Airplane Fuselage Section Tests with Overhead Stowage Bins

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From 1991 through 2000, the Federal Aviation Administration conducted vertical and longitudinal, static and dynamic testing of various narrow-body transport airplane fuselage sections, which included different types of in-service overhead stowage bins. Vertical drop impact tests were conducted at the FAA William J. Hughes Technical Center, Atlantic City International Airport, New Jersey. Longitudinal, simulated impact sled tests were conducted at the Transportation Research Center, East Liberty, Ohio. This presentation summarizes the distribution of loads among the bin support members for both static and dynamic loading conditions, the strengths, and failure modes (if any) of various overhead stowage bins. This information will provide a basis to asses the adequacy of the design standards and regulatory requirements for overhead stowage bins.