Power trip

Engine leasing remains a popular activity, especially with some aircraft staying in service longer. **Keith Mwanalushi** analyses the market demand for mid-life engines

Demand for the V2500 remains strong despite higher overhaul costs *(photo: MTU)*

Some evidence seems to show that demand for the Boeing 737NG has tightened the market for its engines – the well-liked CFM56-7B. The 737NG fleet has seen steady growth with thousands of them now in service. "Every year almost 500 aircraft are added with very few retirements," remarks Roger Welaratne, Senior Vice President and Manager at GECAS Engine Leasing.

On a net-net basis (accounting for deliveries, storage movements and retirements), Welaratne says the fleet increases in 2015 and 2016 have been higher, explaining a tightening in the market as compared with a couple of years ago. "The shop visits are still projected to increase over the next years, so the demand for spare engines is expected to also increase," he predicts.

Marc Wilken, Director Product Sales & Engine Lease at Lufthansa Technik acknowledges [in 2016] the steady supply and demand on CFM56-7B engines: "For 2017 and beyond we will keep a close eye on further surplus engines that are expected to become available. The NG platform is expected to increase the number of surplus -7B spare engines further, either for lease or teardown."

Market forecasts at AerFin suggest that with the arrival of the 737MAX this year plus the fact that the earlier 737NGs are now reaching the 18-20 year age bracket, 737NG retirements are likely to increase. Although, as James Bennett, Director – Sales and Marketing AerFin, comments: "The increase in retirements is also expected to be slightly negated by the cheaper fuel prices, meaning airlines will look to extend the life of their fleet through utilising 'green time' engines."

He continues: "We are therefore expecting to see some increase in available 737NGs on the market, and consequently more CFM56-7B engines." However, the current high demand for -7Bs, particularly green time engines, sees lease rates currently in the $60-70,000 rate, according to AerFin.

Cliff Topham, Senior Vice President Sales and Business Development at Werner Aero Services observes that the CFM56-7B market is still relatively oversupplied to fairly balanced. "Demand is there from the low cost carrier (LCC) operators, and even legacy carriers are looking at providing some of their engine requirements through the lease market, which is well supplied, through the established lease market, MRO providers, and independent providers of green time utility value engines."

Topham notes that green time engines continue to be drawn from an increasing number of NG teardowns, with the best rates available for the higher thrust-rated models.

A similar trend to that of 737NG fleet exists for the CFM-powered A320 family. The latter fleet has exceeded 3,500 aircraft in service with an increase of over 300 aircraft in 2016, as per GECAS figures. Welaratne says the demand for CFM56-5B (A320 Family) is expected to remain solid over the next few years, similar to the CFM56-7Bs.

On the other hand, GECAS see the IAE V2500-powered A320 fleet as "now reaching a plateau, and it appears that that fleet's growth has softened". Welaratne explains that this leveling-off is due to larger numbers of retirements and engine part outs, as well as the current volume of shop visits. He explains that "the spare engine situation is very tight, but this is not necessarily a sign of a healthy environment from an asset point of view."

Wilken: 2016 saw a steady supply and demand on CFM56-7B engines *(photo: Lufthansa Technik)*

Tadas Goberis, CEO at AviaAM Leasing weighs in on the IAE V2500, saying that its higher repair and overhaul costs makes leasing the engines a wiser solution, and a more cost-effective option. Topham thinks demand is strong for the V2500-A5, but the CFM56-5B is in balance with "continued long first runs, impeding the utility of the lease market".

Understanding engine return conditions is crucial *(photo: Southwest)*

Lufthansa Technik reports that 2016 was challenging at times, especially for the availability of V2500 spares that proved to be tight. At the same time, demand was strong, which overall led to higher rates. The CFM side remained solid but uneventful in regard to spare engine supply.

AerFin reveal that CFM56-5B lease rates are around $65,000 per month, whilst the V2500-A5 is slightly higher at approximately $75,000 per month.

Welaratne: Work is being done on engine documents *(photo: GECAS)*

In the past 12 months AJW Leasing (AJWL) has seen the market change considerably with the V2500-A5 'leading' market demand at present due to the decreased availability of this engine type. Alun Roberts, Engine Leasing Manager says the reduction in spare engine production and traders, as well as an increase in shop visits and OEMs purchasing engines to support airlines during the shop visit, are driving the lease rates up significantly for this type of engine.

Roberts reports that in the last three years, lease rates for a V2500-A5 have increased by around 60%. "The V2500, CFM56-5B and -7B engines are holding their residual values best, due to shop visit requirements, which translate either into short term leases to support the airlines, or the aftermarket parts supply for the visits. We are seeing the largest drop in value of the CFM56-3C1 in terms of material supply."

Instead of relying on declining parts sales pricing, lower material pricing over the last two years has allowed AJWL to take advantage of these trends to convert material more readily into whole assets that are capable of generating lease revenue.

No doubt maturing engines are staying in service longer, and having these engines flying for longer periods, some say, might bring concerns with supply and availability.

It is apparent that changes in the outlook of fuel price and the uncertainties around interest rates are driving a different fleet management approach at airlines, whereby they are holding onto mid-life aircraft longer, Welaratne asserts.

"Two years ago, some middle-aged aircraft were quickly labelled mature as new technology aircraft were making them obsolete at a fast pace," he says, continuing: "The trend we are seeing now is that airlines have reasonable visibility for about six to seven years, which gives them enough time to plan and keep these mid-life aircraft." Over such a period, he says these airlines can afford a cabin refresh, some engine overhaul, as well as performing structural checks. "In this context, the need for spare engine[s] has indeed increased, but there are enough spare engines to support the world fleet. Apparently, things have reverted from an oversupply situation to normal," he concludes.

Goberis notes that "everyone in the leasing market is facing the same issue…The engines [maturing] are

Fleet growth for the V2500-powered powered A320 is softening *(photo: MTU Engines)*

just not getting into the market." He feels one has to be versatile as well as innovative to come up with ways of growing operations, despite these challenges.

Goberis: Leasing can be a more cost-effective option *(photo: AviaAM Leasing)*

Bennett concurs by saying retirement rates have been relatively low for narrowbody aircraft, with seven 737NG and 14 Airbus A320 Family jet retirements in 2016 [AerFin]. "This is mainly due to airlines extending the life of their aircraft and running green time engines due to the low cost of fuel, meaning there is high demand for mature engines, and therefore a lack of availability."

However, Wilken from Lufthansa Technik feels that overall, sourcing [engines] has not been a major concern so far: "Lots of operators are looking for exchange options in order to avoid expensive shop visits. There are many operators who remove the original engines and put leased engines on the aircraft to avoid expensive shop visit costs and to meet the return requirements on original assets."

Engine lease disputes still exist, although they are not as common. One might assume these occur principally with smaller regional carriers that might have limited experience with the management and return process of leased engines.

Wilken emphasises the importance for lessors to protect the asset value during its entire operational life, and the return process is a major part of that: "The airline has to pay attention to all maintenance activities and proper paperwork documentation during the engine operation, and that will enable a smooth return process".

Engine leasing has become very popular and Welaratne feels that every airline is familiar with it. "We have also worked relentlessly to make the redelivery process as user-friendly as we can."

He notes that the documentation required is now minimal and GECAS engages with the airline about two to three weeks before a redelivery. "We communicate what they need to do so we can assist where needed and project manage the redelivery. In the end, it is about getting ahead and planning."

Goberis from AviaAm Leasing is reluctant to presume that the smaller players in the market have less experience or know-how, and are prone to wrong decisions.

Werner Aero Services say they can provide a management service to the smaller regional carriers and manage their return process, the costs of which are almost entirely generated by the condition (physical and contracted) of the engines.

"The key challenges for LCCs is understanding the return conditions, implication of failure to meet physical and contractual return conditions and being able to negotiate effectively upon the return – the most significant part is to start the dialogue early," advises Topham.

Experts believe long-term leasing will become even more important than it is already. "The objective is to precisely plan ahead and secure market opportunities," says Wilken, warning against relying too much on short term availabilities. "Besides, we see that a lot of airlines are looking for alternative options such as sale and lease back, engine exchange or end-of-life solutions."

Goberis points to contracts as a major challenge at the moment: "Instinctively, the LCCs as well as regional airlines always look for ways to get 'friendlier' terms of agreement," referring to issues such as charges, penalties and forfeits. "It then all comes down to the negotiation skills and expertise."

The industry has become very accustomed to leasing (especially short term) and some key changes have been implemented in the recent years such as the Short-Term IATA Agreement in Cape Town.

"A few areas of difficulties are still around maintenance and operational responsibilities, and engine paperwork," Welaratne highlights. "A lessor will expect the lessee to consider this engine as no different to an engine they own or are already operating."

GECAS sees a lot of work being done on engine documents and Welaratne says there is a push to go digital and paperless, but until this happens and an agreement is found, the industry will continue to use the current standard, which requires a lot of paperwork. ■

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