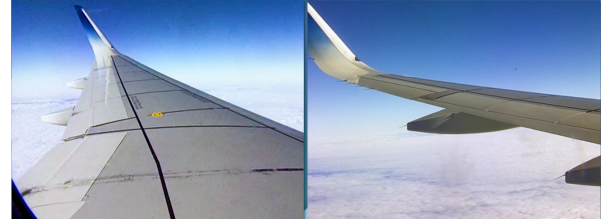


FLUTTER TESTS



Definitions

The flutter is a divergent oscillation phenomena of the wings or the tail plane that can occur at high speed/Mach and can cause the structure to rupture.

Purpose of the Flight Tests

The purpose of flutter tests is to make sure the structure is free from any flutter and load issue up to VD (dive speed) and MD (dive Mach) in flight, with a calculated margin of 15%. VD and MD are the maximum CAS and maximum MN used for structure load cases.

The test consists of exciting the structure at different frequency modes and progressively analyzing the aircraft's response up to VD and MD.

Application to Line Operations

VMO & MMO are selected to be lower than $0.8VD$ & $MD-0.07$. The flutter tests reinforce the fact that there is no immediate danger to the integrity of the aircraft beyond VMO/MMO. There is a greater risk if the flight crew overreacts on the side stick when they have a VMO/MMO overspeed warning.

Flight crews can be reassured that the operational limits of the aircraft are defined with sufficient margins to safely sustain any involuntary exceedance of the flight domain that can happen during normal operations.

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