

GTR7 Phase II Informal Working Group

Working Paper – Update and Review

53rd Session of GRSP
14 May 2013



- Develop GTR7 (head restraints) considering the following issues:
 - (a) The head restraint height of 850 mm;
 - (b) The appropriate dynamic test, including the test procedure, injury criteria and the associated corridors for the Biofidelic Rear Impact Dummy (BioRID II).(WP29 - 143rd session November 2007)
- At the one-hundred-and-forty-ninth session, (November 2009), AC.3 agreed to:
 - (a) focus on developing a low speed dynamic test using the BioRID II dummy, and,
 - (b) as a first step regarding the head restraint height, to consider procedures for defining “effective height”.

Objectives cont.

- Detailed discussions on dummies will be conducted by a Technical Evaluation Group (TEG), which is to be established under the umbrella of the informal group.
- Drawings detailing the uniform specification of the test tools will be developed and provided to the Secretariat as reference material.

- 13 Meetings of the Informal Working Group

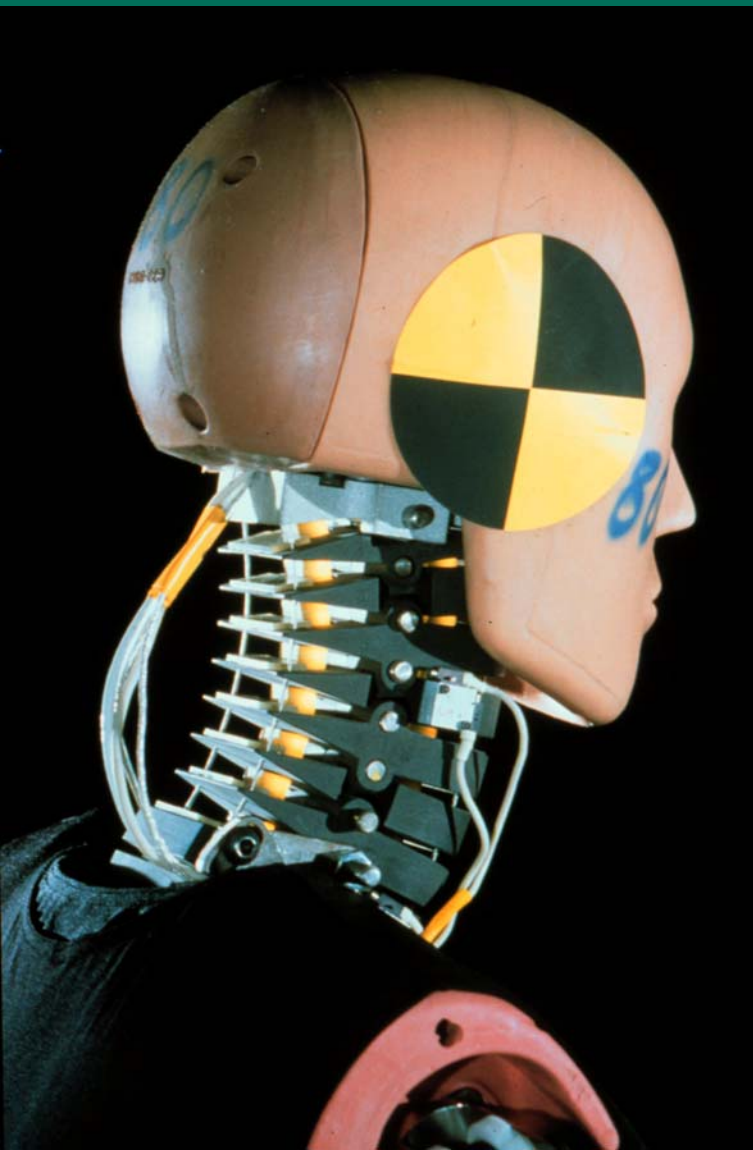
Europe, Japan, United States.

Nine held either in cooperation with the Pole Side Impact Group and the WorldSID group or in conjunction with GRSP.

- Supported by specialist meetings (TEG) chaired by Mr Lorenz (BASt).
- 7 Drafting meetings by WebEX

Representation

- **Government/Administration representation:**
Australia; Canada; China; European Commission; Germany; Japan;
Korea; Netherlands; United Kingdom; United States of America;
- **Manufacturer representation:**
Autoliv; BMW; Chrysler; Daimler; Faurecia; Ford, GM, Honda; Hyundai;
Lear Corporation; Mitsubishi; Nissan; Opel; Porsche; PSA Peugeot
Citroen; Renault; Tata; Toyota; Volvo; VW;
- **Technical input from:**
BASt; EEVC; European Commission; Euro NCAP; Humanetics;
JARI/JASIC; KATRI; OSRP; PDB; TRL; VRTC.

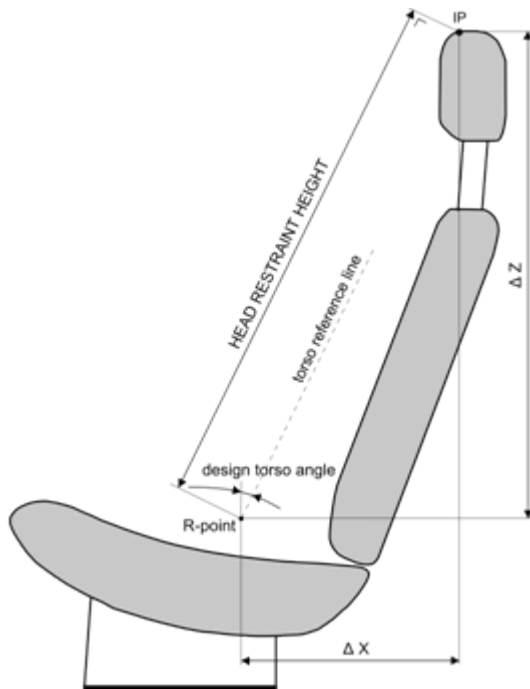


Height

- Effective height measurement.
- Absolute height requirement.
- 3DH machine dimensions and tolerances.

BioRID

- Biofidelity, Repeatability and Reproducibility.
- Build Control and identification.
- Certification.
- Injury Criteria.

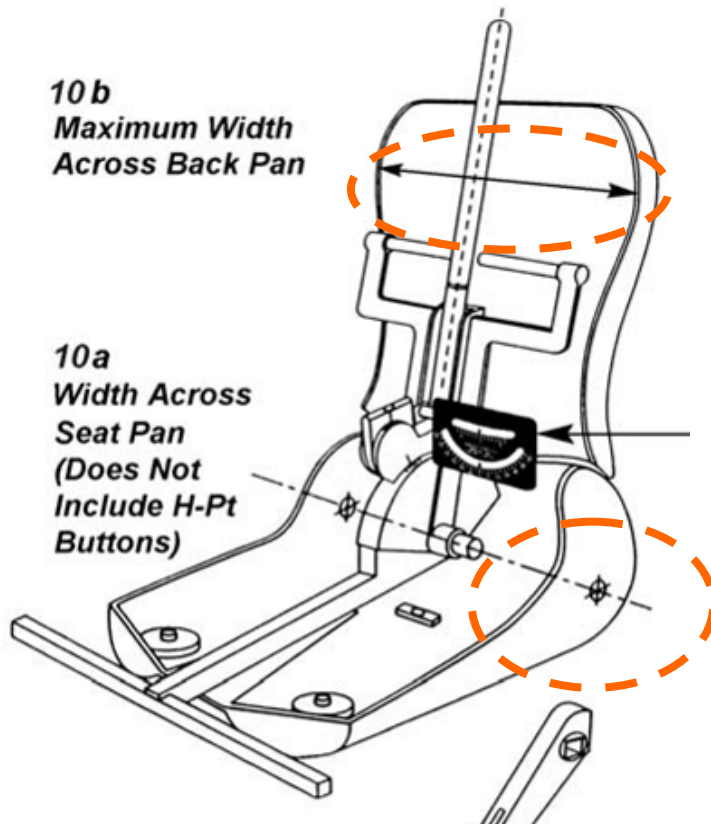


- Effective height redefined.
- New procedure of coordinate measurement devised.
- Core text of the GTR and of Annex 1 amended.
- Consideration being given to developing procedure for backset measurement.

Absolute height requirement.

- Agreed to return this question to GRSP.

3DH machine dimensions and tolerances.



SAE Advises that:

J826 was never designed to be used with the HRMD.

Adding anything on to the J826 influences the validity of the resultant H-pt.


Limited control of dimensions prior 1989.

GTR7 based upon J826-1995

J826-[2008] reduces width and tightens manufacturing tolerances.

Biofidelity, Repeatability and Reproducibility.

- Broad agreement that BioRID has:
 - superior biofidelity,
 - good repeatability.
- Concerns about reproducibility between atd.
- Improved pelvis, torso flesh and spine bumper selection has delivered significant improvement in reproducibility.
- Latest results show BioRID to have as good or better R&R than HIII (when used in rear impact).

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| | United Nations | ECE/TRANS/WP.29/1101 |
|  | Economic and Social Council | Distr.: General 10 January 2013 Original: English |

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Mutual Resolution No. 1 (M.R.1) of the 1958 and the 1998 Agreements

Concerning the description and performance of test tools and devices necessary for the assessment of compliance of wheeled vehicles, equipment and parts according to the technical prescriptions specified in Regulations and global technical regulations*

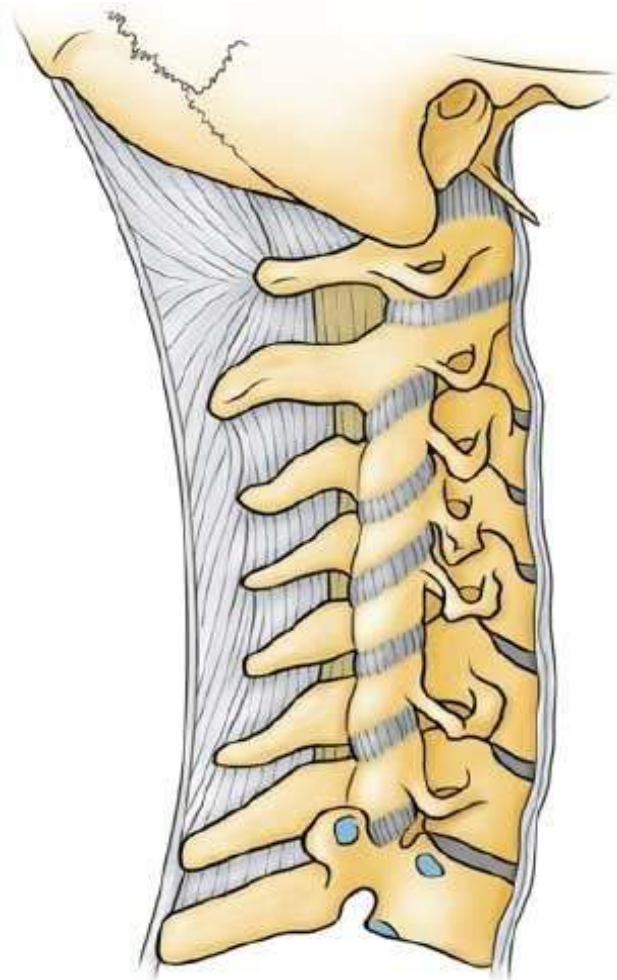
The text reproduced below was adopted on 14 November 2012 by the World Forum for Harmonization of Vehicle Regulations (WP.29), regarding the Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be fitted and/or be used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions (1958 Agreement) and on 15 November 2012 by the Executive Committee AC.3 of the Agreement Concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts which can be fitted and/or be used on Wheeled Vehicles (1998 Agreement) (ECE/TRANS/WP.29/1099, paras. 76 and 117). It is based on document TRANS/WP.29/2012/124, as amended by Annex III to the report.

* In accordance with the programme of work of the Inland Transport Committee for 2010-2014 (ECE/TRANS/2008, para. 106 and ECE/TRANS/2010/8, 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.

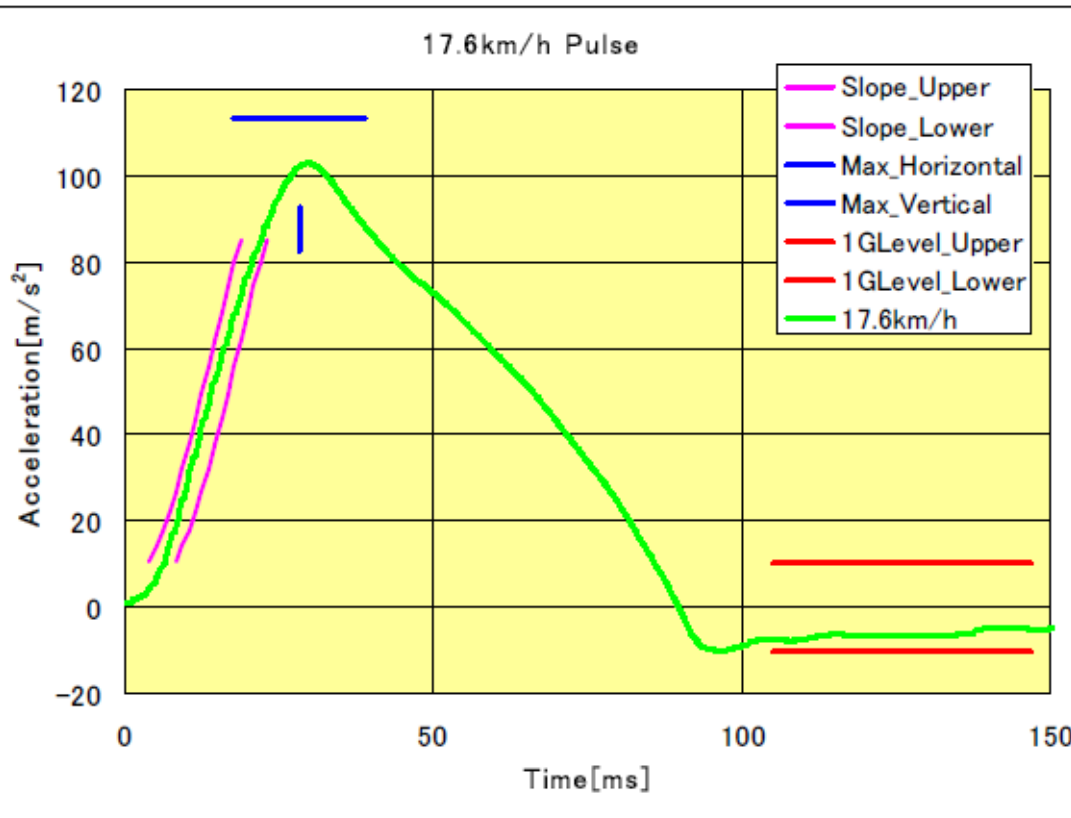
- Mutual Resolution published January 2013.
- Addendum 1 (BioRID) is reserved for BioRID.
- Drawing review completed by PDB and DfT. Discussions for drawing changes starting with manufacturer.
- User manual in preparation.
- Guidance document being prepared with chairs of Flex PLI and Child Seat IWG to support consistent approach.



- Initial certification tests did not discriminate and sufficiently well.
- Alternative tests in preparation but not yet agreed.
- Objective to allow assessment of spine bumpers without complete dismantling.



- Injury criteria a joint activity with JARI (volunteer tests) and VRTC (PMHS).
- PMHS tests have been subject to delay but now progressing – hope to have injury criteria by the end of summer.
- List of candidate injury criteria provided in GTR7-09-06 in the IWG tab.



- Pulse severity aimed at low speed impacts but addresses principal injury severity.
- ATD R&R developed against this pulse.

- Two further WebEX before the summer to advance the drafting.
- IWG meeting early September to provide a formal paper to GRSP's 54th session in December 2013.
- Injury criteria likely to be provided by an informal paper at the same session.
- Addendum 1 to the Mutual Resolution to be developed in parallel.
