



# Hip Calibration Test Stand

Model Number V00039



## INTRODUCTION

Denton ATD, Inc. now offers a test fixture to perform the Hip Calibration Test for the Hybrid III dummy. The Denton ATD Hip Calibration Test Fixture is designed to meet all of the requirements for both SAE and 49 CFR part 572 test procedures in NHTSA's final ruling on the Femur Modification amendment.

## DESCRIPTION

- Precision alignment and guide system to achieve the angular alignment and guiding requirements in the Test Procedure.
  - Quick and easy pelvis installation and setup. No adjustments required.
  - Reaction moment is measured directly. No conversions or calculations, weights or approximations to induce errors in the moment measurement.
  - Angle is measured on the same centerline as the moment. This centerline is lined up with the center of rotation of the femur by matching tolerances for precise alignment. This provides maximum accuracy and requires no setup adjustments.
- Femur inboard/outboard angle can be set at any angle  $0 \pm 13$  degrees, in 1 degree increments, with quick release dowel pin. Precise machining assures that these angles are accurate relative to the midsagittal plane.
  - Test Stand is controlled by a digital controller. No external computer is required for operation.
  - Analog outputs from the sensors can be connected to a test lab's data acquisition system to collect data. Therefore, separate procedures are not necessary for verifying J211 compliance and for data archival. Company standard data, printout, and plot formats are used since all data is collected using the same methods and equipment as with any other test.
  - The digital controller has a keypad and LCD display. Simple menus are used to change test setups and parameters for special tests.
  - The test can be stopped at either a flexion angle or a moment level. These setups are entered through the digital controller menus.
  - Angular velocity is set through a digital controller menu.
  - The Test stand automatically determines the zero angle at the beginning of each test. A digital output is provided to signal the test lab data acquisition system when the angle passes through zero. No operator adjustments or setups are necessary.
  - Test Stand is available in a 110 VAC 50/60 Hz version or a 220 VAC 50/60 Hz version
  - Test Stand does not apply an axial pull load through the femur.
  - The digital controller displays the test results immediately upon test completion. This can be used as a cross-check of the test lab data acquisition system and for quick checks of pelvis-femur combinations.

### Standard Equipment

- Hip Calibration Test Fixture, Complete

This includes all equipment required to do Hybrid III 50th testing according to the SAE or 49 CFR Part 572 test procedures described.

### Optional Equipment

- V00045 - Hybrid III 5th Female Attachments
- V00046 - Hybrid III 95<sup>th</sup> Male Attachments
- ASA Software Package - for use with a personal computer. Allows the operator to store digital test date. The stored data can be exported to Excel or a similar software package

Dimensions	Fixture	Work Area
Length	3.0 ft	5.0 ft
Width	5.0 ft	7.0 ft
Height	6.8 ft	—