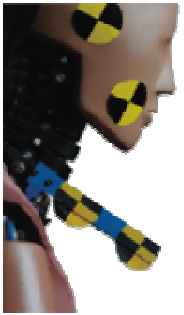


Informal document: **GRSP-56-04**
(56th GRSP, 9 - 12 December 2014,
agenda item 2)

GTR7 Informal Working Group
Progress Report and Work Schedule
December 2014



Content

IWG Terms of Reference

Head Restraint Height

Dynamic Test

BioRID II:

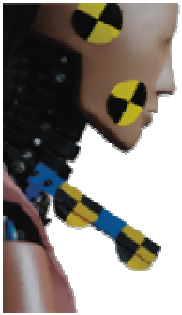
 Certification

 R&R

Injury Criteria

Mutual Resolution

Timeline



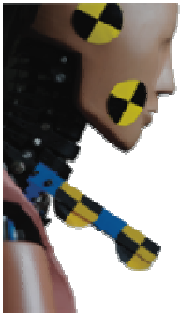
IWG Terms of Reference

November 2009: WP.29/AC.3 agreed a joint proposal from Japan, the United Kingdom and the United States of America to develop an amendment to GTR7 – Head Restraints.

The Terms of Reference were to consider:

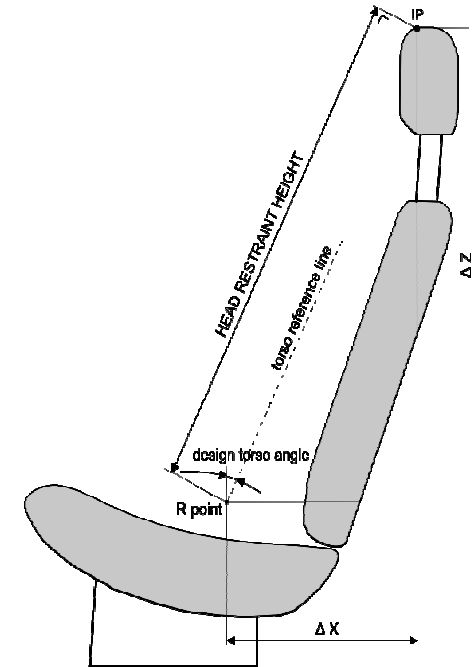
- (a) The head restraint height of 850 mm;
- (b) The appropriate dynamic test, including the test procedure, injury criteria and associated corridors for the Biofidelic Rear Impact Dummy II (BioRID II).

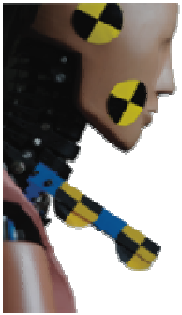
(low speed rear impact crashes only - injuries in higher speed rear impact crashes to be considered as a further step.)



Head Restraint Height

- Measurement of Height
 - “Effective Height” defined and replaces “Maximum Height”
 - New measuring procedures developed and trialled
- Height value
 - No agreement reached within the Informal Group – Decision required by Contracting Parties

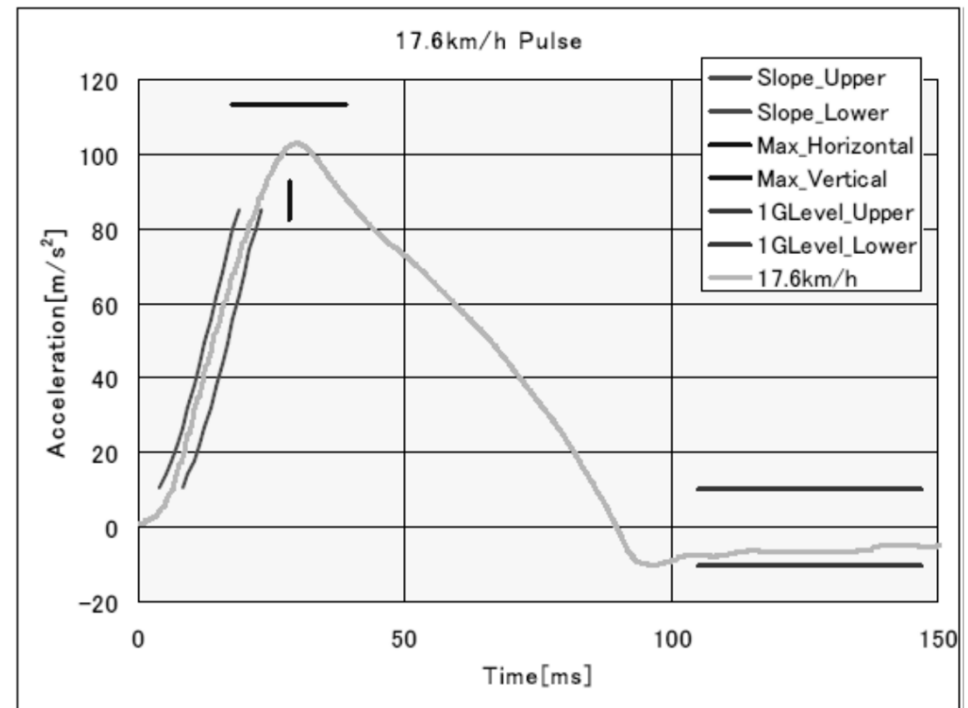


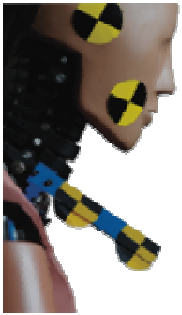


Dynamic Test

Agreed

- Sled Pulse
- Dummy Seating procedure
- Head restraint setting

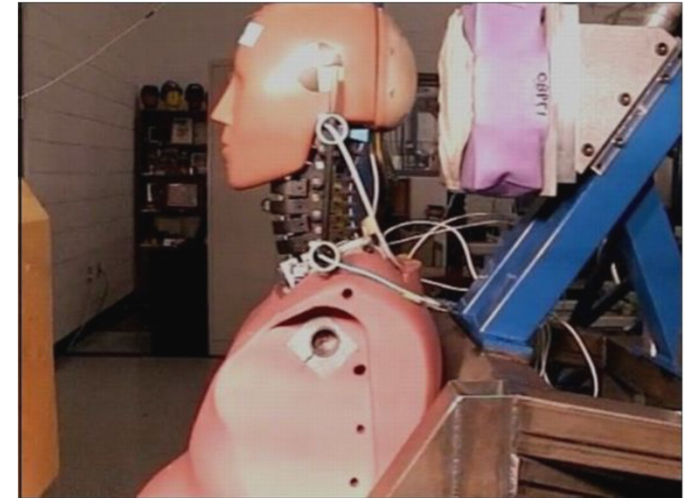




BioRID II: Certification

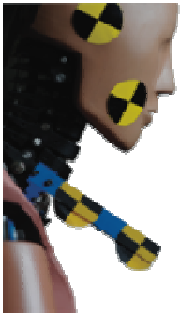
Finalised Tests:

- Spine quasi-static setup
- Jacket impact
- Pelvis Impact (bottom only)



Tests for review following NHTSA correlation study:

- Mini-sled without head restraint
 - Mini-sled with seat back and head restraint (Gen X)
- (Corridors to be confirmed)

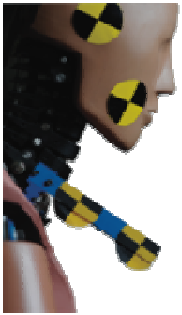


BioRID II: R&R

Activities

- Extensive European Commission funded study conducted (BAST/TRL)
 - Repeatability good
 - Reproducibility higher CoV on some data channels
- New Certification Test (Gen X)
 - Better discrimination of dummies during certification

Data Channel	Min – Mean	Min – %CoV	Max – Mean	Max – %CoV
T1 x Acceleration			185.32	5.50
T1 z Acceleration	-110.03	-6.89	71.15	7.71
Upper Neck Fx	-80.7	-19.73	74.69	9.84
Upper Neck Fz	-441.07	-3.91	431.00	5.08
Upper Neck My			15.12	6.02
Lower Neck T1 Fx	-159.08	-3.72	233.27	7.80
Lower Neck T1 Fz	-531.38	-3.60	185.11	36.24
Lower Neck T1 My	-7.98	-7.85	5.99	2.66
Head ARS	-337.62	-8.03	750.40	5.17
T1 ARS	-340.54	-7.85	793.64	1.97



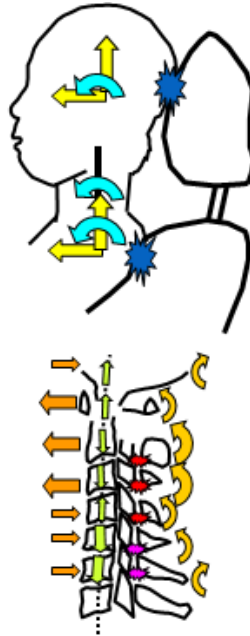
Injury Criteria

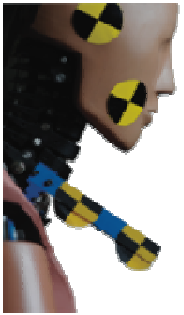
Shortlist of candidate injury criteria developed:

- Neck Injury Criterion (NIC)
- Neck Displacement Criterion-rotation (NDCr) (flexion and extension)
- Upper neck force and lower neck force (Fx)

Issues

- angular rate sensors for determination of NDCr to be specified.
- Pass/fail values to be established – NHTSA PMHS/BioRID correlation studies ongoing at VRTC.

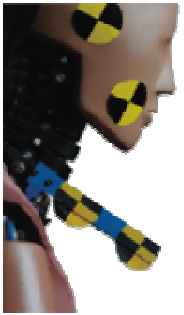




Mutual Resolution

Status of Addendum 1

- Replacing manufacturer part numbers with UN ECE numbers
- BioRID certification procedure to be introduced (awaiting finalisation)
- Drawing set under quality review by manufacturer



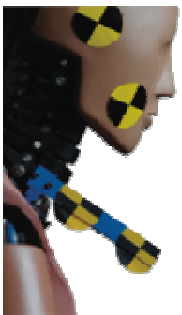
Activity Timeline

Schedule 2015

- NHTSA PMHS/BioRID correlation complete end of January
- IWG Meeting 1st or 2nd week of February
- Initial proposal (GTR7 + MR1) to the 57th session of GRSP – May
- Potential IWG meetings April, June and September
- Final Proposal (GTR7 + MR1) to the 58th session of GRSP – December.

Schedule 2016

- Recommendation to amend GTR7 and MR1 - WP29 June



To be continued