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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-ninth session**

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Items 4 and 7 (c) of the provisional agenda

Simplification of lighting and light-signalling Regulations**Other Regulations: Regulation No. 53 (Installation of lighting and light-signalling devices for L₃ vehicles)****Proposal for the 03 series of amendments to Regulation No. 53 and proposal for amendments to the draft new Regulation on light-signalling devices****Submitted by the expert from the Special Interest Group for Daytime Running Lamps for L-category vehicles (DRL-L)***

The text reproduced below was prepared by the DRL-L Special Interest Group and is based on ECE/TRANS/WP.29/GRE/2016/35 and ECE/TRANS/WP.29/GRE/2017/9. The proposals reflect the conclusions of the group at its ad-hoc meeting on 17 May 2017 and are in accordance with the considerations at the seventy-seventh session of the Working Party on Lighting and Light-Signalling (GRE) regarding a new requirement for automatic switching from the daytime running lamp (DRL) to the headlamp for L₃ category vehicles. The modifications to the text of the Regulations are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2014–2018 (ECE/TRANS/240, para. 105 and ECE/TRANS/2014/26, cluster 02.4), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



I. Proposal

A. Proposal for the 03 series of amendments to Regulation No. 53

Paragraph 5.11.1., amend to read:

"5.11.1. If installed, the daytime running lamp shall automatically be ON when the engine is running. If the headlamp is switched ~~on~~ ON, the daytime running lamp shall not come ~~on~~ ON when the engine is running.

~~If no daytime running lamp is installed, the headlamp shall automatically be on when the engine is running.~~

5.11.1.1. If RL category of each DRL is fitted on vehicle, the headlamp [(passing beam)] shall be switched ON and OFF automatically relative to the ambient light conditions (e.g. switch ON during night-time driving conditions, tunnels, etc.) according to the requirements of Annex 7.

5.11.1.2. If MRL category of each DRL is fitted on vehicle, the switching ON or OFF of headlamp [(passing beam)] may be either manual or automatic. If automatic, conditions of paragraph 5.11.1.1. must be complied with. "

Insert new paragraph 5.11.2., to read:

"5.11.2. If no daytime running lamp is installed, the headlamp [(passing beam)] shall automatically be ON when the engine is running. "

Insert new paragraphs 11.7. to 11.11., to read:

"11.7. As from the official date of entry into force of the 03 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the 03 series of amendments.

11.8. [As from 48 months after the date of entry into force of the 03 series of amendments, Contracting Parties applying 03 series of amendments of this Regulation shall grant type approvals for the purpose of placing on their respective markets only if the vehicle type to be approved meets the requirements of this Regulation as amended by the 03 series of amendments.]

11.9. As from [48 months] after the date of entry into force of the 03 series of amendments, Contracting Parties applying this UN Regulation, shall not be obliged to accept UN type-approvals granted according to the series preceding 03 series of amendments, first issued [48 months] after the date of entry into force of the 03 series of amendments.

11.10. Contracting Parties applying this UN Regulation shall continue to accept UN type-approvals granted according to the series preceding 03 series of amendments to this UN Regulation, first issued before [48 months] after the date of entry into force of the 03 series of amendments.

11.11. Contracting Parties applying this UN Regulation shall not refuse to grant extensions of UN type-approvals, the latter first issued before [48 months] after the date of entry into force of the 03 series of amendments, for existing types which have been granted according to any series preceding 03 series of amendments to this UN Regulation.

- 11.12. Notwithstanding the transitional provisions above, Contracting Parties whose application of this Regulation comes into force after the date of entry into force of the 03 series of amendments are not obliged to accept type approvals which were granted in accordance with any of the series preceding 03 series of amendments to this Regulation."

Insert a new Annex 7, to read:

"Annex 7

Ambient light related automatic switching conditions for headlamps [(passing beam)]

<i>Automatic switching conditions for headlamps [(passing beam)]¹</i>		
Ambient light outside the vehicle ²	Headlamps requirement	Response time for switching
less than 1,000 lux	ON	no more than 2 seconds
1,000 lux and more than 1,000 lux	at manufacturer's discretion	at manufacturer's discretion

¹ Compliance with these conditions shall be demonstrated by the applicant, by simulation or other means of verification accepted by the Type Approval Authority.

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 Type Approval Authority. "

B. Proposal for amendments to the draft new Regulation on light-signalling devices**

Paragraph 3.2.4., amend to read:

- "3.2.4. The identification symbols to be referenced in the paragraph 9.1. of Annex 1 shall be as follows:

Table 1: Symbols

<i>Lamp</i>	<i>Symbol</i>	<i>Paragraph</i>
Daytime running lamp ¹	RL	5.4.
Daytime running lamp	MRL	5.4.
Front direction indicator lamp to be installed at a distance of at least 20mm from passing beam headlamp or front fog lamp	1a	5.6.
Front direction indicator lamp to be installed at any distance from passing beam headlamp or front fog lamp	1b	5.6.

** The draft new Regulation on light-signalling devices (LSD) was published in ECE/TRANS/WP.29/GRE/2017/9 and ECE/TRANS/WP.29/GRE/2018/2 (note by the secretariat).

¹ This lamp cannot be installed on category L₃ vehicle with no automatic switching between daytime running lamp and headlamp.

Front direction indicator lamp to be installed at a distance of at least 40 mm from passing beam headlamp or front fog lamp	1	5.6.
Direction indicators for the front of the category L vehicle for use at a distance of at least 75 mm from the passing beam headlamp	11	5.6.
Direction indicators for the front of the category L vehicle for use at a distance of at least 40 mm from the passing beam headlamp;	11a	5.6.
Direction indicators for the front of the category L vehicle for use at a distance of at least 20 mm from the passing beam headlamp;	11b	5.6.
Direction indicators for the front of the category L vehicle for use at any distance from the passing beam headlamp	11c	5.6.
Front end-outline marker lamp	AM	5.1.
Front position lamp for category L vehicle	MA	5.1.
Front position lamp	A	5.1.
Manoeuvring lamp	ML	5.10.
Parking lamp (Forward and rearward facing)	77R	5.3.
Rear direction indicator lamp (steady)	2a	5.6.
Rear direction indicator lamp (variable)	2b	5.6.
Rear direction indicator lamp for category L vehicle	12	5.6.
Rear end-outline marker lamp (steady)	RM1	5.2.
Rear end-outline marker lamp (variable)	RM2	5.2.
Rear fog lamp (steady)	F1	5.9.
Rear fog lamp (variable)	F2	5.9.
Rear position lamp for category L vehicle	MR	5.2.
Rear position lamp (steady)	R1	5.2.
Rear position lamp (variable)	R2	5.2.
Rear-registration plate illuminating lamp	L	5.11.
Rear-registration plate illuminating lamp for category L vehicle	LM1	5.11.
Reversing lamp (note: the letters A and R may be mingled)	AR	5.8.
Side direction indicator lamp for vehicles M1 and vehicles N1, M2 and M3 up to 6000 mm in length	5	5.6.
Side direction indicator lamp for vehicles N2 and N3 and vehicles N1, M2 and M3 more than 6000 mm in length	6	5.6.
Side marker lamp for all vehicle categories	SM1	5.7.
Side marker lamp for M1 vehicles	SM2	5.7.
Stop lamp (central high mounted) (steady)	S3	5.5.
Stop lamp (central high mounted) (variable)	S4	5.5.
Stop lamp for category L vehicle	MS	5.5.
Stop lamp (steady)	S1	5.5.
Stop lamp (variable)	S2	5.5.

"

Paragraph 3.3.2.4., amend to read:

"3.3.2.4. The two digits of the approval number which indicate the change index in force at the time of issue of the approval.

Table 2: Series of amendments and Change index to be used for marking

<i>Lamp</i> <i>- Series of amendment 00 -</i>	<i>Change index</i>
Daytime running lamp (RL) ²	Δ0
Daytime running lamp (MRL)	Δ0
Front direction indicator lamp	Δ0
Front direction indicator lamp (Vehicle category L)	Δ0
Front end-outline marker lamp	Δ0
Front position lamp	Δ0
Front position lamp (Vehicle category L)	Δ0
Manoeuvring lamp	Δ0
Parking lamp	Δ0
Rear direction indicator lamp	Δ0
Rear direction indicator lamp (Vehicle category L)	Δ0
Rear end-outline marker lamp	Δ0
Rear fog lamp	Δ0
Rear position lamp	Δ0
Rear position lamp (Vehicle category L)	Δ0
Rear-registration plate illuminating lamp	Δ0
Rear-registration plate illuminating lamp (Vehicle category L)	Δ0
Reversing lamp	Δ0
Side direction indicator lamp	Δ0
Side marker lamp	Δ0
Stop lamp	Δ0
Stop lamp (Vehicle category L)	Δ0
Stop lamp (central high mounted)	Δ0

"

Paragraph 5.4., amend to read:

"5.4. TECHNICAL REQUIREMENTS CONCERNING DAYTIME RUNNING LAMPS (SYMBOLS RL, **MRL**)

5.4.1. The light emitted by each of the two lamps **of the same category** supplied shall meet the requirements in table 6.

Table 6: Luminous intensities for daytime running lamps

	<i>Minimum luminous intensity in H-V (values in cd)</i>	<i>Maximum luminous intensity in any direction (values in cd)</i>
Daytime running lamps ³ RL	400	1200

² This lamp cannot be installed on category L₃ vehicle with no automatic switching between daytime running lamp and headlamp.

³ This lamp cannot be installed on category L₃ vehicle with no automatic switching between daytime running lamp and headlamp.

	<i>Minimum luminous intensity in H-V (values in cd)</i>	<i>Maximum luminous intensity in any direction (values in cd)</i>
Daytime running lamp MRL	400	700

"

Annex 2, Table A2-1: Light-distribution in space, horizontal and vertical, amend to read:

" Table A2-1: Light-distribution in space, horizontal and vertical

<i>Lamp</i>	<i>Minimum horizontal angles (inboard / outboard)</i>	<i>Minimum vertical angles (above / below)</i>	<i>Additional information</i>
Front direction indicator (1, 1a, 1b)	45° / 80° 20° / 80° ⁵	15° / 15° 15° / 5° ⁴	-
Rear direction indicator (2a, 2b)	45° / 80° 20° / 80° ⁵	15° / 15° 15° / 5° ³ 5° / 15° ⁵	-
Front direction indicator (11, 11a, 11b, 11c) Rear direction indicator (12)	20° / 80°	15° / 15° 15° / 5° ³	-
Front position singular (MA) Rear position singular (MR)	80° / 80°	15° / 10° 15° / 5° ³	
Front position pair (MA) Rear position pair (MR)	20° / 80°	15° / 10° 15° / 5° ³	
Stop (MS) Rear position (R, R1, R2)	45° / 45°	15° / 10° 15° / 5° ³	
Front parking (77R) Rear parking (77R)	0° / 45°	15° / 15° 15° / 5° ³	-
Front end-outline marker (AM) Rear end-outline marker (RM1, RM2)	0° / 80°	15° / 15° 15° / 5° ³ 5° / 15° ⁴	-
Front position (A) Rear position (R, R1, R2)	45° / 80° 20° / 80° ⁶	15° / 15° 15° / 5° ³ 5° / 15° ⁴	-
Stop lamp (S1, S2)	45° / 45° 20° / 45° ⁵	15° / 15° 15° / 5° ³ 5° / 15° ⁴	
High mounted stop lamp (S3, S4)	10° / 10°	10° / 5°	-
Daytime running lamps (RL, MRL)	20° / 20°	10° / 5°	

"

II. Justification

1. At its ad-hoc conference call meeting of 17 May 2017, the Special Interest Group for DRL-L agreed on the need to introduce requirements for automatic switching from daytime

⁴ For lamps to be installed with the H-plane of the lamp at a mounting height of less than 750 mm.

⁵ Optional lamps to be installed with the H-plane of the lamp at a mounting height of more than 2100 mm.

⁶ Reduced angles used only below the H-plane for lamps mounted with the H-plane below 750 mm.

running lamps (“DRL”) to headlamp(s,) if the maximum luminous intensity of DRL is above 700 cd.

Part A

2. The text is based on formal document ECE/TRANS/WP.29/GRE/2016/35 by Japan, distributed at the seventy-sixth session of GRE, with the following changes:

(a) Introduction of requirements for automatic switching from daytime running lamps (“DRL”) to headlamp(s)/passing beam, if maximum luminous intensity of DRL is above 700 cd. In relation to this new requirement, new category of DRL with maximum luminous intensity of less than 700cd is introduced as MRL in LSD regulations;

(b) Introduction of transitional provisions, as already proposed by Japan in ECE/TRANS/WP.29/GRE/2016/35 and confirmed during the ad-hoc meeting of 17 May 2017; see paras. 11.7. – 11.11.;

(c) Clarification of the requirements regarding ambient light conditions, rephrasing the original proposal by Japan in ECE/TRANS/WP.29/GRE/2016/35, para. 5.11.1., but keeping its content. For reference, please note that the original proposal by Japan in ECE/TRANS/WP.29/GRE/2016/35 was the following:

"5.11.1. The headlamp shall be switched ON automatically within 2 seconds when the ambient light condition falls below 1,000 lx (e.g., under night-time driving conditions, in tunnels, etc.), after which the headlamp shall remain lit until the ambient light condition becomes not less than 1,000 lx."

(d) It is presumed that, if there are two DRLs (category MRL) fitted, the condition of 700 cd will apply for each DRL. According UNECE R53, two headlamps are allowed for motorcycles. Hence with two DRL, glare signature will remain same as that of headlamps;

(e) This proposal is linked to a correspondent proposal on the LSD Regulation.

Part B

3. The text is based on ECE/TRANS/WP.29/GRE/2017/9, distributed at the seventy-eighth session of GRE, subject to the following changes. In addition to the proposal for amendments to Regulation No. 53 submitted in parallel, it is necessary to amend the draft new Regulation on Light Signalling Devices (LSD), in order to include a new category (MRL) of DRL, which has less than 700cd as maximum intensity. Changes have been introduced to several paragraphs/tables and Annex 2- Light distribution in space, horizontal and vertical, to clarify that installation of new category (MRL) of daytime running lamp can be allowed without automatic switching between daytime running lamp and headlamp.