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### World Forum for Harmonization of Vehicle Regulations

#### Working Party on General Safety Provisions

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Item 11 of the provisional agenda

**UN Regulation No. 125 (Forward Field of Vision of Drivers)**

## **Proposal for the 02 series of amendments of UN Regulation No. 125**

### **Submitted by the Netherlands in the name of the GRSG Task Force on FVA \***

The text reproduced below was prepared by the GRSG Task Force on FVA to introduce provisions for Field of Vision Assistants (FVA). It is based on Working Document GRSG/2020/12. The modifications to the current text of the UN Regulations are marked in bold.

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\* 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

## I. Proposal

After paragraph 2.18., insert new paragraphs 2.19. and 2.20. to read:

- "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."

After paragraph 5.1.3.4., insert a new paragraph 5.1.3.5. to read:

- "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**
- 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**

color) 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.
- 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."

Paragraph 12., amend to read:

## "12. Transitional provisions

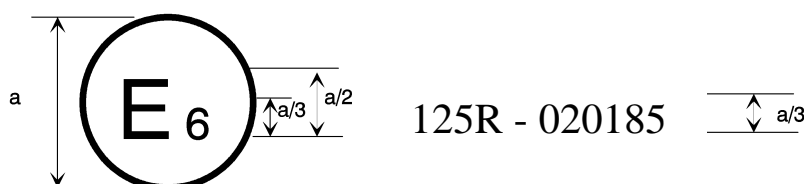
- 12.1. As from the official date of entry into force of the [02] series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the [02] series of amendments.
- 12.2. As from 1 September [2023], Contracting 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 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."

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, to read:

## "Annex 5

### Field of View Assistant

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

	<b>Examples</b>
<b>Warning/Highlight hazardous traffic situation</b>	<b>Abrupt braking situations</b> <b>Oncoming traffic in turning manoeuvres</b> <b>Vehicles leaving the lane or entering the own driving path</b>
<b>Warning/highlight vulnerable road users or other road users which may be overseen</b>	<b>Pedestrians</b> <b>Cyclists</b> <b>Crossing road users</b> <b>Road users in blind spot or road users covered by other objects</b> <b>Animals</b>
<b>Information to maintain the distances to surrounding road user and infrastructure</b>	<b>Distance to vehicle in front</b> <b>Lane keep assist</b>
<b>Information to find and maintain the correct driveway</b>	<b>Navigation Information</b>

## 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 5.1.3.5. introduces prescriptions to allowed obstructing FVA.
5. 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.

6. 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.
  7. 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), e.g. swipe and press is considered as a single action.
  8. 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.
  9. Paragraph 12. introduces transitional provisions for the 02 series of amendments.
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