

8 November 2019

Agreement

Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations*

(Revision 3, including the amendments which entered into force on 14 September 2017)

Addendum 47 – UN Regulation No. 48

Revision 6 - Amendment 12

Supplement 6 to 03 series of amendments – Date of entry into force: 15 October 2019

Installation of lighting and light-signalling devices

This document is meant purely as documentation tool. The authentic and legal binding text is: ECE/TRANS/WP.29/2018/102.



UNITED NATIONS

* Former titles of the Agreement:
Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, done at Geneva on 20 March 1958 (original version);
Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, done at Geneva on 5 October 1995 (Revision 2).

Supplement 6 to the 03 series of amendments to UN Regulation No. 48 (Installation of lighting and light-signalling devices)

Paragraph 2.7.16.4., amend to read:

"2.7.16.4. Retro-reflecting materials approved as Class D or E according to UN Regulation No. 104 or [RRD] and used for other purposes in compliance with national requirements, e.g. advertising."

Paragraph 2.7.28., amend to read:

"2.7.28. "Adaptive front lighting system" (or "AFS") means a lighting device type-approved according to UN Regulation No. 123 or [RRD], providing beams with differing characteristics for automatic adaptation to varying conditions of use of the dipped-beam (passing beam) and, if it applies, the main-beam (driving-beam);"

Paragraph 3.2.6.2., amend to read:

"3.2.6.2. The related AFS control signals and their technical characteristics as defined according to Annex 10 of UN Regulation No. 123 or Annex 14 to UN Regulation No. [RID];"

Paragraph 6.1., amend to read:

"6.1. Main-beam headlamp (UN Regulations Nos. 98, 112 and [RID]);"

Paragraph 6.2., amend to read:

"6.2. Dipped-beam headlamp (UN Regulations Nos. 98, 112 and [RID]);"

Paragraph 6.2.7., amend to read:

"6.2.7. Electrical connections

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

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

In the case of dipped-beam headlamps according to UN Regulation No. 98 or [RID] the gas-discharge light sources shall remain switched on during the main-beam operation.

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.

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."

Paragraph 6.2.9., amend to read:

"6.2.9. Other requirements

The requirements of paragraph 5.5.2. shall not apply to dipped-beam headlamps.

Dipped-beam headlamps with a light source or LED module(s) producing the principal dipped beam and having a total objective luminous flux which exceeds 2,000 lumen shall only be installed in conjunction with the installation of headlamp cleaning device(s) according to UN Regulation No. 45.⁹

With respect to vertical inclination the provisions of paragraph 6.2.6.2.2. above shall not be applied for dipped-beam headlamps:

- (a) With LED module(s) producing the principal dipped beam, or
- (b) With a light source producing the principal dipped beam and having an objective luminous flux which exceeds 2,000 lumen.

Only dipped-beam headlamps according to UN Regulations Nos. 98, 112 and [RID] may be used to produce bend lighting."

Paragraph 6.3., amend to read:

"6.3. Front fog lamp (UN Regulation No. 19 or [RID])"

Paragraph 6.3.2., amend to read:

"6.3.2. Number

Two, complying with either the requirements of the 03 and subsequent series of amendments to UN Regulation No. 19 or the requirements of UN Regulation No. [RID]."

Paragraph 6.3.9., amend to read:

"6.3.9. Other requirements

In the case where there is a positive indication in the communication form in Annex 1 of UN Regulation No. 19 or in Annex 1 of UN Regulation No. [RID] the alignment and the luminous intensities of the Class "F3" front fog beam may be automatically adapted ..."

Paragraph 6.4., amend to read:

"6.4. Reversing lamp (UN Regulation No. 23 or [LSD])"

Paragraph 6.5., amend to read:

"6.5. Direction-indicator lamp (UN Regulation No. 6 or [LSD])"

Paragraph 6.5.8., amend to read:

"6.5.8. ...

It shall be activated by the signal produced according to paragraph 6.2.2. of Regulation No. 6 or according to paragraph 5.6.3. of UN Regulation No. [LSD] or another suitable way.¹⁵

..."

Paragraph 6.7., amend to read:

"6.7. Stop lamp (UN Regulation No. 7 or [LSD])"

Paragraph 6.8., amend to read:

"6.8. Rear registration plate lamp (UN Regulation No. 4 or [LSD])"

Paragraph 6.9., amend to read:

"6.9. Front position lamp (UN Regulation No. 7 or [LSD])"

Paragraph 6.10., amend to read:

"6.10. Rear position lamp (UN Regulation No. 7 or [LSD])"

Paragraph 6.11., amend to read:

"6.11. Rear fog lamp (UN Regulation No. 3 or [LSD])"

Paragraph 6.12., amend to read:

"6.12. Parking lamp (UN Regulation No. 77, 7 or [LSD])"

Paragraph 6.13., amend to read:

"6.13. End-outline marker lamp (UN Regulation No. 7 or [LSD])"

Paragraph 6.14., amend to read:

"6.14. Rear retro-reflector, non-triangular (UN Regulation No. 3 or [RRD])"

Paragraph 6.14.2., amend to read:

"6.14.2. Number

Two, the performances of which shall conform to the requirements concerning Class IA or IB retro-reflectors in UN Regulation No. 3 or [RRD]. Additional retro-reflecting devices and materials (including two retro-reflectors not complying with paragraph 6.14.4. below), are permitted provided they do not impair the effectiveness of the mandatory lighting and light-signalling devices."

Paragraph 6.15., amend to read:

"6.15. Rear retro-reflector, triangular (UN Regulation No. 3 or [RRD])"

Paragraph 6.15.2., amend to read:

"6.15.2. Number

Two, the performances of which shall conform to the requirements concerning Class IIIA or Class IIIB retro-reflectors in UN Regulation No. 3 or [RRD].

Additional retro-reflecting devices and materials (including two retro-reflectors not complying with paragraph 6.15.4. below), are permitted provided they do not impair the effectiveness of the mandatory lighting and light-signalling devices."

Paragraph 6.16., amend to read:

"6.16. Front retro-reflector, non-triangular (UN Regulation No. 3 or [RRD])"

Paragraph 6.16.2., amend to read:

"6.16.2. Number

Two, the performances of which shall conform to the requirements concerning Class IA or IB retro-reflectors in UN Regulation No. 3 or [RRD]. Additional retro-reflecting devices and materials (including two retro-reflectors not complying with paragraph 6.16.4. below), are permitted provided they do not impair the effectiveness of the mandatory lighting and light-signalling devices."

Paragraph 6.17., amend to read:

"6.17. Side retro-reflector, non-triangular (UN Regulation No. 3 or [RRD])"

Paragraph 6.17.2., amend to read:

"6.17.2. Number

Such that the requirements for longitudinal positioning are complied with. The performances of these devices shall conform to the requirements concerning Class IA or IB retro-reflectors in UN Regulation No. 3 or [RRD]. Additional retro-reflecting devices and materials (including two retro-reflectors not complying with paragraph 6.17.4. below), are permitted provided they do not impair the effectiveness of the mandatory lighting and light-signalling devices."

Paragraph 6.18., amend to read:

"6.18. Side-marker lamps (UN Regulation No. 91 or [LSD])"

Paragraph 6.19., amend to read:

"6.19. Daytime running lamp (UN Regulation No. 87 or [LSD]) 16/"

Paragraph 6.20., amend to read:

Paragraph 6.20., amend to read:

"6.20. Cornering lamp (UN Regulation No. 119 or [RID])"

Paragraph 6.21., amend to read:

"6.21. Conspicuity markings (UN Regulation No.104 or [RRD])"

Paragraph 6.21.1.2.5., amend to read:

"6.21.1.2.5. In cases where the manufacturer, after verification by the Technical Service, can prove to the satisfaction of the authority responsible for type approval that it is impossible, due to the operational requirements which may require special shape, structure or design of the vehicle, to comply with the requirements contained in paragraphs 6.21.2. to 6.21.7.5., then partial fulfilment of some of these requirements is acceptable. This is conditional upon a portion of the requirements being met where possible, and the application of conspicuity markings that partially meet requirements maximised on the vehicle structure. This may include fitting of additional brackets or plates containing material compliant with UN Regulation No. 104 or [RRD] where structure is available to ensure clear and uniform signalling compatible with the objective of conspicuity.

Where partial fulfillment is deemed acceptable, retro-reflective devices like retroreflectors of class IV of UN Regulation No. 3 or [RRD] or brackets containing retroreflecting material compliant with photometric requirements of Class C of UN Regulation No. 104 or [RRD] may substitute part of the required conspicuity markings. In this case, at least one of these retroreflective devices shall be installed per 1500 mm.

The necessary information shall be indicated in the communication form."

Paragraph 6.21.7.4., amend to read:

"6.21.7.4. Where rear marking plates conforming either to the 01 series of amendments to UN Regulation No. 70 or to UN Regulation No. [RRD] are installed these may be considered, at the discretion of the manufacturer, as part of the conspicuity marking to the rear, for the purposes of calculating the length of the conspicuity marking and its proximity to the side of the vehicle."

Paragraph 6.22., amend to read:

"6.22. Adaptive front lighting system (AFS) (UN Regulation No. 123 or [RID])
Where not otherwise specified below, the requirements for main-beam headlamps (paragraph 6.1.) and for dipped-beam headlamps (paragraph 6.2.) of this Regulation apply to the relevant part of the AFS."

Paragraph 6.22.6.1.2.1., amend to read:

"6.22.6.1.2.1. In case the passing-beam is generated by several beams from different lighting units, the provisions according to paragraph 6.22.6.1.2. above apply to each said beam's "cut-off" (if any), which is designed to project into the angular zone, as indicated under item 9.3. of the communication form conforming to the model in Annex 1 to UN Regulation No. 123 or item 9.3.3. in Annex 1 to UN Regulation No. [RID]."

Paragraph 6.22.6.3., amend to read:

"6.22.6.3. Horizontal orientation:
For each lighting unit the kink of the elbow of the cut-off line, if any, when projected on the screen, shall coincide with the vertical line through the reference axis of said lighting unit. A tolerance of 0.5 degrees to that side which is the side of the traffic direction shall be allowed. Other lighting units shall be adjusted according to the applicant's specification, as defined according to Annex 10 of UN Regulation No. 123 or Annex 14 of UN Regulation No. [RID]."

Paragraph 6.22.7.4.3., amend to read:

"6.22.7.4.3. The class E mode(s) of the passing beam shall not operate unless the vehicle's speed exceeds 70 km/h and one or more of the following conditions is/are automatically detected.

- (a) The road characteristics correspond to motorway conditions²⁰ and/or the vehicle's speed exceeds 110 km/h (E-signal applies).
- (b) In case of a class E mode of the passing beam which, according to the system's approval documents /communication sheet, complies with a 'data set' of Table 6 of Annex 3 of UN Regulation No. 123 or of Table 14 of UN Regulation No. [RID] only.

Data set E1: the vehicle's speed exceeds 100 km/h (E1-signal applies);

Data set E2: the vehicle's speed exceeds 90 km/h (E2-signal applies);

Data set E3: the vehicle's speed exceeds 80 km/h (E3-signal applies)."

Paragraph 6.22.8., amend to read:

"6.22.8.2. A visual failure tell-tale for AFS is mandatory. It shall be non-flashing. It shall be activated whenever a failure is detected with respect to the AFS control signals or when a failure signal is received in accordance with paragraph 5.9. of UN Regulation No. 123 or paragraph 4.13. of UN Regulation No. [RID]. It shall remain activated while the failure is present. It may be cancelled temporarily, but shall be repeated whenever the device which starts and stops the engine is switched on and off."

Paragraph 6.22.8.3., amend to read:

"6.22.8.3. A tell-tale to indicate that the driver has set the system into a state according to paragraph 5.8. of UN Regulation No. 123 or paragraph 4.12. of UN Regulation No. [RID] is optional."

Paragraph 6.22.9.1., amend to read:

"6.22.9.1. An AFS shall be permitted only in conjunction with the installation of headlamp cleaning device(s) according to UN Regulation No. 45²² for at least those lighting units, which are indicated under item 9.2.3. of the communication form conforming to the model in Annex 1 to UN Regulation No. 123 or under item 9.3.2.3. in Annex 1 to UN Regulation No. [RID], if the total objective luminous flux of the light sources of these units exceeds 2,000 lm per side, and which contribute to the Class C (basic) passing-beam."

Paragraph 6.22.9.4., amend to read:

"6.22.9.4. The means according to the provisions of paragraph 5.8. of UN Regulation No. 123 or paragraph 4.12. of UN Regulation No. [RID], which allow the vehicle to be used temporarily in a territory with the opposite direction of driving than that for which approval is sought, shall be explained in detail in the owner's manual."