



The A340 is a prime target for part out.  
Photo: Lufthansa Technik Philippines

# Parted planes

Aircraft retirements and a demand for parts to support aftermarket and maintenance services are two of the leading factors that are driving the aircraft teardown and part-out market.

**Keith Mwanalushi** looks closer at the current trends in the sector

**T**he teardown market is highly fragmented with a number of leading and smaller players that engage in various activities associated with aircraft disassembly and dismantling, as well as component management and aircraft material logistics and supply chains.

Clearly, the strongest demand for part-out and teardown is coming from the narrowbody aircraft such as the 737NG and A320 series. John Benschmidt, VP for sales and marketing at Aero Controls Inc says the component commonality of these aircraft to other series within the family strengthen the value since the material has wider use. "The sheer volume of these aircraft families within the global fleet naturally result in a higher quantity of aircraft retirements, teardowns, and need for part-out to support the spare parts market."

Larry Montreuil, VP for asset management and business development at Werner Aero Services also sees the greatest demand in the narrowbody fleet as the A320NEOs and B737MAX deliveries begin. "Demand for V2500 powered A320s has also increased due to the need to accomplish shop visits on the Vs. Spare V2500 engines have become increasingly valuable to support all of the shop visits coming up in the next couple of years." Montreuil adds these shop visits are likely to extend the service life of the engines and encourage more use of the aircraft. "Continued use of the A320 classic fleet will sustain demand for used surplus material; with aircraft tear downs being the most cost effective source of these spare parts," he asserts.

When speaking to customers, Stratton Borchers president at True Aero reveals that the conversation inevitably turns to CFM56-5B/7B and

V2500-A5 material and the relevant airframes associated with each.

"There is substantial demand for these parts as engines are entering MRO's for predicted shop visits, but the primary driver is the lack of supply on the teardown side of the equation," notes Borchers. He adds that bidders ranging from lessors, teardown facilities, and OEM's are buying assets that normally would go for teardown to support shop visits are instead burning off green time, supporting internal PBH contracts or rebuilding the engines for lease that have an exponential impact on the supply and demand balance for the market. "These activities increase the demand for parts at specific cycles remaining thresholds and simultaneously reduces the supply of engines that are teardown candidates. The hamster wheel will start to slow as too many



Montreuil says the spare parts market is volatile and greatly influenced by supply and demand.  
Photo: Werner Aero Services



There's a significant supply of 737 Classic material.  
Photo: Keith Mwanalushi

companies rush into rebuilding engines and cannot find a home for their shiny new toys."

The value of parts is a key factor in deciding whether an aircraft should be parted-out. At Aeronautical Support International (ASI), President Dean Morgan says they are always looking at a supportable fleet size. "Sometimes the industry forgets, every time an asset is parted-out there is one less aircraft or engine in the market to support. Also we are looking at market characteristics, such as how tight of a hold the OEM have on the aftermarket of a given asset type."

Max Wooldrik from Apco Aviation reminds that the biggest driver in terms of part value is the availability of that specific part on the market. "If you take a 737 classic for example....that aircraft has been parted-out so many times so much that the market is absolutely saturated with 737 classic parts. Therefore you are competing with so many others that are offering that exact same part. This usually ends up in having to lower the price to make the deal." That is in contrast to a type that has not been parted-out before – "the only competition you will then have is factory new parts from the OEM, and that in turn keeps up the part value obviously," Wooldrik continues.

In the market today Life Limited Parts (LLPs) such as landing gears with more than 50% life remaining before overhaul due, LLP status on APU and engines will have a major contributing factor on valuation, according to Conrad Vandersluis, VP strategic material and asset management at AJW Aviation. "A focus on standard use Line Replaceable Unit's (LRUs) will continue to drive the valuation depending on market supply and demand.

"Saturation is now clear on slow moving parts such as flying control surfaces where requirements can be erratic and in turn highly competitive," observes Vandersluis.

The valuation of certain components, especially larger assemblies (for example engine inlet cowls, thrust reversers, and APUs) can fluctuate

rapidly depending on the market supply. "If a group of aircraft within the same family are parted-out at the same time and the market is instantly flooded with these items, a drop in value can occur. Whereas, if an operator needs a part due to an AOG situation and the spares market only has a few available, the value can instantaneously increase," states Benschmidt.

Shifts in strategy of operator fleets also greatly affect market value, he adds. "When Amazon announced their plans to build an Amazon Prime Air fleet of 767s, that aircraft end-of-life value increased due to the spare parts potential."

Larry Montreuil echoes those sentiments saying the spare parts market is volatile and greatly influenced by supply and demand. He says some parts have lost considerable value due to the high number of aircraft part outs and low usage. "Thrust reversers are an example of this situation. Meanwhile, upgrades, SBs and ADs, fleet changes and standardisation drives demand and with it, prices for other parts."

Aircraft such as the 737 classics that were once a prime target for part-out are staying longer in service due to low fuel prices. These were once a very high retirement aircraft type but now this has reduced in the numbers



John Benschmidt, VP Sales & Marketing at Aero Control Inc.



Demand for V2500 powered A320s has increased.  
Photo: MTU

being retired therefore surplus availability has also subsequently reduced. AJW Aviation observe that operators have in the past taken the view of reducing cost by buying replacements rather than repairing as cost to repair was higher than what you could purchase components on the market. On some LRU's this has now changed due to surplus availability, Vandersluis stated.

There's a significant supply of 737 classic material in the marketplace so prices for that material remain low and the demand is fairly low as well in comparison to newer aircraft. Benschmidt highlights that there will always be the classic/older generation aircraft being flown by some operators regardless of whether it's due to falling fuel prices, asset management, or maintenance strategies so there will still be some sort of demand for these spare parts.

"The cost of acquisition plus teardown of older generation aircraft will, at some point, outweigh the value of the material. The return on these investments is greatly affected by the reduced sales velocity of the material so that must be taken into account as well. When should the shift from investing in part-outs of the classics to the newer generation to support a more prolific fleet occur? That's the multi-million dollar question," Benschmidt declares.

Understanding the past allows us to put the present in perspective. At the height of the 737 classics, there were over 3,000 aircraft in service, "but that number has diminished to 856 active aircraft with another 1,068 in storage," says Jim Legg VP materials at True Aero. The active fleet of 737CL's will continue to reduce through retirements, is serving

as a bridge aircraft until new order aircraft become available or servicing the niche market in freighter conversion and will continue to see

limited service life while oil prices remain low, he foresees.

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*Conrad Vandersluis, VP strategic material and asset management at AJW Aviation*

"There is a surplus of material from teardowns and OEM/operator legacy inventories that are available to support the remaining aircraft in operation. The engine and component

markets are considered a high scrap rate material due to the cost of repair and overhaul being more expensive which incentivises owners to find a replacement unit to fill the demand cycle moving forward instead of inducting the asset," states Legg.

The 737 classic will continue to see service but is defiantly considered a sunset platform.

In some respect, the teardown market is going through some kind of revolution that has created some challenges. As with what's happening in many other industries, Bensch-



Vandersluis - Saturation is now clear on slow moving parts.  
Photo: AJW Aviation



The valuation of certain components can fluctuate rapidly.

heidt is seeing further consolidation of the companies and facilities offering teardown services. He says this is an indication of a maturing market which is a great thing as another way to create value within commercial aviation. "However, the teardown market needs to be cautious not to get too comfortable. Focus on competitive pricing and customer service so other alternative entrants don't take advantage of an opportunity," he warns.

"There are so many companies trying to get into the teardown business that have absolutely no clue what they are doing," Wooldrik weighs in.

He explains that these companies often do have access to some form of capital and they start buying airplanes without sufficient knowledge about the part-out business. "These companies tend to overbid on assets which in turn drives the prices up."

However, Wooldrik assures that this issue usually addresses itself because these companies more often than not fail as they discover sooner or later that they've paid more for the asset than they will ever make selling the individual parts.

Borchers reckons there should be a standardised framework that unites operators, leasing companies, MRO's and parts companies on what to require upon redelivery that will follow the part through its lifecycle.

And there is increasing competition in engine teardown too. Morgan, with 25 years' experience in the commercial aircraft engine overhaul and trading business knows that engines represent the majority of the

aircraft's aftermarket value and this attracts a lot of part-out companies to taking on the engine part-out business.

However, Morgan does not recommend anyone getting into the engine business without adequate technical expertise. He says the numbers (deal size) are large, but the potential to get hurt is even larger. "You need to have a very good understanding of the market, hardware repair and scrap characteristics and customer demand characteristics. At ASI we have built a team that will be very competitive in the engine part-out business, with both technical know-how and key customer relationships the engine business is our strength."

Engine maintenance is very material intensive. The wave of shop visits requires an economical source of engine material to avoid the extremely high costs of new parts, Montreuil relays. "The engine shops who have sold PBH agreements are highly motivated to acquire used material that can reduce their shop visit costs. Even if some material that is required is out of scope of PBH and considered over and above, or it's a time and material shop visit, lead times of new material make sourcing used material more attractive."

Material is the number one cost driver for engine maintenance. And as Benschmidt sums up, having an alternative to purchase serviceable material at a reduced price that will achieve the same end result rather than new OEM parts is driving the demand and growth in the engine teardown market.