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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### Working Party on General Safety Provisions

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Item 6 of the provisional agenda

**UN Regulation No. 66 (Strength of superstructure (buses))**

### **Proposal for Supplement 11 to the 02 series of amendments to UN Regulation No. 66 (Strength of superstructure (buses))**

#### **Submitted by the expert of the Russian Federation \***

The text reproduced below was prepared by the expert of the Russian Federation to amend UN Regulation No. 66 to clarify the verifications after the performance of the strength test. The modifications to the current text of UN Regulation No. 66 are marked in bold for new characters and as strikethrough for deleted ones.

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\* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), 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

*Insert new paragraphs 2.34. and 2.35., to read:*

- “2.34.        "Emergency hatch" means a roof opening intended to be used by passengers as an emergency exit, only in an emergency situation.**
- 2.35.        "Emergency exit" means a spare door, spare window or emergency hatch.”**

*Insert new paragraph 5.3.5., to read:*

- “5.3.5.        If, however, the applicant requests approval without assessing the operability of the emergency hatches and injury-safety in the cabin as provided for in Appendix 1 to Annex 5, the national requirements of the Contracting Parties may apply.”**

*Annex 5, paragraph 2.1., amend to read:*

- “2.1.        The vehicle to be tested ~~need not~~ shall be in a fully finished, "ready for operation" condition. ~~Generally, any alteration from the fully finished condition is acceptable if the basic features and behaviour of the superstructure are not influenced by it.~~ The test vehicle shall be the same as its fully finished version in respect of the following:**

*Annex 5, paragraph 2.1.3., amend to read:*

- 2.1.3.        elements, which do not contribute to the strength of the superstructure and are too valuable to risk damage (e.g. drive chain, dashboard instrumentation, driver's seat, kitchen equipment, toilet equipment, etc.) can be replaced, **by agreement with the technical service**, by additional elements equivalent in mass and method of installation. These additional elements must not have a reinforcing effect on the strength of superstructure.**

*Insert new paragraphs 2.2.4. and 2.2.5., to read:*

- “2.2.4.        All emergency hatches and exits shall be closed. In the case of an easily breakable hatch, a device, easily accessible to vehicle occupants, shall be installed in its vicinity in order to break the hatch;**
- 2.2.5.        Fire extinguishers shall be located in their designated places and attached in a standard manner.”**

*Insert new Appendix 1 to Annex 5, to read:*

### **“Annex 5 – Appendix 1**

- 1.            After conducting the test, verify the following:**
- 1.1.        The emergency hatch is not jammed and its operability is preserved. In case the emergency hatch is opened by mechanical means (in the case of a glass hatch - without breaking it), the force applied in any direction shall not be more than 400 N.**
- Note: If there is only one emergency hatch, the opening check is carried out from the outside. If there are two or more hatches, the opening check is carried out both from the inside and the outside.**
- 1.2.        No destruction of the seat mounts occurred.**
- 1.3.        Based on the analysis of video recording materials obtained using the filming devices installed on the vehicle, verify that there was no displacement of injury-causing objects (fire extinguishers, devices for breaking the easily breakable hatch, etc.) in the residual space.”**

## II. Justification

1. This UN Regulation No. 66 prescribes requirements and methods for the assessment of strength of a superstructure. Different test methods are allowed in accordance with UN Regulation No. 66, but the test of a complete vehicle is assumed to be the basic reference method.
  2. When carrying out full-scale tests of a complete vehicle, we propose to do additional checks in terms of passive safety:
    - (a) destruction of seats mounts. The break-off and displacement of seats is not covered by the current Regulation, since they are initially located inside the residual space and their displacement is not assessed;
    - (b) injury-causing objects entering the residual space and moving within it. If a person is hit by a fire extinguisher or other object when the vehicle overturns, it may cause serious or even fatal injuries.
  3. Emergency hatches are designed to evacuate passengers in case of road accidents when the vehicle has fallen to its side. An emergency hatch is often the only way to leave the vehicle. Provided that the complete vehicle has already been damaged during testing and is on its side, as it happens during an accident, we consider it reasonable to check the operability of its emergency hatches. Because after the vehicle overturns there is a risk of the hatch getting jammed or the hatch opening mechanisms getting damaged.
  4. The force applied to the emergency hatch opening mechanisms is equivalent to the agreed within the official GRSP working group on UN Regulation No. 95 (document E/ECE/324/Rev.1/Add.94/Rev.2/ Amend.4), in part of the ability of a person to apply pressure to the door from the inside of the vehicle. Because people of different age groups shall be able to open emergency hatches.
  5. In view of the above, we propose to add Appendix 1 to Annex 5, which would include all additional proposed checks. Implementation of this Appendix shall be optional, but if the applicant has received approval without assessment provided for in the Annex 5 - Appendix 1, national requirements may be applied by Contracting Parties. This proposal is drawn up to be similar to paragraph 1.4. of paragraph 1. "Scope" of UN Regulation No. 144.
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