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PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 13 (Braking)

Submitted by the expert from the International Organization of Motor Vehicle Manufacturers (OICA)

Note: The text reproduced below was prepared by the expert from OICA to clarify Periodical Technical Inspection (PTI) and wear indicators on service brake linings. It is a revised version of informal document No. GRRF-59-06, taking into consideration comments made during the fifty-ninth session of GRRF. The modifications to the current text of the Regulation are marked in **bold** characters.

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

A. PROPOSAL

Paragraph 5.2.1.11.2.1., amend to read:

"5.2.1.11.2.1. 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, a device fitted to an axle, which will provide an acoustic or optical warning to the driver at his driving position when lining replacement becomes necessary, is acceptable.** The yellow warning signal specified in paragraph 5.2.1.29.1.2. below may be used as the optical warning signal."

Paragraph 5.2.1.11.2.2., amend to read:

"5.2.1.11.2.2. 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 wear indicators**, which may necessitate some level of disassembly."

Insert a new paragraph 5.2.1.11.2.2.1., to read:

"**5.2.1.11.2.2.1. 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."

Paragraphs 5.2.2.8.2.1. and 5.2.2.8.2.2., amend to read:

"5.2.2.8.2.1. 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, a device fitted to an axle shall provide the necessary information to generate a warning signal when lining replacement is necessary. A trailer mounted display or an optical device warning the driver at his driving position may be utilised to provide this warning. The yellow warning signal specified in paragraph 5.2.1.29.2. above may be used as the optical warning signal provided that signal complies with the requirements of paragraph 5.2.1.29.6. above.**

5.2.2.8.2.2. 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 wear indicators**, which may necessitate some level of disassembly."

Insert a new paragraph 5.2.2.8.2.2.1., to read:

"**5.2.2.8.2.2.1. 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."

B. JUSTIFICATION

The alternative solution proposed in the above text (i.e. one device fitted to one axle) is currently the best technical solution, while being also the most expensive to the manufacturer hence also to the user.

Up to date, about 20 million vehicles have been produced with this technology, of which about 10 million currently remain on the road. This solution is, at the present time, the state of the art as it is fitted on vehicles in production for 20 years with no record of any complaint nor safety concern and no intention by any vehicle manufacturer to take the initiative of a change.

The above proposal aims to permit the manufacturer to fit this solution on the vehicle as an alternative to the solution that was already suggested in the former proposals (i.e. inspection holes and other means). It will be up to the manufacturer to demonstrate to the Technical Service that his solution is conform to the text and to good practice and meets all safety requirements.

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