UNITED
NATIONS

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Economic and Social
Council

Distr.
GENERAL

TRANS/WP.29/GRRF/2004/23
7 July 2004

ENGLISH
Original: ENGLISH
ENGLISH AND FRENCH ONLY

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations (WP.29)

Working Party on Brakes and Running Gear (GRRF)
(Fifty-sixth session, 20-22 September 2004,
agenda item 1.2.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 13

(Braking)

Transmitted by the expert from the United Kingdom

Note: The text reproduced below has been prepared by the expert from the United Kingdom to clarify Periodical Technical Inspections (P.T.I.) and to introduce the marking of maximum wear limit or the inclusion of wear indicators on brake discs and drums.

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 check 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 ~~only~~ **standard workshop tools or common inspection equipment e.g. mirror, endoscope etc.** ~~tools or equipment normally supplied with the vehicle, for instance by the provision of appropriate inspection holes or by some other means.~~ Alternatively, acoustic or optical devices warning the driver at his driving position when lining replacement is necessary are 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 new paragraphs 5.2.1.11.2.2.1. and 5.2.1.11.2.2.2., to read:

"5.2.1.11.2.2.1. At the time of manufacture, the manufacturer shall either:

(a) Mark the disc with the value of the minimum thickness or the drum with the value of the maximum diameter, permissible before replacement is necessary. This should be on a part of the component least likely to suffer from deterioration due to corrosion, or

(b) Permanently mark both friction surfaces of the disc or the friction surface of the drum with a wear indicator.This may be in the form of an indentation, a groove or other appropriate method.

5.2.1.11.2.2.2. 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 available free, 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 check 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 ~~only~~ **standard workshop tools or common inspection equipment e.g. mirror, endoscope, etc.**

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 new paragraphs 5.2.2.8.2.2.1. and 5.2.2.8.2.2.2., to read:

"5.2.2.8.2.2.1. At the time of manufacture, the manufacturer shall either:

(a) Mark the disc with the value of the minimum thickness or the drum with the value of the maximum diameter, permissible before replacement is necessary. This should be on a part of the component least likely to suffer from deterioration due to corrosion, or

(b) Permanently mark both friction surfaces of the disc or the friction surface of the drum with a wear indicator. This may be in the form of an indentation, a groove or other appropriate method.

5.2.2.8.2.2.2. 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."

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B. JUSTIFICATION

At the fifty-fifth session of GRRF, the delegate of the United Kingdom was asked to amend document TRANS/WP.29/GRRF/2004/5 to take into consideration grammatical points raised by the Indian delegation and concern expressed by CLEPA regarding the "permanent" marking of discs and drums. This revised document has addressed these points.

In addition, the wording of paragraphs 5.2.1.11.2.1. and 5.2.2.8.2.1. has been amended to reflect the intention of the PTI ad hoc working group. The intention was that wheels should **not** be removed from the vehicle for the purpose of technical inspection and that it is permissible to use standard workshop tools and common inspection equipment to aid the examination.

However, the wording agreed and adopted as part of Supplement 8 to the 09 series of amendment does not reflect this intention. It is the understanding of some inspection authorities that they can use devices such as "endoscopes" to aid inspection since this was the intention of the working group. This is not the case as the regulations clearly state "tools or equipment normally supplied with the vehicle". Also the wording "the removal of front and/or rear wheels is permitted for this purpose on category M_1 and N_1 vehicles only" has now been deleted. It is the correct interpretation of the regulation by some Approval Authorities that now it is permitted to remove the wheels from any category of vehicle if the vehicle is supplied with a jack and wheel brace as there is nothing in the regulation to say that it is prohibited. The original wording limited the removal of wheels to category M_1 and N_1 vehicles, which was not the intention of the ad hoc working group.