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Item 10(a) of the provisional agenda

NEW AGENDA ITEMS

Regulations Nos. 4 and 48

Proposal for Supplement 15 to Regulation No. 4

Submitted by the expert from the Working Party "Brussels 1952" (GTB) */

The text reproduced below was prepared by the expert from GTB, in order to include into Regulation No. 4 provisions concerning the approval of rear registration plate illuminating devices where the illumination may be produced either by reflection or by transmission. The modifications to the current text of the Regulation are marked in **bold** 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 performance of vehicles. The present document is submitted in conformity with that mandate.

A. PROPOSAL

Paragraph 1.1., amend to read:

"1.1. **"Rear registration plate illuminating device"** means the device used to enable the readability of the rear registration plate in darkness by illuminating the plate itself or the space provided for its installation on the vehicle. For the approval of this device, the illumination of the space to be occupied by the plate is determined."

Insert new paragraphs 1.1.1. and 1.1.2., to read:

"1.1.1. **"Class 1 rear registration plate illuminating device"** means a device which provides the illumination by projecting light onto the surface of the space provided for the installation of the plate on the vehicle; it may consist of several optical elements;

1.1.2. **"Class 2 rear registration plate illuminating device"** means a device which provides the illumination by technologies other than those used for Class 1 devices, such as producing light which is transmitted through the plate."

Paragraph 1.3., amend to read:

"1.3. **"Rear registration plate illuminating device of different types"** means lamps which differ in such essential respects as:
(a) the trade name or mark;
(b) the characteristics of the optical system, (levels of intensity, light distribution angles, **a device of Class 1 or Class 2, "optical materials"**, category of filament lamp, light source module, etc.);
(c) **Colour of the light emitted by a device of Class 2;**
(d) **Dimensions of the device of Class 2."**

Paragraph 2., amend to read:

"2. APPLICATION FOR APPROVAL

....

- (b) a brief technical description stating in particular,
(i) **the optical system;**
(ii) the category or categories of filament lamp prescribed; this filament lamp category shall be one of those contained in Regulation No. 37 and its series of amendments in force at the time of application for type approval; and/or
(iii) the light source module specific identification code;
(c) ..."

Insert a new paragraph 5.6., including the reference to footnote 5/ and footnote 5/, to read:

"5.6. If the rear registration plate is part of an indivisible lighting assembly approved according to this Regulation it shall retain its approval in the event of any post approval treatment 5/ by a certified plate supplier according to the specifications of the approval holder and in accordance with the rules applied by the Contracting Party.

The approval of the registration plate and/or the certification of the registration plate supplier is the responsibility of the type approval authority or certification body of the Contracting Party in whose territory the plate will be certified.

A note in paragraph 9 of the communication form in Annex 1 to this Regulation shall indicate which post approval treatment/s is/are allowed.

5/ e.g. stamping, gluing, riveting of characters and official seals, treatment for changing the colour prescribed by the Contracting Party in whose territory the plate will be certified."

Paragraph 6., amend to read:

"6. COLOUR OF LIGHT

The light emitted by a Class 1 illuminating device shall be white and not cause any appreciable change in the colour of the registration plate.

The light emitted by a Class 2 illuminating device shall be either white or of any colour which does not change the colour of the plate prescribed by the Contracting Party in whose territory the plate will be certified."

Paragraph 7., amend to read:

"7. ANGLE OF INCIDENCE

In the case of illuminating devices of Class 1 the manufacturer of the illuminating device shall specify combined or grouped with a rear lamp."

Paragraph 8., amend to read (including the renumbering of the reference to footnote 5/ and footnote 5/ as footnote 6/):

"8. MEASURING PROCEDURE

**8.1. In the case of (an) illuminating device(s) of Class 1 only:
Luminance measurements shall be made on..."**

Insert new paragraphs 8.2. to 8.4., to read (inserting a new footnote 7/):

"8.2. In the case of a Class 2 illuminating device where the registration plate is not

part of the device, luminance measurements shall be made on the illuminating device without the plate fitted and the measured luminance values shall be divided by 3. 7/

8.3. In the case of a Class 2 illuminating device where the registration plate is part of the device see paragraph 5.6. Luminance measurements shall be made on the blank surface.

8.4. In all above mentioned cases, the luminance measurements shall be made perpendicularly to the surface of the plate with the tolerance of 5° in each direction at the points shown in Annex 3 to this Regulation, each point representing a circular area of 25 mm in diameter.

7/ The factor 3 corresponds to a plate with a known transmittance of minimum 30 percent (CIE Publication No 17 – 1970, paragraph 45-20-085)."

Paragraph 9., amend to read:

"9. PHOTOMETRIC CHARACTERISTICS

At each of the points of measurement shown in Annex 3, the luminance B shall be:

- (a) in the case of an illuminating device of Class 1 at least equal to 2.5 cd/m² or
- (b) in the case of an illuminating device of Class 2 at least equal to 2.5 cd/m² and not more than 25 cd/m².

In the case of an illuminating device of Class 1, the gradient of the luminance between the values B₁ and B₂, measured at any two points 1 and 2 selected from those shown in Annex 3, shall not exceed 2 x B₀/cm, B₀ being the minimum luminance measured at the various points, that is to say:

$$\frac{(B_2 - B_1)}{\text{distance (1 - 2) in cm}} = 2 \times B_0/\text{cm}$$

In the case of an illuminating device of Class 2, the gradient of the luminance between the values B₁ and B₂, measured at any two points 1 and 2 selected from among those inside the field (matrix) of test points described in Annex 3 of this Regulation, shall be not larger than 4.0."

Annex 2, item 9., amend to read:

"9. Concise description 3/:

- Device for illuminating: a tall plate;
- a wide plate;
- a plate for agricultural or forestry tractors 2/

Type of illuminating device:

- (a) an illuminating device of Class 1: yes/no 2/
- (b) an illuminating device of Class 2: yes/no 2/

(i) dimensions of the device:

(ii) colour of the light emitted:

(c) registration plate is part of the device: yes/no 2/

(d) the following post approval treatment/s is/are applicable:

Number and category of filament lamp(s):

Light source"

B. JUSTIFICATION

The proposal is intended to introduce into Regulation No. 4 additional provisions which would enable Contracting Parties to approve rear registration plate illuminating devices incorporating new technologies. These could provide the illuminating device separated from a transparent registration plate, or the illuminating device and the registration plate combined into one unit, with the lighting elements and the plate forming an indivisible assembly. To this aim, the conventional illuminating devices have been designated as "Class 1" and the illuminating devices using new technologies as "Class 2".

As for photometric characteristics of Class 2 illumination devices, a maximum value of 25 cd/m² has been defined in order to limit the glare to the rear originating from such devices. The amended version of Regulation No. 4 should create basis for uniform requirements concerning new technologies; it has been drafted in such a way that national prescriptions regarding registration plates remain applicable. Parallel amendments are proposed for Regulation No. 48 in document ECE/TRANS/WP.29/GRE/2008/6.
