



Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Automated/Autonomous and Connected Vehicles****Eleventh session**

Geneva, 27 September - 1 October 2021

Item 9 (b) of the provisional agenda

Motorcycle braking: UN Regulation No. 78**Proposal for a new Supplement to the 05 series of amendments to UN Regulation No. 78 (Motorcycle braking)****Submitted by the expert from the International Motorcycle Manufacturers Association***

The text reproduced below was prepared by the expert from International Motorcycle Manufacturers Association (IMMA) with the aim to align UN Regulation No. 78 with the latest amendments to UN Regulation No. 13-H regarding the deceleration thresholds for the activation of the stop lamp(s) under regenerative braking, adopted by the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) at its seventh session. It is based on informal document GRVA-10-11. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

I. Proposal

Paragraph 5.1.17.2., amend to read:

"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 ⁴:

* In accordance with the programme of work of the Inland Transport Committee for 2021 as outlined in proposed programme budget for 2021 (A/75/6 (Sect.20), para 20.51), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



<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

In all cases the signal shall be de-activated at the latest when the deceleration has fallen below 0.7 m/s^2 .*

* At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer

Once generated the signal shall be kept as long as a deceleration demand persists. However, the signal may be suppressed at standstill.

An appropriate measure (e.g. switch-of-hysteresis, averaging, time delay) shall be implemented in order to avoid fast changes of the signal resulting in flickering of the stop lamps.

⁴ At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer."

Insert a new paragraph 5.1.17.3., to read:

"5.1.17.3. The signal shall not be generated when retardation is solely produced by the natural braking effect of the engine, air-/rolling resistance and/or road slope."

II. Justification

1. The objective of this proposal is to keep the alignment of UN Regulation No. 78 with the latest amendment to UN Regulation No. 13-H regarding the deceleration thresholds for the activation of the stop lamp(s) under regenerative braking, as presented by IMMA during the tenth session of GRVA with document GRVA-10-11.
2. UN Regulation No. 78 currently contains provisions to generate the signal for the stop lamp activation under regenerative braking for vehicles of Category L. The deceleration thresholds in UN Regulation No. 78 are aligned with those in the current version of UN Regulation No. 13-H, which ensures consistent stop lamp behavior across different vehicle categories and therefore avoids confusing road users driving behind a braking vehicle, regardless of its category.
3. In December 2020, GRVA adopted a proposal by the International Organization of Motor Vehicle Manufacturers (OICA) and the European Association of Automotive Suppliers (CLEPA) modifying the provisions for the generation of a braking signal to illuminate stop lamps in UN Regulation No. 13-H (ECE/TRANS/WP.29/GRVA/2020/31), to ensure that the stop lamp illumination reflects the intention to decelerate, independently from the type of propulsion. For that purpose, the requirement to deactivate the stop lamp signal when deceleration falls below 0.7 m/s^2 under regenerative braking was removed. For the sake of consistency, IMMA proposes to align the deceleration thresholds in UN Regulation No. 78 accordingly.