

2 November 2020

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 12 - Amendment 10

07 series of amendments – Date of entry into force: 25 September 2020

Uniform provisions concerning the approval of vehicles with regard to the 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.29/2020/36 (as amended by paragraph 91 of the report ECE/TRANS/WP.29/1151).



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).

Paragraph 2.3.5., amend to read:

"2.3.5. "*Operating tell-tale*" means a visual or auditory signal (or any equivalent signal) indicating that a device has been switched ON and is operating correctly or not."

Paragraph 2.3.6., amend to read:

"2.3.6. "*Closed-circuit tell-tale*" means a visual (or any equivalent signal) indicating that a device has been switched ON, but not indicating whether it is operating correctly or not."

Paragraph 2.3.10., amend to read:

"2.3.10. "*Normal condition of use of a vehicle*" means:

2.3.10.1. For a motor vehicle, when the vehicle is ready to move with its propulsion system running and its movable components are in the normal position(s) as defined in paragraph 2.3.9.;

2.3.10.2. And for a trailer, when the trailer is connected to a drawing motor vehicle in the conditions as prescribed in paragraph 2.3.10.1. and its movable components are in the normal position(s) as defined in paragraph 2.3.9."

Paragraph 2.3.11., amend to read:

"2.3.11. "*Park condition of a vehicle*" means:

2.3.11.1. For a motor vehicle, when the vehicle is at standstill and its propulsion system is not running and its movable components are in the normal position(s) as defined in paragraph 2.3.9.;"

Paragraph 2.7.6., amend to read:

"2.7.6. Definitions with regard to switching and activation:

2.7.6.1. "*Switch ON*" means to manually or automatically operate an illuminating or signalling function to effectively emit light, irrespective of whether the function is operating correctly or not.

2.7.6.2. "*Switch OFF*" means to manually or automatically operate an illuminating or signalling function to stop emitting light, irrespective of whether the function is operating correctly or not.

2.7.6.3. "*Activate*" means to manually or automatically enable an illuminating or signalling function, irrespective of whether light is emitted or not (e.g. enable stand-by mode).

2.7.6.4. "*Deactivate*" means to manually or automatically disable an illuminating or signalling function, irrespective of whether light is emitted or not (e.g. disable stand-by mode).

2.7.6.5. "*Sequential activation*" means an electrical connection where the individual light sources of a lamp are wired such that they are switched ON in a predetermined sequence according to the relevant UN Regulations."

Insert a new paragraph 2.10.11., to read:

"2.10.11. "*V plane*" means a vertical plane parallel to the median longitudinal plane of the vehicle and containing the center of reference of the lamp."

Paragraphs 2.10.11. (former) to 2.10.17., renumber as 2.10.12. to 2.10.18., respectively.

Paragraph 4.2., amend to read:

"4.2. An approval number shall be assigned to each type approved. Its first two digits (at present 07, corresponding to the 07 series of amendments) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same Contracting Party shall not assign this number to another vehicle type or

to the same vehicle type submitted with equipment not specified in the list referred to in paragraph 3.2.2. above, subject to the provisions of paragraph 7 of this Regulation."

Paragraph 5.7.1.1., amend to read:

"5.7.1.1. The photometric and colorimetric requirements of a lamp shall be fulfilled when all other functions with which this lamp is grouped, combined or reciprocally incorporated are switched OFF.

However, when a front or rear position lamp is reciprocally incorporated with one or more other function(s) which can be switched ON together with them, the requirements regarding colour of each of these other functions shall be fulfilled when the reciprocally incorporated function(s) and the front or rear position lamps are switched ON."

Paragraph 5.9., amend to read:

"5.9. In the absence of specific instructions, the photometric characteristics (e.g. intensity, colour, apparent surface, etc.) of a lamp shall not be intentionally varied during the period when the lamp is switched ON."

Paragraph 5.9.2., amend to read:

"5.9.2. The photometric characteristics of any lamp may vary:

- (a) In relation to the ambient light;
- (b) As a consequence of other lamps being switched ON or OFF; or
- (c) When the lamps is being used to provide another lighting function; provided that any variation in the photometric characteristics is in compliance with the technical provisions for the lamp concerned."

Paragraph 5.11.1. and its subparagraphs, 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 requirement does not apply while one or more of the following conditions exist:

- (a) Front and rear position lamps, as well as side-marker lamps when combined or reciprocally incorporated with said lamps, are switched ON as parking lamps;
- (b) Side-marker lamps flash in conjunction with direction indicators;
- (c) Daytime running lamps are switched ON;
- (d) Front position lamps function is substituted under the provisions of paragraph 5.12.1. below."

Paragraph 5.11.3., renumber to 5.11.2.

Paragraph 5.12., amend to read:

"5.12. The electrical connections shall be such that the main-beam and dipped-beam headlamps and the front fog lamps cannot be switched ON unless the lamps referred to in paragraph 5.11. are also switched ON. This requirement shall not apply, however, to main-beam or dipped-beam headlamps when their luminous warnings consist of the intermittent lighting up at short intervals of the main-beam headlamp or the intermittent lighting up at short intervals of the dipped-beam headlamp or the alternate lighting up at short intervals of the main-beam and dipped-beam headlamps."

Paragraph 5.12.1.1., amend to read:

"5.12.1.1. Their electrical connections are such that in case of failure of any of these lighting devices the front position lamps are automatically switched ON again; and"

Paragraph 5.14.3., amend to read:

"5.14.3. It shall be possible to move the lamps into the position of use and to switch them ON by means of a single control, without excluding the possibility of moving them into the position of use without switching them ON. However, in the case of grouped main-beam and dipped-beam headlamps, the control referred to above is required only to activate the dipped-beam headlamps."

Paragraph 5.14.4., amend to read:

"5.14.4. It shall not be possible deliberately, from the driver's seat, to stop the movement of switched ON lamps before they reach the position of use. If there is a danger of dazzling other road users by the movement of the lamps, they may light up only when they have reached their position of use."

Paragraph 5.18.3., amend to read:

"5.18.3. Where additional lamps for the above functions are fitted and are switched ON, when the movable component is in any fixed open position, provided that these additional lamps satisfy all the position, geometric visibility and photometric requirements applicable to the lamps installed on the movable component."

Paragraph 5.18.4., amend to read:

"5.18.4. In the case where the functions referred to in paragraph 5.18. are obtained by an interdependent lamp system either of the following conditions shall apply:

(a) Should the complete interdependent lamp system be mounted on the moving component(s), the requirements of paragraph 5.18.1. shall be satisfied. However, additional lamps for the above functions may be switched ON, when the movable component is in any fixed open position, provided that these additional lamps satisfy all the position, geometric visibility, colorimetric and photometric requirements applicable to the lamps installed on the movable component;

or

(b) Should the interdependent lamp system be partly mounted on the fixed component and partly mounted on a movable component, with the exception of direction indicator lamps, the interdependent lamp(s) specified by the Applicant during the device approval procedure shall meet all the position, outwards geometric visibility, colorimetric and photometric requirements for those lamps, at all fixed positions of the movable component(s).

The inwards geometric visibility requirement(s) is(are) deemed to be satisfied if this(these) interdependent lamp(s) still conform(s) to the photometric values prescribed in the field of light distribution for the approval of the device, at all fixed positions of the movable component(s).

For direction indicator lamps, the interdependent lamp(s) specified by the Applicant during the device approval procedure shall meet all the position, geometric visibility, photometric and colorimetric requirements at all fixed positions of the movable component(s). This does not apply where, to fulfil or complete the geometric visibility angle, additional lamps are switched ON when the movable component is in any fixed open position, provided that these additional lamps satisfy all the position, photometric and colorimetric requirements applicable to the direction indicator lamps installed on the movable component."

Paragraph 5.21.1., amend to read:

"5.21.1. Additional lamps satisfying all the position, geometric visibility, colorimetric and photometric requirements for the above indicated lamps shall be switched ON when the apparent surface in the direction of the reference axis of these lamps is more than 50 per cent hidden by the movable component;"

Paragraph 6.1., amend to read:

"6.1. Main-beam headlamp (UN Regulations Nos. 98, 112 or 149)"

Paragraph 6.1.2., amend to read:

"6.1.2. Number

Two or four, type approved according to

- (a) UN Regulation No. 98 or 112, excluding Class A headlamp;
or
- (b) UN Regulation No. 149, Classes B and D headlamps only.

For vehicles of the category N₃: Two extra main-beam headlamps may be installed.

Where a vehicle is fitted with four concealable headlamps the installation of two additional headlamps shall only be authorized for the purpose of light-signalling, consisting of intermittent switching ON, at short intervals (see paragraph 5.12. above) in daylight."

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 dipped-beam headlamps are manually activated or the conditions for automatic switching ON of dipped-beam headlamps exist. Consequently, the main beam headlamps shall be switched OFF automatically when the dipped-beam headlamps are manually deactivated or the conditions for automatic switching ON of dipped-beam headlamps ceased to exist."

Paragraph 6.1.7.2., amend to read:

"6.1.7.2. The control of the main-beam headlamps may be automatic regarding their switching ON and OFF, the control signals being produced by a sensor system which is capable of detecting and reacting to each of the following inputs:

- (a) Ambient lighting conditions;
- (b) The light emitted by the front lighting devices and front light-signalling devices of oncoming vehicles;
- (c) The light emitted by the rear light-signalling devices of preceding vehicles.

Additional sensor functions to improve performance are allowed.

For the purpose of this paragraph, "vehicles" means vehicles of categories L, M, N, O, T, as well as bicycles, such vehicles being equipped with retro-reflectors, with lighting and light-signalling devices, which are switched ON."

Paragraphs 6.1.7.3. to 6.1.7.6., amend to read:

"6.1.7.3. It shall always be possible to switch the main-beam headlamps ON and OFF manually and to manually deactivate the automatic control of the main-beam headlamps.

Moreover, the switching OFF of the main-beam headlamps and the deactivation of their automatic control shall be by means of a simple and immediate manual operation; the use of sub-menus is not allowed.

- 6.1.7.4. The main-beam headlamps may be switched ON either simultaneously or in pairs. In case the extra two main-beam headlamps are installed, as permitted under paragraph 6.1.2. for vehicles of the category N₃ only, no more than two pairs may be simultaneously lit. For changing over from the dipped to the main beam at least one pair of main-beam headlamps shall be switched ON. For changing over from the main-beam to the dipped-beam all main-beam headlamps shall be switched OFF simultaneously.
- 6.1.7.5. The dipped-beams may remain switched ON at the same time as the main beams.
- 6.1.7.6. Where four concealable headlamps are fitted their raised position shall prevent the simultaneous operation of any additional headlamps fitted, if these are intended to provide light signals consisting of intermittent switching ON at short intervals (paragraph 5.12.) in daylight."

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 6.1.9.3., amend to read:

- "6.1.9.3. Automatic switching ON and OFF of the main-beam headlamps:"

Paragraph 6.1.9.3.1., amend to read:

- "6.1.9.3.1. The sensor system used to control the automatic switching ON and OFF of the main-beam headlamps, as described in paragraph 6.1.7.1., shall comply with the following requirements:"

Paragraph 6.2., amend to read:

- "6.2. Dipped-beam headlamp (UN Regulations Nos. 98, 112 or 149)"

Paragraph 6.2.7. and its sub-paragraphs, amend to read:

- "6.2.7. Electrical connections
- 6.2.7.1. When changing from the main beam to the dipped-beam, all main-beams shall be switched OFF simultaneously.
- 6.2.7.2. The dipped-beam may remain switched ON at the same time as the main-beam."

Paragraph 6.2.7.3., amend to read:

- "6.2.7.3. In the case of dipped-beam headlamps according to UN Regulation Nos. 98 or 149 the gas-discharge light sources shall remain switched ON during the main-beam operation."

Paragraph 6.2.8.2., amend to read:

- "6.2.8.2. A visual tell-tale whether flashing or not is mandatory:
- (a) In the case where the whole beam or the kink of the elbow of the cut-off is moved to produce bend lighting; or
 - (b) If one or more LED modules are used to produce the principal dipped-beam, except when they are wired so that the failure of any one LED module causes all of them to stop emitting light.

It shall be activated:

- (a) In the event of a malfunction of the displacement of the kink of the elbow of the cut-off; or

- (b) In case of a failure of any one of the LED module(s) producing the principal dipped-beam, except when they are wired so that the failure of any one LED module causes all of them to stop emitting light.

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 propulsion system, is switched ON and OFF."

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. 45.¹

With respect to vertical inclination the provisions of paragraph 6.2.6.2.2. above shall not be applied for dipped-beam headlamps with a light source or LED module(s) producing the principal dipped beam and having an objective luminous flux which exceeds 2,000 lumens.

In the case of filament lamps for which more than one test voltage is specified, the objective luminous flux which produces the principal dipped-beam, as indicated in the communication form for the type approval of the device, is applied.

In the case of dipped-beam headlamps equipped with an approved light source, the applicable objective luminous flux is the value at the relevant test voltage as given in the relevant data sheet in the Regulation, according to which the applied light source was approved, without taking into account the tolerances to the objective luminous flux specified on this datasheet.

Only dipped-beam headlamps according to UN Regulation Nos. 98, 112 or 149 may be used to produce bend lighting.

If bend lighting is produced by a horizontal movement of the whole beam or the kink of the elbow of the cut-off, it shall be switched ON only if the vehicle is in forward motion; this shall not apply if bend lighting is produced for a right turn in right hand traffic (left turn in left hand traffic).

¹ Contracting Parties to the respective UN Regulations can still prohibit the use of mechanical cleaning systems when headlamps with plastic lenses, marked "PL", are installed."

Paragraph 6.4.7.1., amend to read:

- "6.4.7.1. They shall be such that the lamp can be switched ON only if the reverse gear is engaged and if the device which controls the starting and stopping of the propulsion system is in such a position that operation of the propulsion system is possible. It shall not switch ON or remain ON if either of the above conditions is not satisfied."

Paragraph 6.4.7.2., amend to read:

- "6.4.7.2. Moreover, the electrical connections of the two optional devices mentioned in paragraph 6.4.2.2. shall be such that these devices cannot be switched ON unless the lamps referred to in paragraph 5.11. are switched ON.

The devices fitted on the side of the vehicle may be switched ON for slow manoeuvres in forward motion of the vehicle up to a maximum speed of 15 km/h, provided that the following conditions are fulfilled:

- (a) The devices shall be switched ON and OFF manually by a separate control;
- (b) If so switched ON, they may remain ON after reverse gear is disengaged;
- (c) They shall be automatically switched OFF if the forward speed of the vehicle exceeds 15 km/h, regardless of the position of the separate control; in this case they shall remain switched OFF until deliberately being switched ON again."

Paragraph 6.5.7., amend to read:

"6.5.7. Electrical connections

Direction-indicator lamps shall switch ON independently of the other lamps. All direction-indicator lamps on one side of a vehicle shall be switched ON and OFF by means of one control and shall flash in phase.

On M₁ and N₁ vehicles less than 6 m in length, with an arrangement complying with paragraph 6.5.5.2. above, the amber side-marker lamps, when mounted, shall also flash at the same frequency (in phase) with the direction-indicator lamps."

Paragraph 6.6.7.2., amend to read:

"6.6.7.2. The hazard warning signal may be switched ON automatically in the event of a vehicle being involved in a collision or after the emergency stop signal has been switched OFF, as specified in paragraph 6.23. below. In such cases, it may be switched OFF manually.

In addition, the hazard warning signal may be switched ON automatically to indicate to other road-users the risk of imminent danger as defined by Regulations; in this case, the signal shall remain switched ON until it is manually or automatically switched OFF."

Paragraph 6.6.9., amend to read:

"6.6.9. Other requirements

As specified in paragraph 6.5.9. If a power-driven vehicle is equipped to draw a trailer the hazard warning signal control shall also be capable of bringing the direction-indicator lamps on the trailer into action. The hazard warning signal shall be able to function even if the device which starts or stops the propulsion system is in a position which makes it impossible to start the propulsion system."

Paragraph 6.7.7.1., amend to read:

"6.7.7.1. All stop lamps shall be switched ON simultaneously when the braking system provides the relevant signal defined in UN Regulations Nos. 13 and 13-H."

Paragraph 6.7.7.2., amend to read:

"6.7.7.2. The stop lamps need not function if the device, which starts and/or stops the propulsion system, is in a position that makes it impossible for the propulsion system to operate."

Paragraph 6.8.9., amend to read:

"6.8.9. Other requirements

When the rear registration plate lamp is combined with the rear position lamp, reciprocally incorporated in the stop lamp or in the rear fog lamp, the photometric characteristics of the rear registration plate lamp may be modified during the entire time the stop lamp or the rear fog lamp is switched ON."

Paragraph 6.9.7., amend to read:

"6.9.7. Electrical connections

In accordance with paragraph 5.11.

However, if a front position lamp is reciprocally incorporated with a direction-indicator the electrical connection of the front position lamp on the relevant side of the vehicle or the reciprocally incorporated part of it may be such that it is switched OFF during the entire time (both ON and OFF cycle) of operation of the direction-indicator lamp."

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 switch 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 6.9.9.1., amend to read:

"6.9.9.1. If one or more infrared radiation generator(s) is (are) installed inside the front position lamp, it (they) is (are) allowed to be switched ON only when the headlamp on the same side of the vehicle is switched ON and the vehicle is in forward motion. In the event that the front position lamp or the headlamp on the same side fails, the infrared radiation generator(s) shall be automatically switched OFF."

Paragraph 6.10.7., amend to read:

"6.10.7. Electrical connections

In accordance with paragraph 5.11.

However, if a rear position lamp is reciprocally incorporated with a direction-indicator, the electrical connection of the rear position lamp on the relevant side of the vehicle or the reciprocally incorporated part of it may be such that it is switched OFF during the entire time (both ON and OFF cycle) of operation of the direction-indicator lamp."

Paragraph 6.11.7. and related subparagraphs, amend to read:

"6.11.7. Electrical connections

These shall be such that:

6.11.7.1. The rear fog-lamp(s) cannot be switched ON unless the main beams, dipped-beams or front fog-lamps are switched ON;

6.11.7.2. The rear fog-lamp(s) can be switched OFF independently of any other lamp;

6.11.7.3. Either of the following applies:

6.11.7.3.1. The rear fog lamp(s) may continue to operate until the position lamps are switched OFF, and the rear fog lamp(s) shall then remain OFF until deliberately switched ON again;

6.11.7.3.2. A warning, at least audible, additional to the mandatory tell-tale (paragraph 6.11.8.) shall be given if the ignition is switched OFF or the ignition key is withdrawn and the driver's door is opened, whether the lamps in

(paragraph 6.11.7.1.) are ON or OFF, whilst the rear fog lamp control is in the ON position.

6.11.7.4. Except as provided in paragraphs 6.11.7.1., 6.11.7.3. and 6.11.7.5., the operation of the rear fog lamp(s) shall not be affected by switching ON or OFF any other lamps.

6.11.7.5. The rear fog lamp(s) of a drawing motor vehicle may be automatically switched OFF while a trailer is connected and the rear fog lamp(s) of the trailer is (are) switched ON."

Paragraph 6.12.7., amend to read:

"6.12.7. Electrical connections

The connection shall allow the parking lamp(s) on the same side of the vehicle to be switched ON independently of any other lamps.

The parking lamp(s) and, if applicable, the front and rear position lamps according to paragraph 6.12.9. below, shall be able to operate even if the device which starts the propulsion system is in a position which makes it impossible for the propulsion system to operate. A device which automatically switches OFF these lamps as a function of time is prohibited."

Paragraph 6.12.9., amend to read:

"6.12.9. Other requirements

The functioning of this lamp may also be performed by simultaneously switching ON the front and rear position lamps on the same side of the vehicle. In this case, lamps that meet the requirements of front or rear position lamps are deemed to meet the requirements of parking lamps."

Paragraph 6.18.9., amend to read:

"6.18.9. Other requirements

When the rearmost side-marker lamp is combined with the rear position lamp reciprocally incorporated with the rear fog-lamp or stop lamp, the photometric characteristics of the side-marker lamp may be modified during the entire time of the rear fog lamp or stop lamp are switched ON.

Rear side-marker lamps shall be amber if they flash with the rear direction-indicator lamp."

Paragraph 6.19.7.1., amend to read:

"6.19.7.1. The daytime running lamps shall be switched ON automatically when 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. However, the daytime running lamps may remain OFF while the following conditions exist:"

Paragraph 6.19.7.1.3., amend to read:

"6.19.7.1.3. 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."

Paragraph 6.19.7.2., amend to read:

"6.19.7.2. The daytime running lamps may be switched OFF manually when, provided they switch ON automatically when the vehicle speed exceeds 15 km/h or when the vehicle has travelled more than 100 m and they remain ON until deliberately switched OFF again."

Paragraph 6.19.7.3., amended to read:

"6.19.7.3. The daytime running lamp shall switch OFF automatically when 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 the front fog lamps or

headlamps are switched ON, except when the latter are used to give intermittent luminous warnings at short intervals."

Paragraph 6.20.7., amend to read:

"6.20.7. Electrical connections

The cornering lamps shall be so connected that they cannot be switched ON unless the main-beam headlamps or the dipped-beam headlamps are switched ON at the same time."

Paragraph 6.20.7.2., amend to read:

"6.20.7.2. When the reversing lamp is switched ON, both cornering lamps may be switched ON simultaneously, independently from the steering wheel position or direction-indicator operation.

If so switched ON, both cornering lamps shall be switched OFF either:

(a) When the reversing lamp is switched OFF;

or

(b) When the forward speed of the vehicle exceeds 15 km/h."

Paragraph 6.20.9., amend to read:

"6.20.9. Other requirements

The cornering lamps shall not be switched ON at vehicle speeds above 40 km/h."

Paragraph 6.22.7.1.1., amend to read:

"6.22.7.1.1. The lighting units for the main-beam may be switched ON either simultaneously or in pairs. For changing over from the dipped-beam to the main-beam at least one pair of lighting units for the main-beam shall be switched ON. For changing over from the main-beam to the dipped-beam all lighting units for the main-beam shall be switched OFF simultaneously."

Paragraph 6.22.7.1.3., amend to read:

"6.22.7.1.3. It shall always be possible to switch the main-beam headlamps, adaptive or non-adaptive, ON and OFF manually and to manually deactivate the automatic control.

Moreover, the switching OFF, of the main-beam headlamps and the deactivation of their automatic control shall be by means of a simple and immediate manual operation; the use of sub-menus is not allowed."

Paragraph 6.22.7.1.5., amend to read:

"6.22.7.1.5. Where four concealable lighting units are fitted their raised position shall prevent the simultaneous operation of any additional headlamps fitted, if these are intended to provide light signals consisting of intermittent switching ON at short intervals (see paragraph 5.12.) in daylight."

Paragraph 6.22.7.2., amend to read:

"6.22.7.2. Passing-beam lighting:

(a) The control for changing over to the dipped-beam shall switch OFF all main-beam headlamps or switch OFF all AFS lighting units for the main-beam simultaneously;

(b) The dipped-beam may remain switched ON at the same time as the main-beams;

- (c) In the case of lighting units for the dipped-beam being equipped with gas discharge light sources, the gas-discharge light sources shall remain switched ON during the main-beam operation."

Paragraph 6.22.7.3., amend to read:

"6.22.7.3. The dipped-beam headlamps switching ON and OFF shall fulfil the requirements for "Electrical connection" in paragraph 5.12. and 6.2.7. of this Regulation."

Paragraph 6.22.7.4.4., amend to read:

"6.22.7.4.4. The class W-mode(s) of the passing-beam shall not operate unless the front fog lamps, if any, are switched OFF and one or more of the following conditions is/are automatically detected (W-signal applies):

- (a) The wetness of the road has been detected automatically;
(b) The windshield wiper is operating and its continuous or automatically controlled operation has occurred for a period of at least two minutes."

Paragraph 6.22.8.2., 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. 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 propulsion system is switched ON and OFF."

Paragraph 6.22.9.3.1.3., amend to read:

"6.22.9.3.1.3. The adaptive main-beam shall be switched OFF when the illuminance produced by ambient lighting conditions exceeds 7,000 lx.

Compliance with this requirement shall be demonstrated by the applicant, using simulation or other means of verification accepted by the Type Approval Authority. If necessary 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."

Paragraphs 6.23., amend to read:

"6.23. Emergency stop signal

6.23.1. Presence

Mandatory on motor vehicles.

Optional on trailers.

The emergency stop signal shall be given by the simultaneous operation of all the stop or direction-indicator lamps fitted as described in paragraph 6.23.7."

Paragraph 6.23.7.3. and related sub-paragraphs, amend to read:

"6.23.7.3. The emergency stop signal shall be switched ON and OFF automatically.

6.23.7.3.1. The emergency stop signal shall be switched ON only when the vehicle speed is above 50 km/h and the braking system is providing the emergency braking logic signal defined in UN Regulations Nos. 13 and 13-H.

6.23.7.3.2. The emergency stop signal shall be automatically switched OFF if the emergency braking logic signal as defined in UN Regulations Nos. 13 and 13-H is no longer provided or if the hazard warning signal is activated."

Paragraph 6.24.9.1., amend to read:

"6.24.9.1. The exterior courtesy lamp shall not be switched ON unless the vehicle is stationary and one or more of the following conditions is satisfied:

- (a) The propulsion system is stopped; or
- (b) A driver or passenger door is opened; or
- (c) A load compartment door is opened.

The provisions of paragraph 5.10. shall be met in all fixed positions of use."

Paragraph 6.24.9.2., amend to read:

"6.24.9.2. Approved lamps emitting white light with the exception of main beam head lamps, day time running lamps and reversing lamps may be switched ON as courtesy lamp function. They may also be switched ON together with the exterior courtesy lamps and the condition of paragraphs 5.11. and 5.12. above may not apply."

Paragraphs 6.25.7.3. to 6.25.7.6., amend to read:

"6.25.7.3. The rear-end collision alert signal shall be switched ON and OFF automatically.

6.25.7.4. The rear-end collision alert signal shall not be switched ON 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 switched ON under the following conditions:

V_r	switch ON
$V_r > 30 \text{ km/h}$	$TTC \leq 1.4$
$V_r \leq 30 \text{ km/h}$	$TTC \leq 1.4 / 30 \times V_r$

" V_r (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 switch ON period of the rear-end collision alert signal shall be not more than 3 seconds."

Paragraph 6.26.7., amend to read:

"6.26.7. Electrical Connections

Manoeuvring lamps shall be so connected that they cannot be switched ON unless the main-beam headlamps or the dipped-beam headlamps are switched ON at the same time.

The manoeuvring lamp(s) shall be switched ON automatically for slow manoeuvres up to 15 km/h provided that one of the following conditions is fulfilled:

- (a) Prior to the vehicle being set in motion for the first time after each manual activation of the propulsion system; or
- (b) Reverse gear is engaged; or
- (c) A camera based system which assists parking manoeuvres is operating.

The manoeuvring lamps shall be automatically switched OFF if the forward speed of the vehicle exceeds 15 km/h and they shall remain switched OFF until the switch ON conditions are met again."

At the end of paragraph 12., add a new paragraph 12.6. and its sub-paragraphs to read:

- "12.6. Transitional provisions applicable to the 07 series of amendments
- 12.6.1. As from the official date of entry into force of the 07 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept UN type approvals under this Regulation as amended by the 07 series of amendments.
- 12.6.2. As of 6 July 2022, Contracting Parties applying this Regulation shall not be obliged to accept UN type approvals to the preceding series of amendments, first issued after 5 July 2022.
- 12.6.3. Until 6 July 2024, Contracting Parties applying this Regulation shall accept UN type approvals to the preceding series of amendments and extensions thereof, first issued before 6 July 2022.
- 12.6.4. As from 7 July 2024, Contracting Parties applying this Regulation shall not be obliged to accept UN type approvals, including any extensions, issued to the preceding series of amendments to this Regulation without emergency stop signal installed.
- 12.6.5. Notwithstanding the transitional provisions above, Contracting Parties who start to apply this Regulation after the date of entry into force of the most recent series of amendments are not obliged to accept UN type approvals which were granted in accordance with any of the preceding series of amendments to this Regulation.
- 12.6.6. Notwithstanding paragraph 12.6.4., Contracting Parties applying this Regulation shall continue to accept UN type approvals to the preceding series of amendments to this Regulation, for the vehicle types which are not affected by the changes introduced by the 07 series of amendments.
- 12.6.7. Contracting Parties applying this Regulation shall not refuse to grant UN type approvals according to any preceding series of amendments to this Regulation or extensions thereof."

Annex 2, amend to read:

"Arrangements of approval marks

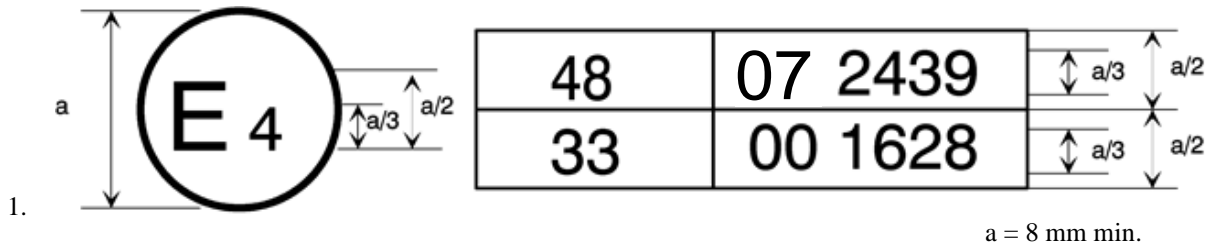
Model A
(See paragraph 4.4. of this Regulation)



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to the installation of lighting and light-signalling devices, been approved in the Netherlands (E 4) pursuant to UN Regulation No. 48 as amended by the 07 series of amendments. The approval number indicates that the approval was granted in accordance with the requirements of UN Regulation No. 48 as amended by the 07 series of amendments.

Model B
(See paragraph 4.5. of this Regulation)



The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to UN Regulation No. 48 as amended by the 07 series of amendments and UN Regulation No. 33.⁵ The approval number indicates that, at the dates when the respective approvals were given, UN Regulation No. 48 was amended by the 07 series of amendments and UN Regulation No. 33 was still in its original form.

⁵ The second number is given merely as an example."

Annex 6

Paragraph 5.4.3., amend to read

"5.4.3. Vehicles with non-conventional suspension, where the propulsion system has to be running"