Comments on OICA Presentation: Pedestrian Safety: Deflection of Bonnets in Active Pedestrian Protection Systems

2nd Meeting of Task Force Deployable Pedestrian Protection Systems (TF-DPPS)
Paris, March 28th & 29th, 2017

Oliver Zander

Bundesanstalt für Straßenwesen

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(Federal Highway Research Institute)

Comments on OICA Presentation

- ***BASt took notice of the presentation „Pedestrian Safety: Deflection of Bonnets in Active Pedestrian Protection Systems”***
- ***The presentation was distributed in the afternoon before the first meeting of the TF DPPS.***
- ***The presentation was held during the 2nd day of the first meeting. No comments were permitted afterwards.***
- ***The presentation was distributed with the logo of OICA, as authors named people from Opel and Jaguar Land Rover.***
- ***BASt kindly asks for clarification if the content of this presentation is supported by OICA in general or just the members who have signed.***
- ***The presentation is commenting a presentation of BASt „Deflection of Deployable Bonnets in DB Systems“, also held during the 2nd day of the meeting.***
- ***BASt would like to make the following remarks:***

Comments on OICA Presentation

- **OICA states „The whole bonnet deflection […] was never meant to be an assessment of a potential impact situation.“** ***BASt kindly asks for the reference to this statement. Furthermore, BASt suggests the indispensable need of active bonnets working in the field, not only under impactor test conditions.***
- **OICA states the “Deflection due to the upper body […] not necessarily” influencing “the actual contact of the head with the bonnet”.** ***BASt alludes to the suggested human body model simulations monitoring the actual influence of the upper body on the deflection of the bonnet.***
- **OICA argues “The vertical distance between bonnet surface and underlying components” being “mixed with the distance in impactor flight direction”.** ***BASt needs to insist that this is not the case. While the requirement is proposed in vertical direction, the distance in impact direction is just used as illustration.***
- **OICA objects that „No requirements on this exist for vehicles with “standard” (non-deployable) bonnets”.** ***BASt sees deployed bonnets with less support than pure passive systems and therefore the need for maintaining at least the same level of protection alongside the introduction of new systems, as e.g. also done within Regulation (EC) No. 631/2009 for FPS.***

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- *The reference on page 3 doesn‘t appear to be a good example of an up to date vehicle. Anyway, since the clearance and soft underlying structure is underlined by OICA, BASt kindly request information on the actual pedestrian performance according to Regulation (EC) No. 78/2009 or Euro NCAP.*

- **OICA criticizes the used vehicle and HBM model.**
  The example on page 4 is meant to generally illustrate the bonnet deflection due to upper body contact also affecting the head impact area. The type of depicted vehicle and the characteristics of the HBM model are irrelevant.

- **OICA criticizes the impactor tests performed at BASt not being representative due to the missing underlying package, and that the package could reduce bonnet intrusion due to deceleration of the shoulder by under bonnet components.**
  The BASt tests are meant to show the clearance needed to avoid bottoming out, rather than demonstrating the extent of deflection due to upper body contact. This clearance needs to remain after bonnet deflection due to upper body contact. In case of upper body or shoulder decelerated by under bonnet components this can lead to less intrusion in the head area. This can be demonstrated by the suggested HBM simulations.

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- **OICA requests the requirements to be performance based instead of design restrictive.**
  BASt points out that other regulatory examples exist where design restrictions are defined, as e.g. in Regulation (EC) No. 631/2009 design requirements for FPS are defined. Alternatively, in case of not meeting the 80 mm requirement, BASt suggests to define a performance criterion for the suggested HBM simulations.