

**Economic and Social Council**Distr.: General  
23 January 2015

Original: English

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**Economic Commission for Europe****Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Lighting and Light-Signalling****Seventy-third session**

Geneva, 14 – 17 April 2015

Item 7 (k) of the provisional agenda

**Other Regulations – Regulation No. 113 (Headlamps emitting a symmetrical passing-beam)****Proposal for Supplement 6 to the 01 series of amendments to Regulation No. 113 (Headlamps emitting a symmetrical passing-beam)****Submitted by the expert from the International Automotive Lighting and Light Signalling Expert Group (GTB)\***

The text reproduced below was prepared by the expert from GTB to align requirements with those adopted in Regulations Nos. 98, 112 and 123 relating to movement of the cut-off line after heat test and to correct an error in the provisions on the use of LED modules. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

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\* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, 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 6.2.6.1., to be deleted.

Paragraph 6.2.7., amend to read:

"6.2.7. Either one or two filament light sources (Classes A, B, C, D) or one gas discharge light source (Class E) or one or more LED module(s) (Classes **A, B, C, D, E**) are permitted for the principal passing beam."

Paragraph 6.3.2., amend to read:

"6.3.2. Irrespective of type of light source (LED module(s) or filament light source(s) or gas discharge light source) used to produce the passing beam, several light sources either:

- (a) .....
- (b) .....
- (c) LED module(s) (Classes **B, C, D, E**) may be used for each individual driving beam."

Annex 4, paragraph 2.2.1., amend to read:

"2.2.1. The result in milliradians (mrad) shall be considered as acceptable for a headlamp producing a passing beam, only when the absolute value  $\Delta rI = |r3 - r60|$  recorded on the headlamp is not more than 1.0 mrad ( $\Delta rI < 1.0$  mrad) **upwards and not more than 2.0 mrad ( $\Delta rI \leq 2.0$  mrad) downwards.**"

Annex 4, paragraph 2.2.2., amend to read:

"2.2.2. However, if this value is ~~more than 1.0 mrad but not more than 1.5 mrad~~ ( **$1.0 \text{ mrad} < \Delta rI < 1.5 \text{ mrad}$** ):

Movement	
upward	<b>more than 1.0 mrad but not more than 1.5 mrad</b> <b>(<math>1.0 \text{ mrad} &lt; \Delta rI \leq 1.5 \text{ mrad}</math>)</b>
downward	<b>more than 2.0 mrad but not more than 3.0 mrad</b> <b>(<math>2.0 \text{ mrad} &lt; \Delta rI \leq 3.0 \text{ mrad}</math>)</b>

a ~~second~~ **further sample** of a headlamp shall be tested as described in paragraph 2.1. after being subjected three consecutive times to the cycle as described below, in order to stabilize the position of mechanical parts of the headlamp on a base representative of the correct installation on the vehicle:

Operation of the passing beam for one hour, (the voltage shall be adjusted as specified in paragraph 1.1.1.2.),

~~Period of rest for one hour.~~

~~The headlamp type shall be considered as acceptable if the mean value of the absolute values  $\Delta rI$  measured on the first sample and  $\Delta rII$  measured on the second sample is not more than 1.0 mrad.~~

**After this period of one hour, the headlamp type shall be considered as acceptable if the absolute values  $\Delta r$  measured on the following sample**

**meets the requirements in paragraph 2.2.1. above."**

*Annex 5, paragraph 1.4., amend to read:*

"1.4. With respect to the verification of the change in vertical position of the "cut-off" line under the influence of heat, the following procedure shall be applied (Classes B, C, D- and E headlamps only):

One of the sampled headlamps shall be tested according to the procedure described in paragraph 2.1. of Annex 4 after being subjected three consecutive times to the cycle described in paragraph 2.2.2. of Annex 4.

The headlamp shall be considered as acceptable if delta r does not exceed 1.5 mrad **upwards and does not exceed 2.5 mrad downwards.**

If this value exceeds 1.5 mrad but is not more than 2.0 mrad **upwards or exceeds 2.5 mrad but is not more than 3.0 mrad downwards**, a second sample shall be subjected to the test after which the mean of the absolute values recorded on both samples shall not exceed 1.5 mrad **upwards and shall not exceed 2.5 mrad downwards."**

## II. Justification

### Paragraph 6.2.6.1.

1. The minimum bank angle requirement for the activation of the additional light source(s) of bend lighting was erroneously included in Regulation No. 113. Since the requirement is stipulated by Regulation No. 53, the amendment deletes the duplicated requirement from Regulation No. 113.

### Paragraphs 6.2.7. and 6.3.2.

2. Supplement 1 to 01 series of amendments to Regulation No. 113 (ECE/TRANS/WP.29/2012/17) was introduced to allow the use of LED module(s) for headlamps of class A or B, and deleted the limitation of possible use of LED module(s) for classes C, D and E, from paragraph 5.3. However, at that time, the corresponding amendments to paragraphs 6.2.7. and 6.3.2. were unintentionally omitted, and this proposal reflects the original intention of ECE/TRANS/WP.29/2012/17 and includes classes A and B in paragraphs 6.2.7. and 6.3.2.

### Annexes 4 and 5

3. Upward movement of the cut-off line during operation of the lamp could result in increased glare and for this reason only a small deviation is permitted following the heat tests. Downward movement has the effect of reducing the illumination on the road but this is evaluated during the one hour dirty headlamp test that already takes account of the effect of heat. Thus, the strict requirement currently specified in paragraphs 2.2.1. and 2.2.2. of Annex 4, as well as paragraph 1.4. of Annex 5, need not be applied with the downward movement of the cut-off line. This proposal corresponds to the preceding amendments to Regulation Nos. 98 (supplement 3), 112 (supplement 3 to the 01 series of amendments) and 123 (supplement 3 to the 01 series of amendments).