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Item 3(c) of the provisional agenda

REGULATIONS Nos. 13 AND 13-H
(Braking)

Trailer braking

Proposal for amendments to Regulation No. 13

Submitted by the experts from the European Association of Automotive Suppliers*

The text reproduced below was prepared by the expert from the European Association of Automotive Suppliers (CLEPA) to extend the use the anti-lock braking test report produced according to Annex 19 to trailers with more than three axles,. It is based on informal document GRRF-66-10, which was amended to reflect the discussion of the sixty-sixth session of the Working Party on Brakes and Running Gear (GRRF). The modifications to the existing text of the Regulation are marked in bold and strikethrough characters

* In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance performance of vehicles. The present document is submitted in conformity with that mandate.

A. PROPOSAL

Annex 20, insert new paragraphs 7.4 to 7.4.8.4., to read:

- "7.4. Trailers with more than 3 axles may utilize the Annex 19 ABS test report provided the following conditions are fulfilled:**
- 7.4.1. The minimum number of directly controlled wheels installed on the trailer, irrespective of type, shall be four;**
- 7.4.2. Utilization of Adhesion: The minimum utilization of adhesion specified within paragraph 6.2. of Annex 13 is deemed to be achieved when following conditions are fulfilled:**
- 7.4.2.1. The relationship of the number of wheels directly or indirectly controlled by one or more pressure modulators and the location of the directly controlled wheels within the bogie shall correspond to those defined within paragraph 2.2. of the Information Document;**
- 7.4.2.2. The utilization of adhesion of the above installation configurations has been verified and referenced in the Test Report;**
- 7.4.3. Energy Consumption: The number of equivalent static brake applications is not dependent on the number of axles controlled but a function of the trailer and brake type. Therefore, the number of equivalent static brake applications defined within paragraph 2.5. of the Test Report may be used in conjunction with the verification procedure of paragraph 7.3. of Annex 20 to Regulation No. 13. Alternatively the test procedure specified within paragraph 6.1. of Annex 13 may be used;**
- 7.4.4. Low speed performance: This is a function of the anti-lock braking system and is not dependent on the number of axles on the trailer (see paragraph 3.3.4. of the Test Report) and therefore does not require further verification;**
- 7.4.5. High speed performance: This is a function of the anti-lock braking system and is not dependent on the number of axles on the trailer (see paragraph 3.3.5. of the Test Report) and therefore does not require further verification;**
- 7.4.6. Category A Performance: The differential friction requirements specified within paragraph 6.3.2. of Annex 13 are deemed to be fulfilled when the number of wheels which are subject to independent left/right control is equal to or greater than the number of wheels controlled using "select low" axle control;**
- 7.4.7. Surface transition performance: This is a function of the anti-lock braking system and is not dependent on the number of axles on the trailer (see paragraphs 3.3.6.1. and 3.3.6.2. of the Test Report) and therefore does not require further verification;**

7.4.8. Installation limitations: in all cases the following limitations shall apply:

7.4.8.1. Any installation limitations defined within paragraphs 2. of the system Information Document shall apply.

7.4.8.2. Only products identified and referenced in the Information Document and Test Report may be installed.

7.4.8.3. The maximum delivery volume controlled by each pressure modulator shall not exceed the volume specified within paragraph 3.3. of the Information Document.

7.4.8.4. All other installation limitations specified within paragraph 4. of the Test Report shall apply.

B. JUSTIFICATION

The current scope of the Annex 19 and 20 procedures with respect to anti-lock braking is limited to trailers with a maximum of three axles. As a result, trailers with more than 3 axles cannot utilize this procedure and therefore must be approved by practical test. This increases the approval costs significantly due to the relatively low volume of these trailers, which are often special.

As a matter of principle, trailers with more than 3 axles tend to be more stable due to the number of axles on the ground. Therefore, the extension of the scope of Annex 20 to such trailers will not decrease vehicle safety as the number of directly controlled wheels on the trailer, irrespective of type, will be four.
