Data Sheet

FORCE APPLICATION DEVICE (FAD)

221-210-01 / 221-210-01J

Force Application Device (FAD) was developed to have a more biofidelic body form to load seat belt restraint anchorage systems for both an adult and child size form.

Background

NHTSA released a 2024 update to FMVSS 210 to include the FAD1 and FAD2 (previously called FAD and JFAD) as an alternative option to the body blocks used in seat belt testing. The body blocks were not attached to each other and left ambiguities as to how they should be set up, as well as needing preload to keep them in the correct position. The FAD was created to provide a more biofidelic solution to these issues.

Available Product Lines

FAD1
221-210-01
FAD2
221-210-01J

Description

The FAD1 and FAD2 are the optional new test devices that can be used to replace the body blocks in the Federal Motor Vehicle Safety Standard (FMVSS) No. 210, “Seat belt assembly anchorages” tests.

Simulation Models

Humanetics offers highly detailed and fully validated Finite Element models of our FAD1 and FAD2 ATDs.

humaneticsgroup.com

FORCE APPLICATION DEVICE 221-210-01 / 221-210-01J

Weight Specifications

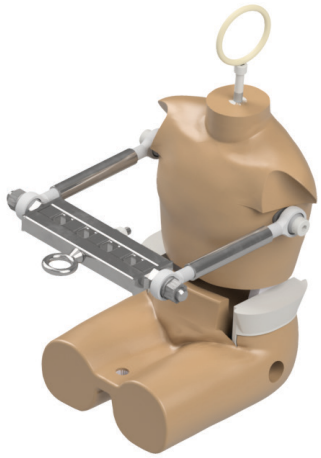
FAD1 Anthropometry

DESCRIPTION	SPECS	
TORSO ANGLE	10°	
RANGE OF MOTION	45° Forward and 35° Rearward	
OVERALL HEIGHT	640.1 mm	25.2 in
BUTTOCK TO SHOULDER PIVOT	467.4 mm	18.4 in
LEG HEIGHT	157.5 mm	6.2 in
SHOULDER WIDTH	449.6 mm	17.7 in
PELVIS WIDTH	353.1 mm	13.9 in
PELVIS HEIGHT	266.7 mm	10.5 in

FAD1 (221-210-01)

FAD2 Anthropometry

DESCRIPTION	SPECS	
TORSO ANGLE	10°	
RANGE OF MOTION	45° Forward and 35° Rearward	
OVERALL HEIGHT	459.7 mm	18.1 in
BUTTOCK TO SHOULDER PIVOT	109.2 mm	12.4 in
LEG HEIGHT	302.3 mm	4.3 in
SHOULDER WIDTH	238.8 mm	11.9 in
PELVIS WIDTH	180.3 mm	9.4 in
PELVIS HEIGHT	180.3 mm	7.1 in



FAD2 (221-210-01J)