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Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Brakes and Running Gear****Eighty-second session**

Geneva, 20-23 September 2016

Item 3(c) of the provisional agenda

Regulations Nos. 13 and 13-H - Clarifications**Proposal for amendments to Regulation No. 13 (Braking)****Submitted by the expert from France***

The text reproduced below was prepared by the expert from France, introducing an amendment to the Regulation No. 13. 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 2016–2017 (ECE/TRANS/254, para. 159 and ECE/TRANS/2016/28/Add.1, cluster 3.1), 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.

GE.16-11489(E)



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I. Proposal

Annex 12, paragraph 8.1.2., amend to read:

8.1.2. Drawing details are to be provided to demonstrate that the compensator articulation is sufficient to ensure equal cable tension is applied to each of the rear cables. The compensator needs to have sufficient distance across the width to facilitate the differential travels left to right. The jaws of the yokes also need to be deep enough relative to their width to make sure that they do not prevent articulation when the compensator is at an angle.

The compensator's permissible differential travel at compensator (s'_{cd}) shall be derived from:

$$s_{ed} \geq 1.2 \times (S_{ef} - S_{e'}) \quad s'_{cd} \geq 1.2 \times s_{cd}$$

Where:

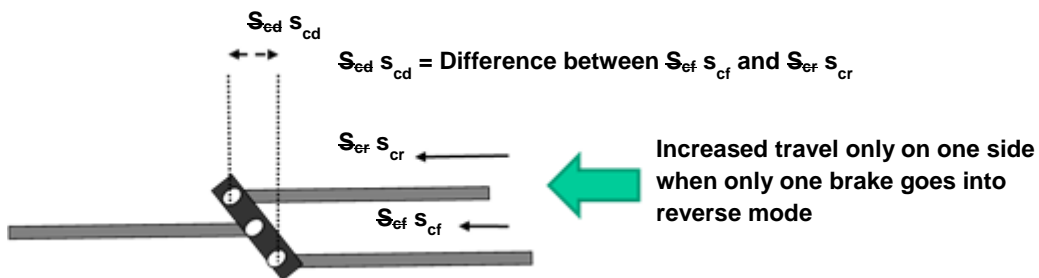
$$s_{cd} = s_{cr} - s_{cf}$$

$$S_{e'} = S'/i_H \quad s_{cf} = s_B \times i_g \quad (\text{travel at compensator - forward operation}) \text{ and}$$

$$S_{e'} = 2 \cdot S_B/i_g$$

$$S_{ef} = S_f/i_H \quad s_{cr} = s_r \quad (\text{travel at compensator - rearward operation})$$

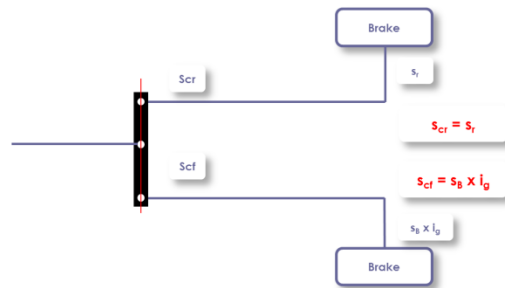
Annex 12, Appendix 1, Figure 5A, amend to read:



Annex 12, Appendix 4, paragraph 6.1.3., amend to read:

6.1.3. Maximum Compensator's permissible differential compensator travel $s_{ed} \quad s'_{cd}$ = mm (shall be greater than or equal to: $1.2 \times s_{cd}$)

II. Justification



1. Paragraph 8.1.2. aimed to check that the compensator is capable to accept a difference of the travel when one brake operates in forward direction and the other in rearward direction with a margin of twenty per cent.

2. The new formula expresses this above condition where s'_{cd} is an own characteristic of the compensator to be compared to s_{cd} which results from the characteristics of the brakes.

3. The value s_{cd} is equal to s_{cr} minus s_{cf} (see 2.3.12.). These two last values (in mm) come from the characteristics of the brakes measured without adjustment during the test.

4. As shown on the figure above:

$s_{cr} = s_r$ where s_r is the maximum permissible travel at the brake control lever when the trailer moves rearward (see 2.2.27.);

$s_{cf} = s_B \times i_g$ where s_B is the brake-shoe lift (brake-shoe application travel), in millimeters, measured on diameter parallel to applying device (see paragraph 2.2.21.); and

i_g is the reduction ratio between travel of brake lever and lift (application travel) at brake-shoe center (see 2.3.4.).
