



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Petition for Exemption from the Federal Motor Vehicle Theft Prevention Standard;

Hyundai America Technical Center, Inc.

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Grant of petition for exemption.

SUMMARY: This document grants in full the Hyundai America Technical Center, Inc.'s (HATCI) petition for exemption of the Ioniq vehicle line in accordance with the Exemption from the Theft Prevention Standard. This petition is granted because the agency has determined that the antitheft device to be placed on the line as standard equipment is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Federal Motor Vehicle Theft Prevention Standard (Theft Prevention Standard). Hyundai also requested confidential treatment for specific information in its petition. While official notification granting or denying its request for confidential treatment will be address by separate letter, no confidential information provided for purposes of this document has been disclosed.

DATES: The exemption granted by this notice is effective beginning with the 2017 model year (MY).

FOR FURTHER INFORMATION CONTACT: Ms. Carlita Ballard, International Policy, Fuel Economy and Consumer Programs, NHTSA, West Building, W43-439, 1200 New Jersey

Avenue, S.E., Washington, D.C. 20590. Ms. Ballard's phone number is (202) 366-5222. Her fax number is (202) 493-2990.

SUPPLEMENTARY INFORMATION: In a petition dated September 8, 2016, Hyundai requested an exemption from the parts-marking requirements of the Theft Prevention Standard for its Ioniq vehicle line beginning with MY 2017. The petition requested an exemption from parts-marking pursuant to 49 CFR part 543, Exemption from Vehicle Theft Prevention Standard, based on the installation of an antitheft device as standard equipment for the entire vehicle line.

Under 49 CFR 543.5(a), a manufacturer may petition NHTSA to grant an exemption for one vehicle line per model year. In its petition, Hyundai provided a detailed description and diagram of the identity, design, and location of the components of the antitheft device for its Ioniq vehicle line. Hyundai stated that the MY 2017 Ioniq will include electric vehicle (EV), hybrid electric vehicle (HEV), and plug in hybrid electric vehicle (PHEV) models in its vehicle line. Hyundai also stated that it will offer two types of antitheft immobilizer systems on its Ioniq vehicle line. Hyundai further stated that the Ioniq will be installed with an immobilizer device as standard equipment on the entire vehicle line. Specifically, Hyundai stated that the vehicle line will be equipped with either a smart-key type of immobilizer system with alarm or a transponder (non-smart key) type of immobilizer system with alarm as standard equipment. Key components of the smart-key immobilizer system are an engine control unit/engine management system (EMS), vehicle control unit (VCU), smart-key unit (SMK), FOB smart-key, and a low frequency antenna (LF). Key components of the transponder immobilizer system are an engine control unit/engine management system (EMS), FOB folding key, immobilizer control unit, and an

antenna coil. Hyundai further stated that it will offer an audible and visual alarm as standard equipment on the vehicle line.

Hyundai's submission is considered a complete petition as required by 49 CFR 543.7, in that it meets the general requirements contained in §543.5 and the specific content requirements of §543.6.

In addressing the specific content requirements of §543.6, Hyundai provided information on the reliability and durability of the device. Hyundai conducted and completed component tests for both antitheft immobilizer systems in accordance with the UNECE R-116.00, UNECE R-10.04, Korean standards 41.5.1, 41.5.2, 41.5.3, and Hyundai in-house standards TDP Electronic 02-02-14 and 02-03-25. Hyundai stated that all testing met its standard requirements. Hyundai stated that its smart-key immobilizer system is a push button system that starts or stops the engine through an encrypted authentication and authorization process of communication between the FOB smart-key and the SMK. Hyundai stated that the SMK manages all functions related to the communication between the start/stop button, the FOB key and the VCU or EMS. The SMK communicates with the FOB smart-key by generating an encrypted request as a modulated low frequency signal that the LF antenna outputs to the FOB smart-key. Hyundai stated that when the two encoded keys coincide with each other, the vehicle can be started, stopped and operated in accessory mode. Activation of the smart-key immobilizer system occurs when the start/stop button is pushed to the "OFF" status and when the electronic key code of the FOB key is removed from the smart-key immobilizer control unit or from the vehicle.

According to Hyundai, the smart-key immobilizer system allows the driver/operator to

access and operate the vehicle by using a valid FOB key. No other actions by a mechanical key or a remote control unit are required. Hyundai stated that if a valid FOB key is in the range defined by this device, the device will automatically detect and authenticate the FOB via wireless communication between the FOB key and the smart-key immobilizer unit. If communication is authenticated, the device will allow passive accessibility to the doors and/or trunk, and/or passive locking of all the doors. The audible and visual alarm system is also automatically activated when the FOB key is removed from the smart-key immobilizer control unit, all vehicle doors and the hood are closed, and all the doors are locked. If the device is armed and unauthorized entry is attempted, the vehicle's horn will sound and the hazard lamps will flash.

Hyundai stated that its transponder key immobilizer system is a FOB key immobilizer system that starts or stops the engine through an encrypted authorization process between the FOB key, the immobilizer, and the EMS. Hyundai stated that the system enables the start and stop of the vehicle by insertion of a key into the ignition. Activation of the device occurs when the ignition switch is turned to the "OFF" position. Deactivation occurs when the ignition key is turned to the "ON" position. The transponder in the FOB key transmits an ID code to the immobilizer unit via the immobilizer coil; the EMS then transmits a question code to the immobilizer unit using a serial line. The immobilizer unit then transmits the answer code it received from the FOB key to the EMS. If the key is validated, the EMS enables the engine to start or prevents the engine from starting if the key is not validated.

In support of its petition, Hyundai referenced a JP Research Report on the effectiveness of parts-marking, which looked at the relative effectiveness of parts-marking and antitheft

devices. The study concluded that for the 24 model lines used in its analysis, antitheft devices were 70% more effective than parts-marking in deterring theft. Based on the report, Hyundai also referenced the theft rates of other manufacturers' vehicle lines, i.e., the Lincoln Town Car, Mazda MX-5 Miata, Mercedes-Benz E210, and the Mazda 3, that were exempted from the theft prevention standard. Hyundai stated that it believes the report showed that the installation of antitheft devices is at least as effective as complying with parts-marking requirements in reducing and deterring vehicle thefts. The theft rates for these lines using an average of three model years' data (2011-2013) are 1.0557, 0.2148, 0.9883, and 1.3535 respectively.

Based on the evidence submitted by Hyundai, the agency believes that the antitheft device for the Ioniq vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR 541). The agency concludes that the device will provide the five types of performance listed in §543.6(a)(3): promoting activation; attracting attention to the efforts of unauthorized persons to enter or operate a vehicle by means other than a key; preventing defeat or circumvention of the device by unauthorized persons; preventing operation of the vehicle by unauthorized entrants; and ensuring the reliability and durability of the device.

Pursuant to 49 U.S.C. 33106 and 49 CFR 543.7(b), the agency grants a petition for exemption from the parts-marking requirements of part 541, either in whole or in part, if it determines that, based upon supporting evidence, the standard equipment antitheft device is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of part 541. The agency finds that Hyundai has provided adequate

reasons for its belief that the antitheft device for the Hyundai Ioniq vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR part 541). This conclusion is based on the information Hyundai provided about its device.

For the foregoing reasons, the agency hereby grants in full Hyundai's petition for an exemption for the Ioniq vehicle line from the parts-marking requirements of 49 CFR part 541. The agency notes that 49 CFR part 541, Appendix A-1, identifies those lines that are exempted from the Theft Prevention Standard for a given model year. 49 CFR 543.7(f) contains publication requirements with respect to the disposition of all part 543 petitions. Advanced listing, including the release of future product nameplates, the beginning model year for which the petition is granted and a general description of the antitheft device is necessary in order to notify law enforcement agencies of new vehicle lines exempted from the parts-marking requirements of the Theft Prevention Standard.

If Hyundai decides not to use the exemption for this vehicle line, it must formally notify the agency. If such a decision is made, the vehicle line must be fully marked as required by 49 CFR 541.5 and §541.6 (marking of major component parts and replacement parts).

NHTSA notes that if Hyundai wishes in the future to modify the device on which this exemption is based, the company may have to submit a petition to modify the exemption. Section 543.7(d) states that a part 543 exemption applies only to vehicles that belong to a line exempted under this part and equipped with the antitheft device on which the line's exemption is based. Further, §543.9(c)(2) provides for the submission of petitions to modify an exemption to

permit the use of an antitheft device similar to but differing from the one specified in that exemption.

The agency wishes to minimize the administrative burden that §543.9(c)(2) could place on exempted vehicle manufacturers and itself. The agency did not intend part 543 to require the submission of a modification petition for every change to the components or design of an antitheft device. The significance of many such changes could be *de minimis*. Therefore, NHTSA suggests that if the manufacturer contemplates making any changes the effects of which might be characterized as *de minimis*, it should consult the agency before preparing and submitting a petition to modify.

Authority: 49 CFR 1.95

Raymond R. Posten,
Associate Administrator for Rulemaking.

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