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**ECONOMIC COMMISSION FOR EUROPE**

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

Working Party on Lighting and Light-Signalling (GRE)

(Fifty-sixth session, 4-7 April 2006,  
agenda item 4.9.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 48

(Installation of lighting and light-signalling devices)

Transmitted by the expert from the Working Party "Brussels 1952" (GTB)

Note: The text reproduced below was prepared by the expert from GTB in order to incorporate in Regulation No. 48 the revised requirements for front foglamps of categories B and F3 according to the proposed 03 series of amendments to Regulation No. 19. The modifications to the current text of the Regulation No. 48 (proposal for 03 series of amendments) are marked in **bold** characters.

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

**A. PROPOSAL**

The text of the Regulation,

Paragraph 2.7.19., amend to read:

"2.7.19. "Front fog lamp" means a lamp used to improve the illumination of the road ahead of the vehicle in case of fog or any similar condition of reduced visibility."

Insert new paragraphs 2.27. and 2.27.1., to read:

"2.27. "**Pair**" means the set of lamps of the same function on the left- and right-hand side of the vehicle;

2.27.1. "**Matched pair**" means the set of lamps of the same function on the left- and right-hand side of the vehicle, which, as a pair, complies with the photometric requirements."

Paragraph 5.5.3., amend to read:

"5.5.3. satisfy the same colometric requirements and have substantially identical photometric characteristics. **This shall not apply to a matched pair of Class F3 front fog lamps.**"

Paragraph 6.3.4.2., amend to read (including a reference to new footnote 8/ and insertion of a new footnote 8/):

"6.3.4.2. In height:

Minimum: Not less than 250 mm above the ground.

Maximum: For M<sub>1</sub> and N<sub>1</sub> category vehicles: not more than 800 mm above the ground.

For all other categories **except N<sub>3</sub>G (off-road) 8/ vehicles: not more than 1,200 mm above the ground.**

**For category N<sub>3</sub>G vehicles: the maximum height may be increased to 1,500 mm.**

No point on the apparent surface in the direction of the reference axis must be higher than the highest point on the apparent surface in the direction of the reference axis of the dipped-beam headlamp.

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8/ As defined in Annex 7 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), (document TRANS/WP.29/78/Rev.1/Amend.2 as last amended by Amend.4)."

Paragraph 6.3.5., amend to read:

"6.3.5.        Geometric visibility

Defined by angles  $\alpha$  and  $\beta$  as specified in paragraph 2.13.,

$\alpha = 5^\circ$  upwards and downwards,

$\beta = 45^\circ$  outwards and  $10^\circ$  inwards.

**Since the photometric values required for front fog lamps do not cover the full geometric field of vision, a minimum value of one cd in the space remaining is required for type-approval purposes. The presence of partitions or other items of equipment near the front fog lamp shall not give rise to secondary effects causing discomfort to other road users."**

Paragraph 6.3.6., amend to read:

"6.3.6.        Orientation

**Toward the front.**

**6.3.6.1.        Vertical orientation.**

**6.3.6.1.1.        In the case of class "B" front fog lamps the vertical inclination of the cut-off to be set in the unladen vehicle state with one person in the driver's seat shall be -1.5 per cent or lower.**

**6.3.6.1.2.        In the case of class "F3" front fog lamps:**

**6.3.6.1.2.1.        the initial downward inclination of the cut-off to be set in the unladen vehicle state with one person in the driver's seat shall be specified within an accuracy of one decimal place by the manufacturer and indicated in a clearly legible and indelible manner on each vehicle close to either the front fog lamp or the manufacturer's plate or in combination with the indication referred to in paragraph 6.2.6.1.1. by the symbol shown in Annex 7 to this Regulation. The value of this indicated downward inclination shall be defined in accordance with paragraph 6.3.6.1.2.2.**

**6.3.6.1.2.2.        depending on the mounting height in metre (h) of the lower edge of the apparent surface in the direction of the reference axis of the front fog lamp, measured on the unladen vehicles, the vertical inclination of the cut-off to be set in the unladen vehicle state with one person in the driver's seat shall have the following value(s):**

**$h \leq 0.8$**

<b>Limits:</b>	<b>between -1.0 per cent and -2.5 per cent</b>
<b>Initial aiming:</b>	<b>between -1.5 per cent and -2.0 per cent</b>

**$h > 0.8$**

<b>Limits:</b>	<b>between -1.5 per cent and -3.0 per cent</b>
<b>Initial aiming:</b>	<b>between -2.0 per cent and -2.5 per cent</b>

**6.3.6.2. Front fog lamp leveling device.**

**6.3.6.2.1. In the case where there is a positive indication in the communication form in item 10.8. of Annex 1 of Regulation No. 19 the requirements of paragraph 6.3.6.1.2.2. shall be automatically satisfied under all the loading conditions of Annex 5 of this Regulation.**

**6.3.6.2.2. Where a leveling device is fitted for a front fog lamp, independent or grouped with other front lighting and light signaling functions, it shall be such that the vertical inclination, under all the static loading conditions of Annex 5 of this Regulation, shall remain between the limits prescribed in paragraph 6.3.6.1.2.2.**

**6.3.6.2.3. In the case where the front fog lamp of category "F3" is part of the dipped beam headlamp or is part of an AFS system, the requirements of paragraph 6.2.6. shall be applied during the use of the front fog beam as part of the dipped beam.**

**In this case the leveling limits defined in paragraph 6.2.6. may be applied also when this front fog lamp is used as such.**

**6.3.6.2.4. The leveling device may also be used to automatically adapt the inclination of the front fog beam in relation to the prevailing ambient conditions, provided that the limits for the downward inclination specified in paragraph 6.3.6.1.2.2. are not exceeded.**

**6.3.6.2.5. In the case of a failure of the leveling device, the front fog beam shall not assume a position in which the cut off is less inclined than it was at the time when the failure of the device occurred."**

Paragraph 6.3.9., amend to read:

"6.3.9. Other requirements

**In the case where there is a positive indication in the communication form in item 10.9. of Annex 1 of Regulation No. 19 the alignment and the luminous intensities of the class "F3" front fog beam may be automatically adapted in relation to the prevailing ambient conditions. Any variations of the luminous intensities or alignment shall be performed automatically and in**

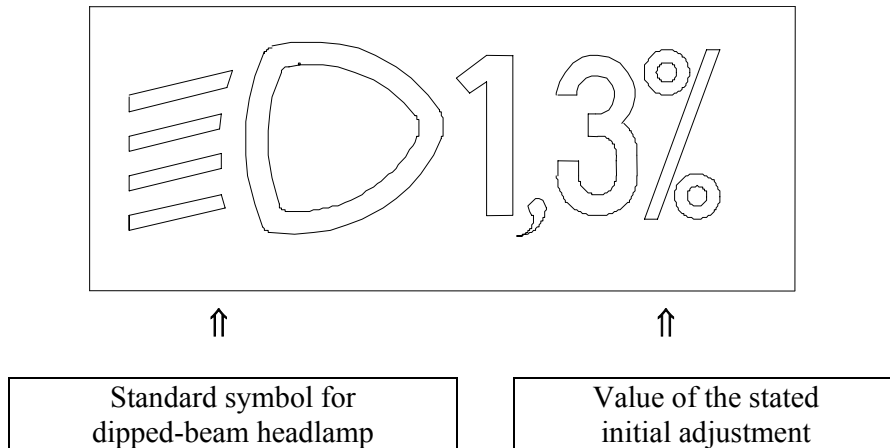
such a way that no discomfort, neither for the driver nor to other road users, is caused.

Paragraph 6.16., the reference to footnote 8/ and footnote 8/, renumber as footnote 9/.

Annex 7, amend to read:

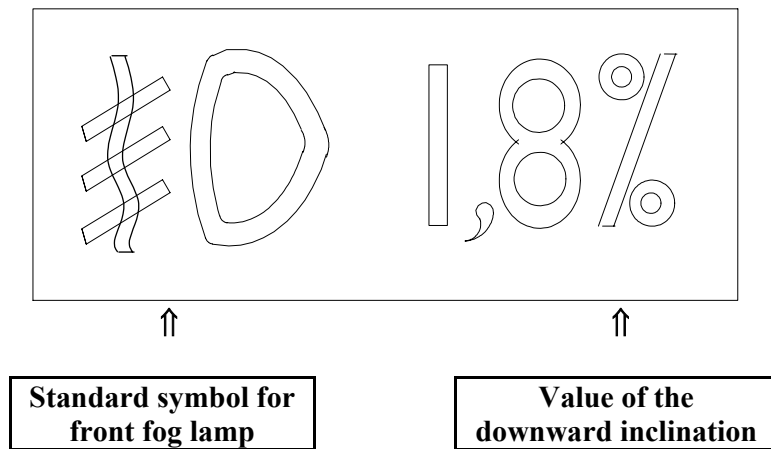
"Annex 7

**INDICATION OF THE DOWNWARD INCLINATION OF THE FRONT FOG LAMP  
CUT-OFF REFERRED TO IN PARAGRAPH 6.3.6.1.2. OF THIS REGULATION**



**Example 1**

The size of the symbol and characters is left to the discretion of the manufacturer.



**Example 2**

The size of the symbol and characters is left to the discretion of the manufacturer."

## **B. JUSTIFICATION**

Front fog lamps have been the cause of recent discussions in relation to their quality, use, glare and insufficient mounting and aiming requirements. To overcome these concerns a proposal has been made to introduce the class "F3" front foglamp with enhanced photometric requirements into Regulation No. 19.

This proposal to amend Regulation No. 48 has the objective of introducing provisions associated with the installation of the class "F3" front foglamp and to update the requirements concerning the class "B" front foglamp. The main aspects are explained below.

### Introduction of inclination requirements

The lighting performance of front fog lamps depends on both mounting height and inclination and for this reason requirements for on-vehicle aim have been introduced in paragraph 6.3., (front foglamps) and paragraph 6.3.6. (orientation).

Where front foglamps are designed to provide a high level of road illumination and/or they are fitted with high performance light sources, an automatic levelling device is required as part of their installation. The aiming requirements are coordinated with the equivalent requirements in paragraph 6.2. in order to avoid any conflicts with dipped beams. With regard to high performance front fog lamps, provisions have been included for automatic adaptation of the aim to the prevailing ambient conditions.

### Geometric visibility

As the photometric requirements of Regulation No. 19 do not sufficiently cover the directions of geometric visibility, a minimum value of 1 cd is required in the directions as currently specified in paragraph 6.2.5. for dipped beam headlamps in this Regulation.

### Adaptive possibilities

It is proposed to allow the aim and photometric performance of the class F3 foglamp beam to be automatically adapted in relation to the prevailing ambient conditions with the requirement that the activation of these variations is always carried out automatically.

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