



# Validation of SAE Buck (LS-Dyna) Impactor Tests by Pipkorn et al. (2014)

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# Validation Load Case

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## Referenced experiments

Upper and Lower Impactor Tests by Pipkorn et al. (2014)

## Note on SAE Buck Model used

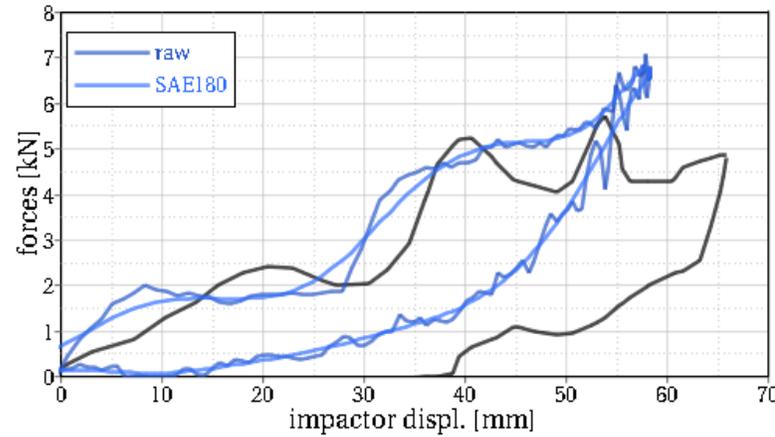
The SAE Buck model used in the experiments of Pipkorn et al. (2014) and Forman et al. (2015) differ from one another. Therefore, following changes were applied to the SAE Buck model to comply with the buck used in the impactor experiments:

- Thickness of lower bumper adjusted from 1.5 mm (Forman) to 2.0 mm (Pipkorn)
- Thickness of hood edge cover adjusted from 1.0 mm (Forman) to 0.5 mm (Pipkorn)
- Contact Viscous Damping adjusted from 0.1 % to 20.0 %

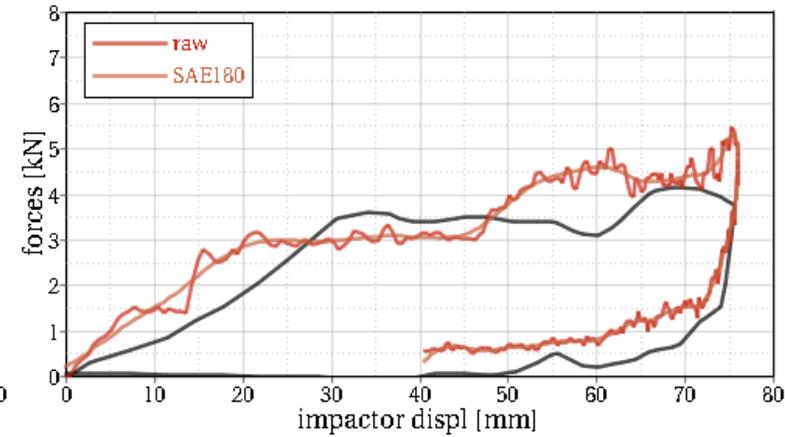
## Note on load case setup

Load case setup of the impactor tests will be shared upon request only.

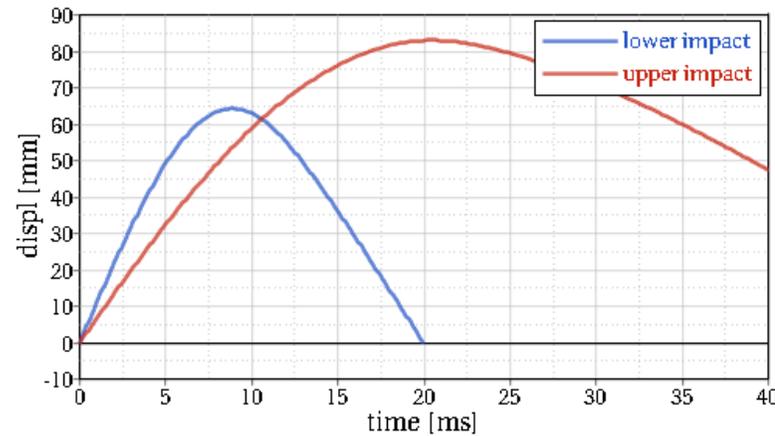
SAE buck lower impact



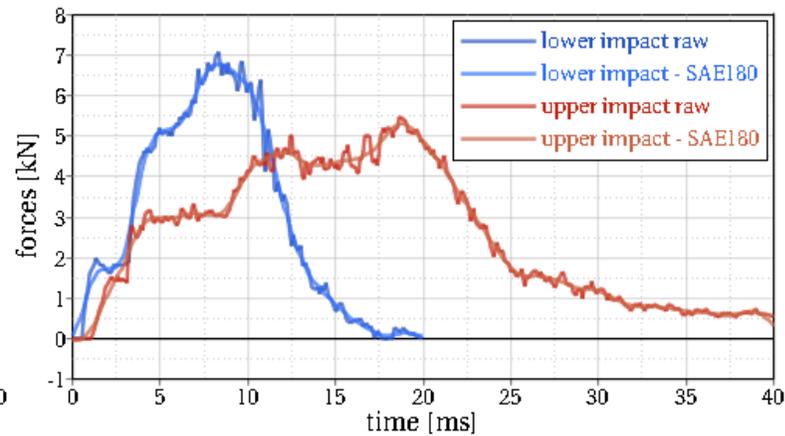
SAE buck upper impact



impactor reference node - x\_displacement



x\_force



Forman et al. (2015): *Biofidelity corridors for whole-body pedestrian impact with a generic buck*. IRCOBI Conference, IRC-15-49.

Pipkorn et al. (2014): *Development and Component Validation of a Generic Vehicle Front Buck for Pedestrian Impact Evaluation*. IRC-14-82, IRCOBI Conference 2014.



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