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### Economic Commission for Europe

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#### World Forum for Harmonization of Vehicle Regulations

#### Working Party on General Safety Provisions

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Item 8 of the provisional agenda

#### Regulation No. 58 (Rear under run protection)

### **Proposal for amendments to Regulation No. 58 (Rear under run protection)**

#### **Submitted by the expert from Germany \***

The text reproduced below was prepared by the expert from Germany to introduce more stringent requirements for rear under run protection devices. The modifications to the current text of the 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 2010–2014 (ECE/TRANS/208, para. 106 and ECE/TRANS/2010/8, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

## I. Proposal

*Paragraph 6.2.*, amend to read:

"6.2. An approval number shall be assigned to each type approved. Its first two digits (at present ~~02~~ **03** corresponding to the ~~02~~ **03** series of amendments) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same Contracting Party may not assign the same number to another type of rear under run protective device."

*Paragraph 7.1.*, amend to read:

"7.1. The section height of the cross-member must not be less than ~~100~~ **150** mm. The lateral extremities of the cross-member must not bend to the rear or have a sharp outer edge; this condition is fulfilled when the lateral extremities of the cross-member are rounded on the outside and have a radius of curvature of not less than 2.5 mm."

*Paragraph 7.4.2.*, amend to read:

"7.4.2. The individual elements of the under run protection, including those outboard of the lift mechanism, where provided, must have an effective surface area, in each case, of at least ~~350~~ **525** cm<sup>2</sup>.

However, ~~in the case of vehicles having a width of less than 2,000 mm and where it is impossible to achieve the above requirement~~, the effective surface may be reduced on the condition that the resistance criteria are met, **in the case of:**

- (a) **Vehicles having a width of less than 2,000 mm and where it is impossible to achieve the above requirement, or**
- (b) **Vehicles fitted with a platform lift at the rear where it is impossible to achieve the above requirements."**

*Paragraph 15.2.*, amend to read:

"15.2. An approval number shall be assigned to each type approved. Its first two digits (at present ~~02~~ **03** corresponding to the ~~02~~ **03** series of amendments) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same Contracting Party may not assign the same number to another vehicle type."

*Paragraph 16.1.*, amend to read:

"16.1. The ground clearance with respect to the underside of the protective device, even when the vehicle is unladen, must not exceed:

- (a) **450 mm for vehicles and trailers with hydropneumatic, hydraulic or pneumatic suspension or a device for automatic levelling according to load, and**
- (b) **550–500 mm for vehicles and trailers with suspension systems other than hydropneumatic, hydraulic or pneumatic suspension or a device for automatic levelling according to load.**

**This requirement applies over its the entire width of the vehicle or trailer and shall be such that the height above the ground of the points of**

application of the test forces applied to the device according to Part I of this Regulation and recorded in the type approval communication form (Annex 1, item 7) does not exceed :

- (a) ~~600~~ **500 mm for vehicles and trailers with hydropneumatic, hydraulic or pneumatic suspension or a device for automatic levelling according to load, and**
- (b) **550 mm for vehicles and trailers with suspension systems other than hydropneumatic, hydraulic or pneumatic suspension or a device for automatic levelling according to load."**

*Insert a new paragraph 16.2., to read:*

**"16.2. Paragraph 16.1 does not apply to vehicles where the height requirements specified in paragraph 16.1 are incompatible with the use of the vehicles. This vehicles may have an departure angle according to ISO 612:1978 of 8°, but the maximum ground clearance with respect to the underside of the protective device, even when the vehicle is unladen, must not exceed 550 mm."**

*Paragraphs 16.2. (former), renumber as paragraphs 16.3.*

*Paragraph 16.3. (former), renumber as paragraphs 16.4. and amend to read:*

~~"16.3.~~ **16.4.** The device must be so fitted that the horizontal distance between the rear of the device and the rear extremity of the vehicle, including any platform lift mechanism, does not exceed ~~400~~ **200 mm. diminished by the recorded deformation (paragraph 7.3 of Part I) measured at any of the points where the test forces have been applied (Annex 1, item 8) during the type approval of the rear under run 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 when the vehicle is unladen shall be excluded. For vehicles fitted with a platform lift at the rear the distance may not exceed 300 mm."**

*Insert a new paragraph 16.5., to read:*

**"16.5. After applying the test forces (Annex 1, item 8) the recorded deformation (paragraph 7.3 of Part I) measured at any of the points where the test forces have been applied (Annex 1, item 8) during the type approval of the rear under run protective device in conformity with the provisions of Part I of this Regulation and recorded in the type approval communication form must not exceed 400 mm measured from the rear extremity of the vehicle, including any platform lift mechanism. In measuring this distance, any part of the vehicle which is more than 2 m above the ground when the vehicle is unladen must be excluded."**

*Paragraph 16.4. (former), renumber as paragraph 16.6.*

*Paragraph 24.2., amend to read:*

**"24.2. An approval number shall be assigned to each type approved. Its first two digits (at present ~~02~~ **03** corresponding to the ~~02~~ **03** series of amendments) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the**

approval. The same Contracting Party may not assign the same number to another vehicle type."

*Paragraph 25.1.*, amend to read:

"25.1. The ground clearance with respect to the underside of the RUP, even when the vehicle is unladen, must not exceed ~~550~~ **450** mm over its entire width."

*Paragraph 25.2.*, amend to read:

"25.2. The RUP must be situated as close to the rear of the vehicle as possible. **The maximum horizontal distance between the rear of the device and the rear extremity of the vehicle must not exceed 200 mm. For vehicles fitted with a platform lift at the rear the distance may not exceed 300 mm.**"

*Paragraph 25.4.*, amend to read:

"25.4. The section height of the RUP must not be less than ~~400~~ **150** mm. ...."

*Paragraph 25.8.2.*, amend to read:

"25.8.2. The individual elements of the under run protection, including those outboard of the lift mechanism, where provided, must have an effective surface area, in each case, of at least ~~350~~ **525** cm<sup>2</sup>.

However, ~~in the case of vehicles having a width of less than 2,000 mm and where it is impossible to achieve the above requirement,~~ the effective surface may be reduced on the condition that the resistance criteria are met, **in the case of:**

- (a) **Vehicles having a width of less than 2,000 mm and where it is impossible to achieve the above requirement, or**
- (b) **Vehicles fitted with a platform lift at the rear where it is impossible to achieve the above requirements.**"

*Paragraph 31.*, amend to read:

## **"31. Transitional provisions**

31.1. As from the official date of entry into force of the ~~02~~ **03** series of amendments, no Contracting Party applying this Regulation shall:

- (a) refuse to grant approval under Parts I, II and III of this Regulation as amended by the ~~02~~ **03** series of amendments;
- (b) refuse a type of component or separate technical unit approved under Part I of this Regulation as amended by the ~~02~~ **03** series of amendments;
- (c) prohibit the fitting on a vehicle of a component or separate technical unit approved under Parts I and II of this Regulation as amended by the ~~02~~ **03** series of amendments.

31.2. Until ~~18~~ **24** months after the date of entry into force of this Regulation as amended by the ~~02~~ **03** series of amendments, Contracting Parties applying this Regulation shall:

- (a) not refuse a type of component or separate technical unit approved under Part I of this Regulation as amended by the ~~01~~ **02** series of amendments;

- (b) not refuse to grant approvals to those types of component or separate technical unit which comply with the requirements of Part I of this Regulation as amended by the ~~01~~ **02** series of amendments;
- (c) not refuse to grant extensions of approval for components or separate technical units which comply with Part I of this Regulation as amended by the ~~01~~ **02** series of amendments;
- (d) continue to allow the fitting on a vehicle of a component or separate technical unit approved under Parts I and II of this Regulation as amended by the ~~01~~ **02** series of amendments.
- 31.3. Starting ~~18~~ **24** months after the date of entry into force of this Regulation as amended by the ~~02~~ **03** series of amendments, Contracting Parties applying this Regulation shall:
- (a) refuse a type of component or separate technical unit which does not meet the requirements of Part I of this Regulation as amended by the ~~02~~ **03** series of amendments;\*
- (b) grant approvals only if the type of component or separate technical unit to be approved meets the requirements of Part I of this Regulation as amended by the ~~02~~ **03** series of amendments;
- (c) prohibit the fitting of a component or separate technical unit which does not meet the requirements of Parts I and II of this Regulation as amended by the ~~02~~ **03** series of amendments; \*
- (d) consider approvals in the case of types of component or separate technical unit to be invalid, except where they comply with the requirements of Part I of this Regulation as amended by the ~~02~~ **03** series of amendments.
- 31.4. Until ~~36~~ **48** months following the date of entry into force of this Regulation as amended by the ~~02~~ **03** series of amendments Contracting Parties applying this Regulation shall:
- (a) continue to grant approvals to those types of vehicles which comply with the requirements of Part III of this Regulation as amended by the ~~01~~ **02** series of amendments;
- (b) continue to accept national or regional type-approval of a vehicle type-approved under Part III of this Regulation as amended by the ~~01~~ **02** series of amendments.
- 31.5. As from ~~36~~ **48** months after the date of entry into force of this Regulation as amended by the ~~02~~ **03** series of amendments, Contracting Parties applying this Regulation shall:
- (a) grant approvals only if the vehicle type to be approved meets the requirements of Part III of this Regulation as amended by the ~~02~~ **03** series of amendments;

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\**Note by the secretariat:* These transitional provisions are not in line with our guidelines (TRANS/WP.29/1044, in particular see C.7 and F.3). "May" is usually used instead of "shall" for that kind of transitional provisions since UNECE Regulations are only an alternative to the national/regional legislation. The secretariat is of the opinion that this provision may be deleted because it seems already covered by (d). Furthermore paragraphs 31.1. to 31.5. have to be considered with the amendments proposed by ECE/TRANS/WP.29/2011/20.

- (b) refuse national or regional type-approval and shall refuse first national or regional registration (first entry into service) of a vehicle which does not meet the requirements of Part III of this Regulation as amended by the ~~02~~ **03** series of amendments; \*
- (c) consider approvals to this Regulation to be invalid, except in the case of vehicle types which comply with the requirements of Part III of this Regulation as amended by the ~~02~~ **03** series of amendments."

*Annex 5,*

*Paragraph 3.1.,* amend to read:

"3.1. The requirements of paragraphs 7.3 and 25.6 of this Regulation shall be verified by means of suitable test mandrels; the forces for tests prescribed in paragraphs 3.1.1 and 3.1.2 below shall be applied separately and consecutively, via a surface not more than 250 mm in height (the exact height must be indicated by the manufacturer) and 200 mm wide, with a radius of curvature of  $5 \pm 1$  mm at the vertical edges. The height above the ground of the centre of the surface must be defined by the manufacturer within the lines that bound the device horizontally. When the test is carried out on a vehicle the height must not, however, exceed ~~600 mm~~ **the height as specified in paragraph 16.1 of this regulation** when the vehicle is unladen. The order in which the forces are applied may be specified by the manufacturer."

*Paragraph 3.1.1.,* amend to read:

"3.1.1. A horizontal force of ~~100-180~~ kN or ~~50~~ **85** per cent of the force generated by the maximum mass of the vehicle, whichever is the lesser, shall be applied consecutively to two points situated symmetrically about the centre line of the device or of the vehicle whichever is applicable at a minimum distance apart of 700 mm and an maximum of 1 m. The exact location of the points of application shall be specified by the manufacturer."

*Paragraph 3.1.2.,* amend to read:

"3.1.2. In the cases defined in paragraphs 1.1.1 and 1.1.2 of this annex a horizontal force of ~~50-100~~ kN or ~~25-50~~ per cent of the force generated by the maximum mass of the vehicle, whichever is the lesser, shall be applied consecutively to two points located  $300 \pm 25$  mm from the longitudinal planes tangential to the outer edges of the wheels on the rear axle and to a third point located on the line joining these two points, in the median vertical plane of the vehicle."

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\**Note by the secretariat:* These transitional provisions are not in line with our guidelines (TRANS/WP.29/1044, in particular see V.7). "May" is usually used instead of "shall" for that kind of transitional provisions since UNECE Regulations are only an alternative to the national/regional legislation. The secretariat is of the opinion that this provision may be deleted because it seems already covered by (c).

*Paragraph 3.1.3.*, amend to read:

"3.1.3. In the cases defined in paragraph 1.1.3 of this annex a horizontal force of ~~50~~ **100** kN or ~~25-50~~ per cent of the force generated by the maximum mass of the vehicle for which the device is intended, whichever is the lesser, shall be applied consecutively to two points located at the discretion of the manufacturer of the rear under run protective device and to a third point located on the line joining these two points, in the median vertical plane of the device."

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