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Working Party on the Construction of Vehicles

Working Party on Lighting and Light Signalling (GRE)
(Forty-ninth session, 30 September - 4 October 2002,
agenda item 7.3.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 48

(Installation of lighting and light-signalling devices)

Transmitted by the Expert from France, the United Kingdom and Italy

Note: The text reproduced below was prepared by the expert from France, the United Kingdom and Italy, in order to allow the signalling of an emergency braking.

It also takes into consideration the comments expressed during the forty-eighth GRE Session (TRANS/WP.29/GRE/48, paras. 65 to 78).

The proposed amendments should also be considered for the candidate draft global technical regulation concerning uniform provisions with regard to the installation of lighting and light-signalling devices (TRANS/WP.29/GRE/2001/6).

Note: This document is distributed to the Experts on Lighting and Light Signalling only.

A. PROPOSAL:

Insert a new paragraph 5.13., to read:

["5.13. In the absence of specific provision no lamp or device shall be automatically operated."]

Paragraph 6.6.7., amend to read:

"6.6.7. Electrical connections

Shall be such that all the vehicle's direction-indicator lamps flash in phase.

It shall be activated / de-activated voluntarily by the driver using a separate control.

In addition it may be activated automatically in the following cases:

- **when the initial speed of a vehicle is greater than [60km/h] and either-when the vehicle reaches a deceleration of at least [6] m/s² during at least 0.3 s, or when the anti-lock brake system comes into operation during at least 0.3 s.**

The signal shall be automatically deactivated after the accelerator has been depressed for at least 0.3 s, but in any case may remain lit for at least 5 s after the activation;

- **to indicate that the vehicle is immobilized or about to be immobilized due to malfunction or damage.**

In this case the signal shall remain activated until it is voluntarily de-activated.

On M_1 and N_1 vehicles less than 6 m in length, with an arrangement complying with paragraph 6.5.5.2. above, the amber side-marker lamps, when mounted, shall also flash at the same frequency (in phase) with the direction indicator lamps."

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B. JUSTIFICATION:

During the forty-eighth GRE session, a discussion on the subject "Signalization of the emergency braking" took place; the common feeling expressed by many experts was that such a signalization is useful to improve the road safety but the means to perform it were not agreed, some experts proposed the use of normal and additional stop lamps in specific conditions (flashing mode, increase of area and/or light intensity) other experts preferred the use of the existing hazard warning signal (simultaneous operation of all the vehicle's direction-indicator lamps).

The technical and "psychological" reasons to prefer the "automatic activation of the hazard warning signal", at least from the Italian point of view are extensively expressed in Informal Document No. 17 of the forty-eighth GRE session and can be synthesized as follows:

- What is important in signalling the "emergency braking" is to inform about the emergency situation more than about the braking situation; for this reason the existing "hazard warning" signalization is more suitable than other technical solutions connected to the stop lamps.

- The function needed for signalling the "emergency braking", as for all other emergency situations, shall be extremely simple and shall be immediately understood.
Possibly it should not be a new one but a signal with a well known significance to drastically reduce the need for special instructions and the "adaptation lead time" to the new situation.
Variation in the activation mode of the stop lamps are not so simple and immediately understandable as needed.
- The information given by the hazard warning signal is visible also in case of spinning or side slip of the vehicle as a consequence of an emergency braking and also when the vehicle is viewed from the front, being activated on both the front and rear side of the vehicle.
- The low cost and easy installation of the automatic activation of the hazard warning signal helps for a better diffusion of the emergency braking signalization: this is the cheaper technical solution on the market for these purposes and needs minor changes to the vehicle (only to the wiring and/or electronics) allowing also the after market fitting, almost impossible for other technical solutions proposed.
Consequently, the small and low cost vehicles do not risk to be less protected than the bigger and costly ones, at least from the signalization point of view, due to lack of installation of such a signalization.

On the basis of the above considerations, Italy proposed to reconsider the previous proposal on this subject presented by France some GRE sessions ago (TRANS/WP29/GRE/2001/2) allowing the activation of the hazard warning signal as a consequence of a heavy deceleration; some modifications to the original proposal were also included.

The amendment proposal contained on the previous page is the common proposal requested by the GRE to the French and Italian experts; it is based on the above-mentioned Informal Document No 17 taking into account the comment expressed during the forty-eighth GRE session.
During the study of the proposal, the United Kingdom delegate joined the French and Italian ones and some of the modifications included in the final common proposal are based on the suggestions of the British expert.

In particular, the following comments have been considered:

- the requirement for a minimum activation time for the emergency braking signalization has been introduced; from the discussion during the forty-eighth GRE session, the need for maintaining active the signalization for a certain amount of time allowing the drivers to react correctly to the situation was envisaged; this minimum activation time has been considered positively and a proposal for at least 5 seconds of activation has been introduced; however, the automatic deactivation after this time due to an acceleration recovery has been maintained.
- the possibility of automatic activation as a consequence of the brake assistance activation has not been introduced since this situation is already covered by the activation based on the deceleration.
- the speed and deceleration thresholds for the activation of the signal has been changed.

Moreover, the possibility for other than the emergency braking means of automatic activation of the hazard warning signal has been introduced, in consideration of the existence on the market of vehicles providing these means and of the possible introduction into Regulation No. 48 of the general

requirements on automatic activation of many lighting and light signalling functions.

Finally, as far as the proposed introduction of paragraph 5.13. in Regulation No. 48 is concerned, there was a WP.29 decision for its deletion from a previous proposal of amendment to this Regulation.

After this decision, some amendments to Regulation No. 48, solving the problem of certain technical solutions already implemented on vehicles in circulation, have been or will be soon approved; therefore, it now seems possible to propose again the introduction of paragraph 5.13.

However, it is deemed that this introduction be connected with the approval of the other amendments proposed and with some other "interpretation" of the existing requirements in Regulation No. 48; consequently, the paragraph has been put in square brackets to indicate that its introduction is not unconditional and, in any case, to draw to it the attention of the GRE experts.
