

EC WorldSID-5F Work Programme

Presented by David Hynd 26 October, 2011



Summary of original test programme

- Three areas of work proposed:
- Multi-point chest deflection measurement
 - Also (hopefully) greater measurement range without sensor damage
- Biofidelity
- Injury risk



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New test programme

- Check dummy build cf. specification
 - What is the definitive specification? Plan to use latest User Manual (W-5F 9900 Rev C, dated April 2010), but more up-to-date specification would be better...
 - Check IR-Tracc calibration

Biofidelity

 Some tests will need to be repeated with new impactor face dimensions or sled load cell wall dimensions

Injury risk

- Impactor and sled tests as agreed by ISO WG6
 - E.g. new impactor / force plate dimensions and test velocities
- Some overlap with NHTSA/VRTC tests to give reproducibility data
- May have to scale responses to get some of the injury-level tests
 - VRTC reported ribs are linear
 - TRL will check pelvis response (acceleration and force)



New test programme

- Durability
 - Request from NHTSA
 - Nominally certification severity +50%
 - Will increase sled velocity to close to bottoming-out IR-Traccs (likely < +50%)
- (Some of these tests will also provide R&R data)
- Lower abdomen rib / pelvis flesh interaction

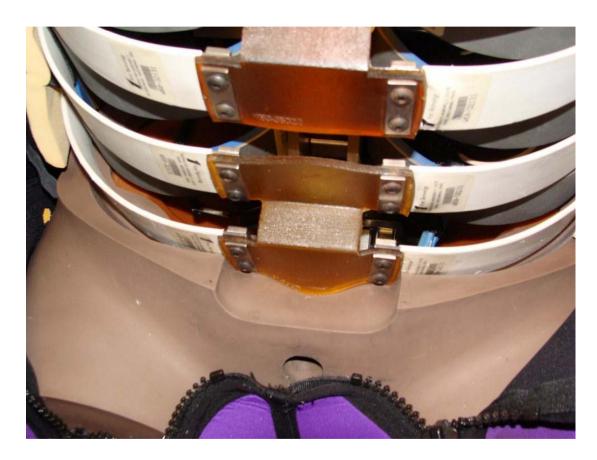


Lower abdomen rib / pelvis flesh interaction

Issue raised at last WorldSID-50M Task Group meeting...



Lower abdomen rib / pelvis flesh interaction



Typical lower abdomen rib position cf. pelvis flesh



Lower abdomen rib / pelvis flesh interaction



Lower abdomen rib hooked outside pelvis flesh



Lower abdomen rib / pelvis flesh interaction

- Issue raised at last WorldSID-50M Task Group meeting...
- Volunteers requested for sled tests
 - To determine whether interaction affects abdomen rib response
- TRL will perform several tests with and without interaction and compare rib compression measurement
 - Would impactor tests be useful as well?
 - E.g. impacts to abdomen rib 2 only...?



Schedule

- Aprosys WorldSID-5F available to TRL Jan 2012
- Humanetics will upgrade to current specification
 - (Not concerned if lower leg not upgraded)
- TRL/EC tests 9 Jan to 4 Feb 2012

 Assumes all load cell wall and impactor dimensions finalised by ISO WG6 by end Nov 2011



Do You Have Any Questions?



Thank you

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