BioRID II

Rear Impact Dummy

NEW Advanced Rear Impact Device

DENTON ATD, INC.

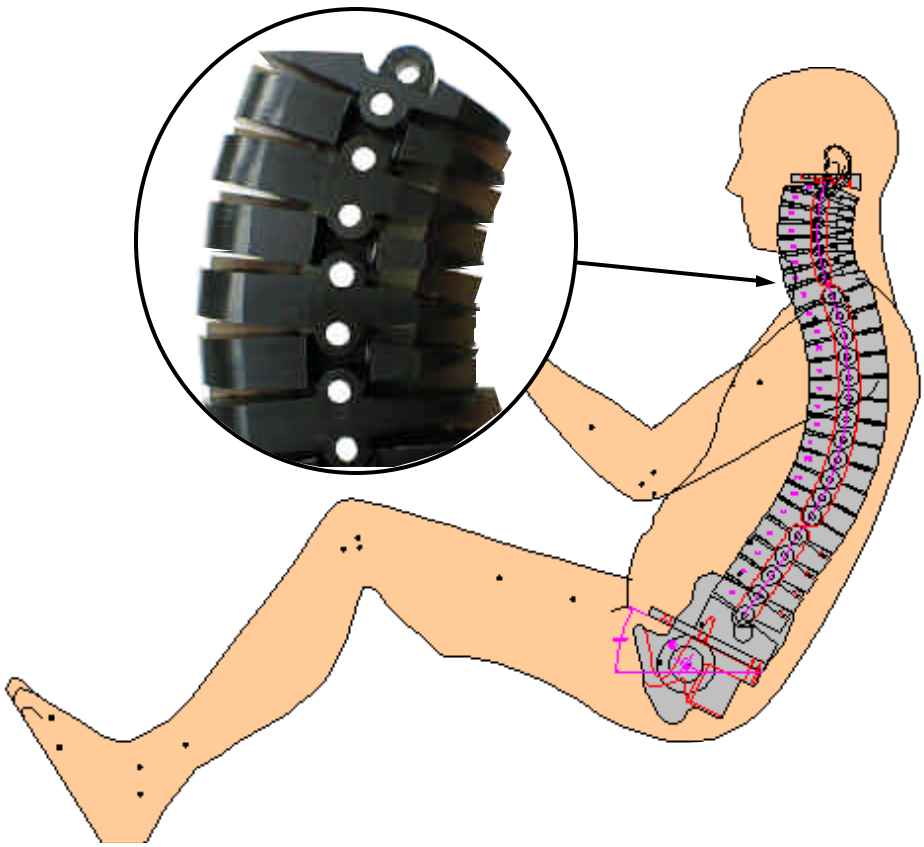
A new ATD developed in collaboration with DENTON ATD and the Department of Machine and Vehicle Design at Chalmers University of Technology in Göteborg, Sweden, allows for repeatable and reproducible evaluations of neck injuries during low speed rear-end collisions.

The BioRID was developed as a 50th percentile male dummy to measure responses in low speed rear-end impact tests. The dummy is comprised of an articulated thoraco-lumbar spine and neck made from a composite material. Each human spinal pivot point is reproduced in the BioRID. The torso construction includes a water filled abdomen and a pliable molding fitted around the flexible spinal assembly and attached through spine torso pins protruding outward from the central structure. Torsion bars are used in each of the Thoraco-Lumbar pivot joints to control the motion. The motion of the cervical vertebra are controlled by cables which are attached to neck-muscle substitutes and dampers. Also included betweeen the vertebra are elastomer bumpers to control the end of travel response.

The arms and legs are standard Hybrid III 50th components. The molded pelvis is a modified Hybrid III 50th type with increased range of motion about the H Point. The head is a modified Hybrid III 50th. The BioRID performance has been validated against low speed volunteer data.

The BioRID has been shown to be an effective device for evaluating the designs of car seat systems during low impact rear collisions.

WEIGHTS:	Pounds (lbs.)	Kilograms
Neck	1.9	0.9
Thoracic and lumbar spine	14.5	6.6
Torso	50.7	23.0
Pelvis	23.6	10.7
Pelvis, thoracic and lumbar spine	88.8	40.3
Head, arms, legs and feet	80.2	36.4
Total Weight	171.1	77.6



For more information about this test device or test dummy configurations specific to your needs, please contact the Customer Service Department at DENTON ATD or log onto:
www.dentonatd.com