PMA Parts and DER Repairs

In conversation with Ian Foster, Operations Director & MRO at APOC Aviation

By David Dundas

OEM (Original Equipment Manufacturer) parts can be expensive, especially when there are other options available. We decided to have a quick look at two of these options, PMA (Parts Manufacturer Approval) parts and DER (Designated Engineering Representative) repairs, with the help of Ian Foster, the Operations Director & MRO at APOC Aviation.

In the industry, PMA parts are aircraft replacement parts produced by manufacturers other than the OEM. To be approved, these parts must meet strict regulatory requirements set by aviation authorities like the FAA or EASA, ensuring they are equal to or better than the OEM parts in terms of safety, quality, and performance. PMA parts are often used to reduce costs and improve supply chain flexibility without compromising safety. DER repairs refer to repairs developed and approved by FAA-appointed engineers known as Designated Engineering Representatives. Rather than replacing a component, DER repairs focus on restoring parts to airworthy condition—sometimes extending their life or improving performance. This process can offer cost savings and reduce downtime compared to replacing components with OEM parts. APOC Aviation is renowned for its aviation industry expertise which underpins the energy and commitment of its team. Its sector knowledge, client-oriented approach, and unfaltering resolve allow it to remain a top supplier to the aviation market. The company's focus is on keeping aircraft fully operational by sourcing and delivering used aviation products of the highest quality, creating value for its clients and contributing to a more sustainable environment.

AviTrader MRO360°: How have PMA parts evolved over the last decade in terms of quality and acceptance within the industry?

Ian Foster: The availability of PMA parts in terms of both quality and acceptability has significantly increased over the last decade and APOC Aviation notes that PMA manufacturers are now using advanced materials, precision machining and digital design to ensure performance is equal to or exceeds OEM materials. Customers' confidence in PMA has also increased as a result of the improved quality and availability, and regulatory oversight and stringent FAA/EASA approval processes have also reinforced customer trust.

What are the most common misconceptions about using PMA parts and DER repairs?

PMA parts are lower quality than OEM parts. PMA usage voids OEM warranties or causes certification issues. DER repairs are shortcuts or unsafe.

How does the DER repair approval process differ from that of standard OEM repairs?

OEM repairs follow predefined manuals (CMM) whereas DER is approved through FAA DER system.

Ian Foster, Operations Director & MRO, APOC Aviation

What cost savings can airlines expect by using PMA parts or DER repairs instead of OEM solutions?

APOC observes that typically, PMA parts are cheaper than OEM parts in the range of 20 – 40% less. DER repairs can cut repair costs by 30 – 40%.
Additional savings can be achieved through reduction in lead times, supply chain delays and extension of usable life.

Are there specific aircraft systems or components where PMA parts or DER repairs are particularly advantageous?

PMA parts are frequently used in consumables and high-volume parts. DER repairs are advantageous for structural components e.g., engine nacelles.

What technological advancements are influencing design and certification of PMA parts?

Taking a look at the aviation industry, APOC highlights that 3-D printing is enabling precise reproduction of complex components, and advanced materials - alloys and composites - are providing higher durability and efficiency.

How do you see the role of PMA parts and DER repairs evolving over the next five to ten years?

From APOC's perspective our default position will always be OEM parts and CMM repairs due to our customer base and their preferences. If this changes, we will manage the situation accordingly. However, we do see greater mainstream adoption, especially as airlines face sustained cost pressures and OEM supply chain challenges continue. We perceive greater expansion for PMA into more complex systems e.g. avionics and digital components and continued technological and material advancements.