

Proposal for amendments to UN Regulation No. 158 (Reversing motion)

OICA Proposal

The modifications to the existing text are marked in bold for new or strikethrough for deleted characters. Proposals drafted in between square brackets are still subject for discussion in VRU-Proxi.

This proposal is intended to close out the discussions about the visibility of the monitor, and to clarify the information to be displayed when an alternative field of vision is selected either manually or by the system.

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 **or the rear of a detachable container bed.**)

Justification:

- *The option for the driver 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.*

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 manoeuvring (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.

In addition, it shall comply with this Regulation if the view switched in paragraph 16.1.1.3. meets the visibility performance specified in paragraph 15.2

It shall be demonstrated to the Technical Service that this change of view increases the safety.

Justification:

The new wording shall improve the clarity of the provision, without changing the requirements or adding new provisions.

Paragraph 16.1.3.1., amend to read:

"16.1.3.1. The **defined size of 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.

[If the driver is not able to see the close proximity rear view field of vision under above conditions the vehicle shall be fitted with a system complying with other means as described in paragraph 15.1.]”

Justification:

- *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.*
- *In case even the procedure described under Annex 9 does not provide compliance, the vehicle must be equipped with other systems, like a detection system. This statement is generally understood as an implicit consequence, so may not be necessarily spoken out, therefore left in [].*

Insert new Paragraph 1.3.3.5 to Annex 9, 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.

Justification:

- *This test procedure only applies where the monitor is temporarily obstructed. In such a case the driver's eyes 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” 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.*