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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

Fifty-ninth session

Geneva, 31 March - 4 April 2008

Item 5(g) of the provisional agenda

COLLECTIVE AMENDMENTS

Regulations Nos. 6, 7 and 48

Proposal for Supplement 18 to the 01 series of amendments Regulation No. 6
(Direction indicators)

Submitted by the expert from France */

The text reproduced below was prepared by the expert from France proposing to align with the state-of-the art realizations for the visibility angles requirements of the direction indicators. It supersedes ECE/TRANS/WP.29/GRE/2007/65, distributed during the fifty-eighth session of the Working Party on Lighting and Light-Signalling (GRE) (see report ECE/TRANS/WP.29/GRE/58, para. 32). 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

Annex 1, amend to read:

".....

- (ii) direction indicator lamps of Category 6, for which they are 30° above and 5° below the horizontal.

Minimum horizontal visibility angles

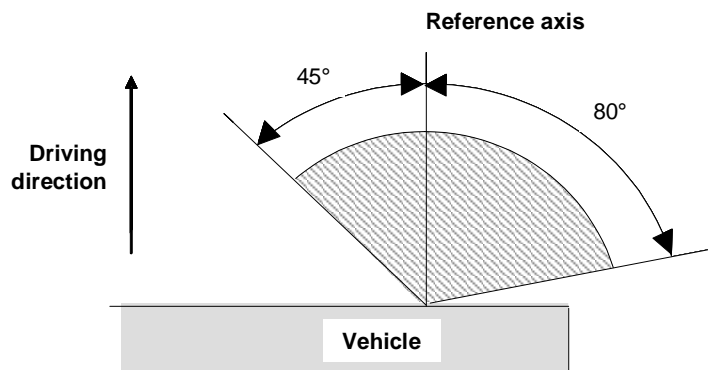
Direction indicators for the front of the vehicle

Category 1: for use at a distance not less than 40 mm from the headlamp;

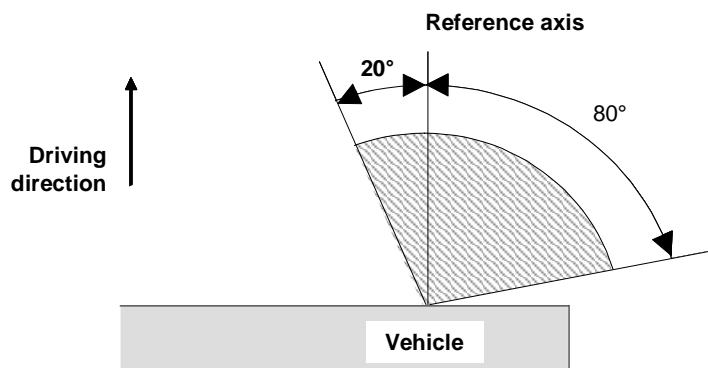
Category 1a: for use at a distance greater than 20 mm but less than 40 mm from the headlamp;

Category 1b: for use at a distance less than 20 mm from the headlamp.

On and above the H plane



Under the H plane



H plane : "horizontal plane going through the reference centre of the lamp"

Categories 2a and 2b: direction indicator...."

B. JUSTIFICATION

The current visibility requirements of the front and rear direction indicators and position lamps were written in the early 1970s. They were easily fulfilled in those times because the shapes of the vehicles were simple and rather boxy. Recent styling trends based on better aerodynamics and pedestrian protection lead to contoured shapes making the fulfilment of the 15° down and 45° inboard (15D-45inboard) visibility requirement impossible to achieve.

The interior visibility angle reduction of the front direction indicator from 45° to 20° has a minimum impact on the distance of visibility of the vehicle when observed along its longitudinal median plan. In the case of a vehicle with 1,400 mm between the reference axis of the direction indicator lamps, this angular reduction, as seen by an observer squatting on the median longitudinal plan of the vehicle, leads to a minimal change of just 1.22 m:

With the current visibility angle, the lamp is visible at $D_1 = 1,400 \times 0.5 \cotg 45^\circ = 700$
 With the proposed visibility angle, the lamp is visible at $D_2 = 1,400 \times 0.5 \cotg 20^\circ = 1,923$
 The "danger" distance is increased by a modest

$$D_2 - D_1 = 1,400 \times 0.5 (\cotg 20^\circ - \cotg 45^\circ) = 1,223 \text{ mm.}$$

