

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
ALEXANDRIA DIVISION**

**JAGUAR LAND ROVER LIMITED,**

**Plaintiff,**

**v.**

**BENTLEY MOTORS LIMITED, and  
BENTLEY MOTORS, INC.,**

**Defendants.**

**CASE NO. 2:18cv320**

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff, Jaguar Land Rover Limited (“JLR”), by and through their undersigned counsel, hereby bring this Complaint to protect JLR’s patented and award-winning Terrain Response® technologies from infringement by Defendants Bentley Motors Limited and Bentley Motors, Inc. (collectively “Bentley” or “Defendants”). JLR alleges as follows:

**NATURE OF ACTION**

1. This is a civil action for infringement. This action is based upon the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

**THE PARTIES**

2. Plaintiff JLR is incorporated and registered in England and Wales, having a principal place of business at Abbey Road, Whitley, Coventry, CV3 4LF, United Kingdom.

3. On information and belief, Bentley Motors Limited is incorporated and registered in England and Wales, having a principal place of business at Pyms Lane, Crewe, Cheshire, CW1 3PL, United Kingdom.

4. On information and belief, Bentley Motors, Inc. is organized and existing under the laws of the State of Delaware having a principal place of business at 2200 Ferdinand Porsche Drive, Herndon, VA 20171, USA.

### **JURISDICTION AND VENUE**

5. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the Patent Laws of the United States, Title 35, United States Code, including 35 U.S.C. § 271 *et seq.*

6. This Court has personal jurisdiction over Defendants by virtue of the activities Defendants conduct within the State of Virginia. On information and belief, Bentley Motors, Inc. has a principal place of business in Virginia. Bentley Motors, Inc. is the national sales company for, and a wholly owned subsidiary of, Bentley Motors Limited. On information and belief, Bentley Motors Limited, directly or through subsidiaries, imports, manufactures, uses, sells, or offers to sell its products within the State of Virginia. Defendants market and sell cars, including the Bentley Bentayga, in the State of Virginia. *See, e.g.,* Bentayga, Bentley Tysons, *available at* <https://tysons.bentleymotors.com/us/en/bentley/info/bentayga> (last visited June 14, 2018). Defendants conduct continuous and systemic parts of their business within the State.

7. Venue is proper in this District pursuant to 28 U.S.C. §§ 1331, 1338(a), 1391(b), (c) and (d) and 1400(b).

### **THE ASSERTED PATENT**

8. On May 8, 2018, the USPTO, after full and fair examination, duly and legally issued U.S. Patent No. RE46,828 (“the ’828 patent”) entitled “Vehicle Control.”

9. JLR holds all right, title, and interest in the '828 patent with full rights to enforce the same and to sue and recover for past, present, and future infringement. A true and correct copy of the '828 patent is attached at Exhibit A.

10. The '828 patent is a reissue of U.S. Patent No. 7,349,776 ("the '776 patent"). JLR held all right, title, and interest in the '776 patent. A true and correct copy of the '776 patent is attached at Exhibit B.

11. Bentley became aware of the '776 patent at least as early as February 5, 2016. On February 5, 2016, JLR sent a letter to Bentley identifying that the Bentley Bentayga having a "Driver Assistance" system infringes the '776 patent.

12. On or about February 5, 2018, representatives from JLR met with representatives from Bentley, and informed Bentley that JLR had received a Notice of Allowance for the '828 patent and expected it to be granted shortly.

13. On May 24, 2018, JLR sent a letter to Bentley indicating that the '828 patent had issued on May 8, 2018, and reiterating that the Bentley Bentayga infringes.

**JLR's PATENTED TERRAIN RESPONSE® TECHNOLOGY**

14. For almost seventy years, JLR has manufactured and sold some of the most innovative and technologically advanced four-wheel drive Sports Utility Vehicles (SUVs) in the world. This rich history of innovation continues today and is reflected in JLR's current line-up of award winning SUVs: Jaguar F-Pace, Land Rover Discovery Sport, Land Rover Discovery, Range Rover Evoque, Range Rover Velar, Range Rover Sport, and The Range Rover.

15. Among the groundbreaking technologies in these vehicles are JLR's patented Terrain Response® technologies.

16. JLR's Terrain Response® technology electronically controls various vehicle subsystems (for example, but not limited to, the engine, the transmission, the brakes, the traction control, the suspension and the steering) to operate in a manner that is suitable for driving on a particular off-road surface. A driver-operable input permits the driver to select from a plurality of off-road driving surfaces, such as Grass/Gravel/Snow, Mud and Ruts, Sand, and Rocks, and the Terrain Response® controller instructs each of the subsystems to operate in a manner or mode that is suitable for driving on the selected surface. Unlike prior driving-mode systems, JLR's patented Terrain Response® technology provides multiple off-road driving surface modes, and controls multiple subsystems to operate differently depending on the selected surface. *See Technology Guide: Terrain Response*, Land Rover (July 27, 2015), available at <https://www.landrover.co.uk/explore-land-rover/one-life/technology/technology-guide-terrain-response.html>.

17. JLR's Terrain Response® enables the vehicle driver to optimize operation of the subsystems and negotiate different terrains, which permits safer and more effective vehicle progression when driving off-road.

18. JLR's Terrain Response® technology has received significant recognition in the automotive industry. For example, in 2008, Terrain Response® won the prestigious Queen's Award for Innovation. *Land Rover Wins Two Queen's Awards*, *The Manufacturer* (June 27, 2008), available at <https://www.themanufacturer.com/articles/land-rover-wins-two-queens-awards/>.

19. JLR's Terrain Response® technology has been included as a standard or cost-option feature across several of JLR's vehicles since 2008. Terrain Response® is currently a

standard feature on the Land Rover Discovery Sport, Land Rover Discovery, Range Rover Evoque, Range Rover Velar, Range Rover Sport, and Range Rover.

**BENTLEY'S ALL TERRAIN SPECIFICATION FOR THE BENTLEY BENTAYGA**

20. Bentley designs, develops, manufactures and sells luxury motor vehicles. In 2016, Bentley launched its first SUV, the Bentayga, which is a direct competitor to JLR's Range Rover model. From launch, Bentayga has been equipped with a so-called Drive Dynamics system that is available with a cost-option called "All Terrain Specification" which provides four off-road settings: "Snow, Ice & Wet Grass," "Dirt & Gravel," "Mud & Trail," and "Sand." *See, e.g., Bentley Bentayga Mini Brochure, at 19, available at [http://fblod.com/wp-content/uploads/2015/05/150908\\_bentayga-mini-brochure.pdf](http://fblod.com/wp-content/uploads/2015/05/150908_bentayga-mini-brochure.pdf).*

21. On information and belief, the off-road settings in the All Terrain Specification adjust, for example, Bentayga's electronic stability-control system, traction-control system, engine, gearbox, and suspension settings to improve performance on different off-road driving surfaces. *See, e.g., Bentley Bentayga SUV Equipment, Accessories & Interior (Aug. 3, 2016), available at <https://www.parkers.co.uk/bentley/bentayga/features-safety-and-equipment>.*

22. On information and belief, the All Terrain Specification is installed on all Bentley Bentayga models imported into and sold in the U.S.

23. On information and belief, Bentley knowingly copied the Terrain Response® system installed on JLR's Range Rover.

24. Bentley's Bentayga including the All Terrain Specification infringes the '828 patent either literally or under the doctrine of equivalents. Bentley's manufacture, use, sale, offer for sale, and/or importation of these infringing products is damaging and will continue to damage

JLR, causing irreparable harm, for which there is no adequate remedy at law, unless Bentley's wrongful acts are enjoined by this Court.

**CLAIMS FOR RELIEF**

25. The allegations in the following Claims For Relief have evidentiary support or will likely have evidentiary support after a reasonable opportunity for further investigation or discovery. Plaintiff does not yet have the benefit of any discovery from Bentley.

26. The Court has not construed the meaning of any claims or terms in the Asserted Patent. In providing these detailed allegations, Plaintiff does not intend to convey or imply any particular claim constructions or the precise scope of the claims. Plaintiff's claim construction contentions regarding the full meaning and scope of the claim terms will be provided in compliance with the case schedule and any applicable orders.

27. Plaintiff contends that Bentley directly infringes the asserted claims.

28. Plaintiff further contends that each element of each asserted claim of the Asserted Patent is literally present in Bentley's accused Bentayga product. If the Court's constructions or other determinations indicate that an element of an asserted claim is not literally present, Plaintiff contends that each such element is present under the doctrine of equivalents. If necessary, Plaintiff will provide more detailed doctrine of equivalents contentions after discovery from Bentley or a claim construction order by the Court.

**COUNT ONE – INFRINGEMENT OF THE '828 PATENT**

29. JLR repeats and realleges the allegations of Paragraphs 1 through 28 above as if fully set forth herein.

30. Bentley has directly infringed and continues to infringe at least claims 21, 41, and 46 of the '828 patent by making, using, offering for sale within the United States and/or importing into the United States its Bentayga.

31. Claim 21 of the '828 patent discloses:

A vehicle control system having a driver input device for selecting a driving surface,

the vehicle control system arranged to control a plurality of vehicle subsystems each of which is operable in a plurality of subsystem configuration modes,

wherein the vehicle control system is operable in a plurality of driving modes in each of which it is arranged to select the subsystem configuration modes in a manner suitable for a respective driving surface, and

further wherein the plurality of driving modes includes at least two off-road modes in which the subsystem configurations are controlled in a manner suitable for driving on respective off-road driving surfaces, and an on-road mode in which the subsystem configurations are controlled in a manner suitable for driving on-road and

still further wherein one of the off-road modes is a sand mode in which the vehicle subsystems are controlled in a manner suitable for driving on sand.

32. On information and belief, Bentley's Bentayga with All Terrain Specification satisfies all the limitations of claim 21 of the '828 patent.

33. Claim 21 of the '828 patent recites: "A vehicle control system having a driver input device for selecting a driving surface . . ."

34. Bentley's Bentayga with All Terrain Specification satisfies this limitation. The Bentayga with All Terrain Specification comprises a "Drive Dynamics" vehicle control system having a rotary switch by which the driver is able to select one of a plurality of driving modes, each suitable for driving on a respective driving surface. Specifically: "The available modes are selectable using the rotary switch on the front centre console. The selected mode is indicated by an illuminated LED around the rotary switch..." *See, e.g.*, Bentley Bentayga Mini Brochure, at 22, *available at* [http://fblod.com/wp-content/uploads/2015/05/150908\\_bentayga-mini-brochure.pdf](http://fblod.com/wp-content/uploads/2015/05/150908_bentayga-mini-brochure.pdf); Bentley Bentayga Owner's Manual at 247-48.



### Drive Dynamics

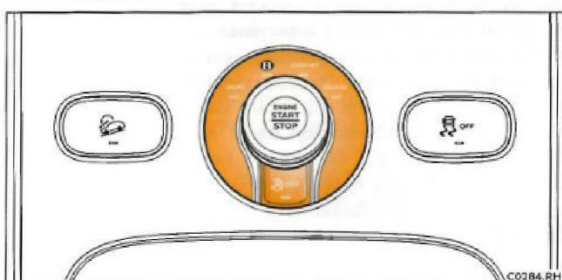


Fig. 172 Drive Dynamics

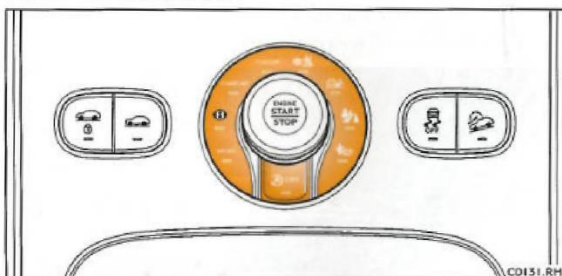


Fig. 173 Drive Dynamics with Responsive Off-Road Settings

#### Introduction

The Drive Dynamics modes allow you to optimise the car for your preferred driving style. There are four standard modes and four Responsive Off-Road Settings (when the vehicle is

fitted with the All-Terrain Specification). Each mode configures multiple vehicle systems to optimise the vehicle response and your driving experience.

The available modes are selectable using the rotary switch on the front centre console. The selected mode is indicated by an illuminated LED around the rotary switch and displayed on both the driver information panel and the Infotainment touchscreen (see Fig. 174, arrowed, page 248).

The Drive Dynamics mode information and setting can be accessed from the Infotainment home page by pressing the function button.

#### Note

The Drive Dynamics mode is only available when the ignition is on. When the ignition is switched on, regardless of the last used mode, the system will always default to the Bentley mode.

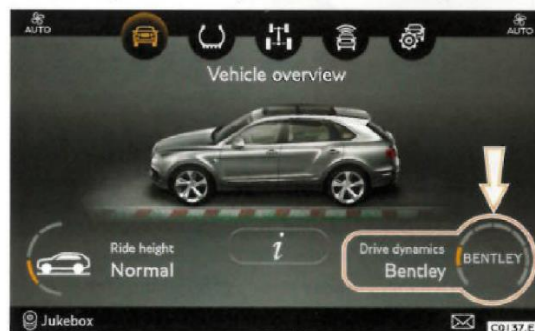


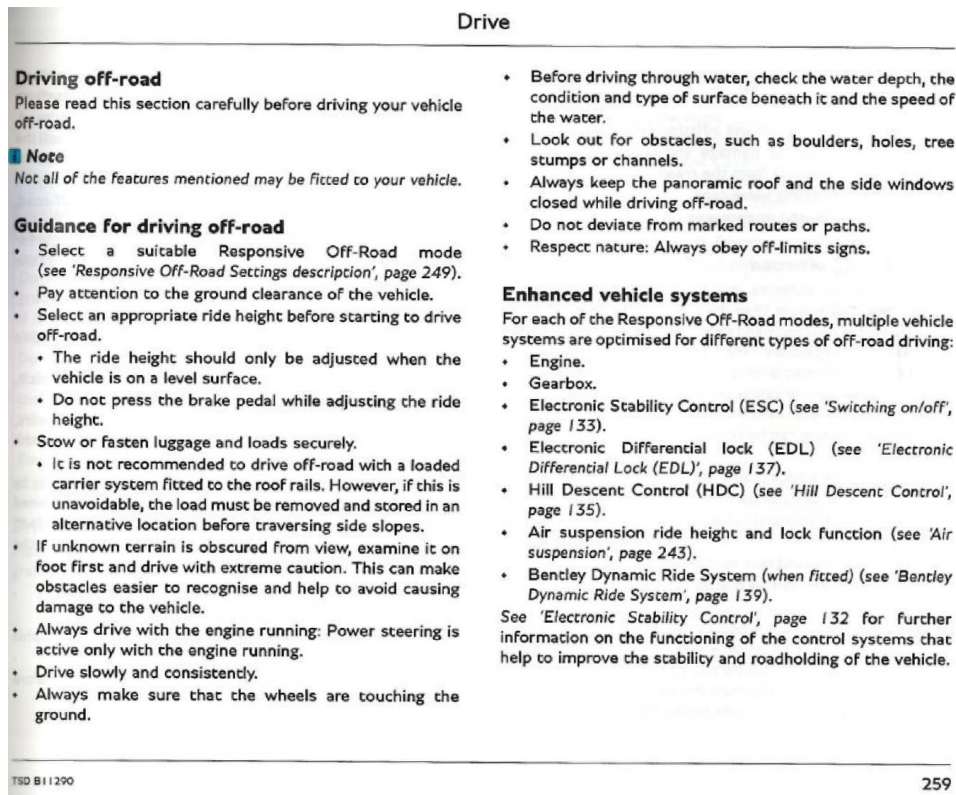
Fig. 174 Drive Dynamics mode - Infotainment touchscreen



35. Claim 21 of the '828 patent further recites: “the vehicle control system arranged to control a plurality of vehicle subsystems each of which is operable in a plurality of subsystem configuration modes . . .”

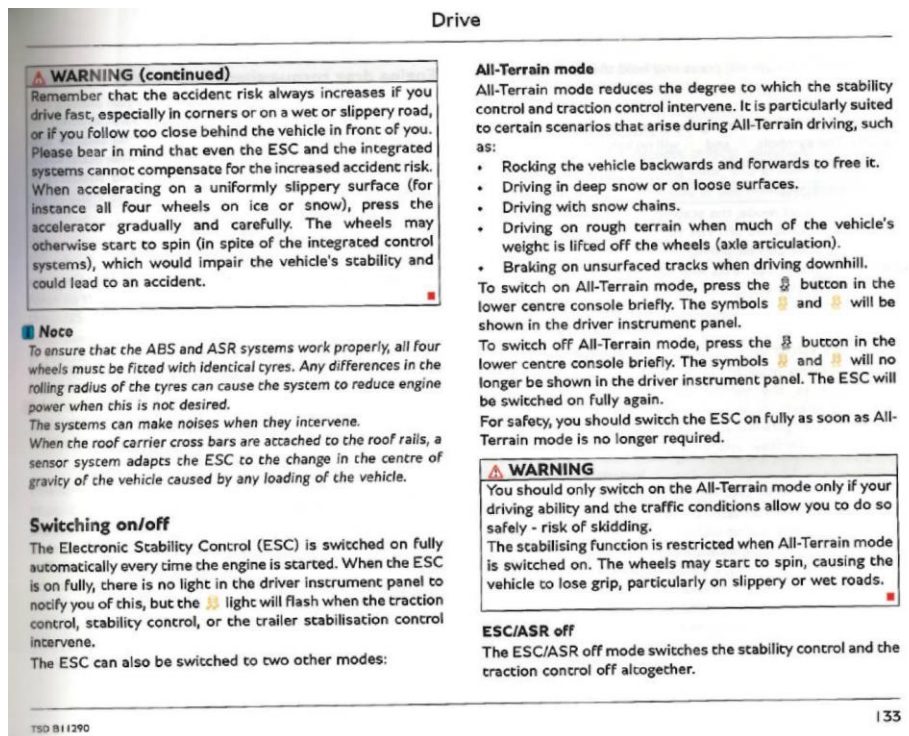
36. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Bentayga’s “Drive Dynamics modes allow you to optimise the car for your preferred driving style. There are four standard modes and four Responsive Off-Road Settings (when the vehicle is fitted with the All-Terrain Specification). Each mode configures multiple vehicle systems to optimise the vehicle response and your driving experience.” Bentley Bentayga Owner’s Manual at 247-48.

37. The vehicle systems controlled include, *inter alia*, the engine, the gearbox, Electronic Stability Control (ESC), Electronic Differential lock (EDL), Hill Descent Control (HDC), suspension ride height and lock function, and dynamic ride system. *See, e.g., id.* at 259.

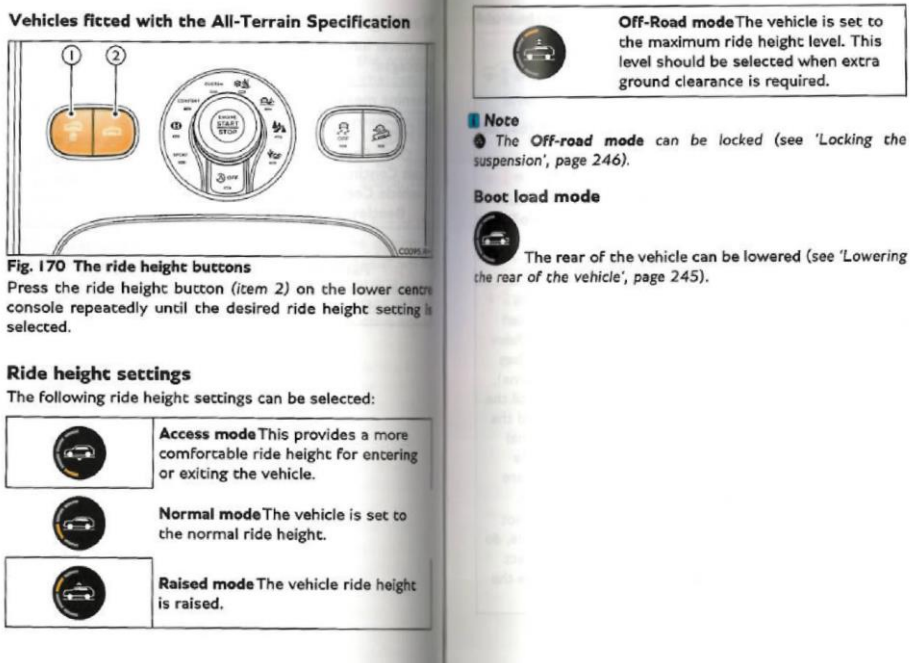


38. Each of these systems is operable in a plurality of configuration modes. “With a choice of more than ten engine transmission and suspension calibrations, variable ride heights and a highly versatile Drive Dynamics Mode, the Bentleyayga suits any driving style, on any road. Even where there is no road.” Bentley Bentleyayga Dealer Brochure, at 27, *accessible at* <http://images.bentleylongisland.com/web/model-brochures/bentayga.pdf>; *see also id.* at 29.

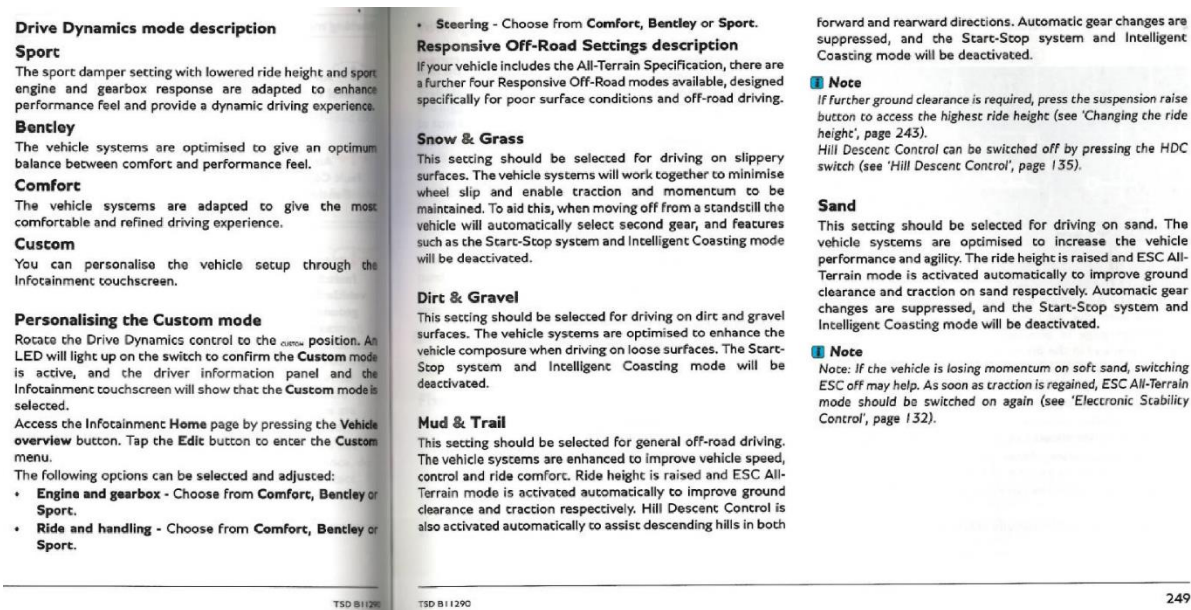
39. By way of example, the Electronic Stability Control (ESC) is operable in at least three different configuration modes: On, All-Terrain Mode and ESC/ASR Off. *See, e.g.,* Bentley Bentleyayga Owner’s Manual at 133.



40. By way of further example, the suspension is operable in at least three different configuration modes in which vehicle ride height is adjusted: Normal mode, Raised mode and Off-Road mode. *See, e.g., id.* at 244-45.



41. In addition, the Hill Descent Control system may be in activated mode or deactivate mode. See, e.g., *id.* at 248-49.



42. Claim 21 of the '828 patent further recites: a vehicle control system “wherein the vehicle control system is operable in a plurality of driving modes in each of which it is arranged

to select the subsystem configuration modes in a manner suitable for a respective driving surface . . .”

43. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification includes “four Responsive Off-Road modes...designed specifically for poor surface conditions and off-road driving.” Bentley Bentayga Owner’s Manual at 249. These driving modes include “Snow & Grass,” “Dirt & Gravel,” “Mud & Trail,” and “Sand.” *See, e.g., id.*

44. Claim 21 of the ’828 patent further recites: a vehicle control system “further wherein the plurality of driving modes includes at least two off-road modes in which the subsystem configurations are controlled in a manner suitable for driving on respective off-road driving surfaces, and an on-road mode in which the subsystem configurations are controlled in a manner suitable for driving on-road . . .”

45. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification includes “four Responsive Off-Road modes...designed specifically for poor surface conditions and off-road driving.” Bentley Bentayga Owner’s Manual at 249. The Bentayga’s Drive Dynamics system also includes four “standard modes” suitable for on-road driving. These standard modes include “Sport,” “Bentley,” and “Comfort.” *See, e.g., id.* at 248.

46. Claim 21 of the ’828 patent further recites: a vehicle control system “still further wherein one of the off-road modes is a sand mode in which the vehicle subsystems are controlled in a manner suitable for driving on sand.”

47. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification includes an off-road

driving mode called “Sand” which Bentley instructs “should be selected for driving on sand.”

Bentley Bentayga Owner’s Manual at 249.

48. As described in the preceding paragraphs, each limitation of claim 21 of the ’828 patent is met by the accused Bentley Bentayga, either literally or under the doctrine of equivalents.

49. Claim 41 of the ’828 patent discloses:

A vehicle control system having a driver input device for selecting a driving surface,

the vehicle control system arranged to control a plurality of vehicle subsystems each of which is operable in a plurality of subsystem configuration modes,

wherein the vehicle control system is operable in a plurality of driving modes in each of which it is arranged to select the subsystem configuration modes in a manner suitable for a respective driving surface, and

further wherein the plurality of driving modes includes at least two off-road modes in which the subsystem configurations are controlled in a manner suitable for driving on respective off-road driving surfaces, and an on-road mode in which the subsystem configurations are controlled in a manner suitable for driving on-road and

still further wherein one of the subsystems is a suspension subsystem and, in a second off-road mode, the suspension system is arranged to provide a higher ride height than in a first off-road mode.

50. On information and belief, Bentley’s Bentayga with All Terrain Specification satisfies all the limitations of claim 41 of the ’828 patent.

51. Claim 41 of the ’828 patent recites: “A vehicle control system having a driver input device for selecting a driving surface . . .”

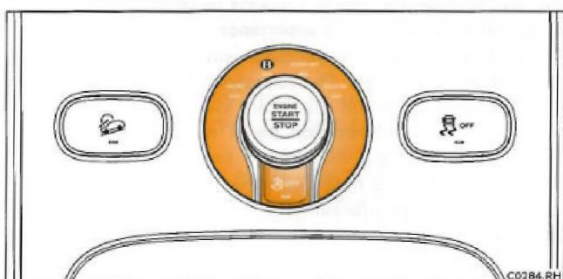
52. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Bentayga with All Terrain Specification comprises a “Drive Dynamics” vehicle control system having a rotary switch by which the driver is able to select one of a plurality of driving modes, each suitable for driving on a respective driving surface. Specifically: “The available modes are

selectable using the rotary switch on the front centre console. The selected mode is indicated by an illuminated LED around the rotary switch...” See, e.g., Bentley Bentayga Mini Brochure, at 22, available at [http://fblod.com/wp-content/uploads/2015/05/150908\\_bentayga-mini-brochure.pdf](http://fblod.com/wp-content/uploads/2015/05/150908_bentayga-mini-brochure.pdf); Bentley Bentayga Owner’s Manual at 247-48.

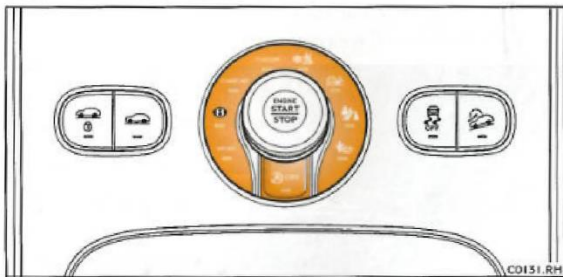




**Drive Dynamics**



**Fig. 172 Drive Dynamics**



**Fig. 173 Drive Dynamics with Responsive Off-Road Settings**

**Introduction**

The Drive Dynamics modes allow you to optimise the car for your preferred driving style. There are four standard modes and four Responsive Off-Road Settings (when the vehicle is

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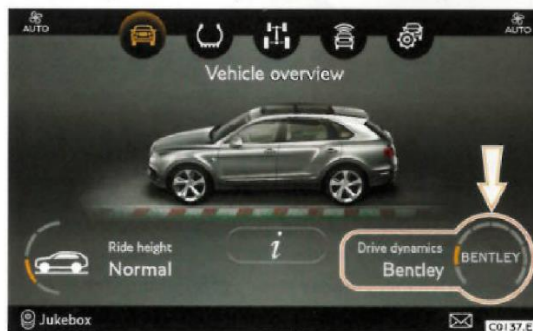
fitted with the All-Terrain Specification). Each mode configures multiple vehicle systems to optimise the vehicle response and your driving experience.

The available modes are selectable using the rotary switch on the front centre console. The selected mode is indicated by an illuminated LED around the rotary switch and displayed on both the driver information panel and the Infotainment touchscreen (see Fig. 174, arrowed, page 248).

The Drive Dynamics mode information and setting can be accessed from the Infotainment home page by pressing the function button.

**Note**

The Drive Dynamics mode is only available when the ignition is on. When the ignition is switched on, regardless of the last used mode, the system will always default to the Bentley mode.



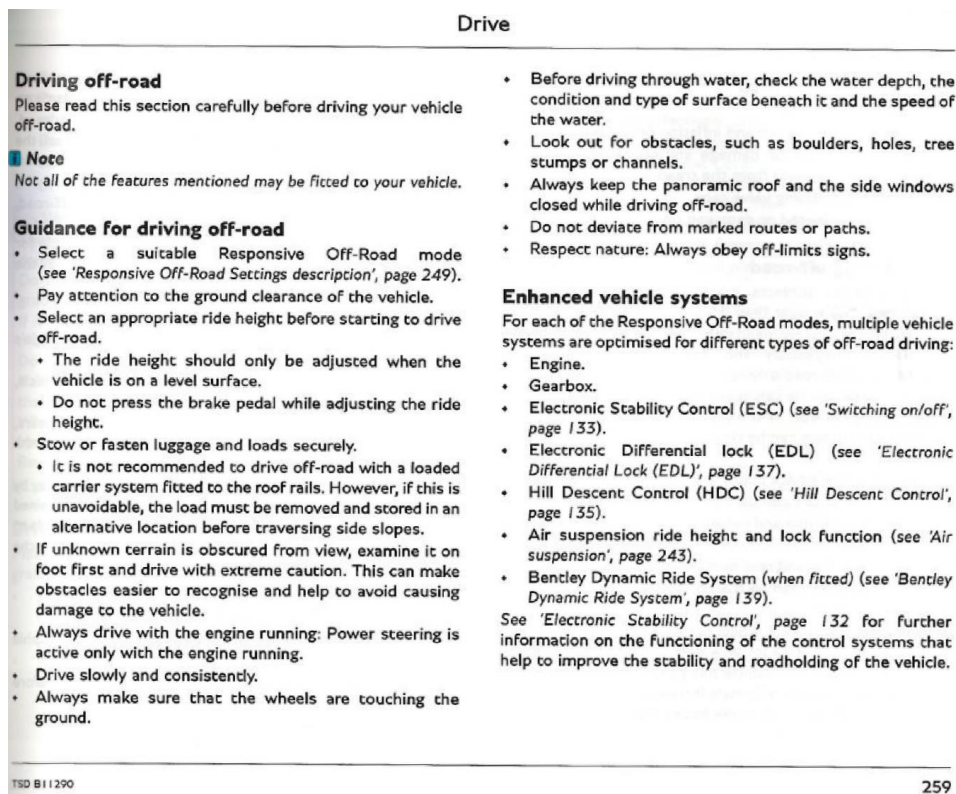
**Fig. 174 Drive Dynamics mode - Infotainment touchscreen**

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53. Claim 41 of the '828 patent further recites: “the vehicle control system arranged to control a plurality of vehicle subsystems each of which is operable in a plurality of subsystem configuration modes . . .”

54. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Bentayga’s “Drive Dynamics modes allow you to optimise the car for your preferred driving style. There are four standard modes and four Responsive Off-Road Settings (when the vehicle is fitted with the All-Terrain Specification). Each mode configures multiple vehicle systems to optimise the vehicle response and your driving experience.” Bentley Bentayga Owner’s Manual at 247-48.

55. The vehicle systems controlled include, *inter alia*, the engine, the gearbox, Electronic Stability Control (ESC), Electronic Differential lock (EDL), Hill Descent Control (HDC), suspension ride height and lock function, and dynamic ride system. *See, e.g., id.* at 259.



56. Each of these systems is operable in a plurality of configuration modes. “With a choice of more than ten engine transmission and suspension calibrations, variable ride heights and a highly versatile Drive Dynamics Mode, the Bentayga suits any driving style, on any road. Even where there is no road.” Bentley Bentayga Dealer Brochure, at 27, *accessible at* <http://images.bentleylongisland.com/web/model-brochures/bentayga.pdf>; *see also id.* at 29.

57. By way of example, the Electronic Stability Control (ESC) is operable in at least three different configuration modes: On, All-Terrain Mode and ESC/ASR Off. *See, e.g., Bentley Bentayga Owner’s Manual* at 133.



Drive


**⚠ WARNING (continued)**

Remember that the accident risk always increases if you drive fast, especially in corners or on a wet or slippery road, or if you follow too close behind the vehicle in front of you. Please bear in mind that even the ESC and the integrated systems cannot compensate for the increased accident risk. When accelerating on a uniformly slippery surface (for instance all four wheels on ice or snow), press the accelerator gradually and carefully. The wheels may otherwise start to spin (in spite of the integrated control systems), which would impair the vehicle's stability and could lead to an accident.

**Note**

To ensure that the ABS and ASR systems work properly, all four wheels must be fitted with identical tyres. Any differences in the rolling radius of the tyres can cause the system to reduce engine power when this is not desired. The systems can make noises when they intervene. When the roof carrier cross bars are attached to the roof rails, a sensor system adapts the ESC to the change in the centre of gravity of the vehicle caused by any loading of the vehicle.







**Switching on/off**

The Electronic Stability Control (ESC) is switched on fully automatically every time the engine is started. When the ESC is on fully, there is no light in the driver instrument panel to notify you of this, but the  light will flash when the traction control, stability control, or the trailer stabilisation control intervene. The ESC can also be switched to two other modes:

**All-Terrain mode**

All-Terrain mode reduces the degree to which the stability control and traction control intervene. It is particularly suited to certain scenarios that arise during All-Terrain driving, such as:

- Rocking the vehicle backwards and forwards to free it.
- Driving in deep snow or on loose surfaces.
- Driving with snow chains.
- Driving on rough terrain when much of the vehicle's weight is lifted off the wheels (axle articulation).
- Braking on unsurfaced tracks when driving downhill.

To switch on All-Terrain mode, press the  button in the lower centre console briefly. The symbols  and  will be shown in the driver instrument panel. To switch off All-Terrain mode, press the  button in the lower centre console briefly. The symbols  and  will no longer be shown in the driver instrument panel. The ESC will be switched on fully again. For safety, you should switch the ESC on fully as soon as All-Terrain mode is no longer required.

**⚠ WARNING**

You should only switch on the All-Terrain mode only if your driving ability and the traffic conditions allow you to do so safely - risk of skidding. The stabilising function is restricted when All-Terrain mode is switched on. The wheels may start to spin, causing the vehicle to lose grip, particularly on slippery or wet roads.

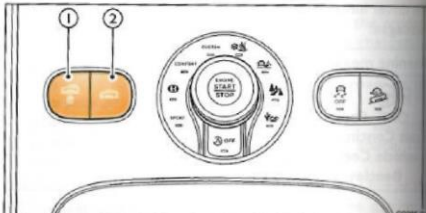
**ESC/ASR off**

The ESC/ASR off mode switches the stability control and the traction control off altogether.

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58. By way of further example, the suspension is operable in at least three different configuration modes in which vehicle ride height is adjusted: Normal mode, Raised mode and Off-Road mode. *See, e.g., id.* at 244-45.

**Vehicles fitted with the All-Terrain Specification**






**Fig. 170 The ride height buttons**

Press the ride height button (item 2) on the lower centre console repeatedly until the desired ride height setting is selected.

**Ride height settings**

The following ride height settings can be selected:


	<b>Access mode</b> This provides a more comfortable ride height for entering or exiting the vehicle.
	<b>Normal mode</b> The vehicle is set to the normal ride height.
	<b>Raised mode</b> The vehicle ride height is raised.

**Off-Road mode** The vehicle is set to the maximum ride height level. This level should be selected when extra ground clearance is required.

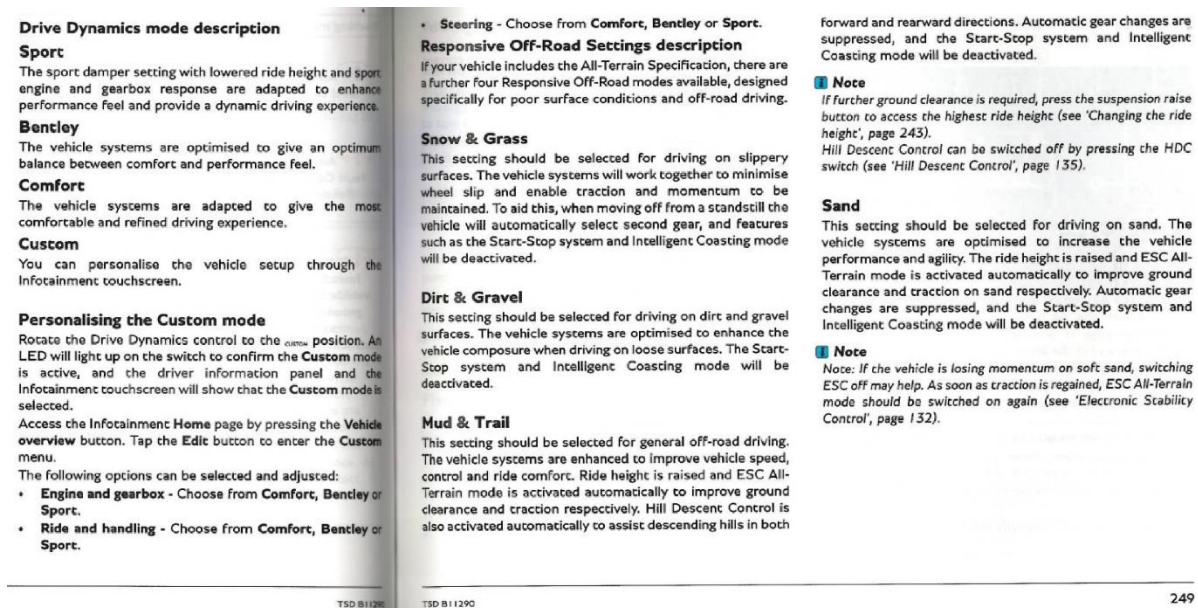
**Note**

- The **Off-road mode** can be locked (see 'Locking the suspension', page 246).

**Boot load mode**

 The rear of the vehicle can be lowered (see 'Lowering the rear of the vehicle', page 245).

59. In addition, the Hill Descent Control system may be in activated mode or deactivate mode. *See, e.g., id.* at 248-49.



60. Claim 41 of the '828 patent further recites: a vehicle control system “wherein the vehicle control system is operable in a plurality of driving modes in each of which it is arranged to select the subsystem configuration modes in a manner suitable for a respective driving surface . . .”

61. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification includes “four Responsive Off-Road modes...designed specifically for poor surface conditions and off-road driving.” Bentley Bentayga Owner’s Manual at 249. These driving modes include “Snow & Grass,” “Dirt & Gravel,” “Mud & Trail,” and “Sand.” *See, e.g., id.*

62. Claim 41 of the '828 patent further recites: a vehicle control system “further wherein the plurality of driving modes includes at least two off-road modes in which the subsystem configurations are controlled in a manner suitable for driving on respective off-road

driving surfaces, and an on-road mode in which the subsystem configurations are controlled in a manner suitable for driving on-road . . .”

63. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification includes “four Responsive Off-Road modes...designed specifically for poor surface conditions and off-road driving.” Bentley Bentayga Owner’s Manual at 249. The Bentayga’s Drive Dynamics system also includes four “standard modes” suitable for on-road driving. These standard modes include “Sport,” “Bentley,” and “Comfort.” *See, e.g., id.* at 248.

64. Claim 41 of the ’828 patent further recites: a vehicle control system “still further wherein one of the subsystems is a suspension subsystem and, in a second off-road mode, the suspension system is arranged to provide a higher ride height than in a first off-road mode.”

65. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification controls the suspension to raise the ride height in the Mud & Trail and Sand driving modes relative to the ride height in the Snow & Grass and Dirt & Gravel driving modes. Bentley Bentayga Owner’s Manual at 249.

66. As described in the preceding paragraphs, each limitation of claim 41 of the ’828 patent is met by the accused Bentley Bentayga, either literally or under the doctrine of equivalents.

67. Claim 46 of the ’828 patent discloses:

A vehicle control system having a driver input device for selecting a driving surface,

the vehicle control system arranged to control a plurality of vehicle subsystems each of which is operable in a plurality of subsystem configuration modes,

wherein the vehicle control system is operable in a plurality of driving modes in each of which it is arranged to select the subsystem configuration modes in a manner suitable for a respective driving surface, and

further wherein the plurality of driving modes includes at least two off-road modes in which the subsystem configurations are controlled in a manner suitable for driving on respective off-road driving surfaces, and an on-road mode in which the subsystem configurations are controlled in a manner suitable for driving on-road, and

still further wherein one of the subsystems is a speed control system arranged to control the speed of the vehicle when descending a hill, and

wherein the speed control system is arranged to be switched on in at least one of the off-road modes and switched off in the on-road mode.

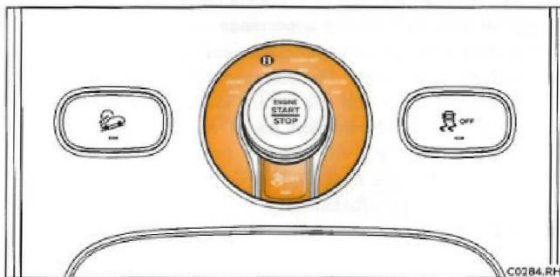
68. On information and belief, Bentley's Bentayga with All Terrain Specification satisfies all the limitations of claim 46 of the '828 patent.

69. Claim 46 of the '828 patent recites: "A vehicle control system having a driver input device for selecting a driving surface . . ."

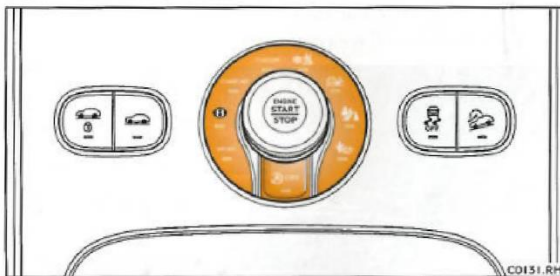
70. Bentley's Bentayga with All Terrain Specification satisfies this limitation. The Bentayga with All Terrain Specification comprises a "Drive Dynamics" vehicle control system having a rotary switch by which the driver is able to select one of a plurality of driving modes, each suitable for driving on a respective driving surface. Specifically: "The available modes are selectable using the rotary switch on the front centre console. The selected mode is indicated by an illuminated LED around the rotary switch..." *See, e.g.*, Bentley Bentayga Mini Brochure, at 22, available at [http://fblood.com/wp-content/uploads/2015/05/150908\\_bentayga-mini-brochure.pdf](http://fblood.com/wp-content/uploads/2015/05/150908_bentayga-mini-brochure.pdf); Bentley Bentayga Owner's Manual at 247-48.



**Drive Dynamics**



**Fig. 172 Drive Dynamics**



**Fig. 173 Drive Dynamics with Responsive Off-Road Settings**

**Introduction**

The Drive Dynamics modes allow you to optimise the car for your preferred driving style. There are four standard modes and four Responsive Off-Road Settings (when the vehicle is

fitted with the All-Terrain Specification). Each mode configures multiple vehicle systems to optimise the vehicle response and your driving experience.

The available modes are selectable using the rotary switch on the front centre console. The selected mode is indicated by an illuminated LED around the rotary switch and displayed on both the driver information panel and the Infotainment touchscreen (see Fig. 174, arrowed, page 248).

The Drive Dynamics mode information and setting can be accessed from the Infotainment home page by pressing the function button.

**Note**

The Drive Dynamics mode is only available when the ignition is on. When the ignition is switched on, regardless of the last used mode, the system will always default to the Bentley mode.



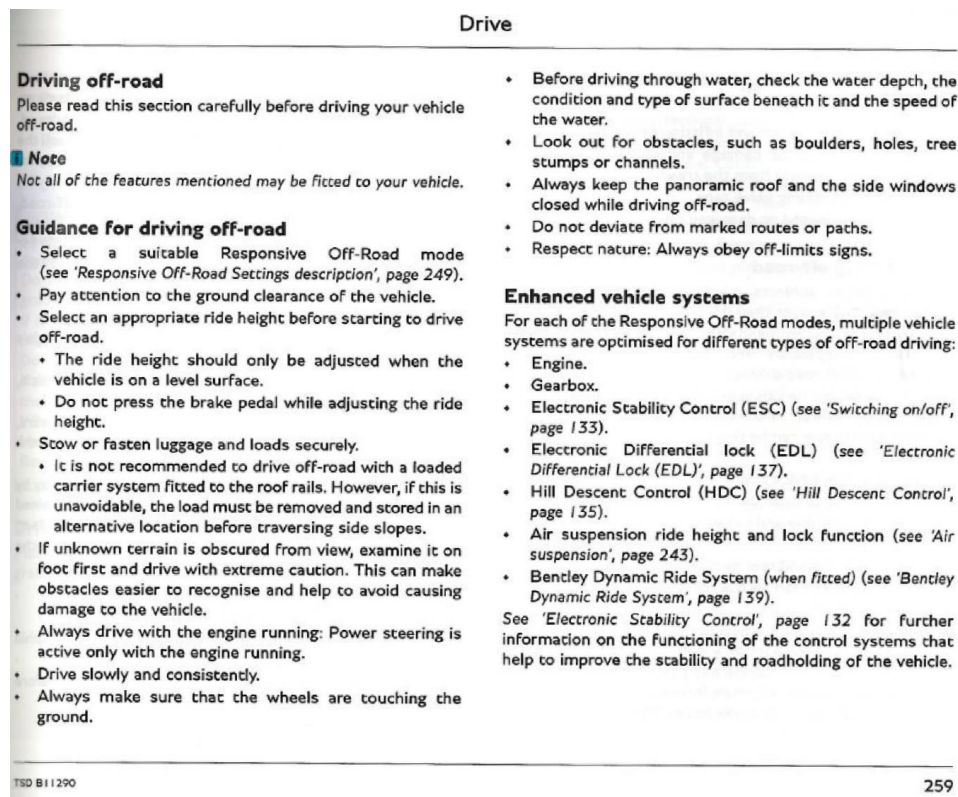
**Fig. 174 Drive Dynamics mode - Infotainment touchscreen**



71. Claim 46 of the '828 patent further recites: “the vehicle control system arranged to control a plurality of vehicle subsystems each of which is operable in a plurality of subsystem configuration modes . . .”

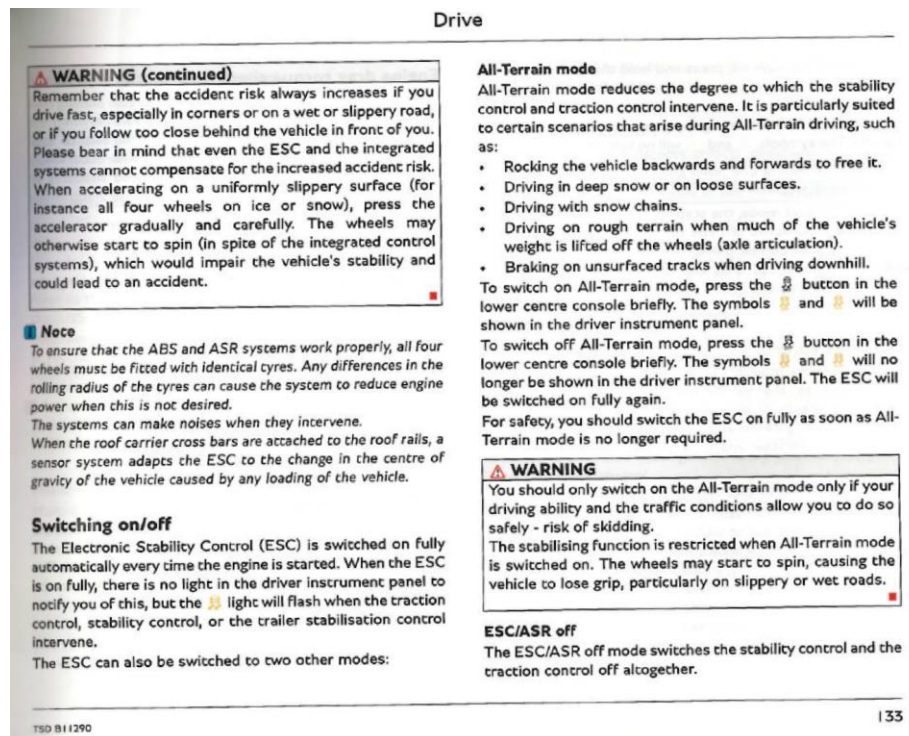
72. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Bentayga’s “Drive Dynamics modes allow you to optimise the car for your preferred driving style. There are four standard modes and four Responsive Off-Road Settings (when the vehicle is fitted with the All-Terrain Specification). Each mode configures multiple vehicle systems to optimise the vehicle response and your driving experience.” Bentley Bentayga Owner’s Manual at 247-48.

73. The vehicle systems controlled include, *inter alia*, the engine, the gearbox, Electronic Stability Control (ESC), Electronic Differential lock (EDL), Hill Descent Control (HDC), suspension ride height and lock function, and dynamic ride system. *See, e.g., id.* at 259.

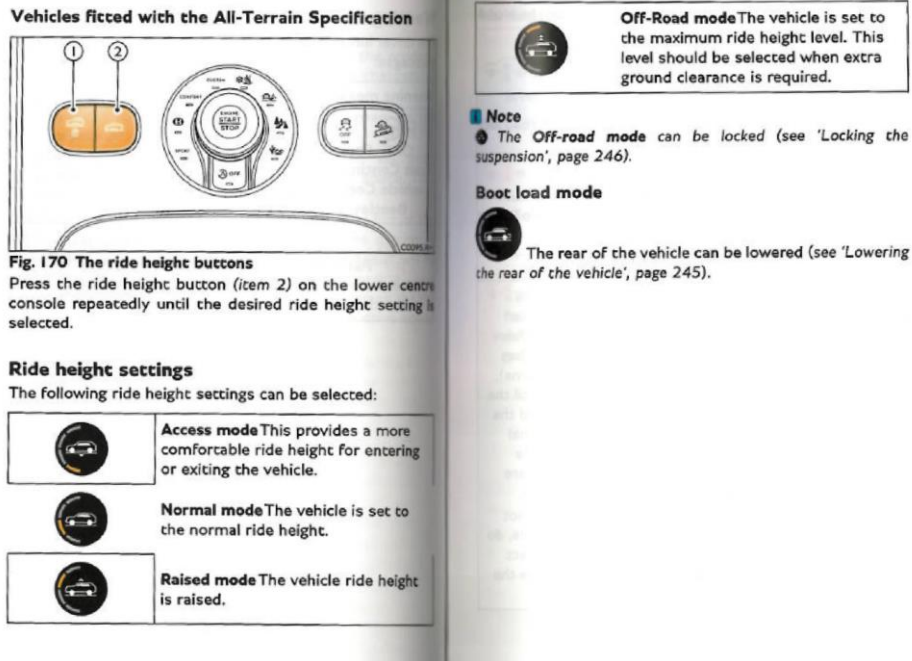


74. Each of these systems is operable in a plurality of configuration modes. “With a choice of more than ten engine transmission and suspension calibrations, variable ride heights and a highly versatile Drive Dynamics Mode, the Bentleyayga suits any driving style, on any road. Even where there is no road.” Bentley Bentleyayga Dealer Brochure, at 27, *accessible at* <http://images.bentleylongisland.com/web/model-brochures/bentayga.pdf>; *see also id.* at 29.

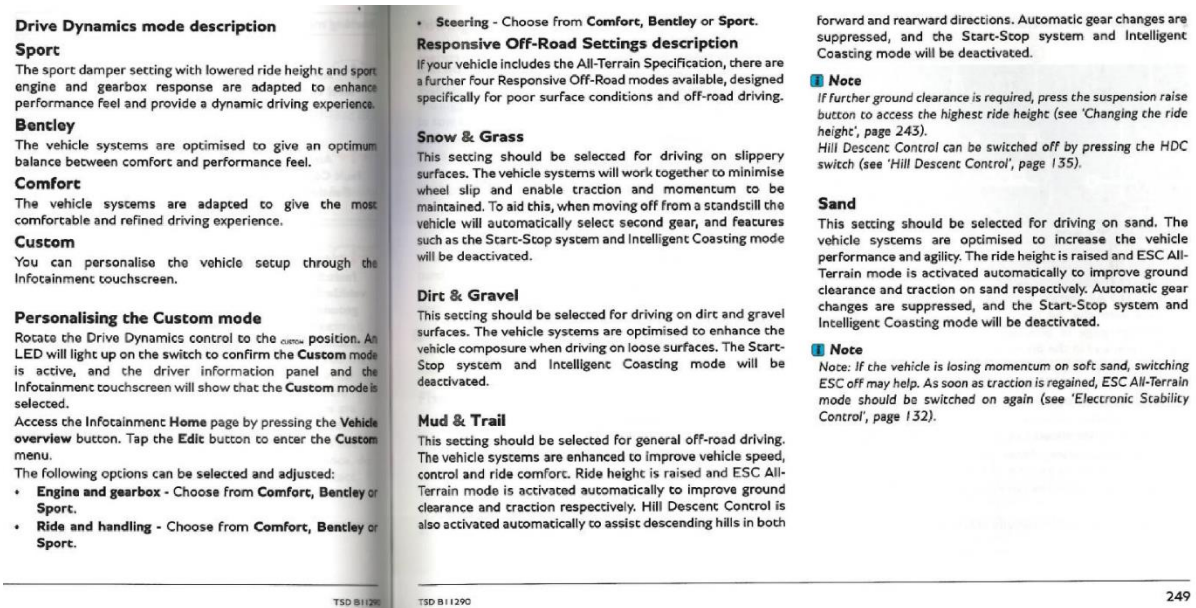
75. By way of example, the Electronic Stability Control (ESC) is operable in at least three different configuration modes: On, All-Terrain Mode and ESC/ASR Off. *See, e.g.,* Bentley Bentleyayga Owner’s Manual at 133.



76. By way of further example, the suspension is operable in at least three different configuration modes in which vehicle ride height is adjusted: Normal mode, Raised mode and Off-Road mode. *See, e.g., id.* at 244-45.



77. In addition, the Hill Descent Control system may be in activated mode or deactivate mode. See, e.g., *id.* at 248-49.



78. Claim 46 of the '828 patent further recites: a vehicle control system “wherein the vehicle control system is operable in a plurality of driving modes in each of which it is arranged



to select the subsystem configuration modes in a manner suitable for a respective driving surface . . .”

79. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification includes “four Responsive Off-Road modes...designed specifically for poor surface conditions and off-road driving.” Bentley Bentayga Owner’s Manual at 249. These driving modes include “Snow & Grass,” “Dirt & Gravel,” “Mud & Trail,” and “Sand.” *See, e.g., id.*

80. Claim 46 of the ’828 patent further recites: a vehicle control system “further wherein the plurality of driving modes includes at least two off-road modes in which the subsystem configurations are controlled in a manner suitable for driving on respective off-road driving surfaces, and an on-road mode in which the subsystem configurations are controlled in a manner suitable for driving on-road . . .”

81. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification includes “four Responsive Off-Road modes...designed specifically for poor surface conditions and off-road driving.” Bentley Bentayga Owner’s Manual at 249. The Bentayga’s Drive Dynamics system also includes four “standard modes” suitable for on-road driving. These standard modes include “Sport,” “Bentley,” and “Comfort.” *See, e.g., id.* at 248.

82. Claim 46 of the ’828 patent further recites: a vehicle control system “still further wherein one of the subsystems is a speed control system arranged to control the speed of the vehicle when descending a hill . . .”

83. Bentley’s Bentayga with All Terrain Specification satisfies this limitation. The Drive Dynamics system of the Bentayga with All Terrain Specification controls the operation of

the Hill Descent Control (HDC) system in dependence on the driving mode. Bentley Bentayga Owner's Manual at 249. HDC "regulates the speed of the vehicle on downhill gradients, and maintains constant speed so the driver can concentrate on steering the vehicle." *Id.* at 135.

- The ESC, the brake system, or the electrical system are not fully functional.


#### **Roll Over Mitigation**

Roll Over Mitigation detects critical situations where the vehicle is in danger of rolling over, and brakes appropriate wheels to reduce the likelihood of the vehicle rolling over.

#### **Hill Descent Control**

Hill Descent Control (HDC) regulates the speed of the vehicle on downhill gradients, and maintains a constant speed so the driver can concentrate on steering the vehicle. It can be used when driving forwards or in reverse.

#### **Switching on/off the Hill Descent Control**

To switch on the Hill Descent Control (HDC), press the  button. The LED in the button will light up. Press the button again to switch off HDC.

HDC will also be switched on automatically when certain Responsive Off-Road Settings modes are selected using the Drive Dynamics control.

When switched on, HDC will become active when the vehicle is on a gradient of 10% or more, and the vehicle speed is between 1 mph and 25 mph (2 km/h and 40 km/h). Initially HDC will maintain the vehicle speed from the point at which it becomes active, but the chosen set speed can be adjusted using the accelerator pedal and the brake pedal. HDC can operate on gradients up to 100%.

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135

84. Claim 46 of the '828 patent further recites: a vehicle control system "wherein the speed control system is arranged to be switched on in at least one of the off-road modes and switched off in the on-road mode."

85. Bentley's Bentayga with All Terrain Specification satisfies this limitation. In the Bentayga's All Terrain Specification, the default configuration mode for HDC, as used in the on-road driving modes, is deactivated or "off" but "HDC will also be switched on automatically when certain Responsive Off-Road Settings modes are selected using the Drive Dynamics control." Bentley Bentayga Owner's Manual at 135.

86. As described in the preceding paragraphs, each limitation of claim 46 of the '828 patent is met by the accused Bentley Bentayga, either literally or under the doctrine of equivalents.

87. Bentley has infringed and continues to infringe the '828 patent by making, using, selling, offering for sale, and/or importing into the United States the Bentley Bentayga covered by one or more claims of the '828 patent. Bentley is liable to JLR for infringement of the '828 patent pursuant to 35 U.S.C. § 271 (a).

88. Bentley has been aware of the '828 patent (or the originally-issued '776 patent) at least since as early as February 5, 2016. Bentley's infringement has been willful and deliberate, entitling JLR to enhanced damages pursuant to 35 U.S.C. § 284 and recovery of attorneys' fees and costs pursuant to 35 U.S.C. § 285.

89. Bentley's infringement of the '828 patent will continue to damage JLR's business, causing irreparable harm, for which there is no adequate remedy at law, unless Bentley's wrongful acts are enjoined by this Court pursuant to 35 U.S.C. § 283.

90. Bentley's infringement has caused and continues to cause damage to JLR and JLR is entitled to recover damages in an amount subject to proof at trial pursuant to 35 U.S.C. § 284.

**PRAYER FOR RELIEF**

WHEREFORE, JLR respectfully requests that this Court enter judgment that:

- A. Bentley infringes the '828 patent;
- B. Bentley, its officers, agents, servants, employees and attorneys, and all persons acting in concert or participation with them, be preliminarily and permanently enjoined from further acts of infringement;

C. JLR be awarded damages adequate to compensate for Bentley's infringement, pursuant to 35 U.S.C. § 284, including prejudgment and post-judgment interest;

D. JLR be awarded treble damages for Bentley's willful infringement, pursuant to 35 U.S.C. § 284;

E. An accounting and/or supplemental damages for all damages occurring after any discovery cutoff and through the Court's decision regarding the imposition of a permanent injunction;

F. An award of attorneys' fees based on this being an exceptional case pursuant to 35 U.S.C. § 285, including prejudgment interest on such fees;

G. Costs and expenses in this action; and

H. An award of such other and further relief as the Court deems necessary, just and/or proper.

**JURY TRIAL DEMANDED**

JLR respectfully demands a trial by jury on all issues triable to a jury.

Dated: June 14, 2018,

Respectfully submitted,

/s/ Bert. C. Reiser

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