

PROPOSED AMENDMENTS TO THE DRAFT GTR
ON LIGHTING INSTALLATION

(TRANS/WP29/GRE/2001/6/Rev.4)

Transmitted by the experts from OICA

A. PROPOSAL

Paragraph 3.2.14 (new) Off-road-trucks

“Vehicles of Category 2 with a maximum mass exceeding [7.5] tonnes are considered to be off-road vehicles either if all their wheels are designed to be driven simultaneously, including vehicles where the drive of one axle can be disengaged, or if the following requirements are satisfied:

- At least one front axle and one rear axle are designed to be driven simultaneously (or at least half the wheels are driven for vehicles above 12 tonnes), including vehicles where the drive of one axle can be disengaged;
- There is at least one differential locking mechanism or at least one mechanism having a similar effect;
- They can climb a 25 per cent gradient calculated for a solo vehicle;
- In supplement, for vehicles above 12 tonnes, at least four of the following six requirements are satisfied:
 - o The approach angle must be at least 25°;
 - o The departure angle must be at least 25°;
 - o The ramp angle must be at least 25°;
 - o The ground clearance under the front axle must be at least 250 mm;
 - o The ground clearance between the axles must be at least 250 mm;
 - o The ground clearance under the rear axle must be at least 250 mm.”

Paragraphs 4.21. (table of colours)

OICA is still discussing the right approach.

Paragraph 4.22. (table of presence)

OICA is in favour of a harmonized table.

Paragraph 5.2.3.2.

- Delete the text between square brackets.

In height:

H2 more than or equal to 500 mm; and

H1 less than or equal to 1,200 mm.

[~~Motor vehicles equipped with passing beam headlamps with light sources having an objective luminous flux exceeding 2,000 lumen each:~~

~~H1 less than or equal to 950 mm.]~~

- Add an exemption for off-road trucks as follows:

“For off-road vehicles the maximum height may be increased to 1 500 mm.”

Paragraph 5.7.2.2.

Structural width. OICA requests a value of 2,100 mm throughout the document.

Paragraph 5.7.7.

Failure tell-tale should be optional.

Paragraph 5.11.3.2

Add an exemption for off-road trucks as follows:

“For off-road vehicles the maximum height may be increased to 1 200 mm.”

Paragraph 5.18.3.3.

Replace the dimension K of "400 mm" by "800 mm".

Paragraph 5.19.3.1.

All width requirements should be deleted.

Paragraph 5.19.3.2.

OICA is in favour of a mounting height of 1500 mm as in current UN/ECE R48.

B. JUSTIFICATION

Paragraph 3.2.14: Definition of off-road trucks



Because of the geometry of off-road trucks exceptions are necessary and have to be defined. The proposed new definition is derived from Resolution on the Construction of Vehicles in UN/ECE (R.E.3), Annex 7 (document TRANS/WP.29/78/Rev.1/Amend.2, para.7). The concepts used in the definition are taken from the ISO Standard N° 612.

Example of off-road truck

Paragraphs 4.21.: (table of colours)

Not all the OICA members are currently in agreement on this particular item. From some members view the colours should not be part of a regulation dealing with installation requirements. Therefore OICA need some more time to find a common approach.

Paragraph 4.22.: (table of presence)

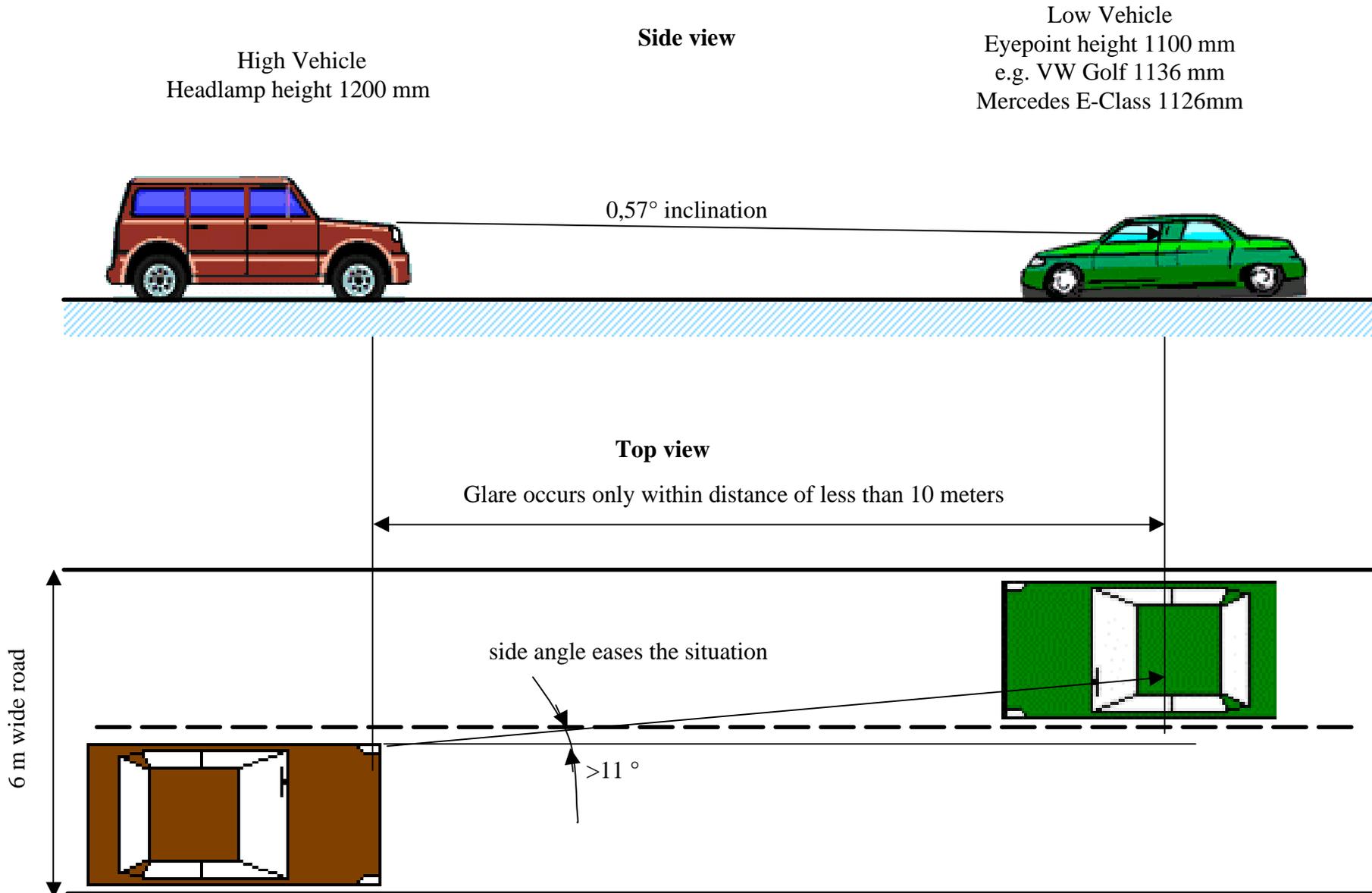
The Table of presence should indicate agreed harmonized presence prescriptions. The current text is not appropriate for a Lighting Installation gtr.

OICA could however accept to maintain this table in the gtr if it indicates only agreed harmonized presence. OICA recommends the WG to take more time to reach agreement or remove the contentious devices from the gtr text.

Paragraph 5.2.3.2: Proposed height requirements of 1200 mm for all passing-beam headlights

- The current height requirement for passing beam headlights is 1200 mm according to UN/ECE-R48 and 1372 mm according to FMVSS/CMVSS 108. The drafted height of <950mm for specific passing beam headlights is an artificially set limit without backup from research or comparable standards.
- The desire to reduce the headlight height is especially driven by glare discomfort issues in the North American markets. The proposed limit of 1200 mm is already a significant reduction in the admissible headlight height for these markets.
- The proposed headlight height of 1200 mm is the optimal match between active safety (visibility of pedestrians or obstacles) and glare discomfort. The average eye point height of passenger cars is 1100 mm to 1200mm above street level. With a 1% inclination (resp. $0,57^\circ$) of the passing beam, glare would occur at a time when the front of a car in ongoing traffic has a distance of less than 10 meters from the eye point of the driver and the driver turns his head by $>11^\circ$.
- Glare discomfort through the rear view mirrors can be reduced or avoided through manual or automatic day/night mirrors.

Passing situation (SUV vs. passenger car)



▪ **Exemption for off-road trucks:**

Off-road trucks are very particular vehicles due to the place where they operate and due to the kind of operation they have to carry out. Proportionally to other vehicles, the number of off-road trucks is quite low.

Considering the particularities of the off-road vehicles and the way they operate, specific provisions for this type of vehicle are needed. In particular, they need special height provisions for passing beam headlamps and the rear fog lamps. It is very important for these two lamps to have a maximum height greater than the current gtr prescriptions.

In the current lighting regulation the passing beam headlamps may have a maximum height of 1500 mm from the ground (para 6.2.4.2. in UN/ECE R48).

Paragraph 5.7.2.2: Structural width

The working group already agreed, on a suggestion from OICA, to harmonize throughout the document the figure for structural width. OICA however recommends the figure of 2,100 mm instead of 2,030 mm as a structural width figure common to the relevant paragraphs.

Paragraph 5.7.7: Stop lamps failure tell-tale

No regulation in the world currently requires a tell-tale for stop lamps. In addition, taking into account the CHMSL, a high redundancy already exists.

Paragraph 5.11.3.2: Proposed height of rear fog lamps for off-road-vehicles

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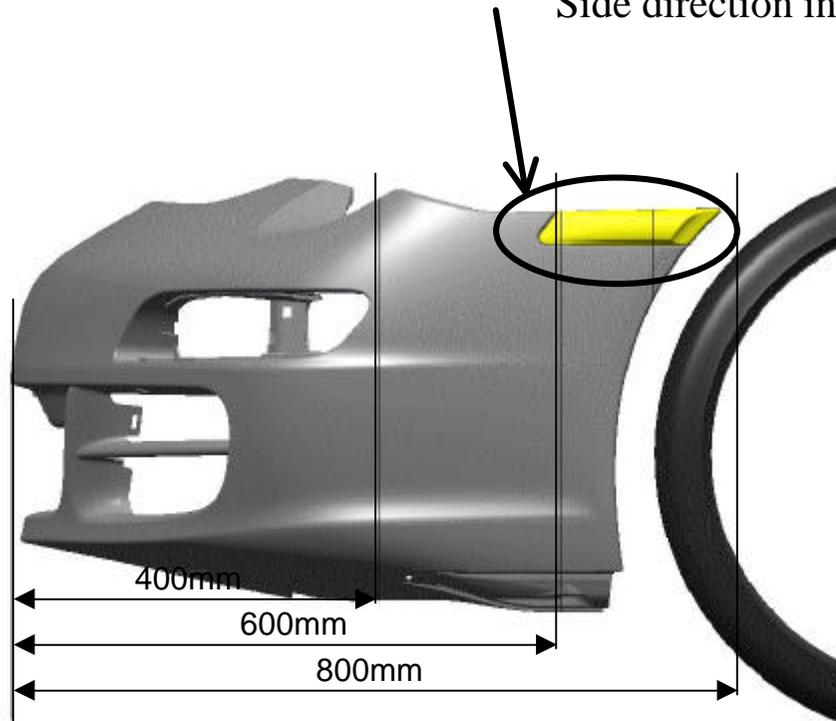
In the current lighting regulation the rear fog lamps may have a maximum height of 1200 mm from the ground (para. 6.11.4.2. in UN/ECE R48).

Paragraph 5.18.3.3: Proposed dimension "K" requirement of 800 mm for front side marker lamps

- The current requirement for the position of front side marker lamps according to FMVSS/CMVSS 108 is 'as far to the front as possible'. There is no requirement for this lighting function in Europe. The drafted dimension 'K' requirement of 400mm is an artificially set limit without backup from research or comparable standards.
- The desire for side marker lamps reflects the car design up to the 70's/80's with rectangular front ends having headlamps which were not visible when looking at a vehicle from the side.
- Today's, and even more future car designs show a significantly different style with rounded front ends to fulfill aerodynamics (fuel economy), pedestrian protection and city traffic handling requirements. To allow this beneficial design in the future, a dimension 'K' of <800mm is required.
- Given the requirement for the outboard horizontal visibility angle for front position lamps of $\beta_1 > 80^\circ$, the far front of a vehicle is already very well visible through the position lamp.

Example of front side marker lamp positioning

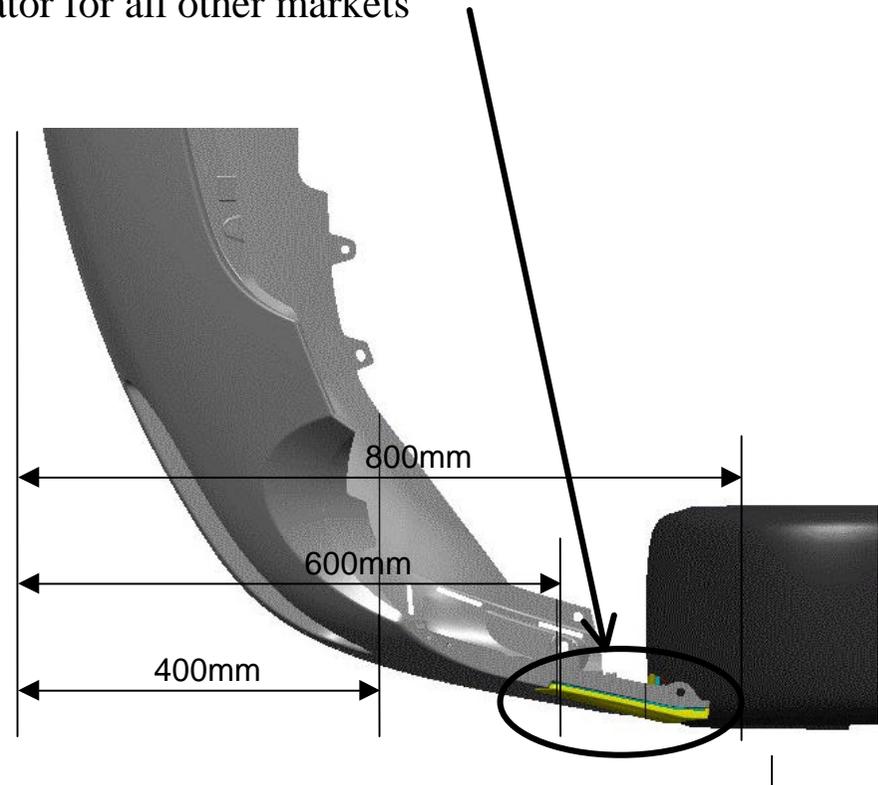
Side view



Concept:

One position, one tool, one part, two functions:
Front side marker lamp for North America
Side direction indicator for all other markets

Top view



Front end vehicle design changes during the past 30 years (Europe)



Front end vehicle design changes during the past 40 years (America)



Example for nighttime side visibility with current vehicle design with passing-beam headlights (no side market lamps)



Paragraph 5.19.3.1. Width requirements for DRL

Daytime running lamps means lamps facing in a forward direction used to make the vehicle more easily visible when driving during daytime. Therefore they are not there for showing the dimension of the car. In conclusion no width requirements are necessary.

Paragraph 5.19.3.2.: Height of DRL

There is no safety argument to lower the mounting height of DRL's to 950 mm. Therefore OICA is in favour of a mounting height of 1500 mm as in current UN/ECE R48.
