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Reducing AOG with FAA PMA parts: Why aren't airlines getting on board?

When it comes to limiting aircraft on ground (AOG), the global aerospace industry is at a critical juncture. Increasing passenger demand, lagging OEM lead times, fewer fleet retirements and cost pressures have operators and MROs seeking alternatives to OEM parts while still adhering to strict safety and reliability standards. FAA Parts Manufacturer Approval (PMA) parts have emerged as a fully certified, engineering-validated option, offering equal or superior performance to their OEM counterparts. 3M is helping lead the transformation with deep industry expertise and a portfolio of FAA PMA-approved products, offering operators and MROs a long-term solution for enhancing fleet resiliency and improving cost-effectiveness without sacrificing safety or quality.

Dispelling common FAA PMA misconceptions

While adoption of FAA PMA parts is increasing[(1)], there are still a few lingering myths likely preventing universal acceptance and use. Dennis Mick, a Structures FAA Designated Engineering Representative (DER) with 3M, is a subject matter expert on matters related to aerospace engineering and FAA certification of products and articles.

Myth #1: Operators can only use materials called out in the service manual.

Mick: "FAA PMA Approved parts are identically certified as airworthy to the OEM parts and can be installed for a variety of applications."

Myth #2: FAA PMA parts are inferior to OEM parts.

Mick: "FAA PMA parts receive the same rigorous evaluation when certified by the FAA, as do OEM parts. FAA PMA is a dual FAA approval – the FAA approves the design, and the manufacturing and quality system that produce the parts in quantity."

Myth #3: PMA parts are only used for low-criticality applications.

Mick: "FAA PMA Approvals are routinely issued for non-critical, critical, and life limited parts. The greater the criticality of the part, the more rigorous the FAA scrutiny during the certification process."

Myth #4: An airline/operator requires authorization by the OEM prior to installing an FAA PMA part.

Mick: "PMA parts are FAA Approved. No further technical approval by an airline is legally required. In fact, the FAA has stated that it finds the OEM practice of requiring aircraft owner/operators to only install OEM produced or authorized replacement or modification parts as unacceptable."

Want to learn more about the FAA PMA approval process? Learn more.

What are the benefits of FAA PMA parts?

The benefits of FAA PMA parts span many different challenges faced by operators and MROs:

Cost reduction

FAA PMA parts can help deliver significant material savings over OEM parts

Supply flexibility

FAA PMA parts can often be supplied quicker and with better stock availability over OEM options

Improved performance

Suppliers of FAA PMA parts can often take advantage of new materials and processes not available when OEM parts were originally approved

Global acceptance

Bilateral agreements in place with 50+ countries and their aviation authorities around the world

3M FAA PMA solutions

3M is a FAA PMA approval holder for our surface protection family of products (including polyurethane protective tapes and boots, and corrosion protection films.

The following results are from a real-world case study with parts not called out in the OEM maintenance manual.

Realized benefits:

- 99% corrosion prevention performance*
- 80% time savings during removal**
- 30% cost savings in material spend***

Application: Sub-floor aluminum beam protection in galleys, lavatories and wet areas.

3M is currently in the process of having more solutions evaluated for FAA PMA approval, with even more applications to choose from.

"3M is at the forefront of FAA PMA acceptance and adoption," said Mick. "Our current and growing portfolio, combined with our bench-to-bench collaboration, unmatched innovation capabilities across 49 technology platforms and robust global network of quality-committed manufacturing offers customers a one-stop shop for transforming their MRO operations."

Reimagine your MRO strategy: Connect with us.

Conclusion

Aging fleets, supply chain issues and the need to reduce overall costs have the global aerospace industry needing solutions to balance repair speed with safety and quality. FAA PMA parts are an excellent option for MROs and operators, offering rigorously tested, certified, airworthy equivalents to OEM parts. 3M is not only participating in the market shift but driving the change by offering more than 40 years of FAA-endorsed expertise, giving customers confidence and peace of mind when it comes to adopting FAA PMA parts into their operations. 3M supports the integration with innovative solutions and global manufacturing capabilities, creating a new standard for how airlines control costs and ensure fleet readiness – without compromising safety – in an increasingly complex operating environment.

Citations:

[1]https://www.businessresearchinsights.com/market-reports/commercial-aircraft-pma-market-123615

*Compared to unprotected untreated bare aluminum panel during accelerated corrosion testing. Internal test results. ASTM B117.

**Compared to current solution during customer validation trials; Customer testimonial.

***Versus competitors based on published pricing across industry websites.

Note: Results may vary.

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