Submitted by the experts from the
European Association of Automotive Suppliers
(CLEPA)

Informal document **GRSP-75-30**
(75th GRSP, 27 – 31 May 2024
agenda item 8)

Proposal for the Suppl. 1 of 11 Series of Amendments to UN Regulation No. 17 (Strength of seats) *

The text reproduced below was prepared by the experts from the European Association of Automotive Suppliers (CLEPA). It aims to improve the whiplash behaviour of occupants of smaller stature and in particular of female drivers. The modifications to the existing text of the UN Regulation are marked in "bold black" for new or strikethrough for deleted characters.

I. Proposal

Insert new paragraph 2.31., to read:

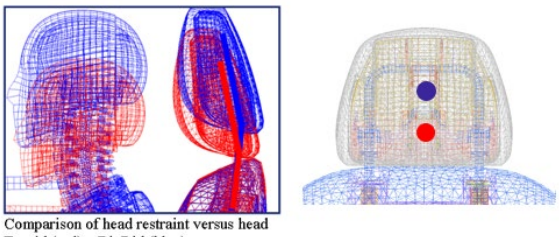
"2.31. ***"Head restraint structure"*** **means any part of the head restraint which has a hardness of more than 50 Shore A and which is situated above the seat back structure with the head restraint adjusted to its lowest use position.**"

Insert new paragraph 5.6.6.4., to read:

"5.6.6.4. **In addition for vehicles of M1 and N1 with the head restraint placed in its lowest position of use, the head restraint structure shall not allow a cylinder of diameter of [120 +1/-0]mm to pass through the head restraint structure when the axis of the cylinder is placed horizontally in a plane parallel to the longitudinal plane of the vehicle which passes through the R-point of the seat.**

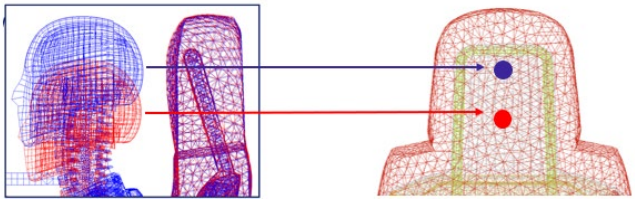
II. Justifications

1) In some vehicles, the head of an occupant of smaller height in comparison to a mid-size male, may be less well retained in the lowest adjustment position of the head restraint. Those figures compare the head position of a mid-size female with the head position of a mid-size male.



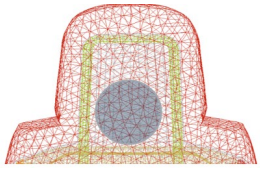
Comparison of head restraint versus head Evarid (red) – BioRid (blue)

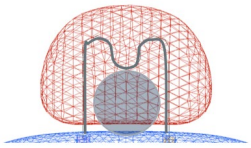
the head of a smaller occupant is well retained



the head of a smaller occupant is less well retained by the head restraint frame.

2) It is therefore proposed to improve the rearward retention of the head of smaller occupants by adding a geometry check with a cylinder of diameter of [120]mm.





In this case the geometric requirements are not fulfilled and additional stiff parts have to be added to the head restraint.