Too Busy To Re

Aircraft retirement delays are creating a competitive seller's market for used aircraft, engines and parts

Alex Derber London

When passenger demand collapsed at the start of the COVID-19 pandemic, the working assumption was that aviation would experience a huge wave of aircraft retirements. This appeared to be confirmed in the first quarter of 2020 when retirements spiked, but thereafter airlines tended to hang on to their aircraft, albeit often in storage.

Once vaccines began to roll out and airlines could see the light at the end of the tunnel, retirements plummeted further to 455 in 2021 and 478 in 2022 from an average of roughly 750 per year in 2016-20, according to Aviation Week Network's 2024 Commercial Fleet & MRO Forecast. One reason for this was slim demand from the parts market as airlines put off maintenance, while aircraft owners were loath to liquidate assets given weak pricing and the emerging potential for recovery.

"During the pandemic we witnessed no part-out demand as aircraft owners took a very cautious approach to disposals, and buyers were similarly apprehensive and uncertain around values," says Tom Vincent, managing director at Alice Springs, Australia-based Asia Pacific Aircraft Storage (APAS).

This cautious approach paid off, as passenger travel bounced back with a vengeance in 2023 and 2024, forcing airlines to return older aircraft to service to meet capacity demands that were unsatisfied by new aircraft production that was—and still is—stymied by safety concerns and supply chain problems. As a result, the values and lease rates for previous-generation aircraft, especially midlife narrowbodies, have rocketed.

"It is clearly a seller's market at present, creating demand and competition for aircraft, engines and components," says Steven Taylor, chief commercial officer of UK-based Ecube, an aircraft storage and disassembly provider.

While operators can get value from teardowns, Vallair cautions that risks include higher part failure rates and corrosion.

At the same time, the aftermarket has roared back to life as airlines catch up on maintenance and sometimes perform even more work than planned due to older aircraft remaining active for longer. Attendant to this is rising demand for used serviceable material (USM), although finding aircraft to part out can be tricky.

"There is no doubt the demand for secondary parts will cause some aircraft to be parted out; however, those assets are likely to be expensive acquisitions—at levels [where] some participants would not be willing to take on risk," Vincent says.

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VALLAIR

"Operators have retained their older aircraft in order to deal with the high demand for air travel in the last 18-24 months," notes Christen Grant, marketing and business development manager at Dublin-based EirTrade Aviation. "This has led to a lower number of assets becoming available for purchase to disassemble."

PART-OUT PIPELINE

Aviation Week Network forecasts almost 1,000 aircraft retirements this year, rising to almost 1,200 in 2025 and a decade-high of 1,350 in 2028. However, these forecasts are only rough estimates, as there is still considerable uncertainty about how quickly Airbus and Boeing can ramp up aircraft production—and thus allow airlines to phase out older equipment—due to supply chain headaches and other problems.

"Given the ongoing OEM new aircraft delivery challenges, we see the supply problems driving the retention of older aircraft for a considerable period," Vincent says. "Barring economic conditions causing consumer demand destruction, we see the 'wave of retirements' that is continually discussed moving to at least 2027, if not longer."

Grant holds a similar view. "EirTrade expects a slow and

APAS expects the predicted aircraft retirement wave to be delayed until at least 2027.

APAS

gradual uptick in the number of retirements," she says. "It is unlikely that this will start in the near future." Despite near-term challenges in acquiring aircraft for part-out, she notes, EirTrade was able to snap up opportunities during and after the pandemic with consignment customers.

"Due to the structure of our business, offering consignment options to our customers as well as outright purchase, we saw a strong flow of aircraft available for teardown during COVID-19," Grant says. "Due to asset owners struggling to sell aircraft at that time, consignment was one of very few options to enable owners to retire an aircraft and realize the value of their asset without selling outright. Our partners continue to seek value through consignment opportunities post-pandemic."

The growth of the USM market also is motivating airlines to maximize the value of older assets, says Armando Filho, director of material management at French company Vallair, which provides aircraft MRO, storage, teardown and conversion services.

"The shift in aircraft teardown trends is driven by the realization that teardown offers more than just an end-of-life solution," he notes. "Aircraft owners and operators now recognize that they can harvest valuable assets from the process, continuing to reap returns on their investments."

Ecube also reports seeing more candidate aircraft than during the pandemic. "We do expect aircraft transition and disassembly demand to increase over the coming years," Taylor says.

EIRTRADE AVIATION

Another avenue has opened up with the cooling of the freighter market. Buoyed by soaring cargo demand during the pandemic, many potential part-out candidates were acquired for cargo conversion—a trend that has since dissipated.

"There has definitely been an uptick in the number of aircraft being offered for sale that were originally scheduled for freighter conversion," Grant says. "COVID-19 saw a huge increase in requirement for air freight, but it remains the most expensive method for transport of goods. The demand has since slowed down, although slots remain full, and many aircraft that were once set for conversion are now being sold for part-out."

Taylor agrees. "Ecube has seen increased disassembly activity with the [Boeing] 737NG aircraft type, a popular freighter conversion candidate," he says, adding that Ecube's strong relationships with airlines and lessors present it with opportunities to purchase aircraft directly on top of its usual tender processes.

At Vallair, Filho notes that asset owners must still think carefully when deciding between teardown and conversion for aging aircraft.

"While the air cargo market is experiencing challenges such as declining volumes and yields, it remains a dynamic sector with regional variations and occasional growth spurts," he says. "When considering sourcing an aircraft for teardown, it's important to bear in mind that there is a niche market to explore. A thorough valuation must be conducted to ensure a return on the capital invested in the short, medium and long term."

PICKING THE RIGHT OPPORTUNITY

Although the USM market offers considerable rewards for

EirTrade reports that many aircraft once slated for cargo conversions are now being sold for parting out.

part-out specialists, each aircraft is different and must be evaluated on its own terms to ensure it retains value in its parts. This means checking on its maintenance and service histories and paying particular attention to the status of high-value parts such as engines, nacelles, landing gears, auxiliary power units and radomes.

"When dealing with aging aircraft for teardown, you may encounter various issues such as outdated technology, higher part failure rates, lack of availability of replacement parts, decreased support from OEMs and distributors, fatigue cracking, stress corrosion cracking, corrosion and wear," Filho says. These risks are likely to grow when the next wave of retirements breaks, given that its cohort of aircraft will have been operated for longer than expected.

"To generate an accurate valuation of the major components and justify the teardown to generate an expected return, it is important to consider how the risk of scrapping avionics and interiors will be higher for older components compared to newer ones," Filho explains. "Maintenance requirements increase as aircraft age, and complex aircraft require more late-life maintenance than simpler or newer aircraft."

VALLAIR

At APAS, Vincent notes that while the Australian company is seeing increased demand for part-out services, owners value flexibility around their end-of-life options. "Often aircraft are marketed for sale as an operating aircraft or 'flyers,' with a final decision to tear down a secondary consideration," he says. "The APAS Group is unique in our capability to provide all services, from parking, vast maintenance capabilities and now significant experience in the part-out and decommissioning of commercial aircraft platforms from [Airbus] A320 to A380-equivalent-sized aircraft."

APAS also uses its storage and maintenance capabilities to support Airbus A320neo aircraft grounded for Pratt & Whitney geared turbofan (GTF) engine inspections, having invested in PW1100 bootstrap equipment and 12 engine transport stands. "We are working with many other A320/A321neo airlines and lessors and expect to see a considerable increase in A320/A321neo GTF-powered aircraft delivered over the next 12 months," he says.

Vincent believes there is considerable opportunity in this market, given the lack of GTF spare engines and long turnaround times in overhaul shops. "Without access to spare engines and other management tools, we would suggest A320/A321neo GTF aircraft are likely to be grounded for at least 12 months on a rolling basis," he explains. "We believe the risk of that time extending is very high."

CIRCULAR ECONOMY

Alongside growing demand for USM to lower maintenance costs, airlines and OEMs increasingly are interested in the sustainability questions surrounding end-of-life aircraft.

Earlier this year, Airbus opened an aircraft storage and part-out facility in Chengdu, China. The Airbus Lifecycle Services Center also will handle maintenance, conversions and upgrades from its 717,000 m^2 (7.7 million $ft.^2$) facility, which is a joint venture among Airbus, the local Chengdu government and aircraft storage and dismantling specialist Tarmac Aerosave.

The lack of geared turbofan spare engines and long turnaround times could provide opportunities for the used serviceable material market.

Tarmac aims to recover all but 10% of a retired aircraft's weight through part-out and recycling, although it appears that a big focus of the facility is extending the lives of aging aircraft, as Airbus expects 75% of the aircraft that pass through it to fly again after storage, upgrade or conversion. Airbus' dedicated parts subsidiary, Satair, is tasked with acquiring aging aircraft and marketing any harvested parts.

Boeing, meanwhile, has worked with UK-based ELG Carbon Fibre since 2018 to recycle excess aerospace-grade composite material for use by other companies to make products such as electronic accessories and automotive equipment. ELG puts the excess materials through treatment in a furnace, which vaporizes the resin that holds the carbon-fiber layers together and leaves behind clean material.

Ecube also touts its sustainability credentials through its Plane Reclaimers upcycling division, which repurposed more than 110 tons of aircraft materials in 2023 and recycled the remainder.

"Ecube's role is to lead and deliver responsible disassembly—not 'teardown'—of aircraft and ensure as many components as is possible are reused in the circular economy," Taylor says.