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**Economic Commission for Europe****Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****158<sup>th</sup> session**

Geneva, 13-16 November 2012

Item 4.7.15 of the provisional agenda

**1958 Agreement – Consideration of draft amendments  
to existing Regulations submitted by GRE****Proposal for Supplement 14 to the 01 series of amendments  
to Regulation No. 53 (Installation of lighting and light-  
signalling devices for L<sub>3</sub> vehicles)****Submitted by the Working Party on Lighting and Light-Signalling\***

The text reproduced below was adopted by the Working Party on Lighting and Light-Signalling (GRE) at its sixty-seventh session to introduce bend lighting for motorcycles. It is based on ECE/TRANS/WP.29/GRE/2012/15, as amended in para. 27 of the report and GRE-67-15, as reproduced in Annex VIII to the report (see ECE/TRANS/WP.29/GRE/67, paras. 27 and 56). It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee AC.1 for consideration.

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\* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106, ECE/TRANS/2010/8, 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.

*Insert a new paragraph 2.5.7.1., to read:*

"2.5.7.1. "Principal passing beam (principal dipped beam)" means the dipped beam produced without the contribution of infrared (IR) emitters and/or additional light sources for bend lighting."

*Paragraph 2.7.1., amend to read:*

"2.7.1. "Illuminating surface of a lighting device" (paragraphs. 2.5.6., 2.5.7. and 2.5.15.) means ...

... , the mean adjustment should be used;

In the case where any combination of a headlamp producing the principal passing beam and additional lighting units or light sources designed to produce bend lighting are operated together, the individual illuminating surfaces, taken together, constitute the illuminating surface."

*Insert a new paragraph 2.30., to read:*

"2.30. "Bend lighting" means a lighting function to provide enhanced illumination in bends."

*Paragraph 6.1.3.1.2., amend to read:*

"6.1.3.1.2. A driving beam headlamp, that is reciprocally incorporated with another front lamp, must be fitted in such a way that its reference centre lies within the median longitudinal plane of the vehicle. However, when the vehicle is also fitted with an independent principal passing beam headlamp, or a principal passing beam headlamp that is reciprocally incorporated with a front position lamp alongside the driving beam headlamp, their reference centres must be symmetrical in relation to the median longitudinal plane of the vehicle."

*Paragraph 6.1.3.3., amend to read:*

"6.1.3.3. In any case, the distance between the edge of the illuminating surface of any independent driving lamp and the edge of that of the lamp producing the principal passing beam must not exceed 200 mm. The distance between the edge of the illuminating surface of any independent driving lamp and the ground must be from 500 mm to 1,300 mm."

*Paragraphs 6.2.3.1.1. to 6.2.3.1.3., amend to read:*

"6.2.3.1.1. An independent passing lamp may be installed above, below or to one side of another front lamp: if these lamps are one above the other the reference centre of the lamp producing the principal passing beam must be located within the median longitudinal plane of the vehicle; if these lamps are side by side their reference centre must be symmetrical in relation to the median longitudinal plane of the vehicle.

6.2.3.1.2. A headlamp producing the principal passing beam, that is reciprocally incorporated with another front lamp, must be fitted in such a way that its reference centre lies within the median longitudinal plane of the vehicle. However, when the vehicle is also fitted with an independent driving beam headlamp, or a driving beam headlamp that is reciprocally incorporated with a front position lamp alongside the headlamp producing the principal passing beam, their reference centres must be symmetrical in relation to the median longitudinal plane of the vehicle.

6.2.3.1.3. Two headlamps producing the principal passing beam, of which either one or both are reciprocally incorporated with another front lamp must be installed in

such a way that their reference centres are symmetrical in relation to the median longitudinal plane of the vehicle."

*Insert a new paragraph 6.2.3.1.4., to read:*

"6.2.3.1.4. If installed, additional lighting unit(s) which provide bend lighting, type approved as part of the passing beam according to Regulation No. 113, shall be installed under the following conditions:

In the case of (a) pair(s) of additional lighting units, they shall be installed so that their reference centre(s) are symmetrical in relation to the median longitudinal plane of the vehicle.

In the case of a single additional lighting unit, its reference center shall be coincident with the median longitudinal plane of the vehicle."

*Paragraph 6.2.3.4., amend to read:*

"6.2.3.4. In the case of two headlamps producing the principal passing beam the distance separating the illuminating surfaces must not exceed 200 mm."

*Paragraphs 6.2.5.2. to 6.2.5.4, amend to read:*

"6.2.5.2. The vertical inclination of the headlamp producing the principal passing beam must remain between -0.5 and -2.5 per cent, except in the case where an external adjusting device is present.

6.2.5.3. For headlamp producing the principal passing beam with a light source having an objective luminous flux which exceeds 2,000 lumen, the vertical inclination of the headlamp shall remain between -0.5 and -2.5 per cent. A headlamp levelling device may be used to satisfy the requirements of this paragraph but its operation shall be automatic.<sup>4</sup>

6.2.5.4. The requirement in paragraph 6.2.5.3. shall be tested on the vehicle in the following conditions:

*Condition A (rider alone):*

A mass of 75 kg  $\pm$  1 kg, ... for this loading condition.

The vertical inclination (initial aiming) of the headlamp producing the principal passing beam shall be set, following the manufacturer's instructions, between -1.0 and -1.5 per cent.

*Condition B (fully laden motorcycle):*

masses, ... for this loading condition.

Before making the measurements, ... at least a complete wheel revolution."

*Insert new paragraphs 6.2.5.7. to 6.2.5.8., to read:*

"6.2.5.7. Additional light source(s) or additional lighting unit(s) may be activated only in conjunction with the principal passing beam to produce bend lighting. The illumination provided by the bend lighting shall not extend above the horizontal plane, that is parallel with the ground and containing the reference axis of the headlamp producing the principal passing beam for all bank angles as specified by the manufacture during type approval of the device according to Regulation No. 113."

6.2.5.8. The requirement in paragraph 6.2.5.7. shall be tested as follows:

The test vehicle shall be set as specified in paragraph 5.4.

Measure the bank angles on both sides of the vehicle under every condition where the bend lighting is activated. The bank angles to measure are the bank angles specified by the manufacturer during type approval of the device according to Regulation No. 113.

The handlebar may be fixed in the straight ahead position so as not to move during the vehicle inclination.

For the test, the bend lighting may be activated by means of a signal generator provided by the manufacturer.

The system is considered to satisfy the requirements of paragraph 6.2.5.7., if all measured bank angles on both sides of the vehicle are greater than or equal to the minimum bank angles given in the communication form for the type approval of the device according to Regulation No. 113.

Conformity to paragraph 6.2.5.7. may be demonstrated by the manufacturer using other means accepted by the authority responsible for type approval."

*Insert a new paragraph 6.2.6.1., to read:*

"6.2.6.1. The additional light source(s) or additional lighting unit(s) used to produce bend lighting shall be so connected that it (they) cannot be activated unless the headlamp(s) producing the principal passing beam is(are) also activated.

The additional light source(s) or additional lighting unit(s) used to produce bend lighting on each side of the vehicle may only be automatically activated when the bank angle(s) is(are) greater or equal to the minimum bank angle(s) given in the communication form for the type approval of the device according to Regulation No. 113.

However, the additional light source(s) or additional lighting unit(s) shall not be activated when the bank angle is less than 3 degrees."

The additional light source(s) or additional lighting unit(s) shall be deactivated when the bank angle(s) is (are) less than the minimum bank angle(s) given in the communication form for the type approval of the device according to Regulation No. 113."

*Insert a new paragraph 6.2.8.3., to read:*

"6.2.8.3. In the event of a control system failure, additional light source(s) or additional lighting unit(s) producing bend lighting shall be switched OFF automatically."

*Paragraph 6.3.3.1., amend to read:*

"6.3.3.1. In width: For front indicators, the following requirements shall all be met:

(a) ...,

(b) The indicators shall be situated outside the longitudinal vertical plane tangential to the outer edges of the illuminating surface of the driving beam(s) and/or principal passing beam(s),

(c) There shall be a minimum distance between the illuminating surface of the indicators and headlamp producing the principal passing beam closest to one another as follows:

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<i>Minimum indicator intensity (cd)</i>	<i>Minimum separation (mm)</i>
90	75
175	40
250	20
400	≤ 20

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For rear indicators, ... when the registration plate is mounted;"

*Paragraph 6.6.4.*, amend to read:

"6.6.4. *Geometric visibility*

Horizontal angle: 80 degrees to the left and to the right for a single lamp:  
the horizontal angle may be 80 degrees outwards and 20 degrees inwards for each pair of lamps.

Vertical angle: 15 degrees above and below the horizontal.

The vertical angle below the horizontal may be reduced to 5 degrees, however, if the height of the lamp is less than 750 mm."