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World Forum for Harmonization of Vehicle Regulations**Working Party on Brakes and Running Gear****Seventy-first session**

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Item 3(d) of the provisional agenda

Regulations Nos. 13 and 13-H (Braking) - Clarifications**Proposal for amendments to Regulation No. 13 (Heavy vehicle braking) and Regulation N°13-H (Brakes of M₁ and N₁ vehicles)****Submitted by the experts from the European Association of Automotive Suppliers and from the International Organization of Motor Vehicle Manufacturers ***

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) to improve the text in Regulation Nos. 13 about the reference to Regulation No. 10. It is based on documents ECE/TRANS/WP.29/GRRF/2010/21 and ECE/TRANS/WP.29/GRRF/2010/21/Corr.1 distributed at the sixty-ninth session of the Working Party on Brakes and Running Gear (GRRF). The modifications to the existing text of the Regulation are marked in bold for new and strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106 and ECE/TRANS/2010/8, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Regulation No. 13

Paragraph 5.5.1.4., amend to read:

"5.1.1.4. The effectiveness of the braking systems, including the electric control line, shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated **by fulfilling the technical requirements of compliance with Regulation No. 10, 03 or subsequent amendment whichever is appropriate to the vehicle to be approved.**"

Annex 13, paragraph 4.4., amend to read;

"4.4. The operation of the anti-lock system shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by compliance with ~~Regulation No. 10, 02 Series of Amendments~~ **paragraph 5.1.1.4. of this Regulation.**

Annex 19, Appendix 7, paragraph 3.71., amend to read:

3.7.1. Documentation demonstrating compliance with ~~Regulation No. 10 including the 02 Series of Amendments~~ **paragraph 5.1.1.4. of this Regulation."**

Regulation No. 13-H

Paragraph 5.1.1.4., amend to read;

"5.1.1.4. The effectiveness of the braking equipment shall not be adversely affected by magnetic or electrical fields. (This shall be demonstrated **by fulfilling the technical requirements of compliance with Regulation No. 10, 03 or subsequent amendment whichever is appropriate to the vehicle to be approved.**)"

Annex 6, paragraph 4.3., amend to read (footnote 4/ remains unchanged):

"4.3. The operation of the anti-lock system must not be adversely affected by magnetic or electrical fields. ~~4/~~ (This shall be demonstrated by compliance with ~~Regulation No. 10,~~ **paragraph 5.1.1.4. of this regulation.**)"

II. Justification

1. Industry needs clarity about the references to Regulation No. 10 in the braking regulations. The table below shows the different cross-reference solutions with their pros and cons:

	Pros	Cons
Static reference Ex: (GRRF/2010/21 & Corr.1)	<ul style="list-style-type: none"> - Clear reference - No problem of interpretation of the text 	<ul style="list-style-type: none"> - Other regulations have an influence on the regulation in question (R10 on R13) - The regulation does not follow the state of the art - Decisions could be done by groups non competent - Could prevent some new technologies by mandating an out-dated level of performance.

	Pros	Cons
Dynamic reference (GRRF-69-09)	<ul style="list-style-type: none"> – Keeps each regulation independent – Requirement always aligned on the latest level of performance – No influence of non-competent groups. 	<ul style="list-style-type: none"> – Lack of visibility about who applies which series of amendments – Changes of Regulation No. 10 just before a request for approval extension

2. Including a reference to Regulation 10 in Regulation 13 makes it quite clear to Technical Services as well as to system and vehicle manufacturers that EMC requirements must be fulfilled.

3. Utilising a dynamic reference may be seen a reasonable approach as it removes the need to continually amend Regulation 13. However this would require both system and vehicle manufacturers to amend their EMC approvals even if there is no change to the EMC performance requirements. An example of this is that the Working Party on Lighting and Light-Signalling (GRE) has recently amended Regulation 10 to the 04 series of amendments which was subsequently adopted by WP29. This change defines requirements for electrically driven vehicles and is not applicable to conventional internal combustion powered vehicles. With a dynamic reference it would be necessary for EMC approvals to be updated to the 04 series even though the amendment does not introduce any change to the prescribed performance requirements for non electric vehicles. This adds considerable cost without any benefit. Additionally interpretation problems could arise as the transitional provisions applied to the 04 Series to Regulation 13 state that existing approvals remain valid and the 04 Series only applies to specific vehicles.

4. The proposal above defines the minimum technical requirement where EMC approvals can be obtained to a level appropriate to the vehicle being approved and removes the obligation to continually update approvals when there is no change in the technical requirements associated with a particular vehicle or system.

5. The text above also takes account of the changes identified within GRRF/2010/21/Corr 1.