



Comparison of Test and Finite Element Analysis for Two Full-Scale Helicopter Crash Tests

NASA Technical Reports Server (NTRS),
Martin S. Annett, Lucas G. Horta

DOWNLOAD



Comparison of Test and Finite Element Analysis for Two Full-Scale Helicopter Crash Tests (Paperback)

By Martin S Annett, Lucas G Horta

Bibliogov, United States, 2013. Paperback. Condition: New. Language: English . Brand New Book ***** Print on Demand *****. Finite element analyses have been performed for two full-scale crash tests of an MD-500 helicopter. The first crash test was conducted to evaluate the performance of a composite deployable energy absorber under combined flight loads. In the second crash test, the energy absorber was removed to establish the baseline loads. The use of an energy absorbing device reduced the impact acceleration levels by a factor of three. Accelerations and kinematic data collected from the crash tests were compared to analytical results. Details of the full-scale crash tests and development of the system-integrated finite element model are briefly described along with direct comparisons of acceleration magnitudes and durations for the first full-scale crash test. Because load levels were significantly different between tests, models developed for the purposes of predicting the overall system response with external energy absorbers were not adequate under more severe conditions seen in the second crash test. Relative error comparisons were inadequate to guide model calibration. A newly developed model calibration approach that includes uncertainty estimation, parameter sensitivity, impact shape orthogonality, and numerical optimization was used for the second full-scale...

 READ ONLINE

Reviews

Very beneficial to all category of folks. We have study and that i am sure that i will planning to go through yet again again in the future. Its been printed in an extremely straightforward way in fact it is just soon after i finished reading this pdf where actually changed me, alter the way i really believe.

-- Emmett Mann

Comprehensive information! Its this sort of great go through. It really is rally interesting throgh studying time. I am just quickly can get a satisfaction of looking at a created pdf.

-- Alexandra Weissnat