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World Forum for Harmonization of Vehicle Regulations

Working Party on Automated/Autonomous and Connected Vehicles

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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

Revised proposal for amendments to UN Regulation No. 13 (Heavy Vehicle Braking)

Submitted by experts from the International Organization of Motor Vehicle Manufacturers*

The text reproduced below was prepared by the experts from the International Organization of Motor Vehicle Manufacturers (OICA). It is aimed to clarify that the use of any braking system control, for testing the effectiveness of the secondary braking system in failure conditions, is allowed. The modifications to the existing text of the Regulation are marked in bold for new characters and in bold strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2025 as outlined in proposed programme budget for 2025 (A/79/6 (Sect. 20), table 20.6), 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, insert a new paragraph 2.2.7., to read:

"2.2.7. For each test condition of the secondary braking effectiveness, under the conditions described in paragraph 2.2.5., only one braking control shall be used (e.g. the service braking control, the parking brake control). This requirement does not preclude the use of a different braking control in the unladen and the fully laden condition, as described by the vehicle manufacturer in the relevant section of Annex 2."

II. Justification

1. The proposal aims to clarify that the use of any braking system control for testing the effectiveness of the secondary braking system in failure conditions is allowed. The issue is that different interpretation exists, leading some Technical Services to request the usage of the same braking system control in both laden and unladen test conditions.

2. Using the parking braking system control to pass secondary braking performance in unladen condition is a challenge for both the Technical Service and the vehicle manufacturer. Achieving the secondary braking performance (i.e. both Mean fully developed deceleration (MFDD) and braking distance in the same test run), especially when the vehicle is equipped with very strong parking brake chambers (due to high Gross Vehicle Weight), is sometime leading to an extensive test program with a number of repetitions, due to very short wheel locking.

3. Due to non-acceptance of very short wheel locking by some Technical Services (because only stated in a footnote to paragraph 1.2.7. of Annex 4, without any time value), the test must be unnecessarily repeated, without any benefit, although the vehicle under test is always stable.

4. The terms "different braking controls" used in the proposal are <u>not</u> intended to permit the use of service and parking braking control in parallel during a given test run, but <u>only</u> the use of one single braking control at one load condition (e.g. unladen) while another single braking control at the other load condition (e.g. fully laden) provided the secondary braking system is described accordingly in the relevant section of Annex 2.

5. The proposal is to insert a new paragraph 2.2.7., is allowing the selection of a different braking control depending on the vehicle load condition. Neither the content nor the performance requirements are changing, but only the test duration and the efforts needed to check complex vehicle designs (e.g. heavy 6x4 tractor with 4 x 30" parking brake chambers) are optimized.

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