HONDA
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April 8, 2022

Dr. Steven Cliff
Deputy Administrator
National Highway Traffic Safety Administration
West Building, Ground Floor, Room W12-140
1200 New Jersey Avenue SE, Washington, DC 20590

Re: Docket No. NHTSA-2022-0090
Federal Register: 87 FR 9916 (February 22, 2022)
Final Rule
FMVSS No. 108: Adaptive Driving Beam Headlamps (ADB)

Dear Deputy Administrator Cliff:

Enclosed are the comments of American Honda Motor Co., Inc. regarding the above referenced docket and Federal Register notice.

We thank you for this opportunity to provide our comments. If you have any questions, require additional data or further clarification, please contact us at your earliest convenience.

Sincerely,

American Honda Motor Co., Inc.

Jeff Chang
Senior Manager
Product Regulatory Office

JET:dl

American Honda Motor, Co., Inc.

Comments and Petition for Reconsideration

FMVSS 108 Final Rule – Adaptive Driving Beam (ADB)

[Docket No. NHTSA-2022-0013]

[Federal Register: 87 FR 9916 (February 22, 2022)]

[Submitted April 8, 2022]

Introduction

Honda appreciates this opportunity to comment on NHTSA's final rule to amend FMVSS No. 108 to permit the certification of Adaptive Driving Beam (ADB) headlighting systems. We applaud the changes that the agency has adopted in the final rule in regard to the vehicle-level track test, component-level lab test, and other system requirements. Honda fully agrees that these changes made in response to the NPRM comments strike a much more appropriate balance between effectiveness and practicality, bring appropriate harmonization with SAE J3069, and still meet the safety need. These changes will greatly enhance the introduction of ADB technology into the U.S. market which will lead to a considerable reduction in fatalities and injuries associated with crashes involving pedestrians, cyclists, animals, and roadside objects.

Honda also recognizes that there are opportunities to update the final rule to further enable the introduction of ADB in the U.S. Honda supports the petition for reconsideration submitted by the Alliance for Automotive Innovation, especially the need to provide additional allowances for the transition zone between areas of reduced intensity and areas of unreduced intensity. In addition, this document petitions NHTSA to reconsider the final rule requirements regarding allowance of ADB on motorcycles.

Photometry Requirements for Motorcycles (Lab Photometry Tests)

We understand that NHTSA's final rule amends FMVSS No.108 to permit certification of ADB systems on motorcycles by the modification of Table I-c. However, the base photometry requirements specified in S9.4.1.6.4.3 and S9.4.1.6.4.4 refer only to that for car headlamps (Table XIX for lower beams, Table XVIII for upper beams) and do not contain that for motorcycle-specific headlamps (Table XX for both lower and upper beams).

Currently in FMVSS No. 108, motorcycles have the option to apply the motorcycle-specific headlamp photometry requirements as specified in Table XX under S10.17(b). Honda understands NHTSA's intent as stated throughout the final rule to maintain the existing headlamp photometry requirements when incorporating new requirements for ADB. As such, we believe that the inclusion of motorcycle photometry requirements in

Table XX as an alternative in S9.4.1.6.4.3 and S9.4.1.6.4.4 is consistent with the agency's intent. In the absence of this allowance, this inconsistency would require that car headlamp photometry requirements would need to be applied to motorcycle headlamps (i.e. to apply S10.17(a) and Table XIX/XVIII). This inconsistency will drive unwarranted design changes and eliminate harmonization with the longstanding requirements currently under S10.17(b) and Table XX.

Honda supports the longstanding motorcycle photometry requirements as established in Table XX, which provides important flexibilities for a symmetrical pattern lower beam. We continue to agree with historical research indicating that such beam patterns help address the inherently complex issue of motorcycle lighting performance on curves due to distortion from roll and steer angles – symmetric low beam patterns can provide superior performance on road-edge targets when cornering.[1] In regard to motorcycle ADB, the allowance of symmetric beam patterns in the photometry requirements will also avoid unnecessary challenges for limiting glare to other motorists on curves.

As such, we believe that the ADB final rule should be reconsidered to maintain the longstanding motorcycle photometry requirements in Table XX, without compromising the safety needs and intent of this rulemaking to permit ADB. Honda proposes the regulatory text be **modified** in the following sections to appropriately align the new ADB requirements with the photometry requirements currently allowed for motorcycle headlamps:

> *S9.4.1.6.4.3 In an area of reduced intensity, the adaptive driving beams must be designed to conform to the photometric intensity requirements of Table XIX as specified in Table II for the specific headlamp unit and aiming method,* ***or to the lower beam photometric intensity requirements of Table XX in the case of motorcycle application according to S10.17 (b)****, when tested according to the procedure of S14.2.5, and, for replaceable bulb headlighting systems, when using any replaceable light source designated for use in the system.*
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> *S9.4.1.6.4.4 In an area of unreduced intensity, the adaptive driving beams must be designed to conform to the photometric intensity requirements of Table XVIII as specified in Table II for the specific headlamp unit and aiming method,* ***or to the upper beam photometric intensity requirements of Table XX in the case of motorcycle application according to S10.17 (b)****, when tested according to the procedure of S14.2.5, and, for replaceable bulb headlighting systems, when using any replaceable light source designated for use in the system.*
>
> *S9.4.1.6.4.5 A transition zone not to exceed 1.0 degree in either the horizontal or vertical direction is permitted between an area of reduced intensity and an area of unreduced intensity. The Table XVIII,* ~~***and***~~ *Table XIX* ***and Table XX*** *photometric intensity*

[1] Olson, P.L., and Abrams, R.A. (1982, May). Improved Motorcycle and Moped Headlamps (Report No. DOT HS 806 376). Washington, DC: National Highway Traffic Safety Administration.

*requirements do not apply in a transition zone, except that the maximum at H–V in Table XVIII as specified in Table II for the specific headlamp unit and aiming method**, or the maximum at anywhere in the beam as specified in Table XX in the case of motorcycle application according to S10.17 (b),** may not be exceeded at any point in a transition zone.*