UNITED NATIONS



# **Economic and Social Council**

Distr.

**RESTRICTED** 

TRANS/WP.29/GRRF/2003/5 22 November 2002

Original: ENGLISH

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## 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-third session, 3-7 February 2003, agenda item 1.6.)

## PROPOSAL FOR DRAFT AMENDMENT TO REGULATION No. 13

(Braking)

<u>Transmitted by the Expert from the United Kingdom on behalf of the ad-hoc informal group on braking compatibility of heavy goods vehicles (HGV)</u>

<u>Note</u>: The text reproduced below was prepared by the experts who attend the informal group on braking compatibility of heavy goods vehicles (HGV) in order to clarify the text of the Regulation. The amendments are printed in **bold**.

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

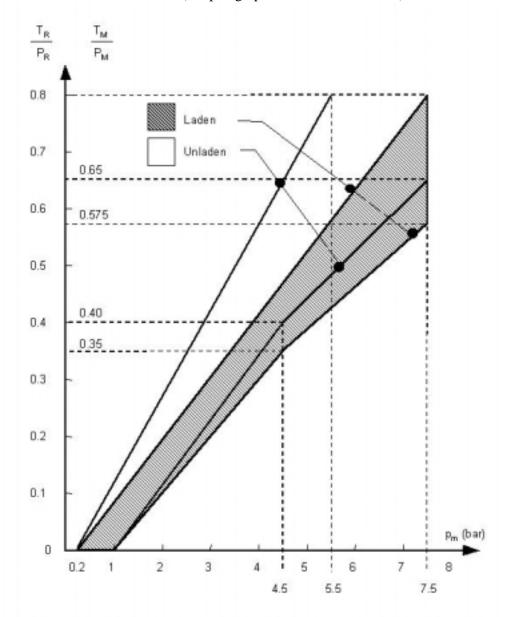
## A. PROPOSAL

Annex 10, diagrams 2, 3 and 4A, amend to read:

## "DIAGRAM 2

## TOWING VEHICLES AND TRAILERS

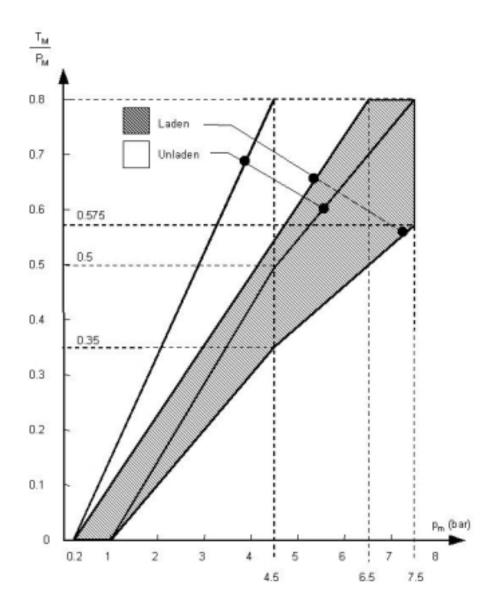
(except tractors for semi-trailers and semi-trailers) (see paragraph 3.1.5.1. of this annex)



<u>Note</u>: The relationships required by the diagram shall apply progressively for intermediate states of loading between the laden and the unladen states and shall be achieved by automatic means.

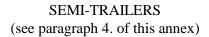
DIAGRAM 3

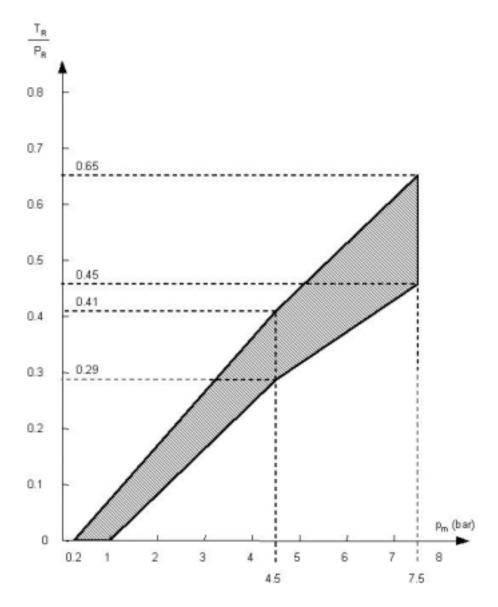
TRACTORS FOR SEMI-TRAILERS (see paragraph 3.1.6. of this annex)



<u>Note</u>: The relationships required by the diagram shall apply progressively for intermediate states of loading between the laden and the unladen states and shall be achieved by automatic means.

DIAGRAM 4A





<u>Note</u>: The relation between the braking rate  $T_R/P_R$  and the control line pressure for the laden and unladen conditions is determined as follows:

The factors  $K_c$  (laden),  $K_v$  (unladen) are obtained by reference to diagram 4B. To determine the areas corresponding to the laden and unladen conditions, the values of the ordinates of the upper and lower limits of the hatched area in diagram 4A are multiplied by the factors  $K_c$  and  $K_v$  respectively."

\* \* \*

## B. JUSTIFICATION

Within GRRF, it was agreed some time ago that the notes relating to Diagrams 2, 3 and 4A should be amended and that it was necessary that the declared vehicle performance must lie within the respective corridors throughout the defined pressure range defined by the Diagrams. At that time, the Diagrams included areas up to a braking rate of 0.1 that were not shaded to which the content of the respective notes applied. With the removal of the notes, there was no longer a need to retain the non-shaded areas. All of the above diagrams still retain non-shaded areas. However, there is no direct reference to these areas, or the defined co-ordinates. It is proposed that the diagrams are amended to reflect what is generally accepted as being correct and to remove any misunderstanding that the current diagrams may cause.