

Proposal for amendments to Regulation No. 78 (Motorcycle braking)

Submitted by the expert from the International Motorcycle Manufacturers Association

The text reproduced below was prepared by the experts from International Motorcycle Manufacturers Association (IMMA), aiming to introduce activation of stop lamps under more conditions than application of the service brake only (e.g. also by regenerative braking) into Regulation No. 78. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters

I. Proposal

Insert a new paragraph 2.31., to read:

"2.31. **"Braking Signal"** means a logic signal indicating when illumination of the stop lamp is required or allowed as specified in paragraph 5.1.17 of this Regulation ".

Insert a new paragraph 2.32., to read:

"2.32. **"Electric Regenerative Braking System"** means a braking system which, during deceleration, provides for the conversion of vehicle kinetic energy into electrical energy and is not part of the service braking system."

Insert a new paragraph 5.1.17. and its sub-paragraphs., to read:

"5.1.17. ~~For vehicle category L, g~~ **Generation and de-activation of the braking signal to illuminate stop lamp(s) as defined in Regulation no. 53 shall only be under the following conditions:**

5.1.17.1. **Application of any service brake by the rider shall generate a braking signal that will be used to illuminate the stop lamps.**

5.1.17.2. **In addition, in case of vehicles powered solely by electric powertrain equipped with electric regenerative braking systems as defined in paragraph 2.32. of this regulation, which produces a retarding force upon release of the accelerator control, the braking signal shall be generated also according to the following provisions:**

<i>Vehicle decelerations</i>	<i>Signal generation</i>
$\leq 0.7 \text{ m/s}^2$	The signal shall not be generated
$>0.7 \text{ m/s}^2$ and $\leq 1.3 \text{ m/s}^2$	The signal may be generated
$> 1.3 \text{ m/s}^2$	The signal shall be generated

II. Justification

1. The above proposal is an improved version of document GRRF-86-35, which was presented at the February 2018 GRRF session, taking into account the comments raised.
2. The proposal aims to introduce activation of stop lamps under more conditions than the application of the service brake only (e.g. also by regenerative braking) into Regulation No. 78.
3. Regulation No. 53 currently allows for the activation of the stop lamp by application of the brakes only. As already presented at the Working Party on Lighting and Light-Signalling (GRE) (see ECE/TRANS/WP29/GRE/2018/25), IMMA is proposing to introduce activation of stop lamps under more conditions than the application of the service brake only, e.g. also by regenerative braking. As noted in the report of seventy-fourth session of GRE, see ECE/TRANS/WP29/GRE/74, para. 30: "the proposal might need to be accompanied by a modification of Regulation No. 78 under GRRF." Such proposal was meanwhile accepted by GRE.
4. IMMA has thus prepared also the correspondent proposal for Regulation No. 78, which is herewith being submitted to GRVA.
5. Amendments of the stop lamp installation requirements in Regulation No. 53 lead to amendments of the stop lamp activation criteria in Regulation No. 78, which are proposed here above.
6. The deceleration criteria in para. 5.1.17.2. were taken from the criteria established in Regulation No. 13-H, para. 5.2.22.4, to provide consistent behavior of stop lamp illumination as other road users.

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