

Harmonized SAE Foot/Ankle

78051-653-H and 78051-654-H

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During the 2011 ATD Harmonization meetings, the worldwide ATD Harmonization Task Group voted to harmonize the standard Hybrid III 50th test dummy and all the vinyl material utilized throughout the current family of ATDs. The direction of these harmonization decisions is also being implemented in non-standard components of the affected ATDs.

Background

An update to the Hybrid III 50th male ankle has been added to the Insurance Institute for Highway Safety's (IIHS) offset testing protocols. The updated ankle design eliminates electrical signal noise resulting from metal-to-metal contact between the ankle joint ball shaft and the bumper retainer.

In 2008, the Society of Automotive Engineers (SAE) Hybrid III dummy task force started investigating the design of the 50th ankle based on signal noise findings by IIHS in 2007. To solve the problem, the task force worked to create an updated ankle design which eliminates the metal-to-metal contact while still maintaining the ankle's 45 degree range of motion as originally specified in the 1996 NHTSA final rule.

The new ankle adds rubber wrap all around the ball retainer and clamping nuts to the ankle shaft and lower tibia attachments. SAE's full report on the updated ankle design is documented in J2949.

Harmonized SAE Foot and Ankle

Both the Denton and FTSS brands of the SAE J2949 ankle and foot design were built using the same set of controlled drawings. Dimension and design specifications of the harmonized version will remain consistent and conform to SAE J2949.

One of the plasticizer components of the FTSS brand vinyl has become obsolete because of environmental concerns, making it necessary to introduce an improved harmonized vinyl. The brown harmonized vinyl agreed upon by the Task Group will be utilized in the harmonized version of the SAE foot. Performance characteristics of the foot are not affected.

Part Numbers

SAE Foot and Ankle assemblies

Obsolete	Harmonized
78051-653-FT <i>Foot/Ankle assy, Left w/Accel Mount</i>	78051-653-H
78051-654-FT <i>Foot/Ankle assy, Right w/Accel Mount</i>	78051-654-H
78051-653-1-FT <i>Ankle Assy, Left w/Accel Mount</i>	78051-653-1-H
78051-654-2-FT <i>Ankle Assy, Right w/Accel Mount</i>	78051-654-2-H

Additional Accel Mount Feet

Obsolete	Harmonized
78051-622-FT <i>Foot molded 45 Modif., Accel Left</i>	78051-600G-H
78051-623-FT <i>Foot molded 45 Modif., Accel Right</i>	78051-601G-H