



IMPROVED PERFORMANCE L410 CONTINUES WORLD TOUR

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Czech manufacturer Aircraft Industries (AI) is here in Dubai (Stand 1947) to show its prototype **L410NG** commuter aircraft, which first flew in late July. Since then, the test-flying team it has been busy with certification flights, as well as a whistle-stop series of airshow appearances and marketing promotions.

Last month [October], for example, AI joined engine provider GE Aviation in exhibiting at the fourth biennial China International General Aviation Convention at Pucheng NeiFu Airport in Xi'an (Shaanxi province), claimed to be the Asian country's "largest and the most important" such event. Later this month [November], AI will be exhibiting at the U.S. National Business Aviation Association Convention in Las Vegas.

AI expects to receive European Aviation Safety Agency airworthiness approval by the end of next year, the prototype having by last month [October] logged about 60 flight-hours of the projected 210 FH required. Initial verification of basic flight characteristics and performance, and avionics, de-icing, electrical, fuel, heating, hydraulic, and navigation systems have been completed.

In the coming seven [correct] weeks, the L410NG is programmed to complete ground-vibration tests, ahead of 2016 tasks that begin with high-intensity radiated fields (HIRF) trials. Prototype testing then continues to confirm flight characteristics and performance, and all aircraft-systems functions. Also to be completed are autopilot development and flutter tests, while certification-

related ground work includes full-scale wing static and fatigue testing.

The 19-seat, twin turboprop design, which is essentially an upgraded variant of the current L410UVP-E20, appeared at Russia's Exhibition of Aeronautics and Astronautics (MAKS 2015) at near Moscow in August, where the company also exhibited an L410NG cabin and cockpit mock-up. Also in August, the new L410NG and current L410UVP-E20 were shown to Ghanaian Minister of Interior Mark Owen Woyongo during his visit to the Czech Republic. Ghana is shopping for aircraft to equip its armed police forces for state security operations, according to AI.

Major enhancements to the aircraft, which in basic form first flew in the late 1960s, include greater payload and maximum take-off weight, longer range, upgraded engines and cockpit, higher speed, improved "hot-and-high" performance, and increased design life. The L410NG can carry about 400 kg (880 pounds) more payload, with the forward cargo compartment able to accommodate about twice its previous load, according to AI.

Almost doubling fuel capacity in new integral wing tanks has increased range to 2,500 km (1,350 nautical miles) and endurance to 10 hours. A more powerful 850-shp GE H-85-200 turboprop drives new AV 725 propellers through a gearbox to reduce internal and external noise, while maximum speed increases to 417 km/h true airspeed (225 knots).

The H-85-200 powerplant, more properly labeled M601H-85-200, is derived from the Walter M601 unit developed and introduced 40 years ago by the eponymous Czech engine manufacturer, which was acquired by the U.S. owner seven years ago before its rebranding as GE Business and General Aviation Turboprops.

The L410NG's cockpit incorporates Garmin G3000 avionics. Implementation of damage-tolerance design and maintenance philosophy has been increased airframe life "significantly" to 30,000 flight-hours/flight-cycles. Serial production of the new variant is planned "after completion of the certification testing in 2017," and AI hopes to be able to build up to 30 aircraft a year.

The manufacturer sees upgrading of the existing L410UVP-E20 model, which has been under way since 2010, as an important step that will make the established design much more competitive against similar products.

The "major project" has involved cooperation among many members of the Czech Republic's Moravian Aerospace Cluster and research and training institutions, including Avia Propeller, Evektor, GE Aviation Czech, Jihlavan, Jihostroj, Mesit, SVÚM, UNIS, VR Group, and VZLÚ. AI claims that the program, which received state support from the Ministry of Industry and Trade (MIT), has had a positive impact on the national aerospace industry by, for example, broadening research and development capabilities that, it turn, could enhance the country's involvement in international projects.

The MIT also contributed to the L410NG "Inkom" project, which has developed composite-material components for the aircraft, such as passenger doors and engine nacelles that have saved weight and reducing drag. AI entirely funded the L410NG avionics upgrade.

Further, the Czech manufacturer has invested "significantly" in upgrading its manufacturing technology, with a new paint shop, milling machines and five-axis machine tools, hydraulic press, modern surface-treatment plant, and non-destructive flaw detection equipment.

Finally, AI claims continuing Russian airline interest in the current L410UVP-E20, though sales have been inhibited by the cost of local financing. "The big problem arises with the exchange rate

of the rouble; it is very difficult to find funds for the purchase of aircraft. But several airlines that visited our exhibition expressed serious interest.”

The difficulties facing prospective Russian operators have been offset, however, by “growing demand” for the L410 in Africa, Asia, and South America, according to AI. “[We] held many important meetings with representatives of China, Indonesia, and also discussed further delivery of aircraft to Bangladesh,” which received a single aircraft earlier this year.

In a bid to improve customer support, AI has visited “almost all” current operators. “An example is the considerable efforts we have made to resolve issues with the airline, Orenburžje associated with downtime.” This carrier, which flies from Orenburg in southern Russia, near the Kazakhstan border, is AI’s main customer; it operates seven L410UVP-E20s, the last two of which are less than 12 months old. In June, the manufacturer received U.S. FAR Part 23 certification for the L410UVP-E20 passenger and cargo variants.

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