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**Vertical Drop Test of a Narrow-Body Transport Fuselage Section with a
Conformable Auxiliary Fuel Tank on Board**

A narrow-body transport airplane fuselage section was subjected to a vertical impact drop test at the Federal Aviation Administration (FAA) William J. Hughes Technical Center located at the Atlantic City International Airport, New Jersey. The objective of the test was to determine the interaction between a typical transport airplane fuselage, particularly its floor structure, and a conformable auxiliary fuel tank under severe, but survivable, impact conditions. The fuel tank used in this test is representative of tanks being installed in narrow-body transport airplanes. A 10-foot airframe section from a Boeing 737-200 airplane was dropped from a height of 14 feet generating a vertical impact velocity of 30 feet per second. The airframe test section weight of 8780 pounds simulated a maximum takeoff weight condition. This included cabin seats, dummy occupants, and simulated fuel in the 500-gallon fuel tank. Structural response data were obtained during the impact from instrumentation installed on the fuselage structure, floor structure, and the fuel tank.