



FAA Hybrid III 50th Percentile Male

FAA-HIII-50M (Model FAA-H3-M001)



The FAA Hybrid III 50th Percentile Male ATD is a dummy produced under a cooperative between the Federal Aviation Administration (FAA), Civil AeroMedical Institute (CAMI), Denton ATD, Inc., and Robert A. Denton, Inc., for the sole purpose of Federal Aviation seat certifications.

The FAA dummy utilizes standard components from both the Hybrid II and Hybrid III ATD's. The primary design goal was to create a Hybrid III dummy that would produce lumbar spine responses equivalent to those of the Hybrid II and may be used as an optional dummy in aviation seat certification. FAA regulations utilize pass/fail criteria on lumbar and pelvic loading during vertical test conditions. The straight lumbar spine of the Hybrid II is important to aircraft seat certification based on the desired compressive axial force and the kinematics of the erect-spine seated posture and resultant head trajectory.

The head, neck, thorax and lower limbs of the FAA ATD are standard Hybrid III 50th Percentile Male.

For a complete design review and validation testing, see SAE paper 1999-01-1609 "A Lumbar Spine Modification to the Hybrid III ATD for Aircraft Seat Tests."

The FAA Hybrid III Modifications consist of:

- A unique new upper lumbar-thorax adapter.
- Modified Hybrid II chest flesh jacket.
- Standard Hybrid II lumbar column.
- Standard Hybrid II abdominal insert.
- Hybrid II upper leg elements
- Denton Model 1891 Hybrid II lumbar structural replacement load cell and pelvic adapter block.

WEIGHTS:	Pounds (lbs.)	Kilograms
Head	10.0	4.54
Neck	3.4	1.54
Upper Torso	37.9	17.2
Lower Torso	37.9	17.2
Arm	9.4	4.3
Upper Leg	17.0	7.7
Lower Leg	12.0	5.4
Total Weight	166.0	75.3

DIMENSIONS:	Inches	Centimeters
Head Circumference	22.5	57.2
Head Width	6.1	15.5
Head Length	7.7	19.6
Shoulder Pivot Height	22.1	56.1
Buttock to Knee Pivot	20.4	51.8
Knee Pivot Height	19.6	49.8
Sitting Height	35.7	90.7