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**Economic Commission for Europe****Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Passive Safety****Sixty-third session**

Geneva, 14-18 May 2018

Item 12 of the provisional agenda

**UN Regulation No. 29 (Cabs of commercial vehicles)****Proposal for Supplement 4 to the 03 series of amendments to  
UN Regulation No. 29 (Cabs of commercial vehicles)****Submitted by the expert from Germany\***

The text reproduced below was prepared by the expert from Germany. It introduces amendments to UN Regulation No. 29 and supersedes ECE/TRANS/WP.29/GRSP/2017/26 as distributed during the sixty-second session of the Working Party on General Safety (GRSP) (ECE/TRANS/WP.29/GRSP/62, para. 20). It is based on informal document GRSP-61-20 distributed during the sixty-first session of GRSP (ECE/TRANS/WP.29/GRSP/61, para. 55). The modifications to the existing 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 2014–2018 (ECE/TRANS/240, para. 105 and ECE/TRANS/2014/26, programme activity 02.4), 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 7, amend to read:

### "7. Conformity of production

The conformity of production procedures shall comply with those set out in the Agreement, ~~Appendix 2~~ (Schedule 1, E/ECE/TRANS/505/Rev.3), with the following requirements:"

Annex 3 Appendix 1, amend to read:

### "Annex 3 - Appendix 1

#### Instructions for securing vehicles to the test bed

##### 1. ~~Frontal impact~~ General instructions for securing

~~Test A shall be applied to a cab mounted on the vehicle in the following way (see figure 1 below).~~

##### 1.1. Measures shall be taken to ensure that the vehicle does not shift appreciably during the test. For this purpose the hand-brake shall be applied, a gear engaged and the front wheels wedged with chocks.

##### 1.12. Anchoring chains or ropes

Each anchoring chain or rope shall be of steel and shall be capable of withstanding a tractive load of at least 10 tons.

##### 1.23. Blocking of the chassis frame

The longitudinal members of the chassis frame shall be supported on wooden blocks, **rigid composite blocks and/or adjustable metal brackets** across their full width and over a length of not less than 150 mm. The front edges of the blocks must not be situated forward of the rearmost point of the cab, nor rearward of the mid-point of the wheel base (**see figure 1 below**). At the manufacturer's request the chassis frame shall be set in the attitude it takes up when loaded.

##### 1.34. Longitudinal attachment

Rearward movement of the chassis frame shall be limited by chains or ropes A attached to the front of the chassis frame symmetrically in relation to its longitudinal axis, the points of attachment being not less than 600 mm apart. The chains or ropes shall when tensioned form a downward angle of not more than 25° with the horizontal and their projection on a horizontal plane shall form an angle of not more than 10° with the longitudinal axis of the vehicle (**see figure 1 below**). The chains or ropes may cross one another.

##### ~~1.4. Lateral attachment~~

~~Lateral movement shall be limited by chains or ropes B attached to the chassis frame symmetrically in relation to its longitudinal axis. The points of attachment to the chassis shall be not more than 5 m and not less than 3 m~~

from the front of the vehicle. The chains or ropes shall when tensioned form a downward angle of not more than 20° with the horizontal and their projection on a horizontal plane shall form an angle of not less than 25° and not more than 45° with the longitudinal axis of the vehicle.

1.5. Tensioning of chains or ropes and rear attachment

**For tests A and B**, the chain or rope C shall, to begin with, be placed under a load of approximately 1 kN. All slack in the four chains or ropes A and B shall then be taken up and chain or rope C shall be subjected to a tensile stress of not less than 10 kN. The angle of chain or rope C with the horizontal shall not exceed 15°. A vertical blocking force of not less than 500 N shall be applied at point D between the chassis frame and the ground (**see figure 1 below**). For test C, the chains or ropes B as described above shall be replaced by the chains or ropes E and F (**see figure 2 below**).

1.6. Equivalent mounting

At the request of the manufacturer the test may be carried out with the cab mounted on a special frame, on condition that this method of mounting is shown to be equivalent to mounting on the vehicle.

**2. Frontal impact**

**2.1. Cab mounted on the vehicle**

**Test A shall be applied to a cab mounted on the vehicle as described in paragraph 1.**

**2.1.1. Lateral attachment**

**Lateral movement shall be limited by chains or ropes B attached to the chassis frame symmetrically in relation to its longitudinal axis. The points of attachment to the chassis shall be not more than 5 m and not less than 3 m from the front of the vehicle. The chains or ropes shall when tensioned form a downward angle of not more than 20° with the horizontal and their projection on a horizontal plane shall form an angle of not less than 25° and not more than 45° with the longitudinal axis of the vehicle (see figure 1 below).**

**2.2. Cab mounted on a frame**

**Measures shall be taken to ensure that the cab does not shift appreciably during the test.**

~~23.~~ Front pillars impact

~~23.1.~~ Cab mounted on the vehicle (~~see fig-1~~).

**Test B shall be applied to a cab mounted on the vehicle as described in paragraph 1.**

~~Measures shall be taken to ensure that the vehicle does not shift appreciably during the test. For this purpose the hand brake shall be applied, a gear engaged and the front wheels wedged with chocks.~~

**3.1.1. Lateral attachment**

**Lateral movement shall be limited by chains or ropes B attached to the chassis frame symmetrically in relation to its longitudinal axis. The points of attachment to the chassis shall be not more than 5 m and not less than 3 m from the front of the vehicle. The chains or ropes shall**

when tensioned form a downward angle of not more than 20° with the horizontal and their projection on a horizontal plane shall form an angle of not less than 25° and not more than 45° with the longitudinal axis of the vehicle (see figure 1 below).

23.2. Cab mounted on a frame

Measures shall be taken to ensure that the cab does not shift appreciably during the test.

34. Roof strength

34.1. Cab mounted on the vehicle

**Test C shall be applied to a cab mounted on the vehicle as described in paragraph 1.**

~~Measures shall be taken to ensure that the vehicle does not shift appreciably during the test. For this purpose the hand brake shall be applied, a gear engaged and the front wheels wedged with chocks. Deformation of the various components of the suspension (springs, tyres, etc.) shall be eliminated by means of rigid members.~~

4.1.1. **Blocking of the chassis frame**

**Notwithstanding paragraph 1.3. an additional support shall be placed under both sides of the longitudinal members of the chassis frame's front end.**

4.1.2. **Lateral attachment**

**Lateral movement shall be limited by chains or ropes E and F attached to the chassis frame symmetrically in relation to its longitudinal axis.**

**The points of attachment of chains or rope E to the chassis shall be not more than 5 m and not less than 3 m from the front of the vehicle.**

**The points of attachment of chains or rope F to the chassis shall be between the centre of the front axle and the front of the vehicle.**

**The chains or ropes shall when tensioned form a downward angle of not more than 20° with the horizontal and their projection on a horizontal plane shall form an angle  $90^{\circ} \pm 5^{\circ}$  with the longitudinal axis of the vehicle (see figure 2 below).**

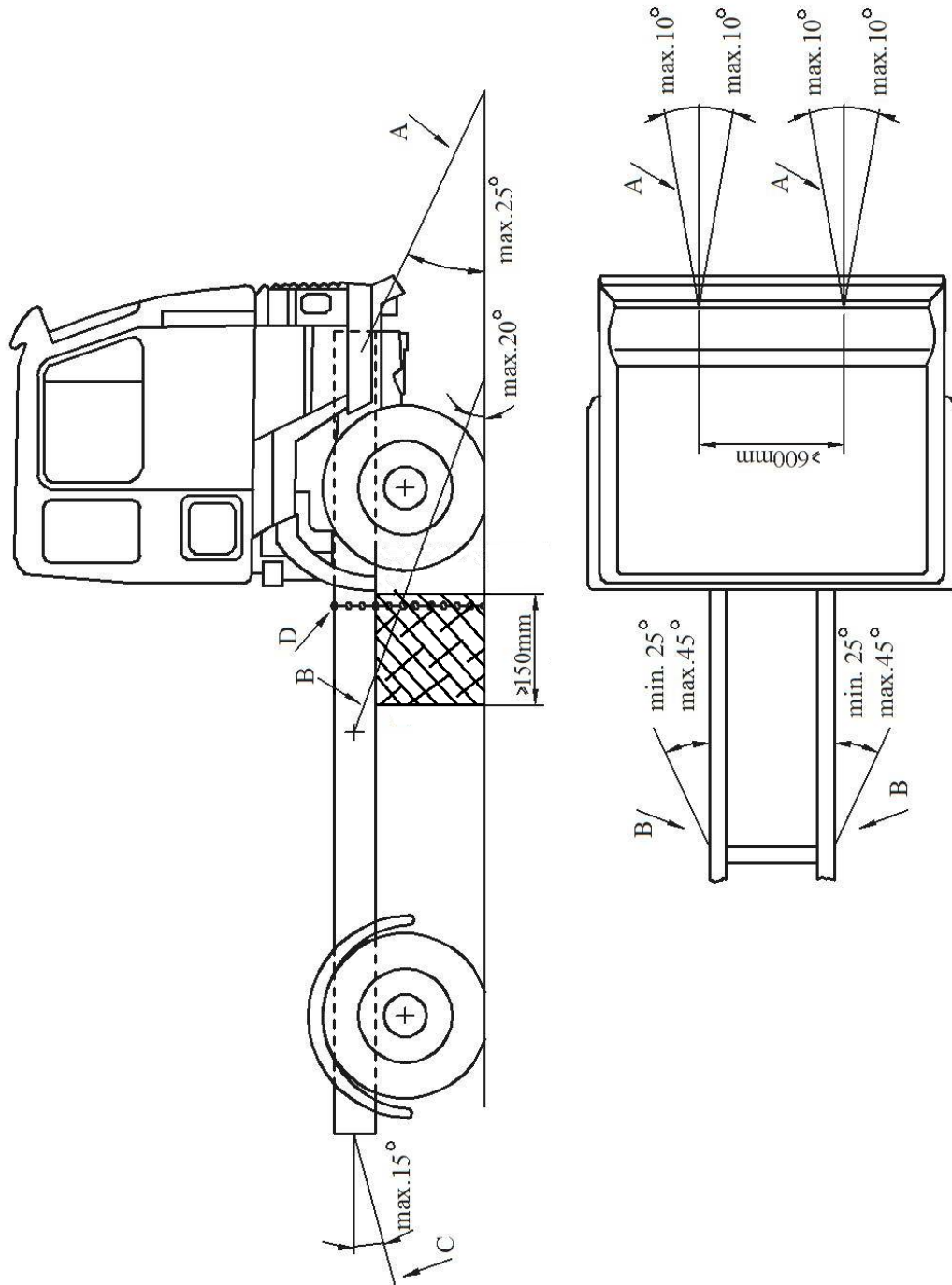
34.2. Cab mounted on a frame

Measures shall be taken to ensure that the frame does not shift appreciably during the test.

Figure 1, shall be deleted

Insert new Figures 1 and 2, to read:

**Figure 1**  
**Front impact test and front pillars impact test**  
**The cab is mounted on the vehicle**





## II. Justification

1. Currently test A of UN Regulation No. 29 contains detailed specifications on how to secure a cab mounted on a vehicle on the test rig. The proposed amendments will fill that gap and provide the necessary specifications also for test B and test C to improve the repeatability of the tests.
  2. The proposal also allows, instead of the wooden block shown in Figure 1, to use rigid composite blocks and/or (adjustable) metal brackets to make the fixation of the vehicle on the test rig more convenient.
  3. For Test C (Roof Strength), ropes/chains B are not required because ropes E and F are instead used for lateral attachment – this is now clarified with updates to paragraph 1.5.
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