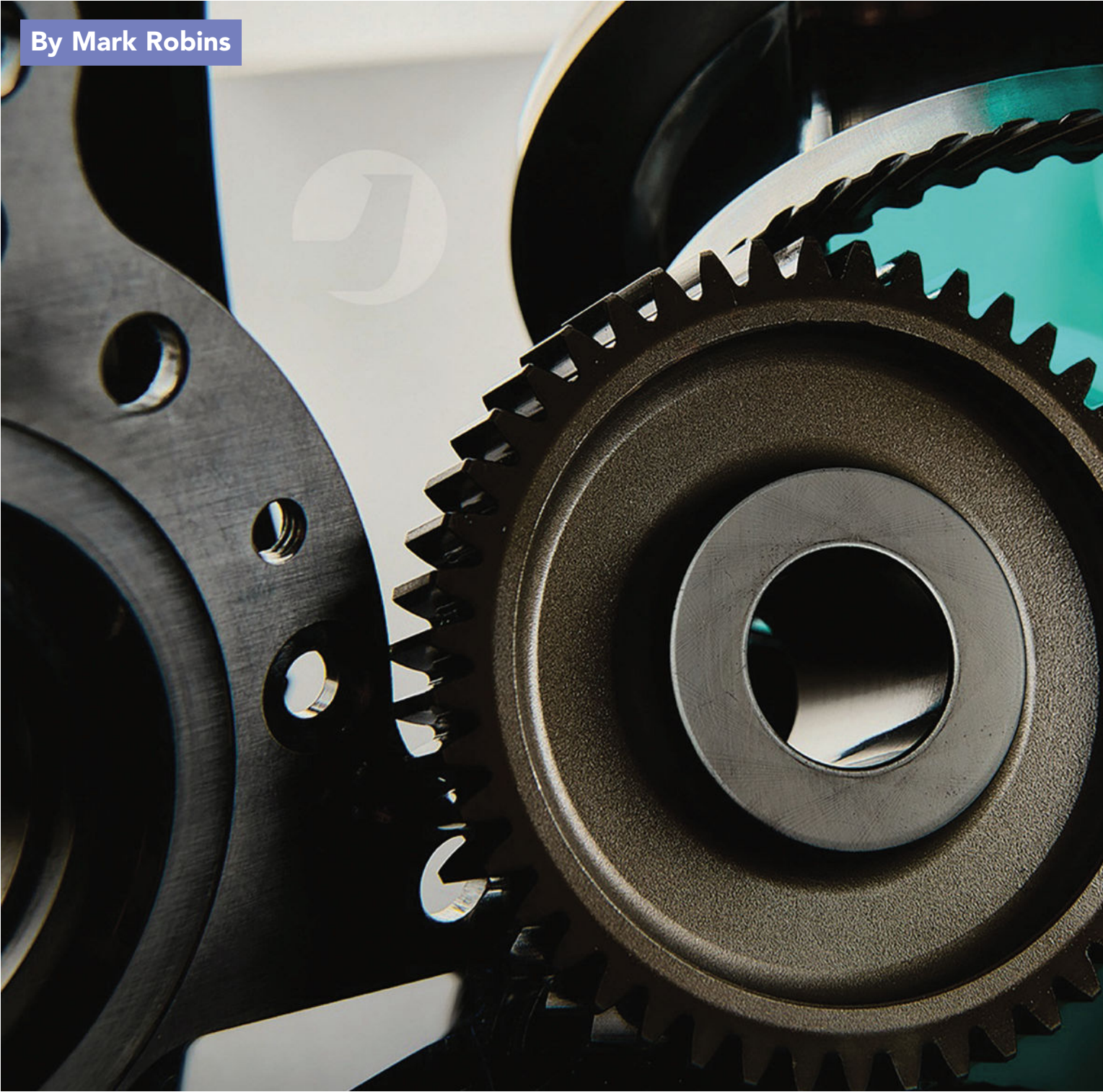




By Mark Robins

The PMA Market Flies High

PMA Use Continues to Grow as an Alternate Material Option to Ensure Operational Continuity.



Jet Parts Engineering's Alan Voeller, vice president of sales and marketing, says PMA parts deliver equivalent performance at a fraction of the cost and often with better availability. Jet Parts Engineering image.

T

he commercial aircraft Parts Manufacturer Approval (PMA) market plays a critical role in global aviation, offering certified alternatives to original equipment manufacturer (OEM) parts while maintaining equivalent safety and performance standards. Commercial

airlines use PMA solutions to lower operational costs and reduce dependence on OEMs. To ensure safety, the FAA reviews the proposed designs of PMA parts to verify that they meet their safety regulation requirements and are functionally equivalent to the OEM components they are designed to replace. No longer a niche alternative, PMA parts are being embraced by airlines, MROs and leasing companies as reliable, cost-effective solutions that help ensure operational continuity.

The PMA market continues to grow. According to a research



ATS's Joseph Allen says many of their PMA parts incorporate reliability improvements and perform identical to, or better than, the OEM part. ATS image.

report by the market research company IMARC Group, the global commercial aircraft parts manufacturer approval (PMA) market size was valued at USD 11.8 Billion in 2025. Looking forward, the report estimates the market to reach USD 16.1 Billion by 2034, exhibiting a CAGR of 3.37% during 2026-2034. The report states that it's the rapid expansion of the aviation sector, the stringent implementation of a favorable regulatory regulation, aging of the existing aircraft fleet, the comparatively low cost of PMA-made parts, and significant technological advancements in manufacturing processes that make up the key factors driving the market.

How are these PMA parts positively affecting the aviation industry's supply chain, efficiencies and cost control?

The Supply Chain

FAA-approved PMA positively affect the aerospace supply chain by increasing part availability for the airlines and their maintenance providers. "PMA primarily functions as an alternate material option for parts that the OEMs do not routinely have in stock and suffer from long manufacturing lead times," says Joseph Allen, director of alternate parts and design engineering, Aviation Technical Services (ATS), DFW International Airport, Texas. "Additionally, many of our PMAs incorporate reliability improvements. By implementing simple design improvements, ATS ensures all our FAA-approved PMAs perform identical to, and in most cases better than, the OEM part. This directly leads to a longer on-wing time for our parts that reduces required maintenance activities across the life of an aircraft. Maintenance-related delays are ultimately minimized because PMA provides air carriers with available options at high levels of reliability to meet their material part needs."

"By providing an alternative to OEM parts we are keeping aircraft flying," says Paul Bolton, DVP business manager, First Aviation Services, Ametek MRO, Clemmons, North Carolina. "There are continuing supply chain issues causing AOG situations on a daily basis and by working with our customers we are able to provide solutions."

Because of supply chain challenges, Gilbert, Arizona-based EXTEX Engineered Products has entered into agreements with



Paul Bolton of First Aviation Services says PMA parts are helping solve continuing supply chain issues. First Aviation Services image.

engine OEMs to supply licensed PMA parts to the marketplace. These agreements ensure legacy products get supported while OEMs can focus valuable engineering, quality and supply chain resources on newer, higher visibility programs. Larry Shiembob, general manager at EXTEX explains, "Supply chain issues are not improving and OEMs continue to stress their existing suppliers with demanding requirements to support new programs. As a result legacy product lines are experiencing even more delays than in previous years. PMA supplies often utilize non-OEM focused suppliers allowing an independent supply of parts, which can compensate for OEM shortfalls. PMA companies are also smaller and generally more nimble than OEMs. They can respond to supplier questions in days, not weeks/months, which keeps parts moving and they ultimately reach the end customer much quicker."

Keith Lipscomb, chief executive officer and president of Aviation Component Solutions (ACS), Richmond Heights, Ohio, believes PMA parts make the aviation supply chain stronger for a very simple reason: competition is better than dependence. "For decades, many replacement components effectively had a single source of supply. If that source had significant or inconsistent lead times, the customer had very few alternatives. The supply-chain disruptions following Covid exposed the inherent weakness in that model. Airlines and MROs learned that even a very good supplier presents risk when it is the sole-source supplier. PMA changes that equation by introducing another FAA-approved source. At ACS, we have even sold parts to OEMs that could not otherwise fulfill their own customer obligations. That tells you something about the role PMA can play in the supply chain. The argument for PMA, therefore, is not merely that an alternative part may be more

readily available or cost less. It is that a competitive, diversified supply chain is inherently more resilient than a single-source supply chain."

Efficiencies

The efficiency benefit of PMA extends well beyond purchasing a less expensive part. "PMA parts are required to provide the same fit, form and function as their OEM counterparts," explains Alan Voeller, vice president of sales and marketing at Jet Parts Engineering. "With exceptions involving approved product improvements, PMAs deliver equivalent performance at a fraction of the cost and often with better availability. More for less: the very definition of efficiency."

At Hollywood, Florida-based HEICO Aerospace, Patrick Markham, vice president of technical services explains that in addition to the supply chain benefits, HEICO PMA parts bring efficiencies to MROs and airlines by providing alternative sources for the various expendables, consumables and rotatable parts for component, airframe and engine MRO.

Bolton believes that for OEMs, inventory is a bad word, even now. "With our PMAs, we ensure there is availability thus providing a seamless maintenance experience for the end user and allowing them to efficiently schedule the maintenance events."

If an airline can obtain a component in days or weeks rather than months, Lipscomb explains it enables several benefits: carrying less safety stock, responding more quickly to maintenance requirements, and reducing the operational consequences of a part shortage. "If the PMA component also has

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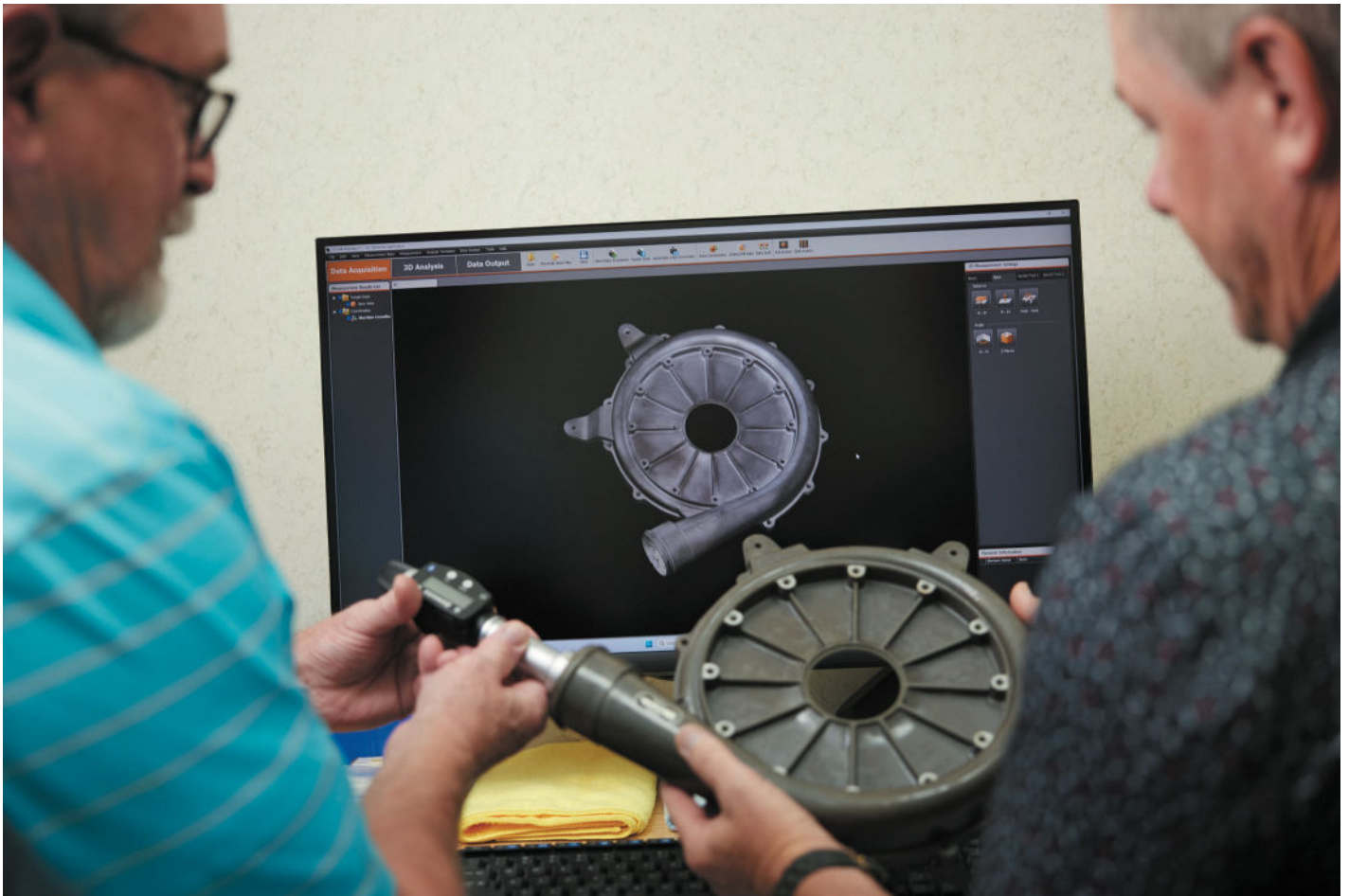


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Keith Lipscomb, CEO of Aviation Component Solutions, says a huge benefit of PMA parts is that a competitive, diversified supply chain is inherently more resilient than a single-source supply chain. ACS image.

an improved design or longer service life, the operator will reduce replacement frequency and associated costs.

"That is why we look at the entire customer problem when evaluating a PMA opportunity. Sometimes the problem is price. Sometimes it is lead time. Sometimes it is premature failure. The best PMA opportunities solve more than one of those problems simultaneously."

ATS branched into developing PMAs consumed during airframe heavy maintenance checks after originally starting as a leading airframe MRO in 1974. "Our wealth of airframe maintenance usage data and experience allow us to forecast upcoming material usage for a given fleet based on its utilization, size and age," Allen says. "This helps our customers understand and prepare for material demand spikes before they occur. The result is shortened span times for heavy maintenance visits and an agile understanding of upcoming material demand."

Cost Control

Many believe cost control is the most straightforward economic argument for PMA. In the aerospace aftermarket, the OEM possesses significant pricing power because the customer historically has had no competing source. PMA and DER repairs introduce competition into that market.

"ACS PMA products, for example, are generally priced approximately 25% to 50% below their OEM equivalents," Lipscomb says. "However, acquisition price is only one cost component. A lower-priced part that is available when the customer needs it is even more valuable, and a lower-priced part that also lasts longer can create an even greater lifecycle advantage. Airlines operate in an extraordinarily competitive

industry. If two airlines operate comparable fleets and one can safely reduce its maintenance costs through FAA-approved alternatives while the other voluntarily pays monopoly prices that cost advantage ultimately matters. PMA gives operators a mechanism to introduce competition and take greater control over maintenance economics."

In addition to inventory management efficiencies and reliability improvements, Allen says his FAA-approved PMAs save multiple major airlines around the world between 40-50% on their applicable material spend, annually. While Bolton states that cost saving has always been a factor within the PMA marketplace, over the last three or four years it has been less of a focus as time-to-market and availability have come to the fore. "We still generally offer a very cost-effective alternative but this is no longer No. 1 on the list of questions when talking to operators," Bolton adds.

"PMAs inherently have a pricing ceiling: the OEM," Voeller explains. "Airlines and third-party MROs that have adopted PMA strategies benefit from lower material costs than those that have not. Even when PMAs are not utilized in every eligible application, maintaining an established PMA program strengthens negotiating leverage with OEM suppliers and can drive more favorable commercial outcomes."

Overcoming Acceptance Issues

FAA-approved PMA parts have been around since the 1950s and Allen says their popularity has been booming since the turn of the millennium. "The reliability and performance of PMA have led to its long-standing reputation as being equivalent in reliability, safety, fit, form and function to an OEM part."

The "lessor non-acceptance" PMA stigma has largely been

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eliminated with the PMA market/process now reaching maturity. Some of the largest aerospace organizations are now built on PMA such as HEICO/Wencor, Transdigm, LOAR and Ametek. However, Scott R. McNew, president of Aero Brake & Spares Inc., Lago Vista, Texas, asserts that, "There will always be contention in using an aftermarket product. Having inventory ready for repair stations and airlines tends to drive the acceptance of PMAs."

Markham explains that, "As the OEMs suffer supply chain challenges, some OEM or OEM-aligned MROs will look to HEICO PMA parts to meet their Turnaround Time (TAT) commitments. When the OEM asks an airline to approve the use of a PMA part in their repair, the OEMs are affirming that the PMA parts are of equal quality."

Sven Dicke, director of business and services—customer services at Liebherr-Aerospace & Transportation SAS, Toulouse, France, explains that, "There's a misconception that maintenance decisions are simply a choice between OEM and

PMA parts. In reality, operators typically utilize a combination of new OEM components, repairs, service bulletins, exchanges, used serviceable material (USM) and other aftermarket solutions.

Heico's Pat Markham emphasizes that PMA parts bring efficiencies to MROs and airlines by providing alternative sources for the various expendables, consumables and rotatable parts. Heico image.



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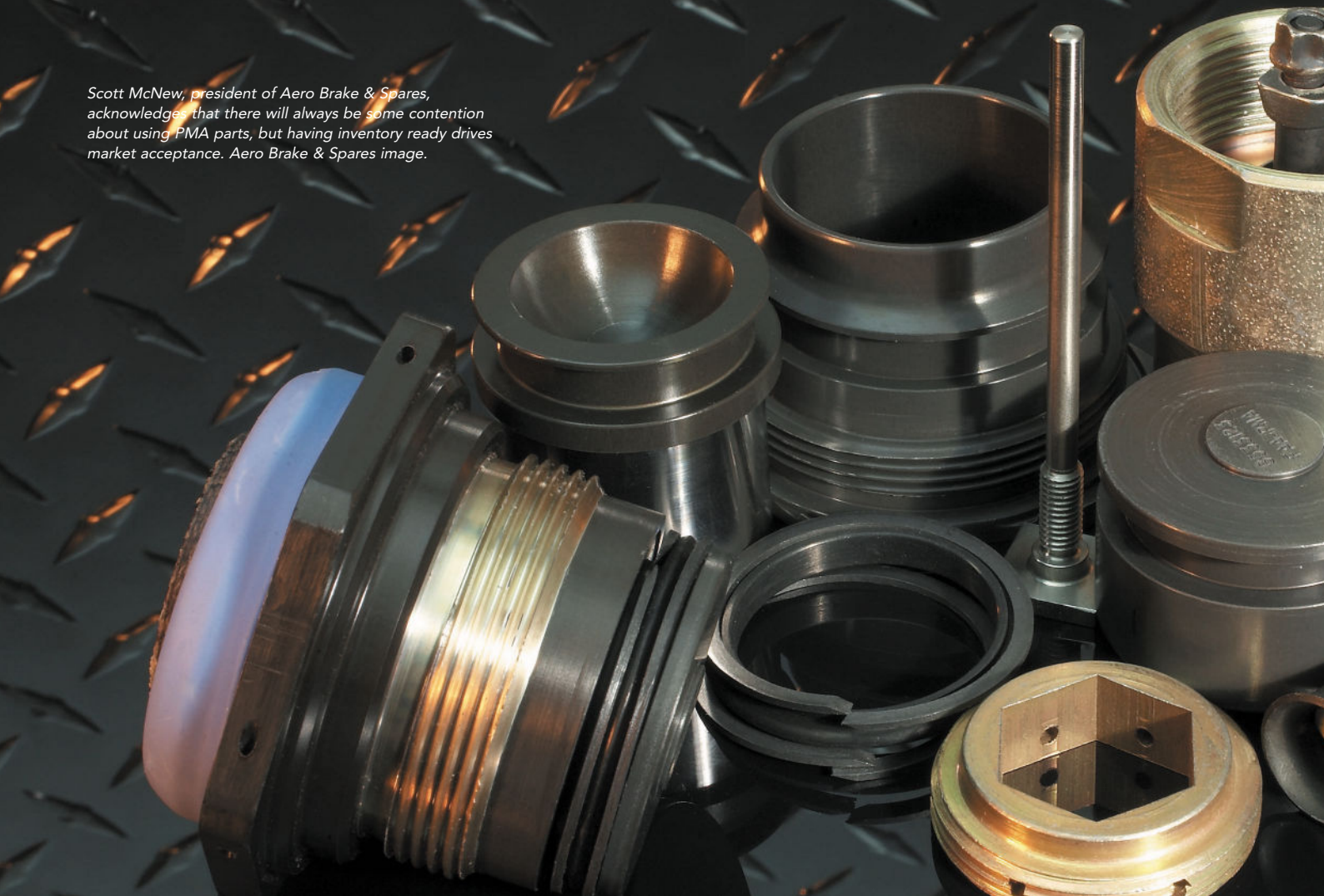
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Scott McNew, president of Aero Brake & Spares, acknowledges that there will always be some contention about using PMA parts, but having inventory ready drives market acceptance. Aero Brake & Spares image.

A collage of images showing various aircraft, including helicopters and a fixed-wing plane, flying over a mountainous landscape. Below the aircraft, there are several aircraft parts, including landing gear struts, wheels, and landing gear doors. The background is a blue sky with a large orange and white diagonal graphic element.

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[Another misconception is] that acquisition price alone determines value. Most operators evaluate total lifecycle cost, including reliability, technical support, repairability, availability, warranty considerations and long-term fleet support."

Nothing is more persuasive than the recommendation of a fellow operator. As airlines and MROs continue to share their experiences, PMA acceptance continues to accelerate, highlighting the important role associations like MARPA play in educating the market. "We recognize that PMA parts are often held to an even higher standard of scrutiny than the OEMs when under review at the airlines and third-party MROs," Voeller says. "That's understandable, and it's a test that PMAs repeatedly pass. Operators gain the same fit, form and function, with better availability and lower cost. Try PMA once, and the value proposition becomes difficult to ignore. For many operators, the question is no longer whether to use PMA, but where to use it next."

In today's environment, operators are increasingly focused on resilience, lifecycle economics and operational performance. "Successful aftermarket solutions therefore combine engineering expertise, technical support, product reliability and a long-term commitment to customer support," Dicke says. "Regardless of the source of a component, the aviation industry relies on trust. Maintaining that trust requires rigorous standards, strong technical oversight and a commitment to continuous improvement across the entire value chain." **AAM**

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Team JAS and PMAs: More than an Alternative Source of Supply

Today's PMA parts are positively affecting the aviation market by giving operators more than an alternative source of supply. At Team JAS, we believe the greatest opportunity starts with the operator. Whether a platform is early in its lifecycle and facing emerging technical or supply chain challenges, or has decades

of service experience behind it, operators understand where opportunities for improvement exist. Maintenance teams see recurring removal drivers, supply chains reveal availability challenges, and real-world operating experience provides valuable insight into how components actually perform. By partnering directly with operators and listening to those experiences, Team JAS can identify opportunities and develop practical PMA and repair solutions that improve reliability, availability and long-term value.

One example came from a regional Canadian airline experiencing recurring cracking and removals of heater prop leads on its Dash 8 Classic fleet. Beyond replacement-part cost, every removal meant technician time, maintenance intervention, and aircraft downtime. Team JAS worked with the operator to understand the application and operating environment, conducted material analysis, and engineered a PMA solution better suited to those conditions. Following successful testing and fleet deployment, the operator experienced a significant reduction in related maintenance events and unexpected removals.

That is the value proposition we see for PMA. The economics go well beyond unit cost. A part that improves reliability can also reduce maintenance events, protect aircraft availability, ease supply-chain pressure and help operators economically extend the productive life of their assets.

Utilization creates experience. Experience creates knowledge. And when customers and engineering partners put that knowledge to work together, it creates an opportunity to engineer greater value.

Jonathon Sanders, Team JAS, general manager, Jacksonville, Florida

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