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

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Item 8(c) of the provisional agenda

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

The text reproduced below was prepared by the expert from Germany, aimed at clarifying the mass to be taken into account in the context of the Type II-A test. It is based on informal document GRVA-19-08. The modifications to the existing text of the Regulations are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2024 as outlined in proposed programme budget for 2024 (A/78/6 (Sect. 20), table 20.5), 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

For reference:

5.1.2.4. Endurance braking system

The endurance braking system shall make it possible to maintain a constant downhill speed over a long period of time without the use of the friction brakes.

The following requirements only apply to vehicles specified in Annex 4 paragraph 1.8.1. These requirements are deemed satisfied if the relevant test requirements specified in Annex 4 paragraph 1.8. are met.

5.1.2.4.1. As an equivalent of a long period of time, a time duration of at least 12 min is deemed to be adequate.

Paragraph 5.1.2.4.2., amend to read:

5.1.2.4.2. During the time duration specified in paragraph 5.1.2.4.1. the endurance braking system shall be able to maintain an average speed of 30 km/h on a seven per cent down-gradient, **at the maximum mass of the vehicle or, in the case of a motor vehicle authorized to tow an O4 trailer, at the maximum mass of the vehicle combination, but not exceeding 44 tonnes.**

However, for vehicles in which the energy is absorbed by the braking action of the engine alone, the tolerance on the average speed, as specified in Annex 4 paragraph 1.8.2.3., shall be applied.

5.1.2.4.3. Special requirements applicable endurance braking system incorporating electric regenerative braking systems.

[...]

Insert new paragraphs 12.9., 12.9.1. to 12.9.7., to read:

“12.9. Transitional provisions applicable to the 14 series of amendments

12.9.1. As from the official date of entry into force of the 14 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the 14 series of amendments.

12.9.2. As from 1 September 2029, Contracting Parties applying this Regulation shall not be obliged to accept type approvals to the preceding series of amendments, first issued after 1 September 2029.

12.9.3. Until 1 September 2030, Contracting Parties applying this Regulation shall accept type approvals to the preceding series of amendments, first issued before 1 September 2029.

12.9.4. As from 1 September 2030, Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the preceding series of amendments to this Regulation.

12.9.5. Notwithstanding paragraph 12.9.4., Contracting Parties applying this Regulation shall continue to accept type approvals issued according to the preceding series of amendments to this Regulation, for the vehicles which are not affected by the changes introduced by the 14 series of amendments.

12.9.6. Contracting Parties applying this Regulation may grant type approvals according to any preceding series of amendments to this Regulation.

12.9.7. Contracting Parties applying this Regulation shall continue to grant extensions of existing approvals to any preceding series of amendments to this Regulation.”

Annex 4, paragraph 1.8.1.2., amend to read:

- “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 M₃, 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 N₃ which are authorized to tow a trailer of category O₄. ~~If the maximum mass exceeds 26 tonnes, the test mass is limited to 26 tonnes or, in the case where the unladen mass exceeds 26 tonnes, this mass is to be taken into account by calculation.~~
- 1.8.1.3. Certain vehicles subject to ADR (see Annex 5).”

Annex 4, paragraph 1.8.2.1., amend to read:

- “1.8.2.1. The performance of the endurance braking system shall be tested at the maximum mass of the vehicle or of the vehicle combination, **as relevant to demonstrate the performance specified in paragraph 5.1.2.4. of this Regulation.**

II. Justification

1. Test provisions have been shifted from the scope, paragraph 1.8.1. and its subparagraphs, to the section describing the test conditions, paragraph 1.8.2. and its subparagraphs.
2. The original text of the regulation, with regard to the mass to be tested, could potentially be misinterpreted. Document ECE/TRANS/WP.29/GRVA/2024/7 provided a first attempt to clarify the regulation. The document received comments (incl. informal document GRVA-18-46/Rev.1).
3. The endurance brake, braking only the towing vehicle, but not acting on the trailer, must withstand the mass of the full vehicle combination in order to ensure traffic safety. The test therefore needs to cover the mass of the combination, not just the mass of the towing vehicle.
4. To clarify that, the test mass of vehicles authorized to tow trailer(s) of Category O₄ shall be tested with the mass of the whole combination.