

CERTIFIED NEWS

Intelligence for Independent Aircraft Modifiers

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DE-MODIFICATIONS FOR AIRLINES: MAKING IT THROUGH THE PROCESS INTACT

Every airline operator who has had to remove a Supplemental Type Certificate (STC) modification from their aircraft will have a deep appreciation for the complexity involved. De-modification as it's known, also presents significant challenges to lessors and modifiers. IAMA, the Independent Aircraft Modifier Alliance's white paper addresses key pain points. As the alliance's experts confirm, the process is complicated, but is also manageable through best practices.

The white paper, called "[De-Modification: Removal of STC Modifications](#)" provides a thorough examination of modification removals while also addressing key pitfalls. Complexity is inherent for a variety of reasons, not the least of which is the necessity to maintain safety and airworthiness, but there are others. The level and type of de-modification required, the terms of the lease agreement, and post de-modification validation requirements are all important drivers.

Unsurprisingly, IAMA's experts advise that pre-planning and strong communications amongst all stakeholders can significantly streamline a lengthy and intricate process. "IAMA's holistic approach, including strong and early communications about proposed modifications, helps alleviate the pain upfront, and helps make a de-modification much more efficient," said Lindsey Sander, IAMA's Technical Alliance Manager.

"There are many reasons why an STC modification might be removed," Sander notes. "For example, there may be a requirement to return the aircraft in a pre-modified configuration. The lessor may want to preserve the aircraft's asset value, or cater to the next operator's preferences. Perhaps they want to reduce maintenance tasks, or maintain OEM warranties. And with a more strategic mindset, the de-modification could be included within the initial STC approval. This would limit validation complications and transferability hurdles in the event of an aircraft transfer as the de-modification would be validated simultaneously with the initial STC."

So why can de-modifications be so complicated? The white paper elaborates on two fundamental reasons. First, the extent of the de-modification required can vary greatly, and second, its classification—major or minor—is also a factor. Some de-modifications may be as simple as deactivating functions. Deeper undertakings can include complete removal, extensive repairs, and/or OEM parts replacement.

Recognizing all of this background, IAMA has developed rules to help operators and lessors successfully achieve a de-modification while avoiding many pitfalls. The IAMA Rulebook requires member modifiers to work with the operator and lessor starting at the RFP phase. The central takeaway is for the stakeholders to agree up-front on the level of de-modification. “In the ideal world, the expectations of the lessor, operator and modifier are all aligned, and the whole lifecycle of an STC is considered from the start,” Sander notes. “This forward-looking strategy streamlines future activities. So, it makes sense for the stakeholders to be looking at how a de-modification package may be integrated into the STC modification right from the initial concept and RFP.”

Additionally, “Operators and lessors can avoid added stress by taking note of some finer details. For example, while the 100% removal of an aircraft modification is clearly possible, from a paperwork and records-keeping perspective it is not,” Sander explains. “Knowing how to avoid potential surprises, such as the validation requirement when transferring an aircraft to a new aviation authority, is a basic but important insight. This is why the IAMA Rulebook addresses STC de-modifications early in the design process and throughout the STC life cycle.”

“De-Modification: Removal of STC Modifications” is available to IAMA members and also to airlines and lessors through a [free subscription](#). To obtain a copy visit our [website](#).

CHAIRMAN'S MESSAGE

At the start of Q2 2021, some improvement has been made, but the road continues to be long and winding. Fortunately, pandemic restrictions won't last forever, and as the industry re-emerges, we at IAMA, the Independent Aircraft Modifier Alliance, continue to push our key initiatives forward.

The team has made significant strides since March under the leadership of managing director, Nicole Noack. We held our second IVTT on challenges and solutions for connectivity modifications and we released three white papers which are available through our [Research & Education portal](#). We announced our intended support of the business aviation market, and in early April, we released version 2.0 of the IAMA Rulebook. Additionally, we welcomed Collins Aerospace as a member—you can read more about that exciting news [here](#).

Those are a few of our accomplishments. Our working groups, who meet twice a year and have regular monthly calls, have all had their first workshops and are making substantial progress.

Here is what they have been doing.

Our **Certification & Authority Affairs** (CAA) working group, led by [Dilek Senay Yazici](#), focused on two key areas: a solution for the challenges of the hidden world of orphan STCs, and recommendations for an EASA/FAA validation improvement roadmap.

A new white paper on orphan STCs with IAMA's position and recommendations is currently under development. Due to be released in the next couple of months, this document recognizes that managing the risk around orphan STCs is complicated. More detail is forthcoming, but in our efforts to help operators avoid considerable obstacles and risks, IAMA and its members have already made a commitment to not abandon IAMA-endorsed STCs. Further, IAMA will support owners and operators of IAMA endorsed STCs in the event of a [surrender](#).

Advancing their work on the unevenness of the reciprocal handling of minor changes [by EASA and the FAA](#), this working group is analyzing the hurdles and imbalances in STC validation processes between the two authorities. The aim is to identify and address the industry's most important pain points and to compare them to the existing Validation Improvement Roadmap. As the results become available, they will be shared with EASA and the FAA. The initial goal is to make a positive contribution to the Certification Oversight Board's ongoing work. The



ultimate goal is to contribute to developing and improving the Technical Implementation Procedures of the Bilateral Aviation Safety Agreement between EASA and FAA.

In April, our **Community and Information Campaign (CIC)** working group held a second IVTT. The session, called “Connectivity Modifications: Solutions and Challenges,” included product presentations by Lufthansa Technik and Eclipse Technics, followed by an overview of the prototyping and de-modification phases of aircraft modifications. The discussions are lively and informative and you won’t want to miss the next one “Modification by STC vs Aircraft Transfer,” on June 30th. Focused on lessors, it will include a rundown of known challenges and best practices to support future aircraft transfers, avoidance of orphan STCs, the commercial right-to-use transfer, and considerations on lease-back requirements and foreign validation.

Chaired by Thomas Frercksen, the CIC working group also examined the business aviation segment’s major pain points, to determine how IAMA can support these owners, operators and modifiers. Looking at the hurdles, upcoming educational content was outlined and will roll-out in the coming months. You can learn more and contribute to this group’s research by completing our [survey](#).

The members of our **Standards (STC)** working group, have also been active. With a continuous improvement approach, they’ve been discussing and outlining new rules—some of which come out of their orphan STCs work. Led by [Romain Mbwang Seppoh](#), the STC working group has developed templates to foster best practices in the areas of stakeholder management plans, OBS, RBS, WBS, risk register and the communications matrix. Further, they reviewed the IAMA Rulebook’s applicability to minor design changes. New details on this topic will be reported soon.

With [Jeff Behlendorf](#) at the helm, our **Intellectual Property (IP)** working group continues its pursuit of three important topics. First, they reviewed IAMA’s position paper which has been shared with aircraft manufacturers. Second, the IP working group examined and discussed System OEM IP. The initial approach to the topic includes both customer and DAH views, common modification project pitfalls, and best practices. Third, in recognition of the complexity of orphaned STCs, the group also studied IP as it relates to this topic. You can be sure that more information will be forthcoming.

I hope you’ll enjoy this edition of “IAMA Certified News” as much as our team has enjoyed putting it together.

As always, be well and stay safe.

—Marc Pinault
Chairman



STC MAINTAINABILITY: THE CHALLENGE AND THE SOLUTION

Avoiding excessive downtime and maintenance cycles on aircraft modifications can be both a challenge and a source of frustration for airline operators. Recognizing a need to tackle these issues, IAMA, the Independent Aircraft Modifier Alliance commissioned students from the Amsterdam University of Applied Sciences (AUAS) to research the subject.

Over the span of five months, the 2020 aviation honours engineering team of students interviewed IAMA members and non-members and performed a thorough review of pertinent literature. As always, in the pursuit of continuously improving the IAMA Rulebook, the aim of the research project

was to develop new rules to ease Supplemental Type Certificate (STC) maintainability. The resulting report, “[Maintainability: Considerations in the Design of Aircraft Modifications](#),” offers powerful, yet common-sense recommendations.

“The guidelines that we added to the most recent release of the [IAMA Rulebook](#) are driven by the hard work of the Amsterdam Aviation Academy students from AUAS,” explained Nicole Noack, IAMA’s managing director. “Through close cooperation with design organizations, airlines and maintenance organizations, the way forward

became quite clear. Customer involvement must be increased, a process for documenting lessons learned must be followed, and maintenance instructions must be provided in plain language.”

Bringing many complex activities together is a challenge. There are many facets to consider when including the maintainability component within an STC project, including technical, personnel, operations and logistics. Modification design is already a complex process. It requires a high level of skill and attention to make the modification effective and operational. STC maintainability is itself a complex element to incorporate into the aircraft modification process, especially since many companies aren’t entirely clear on the concept of maintainability, let alone how to implement it. It can be challenging for a design organization to include *all* these required elements.

“Our goal is to ensure that our member modifier organizations design modifications that not only comply with aviation authority and government regulations, but also factor in post-modification STC maintainability,” Noack continued. “Of course, the alliance also encourages modifications that require as little aircraft downtime as possible, with a reasonable cost.”

The team of students developed maintainability rules, a reference guide for maintainability aspects and the guidance material. IAMA members use these resources to ensure that their modifications guarantee high maintainability standards.

With the desire for maintainability guidelines increasing, the rules and best practices developed by AUAS, will help IAMA’s members in their pursuit to design modifications that will ease maintenance requirements. “One of IAMA’s top priorities is to enhance customer satisfaction,” Noack said. “The implementation of these rules will improve the maintainability of future modifications which will lead to better outcomes for airline operators, including reductions in downtime and life cycle support costs.”

“On behalf of IAMA, I’d like to thank the students for the great work they’ve done,” commented Noack. “Additionally, I’d like to thank [IATA](#), the International Air Transport Association, [DLR](#) Institute of Air Transportation Systems, and [Tronos Aviation Consulting](#), as well as our IAMA members for their active engagement and support of this project.”

To become a member of IAMA and learn how to incorporate STC maintainability in your modification projects, visit our website: iamalliance.aero

COLLINS AEROSPACE: RENOWNED AVIATION INDUSTRY LEADERS

Having joined in March, Collins Aerospace is the latest high-profile company to become a member of IAMA, the Independent Aircraft Modifier Alliance. Industry renowned, with origins dating back to 1933, the company is the union of industry leading innovators, UTC Aerospace Systems and Rockwell Collins that came together in 2018. Following IAMA approaching them and after considering their options, the company has engaged with the alliance.

“Collins Aerospace decided to join IAMA because when we learned about the alliance’s priorities and the problems they wanted solve, we recognized a strong alignment with our own philosophies and interests regarding STCs and the certification ecosystem,” said Dana Krueger, Associate Director, Aftermarket Certification “When IAMA approached us, we did our due diligence and concluded that becoming a member offered a lot of upside, and very little downside.”

An aviation industry veteran, Krueger started her career in the payload domain at Boeing, before moving to the certification group at BE Aerospace, which she eventually led. At Collins Aerospace, she is responsible for the company’s aftermarket certification strategy, and is their voice in IAMA’s working groups.

Like other members, Krueger looks ahead to a mutually beneficial relationship. “The Collins Aerospace name offers the alliance additional credibility and recognition, and we want to help them achieve some of their goals,” she notes. “Considering our lengthy history of integration, product development and certification we offer unique insights around these topics and working with aviation authorities. Our contributions are balanced with the



prospect of making new customer contacts and the anticipation of reduced risk with Supplemental Type Certificate (STC) projects—the promised outcome for modifier members who follow IAMA’s Rulebook.”

“Collins Aerospace is a large company with ODAs—Organization Designation Authorization—covering many different areas of aviation and aerospace certification including aerostructures, avionics, interiors, mechanical systems, mission systems and power and controls,” She explained. “As the person at Collins responsible for aftermarket certification strategy, it is my role to see how we can use all of our capabilities to their best advantage. Now, I also have an excellent opportunity to represent these businesses to IAMA.”

Having recently become active in IAMA’s Intellectual Property and Certification & Authority Affairs working groups, Krueger commented on a favourable start: “The working group participants are pretty engaged in the topic of certification. These meaningful conversations will help push the alliance’s and Collins Aerospace’s goals forward. This speaks to the organization overall and is a positive step forward.”

“At Collins Aerospace we also believe that a strong, independent marketplace will benefit everyone in aviation,” Krueger further explained. “This is evident in the alliance’s recent entry into the business aviation market segment, where advocacy for aftermarket modifications can only be good news for the aviation industry as a whole. We are proud to be associated with IAMA’s mission to increase transparency, and improve the quality of STCs in the retrofit market.”

Collins Aerospace is a unit of Raytheon Technologies Corp. (NYSE: RTX). With offices around the globe, they are leaders in technologically advanced and intelligent solutions for the global aerospace and defense industry. Learn more at www.collinsaerospace.com

ENGAGE WITH US

Want to learn more about IAMA or meet us? We look forward to connecting with you during the following events:

- IATA Webinar, Online | 8th June 2021 - 2:30 CEST | Cooperative approach to solve challenges in OEM Engineering Data access for aircraft modification.
- MRO Middle East, Dubai |15-16 June 2021| [Panel Discussion](#): Exploring the Role of the Independent and Future Landscape |15 June 2021 - 2 PM GST|
- IAMA Virtual Think Tank (IVTT) 2021 - No: 3 | 30 June 2021 - 3 PM CET|
- ALTA CCMA & MRO Conference, Punta Cana |22-24 August 2021| Presentation on different types of de-modification to reach end-of-lease terms.
- Aircraft Interiors Expo, Online |14-16 September 2021|

For questions, if you would like to meet us, or an invitation to our virtual think tank, get in touch with us via info@iamalliance.aero.

BECOME AN IAMA MEMBER

IAMA is open to all aviation market participants including aircraft manufacturers, airlines, suppliers and lessors. The alliance offers three types of paid memberships: Full, Advisory and Basic.

Members have access to specific benefits depending upon their role in the aviation ecosystem, and their membership level. Full and Basic memberships are for organisations with STC capabilities, while Advisory memberships are for airframe and system OEMs (Original Equipment Manufacturers). Airlines, banks and lessors may join for free.

Find out more about our membership possibilities [here!](#)