

Proposal for the 02 series of amendments to Regulation No. 125

**Submitted by the expert from the Netherlands
on behalf of the Task Force on FVA***

The text reproduced below was prepared by the GRSG Task Force on FVA to introduce provisions for Field of Vision Assistant (FVA). It is based on Working Document GRSG/2021/12. The modifications to the current text of the UN Regulation 125 are marked **in bold** and changes to the Working document GRSG/2021/12 are marked in **blue**

*In accordance with the programme of work of the Inland Transport Committee for 2021 as outlined in proposed programme budget for 2021 (A/75/6 (Sect.20), para 20.51), 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

02 series of amendments to UN Regulation No. 125

I. Proposal

Insert new paragraphs 2.19. and 2.20.:

- "2.19. Obstruction: means physical parts or interference in the field of vision reducing perception of light transmittance with the exception of stray light, e.g. reflection from vehicle interior, sunlight glare.**
- 2.20. Field of Vision Assistant (FVA): means visual information displayed on the vehicle windscreen or other glazed surface to support the awareness of the driver."**

Paragraph 5.1.3., amend to read:

"5.1.3 Except as provided in paragraph 5.1.3.3., 5.1.3.4. **or 5.1.3.5** below, other than the obstructions created by the "A" pillars, the fixed or movable vent or side window division bars, outside radio aerials, devices for indirect vision, covering the mandatory field of indirect vision, and windscreen wipers, there shall be no obstruction in the driver's 180° forward direct field of vision below a horizontal plane passing through V1, and above three planes through V2, one being perpendicular to the plane X-Z and declining forward 4° below the horizontal, and the other two being perpendicular to the plane Y-Z and declining 4° below the horizontal (see Annex 4, Appendix, Figure 4).

The following are not considered to be obstructions to the field of vision:

- (a) Embedded or printed "radio aerial" conductors, no wider than the following:
 - (i) Embedded conductors: 0.5 mm,
 - (ii) Printed conductors: 1.0 mm. These "radio aerial" conductors shall not cross zone A5 However, three "radio aerial" conductors may cross zone A if their width does not exceed 0.5 mm.
- (b) Within zone A located "defrosting/demisting" normally in "zigzag" or sinusoidal form having the following dimensions:
 - (i) Maximum visible width: 0.030 mm,
 - (ii) Maximum conductor density:
 - a. If the conductors are vertical: 8/cm,
 - b. If the conductors are horizontal: 5/cm."

Paragraph 5.1.3.4., amend to read:

"5.1.3.4. An obstruction between a plane through V2, and declined at least 1° below the horizontal and a plane through V2 and declined 4° below the horizontal will be tolerated if the conical projection of this obstruction, starting from V2, on an area "S" as defined in paragraph 5.1.3.2.1. below does not exceed 20 per cent of this area. ~~The steering wheel, if adjustable, shall be placed in the normal position indicated by the manufacturer or, failing that, midway between the limits of its range(s) of adjustment."~~

Insert new paragraph 5.1.3.5.:

"5.1.3.5. The transparent field of vision as defined in paragraph 5.1.1. may be overlaid by information of a Field of Vision Assistant. The provisions of paragraph 5.1.3.5.1 to 5.1.3.5.5 and of paragraph 5.1.3.6 are applying to information from an FVA if overlaid in the transparent field of vision and outside of area S.

The information displayed by the FVA may be non-driving related, hence different to that listed in paragraph 5.1.3.5.1 and not submitted to the provisions of paragraph 5.1.3.5.1 to 5.1.3.5.5, as long as the parking gear/brake has not been released for the first time after the activation of the vehicle master control switch.

- 5.1.3.5.1. When the ignition is on or the vehicle master control switch is activated (whichever is applicable) the FVA information shall be driving related only and limited to:
- (a) Warning/Highlight hazardous traffic situation
 - (b) Warning/Highlight vulnerable road users or other road users which may be overseen
 - (c) Information to maintain the distances to surrounding road users
 - (d) Information to find and maintain the correct driveway

Examples of the above Warning/Highlights/Information are given in Annex 5.

In the case the FVA displays information sourced external to the FVA subject to approval (e.g. external GNSS handheld device), this display shall respect the intended content (e.g. type, time, appearance, size, and colour) as described by the manufacturer in the Type Approval documentation. The fulfilment of the provisions of this paragraph shall be demonstrated by the manufacturer to the technical service during the inspection of the safety approach.

- 5.1.3.5.2. The symbols and graphics shown by the FVA shall disappear when the underlying condition for their display does not exist anymore.
- 5.1.3.5.3. The FVA shall aim to minimize the masking of objects.
- 5.1.3.5.4. It shall be possible for the driver to adjust the light intensity of the FVA.
- 5.1.3.5.5. It shall be possible for the driver to switch off the FVA by a ~~direct~~ deliberate action consisting of at least one manual option with maximum of 2 consecutive steps. Intuitive action (e.g. double press, swipe and press) is considered as a single step.
- 5.1.3.6. The FVA shall be deactivated automatically in case of an electrically detectable failure of the FVA that affects the visual information ~~in an uncontrolled manner~~ as an identified risk considered in the safety approach.”

Insert new paragraphs 6.2.1. and 6.2.2.:

- “6.2.1 The steering wheel, if adjustable, shall be placed in the normal position indicated by the manufacturer or, failing that, midway between the limits of its range(s) of adjustment
- 6.2.2. In the case the FVA position is adjustable, the FVA shall be placed in the normal position indicated by the manufacturer or, failing that, midway between the limits of the range of adjustment.”

12. Transitional provisions

- 12.1. As from the official date of entry into force of the 02 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or

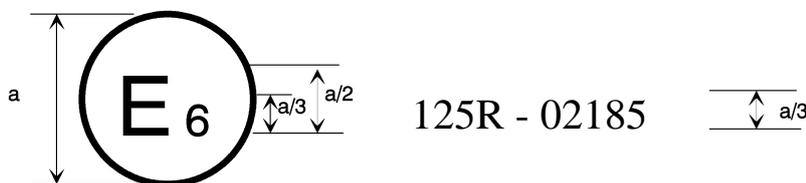
- refuse to accept type approvals under this Regulation as amended by the 02 series of amendments.
- 12.2. As from 1 September 2023, Contracting Parties applying this Regulation shall not be obliged to accept type approvals to the preceding series of amendments, first issued after 1 September 2023.
- 12.3. Until 1 September 2024 Contracting Parties applying this Regulation shall accept type approvals to the preceding series of amendments, first issued before 1 September 2023.
- 12.4. As from 1 September 2024, Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the preceding series of amendments to this Regulation.
- 12.5. 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 type approvals which were granted in accordance with any of the preceding series of amendments to this Regulation ~~/are only obliged to accept type approval granted in accordance with the XX series of amendments.~~
- 12.5.6. Notwithstanding paragraph 12.4, Contracting Parties applying this Regulation shall continue to accept type approvals issued according to the preceding series of amendments to this Regulation, for the vehicles/vehicle systems which are not affected by the changes introduced by the 02 series of amendments.
- 12.7. Contracting Parties applying this UN Regulation may grant type approvals according to any preceding series of amendments to this Regulation.
- 12.8. Contracting Parties applying this UN Regulation shall continue to grant extensions of existing approvals to any preceding series of amendments to this Regulation."

Annex 2, amend to read:

"Annex 2

Arrangements of approval marks

(see paragraphs 4.4. to 4.4.2. of this Regulation)



$a = 8 \text{ mm min}$

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in Belgium (E 6) with regard to the driver's forward field of vision pursuant to UN Regulation No. 125. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of UN Regulation No. 125 as amended by the 02 series of amendments."

After Annex 4, insert a new Annex 5:

"Annex 5

Field of View Assistant

Examples for Warning / Highlight / Information as specified in paragraph 5.3.5.1.:

	Examples
Warning/Highlight hazardous traffic situation	<p>Abrupt braking situations</p> <p>Oncoming traffic in turning manoeuvres</p> <p>Oncoming Traffic Jam/vehicle break down.</p> <p>Vehicles leaving the lane or entering the own driving path</p>
Warning/highlight vulnerable road users or other road users which may be overseen	<p>Pedestrians</p> <p>Cyclists</p> <p>Crossing road users</p> <p>Road users in blind spot or road users covered by other objects</p> <p>Animals</p>
Information to maintain the distances to surrounding road user and infrastructure	<p>Distance to vehicle in front</p> <p>Lane keep assist, lane change assist, speed limits changes</p>
Information to find and maintain the correct driveway and to follow the road instructions	<p>Navigation Information, symbols and arrows during automatic lane change</p> <p>(Directions, Remaining distance to target, border crossings)</p> <p>Highlighting stop lines and pedestrian crosswalks</p>

II. Justification

1. Paragraph 2.19. adds definition of obstruction as addressed in this Regulation, from physical parts of the vehicle architecture or other light projections that may hinder perception of outside scene in the driver's field of vision. Light reflections (that shall not come from the system) are not considered as obstructions (e.g. glaring effect).
2. Paragraph 2.20. adds definition of field of vision assistant as light projections in the driver's field of vision. The visual information made of symbols and graphics shall assist the driver identifying any relevant hazards in traffic situations.
3. Paragraph 5.1.3. includes new 5.1.3.5. prescriptions to be considered for obstruction evaluation.
4. Paragraph 5.1.3.4. prescription for setting the steering wheel is moved to paragraph 6.2.1. Prescription for setting FVA is introduced in 6.2.2. in order to clarify the test procedure.
5. Paragraph 5.1.3.5. introduces prescriptions to allowed obstructing FVA.

6. Paragraph 5.1.3.5.1. defines information to be presented during the driving task. While driving, the information shall be safety relevant. Examples are given in annex 5.

External information sources are possible, but shall not change the performance of approved FVA: the vehicle manufacturer shall ensure that data that are provided by an external device, that are not part of the type approval, shall not be used nor change the FVA content.

7. Paragraph 5.1.3.5.3. and 5.1.3.5.4. confirms that presented information shall be temporary, as related to a dynamic traffic scenario, and optimized to reduce obstruction.
8. Paragraph 5.1.3.5.5. and 5.1.3.5.6. allows driver's manual setting, for an optimized contrast or a complete switch off if necessary. Switch off needs to be accessible with a command to answer driver's fast expected reaction of the system (in case of distraction/obstruction risk).
9. Paragraph 5.1.3.6. requests an automatic deactivation in case of electrical malfunction leading to excessive light projection, hence potential full obstruction of the field of vision.
10. Paragraph 12. introduces transitional provisions for the 02 series of amendments.
