Mulliner Driving Specification. This includes five additional hides, expanding the number of available shades to 17, and five further wood veneers. Bentley's traditional diamond quilting is incorporated to the seats and door panels, together with an indented leather headlining and embroidered Bentley wings to the headrests. Drilled alloy foot pedals, a knurled sports gear lever, jewel filler cap and 21" two-piece five-spoke alloy wheels in painted or polished finish complete the Mulliner suite of options.

TECHNICAL SPECIFICATIONS

	New Flying Spur
Engine	

Type	6-litre twin-turbocharged W12
Max Power	616 bhp / 460 kW / 625 PS @6000 rev/min
Max Torque	800 Nm / 590 lb.ft @ 2000 rev/min
Transmission	
Type	ZF 8-speed automatic with Quickshift, Block Shifting and wheel-mounted paddleshift
Driveline	Continuous all-wheel drive (40:60 rear bias)
Ratios	1st : 4.71; 2nd: 3.14; 3rd: 2.1; 4th: 1.67; 5th: 1.29; 6th: 1.00; 7th: 0.839; 8th: 0.667
Final Drive	2.85
Brakes	
Front	405mm ventilated discs (optional 420mm Carbon Silicon Carbide, cross drilled)
Rear	335mm ventilated discs (optional 356mm, Carbon Silicon Carbide, cross drilled)
Wheels and Tyres	
Wheels	New 19" (2 finishes), opt 9.5J x 20", opt 9.5J x 21" (3 designs)
Tyres	275/45 ZR19, 275/40 ZR20, 275/35 ZR21
Steering	
Type	Rack & pinion, power assisted, speed-sensitive ZF servotronic
Turns lock-to-lock	2.8
Turning circle	11.7 m / 38.4 feet
Suspension	
Front	Four link double wishbones, computer controlled self-levelling air suspension, with anti-roll bar
Rear	Trapezoidal multi-link, computer-controlled self-levelling air suspension, with anti-roll bar
Damping	Continuous Damping Control
Dimensions	
Wheelbase	3065 mm / 120.7 in
Overall length	5295 mm / 208.5 in
Width (across body)	1976 mm / 77.8 in
Width (inc. mirrors)	2208 mm / 86.9 in
Overall height	1488 mm / 58.6 in
Fuel tank	90 litres / 20 UK gallons / 24 US gallons
Boot volume	475 litres / 16.8 cu ft
Kerb weight (EU)	2475 kg / 5451 lb
Gross vehicle weight	2972 kg / 6546 lb
Performance	
Top speed	200 mph / 322 km/h
0-60 mph	4.3 secs
0-100 mph	9.5 secs
0-100 km/h	4.6 secs
0-160 km/h	9.5 secs
Fuel Consumption (EU cycle)*	
Urban	12.6 mpg (22.4 litres/100 km)

Extra Urban	27.8 mpg (10.2 litres/100 km)
Combined	19.2 mpg (14.7 litres/100 km)
CO ₂ emissions	343 g /km
Fuel Consumption (EPA cycle)**	
City (US mpg)	12
Highway (US mpg)	20
Combined (US mpg)	15
Emissions Controls	EU 5 and US LEV II

* Fuel consumption figures are provisional and subject to Type Approval.

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ENDS

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Notes to editors

1. Bentley Motors employs around 4,000 people in Crewe which is home to all its operations including design, R&D, engineering and production. The combination of fine craftsmanship, using skills that have been handed down through generations, alongside engineering expertise and cutting-edge technology is unique to UK luxury vehicle manufacturers such as Bentley. It is also an example of high-value British manufacturing at its best. Bentley exports over £1bn worth of goods in 2012. The company is the third largest R&D investor in the UK's automotive sector and the 18th largest nationally.
2. In 2012 Bentley's global sales were up 22% with 8510 cars delivered to customers worldwide. The Americas remain Bentley's largest sales region

with 2457 cars (up by 22%) whilst in China sales were up by 23% to 2253 cars. The Middle East significantly increased its sales by 44% with 815 cars delivered and sales were also up 44% in Asia Pacific where 358 cars were delivered. Sales in Japan sales rose by 73% to 190 cars. In Europe sales were up by 12% with 1333 cars delivered and by 7% in the UK with 1104 cars delivered.