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October 17, 2023

The Honorable Ann Carlson
Acting Administrator
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, DC 20590

Re: Update - *Petition for Rulemaking to Amend FMVSS 114 pursuant to 49 CFR Part 552 - Petitions for Rulemaking, Defect, and Noncompliance Orders*

Dear Acting Administrator Carlson:

We are submitting an update to our April petition to add more stringent and meaningful performance requirements to the compliance test for S5.1.1 of 49 CFR § 571.114 - Standard No. 114; Theft protection and rollaway prevention. This update provides further information regarding the ongoing harm caused by Hyundai/Kia vehicles with inadequate theft protection.

The basis of our April 28, 2023 petition is NHTSA's inability to enforce the requirements or address the intent of FMVSS 114 in the wake of a continuing surge of Hyundai/Kia automobile thefts. In minutes, amateur thieves, without specialized tools or training are able to freely and successfully steal certain Hyundai/Kia vehicles that lack adequate theft protection features. This current situation is antithetical to the standard's historic purpose. Indeed, since the inception of the standard, NHTSA has repeatedly affirmed that auto theft is a threat to safety, and has sought to promulgate regulations which would – given changing technologies – thwart the casual thief from easily stealing a vehicle and creating hazards on the public roadways.

NHTSA's February 14, 2023 press release announcing that Hyundai/Kia planned to offer theft deterrent software via customer service campaigns, attributed at least 14 crashes and eight deaths to stolen Hyundai/Kia vehicles.[1] However, news reports suggest that was an incomplete accounting. We identified 42 crashes, 27 injuries, and 21 deaths, from June 2021, when a 16-year-old boy from Milwaukee in a stolen Kia Sportage died after a police chase and head-on crash with an SUV, which left five occupants seriously injured, to February 12, 2023, when three

[1] Hyundai and Kia Launch Service Campaign to Prevent Theft of Millions of Vehicles Targeted by Social Media Challenge. National Highway Traffic Administration, Feb. 14, 2023. Accessed at https://www.nhtsa.gov/press-releases/hyundai-kia-campaign-prevent-vehicle-theft

13-year-old boys were arrested after allegedly stealing a Kia and crashing into another car, killing a 71-year-old man. Since then, the news media reported another 90 such crashes, resulting in 23 more deaths (including a six-month-old boy, a four-year-old boy, and a 14-year-old driver), 99 injuries, some of which were said to be serious, and one house fire. In addition, these thefts of Hyundai/Kia models with inadequate theft protection have caused significant property damage, including damage to at least seven police vehicles, a fire engine and a school bus, often with youthful drivers at the wheel.[2] In total, from June 2021 to October 12, 2023, we identified 132 crashes, 44 deaths and 126 injuries. As these only represent crashes that were reported by the news media, it is surely an undercount.

In March, Minneapolis police reported that in the past year, nearly two of every five vehicles stolen in the city involved Hyundai and Kia models and that five homicides, 13 shootings, 36 robberies and 265 crashes were tied to stolen Hyundai or Kia vehicles.[3] In Chicago, officials reported more than 7,000 Hyundai/Kia thefts in 2022, accounting for 10 percent of Kia and 7 percent of Hyundai vehicles registered in the city.[4] A March 2023 civil action brought against Hyundai and Kia by the City of Buffalo noted that the Buffalo, NY police had reported a 2,000 percent increase in theft of Kia and Hyundai vehicles in January 2023, compared to January 2022; an estimated 275 Kia vehicles were stolen in that city in 2022, compared to 69 stolen Kias in 2021 and 55 stolen Kias in 2020.[5] [6] The Consolidated Governmental Entities Complaint filed in July by 17 cities in the states of Ohio, Wisconsin, Indiana, New York, Missouri, Maryland and Washington, against Hyundai Motor Company, Hyundai Motor America, Kia Corporation, and Kia America, Inc. contains a city-by-city account of the precipitous and continuing rise of thefts, crashes, injuries, death and crimes associated with Hyundai/Kia thefts.[7] A more recent analysis by journalists at Motherboard, based on police car theft data from 20 cities, described a "staggering" theft problem involving Hyundai Kia vehicles with inadequate theft protection: "Stolen car rates are not up by 10 percent, or 20 percent, or even 50 percent. In many cities, they are up hundreds of percentage points, Motherboard has found. Rates of stolen Kias and Hyundais in particular are up thousands of percentage points." [8]

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[2] See Appendix A, News Reports of Stolen Hyundai/Kia Crashes, Jun. 2021-Oct. 12, 2023

[3] Orrick, Dave. Kia and Hyundai thefts skyrocket 836% in Minneapolis; attorney general and Twin Cities mayors urge recalls. Star Tribune, Mar. 2, 2023. Accessed at https://www.startribune.com/kia-hyundai-thefts-tiktok-ellison-minneapolis-frey-st-paul-carter-mayor-urge-recall/600255806/

[4] Ramos, Elliot. Edwards, Brad. More than 7,000 Kias, Hyundais stolen in Chicago this year. CBS News, Dec. 14, 2022. Accessed at https://www.cbsnews.com/chicago/news/kia-hyundais-stolen-chicago/

[5] Tokasz, Jay. City of Buffalo sues Kia, Hyundai over easy theft of vehicles. Buffalo News, Mar. 30, 2023. Accessed at https://buffalonews.com/news/local/city-of-buffalo-sues-kia-hyundai-over-easy-vehicle-thefts/article_0f3c550c-cf58-11ed-b4e8-e70824ccb680.html

[6] Schumer, Charles. Schumer: Dangerous & Infuriating Surge Of Kia, Hyundai Car Thefts In Upstate NY Is Out Of Control. Press release. February, 22, 2023. Accessed at https://www.schumer.senate.gov/newsroom/press-releases/schumer-dangerous-and-infuriating-surge-of-kia-hyundai-car-thefts-in-upstate-ny-is-out-of-control_350-stolen-in-buffalo-this-year-alone-and-hundreds-more-across-upstate-ny--senator-calls-on-feds-to-get-involved-and-demands-kia-hyundai-to-give-upstate-communities-the-help-they-need-now

[7] Consolidated Governmental Entities Complaint. No. 8:22-ML-03052-JVS-KES. U.S. District Court, Central District, Southern Division. Santa Ana, California, Jul. 28, 2023

[8] Gordon, Aaron. U.S. Cities Have a Staggering Problem of Kia and Hyundai Thefts. This Data Shows It. Motherboard, Sept. 21, 2023

Despite the staggering numbers of crimes, crashes, fatalities and injuries directly attributed to Hyundai/Kia's lack of any significant theft protection, NHTSA did not open a defect investigation or press Hyundai/Kia to launch a formal recall with its notification and accountability requirements. NHTSA took no enforcement action at all, because it did not believe that the theft protection safety standard was actually enforceable. In response to inquiries from this petitioner, a NHTSA media representative stated that the agency could not act more forcefully, because "the standard does not define normal activation."

In June, Acting Associate Administrator for Enforcement Cem Hatipoglu responded to an April letter from California Attorney General Rob Bonta and 17 of his counterparts across the country asking NHTSA to compel a recall. [9] Hatipoglu wrote that NHTSA did not intend to take further action:[10]

> At this time, NHTSA has not determined that this issue constitutes either a safety defect or noncompliance requiring a recall under the National Traffic and Motor Vehicle Safety Act, 49 U.S.C. Chapter 301. The Federal Motor Vehicle Safety Standard identified in your letter, FMVSS No. 114, does not require an engine immobilizer. *See* 49 C.F.R. § 571.114*. Also, the test procedure specified in that standard does not contemplate actions taken by criminal actors to break open or remove part of the steering column and take out the ignition lock to start a vehicle*. *[Emphasis added.]See id*. § 571.114, S6. Here, the safety risk arises from unsafe use of a motor vehicle by an unauthorized person after taking significant destructive actions to parts of the vehicle.

S5.1.1 of FMVSS 114 states:[11]

> Each vehicle must have a starting system which, whenever the key is removed from the starting system prevents:
> (a) The normal activation of the vehicle's engine or motor; and
> (b) Either steering, or forward self-mobility, of the vehicle, or both.

According to the most recent 2010 edition of the FMVSS 114 compliance test, to demonstrate compliance with this section of the standard, the test is implemented by simply sitting in the vehicle and trying to start a keyed vehicle without placing the metal key in the ignition slot, or, the case of a keyless ignition vehicle moving the key fob out of vehicle range and attempting to start the vehicle by depressing the Start/Stop button.[12]

[9] Bonta, Rob. Letter from State Attorneys General to Acting NHTSA Administrator Ann Carlson, Apr. 20, 2923
[10] Hatipoglu, Cem. Letter to California Attorney General Rob Bonta. Jun. 5, 2023
[11] 49 CFR Chapter V. Part § 571.114 Standard No. 114; Theft protection and rollaway prevention.
[12] U.S. Department Of Transportation National Highway Traffic Safety Administration Laboratory Test Procedure for FMVSS 114 Theft Protection and Rollaway Prevention. Pg. 16, Jul. 28, 2010

TEST

(1) Apply the vehicle's parking brake. With the key removed from the starting system, attempt to start the vehicle engine or motor. If the vehicle is equipped with an advanced key system, it may be necessary to move the electronic key device outside the minimum effective range for loading the electronic key into the vehicle starting system. (Determine the minimum effective range for loading the electronic key into the starting system from the vehicle owner's manual or contact the COTR). Make note if depressing the service brake is required in order to start the vehicle's engine or motor.

(2) Reference the vehicle's owners manual to identify the proper procedure for activating the vehicle starting system. Activate the vehicle starting system and start the engine or motor using the key. If the vehicle is equipped with an advanced key system, it may be necessary to have the electronic key device inside the vehicle for the starting system to detect the electronic key. Center the steering wheel.

(3) Turn off the engine or motor and remove the key. If the vehicle is equipped with an advanced key system, it may be necessary to move the electronic key device outside the minimum effective range for loading the electronic key into the vehicle starting system. For some vehicles that have an advanced key technology, the electronic key code is removed from the starting system when the engine is turned off. Refer to the manufacturer's information that was submitted to OVSC to determine how the key gets removed from the starting system.

(4) Determine if the steering wheel locks as a result of removing the key from the starting system by rotating the wheel in both directions. Note the position in which the steering wheel locks in both directions.

(5) Determine if forward self-mobility is prevented whenever the key is removed from the starting system. If the vehicle is equipped with an advanced key system, it may be necessary to move the electronic key device outside the minimum effective range for loading the electronic key into the vehicle starting system. If the vehicle has a means to prevent forward self-mobility, describe the means. (i.e. Is the transmission locked in park, is the vehicle equipped with an immobilizer, etc)

This procedure only partially addresses the second part of the requirement, that a FMVSS 114 compliant vehicle must ***also prevent*** "either steering, or forward self-mobility, of the vehicle, or both."

The first requirement, preventing normal activation, is impossible to fail under the above cited test procedure, because it appears that the only way a vehicle could be noncompliant is if it could be started and operated without a key as it sits – i.e., without any attempted theft mechanism or procedure occurring – a very unlikely scenario.

While the 114 test manual notes that testers are not constrained by the basic procedure, it appears to be preferred method:[13]

> The OVSC test procedures include requirements that are general in scope to provide flexibility for contracted laboratories to perform compliance testing and are not intended to limit or restrain a contractor from developing or utilizing any testing techniques or equipment which will assist in procuring the required compliance test data. These test

[13] Laboratory Test Procedure for FMVSS 114 Theft Protection And Rollaway Prevention. National Highway Traffic Safety Administration. PFD Pg. 4, Jul. 28, 2010

procedures do not constitute an endorsement or recommendation for use of any particular product or testing method.

As such, certain Hyundai/Kia models can be easily stolen because engine start can be achieved without the key and operationalizing both steering and self-mobility.

In 2004, NHTSA Chief Counsel Jacqueline Glassman recognized the intersectionality of the two-part requirement in a response to an unidentified automaker, that had requested an interpretation regarding compliance of its engine control immobilizer module: "asked whether such a system would meet the requirements of S4.2 by (a) preventing normal activation of the vehicle's engine by removal of the key, and (b) preventing vehicle forward self-mobility by the presence of the immobilizer."[14] NHTSA Chief Counsel Jacqueline Glassman agreed that the system the automaker described would be compliant with FMVSS 114 because if an attempt was made to circumvent the ignition lock including through "hot-wiring," it prevented engine starting without the key:

> As you discussed in your letter, the two provisions of S4.2 were intended to reduce unauthorized operation of a motor vehicle in different ways. Provision (a) was intended to prevent unauthorized operation of a motor vehicle by requiring that the vehicle could not be started without the key. Provision (b) was intended to further impede unauthorized operation of a motor vehicle by preventing vehicle operation outside the normal activation method. That is, if an attempt were made to circumvent the ignition lock (through "hot-wiring," for example), another device would prevent unauthorized operation of a motor vehicle.
>
> We note that in promulgating FMVSS No. 114, the agency expressed concern about car thieves who could bypass the ignition lock. In response to this concern, the agency decided to require a device, which would prevent either self-mobility or steering even if the ignition lock were bypassed (see 33 FR 4471, April 27, 1968).
>
> The engine control module immobilizer described in your letter satisfies the requirements of S4.2(b) because it locks out the engine control module if an attempt is made to start the vehicle without the correct key or to bypass the electronic ignition system. When the engine control module is locked, the vehicle is not capable of forward self-mobility because it is incapable of moving forward under its own power.

In contrast, if a manufacturer chooses to use an engine immobilizer anti-theft technology *49 CFR Part 543 Appendix A – Performance Criteria*, provides specific criteria that the immobilization system must be designed to meet so that it cannot easily be defeated to allow forward self-mobility by either disrupting the voltage or by using tools. These criteria enumerate 18 common tools auto thieves are known to rely on: Scissors, wire strippers, wire cutters and electrical wires, a hammer, a slide hammer, a chisel, a punch, a wrench, a screwdriver, pliers, steel rods and spikes, a hacksaw, a battery operated drill, a battery operated angle grinder; and a battery operated jigsaw.

FMVSS 114 was originally promulgated in 1968 to reduce vehicle theft based on data that showed amateur thieves made up the majority of unauthorized drivers who were involved in crashes. The agency cited a Department of Justice study that 94,000 stolen cars were in crashes in 1966 and more than 18,000 of these incidents resulted in injury to one or more people.

[14] Glassman, Jacqueline. Interpretation letter to unknown automaker, Sept. 24, 2004

According to the report, the crash rate for stolen cars was some 200 times greater than the normal crash rate for non-stolen vehicles.[15]

The agency's initial proposal in 1969 required automakers to install devices to remind drivers to remove keys when leaving their vehicle and that manufactures use a large number of locking system combinations to prevent use of master keys for theft. The language in the original Final Rule was simple and remains in effect today (with additions that expanded the standard to include performance requirements intended to reduce "accidental rollaway of motor vehicles").

The regulation was aimed squarely at discouraging amateurs and petty criminals who made up the vast majority of thieves who became involved in crashes. The agency's goal in establishing a rule was to make it difficult to activate the engine "within a short period of time."[16] Although the final rule was not technically specific, there were robust discussions about the best ways to prevent engine activation, steering and self-mobility.

Following years of debate between the agency and the industry, NHTSA vigorously defended its position that auto theft created a significant safety problem that was squarely within its authority to regulate.[17]

> **In view of the association of theft by joyriders and petty thieves with highway accidents and the significant number of accidents, deaths and injuries involving stolen vehicles found in the study, NHTSA believes that a serious safety problem still exists with regard to stolen vehicles and that further rulemaking in this area is justified. It should be noted that the consumer impact of vehicle theft is substantial. Vehicle theft costs society from $1.8 billion to $2.9 billion annually, and represents 8.4 percent of all the crimes committed in this country, placing a substantial burden on law enforcement agencies and the courts.**

And, even back then, the agency understood that insufficient shielding of ignition wires was a factor in the speed at which a thief could breach the ignition system. In May 1979, a constituent of then Sen. Ernest Hollings noted that cars were easier to steal due to manufacturers' change from "a heavy metal casting steering-column (at a weight savings of only 1 ½ pounds) to a molded-plastic housing which no longer adequately protects the ignition lock." [18] In a 1978 docket, NHTSA wrote:[19]

> After a review of the state of the art in lock design and the difficulty of articulating performance standards for stronger locks, the NHTSA has tentatively concluded that it

[15] Docket 1-21-No.1. 33 FR 6471. National Highway Traffic Safety Administration, Apr. 27, 1968
[16] Docket 1-21 Notice 3. 41 FR 9374. National Highway Traffic Safety Administration, Mar. 4, 1976
[17] Docket 1-21 Notice 4. 43 FR 18577. National Highway Traffic Safety Administration, May 1, 1978
[18] Docket 1-21 Notice 4. Comment 158. Letter from NHTSA to U.S. Sen. Ernest Hollings, Jul. 17, 1979
[19] Docket 1-21 Notice 4. 43 FR 18577. National Highway Traffic Safety Administration, May 1, 1978

> would be more effective to approach the problem of the susceptibility of locks to tampering by limiting the utility of removing the lock. Consequently, a new requirement is being proposed which requires the ignition systems to be inoperative if any part of the ignition lock is removed. To further protect the ignition system, the agency proposes also that the wires which activate this system shall be shielded so that they cannot be directly contacted from within the passenger compartment. The shielding could be provided by the vehicle structure or by other means. The agency is considering establishing a requirement that would necessitate the use of metal or other similar strong shielding materials which would have to be cut by special cutting tools before access to the ignition wires could be gained.

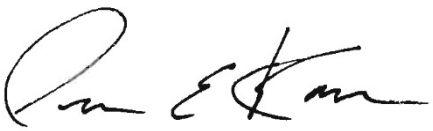
At the time, the idea that the ignition lock be designed to resist removal was supported by major automakers including General Motors, Ford Motor Company, Mercedes-Benz and Volkswagen, and NHTSA noted that it was evaluating a study of tensile, torque and extraction testing on current ignition lock systems by the National Bureau of Standards to determine if it would propose specific lock retention and system operations performance standards in the future.[20] The agency and industry agreed one of the best strategies was to make car theft a slow-enough undertaking to increase the odds that a passerby might witness the break-in.

Fifty-five years ago NHTSA was motivated by the large disparity – 200 percent – in vehicle crashes in stolen versus non-stolen vehicles and declared that "a reduction in the incidence of auto theft would make a substantial contribution to motor vehicle safety. Not only would it reduce the number of injuries and deaths among those who steal cars, it would also protect the many innocent members of the public who are killed and injured by stolen cars each year."[21]

Despite decades of rulemaking designed to prevent amateur thieves from easily stealing vehicles, Hyundai/Kia models with inadequate theft protection features that NHTSA apparently considers "compliant" with FMVSS 114 are continually targeted by non-professionals, sometimes children too young for even a learner's permit, who with little effort, are breaking into and joyriding in these vehicles, causing a disproportionate number of crashes and killing and injuring themselves as well as "*innocent members of the public.*" History is repeating itself, yet NHTSA claims it does not have an enforceable rule.

We urge the agency to once again amend FMVSS 114 to add a more stringent, meaningful compliance test to fulfill the standard's historic intent.

Sincerely,



Sean E. Kane

[20] Docket 1-21 Notice 5. Final Rule 45 FR 85450. National Highway Traffic Safety Administration. Dec. 29, 1980
[21] Docket 1-21-No.1. 33 FR 6471. National Highway Traffic Safety Administration, Apr. 27, 1968