



Economic and Social Council

Distr.: General
7 February 2018

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Lighting and Light-Signalling

Seventy-ninth session

Geneva, 24-27 April 2018

Item 6 (a) the provisional agenda

Regulation No. 48 (Installation of lighting and light-signalling devices):

Proposals for amendments to the 05 and 06 series of amendments

Proposal for amendments to Regulation No. 48

Submitted by the Task Force on Headlamp Switching (TF HS)*

The text reproduced below is based on GRE-78-21-Rev.1 submitted by TF HS. It amends the text of Regulation 48, 06 series of amendments, including the modifications up to Supplement 10. The amendments 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.

GE.18-01882(E)



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I. Proposal:

Add new paragraphs 2.37. and 2.38., to read:

- “2.37. “Switch ON” (i) or “Switch OFF” (ii) an illuminating or signalling function, irrespective of whether the function is operating correctly or not, means:**
- i) to operate a function, manually or automatically, to effectively emit light;**
 - ii) to operate a function, manually or automatically, to stop emitting light.**
- 2.38. “Activate” (i) or “Deactivate” (ii) an illuminating or signalling function, irrespective of whether light is emitted or not, means:**
- i) to enable a function, manually or automatically (e.g. enable stand-by mode);**
 - ii) to disable a function, manually or automatically (e.g. disable stand-by mode).”**

Add a new paragraph 5.11.1.3., to read:

“5.11.1.3. When light signalling system operates according to paragraph 6.19.7.4.”

Paragraph 6.1.7.1., amend 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 dipped-beam headlamps are switched ON manually** or the conditions for automatic activation of dipped-beam **headlamps** exist. ~~In the latter case,~~ **Consequently,** the main beam headlamps shall be switched ~~OFF~~ **OFF manually or** the conditions for automatic activation of dipped-beam **headlamps** ceased to exist.”

Paragraphs 6.2.7. and its subparagraphs, 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~~**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~~**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 Type Approval Authority.

~~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.~~

6.2.7.5.6. The dipped-beam headlamps 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 13.

[When the dipped beam headlamps are required to be switched ON according to the requirements of annex 13, the Daytime Running Lamps must be switched OFF.]

In addition, the following sub-paragraphs 6.2.7.5.1. to 6.2.7.5.3. may apply.

6.2.7.5.1. **The dipped-beam headlamps and/or the lamps referred to in paragraph 5.11. may remain switched OFF while the following conditions exist:**

- (a) the automatic transmission control is in the park position; or
- (b) the parking brake is in the applied position; or
- (c) prior to the vehicle being set in motion for the first time after each manual activation of the device, which starts and/or stops the propulsion system.

6.2.7.5.2. **The dipped beam headlamps and the lamps referred to in paragraphs 5.11. and 6.19. may be manually switched OFF and remain OFF if at least one of the following conditions is fulfilled:**

- (a) the vehicle speed remains below [20 km/h], or
- (b) the lighting system reverts immediately to automatic operation as indicated in 6.2.7.5. each time the device which starts and/or stops the propulsion system is set in a position which makes it possible for the propulsion system to operate, and a clear indication/warning is provided to the driver throughout the entire period that these lamps remain switched OFF, or
- (c) a clear indication/warning is provided to the driver throughout the entire period that these lamps remain switched OFF.

This indication/warning of (b) and (c) shall only be extinguished when:

- (i) the device which starts and/or stops the propulsion system is set in a position which makes it impossible for the propulsion system to operate, or
- (ii) the automatic operation as indicated in 6.2.7.5. has been reactivated.

6.2.7.5.3. **The dipped beam headlamps and the lamps referred to in paragraph 6.19. may be manually switched OFF if at least one of the following conditions is fulfilled:**

- (a) vehicle in park condition and the lamps referred to in paragraph 5.11. are switched ON, or
- (b) the front fog lamps are switched ON, or

- (c) the lamps referred to in paragraph 5.11. are switched ON and a clear indication/warning is provided to the driver throughout the entire period that dipped-beam headlamps remain switched OFF.

This indication/warning shall only be extinguished when:

- (i) the device which starts and/or stops the propulsion system is set in a position which makes it impossible for the propulsion system to operate, or
- (ii) the automatic operation as indicated in 6.2.7.5. has been reactivated.

6.2.7.5.4. The automatic operation of the dipped-beam headlamps shall be reactivated as soon as the conditions described in paragraphs 6.2.7.5.1. to 6.2.7.5.3. are no longer fulfilled. The driver shall at all times be able to engage the automatic operation.

6.2.7.5.5. Irrespective of the requirements of Annex 13, it shall always be possible to switch the dipped beam headlamps ON manually

6.2.7.67 ~~Without prejudice to~~ Irrespective of the requirements of paragraph 6.2.7.56.1., the dipped-beam headlamps may be switched 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.).”

Paragraph 6.9.8, amend to read:

“6.9.8. Tell-tale

Circuit-closed tell-tale mandatory. This tell-tale shall be non-flashing and shall not be required if the instrument panel lighting can only be turned on switched ON simultaneously with the front position lamps.

This requirement does not apply when light signalling system operates according to paragraph 6.19.7.4.

However, a tell-tale indicating failure is mandatory if required by the component regulation.”

Paragraph 6.10.8, amend to read:

“6.10.8. Tell-tale

Circuit-closed tell-tale mandatory. It shall be combined with that of the front position lamps.

This requirement does not apply when light signalling system operates according to paragraph 6.19.7.4.

However, a tell-tale indicating failure is mandatory if required by the component regulation.”

Paragraph 6.19.7. and its subparagraphs, amend to read:

“6.19.7. Electrical connections

6.19.7.1. The daytime running lamps shall be switched ON automatically when:

- (a) 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 **and**

(b) **the headlamps are not switched ON, manually or automatically according to the requirements of Annex 13, and paragraphs 6.2.7.5.2. and 6.2.7.5.3. do not apply; and/or**

(c) **the front fog lamps are not switched ON.**

However, the daytime running lamps may remain OFF while **at least one of** the following conditions exists:

- ~~6.19.7.1.1.~~ (i) ~~the automatic transmission control is in the park position; or~~
- ~~6.19.7.1.2.~~ (ii) ~~the parking brake is in the applied position; or~~
- ~~6.19.7.1.3.~~ (iii) ~~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 **also remain OFF or, once automatically activated, may** be switched OFF **again** manually when the vehicle speed does not exceed **[20 10 km/h]**, provided they switch ON automatically when the vehicle speed exceeds **[20 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 **either of the following conditions exists:**
- (a) 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~~
- (b) the front fog lamps are switched ON;
- (c) the headlamps are switched ON, except when ~~the latter~~ **they** are used to give intermittent luminous warnings at short intervals, **or paragraph 6.2.7.5.2. or 6.2.7.5.3. applies.**⁺
- 6.19.7.4. The lamps referred to in paragraph 5.11. may be switched ON when the daytime running lamps are switched ON. **If this option is chosen, at least the rear position lamps shall be switched ON.**
- 6.19.7.5. If the distance between the front direction-indicator lamp and the daytime running lamp is equal or less than 40 mm, the electrical connections of the daytime running lamp on the relevant side of the vehicle may be such that either:
- (a) It is switched OFF; or
- (b) Its luminous intensity is reduced during the entire period (both ON and OFF cycle) of activation of a front direction-indicator lamp.
- 6.19.7.6. If a direction-indicator lamp is reciprocally incorporated with a daytime running lamp, the electrical connections of the daytime running lamp on the relevant side of the vehicle shall be such that the daytime running lamp is switched OFF during the entire period (both ON and OFF cycle) of activation of the direction-indicator lamp.”

Paragraph 6.22.7.3., amend to read:

“6.22.7.3. **The dipped-beam headlamps** ~~switching ON and OFF of the passing beam is subject to~~ **shall fulfil** the requirements for "Electrical connection" in paragraph 5.12. and 6.2.7. of this Regulation.”

Footnote 1, to be deleted:

“⁺ ~~New vehicle types which do not comply with this provision may continue to be approved until 18 months after the entry into force of Supplement 4 to the 03 series of amendments”.~~”

II. Justification

1. Currently, interpretations of the electrical connection requirements for headlamps, lamps of paragraph 5.11. and daytime running lamps differ between Contracting Parties. In general, this draft proposal aims at clarifying the requirements on this matter, as recommended by the Working Party on Lighting and Light-Signalling (GRE) at its seventy-seventh session, and is a result of work of Task Force on Headlamp Switching since that session.

Proposed clarifications (amendments) to paragraph 6.2.7.

2. National requirements are not harmonised and prescribe different scenarios for the use of the dipped beam headlamps and of position lamps, as was discussed in TF HS. It is therefore indispensable to provide for a manual activation and deactivation of those lamps, but with a framework ensuring safe operation in public traffic.

3. With this proposal, the automatic activation can be overridden by a manual switch OFF in very limited situations, well supervised. The driver will necessarily be aware that the headlamps are turned off although automatic operation would have turned ON the dipped-beam headlamps (e.g. night time driving conditions).

4. Furthermore, it remains possible to always manually switch ON the dipped-beam headlamps.

Proposed clarifications (amendments) to paragraphs 5.11.1., 6.9.8., 6.10.8. and 6.19.7.4.

5. These modifications are similar to what was proposed by Italy and the Czech Republic, with the support of TF HS, in ECE/TRANS/WP.29/GRE/2017/23.

6. At its seventy-seventh session, GRE adopted draft supplement 10 to the 06 series of amendments to Regulation No. 48, amending the provisions on automatic switching between DRLs and headlamps (ECE/TRANS/WP.29/GRE/77, para. 19 and Annex II to the report). The proposal removed several subparagraphs (including 5.11.1.3.) that had transitional application only for the 05 series of amendments, but were kept by mistake in the 06 series of amendments as well.

7. However, during its first two meetings, TF HS decided to retain the possibility to switch ON DRLs in conjunction with at least rear position lamps, without the need for the position lamps tell-tale in that case. This solution is necessary for some countries and is also logical from an energy saving perspective, because not all other lamps (referred to in paragraph 5.11.) necessarily need to be switched ON.

8. In addition, this proposal corrects a wrong reference to the deleted paragraph in paragraph 6.2.7.7., which was introduced by draft supplement 10 to the 06 series of amendments to Regulation No. 48.

Proposed paragraphs 5.37 and 5.38:

9. A need to define "switch ON/switch OFF", "activate/deactivate" has been identified, to further clarify and harmonize understanding of the requirements.

10. In line with such definitions, editorial work has been carried out for paragraphs modified in this proposal. Separately, TF HS has also edited whole paragraphs 5 and 6.