



# SURFACE VEHICLE INFORMATION REPORT



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H-III5F Chest Jacket Harmonization

## RATIONALE

The Hybrid III Small Female Jacket harmonization project was established to revise both existing chest jackets from the dummy manufacturers to match as close as possible to the existing NHTSA jacket drawing.

## FOREWORD

In the late 1980's the *Center for Disease Control (CDC)* awarded Ohio State University a grant to develop multi-sized test dummies based on the Hybrid III design. To aid in this endeavor, the Mechanical Human Simulation Subcommittee of the Society of Automotive Engineers (SAE) formed a Task Group to define the specifications for an adult size small female dummy which would have, at least, the same level of biofidelity and measurement capacity as the 50th Hybrid III dummy. Throughout the 1990's this Small Female dummy was revised and improved until it was finally fully defined by a drawing package by NHTSA and adopted in U.S. Federal Regulations as a part of the Code of Federal Regulations Part 572. The 2002 version of this drawing package defines the currently regulated version of this dummy today.

At the April 20, 2006 meeting of the Hybrid III Dummy Family Task Force information was brought in showing that there was a difference between small female chest jackets between different dummy manufacturers. A petition was submitted to NHTSA on January 31, 2006 requesting corrections to the drawings of the small female dummy because these differences could affect the results in restraint system tests. Possible solutions to this problem were discussed, and it was agreed to develop a new harmonized design using the NHTSA drawing as guide.

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## 1. SCOPE AND PURPOSE

The Hybrid III Small Female Jacket harmonization project was established to revise both existing chest jackets from the dummy manufacturers to match as closely as possible to the existing NHTSA jacket drawing. This Information Report documents the new harmonized jacket that resulted from that project.

## 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 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

SAE EA-25      User's Manual for the Small Adult Female Hybrid III Test Dummy

## 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

Available from Leet-Melbrook, Division of New RT, 18810, Woodfield Road, Gaithersburg, MD 20879, (301) 670-0090, as well as from the Department of Transportation Docket Management System

Parts Lists and Drawings Part 572 Subpart O – Hybrid III 5<sup>th</sup> Percentile Small Adult Female Crash Test Dummy (H-III5F Alpha Version) – June 2002

## 3. ABBREVIATIONS

H-III5F	Hybrid III 5th Percentile Small Female Crash Test Dummy,
FTSS	First Technology Safety Systems, Inc.
DATD	Denton ATD, Inc.
NHTSA	National Highway Traffic Safety Administration

## 4. TECHNICAL REQUIREMENTS

### 4.1 General Jacket Requirements

Current NHTSA jacket specification package

- Breast Location
- Symmetrical Design
- Overall width, depth, height, and circumference
- Arm opening location and shape
- Weight specification
- Upper Torso Assembly CG Requirements