

**Japan's Comments on Draft Action Items for
June 2005 Head Restraints GTR Meeting**

1. Scope

- a. U.S. to post scope on GTR website.
- b. All – Review proposed scope statement (below) and bring comments/changes to the next meeting.

Proposed scope: “This GTR specifies requirements for head restraints to reduce the frequency and severity of **neck injury** in rear-end and other collisions.” (see S1. from FMVSS No. 202 final rule)

- **Japan proposes to change the words “neck injury” to “WAD (Whiplash Associated Disorder)” in order to make the GTR applicable only to those neck injuries encountered in mild collisions.**

2. Application

- a. U.S. – Provide presentation for 4,536 kg application limit.
- b. All – Bring thoughts about GTR applicability to the June meeting.

- **Japan requests it be clarified in the GTR that categories specified by current ECE R17 are also selectable.**
- **Japan requests it be clarified in the GTR that while the requirements are applicable to all seats, they are mandatory only for front outboard seats.**

3. Height

- a. Japan – Study for negative effects of 850 mm height on rearward visibility study for small statured drivers.
- b. BMW – Examples of low roofline vehicles that would have issues with 850 mm height requirement (impacting mirror, escape from rear, etc.) and cost.
- c. NHTSA – Estimate of U.S. benefits from raising height.

- **Regarding the change of height to 850 mm, it is technically feasible in Japan if applied to front seats only. However, indirect visibility may be impaired in mini cars which have a small width (see Attachment “JAPAN’s Comments on Head Restraint Height Proposal from the Netherlands”).**
- **Regarding the seat back angle requirement, the current proposed value of 25° for all types of seats is not realistic. For example, the design reference angle for trucks is set between 10° and 18° for ensuring forward visibility. Accordingly, the seat back angle to be required in the GTR should be based on the design reference angle.**

4. Adjustable Head Restraint Front Surface Height

- a. Netherlands – provide examples where a head restraint meets the displacement test, but are a concern (in terms of shape).

5. Research Studies on Backset Variability

- a. BAST – discuss on EEVC study (differences in HRMD, technician, etc.)
- b. U.S. – discuss backset testing, if complete (repeatability, reproducibility)
- c. All – review Japan’s presentation

- **As a supplement to our study presented at the last meeting, Japan has analyzed possible effects of the 55 mm requirement on the comfort level. The result indicates that 30 to 60% of the occupants would be affected (see Attachment “JAPAN’s Comments on Backset Requirements of FMVSS 202aS Final Rule”).**

6. Dynamic Testing

- a. Japan – Provide a new presentation.
- b. U.S. – Find out if different Hybrid III dummies were used in agency and Viano rear impact tests.
- **As a result of comparing the Hybrid III dummy and the BioRid dummy to the human body, Japan has found that the BioRid dummy has higher reproducibility in terms of load distribution on the seat back as well as better biofidelity (including correlation for the neck’s tilt-back angle).**
- **Effects on the activation of active head restraints and on seat variations are shown difference between Hybrid III and BioRid.**

7. Front Center Head Restraints

- a. U.S. – to provide U.S. benefits analysis (field data, cost estimates)

8. Locks and Displacement Test Procedure

- a. All – study U.S. presentation,
- **Although the seat back could be tested under locked conditions, Japan recommends the test procedure in which the seat back is not locked because of the following two reasons: (1) the currently proposed provision may be less stringent than current R17 requirements and (2) a large variation in test results is likely to occur due to unclear locking method requirements (location, strength, etc.).**

9. Removing of the Head Restraint

- a. All – to discuss adding the word “upwards” to the procedure
- **All the head restraints currently available on the Japanese market are made as proposed by OICA, and there have been no complaints from the market about easy removability of head restraints. Japan therefore supports the OICA proposal.**

10. Non-use Positions

- a. All – all to review U.S. procedure (with option to use humans) for automatic systems
- b. All – review OICA alternatives
- c. U.S. - review test procedure.

11. Radius of Curvature Test

- U.S. - review test procedure.

12. Gap requirement

- a. U.S. - Alternative displacement requirement