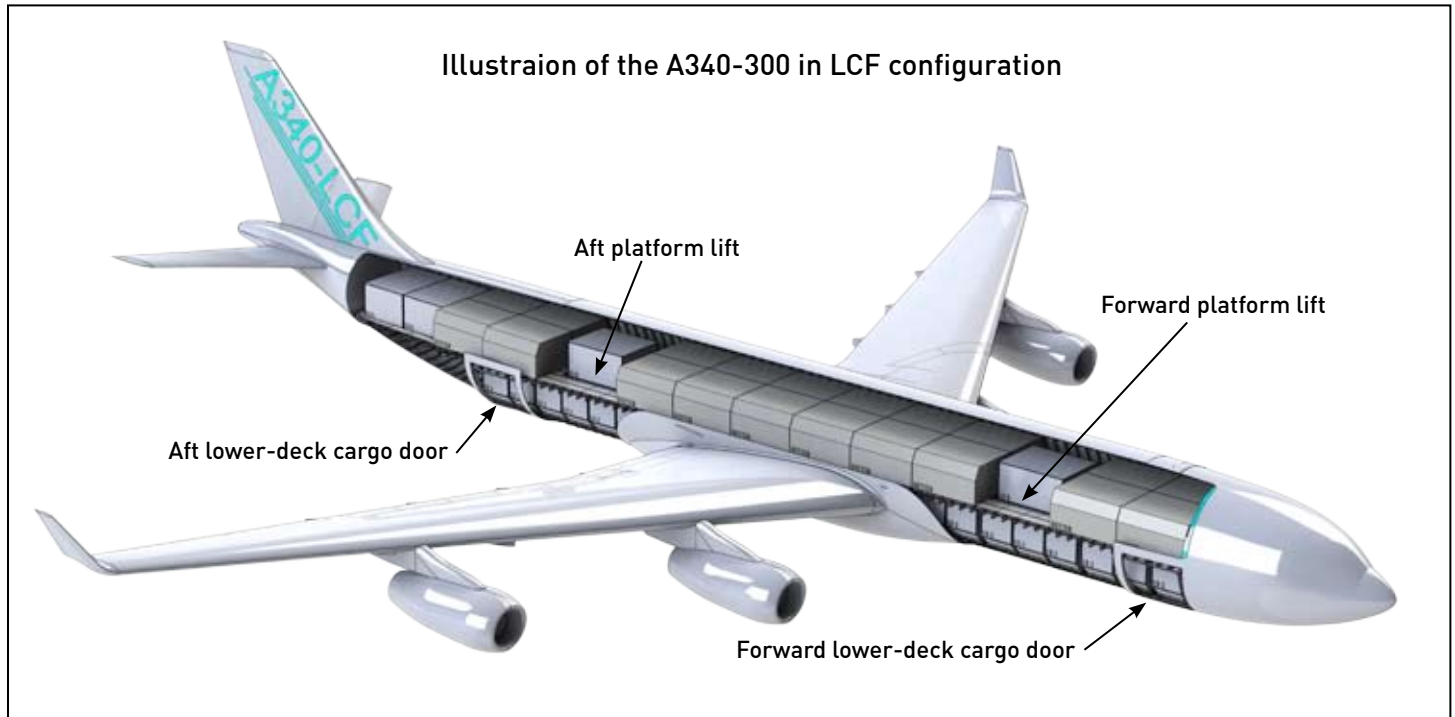


FREIGHTER AIRCRAFT ANALYSIS

DOES A FREIGHTER REALLY NEED A LARGE MAIN-DECK CARGO DOOR?



How important is a main deck cargo door? That is the question being asked by the team at LCF Conversions and Seattle-based design and certification company ACE Corp. Together they are proposing a new low-cost freighter (LCF) conversion program, using a patented cargo loading concept. Cargo Facts was exposed to this out-of-the-box thinking when we met recently with Cliff Duke of LCF Conversions.

The LCF concept loads cargo on conventional pallets and containers (including industry-standard 96 x 125 inch ULDs) through the existing lower deck cargo doors of widebody aircraft. The cargo is then moved to/from the main deck by two “Main Deck LCF Platform Lifts,” one serving the forward belly hold and the other the aft belly hold. These lifts become an integral, load-bearing part of the main deck floor during flight.

An obvious limitation to this approach is that pallets/containers are restricted to a height of 64 inches, although given the increasing importance of belly freight in widebody passenger aircraft such as the 777, this may be less of a problem than it once would have been -- we note that today some 60% of air freight is transported in the bellies of passenger and freighter aircraft, and subjected to this limitation.

On the other hand, there are a number of potential advantages of the LCF approach over the conventional P-to-F conversion approach that includes the installation of a large main-deck cargo door. Because it does not have such a main-deck cargo door, the LCF avoids the need to make any changes to the external structure of the aircraft, nor are any changes made to the main deck floor (other than those needed to accommodate the fore and aft lifts). Thus LCF Conversions foresees a straightforward certification process, and says the cost of conversion of a medium-widebody aircraft using the LCF approach will be significantly lower than the cost using the current P-to-F approach.

Duke sees the A340-300 as a model particularly well-suited to the LCF

concept (see the accompanying diagram). A340-300s are out of favor as passenger carriers, providing ample feedstock at very attractive prices. Furthermore, the cost of freighter conversion of the A340-300 via the LCF approach is quoted at just \$6.5 million, including the cargo loading system. The A340-300LCF would have about the same total cargo volume as a 767-300ERF, but the LCF would have significantly better payload range capability: 66.7 tonnes at 5,400 nm for the A340-300LCF versus 57.3 tonnes at 3,250 nm for the 767-300ERF. The LCF concept could be applied to other A340 models, as well as to various versions of the 777 when feedstock prices reach attractive levels. LCF Conversions is some 12 months from certification once a launch customer has been secured.

Of course, low acquisition cost is only one factor potential customers must take into consideration when evaluating the A340-300LCF versus competing models. Also important are direct operating costs (most notably fuel), operational range requirements, density of the cargo to be carried, monthly utilization rates, the need to carry oversize loads, and fleet commonality.

It is too early to say whether the LCF concept is a game-changing idea. It gives airlines and express companies an intriguing option to consider in the medium-widebody freighter market which is expected to see significant growth in the years ahead, and where there is clearly no one-size-fits-all solution. *cf*

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