

**FLUTTER QUALIFICATION OF A COMPOSITE LIGHT TRAINER AIRCRAFT  
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**Abstract**

*This paper presents the aeroelastic analysis and flight flutter tests aimed at ascertaining the freedom from flutter instability in the design flight envelope of a composite light trainer aircraft. The critical flutter, divergence and control reversal velocities of the complete aircraft were computed using MSC/NASTRAN and the typical section method. The results thus obtained from the analyses have been correlated with the ground vibration and flight flutter test results. The dispersion in the damping and frequency results obtained from computations and the flight flutter tests were within acceptable limits showing a good correlation. The flutter margins and the total damping of the aircraft satisfying the JAR-VLA/FAR 23 requirements, thus enabling the aircraft to be type certified for the required flight safety standards.*

**Keywords:** *Flutter, Typical section, Aircraft, Finite element, Flight flutter test*

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