

REGULATION No. 17 series 09
(Strength of seats)

Proposal for draft amendments to document ECE/TRANS/WP.29/GRSP/2009/7.

A. PROPOSAL

Insert paragraph 2.12 :

2.12. “Designated seating position” means any front-facing seating position with the exception of folding seats as defined in 2.16.

Renumber paragraph 2.12 to 2.15 into 2.13 to 2.16

2.13. "Detachable head restraint" means a head restraint consisting of a component separable from the seat, designed for insertion and positive retention in the seat-back structure.

2.14. "Displacement system" means a device by which the seat or one of its parts can be displaced and/or rotated, without a fixed intermediate position, to permit easy access of occupants to the space behind the seat concerned.

2.15. "Fiducial marks" are physical points (holes, surfaces, marks or indentations) on the vehicle body as defined by the manufacturer.

2.16. "Folding seat" means an auxiliary seat intended for occasional use and normally folded.

Delete former paragraph 2.16. :

~~2.16. — "Front contact surface" of a head restraint means the front surface area of the head restraint which is intended to catch the head of the seated occupant in order to limit rearward displacement of the head relative to the torso during a rear impact to the vehicle.~~

Paragraph 5.2.2., amend to read :

"5.2.2.a device as referred to in paragraph **2.14.** shall be placed on the outside of
....."

Paragraphs 5.5.1 to 5.5.6., amend to read :

5.5. Special requirements for seats fitted or capable of being fitted with head restraints

~~5.5.1. The presence of the head restraint must not be an additional cause of danger to occupants of the vehicle. In particular, it shall not in any position of use exhibit any dangerous roughness or sharp edge liable to increase the risk or seriousness of injury to the occupants.~~

5.5.1. Parts of the ~~front and~~ rear faces of the head restraints situated in area 1, as defined in paragraph 6.8.1.1.3. below shall pass the energy absorption test.

5.5.2. This requirement is deemed to be met if in the tests carried out by the procedure specified in ~~Annex 7~~ **Annex 14** the deceleration of the headform does not exceed 80 g continuously for more than 3 ms. Moreover, no dangerous edge shall occur during or remain after the test.

5.5.3. Parts of the ~~front and~~ rear faces of head restraints situated in area 2, as defined in paragraph 6.8.1.2.2. below, shall be so padded as to prevent any direct contact of the head with the components of the structure and shall meet the requirements of paragraph 5.1.4. above applicable to the rear parts of seats situated in area 2.

5.5.4. The requirements of paragraphs **5.5.1.** and **5.5.2.** above, shall not apply to parts of rear faces of head restraints designed to be fitted to seats behind which no seat is provided.

~~5.5.5. The head restraint shall be secured to the seat or to the vehicle structure in such a way that no rigid and dangerous parts project from the padding of the head restraint or from its attachment to the seat back as a result of the pressure exerted by the headform during the test.~~

~~5.5.6. In the case of a seat fitted with a head restraint, the provisions of paragraph 5.1.3. may, after agreement of the technical service, be considered to be met if the seat fitted with its head restraint complies with the provisions of paragraph 5.4.2. above.~~

Paragraph 5.6., amend to read

5.6. **Head Restraint** Performance Requirements

Delete paragraph 5.6.7.:

~~5.6.7. The height of the intended front contact surface area of a head restraint shall be not less than 100 mm when measured on a plane parallel to the torso reference line.~~

Paragraph 5.7.1., amend to read :

5.7.1. Energy absorption

When the front surface of the head restraint is impacted in accordance with Annex 7, the deceleration of the headform shall not exceed 785 m/s^2 (80g) continuously for more than 3 milliseconds. ~~Moreover, no dangerous edge shall occur during or remain after the test.~~

Paragraph 5.7.2.1., amend to read :

5.7.2.1. Displacement

When the head restraint is tested in accordance with Annex 6, the headform shall not be displaced more than 102 mm perpendicularly and rearward of the displaced extended torso reference line, 'r1', during the application of a 373 ± 7.5 Nm moment about the R-point.

Paragraph 5.7.2.2., amend to read :

5.7.2.2. Displacement and Backset Retention

When the head restraint is tested in any position of backset adjustment in accordance with Annex 6, the headform shall:

- (a) Not be displaced more than 25 mm during the application of the initial reference moment of 37 ± 0.7 Nm;
- (b) Not be displaced more than 102 mm perpendicularly and rearward of the displaced extended torso reference line, 'r1', during the application of a 373 ± 7.5 Nm moment about the R-point; and
- (c) Return to within 13 mm of its initial reference position after the following sequence occurs: application of a 373 ± 7.5 Nm moment about the R-point; reduction of the moment to 0 Nm; and by re-application of the initial reference load 37 ± 0.7 Nm.

Paragraph 5.7.3., amend to read :

- 5.7.3. Head restraint and its anchorage strength
When...to the head restraint shall reach 890 N \pm 5 N and remain at

Paragraph 5.10., amend to read :

- 5.10. **Removability of head restraints**
The head restraints shall not be removable without a deliberate action distinct from any action necessary for upward head restraint adjustment. If the head-restraint is adjustable, it shall not be possible to raise it beyond the maximum-operational height, or remove it, except by deliberate action on the part of the user distinct from any act necessary for its adjustment.

Paragraph 6.8.1.2.2., amend to read

- 6.8.1.2.2. In the case of seats or bench seats with integrated head restraints, area 2 shall extend above a plane perpendicular to the reference line **540 mm** ~~440 mm~~ distant from the R point of the seat or of the seating position concerned, other than parts of area 1.

Paragraph 6.8.1.3.1., amend to read

- 6.8.1.3.1. Area 3 is defined as the part of the back of the seat or the bench seats situated above above **the horizontal planes defined in paragraph 5.1.4.1.3 above**, but excluding parts situated in area 1 and area 2.

Annex 6, paragraph 3.8., amend to read

- 3.8. Wait **not more than** 10 minutes....

Annex 7, delete paragraphs 3.3.2.2. to 3.3.3.

~~3.3.2.2. For the rear face, the direction of impact from the rear towards the front shall be in a longitudinal plane at an angle of 45° downwards from the vertical.—~~

~~3.3.3. The front and rear zones are respectively bounded by the horizontal plane tangential to the top of the head restraint as determined in paragraph 6.5. of this Regulation.—~~

Annex 14, paragraph 1.4.2., amend to read :

- 1.4.2. The headform shall strike the test point at a speed of 24.1 ± 0.5 km/h: this speed shall be achieved either by the mere energy of propulsion or by using an additional impelling device.

B. JUSTIFICATION :

It is proposed to delete from ECE 17 any requirement on head restraint which applies on the frontal surface of the head restraint and replace it by the GTR 7. All head restraint requirements on the frontal surface of ECE 17 have been discussed during the establishment of the GTR 7 and it was extensively discussed which one are taken over in the GTR 7 or not. Therefore ECE 17 shall take strictly the requirements of the GTR and delete those which have not been taken over in the GTR 7. Delete therefore the height of 100mm of head restraints, delete radius requirements before and after energy dissipation tests in the frontal area of head restraints.

In contrary, all requirements to the rear surface of the head restraints which are described in ECE 17 shall be maintained.

Concerning energy dissipation, energy dissipation is made to the frontal surface of head restraints according the GTR as described in Annex 7. Energy dissipation from the rear as defined in the actual ECE is described in Annex 14.

The wording of ECE 17 series 9 differs in some paragraphs from the original of the GTR. 7 with or without a slight change of the meaning. The principal reason is that a former proposed version of the GTR has been used (WP29/2008/47) instead of the final GTR to set up initially the ECE 17 series 9 proposal. Several paragraphs were changes have been made in the meaning have been set in this proposal to the GTR wording.

Justification for the definition of 'designated seating position' in paragraph 2.12.

It was agreed during the GTR that every country has its own definition of what is a designated seating position. The term designated seating position is used in the FMVSS, but not yet in the ECE. It is therefore necessary to define this term for the purpose of ECE 17 series 09.

Justification for the change of paragraph 6.8.1.2.2. :

440mm is a long lasting error of ECE 17 and shall be 540mm. All other requirements linked to integral head restraints have been defined in comparison to the 540mm line. (like in paragraph 5.9).

Justification for the change of annex 6 :

Test laboratories reported that a 10 minutes waiting time is not practicable. It is therefore proposed to change into 'not more than 10 minutes'.