



# PROMOTING THE OVERHAUL PREMIUM

Repairing components rather than buying brand new replacements is one of the ways that carriers can keep costs down in a tough airline market, as **Bernie Baldwin** reports

**W**hether an airline operates a low-cost business model or a full-service model with an array of premium elements, not a single one – without exception – wants to spend more money than it has to in order to deliver its service.

Aircraft maintenance is one of the top five cost centres for an airline, so anything that can alleviate expenditures is highly valued.

Within MRO costs, one area which offers considerable potential is the effective repair and overhaul of components rather than paying for more expensive replacements.

## Changes in demand

EirTrade Aviation repairs executive Stephen Dixon has been observing the changes in demand for component repair work. “It has increased substantially over the past couple of years,” he declares. “The desire for travel is at an all-time high and in regions such as North America and Europe, travel demand begun to exceed pre-pandemic levels. As for developing nations in Africa and Asia, demand is rapidly increasing and EirTrade Aviation is seeing signs that this will soon be comparable with North America and Europe.”

# “AIRCRAFT MAINTENANCE IS ONE OF THE TOP FIVE COST CENTRES FOR AN AIRLINE, SO ANYTHING THAT CAN ALLEVIATE EXPENDITURES IS HIGHLY VALUED”

When you pair this dynamic with NextGen aircraft/engines (neo/MAX, LEAP/GTF), where maintenance is required earlier than projected, a situation is created where maintenance requirements outpace available MRO capacities – a perfect storm!”

Witte continues: “Post-pandemic, we have seen a push from OEMs, operators and others to invest in MRO capability/capacity expansion in regions of the world where capacity was noticeably lacking during Covid. Efforts to ‘regionalise’ these efforts have been reinforced with the current geopolitical environment. MRO infrastructure is being built in regions such as India, the Middle East and China, to address the large portion of new aircraft in these markets that will require MRO services in years to come.

“By type, we continue to see narrowbody MRO requirements leading the pack. Whether it’s airframe, engine or component maintenance, the aging narrowbody fleet in operation continues to lead the total population and spend in the MRO sector,” Witte reports.

Peter van Helden, senior vice president component product at AFI KLM E&M, sees air traffic growth in the APAC and Middle East regions causing a growing demand for component repairs on a flight hour-based type of agreement. “Additionally, the postponed maintenance from Covid, in combination with global supply chain challenges and well-known engine issues, is keeping a high demand on component MRO,” he comments.

“In North America and Europe, demand remains steady, with newer aircraft and engine types such as the A320neo, A350, 737 MAX and 787, increasing their market share. Nevertheless, due to the aforementioned issue, the current aircraft types keep flying more than expected and are keeping MRO demand stable,” van Helden emphasises.

Since early 2022, Aviation Technical Services (ATS) has seen demand for component repairs increase steadily especially in North America, APAC and Latin America, according

# 15%

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Dixon adds: “These factors contribute directly to the increased need for component repairs on both aircraft and engine parts, affecting all model types. The component repair industry is busier than ever and shows no signs of slowing down, which is a great challenge to be embraced.”

Brandon Witte, general manager of component services at AAR’s Grand Prairie facility, agrees about the uptick in component MRO demand, noting also that passenger travel has returned to, and in some sectors surpassed, pre-pandemic levels.

“This uptick in passenger demand, paired with a historically high backlog of new aircraft to be delivered, has delayed the retirement of aging aircraft and engines, causing older equipment to be utilised more than ever,” Witte says. “Annual aircraft flight hours across the global commercial fleet increased by 15% from 2022 through 2024 – from 2,400 hr to 2,800 hr. The longer aircraft and engines fly, the more maintenance is required.

**1.** Collins Aerospace is improving sales and inventory planning and management to continue to deliver on-time repairs





◀ AAR offers component MRO on structural, engine and airframe components



▲ Peter van Helden, senior vice president component product, AFI KLM E&M

to Dennis Santare, the company's senior vice president component and engineering solutions. "This increase has been felt across our structures, composites, accessories and machining product lines with our engine mount, flight control surfaces and fluid dynamics product lines enjoying the most significant growth," he confirms. "We had been seeing an uptick in demand from Europe, but the tariff question is currently weighing on that demand a bit."

Ryan Hudson, vice president and general manager of aftermarket for Collins Aerospace, notes that between 2021 and 2024, the company saw 17% growth in total repairs across regions. "Similar growth has continued in 2025," he states.

Even though growth is reported in just about every market, challenges remain, but alongside them are opportunities for those providing component MRO. "Several of our suppliers have experienced part delivery challenges which have impacted MRO turnaround times (TATs) and,

consequently, inventory," says Hudson. "We have several supply chain strategies in place, including designated engineering representative (DER) repairs, and we are improving sales and inventory planning and management to continue to deliver on-time repairs. We continue to work with our supply chain partners to increase the flow of critical material to ramp up MRO output."

### **Skilled technical availability**

EirTrade Aviation's Dixon recalls that during the Covid period, the component MRO sector lost a significant number of experienced staff due to early retirement or change of sector. He notes: "The recovery from this drain of knowledge is taking longer than expected, resulting in supply chain issues and continuing staff shortages.

"Additionally, the war in Ukraine and subsequent trade restrictions with Russia are still impacting the supply chain of raw materials. Also, the industry is adapting to the introduction and MRO of newer aircraft and engine types, which takes up considerable resources, while the volume of the traditional MRO workload is only reducing slightly. All the above have resulted in longer TATs and higher MRO costs."

AAR's Witte believes that big challenges also create big opportunities, pointing to capacity constraints and material availability as the current common challenges. "Capacity constraints are due to an industry-wide lack of skilled labour to support the uptick in MRO demand," he explains. "The more recent generations entering the workforce have fewer participants pursuing technical, hands-on jobs than generations further back. Coupled with the accelerated retirement of the Baby Boomer generation during Covid, this creates a state where maintenance demand outpaces skilled technical availability."

**"THE POSTPONED MAINTENANCE FROM COVID, IN COMBINATION WITH GLOBAL SUPPLY CHAIN CHALLENGES AND WELL-KNOWN ENGINE ISSUES, IS KEEPING A HIGH DEMAND ON COMPONENT MRO"**

*Peter van Helden, senior vice president component product, AFI KLM E&M*

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Witte continues: “The opportunity here is centred around creating a consistent pipeline of technical, skilled labour. AAR has partnered with technical schools around the globe, local trade schools and military partners, supported educational advancement, and created programmes within our facilities to recruit, educate and advance team members.

“Material availability is a significant challenge that continues to drive maintenance delays and impacts costs across the entire value stream of the aftermarket. Supply chain challenges and limited capacity have left OEMs with the choice: do we support the production backlog of new NextGen aircraft/engines, or do we satisfy the post-production MRO requirements needed to return a legacy aircraft to operation? This dilemma, paired with a lack of used serviceable

material (USM) resulting from fewer aircraft/engines being parted out, has created a landscape where obtaining materials to support MRO services has expanded material lead times.”

Witte adds: “Achieving stability in the supply chain requires exploring all options, including partnerships with upstream material providers and using OEM alternatives, minor and DER repairs.”

According to Santare, ATS is meeting what he calls one of the biggest challenges to consistently plague the industry. “The issue of having enough mechanics and technicians to tackle the workload in a timely manner has lessened for us as we’ve progressed through 2025. We’re consistently delivering our services to customers with quicker turn times thanks in part to this, as well as in improvements in our operational performance and supply chain,” he confirms.



▲ Stephen Dixon, repairs executive, EirTrade Aviation

▼ AAR conducts MRO checks on more than 10,000 high-value components







◀ Aviation Technical Services (ATS) has seen demand for component repairs increase steadily especially in North America, APAC and Latin America



▲ Brandon Witte, general manager of component services, AAR

Santare adds: “Opportunities exist for companies such as ATS to provide customers with multiple options when solving for component needs. For example, while ATS is increasing its diligence on managing repair costs to drive lower beyond economic repair (BER) rates, if a part does go BER, we can offer a replacement through our Ranger Air USM business channel. Similarly, we can also offer PMA and DER solutions to avoid costs and dramatically reduce lead time on key piece parts.”

AFI KLM E&M’s van Helden returns to the major challenge of having sufficient skilled manpower. “To meet this, our global footprint of multiple MRO shops – be they 100% affiliates or joint ventures delivering our quality standards – along with our innovative training methods provides the potential to grow our business further,” he remarks. “Supply chain disruptions that keep affecting on-time delivery and shop performance are another challenge. Here lie the biggest opportunities to search proactively for solutions, such as the development of more and deeper repairs.”

Van Helden adds: “Furthermore, the use of alternatives such as USM, EASA Part 21J developed repairs or PMA parts also becomes necessary. Specifically, in the case of continuous non-performance of the OEM supply chain on specific parts, there should be more flexibility to lift OEM restrictions on the use of PMA parts as well as an appetite from the OEM for (joint) development and use of EASA Part 21J approved repairs to keep our customers’ aircraft flying.

“The final major challenge comes from the effect of those already mentioned – the ability to assess when repairs are needed in order to plan workforce, repairs and materials,” van Helden says. “The opportunity here is for developing and applying data-driven solutions such as PROGNOS to predict this better.”

### Using new repair technologies

When it comes to new repairs in the market and what repair developments customers can expect in the next few years, van Helden points to the use of AI in optimising repairs and the isolation of faults. “There will also be more focus

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on salvaging machined parts by using new repair technologies to counter supply chain issues on critical parts,” he adds.

Hudson reports that Collins Aerospace has a team dedicated to developing repairs for critical casting and housings to return them to customers with the same reliability and performance. “We also have several electronic product systems housing repairs (housing-casting) being evaluated. These repairs are in the early stages and will require approval prior to implementation,” he states.

EirTrade’s Dixon notes how the introduction of carbon fibre and lightweight alloy hardware in new generation aircraft and engines has had a significant impact on repair technologies. “3D printing, new carbon fibre repairs and new coatings have changed, and in some cases replaced, the traditional repair methods,” he explains. “Also, the surge in AI-based predictive maintenance will have an effect on the MRO market in the coming years. Better maintenance predictions will improve scheduling of MRO activities and supply chain requirements, which in turn will lead to shorter TATs, lower stock levels and, hopefully, lower maintenance costs.”

ATS has been consistently developing new repairs on exterior structural components, interior components and engine accessories, according to Santare. “One area receiving a lot of attention is flight control surfaces,” he explains. “We have seen a lot of damage to these components caused by hail and foreign objects, and have been developing engineered repairs.”

“Additionally, we are ensuring that our repairs on Boeing 737NGs and Airbus A320neos are usable on their new generation replacements. Lastly, we are seeing several repairs driven by airworthiness directives (ADs) and service

bulletins (SBs), such as the 737NG inlet and fan cowl and 737NG/MAX window heat control unit, respectively.”

Santare adds: “Going forward, we strongly believe that competitive advantage will lie in the ability to fabricate alternative parts and consume them in repair schemes. Examples of this include hubcap assemblies, flight control drives, hydraulics and interiors.”

In discussing new repairs, AAR’s Brandon Witte indicates that frequently there is an effort to address part/material shortages by developing a repair for a component or expendable part that has historically been replaced. “This expands to customers accepting alternate chemicals, materials and so on, in support of their repair needs,” he notes.

“AAR’s Component Services teams have been developing new repairs on NextGen aircraft and engine components where repairs have not previously existed. For instance, our component services facility in Grand Prairie has collaborated with an engine OEM to develop repairs that address common wear occurrences on components, ultimately eliminating the need for replacement of the component,” he reports.

Witte sums up the way ahead with a comment that all stakeholders are likely to endorse. “New repairs will continue to be developed on NextGen aircraft and engines that are yet to enter their initial heavy maintenance cycles, as well as new repairs addressing advancements in technologies, whether that is further expanding repair of composites, additive manufacturing solutions, and many others,” he concludes. ●

1. AAR checks aviation parts from its component repair facilities in Amsterdam, Thailand, Texas, Arkansas and Kansas  
2. Collins Aerospace offers parts, OEM-quality repair services, repair parts and test equipment calibration services



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