



**DEPARTMENT OF TRANSPORTATION**

**National Highway Traffic Safety Administration**

**Petition for Exemption From the**

**Vehicle Theft Prevention Standard;**

**Mercedes-Benz Usa, LLC**

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

**ACTION:** Grant of petition for exemption.

**SUMMARY:** This document grants in full the Mercedes-Benz USA, LLC's (MBUSA) petition for an exemption of the smart Line Chassis vehicle line in accordance with 49 CFR part 543, *Exemption from Vehicle 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 49 CFR part 541, *Federal Motor Vehicle Theft Prevention Standard* (Theft Prevention Standard).

**DATES:** The exemption granted by this notice is effective beginning with the 2016 model year (MY).

**FOR FURTHER INFORMATION CONTACT:** Ms. Deborah Mazyck, Office of International Policy, Fuel Economy, and Consumer Programs, NHTSA, W43-443, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. Ms. Mazyck's phone number is (202) 366-4139. Her fax number is (202) 493-2990.

**SUPPLEMENTARY INFORMATION:** In a petition dated December 17, 2014, MBUSA requested an exemption from the parts-marking requirements of the Theft Prevention Standard for the Mercedes-Benz smart Line Chassis vehicle line beginning with MY 2016. 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, MBUSA provided a detailed description and diagram of the identity, design, and location of the components of the antitheft device for the smart Line Chassis vehicle line which includes the smart fortwo vehicle. MBUSA stated that its MY 2016 smart Line Chassis vehicle line will be equipped with its passive, transponder-based ignition immobilizer (FBS III/FBS IV) antitheft device and an access code-protected locking system as standard equipment. Key components of the immobilizer antitheft device will include the immobilizer, transmitter key, electronic ignition starter switch control unit (EIS), the body control module (ECM), and the engine control module (ECU). MBUSA stated that its immobilizer device is an interlinked system of control units which collectively perform the immobilizer function. The interlinked system includes the engine, EIS, transmitter key, ECU and ECM (including the fuel injection system) which independently calculates and matches a unique code. MBUSA stated that it is impossible to read the code from the vehicle in order to defeat the system. If a relevant query from the vehicle to the transmitter key is valid, operation of the vehicle will be authorized. MBUSA further stated that it will offer an audible and visible alarm system as optional equipment on the line to detect unauthorized vehicle entry. MBUSA'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.

MBUSA stated that the antitheft device is deactivated when the transmitter key has been inserted in the EIS and energy is transferred to the key to verify drive authorization. Verification of the correct key is transmitted over an infrared link between the key and the EIS. If the authentication check has recognized the correct key, the EIS will allow the key to be turned to the “Start Engine” position. MBUSA stated that when the key then reaches the “Ignition on” position, the authentication sequence in the ECM and ECU will start. The ECM then receives authorization from the EIS following authentication verification. MBUSA further stated that if the values from the authentication are identical, the ECM will authorize the start and operation of the vehicle will be allowed. Activation of the device occurs automatically when the key is removed from the ignition switch. Once activated, only a valid key with the correct code inserted into the ignition switch will disable immobilization and allow the vehicle to start and operate. MBUSA further stated that no other action by the operator other than turning the key is required to activate or deactivate the immobilizer.

In its submission, MBUSA stated that a locking/unlocking feature is also incorporated into the device. An encoded data exchange between the transmitter key and the vehicle’s central controller for the lock/unlock feature (ECM) is carried out by radio signal. When an unlocking signal from the remote key sends a permanent and rolling code message to the vehicle's central ECU, the device will compare the permanent code with the stored code in the ECM. If the permanent codes match, the rolling codes are then compared. MBUSA stated that if both codes match, the locking system will unlock the doors, tailgate and fuel filler cover.

In addressing the specific content requirements of §543.6, MBUSA provided information on the reliability and durability of its proposed device. To ensure reliability and durability of the device, MBUSA conducted tests based on its own specified standards. MBUSA provided a detailed list of the tests conducted and believes that the device is reliable and durable since it complied with its own specified requirements for each test. MBUSA also conducted performance tests based on the Economic Commission for Europe's (ECE) specified standards. MBUSA provided a detailed list of the tests conducted and believes that the immobilizer device offered on the smart Line Chassis vehicle line is reliable and durable because the device complied with the specified requirements for each test.

MBUSA also stated that it believes that the immobilizer device offered on the smart Line Chassis vehicle line will be at least as effective as compliance with the parts-marking requirements of the theft prevention standard and as effective in deterring theft as it has been on other MBUSA vehicle lines that have been equipped with an antitheft device, as demonstrated by the low theft rate history of MBUSA vehicles. MBUSA stated that its proposed device is also functionally equivalent to the antitheft devices installed on the Mercedes-Benz S-Class, E-Class, C-Class, SLK-Class, SL-Class and NGCC Chassis vehicles, which the agency has exempted from the parts-marking requirements beginning with MYs 2006, 2007, 2008, 2009, 2011, and 2014 respectively. MBUSA also referenced theft rate data published by the agency comparing its proposed device to antitheft devices already installed in the BMW MINI, Honda Fit and Toyota Scion xB vehicle lines. MBUSA stated that theft data published by the agency show that the average theft rate for the BMW MINI Cooper with an immobilizer device was 0.4422 in MY /CY 2010 and 0.3413 in MY/CY 2012. MBUSA also referenced theft rate data published by the agency for the Honda Fit and Toyota Scion xB vehicle lines (with immobilizers) which showed a

theft rate of 0.3118 and 0.2167 (MY/CYs 2011 and 2012) for the Honda Fit and 1.1553 and 0.5110 (MY/CYs 2011 and 2012) for the Toyota Scion xB respectively. MBUSA stated that it believes that this data also indicates that the immobilizer device was effective in contributing to an average reduction of 22.8%, 30.5%, and 47.7% reduction in the theft rate of the BMW MINI Cooper, Honda Fit and Toyota Scion xB, respectively. MBUSA also stated it believes that the data indicates the immobilizer device was effective in contributing to an average reduction of 29.9% in the theft rate for the SL-Line Chassis when theft rates for the vehicle line dropped from 1.4170 (CY 2005) to 1.0460 (CY 2007).

Based on the supporting evidence submitted by MBUSA on its device, the agency believes that the device is substantially similar to devices installed in other vehicle lines for which the agency has already granted exemptions and that the antitheft device for the smart Line Chassis 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).

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 substantial 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 MBUSA has provided adequate reasons for its belief that the antitheft device for the MBUSA smart 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 MBUSA provided about its antitheft device.

The agency concludes that the device will provide four of the five types of performance listed in §543.6(a)(3): promoting activation; 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.

For the foregoing reasons, the agency hereby grants in full MBUSA's petition for exemption for the MBUSA smart Line Chassis 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 part 543.7(f) contains publication requirements incident 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 MBUSA decides not to use the exemption for this line, it must formally notify the agency. If such a decision is made, the line must be fully marked according to the requirements under 49 CFR parts 541.5 and 541.6 (marking of major component parts and replacement parts).

NHTSA notes that if MBUSA 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. Part 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, Part 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 Part 543.9(c)(2) could place on exempted vehicle manufacturers and itself. The agency did not intend in drafting 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.

Under authority delegated in 49 CFR part 1.95.

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**Raymond R. Posten,**  
Associate Administrator for  
Rulemaking.

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