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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-second session**

Geneva, 20 –22 October 2014

Item 4 (i) (iv) of the provisional agenda

**Other business – Any other business****Proposal for Supplement 17 to Regulation No. 50 (Position, stop, direction indicator lamps for mopeds and motorcycles)****Submitted by the expert from the International Motorcycle Manufacturers Association \***

The text reproduced below was prepared by the expert from the International Motorcycle Manufacturers Association (IMMA), introducing the possibility of interdependent lamps for dedicated motorcycle lamps. It supersedes ECE/TRANS/WP.29/GRE/2014/7. The proposal reflects the recent amendments to Regulations Nos. 6 and 7, as well as matching the visibility angle requirements of Regulations Nos. 50 and 53. 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 3.2.1., amend to read:*

- "3.2.1. Drawings, in triplicate, in sufficient detail to permit identification of the type of the device and showing **the following:**
- (a) In what geometrical position(s) the device may be mounted on the vehicle; the axis of observation to be taken is the axis of reference in the tests (horizontal angle  $H = 0^\circ$ , vertical angle  $V = 0^\circ$ ); and the point to be taken as the centre of reference in the said tests; ~~the drawing shall show the position intended for the approval mark and eventually the additional symbols in relation to the circle of the approval mark;~~
  - (b) **The geometrical conditions of installation of the device(s) that meet(s) the requirements of paragraph 7.;**
  - (c) **In the case of an interdependent lamp system, the interdependent lamp or the combination of interdependent lamps that fulfil the requirements of paragraphs 6.7., 7.1. and of Annex 4 to this Regulation;**
  - (d) **The position intended for the approval number and the additional symbols in relation to the circle of the approval mark."**

*Paragraph 5.1., amend to read:*

- "5.1 If the two devices of a type of device which are submitted in pursuance of paragraph 3. above meet the requirements of this Regulation, approval shall be granted. **All the devices of an interdependent lamp system must be submitted for type approval by the same applicant."**

*Insert a new paragraph 5.5.6., to read:*

- "5.5.6. **On devices with reduced light distribution in conformity to paragraph 2.3. in Annex 4 to this Regulation a vertical arrow starting from a horizontal segment and directed downwards."**

*Insert a new paragraph 5.5.7., to read:*

- "5.5.7. **On interdependent lamps, which may be used as part of an interdependent lamp system, the additional symbol shall be marked as follows:**
- (a) **for a front position lamp "MAY";**
  - (b) **for a rear position lamp "MRY";**
  - (c) **for a stop lamp "MSY"."**

*Insert new paragraphs 6.6. to 6.7., to read:*

- "6.6. **Only front and rear position lamps and stop lamps may be constructed as an interdependent lamp system.**
- 6.7. **An interdependent lamp system shall meet the requirements when all its interdependent lamps are operated together. However, if the interdependent lamp system providing the rear position lamp function is partly mounted on the fixed component and partly mounted on a movable component, the interdependent lamp(s) specified by the**

**Applicant shall meet the outboard geometric visibility, colorimetric and photometric requirement, at all fixed positions of the movable component(s). In this case, the inboard geometric visibility requirement is deemed to be satisfied if this (these) interdependent lamp(s) still conform to the photometric values prescribed in the field of light distribution for the approval of the device, at all fixed positions of the moveable component(s)."**

Paragraphs 7.1. to 7.4.2., amend to read:

"In the reference axis, the intensity of the emitted light of each of the two devices shall be at least equal to the minimum values and not exceed the maximum values of the following table. In no direction, the maximum values indicated shall be exceeded.

	Minimum luminous intensity in cd	Maximum luminous intensity in cd
7.1. Rear position lamps	4	<del>12</del> <b>17</b>
7.2. Front position lamps	4	<del>60</del> <b>140</b>
7.2.1. Front position lamps incorporated in a headlamp	4	<del>10</del> <b>40</b>
7.3. Stop-lamps	40	<del>185</del> <b>260</b>
7.4. Direction indicators	-	-
7.4.1. of the category 11 (see Annex 1)	90	<del>700</del> <b>1 000</b>
7.4.1.1. of the category 11a (see Annex 1)	175	<del>700</del> <b>1 000</b>
7.4.1.2. of the category 11b (see Annex 1)	250	<del>800</del> <b>1 200</b>
7.4.1.3. of the category 11c (see Annex 1)	400	<del>860</del> <b>1 200</b>
7.4.2. of the category 12 (see Annex 1)	50	<del>350</del> <b>500</b>

Paragraph 7.5.1., amend to read:

- "7.5.1. In the case of a single lamp containing more than one light source:
- (a) **except for a direction indicator lamp**, the lamp shall comply with the minimum intensity required **in the table of standard light distribution in space as shown in Annex 4** when any one light source has failed;
  - ~~(b) when all light sources are illuminated, the maximum intensity for an assembly of two lamps is given by multiplying by 1.4 the value prescribed for a single lamp in paragraphs 7.1. to 7.4.;~~
  - ~~(c)~~**(b)** all light sources which are connected in series are considered to be one light source"

Paragraph 7.11. to 7.11.2., shall be deleted.

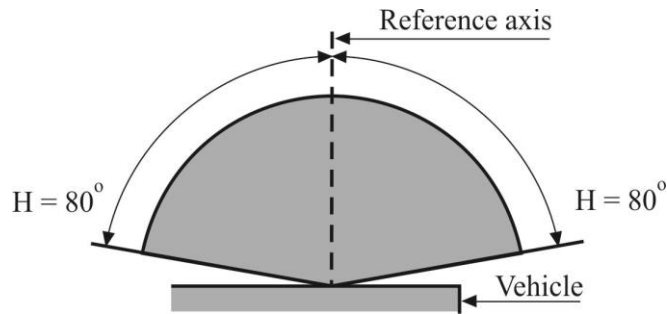
Annex 1,

Paragraph 1., amend to read:

"1. Front position lamps

$$V = +15^\circ / -10^\circ$$

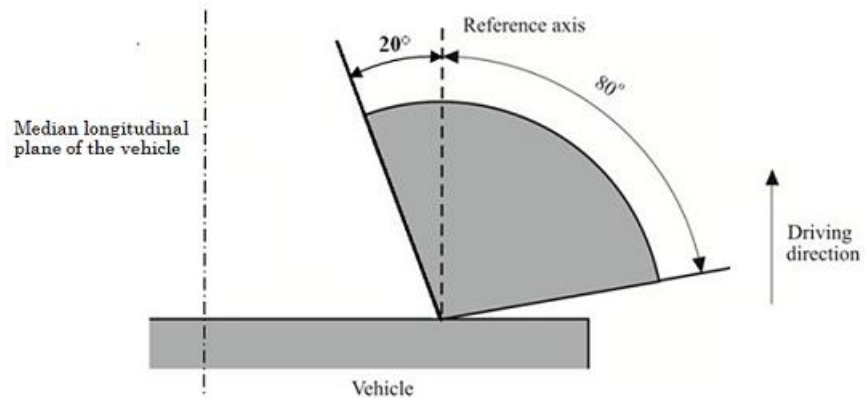
However, in the case where a device is intended to be installed with its H plane at a mounting height less than 750 mm above the ground, the angle of 10° below the horizontal may be reduced to 5°.



Front position lamps (for a pair of lamps)

$$V = +15^\circ / -10^\circ$$

However, in the case where a device is intended to be installed with its H plane at a mounting height less than 750 mm above the ground, the angle of 10° below the horizontal may be reduced to 5°.

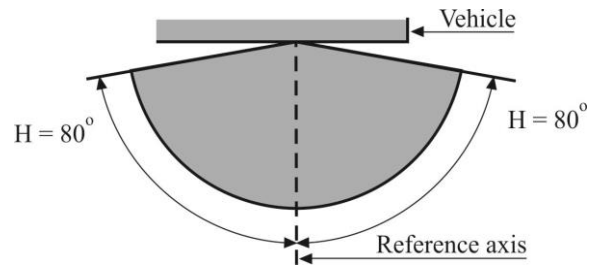


Paragraph 2., amend to read:

"2. Rear position lamps

$$V = +15^\circ / -10^\circ$$

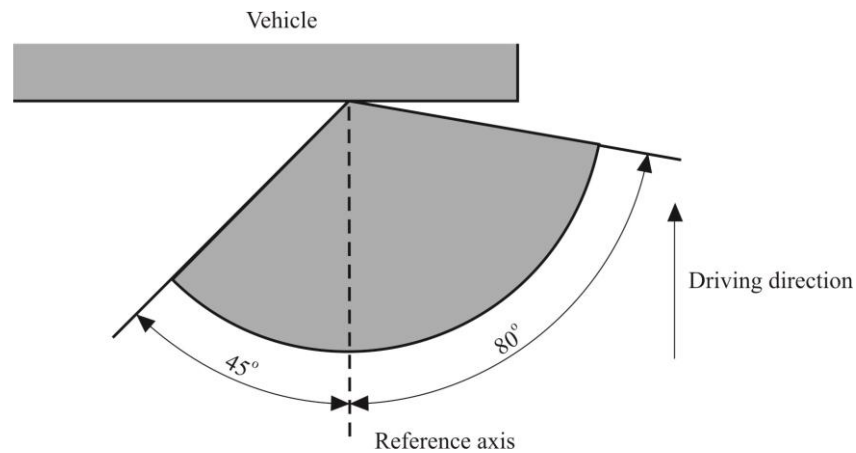
However, in the case where a device is intended to be installed with its H plane at a mounting height less than 750 mm above the ground, the angle of 10° below the horizontal may be reduced to 5°.



Rear position lamps (for a pair of lamps)

$$V = +15^\circ / -10^\circ$$

**However, in the case where a device is intended to be installed with its H plane at a mounting height less than 750 mm above the ground, the angle of  $10^\circ$  below the horizontal may be reduced to  $5^\circ$ .**



**However, in the case where a device is intended to be installed with its H plane at a mounting height less than 750 mm above the ground, the inward angle of  $45^\circ$  may be reduced to  $20^\circ$  under the H plane."**

*Paragraph 3.*, amend to read:

"3. Direction indicators of categories 11, 11a, 11b, 11c and 12

$$V = \pm 15^\circ$$

**However, in the case where a device is intended to be installed with its H plane at a mounting height less than 750 mm above the ground, the angle of  $15^\circ$  below the horizontal may be reduced to  $5^\circ$ .**

Minimum horizontal angles of light distribution in space:

Categories 11, 11a, 11b and 11c: direction indicators for the front of the vehicle;

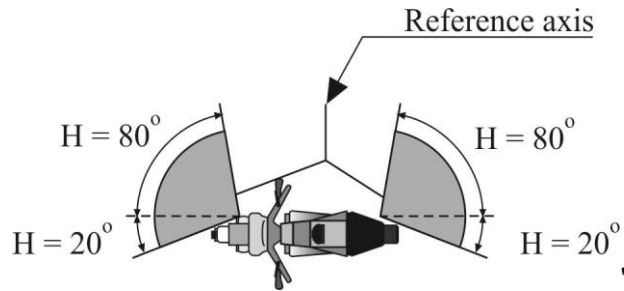
Category 11: for use at a distance not less than 75 mm from the passing beam headlamp;

Category 11a: for use at a distance not less than 40 mm from the passing beam headlamp;

Category 11b: for use at a distance not less than 20 mm from the passing beam headlamp;

Category 11c:

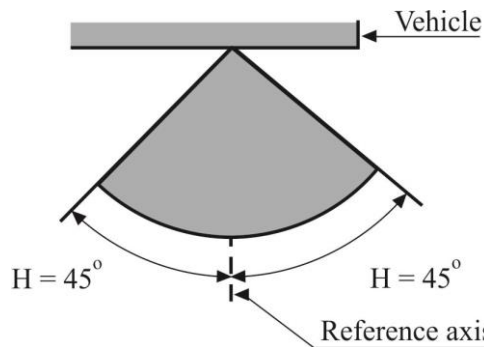
for use at a distance less than 20 mm from the passing beam headlamp.



Paragraph 4., amend to read:

"4. Stop lamps  
 $V = +15^\circ/-10^\circ$

**However, in the case where a device is intended to be installed with its H plane at a mounting height less than 750 mm above the ground, the angle of  $10^\circ$  below the horizontal may be reduced to  $5^\circ$ .**



**However, in the case of a pair of lamps, the inboard geometric visibility requirement is deemed to be satisfied if the lamps conform to the photometric values prescribed in the field of light distribution for the approval of the device.**

Annex 2,

Item 9., amend to read:

"9. Concise description: <sup>3/</sup>

Electronic light source control gear/variable intensity ...

**Only for limited mounting height of equal to or less than 750 mm above the ground (yes/no):** .....

**Function(s) produced by an interdependent lamp forming part of an interdependent lamp system:** .....

**Front position lamp (yes/ no):** .....

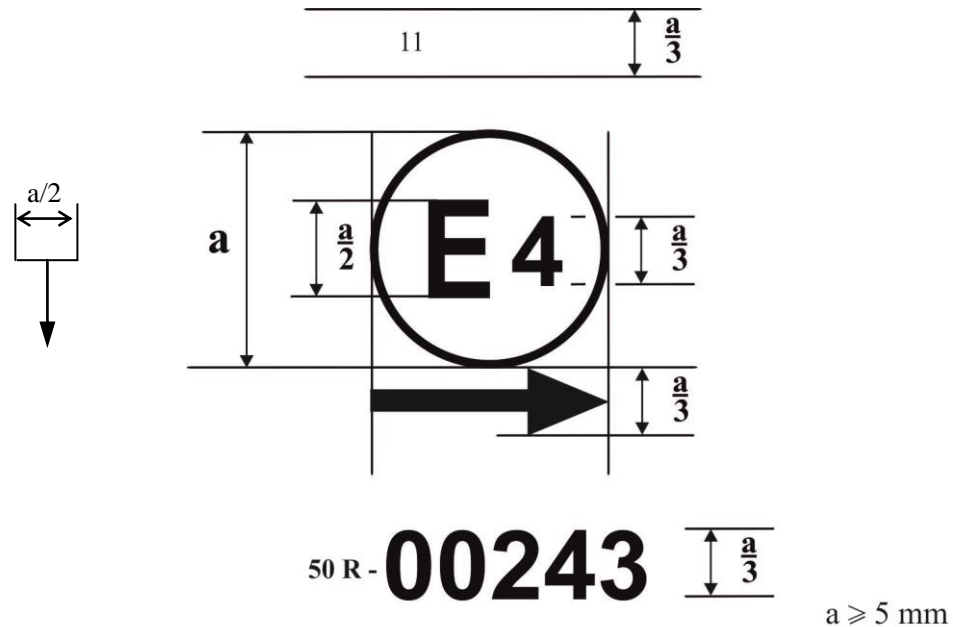
**Rear position lamp (yes/ no):** .....

**Stop lamp (yes/ no):** ....."

Annex 3, amend to read:

"Annex 3

Examples of arrangement of the approval mark  
(see paragraph 5.3. of this Regulation)



A device bearing the approval mark shown above is a direction indicator of the category 11 approved in the Netherlands (E4) under the number 00243. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. 50 in its original form.

For a direction indicator, the arrow indicates that the luminous distribution is a symmetrical in a horizontal plane and that the photometric values required are satisfied up to an angle of 80° to the right, the device seen in the opposite sense of the light emitted.

**The vertical arrow starting from a horizontal segment and directed downwards indicates a permissible mounting height of equal to or less than 750 mm from the ground for this device.**

Light source modules

**MD E3 17325**

The light source module bearing the identification code shown above has been approved together with a lamp approved in Italy (E3) under approval number 17325.

*Note:* The approval number must be placed close to the circle and either above or below the letter "E" or to the left of right of that letter the digits of the approval number must be on the same side of the "E" and face in the same direction. The use of Roman numbers as approval numbers should be avoided so as to prevent any confusion with other symbols.

## Interdependent lamps

12 MRY MSY



R50-00113

Marking of an interdependent lamp comprising part of an interdependent lamp system providing:

A rear direction indicator lamp (category 12) approved in accordance with the requirements of Regulation No. 50;

A rear position lamp (MRY) approved as an interdependent lamp forming part of an interdependent lamp system in accordance with the requirements of Regulation No. 50;

A stop-lamp (MSY) approved as an interdependent lamp forming part of an interdependent lamp system in accordance with the requirements of Regulation No. 50.

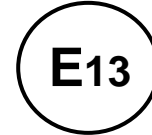
"

*Annex 4,*

*Insert a new paragraph 2.3., to read:*

"2.3. However, in the case where a device is intended to be installed at a mounting height of equal to or less than 750 mm above the ground, the photometric intensity is verified only up to an angle of 5 degrees downwards."

MRY MSY



R50-00113

Marking of an interdependent lamp comprising part of an interdependent lamp system providing:

A rear position lamp (MRY) approved as an interdependent lamp forming part of an interdependent lamp system in accordance with the requirements of Regulation No. 50;

A stop-lamp (MSY) approved as an interdependent lamp forming part of an interdependent lamp system in accordance with the requirements of Regulation No. 50.

## II. Justification

1. The rear trunk lid that is commonly used for four-wheeled vehicles may be adopted for future scooter-type motorcycles to secure the storage space for helmet, etc. and improve the appearance and marketability. Without this amendment, the regulatory requirements for the lamp system may lead to motorcycle design constraints.

2. Currently the interdependent lamp system is approved under Regulations Nos.7 and 48 and is already available on the market. This provision provides increased design freedom and balances the modern appearance and functionality during loading /unloading from the storage space.

3. L category vehicles are included in the scope of the Regulation No.7, and as such the certified stop lamps, front position lamps, and rear position lamps can also be applied to motorcycles. With these previous examples, interdependent lamp systems should also be approved for use on L category vehicles.



4. This proposal not only increases the design freedom of motorcycle lamp systems and improves the vehicle functionality but it does it without jeopardizing the road safety.
5. This amendment also reflects the recent amendments to supplement 2 to the 06 series of amendments to Regulation No. 48, where measurement height taken at the H-plane is changed to 750 mm, with some editorial corrections to current text of Regulation No. 53.
6. This proposal reflects the recent amendments to Regulations No. 6 and 7:
  - (a) reduction in inward visibility angle if the mounting height of the lamp is less than 750 mm from the ground to carry forward to L-category vehicles the recent styling trends for better aerodynamics and pedestrian protection;
  - (b) the simplification of the maximum intensity requirements (Supplement 19 to 01 series of Regulation No.6, Supplement 16 to 02 series of Regulation No. 7).
7. This proposal aligns the visibility requirements between Regulations Nos. 50 and 53. Currently the vertical angle requirement of geometric visibility below horizontal of a lamp whose mounting height is less than 750 mm above the ground mismatches between Regulations Nos. 50 and 53 and this is resolved by introducing a 5 degrees angle of geometric visibility below horizontal to Regulation No. 50. The determination of 750 mm shall follow that of Regulation No.48, Supplement 2 to 06 series.
8. Based on the outcome of the seventy-first GRE session, this document includes the contents of informal documents GRE-71-04 and GRE-71-12-Rev1. GRE-71-30 is not included since it becomes duplicable with the following sentence added as item 9 Annex 2.  
“Only for limited mounting height of equal to or less than 750 mm above the ground (yes/no): .....”

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