

THOR = Test Device for Human Occupant Restraint

THOR BACKGROUND

To understand and measure the human body's movement during a vehicle crash, NHTSA uses anthropomorphic test devices, or crash test dummies, in controlled laboratory crashes. These crash test dummies are used to measure the potential for injury and evaluate the performance of vehicle safety features during a crash. THOR is an advanced crash test dummy, designed to represent a mid-size adult male in a vehicle during head-on and angled crashes. Extensive measurement capabilities allow THOR to predict injuries to the head, neck, chest, abdomen, pelvis, and legs.

WHY THOR?

THOR's human-like characteristics in a crash and state-of-the-art measurement capability make it the best choice to evaluate the advanced safety features in today's vehicles.

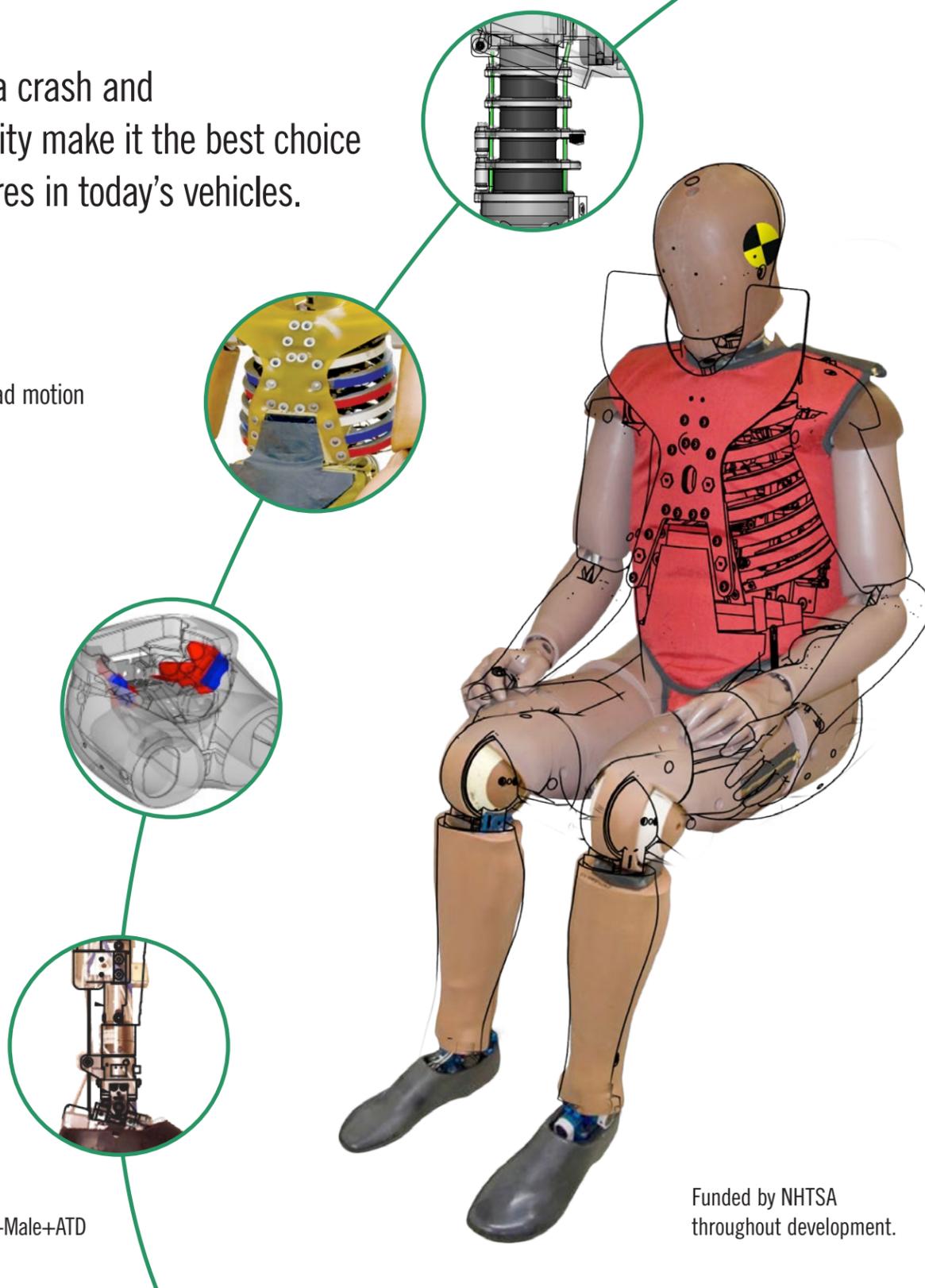
Human-Like Characteristics

- Neck that bends, twists, and stretches for realistic head motion
- Torso with anatomically correct ribcage and shoulder
- Flexible spine to allow proper upper body motion
- Abdomen that responds to seat belt interaction
- Legs that respond to impact of dashboard and pedal

Measurement Capability

Over 100 distinct measurements to help predict injury, including:

- Head rotation and other motions
- Neck forces and rotation
- Ribcage motion at multiple locations
- Abdomen motion at multiple locations
- Pelvis, thigh, shin, and ankle forces



More information at

www.nhtsa.gov/Research/Biomechanics+&+Trauma/THOR+50th+Male+ATD

Funded by NHTSA throughout development.

50TH PERCENTILE MALE ANTHROPOMORPHIC TEST DEVICE (ATD)

