

**6<sup>th</sup> Triennial International Aircraft Fire and Cabin Safety Research Conference**  
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**Topic:**

Crash Dynamics

**Title:**

Improving Test Repeatability and Methods

**Abstract:**

Whether evaluating design iterations or comparing sled test results to simulation results, accurate and precise sled test data is required. This presentation will highlight several factors that effect sled results with an eye towards improving the quality of sled test data. The first factor examined was ATD seating methodology, which is particularly important for evaluating the risk of lumbar injury. A new ATD seating methodology that expands on the ideas presented in SAE AS 8049 has been developed and appears to increase test repeatability. CAMI also examined the interaction between loading the pelvis and the external markers used in photometric analysis. Additionally, a new knee target has been developed that is directly fixed to the knee joint such that it will not come loose due to incidental contact during a sled test. This is important when using the knee as a stand in for a hidden H-pt target in photometric analysis.