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World Forum for Harmonization of Vehicle Regulations

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Item 4.2.24 of the provisional agenda

1958 AGREEMENT

Consideration of draft amendments to existing Regulations

Proposal for Supplement 5 to the 04 series of amendments to Regulation No. 48 (Installation of lighting and light-signalling devices)

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-second session. It is based on ECE/TRANS/WP.29/GRE/2009/20, as amended by Annex V to the report, ECE/TRANS/WP.29/GRE/2009/33 and ECE/TRANS/WP.29/GRE/2009/34, both as amended by Annex III to the report, ECE/TRANS/WP.29/GRE/2009/37, not amended, ECE/TRANS/WP.29/GRE/2009/51, not amended and on ECE/TRANS/WP.29/GRE/2009/64, as amended by para. 10 of the report. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration (ECE/TRANS/WP.29/GRE/62, paras. 6, 7, 10 and 20).

*/ 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.

Paragraph 2.7.17., amend to read:

"2.7.17. "Conspicuity marking" means a device intended to increase the conspicuity of a vehicle, when viewed from the side or rear (or in the case of trailers, additionally from the front), by the reflection of light emanating from a light source not connected to the vehicle, the observer being situated near the source;"

Insert a new paragraph 2.33., to read:

"2.33. "Rear-end collision alert signal (RECAS)" means an automatic signal given by the leading vehicle to the following vehicle. It warns that the following vehicle needs to take emergency action to avoid a collision."

Paragraph 5.11. to 5.11.2., amend to read:

"5.11. The electrical connections shall be such that the front and rear position lamps, the end-outline marker lamps, if they exist, the side-marker lamps, if they exist, and the rear registration plate lamp can only be switched ON and OFF simultaneously.

5.11.1. This condition does not apply:

5.11.1.1. when front and rear position lamps are switched ON, as well as side-marker lamps when combined or reciprocally incorporated with said lamps, as parking lamps; or

5.11.1.2. when side-marker lamps flash in conjunction with direction indicators or"

Insert a new paragraph 5.11.1.3., to read:

"5.11.1.3. when light signalling system operates according to 6.2.7.6.2."

Paragraph 5.11.3.(former), renumber as paragraph 5.11.2.

Paragraph 5.15., amend to read:

"5.15. The colours of the light emitted by the lamps are the following:

….

emergency stop signal:	amber or red
rear-end collision alert signal:	amber
rear registration plate lamp:	white

….

conspicuity marking:	white to the front; white or yellow to the side; red or yellow to the rear 9/

… "

Insert a new paragraph 6.1.7.1., to read:

"6.1.7.1. Except when they are used to give intermittent luminous warnings at short intervals the main-beam headlamps may be switched ON, , only when the master light switch is in headlamps ON position or in "AUTO" (automatic) position and the conditions for automatic activation of dipped beam exist. In the latter case, the main beam headlamps shall be switched off automatically when the conditions for automatic activation of dipped beam ceased to exist."

Paragraphs 6.1.7.1. to 6.1.7.3. (former), renumber as paragraphs 6.1.7.2 to 6.1.7.4.

Paragraph 6.1.9.1., amend to read:

"6.1.9.1. The aggregate maximum intensity of the main-beam headlamps which can be switched on simultaneously shall not exceed 430,000 cd, which corresponds to a reference value of 100."

Paragraph 6.2.7., amend to read:

"6.2.7. Electrical connections

6.2.7.1. The control for changing over to the dipped-beam shall switch off all main-beam headlamps simultaneously.

6.2.7.2. The dipped beam may remain switched on at the same time as the main beams.

6.2.7.3. In the case of dipped-beam headlamps according to Regulation No. 98, the gas-discharge light sources shall remain switched on during the main-beam operation.

6.2.7.4. One additional light source or one or more LED module(s), located inside the dipped-beam headlamps or in a lamp (except the main-beam headlamp) grouped or reciprocally incorporated with the respective dipped-beam headlamps, may be activated to produce bend lighting, provided that the horizontal radius of curvature of the trajectory of the centre of gravity of the vehicle is 500 m or less. This may be demonstrated by the manufacturer by calculation or by other means accepted by the authority responsible for type approval.

6.2.7.5. Dipped-beam headlamps may be switched ON or OFF automatically. However, it shall be always possible to switch these dipped-beam headlamps ON and OFF manually."

Insert new paragraphs 6.2.7.6. to 6.2.7.7. and the reference to footnote [11/] and footnote [11/], to read:

"6.2.7.6. If daytime running lamps are present and operate according to paragraph 6.19., either

6.2.7.6.1. the dipped-beam headlamps shall be switched ON and OFF automatically relative to the ambient light conditions (e.g. switch ON during nighttime driving conditions, tunnels, etc.) according to the requirements of Annex 12; or

6.2.7.6.2. daytime running lamps operate in conjunction with the lamps listed in paragraph 5.11. where, as a minimum requirement, at least the rear position lamps shall be activated. [11/]; or

6.2.7.6.3. distinctive means are provided to inform the driver that the headlamps, position lamps and if so equipped end outline marker lamps and side marker lamps are not illuminated. Such means are:

6.2.7.6.3.1. two distinctly different levels of instrument panel illumination intensity are provided during night and day, indicating to the driver that the dipped beam headlamps shall be switched ON [11/]; or

6.2.7.6.3.2. non-illuminated indicators and identification of hand controls that are required by Regulation No. 121 to be illuminated when the headlamps are activated [11/]; or

6.2.7.6.3.3. a tell-tale visual, auditory or both, shall be activated only in reduced ambient lighting conditions as defined in Annex 12 to inform the driver that the dipped beam headlamps should be switched ON. Once the tell-tale is activated, it shall only be extinguished when the dipped beam headlamps have been switched on or the device which starts and/or stops the engine (propulsion system) is set in a position which makes it impossible for the engine (propulsion system) to operate [11/].

6.2.7.7. Without prejudice to paragraph 6.2.7.6.1., the dipped-beam headlamps may switch ON and OFF automatically relative to other factors such as time or ambient conditions (e.g. time of the day, vehicle location, rain, fog, etc.).

[11/ This exemption applies to vehicles of categories M_1 and N_1 approved until 66 months, and for vehicles to other M and N categories approved until 84 months, after the official date of entry into force of the Supplement 5 to the 04 series of amendment to this Regulation. These approvals will remain valid indefinitely and extention of these approvals shall be granted after the dates expressed above.]"

[Paragraph 6.2.9., the reference to footnote 11/ and footnote 11/, renumber as footnote 12/]

[Paragraph 6.3.4.2., the reference to footnote 12/ and footnote 12/, renumber as footnote 13/]

[Paragraphs 6.3.5. and 6.3.6.1.1., the reference to footnote 13/ and footnote 13/, renumber as footnote 14/]

Paragraph 6.3.6.1.2.2., amend to read:

"6.3.6.1.2.2. depending on the mounting height …… shall have the following value(s):

$h \leq 0.8$

Limits:	between -1.0 per cent and -3.0 per cent
Initial aiming:	between -1.5 per cent and -2.0 per cent

$h > 0.8$

Limits:	between -1.5 per cent and -3.5 per cent
Initial aiming:	between –2.0 per cent and -2.5 per cent "

[Paragraphs 6.5.8., the reference to footnote 13/ and footnote 13/, renumber as footnote 14/]

Paragraph 6.13.1., amend to read:

"6.13.1. Presence

Devices of A or AM categories (visible from the front), and devices of R, R1, R2, RM1 or RM2 Categories (visible from the rear):

Mandatory on vehicles exceeding 2.10 m in width. Optional on vehicles between 1.80 and 2.10 m in width. On chassis-cabs the rear end-outline marker lamps are optional."

Paragraph 6.19.7.1., amend to read [(the reference to foot note 15/ and footnote 15/, renumber as footnote 16/)]:

"6.19.7.1. The daytime running lamps shall be switched ON automatically when the device which starts and/or stops the engine (propulsion system) is set in a position which makes it possible for the engine (propulsion system) to operate. However, the daytime running lamps may remain OFF while the following conditions exist:

6.19.7.1.1. the automatic transmission control is in the park position; or

6.19.7.1.2. the parking brake is in the applied position; or

6.19.7.1.3. prior to the vehicle being set in motion for the first time after each manual activation of the propulsion system.

6.19.7.2. The daytime running lamps may be switched OFF manually when the vehicle speed does not exceed 10 km/h provided they switch ON automatically when the vehicle speed exceeds 10 km/h or when the vehicle has travelled more than 100 m and they remain ON until deliberately switched off again.

6.19.7.3. The daytime running lamp shall switch OFF automatically when the device which starts and/or stops the engine (propulsion system) is set in a position which makes it impossible for the engine (propulsion system) to operate or the front fog lamps or headlamps are switched ON, except when the latter are used to give intermittent luminous warnings at short intervals. [16/]

6.19.7.4. The lamps referred to in paragraph 5.11. are not switched ON when the daytime running lamps are switched ON, except if daytime running lamps are operating according to paragraph 6.2.7.6.2."

Paragraphs 6.19.7.2. and 6.19.7.3. (former), renumber as paragraphs 6.19.7.5. and 6.19.7.6.

Paragraph 6.21.1.3. to 6.21.1.3.2., amend to read:

"6.21.1.3. Optional:

6.21.1.3.1. to the rear and to the side:

on all other categories of vehicles, not otherwise specified in paragraphs 6.21.1.1. and 6.21.1.2. above, including the cab of tractor units for semi-trailers and the cab of chassis-cabs.

partial or full contour marking may be applied instead of mandatory line markings, and full contour marking may be applied instead of mandatory partial contour marking.

6.21.1.3.2. to the front:

line marking on vehicles of categories O_2 , O_3 and O_4.

partial or full contour marking may not be applied to the front."

Paragraphs 6.21.5.1., amend to read:

"6.21.5.1. for rear and front conspicuity markings (see Annex 11, Figures 1a and 1b) the observation plane is perpendicular to the longitudinal axis of the vehicle situated 25 m from the extreme end of the vehicle and bounded by:"

Paragraph 6.21.6.2., amend to read:

"6.21.6.2. To the rear and to the front:

….."

[Paragraph 6.22.4.1.2., the reference to footnote 17/ and footnote 17/, renumber as footnote 18/]

[Paragraph 6.22.7.4.3., the reference to footnote 18/ and footnote 18/, renumber as footnote 19/]

[Paragraph 6.22.7.4.5., the reference to footnote 19/ and footnote 19/, renumber as footnote 20/]

[Paragraph 6.22.9.1., the reference to footnote 20/ and footnote 20/, renumber as footnote 21/]

Insert new paragraphs 6.25. to 6.25.8., to read:

"6.25. REAR-END COLLISION ALERT SIGNAL

6.25.1. Presence
Optional

The rear-end collision alert signal shall be given by the simultaneous operation of all the direction indicator lamps fitted as described in paragraph 6.25.7.

6.25.2. Number
As specified in paragraph 6.5.2

6.25.3. Arrangement
As specified in paragraph 6.5.3

6.25.4. Position
As specified in paragraph 6.5.4

6.25.5. Geometric visibility
As specified in paragraph 6.5.5

6.25.6. Orientation
As specified in paragraph 6.5.6

6.25.7. Electrical connections. Compliance with these requirements shall be demonstrated by the applicant, by simulation or other means of verification accepted by the Technical Service responsible for type approval.

6.25.7.1. All the lamps of the rear-end collision alert signal shall flash in phase at a frequency of 4.0 +/- 1.0 Hz.

6.25.7.1.1. However, if any of the lamps of the rear end collision alert signal to the rear of the vehicle use filament light sources the frequency shall be 4.0 +0.0/-1.0 Hz.

6.25.7.2. The rear-end collision alert signal shall operate independently of other lamps.

6.25.7.3. The rear-end collision alert signal shall be activated and deactivated automatically.

6.25.7.4. The rear-end collision alert signal shall not be activated if the direction indicator lamps, the hazard warning signal or the emergency stop signal is activated.

6.25.7.5. The rear-end collision alert signal may only be activated under the following conditions:

Vr	activation
Vr > 30 km/h	TTC ≤ 1.4
Vr ≤30 km/h	TTC ≤ 1.4 / 30 ×Vr

"Vr (Relative Speed)": means the difference in speed between a vehicle with rear-end collision alert signal and a following vehicle in the same lane.

"TTC (Time to collision)": means the estimated time for a vehicle with rear-end collision alert signal and a following vehicle to collide assuming the relative speed at the time of estimation remains constant.

6.25.7.6. The activation period of the rear-end collision alert signal shall be not more than 3 seconds.

6.25.8. Tell-tale
Optional"

Insert a new paragraph 12.21., to read:

"12.21. As from 48 months from the official date of entry into force of Supplement 5 to the 04 series of amendments, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by Supplement 5 to the 04 series of amendments."

Annex 9, paragraphs 1.3. to 1.3.2., amend to read:

"1.3. Alignment of dipped-beam headlamps and class "F3" front fog lamps towards the front

1.3.1. Initial downward inclination

The initial downward inclination of the cut-off of the dipped beam and the class "F3" front fog lamps shall be set to the plated figure as required and shown in Annex 7.

Alternatively …… paragraph 4.1.

1.3.2. Variation of inclination with load

The variation of the dipped beam downward inclination as a function of the loading conditions specified within this section shall remain within the range:

0.2 per cent to 2.8 per cent for headlamp mounting height $h < 0.8$;
0.2 per cent to 2.8 per cent for headlamp mounting height $0.8 \leq h \leq 1.0$; or

0.7 per cent to 3.3 per cent	(according to the aiming range chosen by the manufacturer at the approval);
0.7 per cent to 3.3 per cent	for headlamp mounting height $1.0 < h \leq 1.2$ m;
1.2 per cent to 3.8 per cent	for headlamp mounting height $h > 1.2$ m.

In the case of a class "F3" front fog lamp with (a) light source(s) having a total objective luminous flux which exceeds 2,000 lumen, the variation of the downward inclination as a function of the loading conditions specified within this section shall remain within the range:

0.7 per cent to 3.3 per cent	for front fog lamp mounting height $h \leq 0.8$;
1.2 per cent to 3.8 per cent	for front fog lamp mounting height $h > 0.8$ m.

The states of loading to be used shall be as follows, as indicated in Annex 5 of this Regulation, for every system adjusted accordingly."

Annex 11, amend to read:

"Annex 11

VISIBILITY OF CONSPICUITY MARKINGS TO THE REAR, FRONT AND SIDE OF A VEHICLE

(see paragraph 6.21.5. of this Regulation)

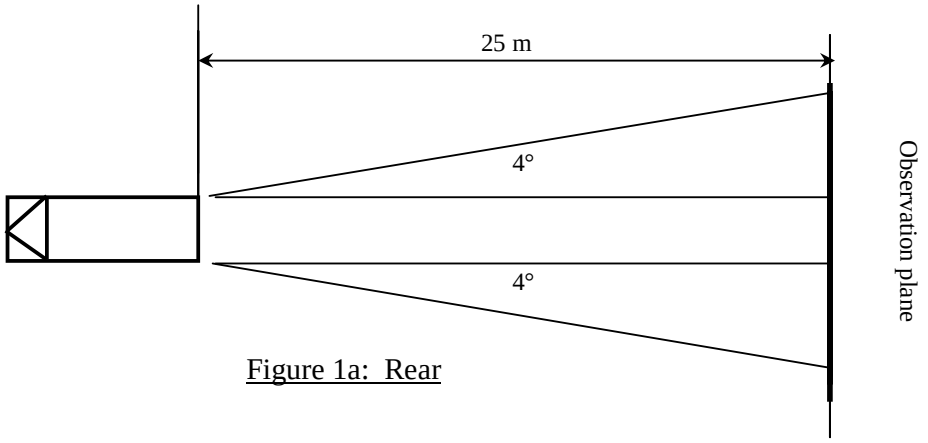


Figure 1a: Rear

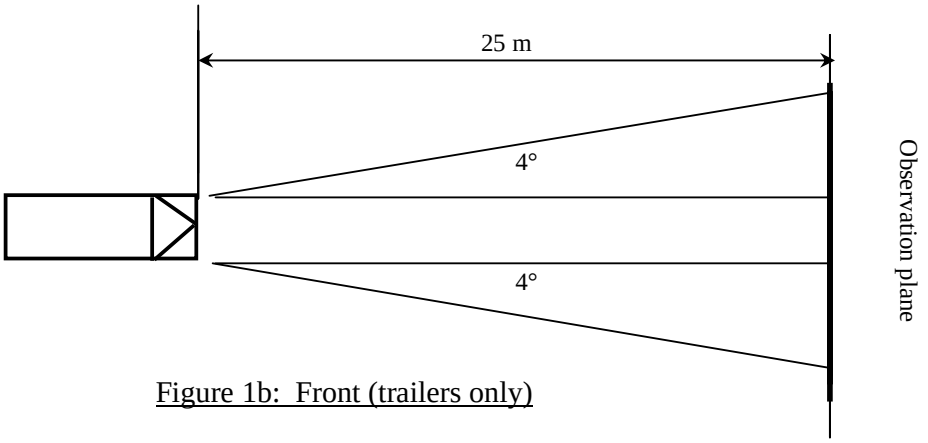


Figure 1b: Front (trailers only)

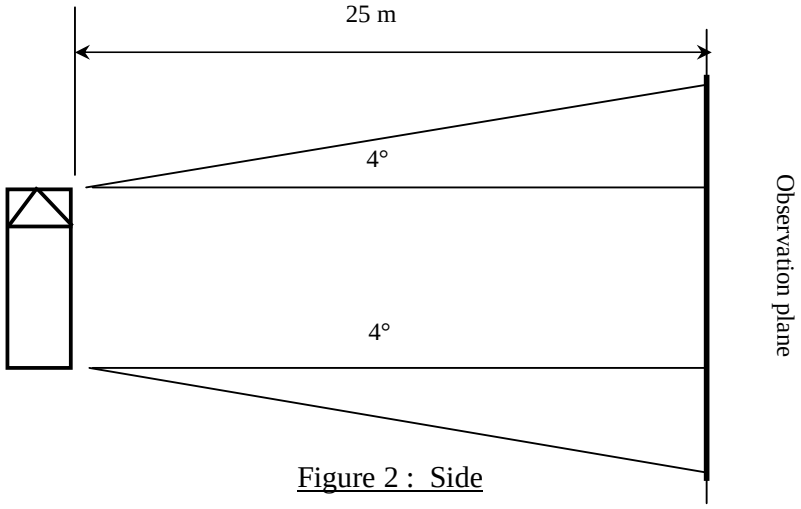


Figure 2 : Side

"

Insert a new Annex 12, to read:

"Annex 12

AUTOMATIC SWITCHING CONDITIONS DIPPED-BEAM HEADLAMPS 1/		
Ambient light outside the vehicle 2/	Dipped-beam headlamps	Response time
less than 1000 lux	ON	no more than 2 seconds
between 1000 lux and 7,000 lux	at manufacturer's discretion	at manufacturer's discretion
more than 7,000 lux	OFF	more than 5 seconds, but no more than 300 seconds

1/ Compliance with these conditions shall be demonstrated by the applicant, by simulation or other means of verification accepted by the authority responsible for type approval.

2/ The illuminance shall be measured on a horizontal surface, with a cosine corrected sensor on the same height as the mounting position of the sensor on the vehicle. This may be demonstrated by the manufacturer by sufficient documentation or by other means accepted by the authority responsible for type approval."

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