

REGULATIONS Nos. 13 AND 13-H
(Braking)Emergency Stop SignalProposal for amendments to Regulation No. 13Submitted by the expert from the International Organization of Motor Vehicle Manufacturers

The text reproduced below was prepared by the expert from the International Organization of Motor Vehicle Manufacturers (OICA) in order to improve the wording of the prescriptions for regenerative braking. It supersedes document ECE/TRANS/WP.29/GRRF/2009/14/Rev.1 The modifications to the existing text of the Regulation are marked in bold characters or as strikethrough.

A. PROPOSAL

Paragraph 5.2.1.30.6., amend to read (inserting also a reference to the existing footnote 10):

"5.2.1.30.6. Electric regenerative braking systems **as defined in paragraph 2.21.**, which produce a retarding force upon release of the ~~throttle pedal~~, **accelerator control**, ~~shall not generate a signal mentioned above~~, **shall generate the signal mentioned above according to the following provisions:**

Vehicles of Category N1:

| Vehicle decelerations | Signal generation |
|--|--|
| $\leq 0,7 \text{ m/s}^2$ | 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 |

Vehicles of all other Categories:

| Vehicle decelerations | Signal generation |
|--|--|
| $\leq 0,7 \text{ m/s}^2$ | The signal shall not be generated |
| $> 0,7 \text{ m/s}^2$ and $\leq 1,0 \text{ m/s}^2$ | The signal may be generated |
| $> 1,0 \text{ m/s}^2$ | 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 .10

12.X. As from the official date of entry into force of the Supplement XX to the 11th Series of Amendments to this Regulation, no Contracting Party applying this Regulation shall refuse to grant ECE approval under this Regulation as amended by Supplement XX.

12.X. Contracting Parties applying this Regulation shall continue to grant approvals to those types of vehicles which comply with the requirements of this Regulation as amended by Supplement XX-1 to the 11th Series of Amendments to this Regulation during the 48 months period which follows the date of entry into force of Supplement XX.

B. JUSTIFICATION

The Working Party on Brakes and Running Gear (GRRF) agreed at its sixty-fifth session to defer to the sixty-sixth session a full discussion about deceleration thresholds for the generation of the stop lamp signal due to activation of the Electric Regenerative Braking (ERB). This document is aimed at clarifying the provisions about the generation of the Electric Regenerative Braking, taking into account the comments received at the sixty-fifth session of GRRF. One of the main comments was indeed seeking the possibility of harmonizing the activation and de-activation thresholds between light and heavy vehicles. This can be achieved for the de-activation threshold. Yet the activation threshold needs to be different for some commercial vehicles:

- Having a threshold of 1.3 m/s² for heavy vehicles (M2, M3, N2, N3) is too high as the driving pattern of these vehicles is different to those of light vehicles (M1, N1). Such a threshold would mean the stop lamps would illuminate infrequently.
- The value of 1.0 m/s² aligns with the illumination threshold already defined for endurance brakes (see paragraph 5.2.1.30.2.1.)

It is proposed above to align the N1 category in UNECE R13 on the value already adopted for the M1 and N1 categories in UNECE R13-H. This is reasonable because a lot of N1 vehicles are derived from passenger cars and are not expected to be equipped with an endurance braking.

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