LATHAM & WATKINS LLP
Gregory Mortenson
Clement Naples*
Latham & Watkins LLP
885 Third Avenue
New York, NY 10022-4834
Phone: (212) 906-1200
gregory.mortenson@lw.com
clement.naples@lw.com

Matthew J. Moore*
Diane Ghrist*
Latham & Watkins LLP
555 11th St. NW, Suite 1000
Washington, D.C. 20004-1304
Phone: (202) 637-2200
matthew.moore@lw.com
diane.ghrist@lw.com

Gabrielle A. LaHatte*
Latham & Watkins LLP
505 Montgomery Street
Suite 2000
San Francisco, CA 94111
(415) 391-0600
gabrielle.lahatte@lw.com

Christopher Henry*
Latham & Watkins LLP
200 Clarendon Street
Boston, MA 02116
(617) 948 6000
christopher.henry@lw.com

* motion for pro hac vice admission forthcoming

Counsel for Plaintiff Jaguar Land Rover Limited

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

JAGUAR LAND ROVER LIMITED, **Plaintiff,** **v.** **VOLKSWAGEN GROUP OF AMERICA, INC., and VOLKSWAGEN AG,** **Defendants.**	**CASE NO. 20-CV-16564** **COMPLAINT** **JURY TRIAL DEMANDED**

COMPLAINT AND DEMAND FOR JURY TRIAL

Plaintiff, Jaguar Land Rover Limited ("JLR"), by and through its undersigned counsel, hereby brings this Complaint to protect JLR's patented and award-winning Terrain Response® technologies from infringement by Defendants Volkswagen Group of America, Inc., a New Jersey Corporation having a principal place of business at 2200 Ferdinand Porsche Drive, Herndon, VA 20171, and Volkswagen AG, a corporation organized under the laws of Germany and having a principal place of business at Berliner Ring 2, 38440, Wolfsburg, Germany (collectively "Volkswagen" or "Defendants"). JLR alleges as follows:

NATURE OF ACTION

1. This is a civil action for patent 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, Volkswagen AG is a corporation organized under the laws of Germany and having a principal place of business at Berliner Ring 2, 38440, Wolfsburg, Germany.

4. On information and belief, Volkswagen Group of America, Inc., is a New Jersey Corporation 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 New Jersey. On information and belief, Volkswagen Group of America, Inc., is incorporated in New Jersey, and has purposefully availed itself of the benefits and protections of New Jersey state law by incorporating in New Jersey. Volkswagen Group of America, Inc., is the national sales company for Volkswagen AG. On information and belief, Volkswagen AG, directly or through subsidiaries, imports, manufactures, uses, sells, or offers to sell its products within the State of New Jersey. Defendants market and sell automobiles, including the Volkswagen Tiguan and Atlas, in the State of New Jersey. *See, e.g.*, Tiguan, Toms River Volkswagen (Toms River, NJ), *available at* https://www.tomsrivervw.com/new-vehicles/tiguan/ (last visited November 12, 2020). 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. §§ 1391 and 1400(b).

THE ASSERTED PATENT

8. On May 8, 2018, after full and fair examination, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. RE46,828 (the "'828 patent" or the "Asserted 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 1.

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 2.

11. Volkswagen became aware of the '828 patent at least as early as August 7, 2018. On August 7, 2018, representatives from JLR met with representatives of Volkswagen identifying that the Volkswagen vehicles equipped with 4Motion Active Control infringe the '828 patent.

12. U.S. Patent No. RE46,828 is a valid patent, despite numerous challenges to its validity. First, the Asserted Patent is a reissue of the '776 patent and has twice been examined in view of the prior art and approved by the United States Patent and Trademark Office. Second, the sister company of Defendants, Bentley Motors Limited challenged the validity of the Asserted Patent under 35 U.S.C. § 101. There, Chief Judge Mark S. Davis, of the Eastern District of Virginia, found that the claims of the Asserted Patent are not directed to an abstract idea, and even if they were, the claims were directed to an inventive concept, and thus patent-eligible and valid under both steps of the test set out in *Alice Corp. v. CLS Bank International*, 573 U.S. 208 (2014). *Jaguar Land Rover Limited v. Bentley Motors Limited et al.*, 2-18-cv-00320 (EDVA), Dkt. 45 at 27, 31. Third, in August 2019, Bentley Motors Limited, listing Volkswagen AG and Volkswagen Group of America as real parties-in-interest, filed two *inter partes* review ("IPR") petitions with the Patent Trial and Appeal Board ("PTAB"), challenging the validity of the '828 patent under 35 U.S.C. §§ 102, 103. *See* IPR2019-01502, Paper 1 (PTAB Aug. 14, 2019); IPR2019-01539, Paper 1 (PTAB Aug. 23, 2019). The PTAB declined to institute either IPR. *See* IPR2019-01502, Paper 10 (PTAB Feb. 20, 2020); IPR2019-01539, Paper 9 (PTAB Mar. 10, 2020). The PTAB further denied a motion for reconsideration of its decision declining institution in both IPRs. *See* IPR2019-01502, Paper 12 (PTAB Mar. 13, 2020); IPR2019-01539, Paper 16 (PTAB Oct. 2, 2020). The PTAB's decision not to institute IPRs of the '828 patent confirms and supports its validity. And lastly, in its claim construction order, the Court in the Eastern District of Virginia

matter rejected Bentley's validity challenges to the term "suitable" under 35 U.S.C. § 112. *Jaguar Land Rover Limited v. Bentley Motors Limited et al.*, 2:18-cv-00320 (EDVA), Dkt. 417 at 42.

JLR's PATENTED TERRAIN RESPONSE® TECHNOLOGY

13. 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.

14. Among the groundbreaking technologies in these vehicles is JLR's patented Terrain Response® technology. JLR's Terrain Response® technology is a vehicle control system that electronically controls certain vehicle subsystems (for example, but not limited to, the engine, transmission, brakes, suspension, and steering) and arranges those subsystems 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 Rock Crawl, and the Terrain Response® controller instructs the relevant subsystems to operate in a subsystem configuration mode that is suitable for driving on the selected surface. Unlike prior driving-mode systems, JLR's patented Terrain Response® technology provides for a broad range of multiple off-road driving surface modes, and controls the operational arrangement of multiple subsystems depending on the selected surface. *See* Exhibit 3, 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.

15. JLR's Terrain Response® technology enables the vehicle driver to optimize operation of the subsystems to negotiate different terrains, which permits safer and more effective

vehicle progression when driving off-road. It also allows for inexperienced drivers to easily access the full range of an off-road vehicle's abilities to tackle off-road surface conditions.

16. In developing the Terrain Response® technology, JLR footprinted 50 different surface conditions around the world. Exhibit 4, Kevin, Hepworth, First Drive, The Daily Telegraph (Sydney, Australia) (October 9, 2004).

17. JLR's Terrain Response® technology was first introduced in 2004 in the Discovery 3/LR3, and since that time it has received significant recognition in the automotive industry. For example, in 2008, Terrain Response® won the prestigious Queen's Award for Innovation. Exhibit 5, *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/.

18. JLR's Terrain Response® technology has been included as a standard or cost-option feature across several JLR vehicles since 2008. The Terrain Response® technology is currently a standard feature on the Land Rover Discovery Sport, Land Rover Discovery, Land Rover Defender, Range Rover Evoque, Range Rover Velar, Range Rover Sport, and Range Rover.

19. JLR's Terrain Response® technology embodies the '828 patent.

20. The '828 patent is a technological improvement to vehicle control systems—it reduces complexity of the vehicle control system to the user and obviates the need for the user to provide specific configurations for each vehicle subsystem, while improving performance and effectiveness of the vehicle subsystems and overall control and safety of the vehicle. The '828 patent further expands the operating envelope of the vehicle, providing preset configurations for various subsystems without constraining the driver to conventional parameters for a vehicle driving on-road and off-road.

21. Before the '828 patent, only sophisticated drivers who knew the appropriate configurations of various subsystems could use conventional systems to control driving off-road and on particular surfaces. Because these conventional systems required manually setting the operation of the subsystems one at a time, less experienced drivers could not get the same benefits and safety from optimizing control of subsystems based on driving surface. And even sophisticated drivers could manipulate only a limited number of vehicle control systems at one time. '828 patent at 1:18-40.

22. Further, as "the number of controllable systems increases, the driver [is] faced with an increasing number of choices as to which configuration modes to select for each of the systems." '828 patent at 1:36-39. This problem can cause driver confusion and would require even experienced drivers to have knowledge of these additional controllable systems, know the configurations required to achieve optimal control on a particular driving surface, and quickly manipulate those systems to control the vehicle for driving on a particular surface.

23. The '828 patent was a new invention that, unlike the prior art, allowed drivers to improve vehicle operation over a broad range of driving surfaces and terrains. Prior art systems, for example GB2273580, did not address this issue and focused on controlling and configuring vehicle subsystems based on a driver's personal preferences without regard to driving surfaces. However, "drivers often encounter a broad range of surfaces and terrains in both on-road and off-road settings" and "the operating characteristics of such an integrated control system does not provide the driver with the ability to provide direct input regarding the surface terrain in an attempt to better select the appropriate subsystem configuration modes." '828 patent at 1:49-55. For that and other reasons, the prior art "results in the less than optimal stability, handling, and safety performance of the vehicle." *Id.* at 1:55-57.

24. The '828 patent provides specific solutions to this technological problem unique to vehicles by disclosing an improved vehicle control system that provides coordinated and integrated control of a number of subsystems in a vehicle "and in particular in a plurality of different off-road surfaces and terrains such as might be encountered when driving off-road." '828 patent at 1:67-2:2. As one industry article described: "Electronics have allowed engineers to do many things – among them tune a vehicle for improved off-road performance. Perhaps the pinnacle of this evolution, to date, is Land Rovers' Terrain Response System." Exhibit 6, Richard Russell, Seize Control of All Terrains, The Globe and Mail (May 19, 2005).

25. Among other things, the '828 patent improves vehicle control technology by simplifying the way a driver can control various subsystems and allowing the driver to provide direct input to achieve optimal stability, handling, and safety performance. '828 patent at 1:55-57.

26. Each claim of the '828 patent further requires limitations that, alone or in combination, are directed to inventive concepts that were unconventional and not well-known or routine. When the technology was introduced, there was "nothing like it on the market." Exhibit 7, Terrain Response, Land Rover Official Magazine, *available at* http://www.landroverofficialmagazine.com/issue01#!terrain-response.

27. For example, claim 21 and its dependent claims are directed to a vehicle control system that optimizes control of the vehicle on a sand surface. When a vehicle is driven on sand, "the build up of matter in front of the wheels under braking can improve braking performance." '828 patent at 4:54-56. Also, low wheel spin at low speeds "prevent the wheel from digging into the sand" but high wheel spin at high speeds "are less of a problem and can even improve traction." '828 patent at 8:37-40. Accordingly, claim 21 and its dependent claims recite limitations that

would capture these benefits through specific implementations that require "responsiveness to movement of the throttle pedal is lower at relatively low vehicle speeds than it is at higher vehicle speeds" (claim 22), or "allow[ing] lower levels of wheel spin when the vehicle is travelling at lower speeds than when the vehicle is travelling at higher speeds" (claim 23).

28. As another example, claim 41 and its dependent claims are directed to a vehicle control system that optimizes control through arrangement of the suspension system based on the particular driving surface. Vehicle height affects wind resistance and stability. When traveling at high speeds on flat surfaces with good levels of friction, adjusting the vehicle ride height with a suspension that "is set at 'low' for low wind resistance and good stability" is optimal. '828 patent at 10:7-11. Accordingly, claim 41 and its dependent claims recite limitations that would capture these benefits through specific implementations, such as requiring an off-road mode where "the suspension system is arranged to provide a higher ride height than in the on-road mode" (claim 42).

29. By way of another example, claim 46 is directed to a vehicle control system that optimizes control through adjustment of a speed control system. To provide maximum control on hills, a vehicle has "the standard default target speed of 6kph." '828 patent at 14:53-55. Accordingly, claim 46 recites limitations that would capture this benefit through a specific implementation that requires a speed control system "arranged to control the speed of the vehicle when descending a hill" and "arranged to be switched on in at least one of the off-road modes and switched off in the on-road mode."

30. In each claim, the claimed elements in combination result in a particular vehicle control system that is implemented in an unconventional and non-trivial manner, and which require new vehicle designs. The claimed elements are not merely generic vehicle components, but require

an inventive vehicle control system that is not standard and cannot be purchased off-the-shelf. These systems were not well-understood or routine. For example, claim 21 recites a sand mode and claim 41 recites multiple off-road terrain modes with differing ride heights.

31. In each claim, the claimed elements in combination are unconventional for the additional reason that they form an inventive system that makes technical improvements to the coordination of vehicle subsystems suitable for a particular driving surface. Each claim combines the claimed elements in an unconventional way to solve problems related to vehicle performance on particular driving surfaces, and to increase control of the vehicle on that particular driving surface. As one article described when the technology was first introduced, the technology "set new standards in off-road performance." Exhibit 8, Land Rover LR3 Wins Prestigious 2005 Motor Trend SUV of the Year, PRNewswire (October 27, 2004).

32. In claim 21, the claimed elements in combination are not conventional, well understood, or routine. For example, this claim requires "at least two off-road modes … wherein one of the off-road modes is a sand mode." Prior art systems either required the driver to have knowledge of the optimal configurations for the subsystems for the vehicle to be driven on sand or provided automatic coordination of the subsystems which may not be able to recognize the terrain as sand. The inventive combination of claim 21 improved existing vehicle control systems because it specifically allowed the driver to select the driving surface as sand to more accurately arrange the subsystems for better performance and safety. The technology still provided the driver with ease of use, allowing the driver to select from an expanding operating envelope including at least two other road surface options which was not provided in prior art systems. As one article explained, the "system increases both its off-road worthiness and also the ease of use. … Terrain Response automatically optimizes the Range Rover's sub-systems – air suspension, Hill Descent

Control, etc. – according to five settings [including] … sand. Simply choose the setting that most suits the terrain and the Range Rover takes care of the rest. Indeed, even after years of testing Range Rovers, I still marvel at how incredibly proficient the ginormous sport-brute is off the beaten path." Exhibit 9, David Booth, 2007 Range Rover A Masterpiece in the SUV Gallery, The Star Phoenix (February 2, 2007).

33. In claim 41, the claimed elements in combination are not conventional, well-understood, or routine. For example, this claim requires "at least two off-road modes … wherein one of the subsystem 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." Prior art systems either required the driver to have knowledge of how the suspension subsystem impacts ground clearance and stability or coordinated the suspension subsystem with other subsystems without direct input from the driver. The inventive combination of claim 41 improves ease of use for the driver, while still optimizing performance and safety by allowing the driver to adjust the off-road mode for better ground clearance and stability based on preset options. As one article recognized: "The slick part is the programming that went into this. Terrain response sets operating parameters for … suspension (firmness and ride height) … [which] presets these parameters depending on conditions." Exhibit 6, Richard Russell, Seize Control of All Terrains, The Globe and Mail (May 19, 2005). The system can "automatically raise [] the suspension to increase ground clearance … to provide wider range of control in anticipation of difficult conditions." *Id.*

34. In claim 42, the claimed elements in combination are not conventional, well-understood, or routine. For example, this claim requires "in the first off-road mode, the suspension system is arranged to provide a higher ride height than in the on-road mode." In prior art systems that coordinated the suspensions subsystem with other subsystems, the driver could not provide

direct input on the particular drive surface. This limited the ability of the driver to adjust the ride height to a more appropriate setting. The inventive combination of claim 42 allows the driver to select from at least three different ride heights based on the type of terrain. This increased ease of use by allowing the driver to adjust to the ride height without knowing the optimal height for a type of terrain, and improved safety and performance by allowing the driver to adjust the mode as appropriate.

35. In claim 46, the claimed elements in combination are not conventional, well understood, or routine. For example, this claim requires "at least two off-road modes … 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." Prior art systems either required the driver to have knowledge of the optimal speed for downhill descent (which differs depending on the terrain) or coordinated the speed control system with other subsystems without direct input from the driver (which may be unreliable descending down certain terrain such as sand). The inventive combination of claim 41 improved vehicle durability, for example, by preventing an inexperienced driver from wearing the brake pads by driving at non-optimal speeds. Also, unlike prior art systems, this advanced technology also increased safety by allowing the driver to adjust the mode to allow the vehicle control system to more accurately identify the optimal speed to descend down a hill without losing control of the vehicle. The improved vehicle control system also lets the driver choose from multiple off-road options. For some slippery off-road terrain, controlling speed when descending down the hill is optimal because it increases the convenience for the driver and sets the default speed at the appropriate value for the surface. But for other off-road terrain such as sand, it may not be optimal to control the speed down the hill because the

surface provides extra drag which will obviate that need. This combination of features also increased ease of use over prior art systems that required the driver to adjust the speed using the brakes, allowing the vehicle control system to control and maintain the optimal speed by simply selecting the appropriate terrain. As one article explained, by allowing the vehicle control system to optimize the speed descending down a hill based on the driver-selected mode, the driver need not know the optimal speed and "lets you crawl your way down the steepest grade without having to use your brakes." Exhibit 10, John LeBlanc, Nothing In Its Way: The Land Rover LR3 Can Go Anywhere You Want Thanks to the New Terrain Response System, The Gazette (Montreal) (November 3, 2004).

36. The industry has recognized these unconventional combinations as "a major advance that optimizes driveability and comfort, as well as maximizing traction." Exhibit 11, All-New Discovery 3 SUV Moves Land Rover Forward, The Record (July 3, 2005). As one industry article states, the technology is a "major innovation" that "delivers the best possible on- and off-road composure and control by optimizing the entire vehicle set-up, including suspension, powertrain, throttle response and traction control." Exhibit 12, Promise of Performance: Land Rover Concept Vehicle Makes First Chicago Appearance, PR Newswire (February 4, 2004).

VOLKSWAGEN'S 4MOTION ACTIVE CONTROL SYSTEM

37. Volkswagen designs, develops, manufactures, and sells motor vehicles. Volkswagen sells the Atlas and Tiguan models equipped with the "4Motion Active Control" system (collectively, "the Accused Products"), which provides driving modes, including the on-road modes "Normal," "Sport," "Comfort," and Individual; and the off-road modes "Snow," "Offroad," and "Custom Offroad." *See, e.g.*, *Volkswagen 2020 Tiguan Press Kit* at 8, *available at* https://newspress-vwusamedia.s3.amazonaws.com/documents%2Foriginal%2F12069-

2020TiguanReleaseFINAL.pdf. The Atlas and Tiguan are direct competitors to JLR's SUV products.

38. On information and belief, the off-road settings in the 4Motion Active Control system adjust, for example, the suspension, powertrain, engine, transmission, steering, and speed control systems such as hill descent control to improve performance on different off-road driving surfaces.

39. On information and belief, the 4Motion Active Control system is installed on Volkswagen Atlas and Tiguan models imported into and/or sold in the U.S.

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

41. Volkswagen's Atlas and Tiguan vehicles that include the 4Motion Active Control system infringe the '828 patent either literally or under the doctrine of equivalents. Volkswagen'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 Volkswagen's wrongful acts are enjoined by this Court.

CLAIM FOR PATENT INFRINGEMENT

42. The allegations provided below are exemplary and without prejudice to JLR's infringement contentions. 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 Volkswagen.

43. 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.

44. Plaintiff contends that Volkswagen directly infringes the asserted claims.

45. Plaintiff further contends that each element of each asserted claim of the Asserted Patent is literally present in Volkswagen's Accused Products. 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 Volkswagen or a claim construction order by the Court.

CLAIMS FOR RELIEF – INFRINGEMENT OF THE '828 PATENT

46. JLR repeats and realleges the allegations of Paragraphs 1 through 45 above as if fully set forth herein.

47. Volkswagen has directly infringed and continues to infringe at least claims 21, 25-27, 30-32, 35-37, 39, and 43-47 of the '828 patent by making, using, offering for sale within the United States and/or importing into the United States its Accused Products.

48. For example, 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.

49. On information and belief, Volkswagen's Accused Products satisfy all the limitations of claim 21 of the '828 patent.

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

51. Volkswagen's Accused Products satisfy this limitation. The 4Motion Active Control system comprises a 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. *See, e.g.*, *Volkswagen 2020 Tiguan Press Kit*, at 8, *available at* https://newspress-vwusamedia.s3.amazonaws.com/documents%2Foriginal%2F12069-2020TiguanReleaseFINAL.pdf:

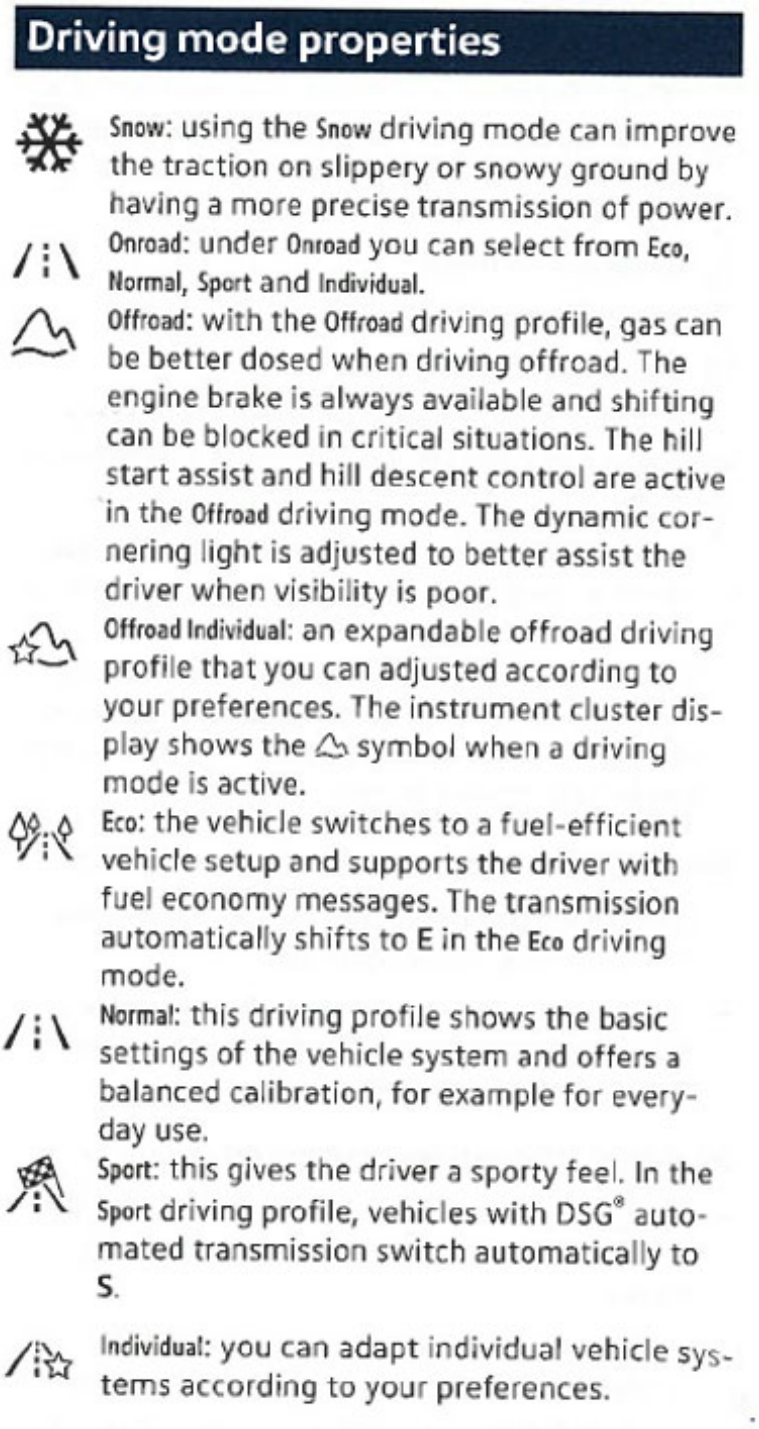
> **Active Control.** All Tiguan models with 4Motion all-wheel drive feature Active Control, which allows the driver to select specific vehicle profiles based on driving conditions. It has four settings: Onroad, Snow, Offroad, and Custom Offroad. Within the "Onroad" setting, additional options are offered: Normal, Sport, Comfort, and Individual. These alter operating parameters for drive systems like the engine, transmission, steering, and Adaptive Cruise Control (ACC), as well as traction-assistance systems like Hill Descent Assist and Hill Start Assist. The singular user interface is highly intuitive, comprising both a rotary knob, and a push-button. Turning the knob engages the various drive modes, while pushing the button triggers a pop-up menu on the screen of the infotainment system, allowing the driver to fine tune the Onroad mode.

52. Similarly, the 2020 Tiguan Driver's Manual provides that "[u]sing the 4 Motion Active Control driving profile, the driver can adapt various properties of vehicle systems to the current driving situation, the desired driving comfort, and for an economic driving style. The suspension, powertrain, and the air conditioning system are some of the vehicle systems that can

be adjusted." *2020 Tiguan Owner's Manual* at 141. The 4Motion Active Control rotary input is shown below:

Tiguan "OFFROAD," *available at* https://www.vw.com.cy/en/models/tiguan-offroad.html.

53. The Volkswagen 4Motion Active Control allows for the selection of several driving modes based on on-road and off-road surface conditions:



Driving mode properties

Snow: using the Snow driving mode can improve the traction on slippery or snowy ground by having a more precise transmission of power.

Onroad: under Onroad you can select from Eco, Normal, Sport and Individual.

Offroad: with the Offroad driving profile, gas can be better dosed when driving offroad. The engine brake is always available and shifting can be blocked in critical situations. The hill start assist and hill descent control are active in the Offroad driving mode. The dynamic cornering light is adjusted to better assist the driver when visibility is poor.

Offroad Individual: an expandable offroad driving profile that you can adjusted according to your preferences. The instrument cluster display shows the symbol when a driving mode is active.

Eco: the vehicle switches to a fuel-efficient vehicle setup and supports the driver with fuel economy messages. The transmission automatically shifts to E in the Eco driving mode.

Normal: this driving profile shows the basic settings of the vehicle system and offers a balanced calibration, for example for everyday use.

Sport: this gives the driver a sporty feel. In the Sport driving profile, vehicles with DSG® automated transmission switch automatically to S.

Individual: you can adapt individual vehicle systems according to your preferences.

2020 Tiguan Owner's Manual at 142.

54. The driving are "selected" by the driver:

Selecting the driving mode

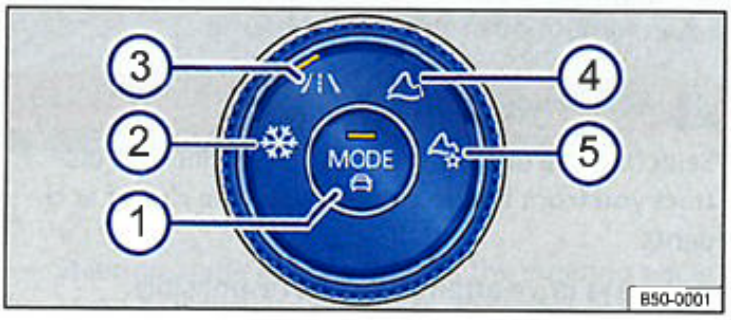


Fig. 122 In the center armrest: 4MOTION Active Control rotary switch.

Key for → fig. 122:

① MODE button: select onroad driving modes and open the menu in the Infotainment system.
② Snow driving mode
③ Onroad driving mode
④ Offroad driving mode
⑤ Offroad Custom driving mode

You can select the driving mode with the ignition switched on and the vehicle stationary or while driving → ⚠.

If you select a driving mode while driving, the vehicle systems, except for Drive, will be switched over to the new driving mode immediately.

– When the traffic situation allows it, briefly take your foot off the accelerator pedal to enable the newly selected driving mode to be applied to the Drive vehicle system as well.

Selecting the driving mode via the rotary switch

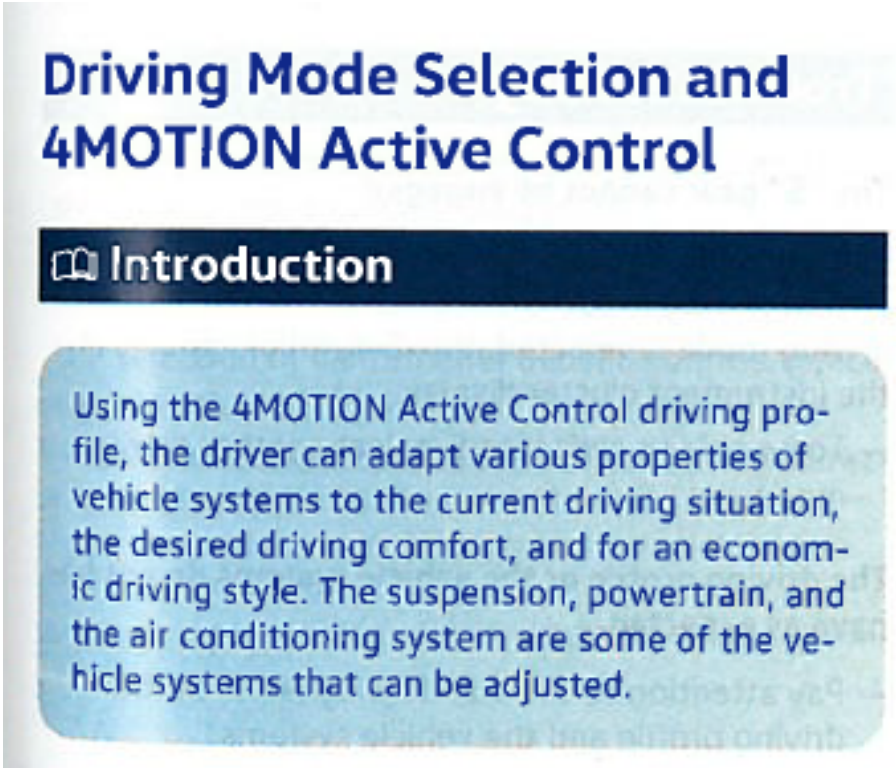
– Turn the rotary switch until the LED next to the desired driving mode lights up.

– To switch to onroad driving modes, press the MODE button or tap the Onroad driving mode in the Infotainment system.

2020 Tiguan Owner's Manual at 141.

55. 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 . . ."

56. Volkswagen's Accused Products satisfy this limitation. For example, the controlled subsystems include the suspension, powertrain, engine, transmission, steering, and speed control systems such as hill descent control:



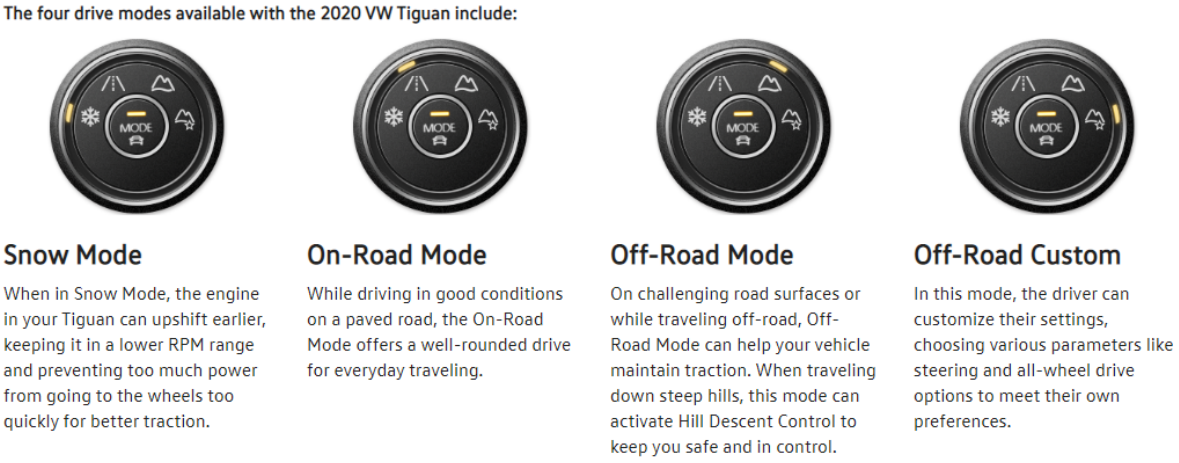
2020 Tiguan Owner's Manual at 141.

57. As the Volkswagen 2020 Tiguan Press Kit explains, a change in driving mode results in an altering of the operating parameters for the drive systems, "like the engine, transmission, steering, and Adaptive Cruise Control (ACC), as well as traction-assistance systems like Hill Descent Assist and Hill Start Assist." *Volkswagen 2020 Tiguan Press Kit*, at 8, *available at* https://newspress-vwusamedia.s3.amazonaws.com/documents%2Foriginal%2F12069-2020TiguanReleaseFINAL.pdf.

58. Similarly, the Press Kit explains that in the "on-road" driving mode, there are a choice of four different "drive modes," specifically, "Normal," "Sport," "Eco," and "Individual." And "[w]ithin each, the tuning parameters for the engine control, gearbox, steering and optional ACC are varied." *Id.*

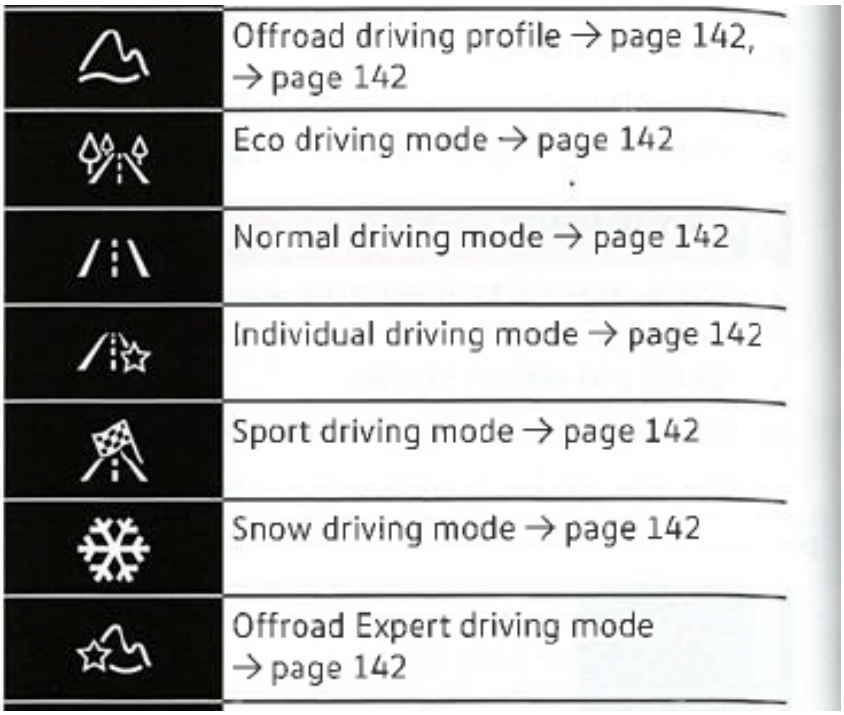
59. Claim 21 of the '828 patent further recites: a vehicle control system "wherein the vehicle control system is operable in a plurality of driving modes in each of which it is arranged to select the subsystem configuration modes in a manner suitable for a respective driving surface . . ."

60. Volkswagen's Accused Products satisfy this limitation. For example, the 4Motion Active 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:



https://www.elginvw.com/blog/2019-volkswagen-tiguan-offers-several-drive-modes-for-added-security/

61. Tiguan includes the following "driving modes":



2020 Tiguan Owner's Manual, at 14. Each of these driving modes configures the vehicle subsystems for a respective driving surface. *2020 Tiguan Owner's Manual*, at 142.

62. 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 . . ."

63. Volkswagen's Accused Products satisfy this limitation. For example, the Tiguan includes at least two off-road modes (off-road, and off-road individual), in which the subsystems are controlled in a manner suitable for driving on respective off-road driving surfaces (such as gravel, sand, and other off-road surfaces as customized by the user):

In Snow mode, the response curve of the accelerator pedal is flattened to help negate unintentional and excessive wheelspin, and the transmission upshifts earlier to help maximize traction. Communicating with the accelerator pedal and individual wheel speed sensors, the Traction Control System (TCS) helps reduce engine power the moment it detects slippage. The sensitivity of the system is more relaxed in straight-line situations to allow adequate power transfer, while the limits are tightened in cornering, where traction is of paramount importance.

Offroad mode offers similar throttle and transmission characteristics to Snow mode, adding manual control of transmission shifting via Tiptronic® (only the throttle kickdown switch will force a downshift). The Start/Stop system is switched off in this mode, and ACC operates normally. The ESC system is relaxed to help avoid false positives often encountered off-road, and Hill Descent Control is automatically activated on gradients of more than 10 percent. It functions up at speeds between 1.2 mph and 19 mph, and is adjustable via brakes or throttle.

With unique Offroad ABS programming, the wheels can lock up briefly before the system reduces the brake pressure. This allows time for a small wedge of material from the ground (such as gravel or sand) to build up in front of the wheel, thus helping increase the braking effect. This means that the car still remains steerable while its stopping distance is substantially reduced.

Custom Offroad mode allows the driver to alter the steering, engine and gearbox behavior, as well as Hill Descent Assist and Hill Start Assist.

Volkswagen 2020 Tiguan Press Kit at 9.

64. The Tiguan's 4Motion Active Control includes at least one on-road mode (on-road mode, with selectable normal, eco, sport, and individual modes), in which the subsystems in a manner suitable for driving on respective on-road driving surfaces. *2020 Tiguan Owner's Manual* at 142.

> Onroad mode is the default setting. Here, the Tiguan automatically varies the drive distribution between the two axles, accounting for road conditions. A press of the button triggers the driving profile selection screen to pop up on the infotainment screen, offering the driver a choice of "Normal", "Sport", "Eco", and "Individual" drive modes. Within each, the tuning parameters for the engine control, gearbox, steering and optional ACC are varied.

Volkswagen 2020 Tiguan Press Kit at 8–9.

65. 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."

66. Volkswagen's Accused Products satisfy this limitation. For example, the Tiguan specifically contemplates driving on sand, and directs the driver to "select a suitable driving profile," of the 4Motion Active Control system:

Driving in sand and mud

Refer to ⚠ and ⓘ on page 144.

— The ESC and ASR must be turned on → page 177.
— Select a suitable driving profile → page 141.
— Select a suitable gear and stay in that gear until solid ground is reached → page 147.
— Always drive at a consistent speed through sand or mud, do not shift manually, and do not stop.

The tires can lose their grip in sand or mud.

— Do not change the speed or direction.
— If the vehicle slides, steer in the direction in which it is sliding to regain control of the vehicle.
— If the tires are no longer gripping the ground, turn the steering wheel back and forth quickly. This can briefly create better tire traction between the ground at the front wheels.

2020 Tiguan Owner's Manual at 148.

67. In the Off-Road mode, Volkswagen advertises that mode can be suitable for driving on sand:

> Offroad mode offers similar throttle and transmission characteristics to Snow mode, adding manual control of transmission shifting via Tiptronic® (only the throttle kickdown switch will force a downshift). The Start/Stop system is switched off in this mode, and ACC operates normally. The ESC system is relaxed to help avoid false positives often encountered off-road, and Hill Descent Control is automatically activated on gradients of more than 10 percent. It functions up at speeds between 1.2 mph and 19 mph, and is adjustable via brakes or throttle.
>
> With unique Offroad ABS programming, the wheels can lock up briefly before the system reduces the brake pressure. This allows time for a small wedge of material from the ground (such as gravel or sand) to build up in front of the wheel, thus helping increase the braking effect. This means that the car still remains steerable while its stopping distance is substantially reduced.

Volkswagen 2020 Tiguan Press Kit at 9.

68. Using the Off-Road Custom setting, the driver can further tailor the driving mode to be suitable for sand situations, in particular by adjusting the steering system, as well as switching the ESC (electronic stability control) on and off for "deep snow," situations:

Switching ASR, ESC, or ESC Sport off and on

Switching ASR on and off

ASR can be switched of in situations where there is not enough driving power:

– When driving in deep snow or on loose ground

– When "rocking" the vehicle out of place because it is stuck

ASR can be switched on and off in the vehicle settings for the Infotainment system → page 26.

The yellow indicator light turns on.

Switching ESC off and on in the "Off-road" driving mode

If the "Off-road" driving mode is available and has been selected → page 141, ESC can also be switched off like ASR in the Infotainment system.

The yellow indicator light turns on.

2020 Tiguan Owner's Manual at 178.

The Offroad display provides digital instruments that display additional information about the vehicle and its environment. This enables you to make a more precise assessment of the current driving situation.

Open the Offroad display

– Press the MENU button in the Infotainment system.

– Tap the Vehicle function key.

– Tap the Selection function key.

– Tap the Offroad function key.

Selecting instruments and adjusting units

The infotainment system displays various instruments → fig. 123.

– To switch between instruments, swipe up over the display.

The units on some instruments can be adjusted in the Infotainment system → page 25.

– **Steering angle display:** Shows the steering angle of the vehicle. For a left lock, the value is positive. For a right lock, it is negative.

– **Altimeter:** The altimeter shows your current height above sea level.

– **Coolant temperature display:** The display corresponds to the temperature display in the instrument cluster → page 18.

– **Oil temperature display:** The display corresponds to the oil temperature display in the instrument cluster.

Adjusting the display areas to the driving situation

The instruments displayed can be selected according to the driving situation and the environmental and terrain conditions:

– **Sandy terrain:** Oil and coolant temperature display, steering angle display.

– **Inclines:** Steering angle display, coolant temperature display, altimeter.

– **Alpine terrain:** Steering angle display, altimeter, compass. ◁

2020 Tiguan Owner's Manual at 143.

69. As described in the preceding paragraphs, each limitation of claim 21 of the '828 patent is met by the Accused Products, either literally or under the doctrine of equivalents.

70. 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.

71. On information and belief, Volkswagen's Accused Products satisfy all the limitations of claim 46 of the '828 patent.

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

73. Volkswagen's Accused Products satisfy this limitation. The 4Motion Active Control system comprises a 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. For example, the 2020 Tiguan Driver's Manual provides that "[u]sing the 4 Motion Active Control driving profile, the driver can adapt various properties of vehicle systems to the current driving situation, the desired driving comfort, and for an economic driving style. The suspension,

powertrain, and the air conditioning system are some of the vehicle systems that can be adjusted." *2020 Tiguan Owner's Manual*, at 141. The 4Motion Active Control rotary input is shown below:

74. 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 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 . . ."

75. Volkswagen's Accused Products satisfy this limitation. The 4Motion Active Control vehicle control system is arranged to control a plurality of vehicle subsystems, the suspension, powertrain, engine, transmission, steering, and speed control systems such as hill descent control. *See 2020 Tiguan Owner's Manual* at 141. And as the Volkswagen 2020 Tiguan Press Kit explains, a change in driving mode results in an altering the operating parameters for the

drive systems, "like the engine, transmission, steering, and Adaptive Cruise Control (ACC), as well as traction-assistance systems like Hill Descent Assist and Hill Start Assist." *Volkswagen 2020 Tiguan Press Kit* at 8.

76. The 4Motion Active 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, including "Snow," "On-Road," "Off-Road," and "Off-Road Custom." *See, e.g.*, https://www.elginvw.com/blog/2019-volkswagen-tiguan-offers-several-drive-modes-for-added-security/. Each of these driving modes configures the vehicle subsystems for a respective driving surface. *2020 Tiguan Owner's Manual* at 142.

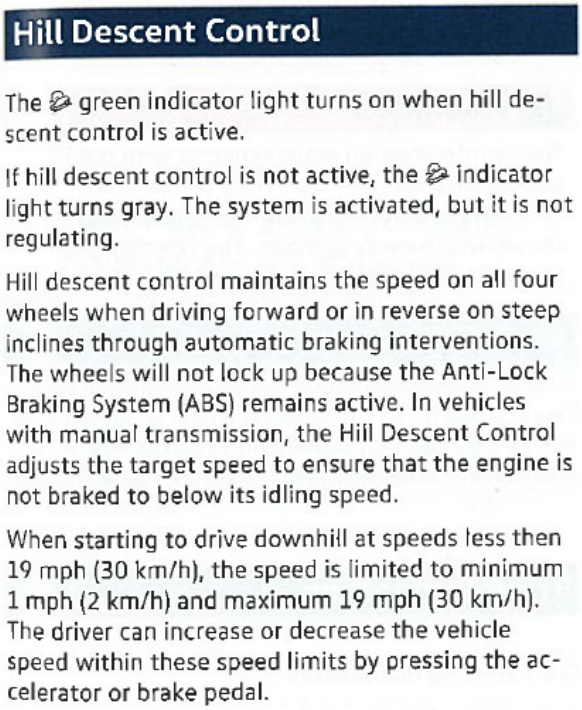
77. Claim 46 of the '828 patent further recites: a vehicle control system "further wherein the plurality of driving modes includes at least two off-road modes in which the subsystem configurations are controlled in a manner suitable for driving on respective off-road driving surfaces, and an on-road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

78. Volkswagen's Accused Products satisfy this limitation. For example, the Tiguan includes at least two off-road modes (off-road, and off-road individual), in which the subsystems in a manner suitable for driving on respective off-road driving surfaces (such as gravel, sand, and other off-road surfaces as customized by the user). *Volkswagen 2020 Tiguan Press Kit* at 9.

79. The Tiguan's 4Motion Active Control includes at least one on-road mode (on-road mode, with selectable normal, eco, sport, and individual modes), in which the subsystems in a manner suitable for driving on respective on-road driving surfaces. *2020 Tiguan Owner's Manual* at 142.

80. 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 . . ."

81. Volkswagen's Accused Products satisfy this limitation. For example, the Tiguan includes a speed control system arranged to control the speed of a vehicle when descending a hill:



Hill Descent Control

The green indicator light turns on when hill descent control is active.

If hill descent control is not active, the indicator light turns gray. The system is activated, but it is not regulating.

Hill descent control maintains the speed on all four wheels when driving forward or in reverse on steep inclines through automatic braking interventions. The wheels will not lock up because the Anti-Lock Braking System (ABS) remains active. In vehicles with manual transmission, the Hill Descent Control adjusts the target speed to ensure that the engine is not braked to below its idling speed.

When starting to drive downhill at speeds less then 19 mph (30 km/h), the speed is limited to minimum 1 mph (2 km/h) and maximum 19 mph (30 km/h). The driver can increase or decrease the vehicle speed within these speed limits by pressing the accelerator or brake pedal.

2020 Tiguan Driver's Manual at 139.

82. 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."

83. Volkswagen's Accused Products satisfy this limitation. For example, the Tiguan's Hill Descent Control System is automatically switched on in the "off-road mode":

Hill descent control is automatically activated under the following conditions:

— The vehicle engine must be running.

— The **Offroad** driving profile is selected.

— The speed must be less than 19 mph (30 km/h) (the indicator light appears in the instrument cluster display).

— The slope is at least 10%.

— The brake pedal or accelerator pedal must not be pressed.

Hill descent control is deactivated if the speed is higher than 19 mph (30 km/h), when the brake pedal or accelerator pedal is pressed, or the grade is less than 5%.

2020 Tiguan Driver's Manual at 139.

Offroad mode offers similar throttle and transmission characteristics to Snow mode, adding manual control of transmission shifting via Tiptronic® (only the throttle kickdown switch will force a downshift). The Start/Stop system is switched off in this mode, and ACC operates normally. The ESC system is relaxed to help avoid false positives often encountered off-road, and Hill Descent Control is automatically activated on gradients of more than 10 percent. It functions up at speeds between 1.2 mph and 19 mph, and is adjustable via brakes or throttle.

Volkswagen 2020 Tiguan Press Kit at 9.

84. In addition, the driver can set the "off-road individual mode" to automatically switch on the Hill Descent Control system. "Custom Offroad mode allows the driver to alter the steering, engine and gearbox behavior, as well as Hill Descent Assist and Hill Start Assist. *Volkswagen 2020 Tiguan Press Kit* at 9.

85. As described in the preceding paragraphs, each limitation of claim 46 of the '828 patent is met by the accused Volkswagen Accused Products, either literally or under the doctrine of equivalents.

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

87. Volkswagen has been aware of the '828 patent (or the originally-issued '776 patent) at least since as early as August 7, 2018. With knowledge of the patent and its infringement of that patent, Volkswagen has continued its infringement, with intent to infringe. Volkswagen'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.

88. Volkswagen'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 Volkswagen's wrongful acts are enjoined by this Court pursuant to 35 U.S.C. § 283.

89. Volkswagen'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. Volkswagen has infringed and continues to infringe the '828 patent;

B. Volkswagen, 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 Volkswagen's infringement, pursuant to 35 U.S.C. § 284, including prejudgment and post-judgment interest;

D. JLR be awarded treble damages for Volkswagen'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.

Respectfully Submitted,

Dated: November 19, 2020

s/ Gregory Mortenson
Gregory Mortenson
Clement Naples*
Latham & Watkins LLP
885 Third Avenue
New York, NY 10022-4834
Phone: (212) 906-1200
gregory.mortenson@lw.com

clement.naples@lw.com

Matthew J. Moore*
Diane Ghrist*
Latham & Watkins LLP
555 11th St. NW, Suite 1000
Washington, D.C. 20004-1304
Phone: (202) 637-2200
matthew.moore@lw.com
diane.ghrist@lw.com

Gabrielle A. LaHatte*
Latham & Watkins LLP
505 Montgomery Street
Suite 2000
San Francisco, CA 94111
(415) 391-0600
gabrielle.lahatte@lw.com

Christopher Henry*
Latham & Watkins LLP
200 Clarendon Street
Boston, MA 02116
(617) 948 6000
christopher.henry@lw.com

* motion for pro hac vice admission forthcoming

Counsel for Plaintiff Jaguar Land Rover Limited

LOCAL CIVIL RULE 11.2 CERTIFICATION

Pursuant to Local Civil Rule 11.2, I hereby certify that that infringement of the patent at issue in the above-captioned action is or was also the subject of *Jaguar Land Rover Limited v. Bentley Motors Limited et al.*, 2:18-cv-00320 (EDVA), filed June 14, 2018.

The '828 patent was the subject of two *inter partes* reviews before the Patent Trial and Appeal Board: *Bentley Motors Limited et al. v. Jaguar Land Rover Limited*, IPR2019-01539, filed Aug. 23, 2019; and *Bentley Motors Limited at al. v. Jaguar Land Rover Limited*, IPR2019-01502, filed Aug. 16, 2019. The PTAB has denied institution of both petitions.

The '828 patent is also the subject of a civil action in the United States District Court for the District of Delaware, filed on November 19, 2020 by JLR, naming Automobili Lamborghini S.P.A., Automobili Lamborghini America, LLC, and Audi AG as Defendants.

The '828 patent is also the subject of a civil action in the United States District Court for the District of Delaware, filed on November 19, 2020 by JLR, naming Dr. Ing. h.c. F. Porsche AG and Porsche Cars North America, Inc., as Defendants.

The '828 patent is also the subject of a civil action in the United States District Court for the District of Delaware, filed on November 19, 2020 by JLR, naming Audi of America, LLC, and Audi AG as Defendants.

I further certify that infringement of the patent at issue in the above-captioned action to the best of my knowledge is not the subject of any other action pending in any court, or of any pending arbitration or administrative proceeding.

Dated: November 19, 2020

s/ Gregory Mortenson

Gregory Mortenson
Latham & Watkins LLP
885 Third Avenue
New York, NY 10022-4834
Phone: (212) 906-1200

gregory.mortenson@lw.com

Counsel for Plaintiff Jaguar Land Rover Limited