Strain Gage Loads Calibration Testing of the Active Aeroelastic Wing FA-18 Aircraft

By William A. Lokos

Bibliogov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 22 pages. Dimensions: 9.7in. x 7.4in. x 0.1in.This report describes strain-gage calibration loading through the application of known loads of the Active Aeroelastic Wing FA-18 airplane. The primary goal of this test is to produce a database suitable for deriving load equations for left and right wing root and fold shear; bending moment; torque; and all eight wing control-surface hinge moments. A secondary goal is to produce a database of wing deflections measured by string potentiometers and the onboard flight deflection measurement system. Another goal is to produce strain-gage data through both the laboratory data acquisition system and the onboard aircraft data system as a check of the aircraft system. Thirty-two hydraulic jacks have applied loads through whiffletrees to 104 tension-compression load pads bonded to the lower wing surfaces. The load pads covered approximately 60 percent of the lower wing surface. A series of 72 load cases has been performed, including single-point, double-point, and distributed load cases. Applied loads have reached 70 percent of the flight limit load. Maximum wingtip deflection has reached nearly 16 in. This item ships from La Vergne,TN. Paperback.

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