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### World Forum for Harmonization of Vehicle Regulations

#### Working Party on General Safety Provisions

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**UN Regulation No. 58 (Rear Underrun Protective Devices)**

## **Proposal for supplement 3 to the 03 series of amendments of UN Regulation No. 58**

**Submitted by the expert from the Netherlands<sup>\*,\*\*</sup>**

The text reproduced below was prepared by the expert from the Netherlands aiming to clarify the situation for access ramps to be dealt with in the same way as platform lifts with regards to Rear Underrun Protective Devices (RUPD). It is based on informal document GRSG-119-15. The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

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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.

\*\* This document has been submitted late for technical reasons.

## I. Proposal

*Paragraph 16.4.*, amend to read:

"16.4. For vehicles of categories M, N<sub>1</sub>, N<sub>2</sub> with a maximum mass not exceeding 8 t, O<sub>1</sub> and O<sub>2</sub>, the device shall be so fitted that the horizontal distance between the rear of the cross-member of the device and the most rearward point at the rear extremity of the vehicle, including any platform lift system **or access ramp(s)**, does not exceed 400 mm diminished by the largest total deformation including both plastic and elastic deformation (paragraph 7.3. of Part I) measured and recorded during the test at any of the points where the test forces are applied (Annex 1, item 8) during the type approval of the rear underrun protective device in conformity with the provisions of Part I of this Regulation and recorded in the type approval communication form. In measuring this distance, any part of the vehicle which is more than 2 m above the ground for every loading condition of the vehicle shall be excluded.

For vehicles of categories N<sub>2</sub> with a maximum mass exceeding 8 t, N<sub>3</sub>, and vehicles of categories O<sub>3</sub> and O<sub>4</sub>, equipped with a platform lift **or access ramp(s)** or being designed as a tipping trailer, the same requirement as above applies; however, for vehicles of these categories, the horizontal distance shall not exceed 300 mm measured to the rear of the cross-member before the test forces are applied.

For vehicles of categories O<sub>3</sub> and O<sub>4</sub>, without any platform lift system **or access ramp(s)** and not being designed as a tipping-trailer, the maximum horizontal distances are reduced to 200 mm before the test forces have been applied and 300 mm diminished by the largest total deformation including both plastic and elastic deformation (paragraph 7.3. of Part I) measured and recorded during the test at any of the points where the test forces are applied (Annex 1, item 8).

In any case non-structural protrusions such as tail lamps and those of less than 50 mm of size in any direction, such as rubber bumpers, resilient buffers, hinges and latches shall be excluded from the determination of the most rearward point at the rear extremity.

In any case aerodynamic devices that comply with the provisions in annex 8 shall be excluded from the determination of the most rearward point at the rear extremity.

Before the application of the test forces, the maximum allowed horizontal distance of a single, a segmented or an inclined cross-member of a RUPD is 100 mm between the rear of the cross-member measured at the most forward point and the rear of the cross-member measured at the most rearward point, measured in the longitudinal plane of the vehicle."

*Paragraph 25.3.*, amend to read:

"25.3. For vehicles of categories M, N<sub>1</sub>, N<sub>2</sub> with a maximum mass not exceeding 8 t, O<sub>1</sub> and O<sub>2</sub>, the RUPD shall be situated as close to the rear of the vehicle as possible. The maximum horizontal distance between the rear of the device and the most rearward point at the rear extremity of the vehicle, including any platform lift system **or access ramp(s)**, does not exceed 400 mm measured to the rear of the cross-member and recorded during the test when the test forces are applied.

For vehicles of categories N<sub>2</sub> with a maximum mass exceeding 8 t, N<sub>3</sub>, and vehicles of categories O<sub>3</sub> and O<sub>4</sub>, equipped with a platform lift **or access ramp(s)** or being designed as a tipping trailer, the same requirement as above applies; however, for vehicles of these categories, the horizontal distance shall not exceed 300 mm measured to the rear of the cross-member before the test forces are applied.

For RUP for vehicles of categories O<sub>3</sub> and O<sub>4</sub>, without any platform lift system **or access ramp(s)** and not being designed as a tipping-trailer, the maximum horizontal distance is reduced to 200 mm before and 300 mm during the test when the test forces are applied.

In any case non-structural protrusions such as tail lamps and those of less than 50 mm of size in any direction, such as rubber bumpers, resilient buffers, hinges and latches shall be excluded from the determination of the most rearward point at the rear extremity.

In any case aerodynamic devices that comply with the provisions in Annex 8 shall be excluded from the determination of the most rearward point at the rear extremity.

Before the application of the test forces the maximum allowed horizontal distance of a single, a segmented or an inclined cross-member of a RUPD is 100 mm between the rear of the cross-member measured at the most forward point and the rear of the cross-member measured at the most rearward point, measured in the longitudinal plane of the vehicle."

## II. Justification

In EU Commission Regulation No. 1230/2012 for masses and dimensions of motor vehicles and their trailers, the platform lift, access ramps and similar equipment are excluded for the determination of the vehicle length (see appendix 1, table 1, item 9 (max 300mm)). The RUPD is not excluded for the determination of the vehicle length.

The installation requirements for the RUPD in UN Regulation No. 58, 03 series of amendments;

General: The device shall be so fitted that the horizontal distance between the rear of the cross-member of the device and the most rearward point at the rear extremity of the vehicle, including any platform lift system, does not exceed 400 mm diminished by the largest total deformation

Additional: (1) For vehicles of categories N2 with a maximum mass exceeding 8 t, N3, and vehicles of categories O3 and O4, equipped with a platform lift or being designed as a tipping trailer, the same requirement as above applies; however, for vehicles of these categories, the horizontal distance shall not exceed 300 mm measured to the rear of the cross-member before the test forces are applied

(2) For vehicles of categories O3 and O4, without any platform lift system and not being designed as a tipping-trailer, the maximum horizontal distances are reduced to 200 mm before the test forces have been applied.

We believe that the additional requirement (1) is meant to make it possible to exclude the platform lift system (max 300 mm) in the vehicle length in relation to EU Regulation 1230/2012. The "access ramps and similar equipment" seem to be forgotten.

The problem that now occurs has been illustrated in figure 1 below.

In situation (A)

A trailer equipped with access ramps and an UN Regulation No. 58, 02 series of amendments approved RUPD. The vehicle complies with EU Regulation 1230/2012 as the vehicle length is max. 12 meter. The access ramps are excluded for 300 mm in length.

In situation (B)

The same trailer equipped with access ramps but now an UN Regulation No. 58, 03 series of amendments approved RUPD. Vehicle does not comply with EU Regulation 1230/2012 as the vehicle length now is 12.1 meter. The access ramps are excluded for 300 mm in length but because the RUPD is now installed as additional requirement (2) the same vehicle becomes 12.1 meter.

By amending the articles 16.4. and 25.3. as suggested, there will be a common relation between UN Regulation No. 58, 03 series of amendments and EU Regulation 1230/2012.

Figure 1

