

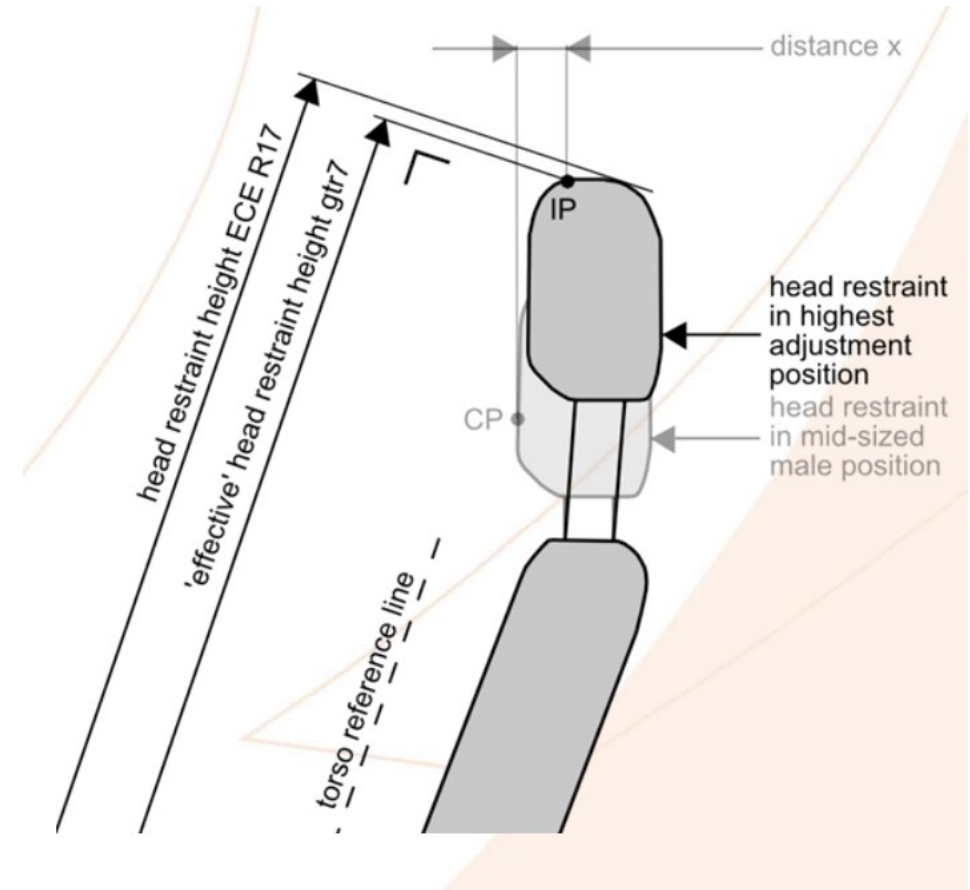
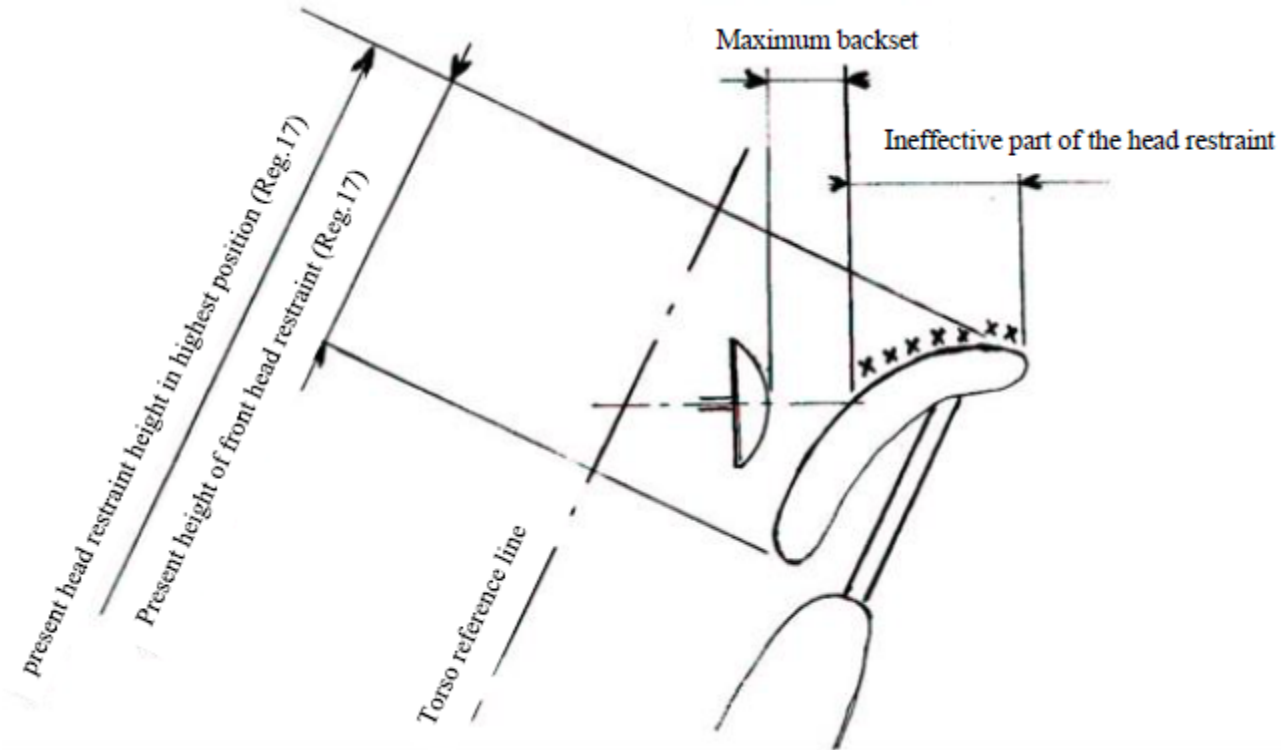
**IWG EqOP**  
**Improvement to existing Regulation**  
**UN R17.10**

**December 2023**

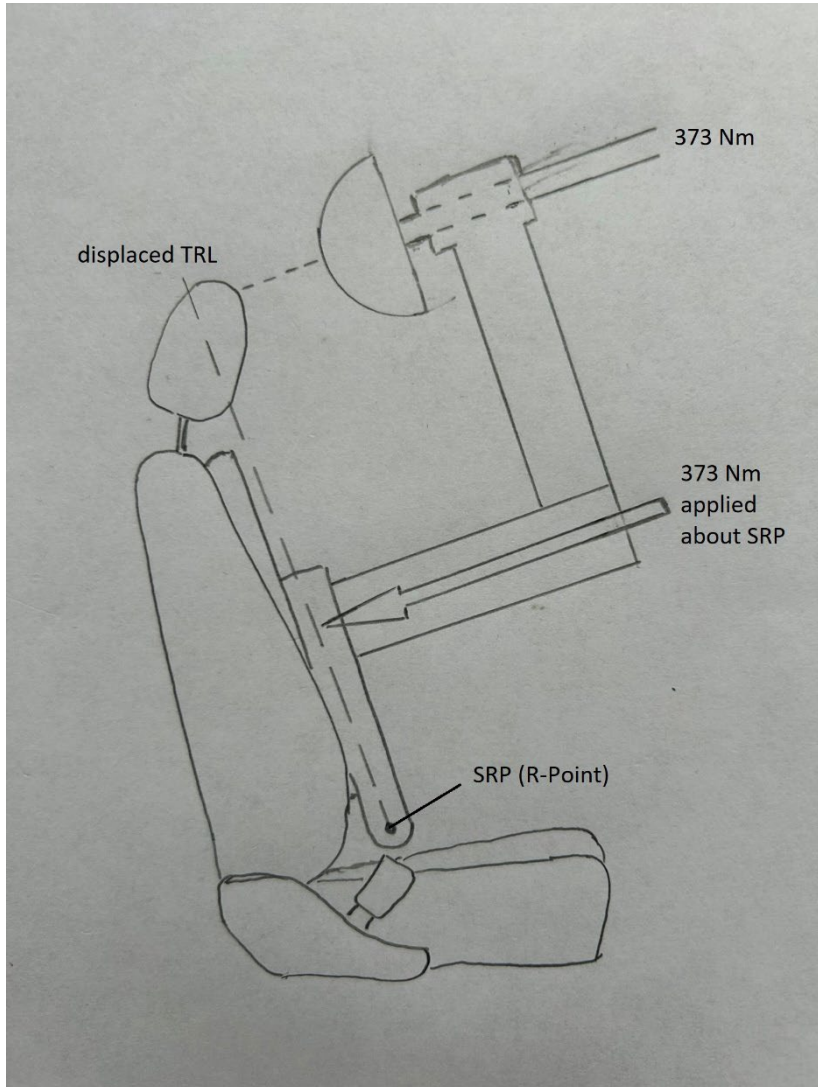
## Background UN R17.10

- R17.10 derived from GTR-7 phase 2
- GTR-7 phase 2 (amendment 1)
  - introduction of BioRID II
  - procedure for defining the **effective** height of a HR (versus maximum height in the original version)
- Overview of the work done: see [GRSP-65-31](#)

# Ineffective height => effective height



# Maximum displacement



## UN R17.10

- Displacement of the back of the head versus displaced torso reference line (DTRL)  $\leq 102$  mm
- **Possible issues:**
  - width of centre piece in case of testing 3 seats in a row
  - displacement is done from ip -65 mm (unless in case of gaps). Sometimes other positions may result in worse result.
  - no information available in case of negative displacement
- Choice of manufacturer for dynamic test using 50m BioRID II dummy.
- **Possible issues:**
  - Cherry picking
  - only 50% male
  - misadjustment of HR in real life

# UN R17.10 Paragraph 5

## 5.6.4. Gaps within Head Restraint

- **If a head restraint has any gap greater than 60 mm**, when measured in accordance with Annex 8, **the maximum rearward displacement of the head form shall be less than 102 mm** when the head restraint is tested at that gap in accordance with Annex 5

## 5.7.2. Displacement

- When the head restraint is tested in accordance with Annex 5, **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 Nm moment about the R-point.

# Annex 5 – Displacement and Strength Test Procedure

## 1. Purpose

- To demonstrate compliance with the displacement requirements of paragraph 5.6.4. of this Regulation with paragraph 2. of this Annex.
- Demonstrate compliance with the displacement requirements of paragraph 5.7.2. of this Regulation with paragraph 2. of this Annex.
- ...
- 2.4. Maintain the position of the back pan as established in paragraph 2.3. of this Annex. Using a  $165 \pm 2$  mm diameter spherical headform establish the headform initial reference position by applying, perpendicular to the displaced torso line, a rearward initial load at the seat centreline **at a height  $65 \pm 3$  mm below the effective top of the head restraint** that will produce a  $373 \pm 7.5$  Nm moment about the R-point. Maintain this moment for 5 seconds and then record the rearward displacement of the headform with the load applied.
- 2.5. When determining the rearward displacement for head restraints **at a gap greater than 60 mm** in accordance with paragraph 5.6.4. of this Regulation, the above load shall be applied through the centre of gravity of the smallest of the sections of the gap, along transversal planes parallel to the torso line.

Question: why only @65 mm from ip and only in gap when gap >60 mm ?

**Thank you for your attention !**