

P-8A Poseidon Envelope Expansion Testing

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The P-8A Poseidon is designed to be a long-range anti-submarine warfare, anti-surface warfare, intelligence, surveillance and reconnaissance aircraft. It possesses an advanced mission system capable of broad-area maritime and littoral operations that ensure maximum interoperability in the future battle space. The P-8A has the fuselage of a 737-800 and the wings of a 737-900. The first of the test aircraft (T-1) is specially instrumented for flutter, flying qualities, and loads testing and contains 18 test stations on-board for real-time data monitoring in flight. T-1 successfully completed flutter testing, clearing the clean aircraft to the full airspeed envelope and is currently conducting the flight loads survey and stability and control testing. The paper provides insight into the culture of the test team, the pace of testing, and the nuances of the loads envelope expansion program, and how these contributed to an unsafe and nearly uncontrolled flight condition during a carefully mitigated high risk test point.