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World Forum for Harmonization of Vehicle Regulations**Working Party on General Safety Provisions****126th session**

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Item 4(b) of the provisional agenda

**Awareness of the Proximity of Vulnerable Road Users:
UN Regulation No. 158 (Reversing motion)****Proposal for Supplement 3 to the original version of UN
Regulation No. 158 (Reversing motion)****Submitted by the expert from the Informal Working Group on
Awareness of Vulnerable Road Users Proximity***

The text reproduced below was prepared by the experts from the VRU-Proxi Informal Working Group (VRU-Proxi) to amend UN Regulation No. 158. It is based on GRSG-125-20 as submitted to the 125th session of the Working Party on General Safety (GRSG) and intended as replacement of GRSG-125-20. The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2023 as outlined in proposed programme budget for 2023 (A/77/6 (Sect. 20), table 20.6), 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

Paragraph 16.1.1.3., amend to read:

"16.1.1.3. Deactivation

The rear-view image shall remain visible during the backing event until either, the driver modifies the view, or the vehicle direction selector is no longer in the reverse position, or the backing event is finished.

Modifying the view means to switch to any other camera views.

The view ~~can~~ **may** be manually switched off when the vehicle is not moving rearward.

The system may be switched off when the vehicle detects a coupling by means of a coupling device. In that case the monitor may be used to display other views (e.g. view of a rear-mounted camera on a trailer)."

Paragraph 16.1.1.4., amend to read:

"16.1.1.4. **Temporarily modified** ~~Automatic change of view~~

~~When there is a risk of collision, the field of view may change and focus on the collision area. It shall be demonstrated to the Technical Service that this change of view increases the safety.~~

~~When the vehicle is not driving straight, the field of view may change following the vehicle trajectory.~~

To enable an improved view while maneuvering (e.g. when there is a risk of collision, or when the vehicle is not reversing straight), it shall be permitted to temporarily change the view, in such a way that the requirements laid down in paragraphs 16.1. (default view) and 16.1.1. (object size) are not fulfilled during this temporarily modified view.

It shall be demonstrated, to the satisfaction of the Technical Service and Type Approval Authority, that this change of view increases the safety."

Paragraph 16.1.3.1., amend to read:

"16.1.3.1. The **regulated field of vision displayed on the monitor** ~~monitor defined size~~ shall be visible without any obstruction from the ocular reference point. Virtual testing is acceptable.

In case of temporary obstruction, the driver shall be able to see the close proximity rear view field of vision under the conditions defined in Annex 9 paragraph 1.3.3.5."

Annex 9, insert new paragraph 1.3.3.5., to read:

"**1.3.3.5. The close proximity rear view field of vision in case of monitor located behind a temporary obstacle (e.g. a steering wheel spoke):**

The close proximity rear view field of vision shall be visible to the driver in all normal reversing motion conditions when the driver is restrained by the installed crash protection system, adjusted in accordance with the manufacturer's instructions, and is free to move within constraints of that system (e.g. head movement), and considering ambinoocular vision from the driver's ocular points.

Virtual testing is acceptable."

II. Justification

1. Some of the justifications below refer to the original proposal GRSG-125-20, not to the original text of this regulation.
2. Paragraph 16.1.1.3.:
The option for the driver as proposed in GRSG-125-20 to manually change the field of view should not be removed. As this regulation is already in effect, removal of this option would necessitate a new series. Furthermore, improvement of the wording is proposed by replacing "can" by "may".
3. Paragraph 16.1.1.4.:
The new wording shall improve the clarity of the provision, without changing the requirements or adding new provisions.
4. Paragraph 16.1.3.1.:
The first section defines the default condition with the steering wheel in a straight-ahead position, which is the monitor being visible without obstructions from the ocular points. The second section accounts for potential temporary obstructions, e.g. through a rotated steering wheel. This section then refers to a newly introduced test procedure under Annex 9, see below.
5. Paragraph 1.3.3.5. of Annex 9:
This test procedure only applies when the monitor is temporarily obstructed. In such a case the driver's eye shall be allowed to be moved to the left or right, but only within constraints of the restraint system. To avoid unnecessary complexity of the assessment procedure it shall use the driver's ocular points as a basis. Extending the assessment to "all possible driver sizes and seating positions" as proposed in GRSG-125-20 would lead to undefined conditions, as driver sizes and seat adjustment ranges are not regulated. Such an extended assessment would also be unusual when comparing to assessments of visibility of indicators or devices for indirect vision.