

**Economic and Social Council**Distr.: General
12 April 2024

Original: English

Economic Commission for Europe

Inland Transport Committee

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

Geneva, 25 June 2024

Item 8(c) of the provisional agenda

**UN Regulations Nos. 13, 13-H, 139, 140 and UN GTR No. 8:
Clarifications****Proposal for a new series of amendments to UN Regulation
No. 13 (Heavy vehicle braking)****Submitted by the expert from European Association of Automotive
Suppliers (CLEPA) and from the International Organization of Motor
Vehicle Manufacturers (OICA)***

The text reproduced below was prepared by the experts from the European Association of Automotive Suppliers (CLEPA) and from the International Organization of Motor Vehicle Manufacturers (OICA) in response to ECE/TRANS/WP.29/GRVA/2024/7. It is based on informal document GRVA-18-46/Rev.1. The modifications to the existing text of the Regulation 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

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.

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:

- “1.8.1.2. 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.~~”**

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 ~~but not exceeding 44 tonnes~~, as relevant to demonstrate the performance specified in paragraph 5.1.2.4. of this Regulation.**

For vehicles specified in paragraph 1.8.1.2. of this Annex, if the maximum mass of the towing vehicle exceeds 26 tonnes, the test mass may be limited to 26 tonnes or, in the case where the unladen mass exceeds 26 tonnes, this mass may be taken into account by calculation.”

II. Justification

A. General comments

1. There may be different interpretation when it comes to vehicle not meant for the transport of dangerous goods (“non ADR trailer”) authorized to tow a trailer of Category O4 as it may be understood that the required performance is limited to either 26 tons (with the maximum mass of the towing vehicle), or 44 tons (with the maximum mass of the combination).
2. The first interpretation above (performance limited to 26 tons, with the maximum mass of the towing vehicle) is broadly accepted by the Type Approval Authorities (TAAs). Industry is actually not aware of any TAA not accepting this interpretation.
3. The Type-IIA requirements are in place in the regulation for more than 30 years in the Brake regulation, without changes. Industry is not aware of any safety issue in the field. The logic would be to keep the requirements as they are and improve the wording such that it reflects current interpretation.
4. However, industry can understand if there would be a strong will from GRVA to increase performance to the level of the most stringent interpretation of the current text. Only for that purpose, industry prepared the proposal above, which aims at improving the wording of the proposal in document ECE/TRANS/WP.29/GRVA/2024/7.

B. Detailed justifications of the proposed changes

5. Amendment to paragraph 5.1.2.4.2. in the body of the regulation: the proposal in document ECE/TRANS/WP.29/GRVA/2024/7 specifies the performance requirements based on the test requirements (Annex 4, paragraph 1.8.2.1.), which may create similar confusion as today when it comes to whether the limitation of the test mass to 26 tons also limits the performance itself.
6. As an alternative, industry suggests amending the paragraph 5.1.2.4. of the body of the regulation, which defines the performance requirements of the endurance braking system, without ambiguity on the fact that the required performance is not depending on the test mass specified in Annex 4, paragraph 1.8.2.1.
7. No change is needed to the proposal of document ECE/TRANS/WP.29/GRVA/2024/7 for Annex 4, paragraph 1.8.1.2. The deletion of references to the test in the “scope” para. 1.8.1. is a good way to prevent future unclarities.
8. Paragraph 1.8.2.1. is modified in order to avoid duplicating other parts of the text (with a risk that a slightly different wording creates unclarities): the proposed modifications are now directly referencing the relevant paragraphs:
 - (a) Paragraph 5.1.2.4. for the required performance,
 - (b) Paragraph 1.8.1.2. for the scope.

C. Justification for a new series of amendments

9. Industry does have a need for a new series of amendments, given the increase of the performance requirements of the endurance braking system.
10. Proposed dates for the transitional provisions of this new series 14 are 2029 for New Types (NT) and 2030 for All Types (AT).
11. These dates are consistent with the on-going 12 series if amendments (new types: 2024, all types 2026) and the 13 series (new types: 2026, all types: 2028), which sets an intense pace for the product modifications of the braking system for heavy commercial vehicles.

12. The proposed dates are also consistent with the amount of work needed to adapt the production:

(a) The performance requirement of the endurance braking system is a **major** technical parameter to dimension the **complete** powertrain of the vehicle. An increase of the performance requirement may require a re-design of vehicle powertrains, cooling concepts and/or battery concepts (for battery electric vehicles) depending on the chosen technical solution which the current regulation allows.

(b) The design of drivelines, validations (in terms of retardation capacity, brio of the engine, fuel consumption etc.), calculation methods, product documentation, certification files, supply logistics, commercial offer and argumentation, after-market documentation are structured around the combination of those parameters, with thousands of possibilities.

(c) Any amendment to the Type IIA requirements needs careful consideration. The proposed changes to the requirements will have heavy consequences on certifications and product definition.
