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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

World Forum for Harmonization of Vehicle Regulations

Working Party on General Safety Provisions

Ninety-seventh session

Geneva, 20 - 23 October 2009

Item 13 of the provisional agenda

**REGULATION No. 125**  
(Forward field of vision of drivers)

Proposal for draft amendments to Regulation No. 125

Submitted by the expert from France \*/

The text reproduced below was prepared by the expert from France in order to improve the provisions concerning the obstruction created by the steering-wheel rim and the instrument panel inside the steering wheel as defined in paragraph 5.1.3.1. The modifications to the current text of the Regulation are marked in bold or strikethrough characters.

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\*/ In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance performance of vehicles. The present document is submitted in conformity with that mandate.

A. PROPOSAL

The list of contents, add a new reference to new figure 7, to read

".....  
ANNEX 4: METHOD FOR DETERMINING ...  
...  
Figure 6: Level work place  
Figure 7: Definition of the area 'S'"

Paragraph 5.1.3.1., amend to read

"5.1.3.1. An obstruction ~~created by the steering wheel rim and the instrument panel inside the steering wheel will be tolerated if~~ **between** a plane through  $V_2$ , ~~perpendicular to the plane x-z and tangential to the highest part of the steering wheel rim, is~~ **and** declined at least  $1^\circ$  below the horizontal **and a plane through  $V_2$  and declined  $4^\circ$  below the horizontal will be tolerated if the projection of this obstruction on an area 'S' as defined in paragraph 5.1.3.2. 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."

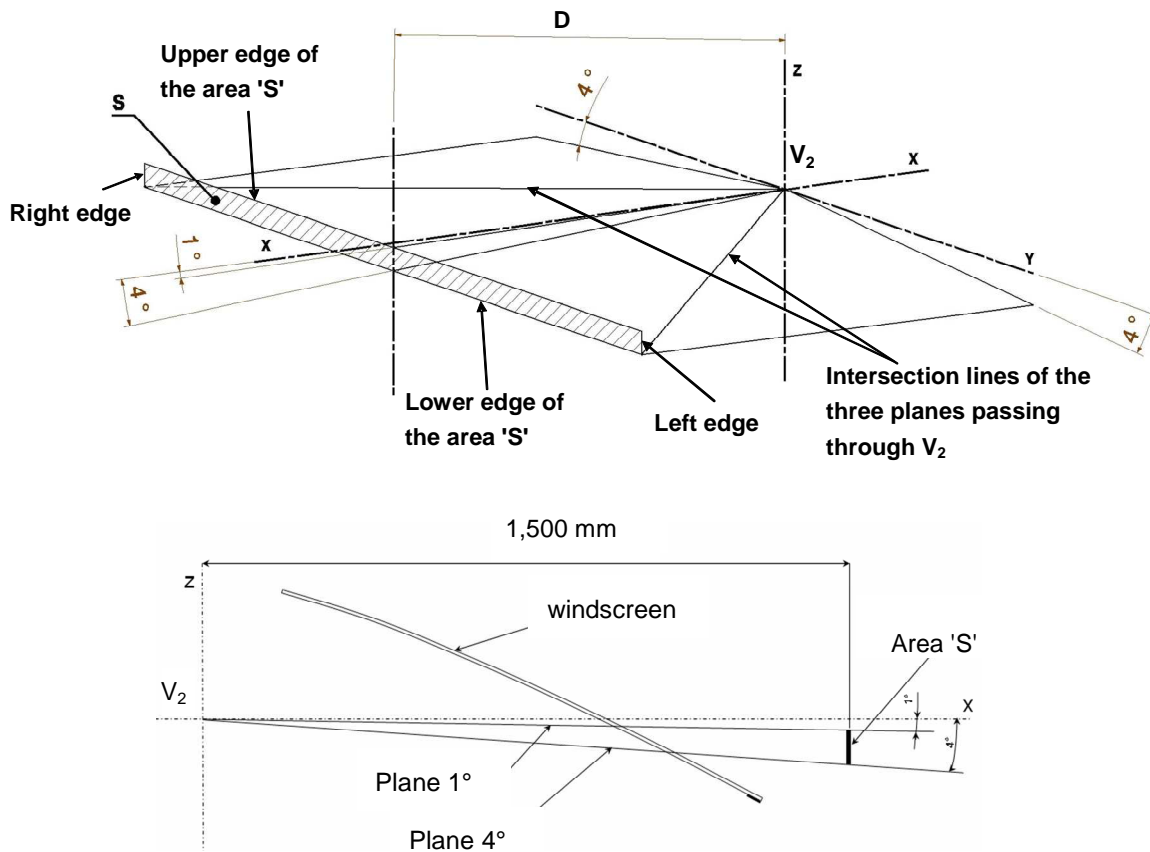
Insert new paragraphs 5.1.3.2. and 5.1.3.3., to read :

"5.1.3.2. The area 'S' (see Annex 4, Appendix, figure 7) is a rectangular vertical area located in a plane perpendicular to the X coordinate 1,500 mm forward of the point  $V_2$ . The upper edge of the area 'S' is defined by a plane passing through  $V_2$  declined forward  $1^\circ$  below the horizontal. The lower edge of the area 'S' is defined by a plane passing through  $V_2$  declined forward  $4^\circ$  below the horizontal. The left and right edges of the area 'S' are vertical and generated from the intersection lines of the three planes declined  $4^\circ$  as defined in paragraph 5.1.3. above.

5.1.3.3. In the case of a windscreen extending beyond 1,500 mm forward of the point  $V_2$ , the distance between the area 'S' and the point  $V_2$  may be extended accordingly."

Annex 4, Appendix, insert a new figure 7, to read:

**"Figure 7: Definition of the area 'S'  
 (paragraph 5.1.3.2.)**



**B. JUSTIFICATION**

Today, the majority of vehicles approved have a distance equal to 1,500 mm at the most between the limit of the windscreen and the point  $V_2$ . France proposes a value which allows a unique area 'S' for all vehicles in order to clarify the text of the Regulation. Paragraph 5.1.3.3. deals with the minority of vehicles of special cases.

The current text of the Regulation prohibits an obstruction above a plane declined  $4^\circ$  except for an obstruction created by the rim of the steering-wheel and the instrument panel inside the steering-wheel in the boundary of the plane declined  $1^\circ$  below the horizontal. As a consequence, all driving information, or the instrument panel, must necessarily be located below the plane declined  $4^\circ$  (see figure below).

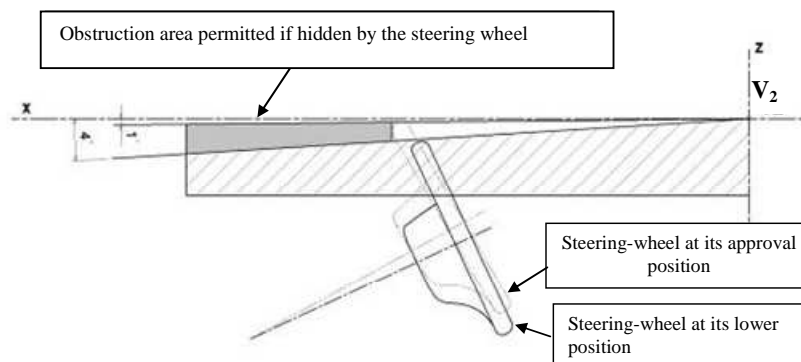


Figure 1 : Illustration of the obstruction area between  $1^\circ$  and  $4^\circ$  planes below the horizontal in the current text.

The driver's eyes must leave the road in order to analyse all the information inside the instrument panel (for example speed, warning tell-tales, etc) (see angle B in the figure 2 below, illustrating the real world driving situation). Thus, the road is temporarily outside the forward field of vision of the driver.

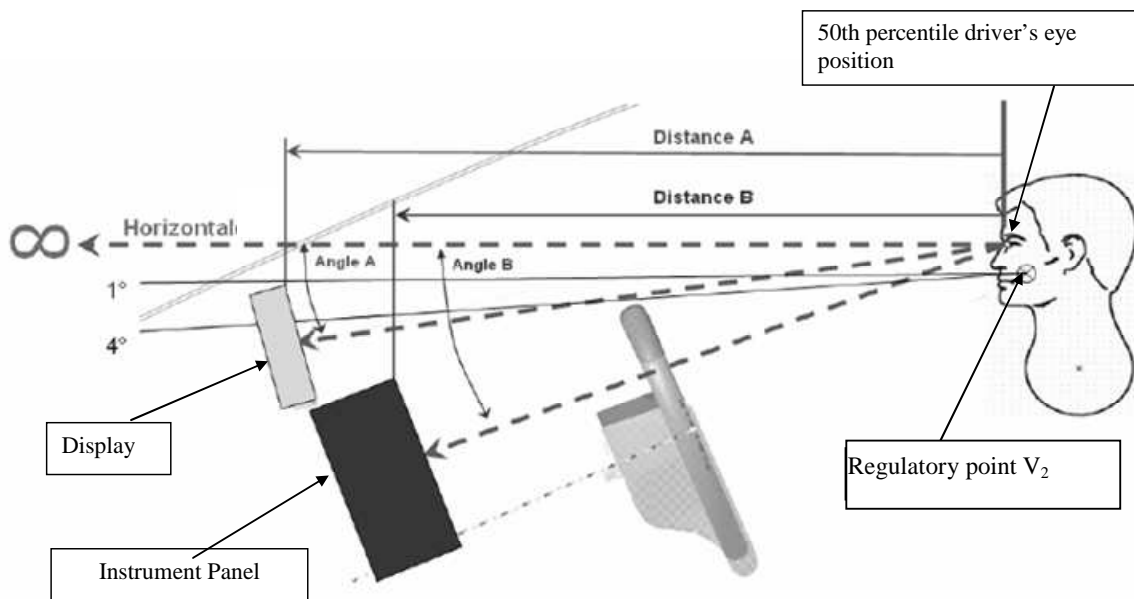


Figure 2: Illustration of the obstruction area by a display area.

The proposal (as illustrated above) allows the placement of a visual display unit, located above the steering-wheel, at the boundary of the plane declined  $1^\circ$  below the horizontal, and containing the essential information of the instrument panel. This in consequence will improve the availability of the most important driving information with no influence on the forward vision of the driver. The driver can therefore consult this information while keeping the road in his field of vision. The main advantages of this proposal are:

- (a) An ocular angle A (in the proposed text) lower than ocular angle B (in the current text),
- (b) Important driving information concentrated in the forward vision of the driver.

The obstruction allowance of the current text, delimited by the  $4^\circ$  and the  $1^\circ$  declined planes (see figure 1) is kept in order to keep the spirit of the current text. The objective is to improve the driver's forward vision in accordance with the current obstruction tolerance for the important driving information in this area. An illustration of the proposal is given in figure 3 below.

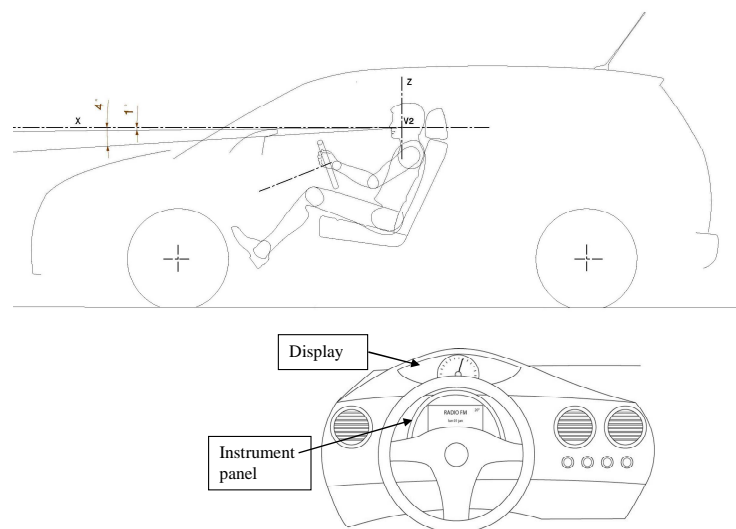


Figure 3: Illustration of efficient usage of obstruction allowance.

The current regulation permits an obstruction by the steering-wheel between the  $1^\circ$  and  $4^\circ$  declined planes with no limitation on the size of the steering-wheel. This obstruction area, by geometrical projection on the area 'S', cannot in general exceed 17 per cent for a normal steering-wheel. In order to take advantage of this obstruction allowance, the driving information located there must in addition respect the size of display as prescribed by Regulation No. 121 (Identification of controls, tell-tales and indicators). Their entire integration justifies a 20 per cent obstruction area. As illustrated in figure 4 below, the obstruction area is 19.77 per cent (V area in the figure) for an LCD and its trim width of 340 mm located in the boundary of the  $1^\circ$  plane.

The calculation method is as follows: project the V area to the area 'S' from the  $V_2$  point in order to obtain the V' area. In the illustration, the area 'S' is about 235,858 mm<sup>2</sup> and the V' area is about 46,637.9 mm<sup>2</sup>.

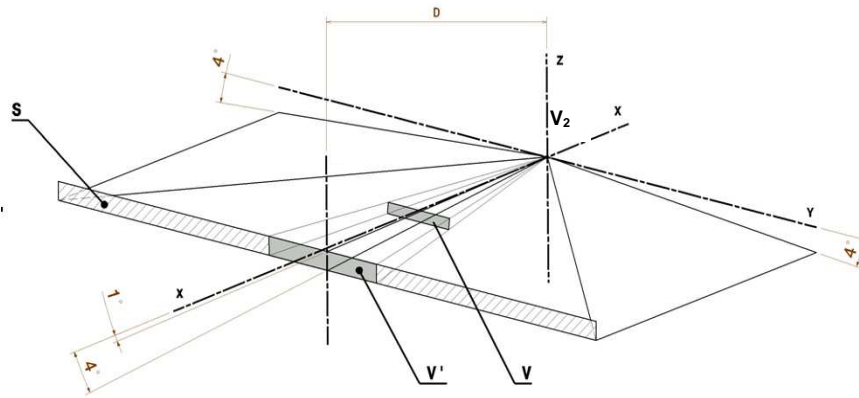


Figure 4: Example of an obstruction zone.

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