Plane Cleared to Land at Most Extreme Commercial Airport in the World

General Electric

Lukla's Tenzing-Hillary airport in Nepal could be the most extreme commercial airport in the world. Perched 9,382 feet high, in a valley filled with wicked wind shear, it has a fearsome uphill runway just four football fields long that ends in a rock wall.

Usually, Lukla is a destination for intrepid climbers and trekkers trying to reach the Mt. Everest Base Camp, a nine days' hike away. But in December it got visitors from the Czech commuter plane manufacturer Aircraft Industries. The company makes a 19-seater turboprop, the L-410, and Nepal's Goma Air recently acquired a pair to fly on difficult routes reaching deep into the eastern Himalayas.

The routes are currently served [1] by aging Twin Otter and Dornier planes. But, before the new planes could go to work, Aircraft Industries had to prove to Nepal's aviation authorities that the planes could take off and land fully loaded from Nepal's short mountain runways and narrow valleys.

"We were there to demonstrate that the plane was capable of short take-offs and landings at high altitudes," says Milan Slapak, commercial director at GE Aviation's factory in Prague, which developed the engines that power the aircraft. "You are flying in tight mountain valleys with very little room for turning around or aborting landing. You must get it right."

The regulators approved the plane in December, and the Czech plane maker said in a statement [1] that GE's muscular H80 propeller engines were "the innovation which helped us get onto the new market."

The L-410 and the H80's ancestor, the Walter M601 engine, go decades back. In the

1960s, the Soviet airline Aeroflot needed a tough new commuter plane that could fly to hot and sandy airports in the desert and also to freezing Siberia. With few options on the market, Aeroflot bosses commissioned Czech aviation engineers, long regarded among the best in the business, to build the L-410, and an engine to go with it.

The cold war combo was a hit and quickly started carrying passengers and cargo across Europe, Africa, Asia, and South America. There are more than 300 L-410s in service now.

When GE acquired the Walter engine factory in 2008, it made-over the sturdy engine with advanced materials and 3-D aerodynamic design techniques. Slapak says that the 800 horsepower engine can now work in temperatures from minus 58 to plus 122 degrees Fahrenheit (minus 50 to plus 50 Celsius) and sustain high power even at Nepal's nosebleed altitudes.

Last May, the European Aviation Safety Agency (EASA) certified the L-410 with H80 engines for the EU market, and the engine is also already powering American Thrush [2] planes.

But Slapak takes the victories one step at a time. "We are just happy that an old customer could enter a new market," he says.

Video: http://www.youtube.com/watch?v=0UGT6bc6BLc

Source URL (retrieved on *09/20/2014 - 10:01pm*):
http://www.scientificcomputing.com/news/2014/01/plane-cleared-land-most-extreme-commercial-airport-world

Links:
[1] http://www.let.cz/clanek_385_.html
[2] http://www.gereports.com/the-little-engine-that-could/