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**Regulation No. 48 (Installation of lighting and
light-signalling devices)**

Proposal for Supplement 7 to the 04 series of amendments

Submitted by the experts from the Working Party “Brussels 1952”*

The text reproduced below was prepared by the expert from the Working Party “Brussels 1952” (GTB) in order to amend the requirements of class F3 front fog lamps with regard to vertical inclination of the cut-off. The modifications to the existing text of the Regulation, including Supplement 6 to the 04 series of amendments, are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2006–2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Paragraph 6.3.6. to 6.3.6.2.5., 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.¹⁵

6.3.6.1.2. In the case of class “F3” front fog lamps:

6.3.6.1.2.1. When the total objective luminous flux does not exceed 2,000 lumens:

6.3.6.1.2.1.1. 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 -1.0 per cent or lower

6.3.6.1.2.2. When the total objective luminous flux exceeds 2,000 lumens:

6.3.6.1.2.2.1. depending on the mounting height in metres (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 shall under all the static conditions of Annex 5 automatically remain between the following values:

$h \leq 0.8$

Limits: between -1.0 per cent and -3.0 per cent

Initial aiming: between -1.5 per cent and -2.0 per cent

$h > 0.8$

Limits: between -1.5 per cent and -3.5 per cent

Initial aiming: between -2.0 per cent and -2.5 per cent

6.3.6.1.2.2.2. 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 6.3.6.1.2.2.1.

6.3.6.2. Front fog lamp levelling device.

6.3.6.2.1. Where a levelling device is fitted for a front fog lamp, independent or grouped with other front lighting and light signalling 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 6.3.6.1.2.1.

6.3.6.2.2. 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 levelling limits defined in paragraph 6.2.6. may be applied also when this front fog lamp is used as such.

6.3.6.2.3. The levelling 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 6.3.6.1.2.1. are not exceeded.

6.3.6.2.4. In the case of a failure of the levelling 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.”

II. Justification

1. When the Class F3 front fog lamp was introduced, it was expected that light sources producing high flux levels would be needed to satisfy the photometric requirements. Consequently the requirement for initial aiming on the vehicle was introduced as for dipped beams.

2. However, it has been confirmed by simulation and measurement of prototypes that new optical designs enable front-fog lamps complying with the class F3 photometric requirements to be realized with light sources producing lower luminous flux values.

3. As the Class F3 front fog lamp produces less glare and superior road scene illumination than the Class B that is subject to less demanding aiming limits, it makes good sense on safety considerations to encourage its installation also on smaller vehicles where the cost of providing an initial aiming facility cannot be justified. The alternative is that the Class B fog lamps will continue to be fitted, or as the front fog lamp is an optional device no front fog lamp will be installed.

4. To encourage the installation of class F3 front fog lamps a revision of the current cut-off-aim requirements is proposed so that initial aiming is only required in the case where light sources having an objective luminous flux greater than 2,000 lumens are used. Consequently the wording and the structure of the complete paragraph has been revised.
