

ASSESSMENT OF THE SID/EUROSID AND THE RESPONSE/INJURY DATA OF HUMAN CADAVERS

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Abstract

The SID and the EUROSID have been evaluated based on a series of pendulum impacts. Applications of various severity indices were evaluated. The two sets of dummy responses were compared to each other as well as to cadaver data, including 40 new impact tests recently sponsored by General Motors. The focus of the study was to evaluate the vehicle design implications of choosing a particular dummy and injury criterion. Dummy responses for pendulum impacts from 4.3 to 8.2 m/s were examined, as well as the sensitivity to off axis and off center loading. The thorax, the abdomen, and the pelvis of the test dummies were evaluated and compared to corresponding human cadaver responses. New probability functions defining human injury tolerance in side impacts have been developed based on the new cadaver study.