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Working Party on Brakes and Running Gear (GRRF)
(Fifty-sixth session, 20-22 September 2004,
agenda item 1.1.)

PROPOSAL FOR DRAFT AMENDMENT TO
REGULATION No. 13

(Braking)

Transmitted by the experts from Germany and Denmark

Note: The text reproduced below was prepared by the experts from Germany and Denmark, following the decision of GRRF taken at its fifty-fifth session (TRANS/WP.29/GRRF/55, para. 4). It is a proposal to introduce new requirements for trailers braked by an inertia (overrun) braking system and supersedes documents TRANS/WP.29/GRRF/2003/8 and TRANS/WP.29/GRRF/2004/10.

Note: This document is distributed to the Experts on Brakes and Running Gear only.

A. PROPOSAL

Paragraph 5.2.2.2., amend to read:

"5.2.2.2. Trailers of category O2 must be equipped with a service braking system either of the continuous or semi-continuous or the inertia (overrun) type. The latter type shall be permitted only for centre-axle trailers. However, electrical braking systems conforming to the requirements of annex 14 to this Regulation shall be permitted."

Annex 4.

Paragraph 1.3.2., amend to read:

"1.3.2. Behaviour of the vehicle during braking on a road on which adhesion is reduced. The behaviour of vehicles of categories M₁, M₂, M₃, N₁, N₂, N₃, O₂, O₃, and O₄ on a road on which adhesion is reduced must meet the requirements of annex 10 and/or annex 13 to this Regulation."

Annex 10.

Paragraph 1.1., amend to read:

"1.1. Vehicles of categories M, N, O₂, O₃ and O₄ which are not equipped with an anti-lock system as defined in annex 13 to this Regulation shall meet all the requirements of this annex. If ..."

Footnote 5/ to paragraph 3.1.1., amend to read:

"5/ The provisions of paragraphs 3.1.1. or 5.1.1. do not affect the requirements of annex 4 to this Regulation relating to the braking performance. However, if, in tests made under the provisions of paragraphs 3.1.1. or 5.1.1., braking performances"

Paragraphs 5.1.1 and its sub paragraphs 5.1.1.1. to 5.1.1.3., amend to read:

"5.1.1. For full trailers with two axles the following requirements apply:

5.1.1.1. For k values between 0.2 and 0.8: 5/

$$z \geq 0.1 + 0.85 (k - 0.2)$$

5.1.1.2. For all states of load of the vehicle, the adhesion utilization curve of the rear axle shall not be situated above that for the front axle for all braking rates between 0.15 and 0.30. This condition is also considered satisfied if, for braking rates between 0.15 and 0.30, the adhesion utilization curves for each axle are situated between two lines parallel to the line of ideal adhesion utilization given by the equations $k = z + 0.08$ and $k = z - 0.08$ as shown in diagram 1B of this annex and the adhesion utilization curve for the rear axle for braking rates $z \geq 0.3$ complies with the relation

$$z \geq 0.3 + 0.74 (k - 0.38).$$

- 5.1.1.3. For the verification of the requirements of paragraphs 5.1.1.1. and 5.1.1.2. the procedure should be as that in the provisions of paragraph 3.1.4."

Paragraph 5.1.2., amend to read:

- "5.1.2. For full trailers with more than two axles the requirements of paragraph 5.1.1. of this annex shall apply. The requirements of paragraph 5.1.1. of this annex with respect to wheel lock sequence shall be considered to be met if, in the case of braking rates between 0.15 and 0.30, the adhesion utilized by at least one of the front axles is greater than that utilized by at least one of the rear axles."

The heading of "Diagram 1B", amend to read:

"VEHICLES OTHER THAN THOSE OF CATEGORIES M1 AND N1 AND FULL TRAILERS
(see paragraphs 3.1.2.3. and 5.1.1.2. of this annex)"

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B. JUSTIFICATION

See documents TRANS/WP.29/GRRF/2003/8 and TRANS/WP.29/GRRF/2004/10.
