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Regulation No. 21 (Interior fittings)

Proposal for amendments to Regulation No. 21 (Interior fittings)

Submitted by the expert from the Netherlands *

The text reproduced below was prepared by the expert from the Netherlands to test rear parts of seats (anchored to the vehicle) exclusively through UN Regulation No. 17 (Strength of seats), and prevent the alternative routing for type approval for seat backs through UN Regulation No. 21. This proposal is linked to draft amendments to UN Regulation No. 16 on the energy dissipation of seats and amendments allowing a further forward displacement of the restrained occupants. These are due to new safety-belts equipped with lower load limiter devices. The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, 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 1.1., amend to read:

"1.1. the interior parts of the passenger compartment other than:

- (a) the rear-view mirror or mirrors,
- (b) **the seat-back and its head restraint including parts mounted thereon;**"

Paragraph 1.4., shall be deleted,

Paragraph 1.5., renumber as paragraph 1.4.

Paragraph 5.2.4., amend to read

"5.2.4. If the items in question contain a part made of material less than 50 shore A hardness when fitted to a rigid support, the above requirements, except for the requirements covered by annex 4 relating to ~~energy absorption~~ energy-dissipation, shall apply only to the rigid support or it can be demonstrated by sufficient tests according to the procedure described in annex 4 that the soft material of less than 50 shore A hardness will not be cut so as to contact the support during the specified impact test. In that case the radius requirements shall not apply."

Paragraphs 5.7. to 5.7.3., shall be deleted

Paragraphs 5.8. and 5.9., renumber as paragraphs 5.7. and 5.8.

II. Justification

1. Recent vehicle safety developments (i.e. Euro NCAP) to improve restraint systems enforce the fitting of load limiters on safety-belts with lower threshold values that give less thorax compression but give also more forward displacement of the occupants.
2. Thus far, the provisions of UN Regulation No. 16 (paragraph 6.4.1.4.1.) only allow contact of the chest of the dummy driver with the steering assembly, provided that this contact fulfils certain energy dissipation test requirements and contact does not occur at a speed higher than 24 km/h.
3. However, similar draft requirements are in preparation for safety-belts fitted on other seating positions.
4. To cope with greater forward displacement of occupants, UN Regulation No. 17 will be updated to provide requirements concerning improved energy dissipation criteria for those areas of the rear of seats (including the head restraints as parts mounted thereon), where the head of the rear occupant is to be impacted.
5. However, historically UN Regulation No. 21 offered an alternative routing for testing the rear parts of seats. Therefore, following the needed update of UN Regulation No. 17 on energy dissipation requirements, it is hereby proposed to prevent this alternative test routing through UN Regulation No. 21.
7. Moreover, the above proposal provides the added value of testing "**parts mounted on the seats**", so far overlooked.