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PROPOSAL FOR SUPPLEMENT 5 TO REGULATION No. 13-H

(Braking)

Submitted by Working Party on Brakes and Running Gear (GRRF)

Note: The text reproduced below was adopted by GRRF at its sixtieth session. It is based on documents ECE/TRANS/WP.29/GRRF/2006/21, ECE/TRANS/WP.29/GRRF/2006/30, ECE/TRANS/WP.29/GRRF/2006/19, all not amended and on Annexes 3 and 5 to the report. It is transmitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration (see ECE/TRANS/WP.29/GRRF/60, paras. 5, 9, 11, 12 and 17).

Paragraph 1.1., amend to read (including footnote 1/):

"1.1. This Regulation applies to the braking of vehicles of categories M₁ and N₁ 1/."

Footnote 1/, amend to read:

"1/ This Regulation offers an alternative set of requirements for category N₁ vehicles to those contained in Regulation No. 13. Contracting Parties that apply both Regulation No. 13 and this Regulation recognize approvals to either Regulation as equally valid. M₁ and N₁ categories of vehicles are defined in Annex 7 to the Consolidated Resolution on the Construction of Vehicles (R.E.3) (TRANS/WP.29/78/Rev.1/Amend.2)."

Paragraph 5.1.1.5., should be deleted.

Paragraph 5.1.1.6., renumber as paragraph 5.1.1.5.

Add new paragraphs 5.1.4. to 5.1.4.3., to read:

"5.1.4. Provisions for the periodic technical inspection of braking systems

5.1.4.1. It shall be possible to assess the wear condition of the components of the service brake that are subject to wear e.g. friction linings and drums/discs (in the case of drums or discs, wear assessment may not necessarily be carried out at the time of periodic technical inspection). The method by which this may be realized is defined in paragraphs 5.2.11.2. of this Regulation.

5.1.4.2. It shall be possible to verify, in a simple way, the correct operational status of those complex electronic systems which have control over braking. If special information is needed, this shall be made freely available.

5.1.4.2.1. At the time of type approval, the means implemented to protect against simple unauthorized modification of the operation to the verification means chosen by the manufacturer (e.g. warning signal) shall be confidentially outlined. Alternatively, this protection requirement is fulfilled when a secondary means of checking the correct operational status is available.

5.1.4.3. It shall be possible to generate maximum braking forces under static conditions on a rolling road or roller brake tester."

Paragraphs 5.2.11.2. to 5.2.11.2.2., amend to read:

"5.2.11.2. Checking the wear of the service brake friction components

5.2.11.2.1. It shall be possible to easily assess this wear on service brake linings from the outside or underside of the vehicle, without the removal of the wheels, by the provision of appropriate inspection holes or by some other means. This may be achieved by

utilizing simple standard workshop tools or common inspection equipment for vehicles. Alternatively, acoustic or optical devices fitted to at least one lining per brake per wheel which will warn the driver at his driving position when lining replacement is necessary are acceptable. The yellow warning signal specified in paragraph 5.2.21.1.2. below may be used as the optical warning signal."

- 5.2.11.2.2. Assessment of the wear condition of the friction surfaces of brake discs or drums may only be performed by direct measurement of the actual component or examination of any brake disc or drum wear indicators, which may necessitate some level of disassembly. Therefore, at the time of type approval, the vehicle manufacturer shall define the following:
- (a) The method by which wear of the friction surfaces of drums and discs may be assessed, including the level of disassembly required and the tools and process required to achieve this.
 - (b) Information defining the maximum acceptable wear limit at the point at which replacement becomes necessary.

This information shall be made freely available, e.g. vehicle handbook or electronic data record."

Paragraph 5.2.19.2., amend to read:

- "5.2.19.2. In the case of an electrical failure in the control or a break in the wiring within the electric control transmission between the control and the ECU directly connected with it, excluding the energy supply, it shall remain possible to apply the parking braking system from the driver's seat and thereby be capable of holding the laden vehicle stationary on an 8 per cent up or down gradient. Alternatively, in this case, an automatic actuation of the parking brake is allowed when the vehicle is stationary, provided that the above performance is achieved and, once applied, the parking brake remains engaged independently of the status of the ignition (start) switch. In this alternative, the parking brake shall be automatically released as soon as the driver starts to set the vehicle in motion again. The engine/manual transmission or the automatic transmission (park position) may be used to achieve or assist in achieving the above performance."

Paragraph 5.2.19.2.1., amend to read:

- "5.2.19.2.1. A break in the wiring within the electrical transmission, or an electrical failure in the control of the parking braking system shall be signalled to the driver by the yellow warning signal specified in paragraph 5.2.21.1.2. When caused by a break in the wiring within the electrical control transmission of the parking braking system, this yellow warning signal shall be signalled as soon as the break occurs. In addition, such an electrical failure in the control or break in the wiring"

Paragraph 5.2.22.2., amend to read:

"5.2.22.2. Activation of the service braking system by "automatically commanded braking" shall generate the signal mentioned above. However, when the retardation generated is less than 0.7 m/s^2 the signal may be suppressed."

Insert new paragraphs 12. and 12.1., to read:

"12. TRANSITIONAL PROVISIONS

12.1. Until 24 months after the date of entry into force of Supplement 5 to the original version of this Regulation, Contracting Parties applying this Regulation may continue to grant ECE approvals to the un-amended Regulation."

Annex 5, paragraph 2., amend to read:

"2. SYMBOLS

.....
g = acceleration due to gravity: $g = 9.81 \text{ m/s}^2$
....."
