

Date of Hearing: June 17, 2024

ASSEMBLY COMMITTEE ON TRANSPORTATION

Lori D. Wilson, Chair

SB 1313 (Ashby) – As Amended April 17, 2024

**SENATE VOTE:** 36-0

**SUBJECT:** Vehicle equipment: driver monitoring defeat devices

**SUMMARY:** Prohibits vehicles from being equipped with a device that is designed for, or being used for, neutralizing, disabling, or otherwise interfering with a direct driving monitor system. Specifically, **this bill:**

- 1) Prohibits a person from using, buying, possessing, manufacturing, selling, or otherwise distributing a device that is designed for neutralizing, disabling, or otherwise interfering with a direct driver monitoring system.
- 2) Provides that a violation of either provision described above is an infraction.
- 3) Exempts the following from either provision described above:
  - a) A person or entity with a valid permit to test autonomous technology;
  - b) A person or entity conducting motor vehicle diagnostic services, repairs, or enhancements consistent with the original equipment manufacturer's safety standards, whether physically or remotely;
  - c) In connection with an update or enhancement of the driver monitoring system by the original equipment manufacturer;
  - d) In connection with a repair of a vehicle malfunction corrected by the manufacturer or manufacturer-approved third-party; and,
  - e) For modifications or compliance pursuant with the provisions of the federal Americans with Disabilities Act of 1990.
- 4) Defines "direct driver monitoring system" to include, but not be limited to, camera systems, systems that require a driver to maintain their hands on the steering wheel, pressure sensors, safety sensors, distracted driver sensors, systems that help the driver to continue to pay attention to the traffic situation, and systems that warn the driver when the driver is distracted.
- 5) Provides that the section should not be constructed to restrict or prohibit access to a motor vehicle's onboard computer system to conduct diagnostics, repairs, or enhancements consistent with the original equipment manufacturer's safety standards, whether physically or remotely.

**EXISTING LAW:**

- 1) Authorizes law enforcement to issue a corrective ticket for an equipment violation unless there is evidence of fraud or persistent neglect or if the violation presents an immediate safety hazard. (Vehicle Code (VEH) 40610).

- 2) Provides that, unless specified otherwise, a person convicted of an infraction under the vehicle code shall be punished with a fine up to \$100 for the first offense, up to \$200 for a second offense, and up to \$250 for a third offense (note: fines are multiplied by other penalty assessments). (VEH 42001).

**FISCAL EFFECT:** According to the Senate Appropriations Committee, pursuant to Senate Rule 28.8, negligible state costs.

**COMMENTS:**

SAE International is a U.S. based professional association of engineers. SAE International's *Taxonomy and Definition for Terms Related to Driving Automation Systems for On-Road Motor Vehicles* have become the accepted engineering definitions for the different levels of automation with NHTSA and DMV. SAE has designated six different levels of Automated Vehicles (AVs):

Level 0: The human driver does all the driving.

Level 1: An advanced driver assistance system (ADAS) on the vehicle can sometimes assist the human driver with either steering or braking/accelerating, but not both simultaneously. An example includes adaptive cruise control.

Level 2: ADAS on the vehicle control both steering and braking/accelerating simultaneously under some circumstances. The human driver must pay full attention ("monitor the driving environment") at all times and perform the rest of the driving task. Examples include Tesla's Autopilot and Cadillac Super Cruise.

Level 3: An ADAS on the vehicle performs all aspects of the driving task under some circumstances. In those circumstances, the human driver must be ready to take back control at any time when the ADAS requests the human driver to do so. In all other circumstances, the human driver performs the driving task.

Level 4: ADAS on the vehicle performs all driving tasks and monitors the driving environment – essentially, does all the driving – in certain circumstances. The human need not pay attention in those circumstances.

Level 5: ADAS on the vehicle does all the driving in all circumstances. The human occupants are passengers and do not need to be involved in driving.

Both the federal and state law define AVs as vehicles with automated technology of Levels 3-5.

Level 2 and Level 3 systems relieve the driver of some or all of the dynamic driving task, while still requiring the driver to pay active attention to the road.

Experts and some AV developers have questioned whether Level 3 vehicles are safe at all, as it creates a split responsibility between drivers and machines. In October of 2015, Google released a report on its experiences with its driverless technology. In 2012, several Google employees were allowed to use one of Google's vehicles on autonomous mode for the freeway portion of their commute to work. Every employee was warned that the car is in its beginning stage, and they should pay attention 100% of the time. Each car was equipped with a video camera inside that would film the passengers.

Despite Google's instructions, videos showed that some drivers completely turned away from the driving seat to do things like search for a cell-phone charger, while others simply relaxed. Engineers call this behavior automation bias. Google stated in their report: "We saw human nature at work: people trust technology very quickly once they see that it works. As a result, it's difficult for them to dip in and out of the task of driving when they are encouraged to switch off and relax."

Waymo, Google's automated vehicle arm, has publicly stated they will not be releasing level 3 vehicles out of safety concerns that drivers may fall asleep while systems are operating, placing the driver and other users at risk.

Research at Virginia Tech University sponsored by General Motors (GM) and the Federal Highway Administration found similar results. Twelve drivers were given vehicles with adaptive cruise control that handled a car's steering and breaking and put on a test track. Drivers were provided reading material, food, drinks and entertainment media. A passenger joined them and was watching a DVD during the test drive. 58% of drivers watched the DVD for some time during the three hour trip. 25% of the drivers read--increasing their risk of a car crash by 3.4 times. Overall, drivers were estimated to be looking away from the road about 33% of the time during the course of the three-hour trip.

Vehicle manufacturers have developed driver monitoring systems for Level 2 vehicles in order to insure drivers are paying attention to the road. These systems include cameras to monitor a driver's eyes, weight sensors to ensure a person is in the driver's seat, and monitors in the wheel to ensure the person is still holding it even though the vehicle is performing the driving tasks.

While Level 2 systems are not as advanced as Level 3 systems, the problems identified by Google for Level 3 systems for driver overreliance have been prevalent for users of Level 2 systems. Unlike Level 3 systems, Level 2 systems are not capable of completing all dynamic driving tasks, but can complete enough of the dynamic driving tasks where drivers may stop paying attention. Cars with Level 2 technology have several features to deal with this problem. Tesla requires a hand to be on the wheel, while General Motor's Super Cruise has a camera that monitors a human's face to make sure they are paying attention. Tesla's system to ensure drivers are paying attention has not been fool proof. For example, in September of 2021 a Tesla driver was arrested in Glendale, California for driving under the influence. The driver was passed out behind the wheel as the vehicle operating on Autopilot was driving at slow speeds on a freeway overpass. Law enforcement got in front of the vehicle and slowed down to get the vehicle to stop.

*According to the author, "SB 1313 is a crucial step in ensuring the safety of drivers and pedestrians. This bill prohibits the use of devices that interfere with a vehicle's Active Driving Assistance System (ADAS) technology. ADAS technology offers safety monitoring and driving assistance, which has shown significant potential in reducing traffic collisions, injuries, and fatalities. However, the overriding of ADAS through manipulation devices undermines the effectiveness of vehicle safety technology, jeopardizing lives in the process. As active driving assistance technology becomes increasingly standard in vehicles, California's traffic laws must adapt to the misuse of technology to keep our roads safe. SB 1313 establishes the necessary measures to preserve the functionality of safety technology and protects our roads from distracted drivers."*

In 2021 AAA released a report entitled *Effectiveness of Driver Monitoring Systems*. The report evaluated the effect of direct monitoring systems (cameras) and indirect monitoring systems (steering wheel input).

AAA found that both systems were susceptible to active circumvention attempts. On average, evaluated indirect systems allowed driver disengagement for an average of five minutes, while direct systems allowed disengagement for two minutes. At 65 miles per hour, this permits a person to drive either six or two miles without driver engagement with the system. AAA was able to have its drivers trick both systems without using any external devices, tools or aids as this bill would prohibit. AAA recommends that automakers opt for camera-based driver monitoring systems over steering wheel monitoring.

In 2021, the National Highway Traffic Administration (NHTSA) issued a standing blanket order requiring manufacturers and operators to report to it certain crashes involving vehicles equipped with Level 2 automated driving systems or advanced driver assistance systems. In 2022, 392 crashes were reported, including six fatalities. Tesla accounted for 273 of the crashes.

*Tesla, writing in support of this bill, argues* “Vehicles with certain advanced driver assistance systems (ADAS) can provide demonstrable safety benefits by reducing the frequency of crashes and mitigating the impact forces in unavoidable crashes. Importantly, ADAS requires continuous driver supervision in all driving environments. Some vehicles offer driver monitoring systems (DMS) that are designed to ensure driver attentiveness while using ADAS.

Unfortunately, some drivers try to intentionally deceive or override these safety systems with devices that are designed to mimic the conditions used by the DMS to determine driver attentiveness. Additionally, there are online forums that offer guidance on how to craft "homemade" defeat devices to affix to a steering wheel, as well as online vendors who offer such devices for sale. Responsively, vehicle manufacturers are forced to commit resources to combat misuse-enabling devices by introducing detection methods or by implementing changes in vehicle design.

SB 1313 prohibits a person from using, buying, possessing, manufacturing, selling, or distributing a device that is designed for neutralizing, disabling, or otherwise interfering with a vehicle's DMS.”

More recently, NHTSA required Tesla to recall more than 2 million of its vehicles after they found that Tesla's system to monitor drivers was defective. The update requires Tesla to increase warnings and alerts to drivers to keep their hands on the steering wheel.

Defeat devices this bill intends to target include Autopilot Buddy, an accessory specifically targeted to Tesla drivers to skirt around hands-off-the-wheel warnings. The small weighted device provides enough torque on the steering wheel to reduce the number of warnings from the vehicle regarding hands-off operation when autopilot is activated.

*Previous Legislation:* SB 1398 (Gonzalez), Chapter 308, Statutes of 2022 requires a dealer or manufacturer of a passenger vehicle that is equipped with any partial driving automation feature to provide the buyer or owner with a notice that provides the name of each feature and clearly describe the functions and limitations of the feature.

**REGISTERED SUPPORT / OPPOSITION:**

**Support**

Alliance for Automotive Innovation  
Tesla

**Opposition**

None on file

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