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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations****Working Party on Passive Safety****Seventieth session**

Geneva, 6–10 December 2021

Item 14 of the provisional agenda

**UN Regulation No. 137 (Frontal impact with focus on restraint systems)****Proposal for Supplement 4 to the 01 series of amendments  
and Supplement 1 to the 02 series of amendments to  
UN Regulation No. 137 (Frontal impact with focus on  
restraint systems)****Submitted by the expert from the Netherlands \***

The text reproduced below was prepared by the expert from the Netherlands, aiming to clarify the requirements for the adjustment of the passenger seat back when installing the Hybrid III 5<sup>th</sup> percentile female dummy. It is based on informal document GRSP-69-11 submitted by the expert from the Netherlands at the sixty-ninth session of the Working Party on Passive Safety (GRSP). 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.



## I. Proposal

*Annex 3, paragraph 1.4.3.11.3., amend to read:*

"1.4.3.11.3. Position of the front seat-backs  
If adjustable, ... of Annex 5, paragraph 3.1.2."

*Annex 5, paragraph 3.13., amend to read:*

"3.1. Head

~~The transverse instrumentation platform of the head shall be horizontal within 2.5°. To level the head of the test dummy in vehicles with upright seats with non-adjustable backs, the following sequences shall be followed. First adjust the position of the "H 5<sup>th</sup>" point within the limits set forth in paragraph 3.4.3.1. below to level the transverse instrumentation platform of the head of the test dummy. If the transverse instrumentation platform of the head is still not level, then adjust the pelvic angle of the test dummy within the limits provided in paragraph 3.4.3.2. below. If the transverse instrumentation platform of the head is still not level, then adjust the neck bracket of the test dummy the minimum amount necessary to ensure that the transverse instrumentation platform of the head is horizontal within 2.5°.~~

*Insert new paragraphs 3.1.1. and 3.1.2., to read:*

**"3.1.1. To level the head of the test dummy in vehicles with upright seats with non-adjustable backs, the following sequences shall be followed. First adjust the position of the "H 5<sup>th</sup>" point within the limits set forth in paragraph 3.4.3.1. below to level the transverse instrumentation platform of the head of the test dummy. If the transverse instrumentation platform of the head is still not level, then adjust the pelvic angle of the test dummy within the limits provided in paragraph 3.4.3.2. below. If the transverse instrumentation platform of the head is still not level, then adjust the neck bracket of the test dummy to the minimum amount necessary to ensure that the transverse instrumentation platform of the head is horizontal within 2.5°.**

**3.1.2. To level the head of the test dummy in vehicles with adjustable backs, the following sequences shall be followed. First adjust the position of the "H 5<sup>th</sup>" point within the limits set forth in paragraph 3.4.3.1. below to level the transverse instrumentation platform of the head of the test dummy. If the transverse instrumentation platform of the head is still not level, then adjust the pelvic angle of the test dummy within the limits provided in paragraph 3.4.3.2. below. If the transverse instrumentation platform of the head is still not level, then adjust the neck bracket of the test dummy to the minimum amount necessary to ensure that the transverse instrumentation platform of the head is horizontal within 2.5°. If the transverse instrumentation platform of the head is still not level, then adjust the seat back to a different angle at a minimum amount necessary to ensure that the transverse instrumentation platform of the head is horizontal within 2.5°."**

## II. Justification

1. Annex 3, paragraph 1.4.3.11.3 indicates, that for the Hybrid III 5<sup>th</sup> percentile female dummy, the seat back **may be** adjusted to a different angle, if this is needed to respect the requirement of Annex 5, paragraph 3.1.

2. In case the seat back is adjustable, the sequence is not clearly defined in Annex 5. This leads to different interpretations, where it is not clear if changing the seat back angle prevails over adjusting the neck bracket and what order needs to be followed in case of an adjustable seat back. This proposal makes it clear that the dummy position—the neck bracket of the

dummy—needs to be slightly adjusted within the said tolerances, before the seat back angle is adjusted.

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