PERLAN 2 GLIDER STARTS CABIN PRESSURISATION TESTS

News / Manufacturer

Flight testing has started on the unique cabin pressurization system for the Airbus-sponsored Perlan II, an experimental glider aiming to set the winged-aircraft altitude record with a flight to 90,000ft later this year.

The launch of cabin pressurisation testing drew a personal visit to the Perlan team's current operating base in Minden, Oregon, from Airbus Group chief executive Tom Enders.

"This project began as the inspiration of a small group of talented volunteers, and has evolved into one of the boldest endeavors in modern aviation," Enders says in a statement. "We're proud to support a program that so perfectly embodies the pioneering spirit of Airbus."

The Perlan team has completed nine test flights and a total of 5.4h so far, test pilot Jim Payne tells Flightglobal in an interview.

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The cabin pressurisation test on 28 February flew to a height of 10,700 feet to make sure the system works as expected, he says.

For subsequent attempts to reach 90,000ft, the glider's passive pressurisation system is designed to maintain a cabin pressure of 14,400ft, while the pilots use re-breather oxygen systems.

The Perlan II is designed to harness a weather phenomenon called mountain waves. Most recreational glider pilots try to avoid them, but the Perlan II team is hoping to ride the upward-moving jets to virtually the top of the Earth's atmosphere.

If the Perlan II can demonstrated unpowered lift to 90,000ft, the data is expected to help designers of future aircraft on Mars, as the planet's atmosphere closely resembles Earth's around 100,000ft above sea level. A successful attempt will also break the official altitude record of 73,000ft set by the Lockheed U-2 and the US Air Force's unofficial record of 85,000ft set by the Lockheed SR-71.

The major difference, of course, is that the Perlan would be propelled to near-space using the force of air currents instead of jet engines.

The Perlan team plans to make at least two flights above 30,000ft in Minden over the next three months, Payne says. The group then moves the operation to Argentina to leverage the severe mountain wave effects created by the lower Andes range.

The team is hoping that weather conditions will allow as many as eight attempts to set a new altitude record between August and September, the height of mountain wave activity each year in Argentina, Payne says.

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