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World Forum for Harmonization of Vehicle Regulations

Working Party on Lighting and Light-Signalling

Sixty-second session

Geneva, 6 - 9 October 2009

Item 5(f) of the provisional agenda

COLLECTIVE AMENDMENTS

Regulations Nos. 48 and 123

Proposal for 01 series of amendments to Regulation No. 123

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

The text reproduced below was prepared by the expert from the Working Party "Brussels 1952" (GTB) to introduce provisions for the automatic gradual adaptation of the main beam. The modifications to the current text of the Regulation, including Corrigendum 2 to Regulation No. 123, 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 1.9., amend to read:

"1.9. "Neutral state" means.... or of the main beam **in the maximum position of activation**, if any, is produced, and no AFS control signal applies;"

Paragraph 5.7.2., amend to read:

"5.7.2 **except in the case of the gradual adaptation of the main-beam** either the passing beam ... according to paragraph 5.7.3. below;"

Insert a new paragraph 6.3.6., to read:

"6.3.6. In the case of a gradual adaptation of the main-beam function the system shall meet the requirements of the above paragraphs only when this main-beam function is in the maximum position of activation.

Under the conditions of gradual adaptation, the main-beam function shall meet the requirements of Table 7 in Annex 3 to this Regulation. These requirements shall be verified during the type approval testing in conjunction with a signal generator to be provided by the applicant. This signal generator shall reproduce the signals provided by the vehicle and cause the gradual adaptation of the main-beam and in particular shall represent the settings so that the photometric compliance can be verified."

Annex 1, insert a new Paragraph 18.5., to read:

"18.5. The system is designed to provide an adaptive main-beam: yes no "

Annex 3, insert a new table 7, as follows:

"

Part A	Test Point	Position / deg.		Max. Intensity **	
		Horizontal	Vertical	(cd)	(lx)
	Line 1 Oncoming vehicle at 50m	4.8°L to 2°L	0.57°Up	440	0.7
	Line 2 Oncoming vehicle at 100m	2.4°L to 1°L	0,3°Up	1300	2.0
	Line 3 Oncoming vehicle at 200m	1.2°L to 0.5°L	0,15°Up	3800	6.0
	Line 4 Preceding vehicle at 50m	1.7°L to 1.7°R	0,3°Up	1320	2.1
	Line 5 Preceding vehicle at 100m	0.9°L to 0.9°R	0,14°Up	3900	6.2
	Line 6 Preceding vehicle at 200m	0.45°L to 0.45°R	0.1°Up	11400	18

Part B	Test Point	Position /degrees */		Min. Intensity **/	
		Horizontal	Vertical	(cd)	(lx)
	50R	1.72 R	D 0.86	3750	6
	50V	V	D 0.86	3750	6
	50L	3.43 L	D 0.86	2625	4.2
	25LL	16 L	D 1.72	875	1.4
	25RR	11 R	D 1.72	875	1.4

*/ Angular positions for the passing beam photometric requirements (indicated for right-hand traffic)

**/ [To be defined].

Table 7: Requirements concerning the gradual adaptation of the main-beam according to paragraph 6.3.6 of this Regulation.

Each of the lines defined in part A of table 7, in conjunction with the test points as prescribed in part B of table 7 shall be measured individually corresponding to the signal provided by the signal generator.

In the case where the gradual adaptation will be activated partially, depending upon the settings represented by the signal generator corresponding to the presence of oncoming and preceding vehicles, the measurements for part A of table 7 shall be determined in each of the horizontal sections where the partially gradual adaptation is activated."

Annex 4, amend to read:

"TESTS FOR STABILITY OF PHOTOMETRIC PERFORMANCE OF
SYSTEMS IN OPERATION

TESTS ON COMPLETE SYSTEMS

Once the photometric values ... performance in operation.

For the purpose of this annex:

- (a) "complete system" ...
- (b) "test sample" ...
- (c) the expression "light source" ...

The tests shall be carried out:

- (a) in a dry and still ...;
- (b) in case of replaceable light sources: ...
- (c) **In the case of a system providing an adaptive main-beam, the adaptive main-beam shall be in the maximum position if activated.**

The measuring equipment shall be equivalent to that used during system approval tests. The system or part(s) thereof shall, prior to the subsequent tests, be set to the neutral state."

B. JUSTIFICATION

At the sixtieth session of GRE, the expert from GTB presented an overview of the development of an adaptive main-beam based upon sensors and image processing and intended as a driver assistance system. A copy of this presentation is available in the list of informal documents of the sixtieth session. This proposal identifies the necessary provisions that are required in Regulation No. 123.
