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PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 48

(Installation of lighting and light-signalling devices)

Transmitted by the Expert the Working Party "Brussels 1952" (GTB)

Note: The text reproduced below was prepared by the expert from GTB in order to introduce into Regulation No. 48 requirements for safe installation of reversing lamps. This is necessary because of new value for the maximum luminous intensity proposed for Regulation No. 23 (TRANS/WP.29/GRE/2002/13). The proposal would allow the installation of reversing lamps with a larger visibility distance. It avoids the need for two classes of reversing lamps and discontinues the use of Regulation No. 19 front fog lamps as reversing lamps on heavy vehicles and trailers.

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

A. PROPOSAL

Paragraphs 6.4. to 6.4.6., amend to read:

"6.4. REVERSING LAMP

6.4.1. Presence

Mandatory on motor vehicles and on trailers of categories O₂, O₃ and O₄. Optional on trailers of category O₁.

6.4.2. Number

6.4.2.1. One device mandatory and a second device optional on motor vehicles of category M1 and on all other vehicles with a length not exceeding 6000 mm.

6.4.2.2. Two devices mandatory and two devices optional on all vehicles with a length exceeding 6,000 mm, except vehicles of category M₁.

6.4.3. Arrangement

6.4.3.1. **For the devices mentioned in paragraph 6.4.2.1. and for the two mandatory devices mentioned in paragraph 6.4.2.2.:**
No special requirement.

6.4.3.2. For the two optional devices **mentioned in paragraph 6.4.2.2.** it shall be such that they provide illumination at the rear end on the side towards the rear of the vehicle.

6.4.4. Position

6.4.4.1. In width: no special requirement.

6.4.4.2. In height: ~~For M₁ and N₁ category vehicles no special requirement.~~
~~For all other vehicles:~~ not less than 250 mm and not more than 1,200 mm above the ground.

6.4.4.3. In length: at the rear of the vehicle.

However, **if** the two optional devices **mentioned in paragraph 6.4.2.2. may shall** be fitted on the side of the vehicle, in conformity with the requirements of paragraphs 6.4.5. and 6.4.6.

6.4.5. Geometric visibility

Defined by angles α and β , as specified in paragraph 2.13.;

α = 15° upwards and 5° downwards,

β = 45° to right and to left if there is only one device,
45° outwards and 30° inwards if there are two.

The reference axis of the two optional devices **mentioned in paragraph 6.4.2.2.,if** fitted on the side of the vehicle, shall be

oriented sideward horizontally with an inclination of $10^\circ \pm 5^\circ$ in relation to the median longitudinal plane of the vehicle.

6.4.6. Orientation

Rearwards and sideward, as specified in paragraph 6.4.5. above.

All reversing lamps fitted on the vehicle must not cause undue dazzle or discomfort to other road users."

Paragraph 6.4.7.2., amend to read:

"6.4.7.2. Moreover, the electrical connections of the two optional devices **mentioned in paragraph 6.4.2.2.** must be such that these devices cannot light up unless the lamps referred to in paragraph 5.11. are switched on."

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B. JUSTIFICATION

Adoption of the amendments to Regulation No. 23 would make unnecessary the use of front fog lamps in an unusual application. The amendments proposed to Regulation No. 23 allow the design of reversing lamps, which satisfy the needs of drivers of long vehicles. It is also considered necessary to require mandatory installation of such lamps on trailers, except small trailers (O_1 category). For vehicles of a length of more than 6 m, the optional possibility for the sideward installation of reversing lamps to illuminate properly the side area for safe manoeuvres of long vehicles only is also introduced. The introduction of the new maximum value for luminous intensity of reversing lamps implies requirements for proper installation.

When reversing lamps are only signalling lamps, their vertical aim is not a critical factor; when included in the original design of the vehicle the proper alignment of the lamps is assured. However, if enhanced luminous intensity is permitted for improved rearward visibility, and when lamps are "added-on", the proper alignment becomes important to avoid blinding glare to other road users. Regarding the maximum mounting tolerances on vehicles as specified in Regulation No. 48 of about $\pm 3^\circ$, and the glare and aiming problem, the simplest solution is an angular limitation for the specified maximum ($>5^\circ D$) in the proposal for amendments to Regulation No. 23. This is intended to cover an angular offset with regard to the mounting tolerance of light-signalling devices. All these proposals try to minimize the risk of misuse and glaring and maximize the possibility of rear illumination, even in the case of one category only of devices, and even in the assumption of use of average performance devices.
