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AN UPDATED TRENDS IN THE FREIGHTER INDUSTRY, P2F CONVERSION, MRO & AEROSPACE



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AIRCRAFT DISASSEMBLY CHALLENGED BY DELAYS, ENGINE ISSUES, AND MARKET INFLATION

The aviation industry's demand for aircraft disassembly is driven by factors such as delays in new aircraft deliveries, engine issues, and increasing demand for P2F conversions, particularly on narrowbody aircraft like the B737NG and A321. Freightier Trends learnt that this has led to inflated market values, making it challenging to acquire these aircraft for disassembly. However, a slight decline in values is expected by the end of 2025 and into 2026. Here are the details

What trends in the aviation industry are driving the demand for aircraft disassembly?

Christen Grant, Business Development Manager, EirTrade Aviation - The delay in delivering new aircraft to the market coupled with engine issues and demand for P2F conversions in recent times, particularly on narrowbody aircraft, has contributed to an inflation of the market value, particularly B737NG & A321 aircraft. There is huge demand for Used Serviceable Material (USM) material for these aircraft types but the inflated values in recent times have made it more difficult to acquire such aircraft for the purpose of disassembly. However, we do anticipate a mild downward trajectory of these values towards the end of 2025 and into 2026.

Steven Taylor, Chief Commercial Officer, ecube - Supply chain shortages and postponed retirements are the key trends driving demand. The post-Covid period has seen a shortage of new parts. As aircraft also need to fly for longer, this has driven demand for reusable components. We can see this demand playing out in rising

prices, but also a change in aircraft age. In the last year or so, we've disassembled aircraft as young as nine years old and one

at the other end of the scale; 39 years old. This is largely driven by the needs of the industry.



Christen Grant



Pascal Parant, Vallair's Group Chief Commercial Officer - By law, the last owner of an aircraft is responsible for its proper dismantling and waste recycling. Environmental regulations have rightfully increased pressure on owners to ensure an eco-friendly dismantling process. Vallair observes that parts recovered from aircraft teardown almost always hold their value - especially those harvested from younger aircraft. It is logical for owners to seek to maximise the residual value of their assets, and they do this primarily by participating in the Used Serviceable Material (USM) market.

The demand for disassembly is also market-driven. Vallair notes that in 2024, the number of aircraft removed from service and dismantled has been one of the lowest in recent history. According to industry sources, only around 120 aircraft have been retired and torn down. This is largely due to the backlog of

unproduced aircraft from 2020 to today. Supply chain issues remain persistent, alongside teething problems with next-generation engines. To maintain their flight schedules, airlines are extending leases or prolonging the operational life of their fleets. As a result, fewer aircraft are currently being sent for disassembly.

How do you ensure high-value components are carefully identified and managed during disassembly?

Christen Grant - At EirTrade Aviation we have a dedicated assets team that identify high-value components expected to be on the aircraft. This is done through data analysis in our ERP system of previous projects and through market analysis. The technical team at EirTrade are then responsible for carefully examining a thorough back-to-birth trace to identify actual part numbers, highlight any potential issues, and rule out parts that have reached the end of their life.

EirTrade's disassembly team is composed of skilled aircraft mechanics who then carefully carry out the disassembly. They manage the tagging, packaging, and shipping of these parts for the team to recognise the value of these components as quickly as possible in the process.

Steven Taylor - Our expert disassembly team is Diamond Level AFRA Accredited. They work together to ensure every component is removed, logged, and then crated by our dedicated crating team. They make sure everything is securely crated and stored or shipped: from APUs and Landing Gear down to the smallest parts. In 2024 ecube assembled nearly 4,000 bespoke crates and enabled 72,994 components to go back into the flying fleet.

Pascal Parant - Once the engines, nacelles, APU, and landing gear have been removed, more than 80% of an aircraft's high-value

components have already been extracted. Additional high-value parts include avionics, actuators, computers, and flight displays. A further eighty high-turnover parts or part numbers account for another 15% of the total value, while the remaining components are slow-moving inventory, often referred to as "gravy."



Pascal Parant

The high-value parts are relatively easy to identify, and the most valuable ones are usually prioritised for removal for several reasons. These include: fast integration into the repair cycle to generate cash flow from resale; protection from potential damage during further teardown activities.

Once an aircraft is acquired for dismantling, the financial clock starts ticking due to interest rates. The faster cash is generated to recover the purchase cost of the asset, the better the return on investment. Therefore, experienced disassembly companies, like Vallair, prioritise the removal of high-value

components, ensuring they are properly tagged, identified, and promptly sent to repair centres based on the owner's instructions.

How does the teardown process help address supply chain challenges in aviation?

Christen Grant - The industry is facing several issues in the supply chain with the slow production of spare parts for newer aircraft, the TATs at repair shops for units, and delays in bringing new aircraft to the market. Disassembly of older (and sometimes newer) aircraft can help address these issues in a number of ways:

- * Disassembly of older aircraft provides spares for models that are out of production for some time and therefore have fewer spares available on the market. By providing spares for these aircraft, it enables asset owners to keep older aircraft in operation while they wait for their new aircraft orders to be fulfilled.

- * EirTrade have put a significant focus on acquiring newer assets for disassembly, such as the B787 Dreamliner, for which there are little to no spare parts on the market. It has enabled asset owners to keep their aircraft serviceable without the lead times that OEMs are offering for these parts.

Steven Taylor - At ecube we don't talk much about 'teardown', with its connotation of ripping parts out. We see our process as skilled technicians removing components to the highest industry standards, in line with AFRA's highest level of BMP, to extract the maximum value from the aircraft for the asset owner.

The ecube disassembly process helps to circumnavigate supply chain challenges by making parts available through reuse, avoiding delays at OEMs. From a Used Serviceable Material standpoint, we're fuelling the market with what we do, with 72,994 components going back into the flying fleet in 2024.

Pascal Parant - Aircraft teardown provides several solutions to ongoing supply chain challenges. Firstly, the supply of USM parts whereby serviceable parts removed from aircraft, either with an appropriate tag or tested as serviceable, provide immediate solutions for components stuck in lengthy repair cycles.

Secondly, the process helps to address delays in engine and landing gear repairs. The turnaround times (TAT) for these components have drastically increased from 30-60 days to six months, or even over a year. Parts removed with remaining "green



time" offer a valuable alternative to operators and are even sought after by repair shops to support their customers.

Providing critical sub-assemblies is another helpful solution says Vallair. Many components rely on sub-assemblies, which are often the root cause of delays in the repair process. Examples of these include electronic circuit boards that can be reused by repair centres to resolve issues caused by production shortages; and landing gears comprise multiple components, some of which have life limits or are subject to supply chain delays. However, according to Vallair, engines are the ultimate donors for parts such as blades, disks, shrouds, and OGVs. Once repaired and if they have sufficient remaining life, these components enter the USM market. Since 60-80% of an engine overhaul cost is related to parts, USM materials provide an optimal solution.

Teardown operates like a fractal process: an aircraft is dismantled into parts, which can themselves be further disassembled into sub-components. Even



being seized up when attempting to remove it, but there are simple solutions to these issues. They also have more cables and hardware to work around than newer technology options, which can make access slightly more difficult, but experienced aircraft mechanics are used to this type of work.

Steven Taylor - In terms of a managed disassembly by experts, the challenges are the same. We find that the younger the aircraft, the more parts an owner is likely to want to remove. An average disassembly is around 500 parts. Components on a younger aircraft are likely to be of a higher standard and therefore value. In these cases, we can expect removal of more than 1200 parts.

Pascal Parant - Newer aircraft are designed with recycling in mind, making their disassembly relatively straightforward. In contrast, older aircraft present several challenges for disassembly specialists.

As aircraft age, their market demand shrinks and while models like the 737-200 and 727, for example, are still in operation, the USM market for them is highly niche due to limited volumes. Most MRO shops have shifted their focus to newer-generation aircraft, leaving legacy programmes with minimal support. As a result, more parts end up being recycled rather than overhauled and resold. Recycling incurs costs, whereas selling a reusable part generates revenue. This shift affects the economic feasibility of dismantling older aircraft, as the balance tilts toward waste management rather than parts recovery.

In what ways do teardowns enhance the availability of components for exchanges or direct parts supply?

Christen Grant - The availability of spare parts on the market is largely supported by the teardowns of aircraft and engines.

Teardowns increase the supply of parts available for outright purchase or exchange on the market. They reduce lead times for maintenance organisations in sourcing parts that may have long lead times from the OEM and they provide access to spare parts that may be infrequently required for replacement and so may not be widely produced. Also, disassembling old aircraft enhances the supply of older aircraft parts no longer in production.

Pascal Parant - According to Vallair, there are three primary ways to procure aircraft parts when needed. Firstly, you can buy new from the OEM. This option comes at 100% of the catalogue list price (CLP) and often involves lead times of nine months or longer for certain parts.

Or you can exchange a component. This involves swapping an overhauled component (OHC) for a repairable part, often with a defined "Beyond Economical Repair" (BER) price. The exchange pool consists of parts from brokers, airlines, USM providers, or OEM-operated pools.

Alternatively, you can purchase a USM part. USM components come from various sources, including surplus inventory, phased-out aircraft, and teardown operations. Aircraft disassembly plays a key role in this third option, as it directly influences the availability of USM parts. When fewer aircraft are dismantled, all operational aircraft remain in service, driving up spot prices and increasing the cost of candidate aircraft for teardown. Conversely, when a higher number of aircraft are retired, the resulting influx of parts into the market drives prices down, typically aligning with economic downturns in the airline industry.

There is a direct correlation between the number of aircraft disassembled, the availability of parts, and the options available to operators whether to buy, repair, or exchange. It's all about playing the market.



Steven Taylor

scrapped parts, particularly those made from titanium, undergo specialised recycling to mitigate shortages caused by geopolitical factors, such as the war in Ukraine.

What challenges are associated with disassembling older aircraft models compared to newer ones?

Christen Grant - EirTrade Aviation has vast experience in the disassembly of both new and old aircraft types, from B737CL to B787 aircraft. Whilst there are certainly noticeable differences in these aircraft, not including their size, there are no major challenges in carrying out the work. Older technology aircraft have higher hours and cycles operated so are typically dirty and this can pose problems with hardware