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UNITED STATES COPYRIGHT OFFICE

**Comment of Association of Global Automakers, Inc.
Regarding Exemption for Proposed Class 21 From Liability Under 17 U.S.C. 1201**
Docket No. 2014-07

Submitted by

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Association of Global Automakers, Inc.

The Association of Global Automakers represents international motor vehicle manufacturers, original equipment suppliers, and other automotive-related trade associations. Our members include: American Honda Motor Co., Aston Martin Lagonda of North America, Inc., Ferrari North America, Inc., Hyundai Motor America, Isuzu Motors America, Inc., Kia Motors America, Inc., Maserati North America, Inc., McLaren Automotive Ltd., Nissan North America, Inc., Subaru of America, Inc., Suzuki Motor of America, Inc., Toyota Motor North America, Inc., ADVICS North America, Inc., Delphi Corporation, Denso International America, Inc., Robert Bosch Corporation and Sirius XM Radio, Inc. We work with industry leaders, legislators, and regulators in the United States to create public policies that improve motor vehicle safety, encourage technological innovation, and protect our planet. Our goal is to foster an open and competitive automotive marketplace that encourages investment, job growth, and development of vehicles that can enhance Americans' quality of life. For more information, visit www.globalautomakers.org.

The Association of Global Automakers respectfully asks the Librarian of Congress not to exempt the following class of works from the prohibition on circumvention of technological protection measures under 17 U.S.C. § 1201(a)(1):

Proposed Class 21: (Vehicle Software – diagnosis, repair, or modification) Computer programs that control the functioning of a motorized land vehicle, including personal automobiles, commercial motor vehicles, and agricultural machinery, for purposes of lawful diagnosis and repair, or aftermarket personalization, modification, or other improvement.

I. Overview

As part of the sixth triennial rulemaking proceeding under the Digital Millennium Copyright Act (“DMCA”), the United States Copyright Office (“Copyright Office”) requests comment on the proposal that persons who circumvent technological protection measures that control access to vehicle software be exempt from liability under Section 1201(a)(1), so long as that circumvention furthers the “diagnosis and repair, or aftermarket personalization, modification, or other improvement” of the vehicle. The proposed exemption should be denied for the reasons set forth more fully below, all of which essentially stem from the fact that automotive software is unlike any other copyrighted work subject to such a proposed exemption. Modern automobiles are run by software comprised of millions of lines of code, controlling complex systems that are interdependent - from crash avoidance systems to vehicle exhaust. Permitting unauthorized access for purposes of modification of the software, is likely to have uniquely long-lasting and far-reaching, harmful effects. Accordingly, Global Automakers respectfully submits that automotive software (and those who gain unauthorized access to it) should not receive special treatment under Section 1201(a)(1).

Restricting access to automotive software benefits the public by ensuring that the automobiles on our streets comply with the many regulatory standards governing motor vehicles, including those addressing safety, security, and environmental wellness. Restricting access to automotive software also allows automobile manufacturers and suppliers to protect their valuable copyrights and encourages them to continuously invest in new and innovative software to improve automotive safety, security, and environmental functions.

Proponents of the exemption have not justified the loss of these public benefits and have failed to carry their burden to prove that the proposed uses are non-infringing. The unauthorized modification of or “tinkering” with automotive software is not fair use under 17 U.S.C. § 107, nor is it “repair” or “maintenance” under 17 U.S.C. § 117. On the contrary, unauthorized “tinkering” with automotive software, is a violation of automotive software owners’ exclusive rights under 17 U.S.C. § 106. These owners should be free to use all legal and technological precautions available to prevent infringement. Otherwise, we put at significant risk the public benefits described above, including the safety, security, and environmental standards achieved through vehicle software.

Automobile manufacturers are not adverse to external input, but are justifiably hesitant to risk public safety, security, and environmental wellness without quality controls and oversight. Because automobile manufacturers already provide motor vehicle owners and the independent repair community with the same access to diagnostic and repair information as new motor vehicle franchise dealers, this risk is not only unnecessary, it is imprudent. The proposed exemption would undo the existing infrastructure through which this information is shared, eliminating quality controls for automobile manufacturers and upending the foundation of the robust automobile repair market.

In short, the Librarian of Congress should not exempt Proposed Class 21 from liability under Section 1201(a)(1), as doing so unnecessarily and imprudently risks the safety and security of the public and the environment and threatens the vitality of a robust market.

II. Restricting Access to Automotive Software Benefits the Public

Modern automobiles are typically comprised of a series of Electronic Control Units (ECUs) that are connected through a Control Area Network (CAN) to monitor and control the functionality of vehicle systems. These systems contain millions of lines of code designed to ensure that the vehicle functions as intended. Given the interdependence between software modules that exist in the various ECUs, a change in one part of the system may result in entirely unknown or unintended consequences in another. For example, crash avoidance systems such as crash imminent braking, or lane keeping assist rely on data from vehicle sensors as well as data from other ECUs to determine appropriate braking force for reducing the severity or occurrence of a crash. In addition, the calibrations for the individual ECUs are vehicle-specific. Because calibration factors several unique automotive properties, specific to each vehicle, the process demands in-depth product knowledge. Any modifications that are made by parties other than the appropriate internal engineers, using the specific calibrations equipment, could negatively affect the vehicle and/or its operation. The proper functioning of these systems is critical to public safety and security, as well as environmental wellness. In short, these systems are integral to a modern automobile's compliance with the many standards and regulations protecting the public and the environment.

From the latches on hoods¹ to the exhaust emitted through tailpipes,² automobiles and, in turn, automobile manufacturers are subject to a host of rules, regulations, and standards. Because automotive software is crucial to functions bumper-to-bumper, including regulated functions, automobile manufacturers invest a great deal of authorship and financial resources in the efficacy and reliability of automotive software. Their reputations – indeed, their livelihoods – depend on it.

In order to secure continued regulatory compliance and protect investments, some automobile manufacturers restrict access to automotive software, and the underlying source code, to only those vetted and authorized licensees who are contractually bound to comply with quality controls and permit oversight. Indeed, the Clean Air Act specifically recognizes the threat to public welfare resulting from unauthorized modifications by prohibiting tampering with any automotive device in an automobile for sale that is designed to maintain compliance with emissions standards.³ These sorts of restrictions on “tinkering” ultimately benefit vehicle owners and the public by ensuring that automobiles continue to comply with safety and security regulations and standards. By limiting access to qualified licensees, automobile manufacturers protect the public and the environment, as well as their reputations, by certifying compliance and fostering an environment where course-correction, error protection, and updating can be carried out in a reasonably defined environment, unclouded by unauthorized third party code.

¹ Federal Motor Vehicle Safety Standard (FMVSS) No. 113.

² *Control of Air Pollution From Motor Vehicles: Emission and Fuel Standards*, 79 Fed. Reg. 23,414 (April 28, 2014).

³ 42 U.S.C. § 7522(a)(3).

III. The Proposed Exemption Promotes Infringement, Not Non-Infringing Uses

Proponents bear the burden of establishing the need for the proposed exemption.⁴ Accordingly, they must show, by a “preponderance of the evidence,”⁵ that “the proposed use is likely to qualify as noninfringing under relevant law.”⁶ Proponents of exempting Proposed Class 21 from liability under Section 1201(a)(1) proffer that uses of automotive software “for purposes of lawful diagnosis and repair, or aftermarket personalization, modification, or other improvement” are both fair uses under Section 107⁷ and noninfringing uses of computer programs under Section 117.⁸ The proposed uses, however, are neither noninfringing fair uses under Section 107 nor noninfringing under Section 117. They are, instead, infringements of the exclusive rights granted to copyright owners under Section 106.

A. *The Proposed Uses are not Fair Uses Under Section 107*

Section 107 provides that certain uses of copyrighted content, namely, “fair uses,” do not infringe the exclusive rights of copyright owners. The statute illustrates fair use with a few examples, including “criticism, comment, news reporting, teaching [...], scholarship, or research,” and sets forth four nonexclusive considerations for determining whether a use is fair.⁹ The proposed uses are not one of Congress’ illustrative examples, nor do the four factors support a claim of fair use, as discussed below.

Purpose and Nature of Proposed Uses

The purpose and character of the proposed uses are to personalize the copyrighted content with unauthorized modifications, hardly a compelling public interest given the purposes and uses typically considered fair under Section 107. Those seeking to circumvent technological protection measures to modify automotive software have not proposed that the modifications will shift the software to a new platform,¹⁰ create a wholly new product¹¹ or a parody,¹² change the viewpoint,¹³ or transform the role, in any way, of automotive software. Rather, proponents contend that modifying automotive software is fair use simply because it alters (highly regulated) automotive functions. The modification of automotive software in this vein – to the potential detriment of public safety and security – is neither of the purpose nor of the character contemplated by the first fair use factor in Section 107.

⁴ *Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies*, Notice of Inquiry, 79 Fed. Reg. 55,687, 55,689 (Sept. 17, 2014) (“Those who seek an exemption from the prohibition on circumvention bear the burden of establishing that the requirements for granting an exemption have been satisfied.”)

⁵ *Id.*

⁶ *Id.*, at 55,690.

⁷ *See, e.g.*, Petition of Electronic Frontier Foundation, In the matter of Exemption to Prohibition of Copyright Protection Systems for Access Control Technologies, Docket 2014-07, pp. 3-5.

⁸ *See, e.g.*, Petition of Electronic Frontier Foundation, In the matter of Exemption to Prohibition of Copyright Protection Systems for Access Control Technologies, Docket 2014-07, p. 5.

⁹ 17 U.S.C. § 107.

¹⁰ *See, e.g.*, *Sony Computer Entertainment, Inc. v. Connectix Corp.*, 203 F.3d 596 (9th Cir. 2000)

¹¹ *See, e.g.*, *Sega Enters. Ltd. v. Accolade, Inc.* 977 F.2d 1510 (9th Cir.1992).

¹² *See, e.g.*, *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994).

¹³ *See, e.g.*, *Castle Rock Entertainment Inc. v. Carol Publishing Group*, 150 F.3d 132 (2d Cir. 1998).

Nature of Copyrightable Work

Automotive software is, by nature, copyrightable content. The mere fact that automotive software has practical uses does not negate automobile manufacturers' and suppliers' rights to protect access to, or to prevent others from using that content.¹⁴ As copyright owners, automobile manufacturers are not unlike other owners of different categories of copyright works, and must not be assailed for seeking to protect competitive advantages arising from those works.

Amount and Substantiality of the Portion Copied

The proposed uses copy the bulk, if not the entirety, of the copyrighted work. In order to modify automotive software for the purpose of “diagnosis and repair, or aftermarket personalization, modification, or other improvement,”¹⁵ the modifier must use a substantial amount of the copyrighted software – *copying* the software is at issue after all, not wholly *replacing* it. Because the “heart,” if not the entirety, of the copyrighted work will remain in the modified copy, the amount and substantiality of the portion copied strongly indicates that the proposed uses are not fair.¹⁶

Impact on Marketplace for Copied Work

Automobile manufacturers actively participate in the robust market for diagnosing and repairing automobiles and automotive software. They directly provide these services through an independent network of dealerships and authorized service providers, and they license their intellectual properties, including copyrights, to enable others to perform these services. Declaring the proposed uses fair uses would entirely damage and disrupt this market. Inexperienced service providers would enter the market without nearly the investments of current players, all without being subject to the requirements of existing agreements. Because of the substantial threat to existing markets, the fourth fair use factor also indicates that the proposed uses are not fair.¹⁷

B. *The Proposed Uses are not Noninfringing Under Section 117*

Section 117 provides specific exceptions to the exclusive rights of software copyright owners. Specifically, the owner of a copy of a software program is permitted to copy or adapt that program if the new copy or adaptation is an “essential step” in the utilization of the program in conjunction with a machine.¹⁸ The Section further provides that it is not infringement to copy a software program for purposes of maintenance or repair of a machine, if that machine contains an authorized copy of that program and the copy is made “solely by virtue of the activation” of

¹⁴ See, e.g., *Nuñez v. Caribbean International News, Corp.*, 235 F.3d 18, 23 (1st Cir. 2000) (“[T]he impact of ... creativity on the fair use finding is neutral.”)

¹⁵ *Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies*, Notice of Proposed Rulemaking, 79 Fed. Reg. 73,856, 73,869 (Dec. 12, 2014).

¹⁶ See, e.g., *Harper & Row v. Nation Enterprises*, 471 U.S. 539 (1985) (holding that a substantial portion of a work was copied because the copied excerpt was the “heart” of the work).

¹⁷ See, e.g., *American Geophysical Union v. Texaco, Inc.*, 60 F.3d 913 (2d Cir. 1995) (holding that photocopying for internal business use was not a fair use because the photocopying deprived the copyright owner of potential licensing revenue).

¹⁸ 17 U.S.C. § 117(a).

the machine¹⁹ – where “maintenance” and “repair” are defined as the servicing or restoring of the machine to “work in accordance with its original specifications.”²⁰ The proposed uses do not qualify for any of these exemptions.

Copying, modifying, and personalizing automotive software are not essential steps to using an automobile. Automotive software, as installed and updated by the manufacturer, allows not only for the optimized utilization of the automobile, but for the efficient and measurable compliance with public safety and security standards. Nor do the proposed uses qualify as “maintenance” or “repair” under Section 117(d). The aim presented by proponents of the exemption, is “to improve or alter the performance of their vehicles”²¹—i.e., to change the (highly regulated) specifications of the vehicle. Section 117(d), however, limits “maintenance” and “repair” to those activities aimed at servicing or restoring the automobile to “work in accordance with its original specifications.”²² Even if the copies were made “solely by virtue of the activation” of the automobile, modifying vehicle software goes far beyond the activities authorized under Section 117.

IV. The Proposed Exemption Would Harm the Public, the Environment, and Auto Repair Markets

The proposed exemption risks public safety, public security, environmental wellness, and threatens to unravel the legal and fiscal infrastructure of existing automobile repair markets. As discussed in Section II hereof, the automobile industry is highly regulated. Automobile manufacturers make every effort to ensure that their automobiles comply with or exceed all applicable standards and regulations – their reputations and livelihoods depend on it.

A. Automotive Software Systems are Interdependent

As previously noted, modern automobiles are comprised of millions of lines of code. Given the interdependence between software modules that exist in the various ECUs, a change in one part of the system may result in entirely unknown or unintended consequences in another. Manufacturers rigorously test the way in which inputs and outputs are communicated across the vehicle network to ensure that the overall system performs as intended. A modification to the system however, could result in an undesired outcome, particularly if, for example, an ECU that controls vehicle Electronic Stability Control is relying on inputs from several software modules to determine the necessary action or output. Another example is the air bag system, which cannot be personalized or otherwise accessed to change its function without compromising safety. Even a well-meaning change by an owner or service provider could have significant consequences, up to and including the potential to create safety and emission non-compliance.

¹⁹ 17 U.S.C. § 117(c).

²⁰ 17 U.S.C. § 117(d).

²¹ Petition of Electronic Frontier Foundation, In the matter of Exemption to Prohibition of Copyright Protection Systems for Access Control Technologies, Docket 2014-07, p. 3.

²² 17 U.S.C. § 117(d).

B. Unilateral Modifications Would Frustrate Software Updates

A manufacturer may periodically update vehicle software to ensure regulatory compliance or improve system performance and security. Such software updates are designed and tested based on the preexisting software configurations and it is not practical for a manufacturer to determine the effect of a software update on a modified system. The only potential solution to this is for the manufacture to reset the vehicle to original factory settings every time that a software update is applied, creating significant inconvenience and cost.

C. Tampering with Automotive Software Creates Real Dangers

Simply put, permitting unrestricted modification to this software risks the continued regulatory compliance of automobiles. Consider the owner who modifies the fuel injection system only to incidentally create a potential software malfunction that undermines critical systems, such as braking and acceleration. Or, consider tampering with security lock software that, during an emergency, delays critical access to passengers in distress. Without quality controls governing the proposed modifications and personalization, those modifying the vehicle will be free to alter performance at the expense of others – sacrificing safety for horsepower or the environment for speed. This not only puts public safety and security at risk, but it uniquely risks the reputations of automobile manufacturers, who are likely to be mistakenly associated with any harms arising from unauthorized modifications and personalization.

D. The Relevant Information is Already Safely Available

Risking public safety and security, as well as environmental wellness, is unnecessary and imprudent. Automobile manufacturers already provide motor vehicle owners and independent repair facilities with the same access to diagnostic and repair information as franchise dealers. In fact, this commitment was memorialized in a Memorandum of Understanding executed on January 15, 2014.²³ Automobile manufacturers have committed to providing access, beginning no later than model year 2018 (which starts on 1/2/2017) to their electronic on board diagnostics and repair systems, through a non-proprietary vehicle communications interface such as Ethernet or USB, using an “off-the-shelf” personal computer.²⁴ In short, the information necessary to permit the diagnosis and repair of automobiles is widely available and the sharing of such information is the backbone to a robust repair market. The proposed exemption would entirely disrupt this market, undermining the investments of existing facilities by allowing new entrants at little to no cost. To wit, this is only one of many markets likely to be upended if the Copyright Office adopts the proposed exemption.

E. Adverse Impact on Warranties and Downstream Purchasers

Consider how modifications to automotive software would impact downstream purchasers, many of whom would be unaware of these modifications and unaware of the aforementioned safety and security risks. Second and third owners would unknowingly risk the safety and security of

²³ See, e.g., *Prolonged ‘Right to Repair’ Debate Concludes with Powerful National Agreement*, Global Automakers (January 22, 2014), <http://www.globalautomakers.org/media/press-release/automakers-and-aftermarket-move-to-preserve-consumer-choice-in-auto-repair>.

²⁴ Id.

themselves and their passengers. In the event of an issue, these downstream purchasers would go to automobile manufacturers for help, pointing to the warranties on these vehicles for relief. Automobile manufacturers typically warrant proper automotive function for significant periods, with emissions and safety warranties often lasting for the useful life of the vehicle. Modifications to vehicle systems could void these warranties if the changes resulted in damage to the vehicle or its component parts. In addition, without the proper or controlled validations procedures, these modifications would violate the integrity and intent of the supplier and automaker's original design. The proposed exemption exposes automobile manufacturers to significant risk under these warranties and gambles with the value of used automobiles to downstream purchasers.

F. Adverse Impact on Products Liability and Insurance

Consider as well the role that consistency of automotive software plays in determining the cause of automobile malfunctions, liability for claims arising from them, and the impact on automobile insurance, where predictability and causal determinations impact both premiums and coverage. Following a vehicle collision, manufacturers routinely analyze post-crash data, both to determine the factors contributing to a crash and to improve vehicle safety. If unauthorized, uncontrolled third party changes to the vehicle software were made to the vehicles, it is much more challenging to ascertain what factors may have affected crash outcome. While it may be possible to simulate the performance of a known system, without specific details of the modification and affect it had on the vehicle systems, it may be practically impossible to determine the root cause of the collision. With less knowledge of the causes of automobile accidents, automobile manufacturers will have a decreased ability to prospectively prevent them. This is yet another way the proposed exemption threatens public safety, but also a reason why the proposed exemption threatens to disrupt existing insurance markets. In short, the proposed exemption will undo many existing markets and may even cause the demise of some.

G. Contrary to the Fundamental Aim of Copyright Law

The proposed exemption also frustrates the fundamental aim of copyright law in the United States: "To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."²⁵ Relying on these longstanding exclusive copyrights, automobile manufacturers and third party developers constantly compete with each other to improve the efficacy and reliability of automotive software. The Copyright Office should continue to promote progress, invention, and innovations in the automobile industry by continuing to allow automobile manufacturers to protect their valuable investments in automotive software. Doing so reinforces motivations to continually improve the safety, security, and efficiency of our automobiles.

As should be clear, the proposed exemption leads to an imbalance by which the negative consequences far outweigh any suggested benefits associated with providing an exemption to allow modifications to vehicle software and, in the worst cases, leads to disastrous consequences. Risking public safety, security, environmental wellness, and a thriving market, the exemption minimally increases the accessibility of what is already widely available. It is an imprudent risk for little gain.

²⁵ U.S. Const. art. I, § 8, cl. 8.

V. Conclusion

For the reasons set forth above, the Association of Global Automakers, Inc. respectfully asks the Librarian of Congress not to exempt Proposed Class 21 from the prohibition on circumvention of technological protection measures under 17 U.S.C. § 1201(a)(1).