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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations****Working Party on Automated/Autonomous and Connected Vehicles****Ninth session**

Item 8 (c) of the provisional agenda

**UN Regulations Nos. 13, 13-H, 139, 140 and UN GTR No. 8:****Clarifications****Proposal for a supplement to the 11 series of amendments to  
UN Regulation No. 13 (Heavy vehicle braking)****Submitted by the expert from Poland\***

This proposal was prepared by the expert from Poland. It is based on informal document GRVA-07-67 submitted for review at the seventh session of the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) in September 2020. GRVA decided, due to the lack of time, that the document would be substituted with an official symbol for consideration at its February 2021 session. The modifications of the existing Regulation are marked in bold for new or strikethrough for deleted characters.

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\* 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. Proposal

Annex 4, the table in paragraph 2.1.1., amend to read:

2. Performance of braking systems of vehicles of Categories M<sub>2</sub>, M<sub>3</sub> and N
- 2.1. Service braking system
- 2.1.1. The service brakes of vehicles of Categories M<sub>2</sub>, M<sub>3</sub> and N shall be tested under the conditions shown in the following table:

	Category	M <sub>2</sub>	M <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>
	Type of test	0-I	0-I-II or IIA	0-I	0-I	0-I-II or IIA
Type-0 test with engine disconnected	v	60 km/h	60 km/h	80 km/h	60 km/h	60 km/h
	s ≤	$0.15v + \frac{v^2}{130}$				
	d <sub>m</sub> ≥	5.0 m/s <sup>2</sup>				
Type-0 test with engine connected	v = 0.80 v <sub>max</sub> but not exceeding	100 km/h	90 km/h	120 km/h	100 km/h	90 km/h
	s ≤	$0.15v + \frac{v^2}{103.5}$				
	d <sub>m</sub> ≥	4.0 m/s <sup>2</sup>				
	F ≤	70 daN				

## II. Justification

1. This proposal is aimed to introduce a correction in UN Regulation No. 13, regarding the Type IIA tests requirements. The table in paragraph 2.1.1. of Annex IV only mentions the tests 0-I-II requirements for the vehicles of Category N<sub>3</sub>. The text “or IIA” is missing and should be introduced as the requirements for the Category N<sub>3</sub> should be the same as those for the Category M<sub>3</sub> (which read: “0-I-II or IIA”).
2. This follows from the provisions of paragraph 1.8. in Annex 4, reading:
  - 1.8. *Type-IIA test (endurance braking performance)*
    - 1.8.1. *Vehicles of the following categories shall be subject to the Type-IIA test:*
      - 1.8.1.1. *Vehicles of category M<sub>3</sub>, belonging to Classes II, III or B as defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3).*
      - 1.8.1.2. *Vehicles of category N<sub>3</sub> which are authorized to tow a trailer of category O<sub>4</sub>.*  
.....
3. This justifies the insertion of the proposed text in the table.