



SURFACE VEHICLE RECOMMENDED PRACTICE

J2779™

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Superseding J2779 JUL2015

Low Speed Thorax Impact Test Procedure for the HIII 50th Male Dummy

RATIONALE

Sections 2.1, 2.1.1, 2.2, 3.1.c – Wording changes to properly reference SAE and SAE documents.

Section 2.1.1 – Change EA-23 to SAE J2856.

Section 3.1.a – Change “vest and panty” to “shirt and pants.”

Section 3.1.c – Correct references to SAE J211-1 and SAE J2527 latest versions as recommended practices.

Section 3.1.c – Change filter class for chest deflection from CFC180 to CFC600 to conform to latest SAE recommendations and to be consistent with SAE J2856.

Section 3.2.a, 3.2.d, 3.2.f (two places), 3.2.g (three places), 3.2.h – Change “chest skin” to “chest flesh.”

Section 3.2.d – Change “panty” to “pants.”

Figure 1 – Fix probe mass and edge radius to match 3.1.b.

SAE J2779 has been reaffirmed to comply with the SAE Five-Year Review policy.

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Documents

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1. SCOPE AND PURPOSE

This procedure establishes a recommended practice for performing a Low Speed Thorax Impact Test to the Hybrid III 50th Male Anthropomorphic Test Device (ATD or crash dummy). This test was created to satisfy the demand by the industry to have a calibration test which resulted in similar results to an actual low energy automotive impact test. An inherent problem exists with the current calibration procedure because the normal (6.7 m/s) thorax impact test has test corridors that are not representative to these low energy impact tests. The normal test corridors specify a displacement range of around 68 mm and the low speed displacement corridor needs to be around 25 mm.

The intent of this recommended practice is to develop a low speed thorax calibration procedure for the H-III50M dummy in 25 to 30 mm deflection range.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J2856 User's Manual for the 50th Percentile Male Hybrid III Test Dummy

SAE J2517 Hybrid III Family Chest Potentiometer Calibration Procedure

SAE J211/1 Instrumentation for Impact Test - Part 1 - Electronic Instrumentation

2.2 Related Publication

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 Federal Publication

Available from the Superintendent of Documents, U.S. Government Printing Office, Mail Stop: SSOP, Washington, DC 20402-9320.

Motor Vehicle Regulation No. 572 Test Dummies Specifications - Anthropomorphic Test Dummy for Applicable Test Procedures

3. CALIBRATION PROCEDURE

3.1 Preparation

- a. The complete dummy assembly (78051-218) is required, including the clothing [shirt and pants], but without the shoes (78051-294 left and 78051-295 right).
- b. The fixture consists of a smooth, clean, dry, steel seating surface and a test probe. The test probe is a 152.4 ± 0.25 mm (6.0 ± 0.01 in) diameter rigid cylinder with a mass of 23.36 ± 0.02 kg (51.5 ± 0.05 lb), including instrumentation, rigid attachments, and the lower 1/3 of the suspension cable mass. The impacting surface has a flat, right angle face with an edge radius of 12.7 ± 0.3 mm (0.5 ± 0.01 in). Mount an accelerometer to the probe with its sensitive axis in line with the longitudinal centerline of the test probe.