



2017 Q2 Report

Perceptions from the Middle Kingdom

Chinese cargo airlines ride growing wave of e-commerce volume, but are inhibited by shortage of additional new and converted freighters.

In China, the traditional passenger and cargo network carriers, as well as express mail and package delivery carriers, are expanding their cargo business to cope with the booming PRC e-commerce business volume. However, the network carriers remain primarily focused on long haul wide body cargo traffic and do not provide door to door delivery service. Narrow-body freighters are mainly operated by the expanding number of express mail and package delivery cargo operators. We see the following developing PRC trends, which we expect to continue, among the country's domestic cargo airlines.

1. Three or four narrow-body cargo airlines will soon dominate the domestic marketplace in terms of Freight Tonne Kilometers and the size of their respective fleets.
2. Three or four independent or semi-independent cargo airlines, operating as feeders, will support the trunk route operations of the category one cargo airlines.
3. As a result, we see a disciplined phase-out and transfer of 737-300/400SF airplanes from the category one cargo airlines to the category two airlines. Category one and two airlines will likely have to cooperate with each other on their freight sales and marketing operations.
4. While 737-300SF airplanes are being phased out from the category one cargo airlines, there will be

increasing demand for additional 737-300/400SF airplanes at category two airlines for use as P2F conversion feedstock.

5. There are not many such feedstock models available for that purpose, because most 737Classic have either already been converted into freighters or have passed the hour/cycle limitation and optimization thresholds for P2F suitability.
6. Chinese cargo airlines have been launch customers for Boeing's 737NG BCF program. The category one carriers will have to deal with that situation over the next one to two years to find right feedstock for the P2F skyline. Failure to do so will impact all of their business plans. Even then, the availability of good feedstock will remain a serious issue due to pricing pressure on the mid-life 737NG feedstock units; not many of which are available in the marketplace. CAAC's restrictive rules on the importation of mid-life and end of life airplanes into China makes the import process even more complex, as it remains subject to governmental approval at certain key stages.
7. The RB211-powered 757-200F market is very hot, to the extent that category one cargo airlines, including those with existing 757 operational capability, continue to compete for the limited available feedstock. A key question is whether they may eventually elect to utilize PW-powered units, which are less desirable for that purpose. Such 757PWs would be a new aircraft type for Chinese cargo airlines, and would present a challenging decision process for operators in terms of operating costs and CAAC regulatory requirements.
8. Domestic cargo trunk routes are expanding rapidly, due in part to the large and expanding for e-commerce package traffic volume. As a result,

China will become a very competitive marketplace for mid-sized wide-body freighters, such as 767BCF and A330SF conversions, as the market pursues a sizable number of such units for domestic and regional use.

In view of the above considerations, PGA Aviation's views on the latest developments within China's cargo airlines market are as follows:

1. The availability of enough 737NG BCF units is an increasingly urgent matter for some Chinese category one cargo airlines. It requires their close attention not only because of the high price of existing available feed stock, but also because of a lack of suitable feed stock from qualifying countries. We expect that both the Chinese cargo airlines and CAAC will closely scrutinize previous operators and the specific FAA or EASA compliant countries before engaging in substantial business discussions regarding such airplanes. We must also consider the question of whether Boeing and/or Airbus can and would produce and deliver new production mid-sized wide body freighters, i.e., B767F or A330F, or increase their freighter conversion programs, for the China market.
2. Based on our background and experience, we firmly believe that at least one OEM might offer such new production mid-sized freighters. Meanwhile, the mid-life A330-300 and A330-200 market values continue to decrease significantly, with the reduced procurement cost and availability of A330SFs making that model more attractive than might previously have been expected. As the mid-size wide body freighter market evolves in China, we believe that well-equipped niche players should be able to capitalize on the situation.

PGA Aviation LLC stands ready to serve the Chinese Cargo Airlines, as well as western stakeholders, in

both narrow-body and wide-body airplane
transitional and/or related equity/debt projects.
Please let us know how we might be able to assist
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areas.

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