

CERTIFIED NEWS

Intelligence for Independent Aircraft Modifiers



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ORPHAN STCS: A HIDDEN CHALLENGE TO THE CONTINUED AIRWORTHINESS

Aircraft operators are responsible for the safe operation and continuing airworthiness of their aircraft – airframe and engines. Over their long lives, aircraft typically accumulate several supplemental type certificates (STCs) that demonstrate compliance of the respective modifications to airworthiness standards. The operators' responsibility for airworthiness includes the rigorous knowledge of the status of their aircrafts' relevant STCs. Therefore, continued technical support of the STCs is required. However, when an STC is no longer supported by the design approval holder (DAH), operators can face severe challenges as a result of the "orphan" STC. After investigating

the challenges, IAMA, the Independent Aircraft Modifier Alliance's white paper, "Orphan STCs: STCs That Are No Longer Supported," offers insight into this important and potentially troublesome topic.

When a design approval holder removes its support of an STC, this can create major risks for the operation and challenges to restoring continuing airworthiness, "said Andreas Gherman, senior advisor, authority relations at IAMA. "There are a variety of reasons why a DAH might stop supporting an STC. Some circumstances that can result in orphan STCs include the business closing, the loss of its approval as a design organization or in rather seldom cases the invalidation of an STC by aviation authorities that had granted its approval. Any one of these situations creates a problem."

The risk associated with different types of orphan STCs varies. Invalidated STCs, those that aviation authorities rescind, would render the aircraft non-compliant. In these situations, the aircraft may no longer be operated until the modifications are removed or are re-certified with an appropriate STC. While the likelihood of this situation is low, the severity of the risk is high.

In the case of a surrendered STC, where the DAH has declared it will no longer support the STC, the initial risk is low, however risk increases with lack of support. Airworthiness Directives might be issued or design deficiencies might arise, compelling the operator to find a new means to support the affected STC.

An abandoned STC, where the DAH has simply stopped supporting it, without informing the authority and the operator(s) of the affected aircraft, leaves operators unaware and again, at increased risk. In these instances, risk is further increased because the operator is unaware of a situation that could both require immediate attention and potentially lead to an aircraft on ground (AOG) scenario.

“While the FAA and EASA have procedures in place for dealing with orphan STCs, they are quite different.” explained Nicole Noack, managing director at IAMA. “On the one hand, while the FAA encourages the certificate holder to transfer the STC to a responsible party, they will take possession of an orphan STC, after a rather lengthy notification process. On the other hand, EASA’s policy is strictly limited to continued airworthiness oversight. In either case, the trouble is that these activities only come into to play after the fact, leaving the operator with additional risk.”

IAMA recognizes that managing the risk around orphan STCs and its effects on continuing airworthiness is extremely complicated. This is why the alliance is further developing its position on the issue and is working towards solutions that will help operators avoid the considerable obstacles. You can learn more about this contentious topic by becoming an IAMA [member](#). Membership gives you access to [this and many other white papers](#). Visit [iamalliance.aero](#) for more.

CHAIRMAN’S MESSAGE

There is no doubt that 2020 disappearing in the rear-view mirror is something we’ve all been waiting to see. The unparalleled pain that we, in the aviation industry, experienced and continue to struggle with now is a clear indicator that IAMA is more relevant than ever. Now that we’re well into the first quarter of 2021, and with a year as a not-for-profit organization under our belt, IAMA is ready to take on challenges with a renewed vigor and determination—to make every day of this year count. Indeed, we even see some evidence for optimism.

The early days of 2021 have already been busy for Nicole Noack, our managing director, and the [IAMA team](#). Having celebrated our one-year anniversary as a not-for-profit organization this past January, we can reflect on the challenges we faced and ultimately overcame, but more importantly look forward to the year ahead.

On February 16, we held our third General Assembly. The majority of our discussion concerned IAMA’s budget, the accounts of 2020 have been approved and the budget for 2021. In addition, an overview of the achievements, and programs planned for this year was also given.

Our commitment to modifier, owner, operator and lessor identified challenges will see the IAMA team pursuing many important activities. Priorities include launching and establishing our IAMA Standards auditing process, the next release of the IAMA Rulebook, publishing several white papers and growing the alliance’s membership base.

Whether we are advocating for our stakeholders or engaging with our IAMA Virtual Think Tank (IVTT) online sessions, we are also actively recruiting organizations to sign-on as members. To that end, and in recognition of the global pandemic’s effect on our industry, full and advisory membership fees are [reduced](#). Furthermore, we opened up the Basic Membership level that conveys a range of benefits including:

- Access to premium, timely and relevant [educational resources](#) like white papers and the [IAMA Rulebook](#), a standards-based approach to completing high-quality STC projects,
- Networking and problem-solving opportunities with like-minded experts and colleagues in the aviation community, and
- The option to get audited and obtain IAMA Endorsement on your STCs.



Additionally, we are encouraging airlines and lessors gain access to our many resources through a [free subscription](#).

Last month, we unveiled our auditing process to IAMA members. It was the first step in rolling out this essential standards program. As of February, members have the opportunity to self-audit their operations against the IAMA Rulebook Standard and to obtain a provisional label. The goal is to ensure that members performing upgrades through Supplemental Type Certificate (STC) projects, maintain the highest quality operational standards possible.

With a significant body of work now collected, we have created a new [research and education](#) section on the IAMA platform. White paper topics include orphan STCs and de-modification for airlines. Our outreach also extends into higher education. Several honours engineering students from the [Amsterdam University of Applied Sciences](#) performed significant research into modification maintainability. Their work wrapped-up earlier this year, and as a result, new defined rules to support modification-maintainability will be published in our next Rulebook release this March. In addition to the great work done by the students, we'd like to thank [International Air Transport Association \(IATA\)](#), [DLR Institute of Air Transportation Systems](#), and [Tronos Aviation Consulting](#) for their active engagement and support of this project.

Despite the difficult times, we are gratified to include a new IAMA subscriber in our growing association: aircraft lessor, Goshawk. Based in Ireland, they became subscribers in January. We were also extremely pleased to welcome IATA as a strategic observer. This is the continuation of an important collaboration that started last year with a range of discussions. The subsequent integration of IATA's best practices for cabin interior retrofits and entry into service program into our IAMA Rulebook was a key outcome of this relationship. We are grateful that our message is resonating as we help operators, owners and lessors develop a clearer understanding of independent modifications.

On behalf of the whole IAMA team, I wish each and every one of you the best of success in the coming months. Like you, we are eager for an accelerated recovery.

As always, be well and stay safe.

—Marc Pinault

Chairman



ESSENTIALLY UNEVEN: EASA AND FAA RECIPROCAL HANDLING OF MINOR MODIFICATIONS

In the 10 years since the EASA and FAA Bilateral Aviation Safety Agreement (BASA) came into force, type certificate (TC) and supplemental type certificate (STC) policies and procedures regarding Minor Design Changes still remain misaligned. This imbalance means additional challenges for operators and modifiers, including added cost, delays and loss of business. The misalignment regarding Minor Design Changes affects design approval holders (DAH) by virtue of basic inequities in their ability to certify Minor Design Changes.

IAMA, the Independent Aircraft Modifier Alliance's, holistic approach to STCs and aircraft modifications, led Andreas Gherman, senior advisor authority relations and the Certification & Authority Affairs working group to dig deeper into the bilateral agreement also considering IAMA member experiences with the issue. Having documented the inconsistencies posing problems for aircraft owners and modifiers, IAMA developed a position paper entitled "[Industry Issues in Applying EASA/FAA Reciprocal Acceptance of Minor Design Change Approvals](#)". The goal of this paper is to engage with EASA and the FAA, to start an open dialog. The ultimate aim is to have the imbalance addressed and improve the procedures around the Bilateral Aviation Safety Agreement.

"EASA and the FAA's collaboration on the bilateral agreement to give all design changes a common path represents an important initiative for aircraft owners and modifiers," said Andreas Gherman. "However, the existing inequities of the existing agreement's procedures mean that FAA design approval holders, may obtain

approval for minor design changes only against their own approved type design. In contrast, an EASA design organization may gain approval for a minor design change against any type design, even if they are not the holder of the initially approved design. IAMA has been working to both bring these inconsistencies to light and to collaborate with authorities on potential solutions. Our goal is to ensure EASA and the FAA are aware of these challenges so that policy may be updated and better aligned.”

The asymmetry runs across several areas including the authorities’ interpretations of major and minor modifications, the clarity and manner in which documentation presents the data, and the mechanisms for obtaining a certification. At a more fundamental level, operators and modifiers struggle with the acceptance of the terms of the agreement’s Technical Implementation Procedures (TIP), in real-life situations. With essential differences between EASA and the FAA’s minor design change policies, operators and modifiers may find it difficult to accept that without further review of the Minor Design Change, the validating authority will consider the design approved.

“Independent modifiers provide a vital service to operators needing to modify their aircraft since they offer a choice to operators.” Gherman explained. “Ensuring that certification for minor modifications is recognized equally by the two authorities will help make the system more efficient. The current misalignment means, for example, that FAA-approved production organizations cannot obtain Parts Manufacturing Approval (PMA) for parts defined by an EASA- approved minor change because the minor change does not require validation in the U.S. and PMA will not be granted for changes that aren’t formally approved by the FAA. Effectively, this means that there is no viable way for such a minor change to be introduced on a U.S. registered product. This underlying imbalance affects a modifier’s ability to deliver both certified, serialized modifications, and to provide approved parts under a PMA.”

The position paper is available to IAMA members and also to airlines and lessors through a [free subscription](#). To obtain a copy visit our [website](#).

THE ANGELUS CORPORATION: A LONG-TIME INNOVATOR

Celebrating their 50th anniversary this year, The Angelus Corporation was founded in Sussex, WI as the PIC Wire & Cable Company. While 1989 saw the company’s name change, their dedication to outstanding customer support with an innovative product offering hasn’t changed. Significant growth over the past few decades led the company to build and move into their new headquarters in 2020. Located in Waukesha, WI, just outside of Milwaukee, The Angelus Corporation utilizes their long history of innovation to develop and supply aerospace cables and connectors along with engineered Supplemental Type Certificates (STC) and Parts Manufacturer Approval (PMA) installation kits.



CertifyNation, acquired in 2016, is the company’s engineering and certification division, while PIC Wire & Cable, produces innovative interconnect products. Even though they operate separately, the two divisions regularly collaborate on new technologies and projects. “PIC Wire & Cable’s engineered connector and cable solutions complement CertifyNation’s STCs and retrofit kits,” said Ryan Beech, Director Programs at Angelus. “The combined expertise lets us present fresh offerings to military, corporate and commercial aerospace markets.”

From their first STC as a division of The Angelus Corporation to now celebrating their 10th year of operation in the industry, the CertifyNation team is dedicated to crafting comprehensive solutions, focusing on customer needs and project deadlines, and building strong customer relationships. CertifyNation’s STCs and PMA installation kits are built for a wide range of retrofit programs in the commercial aerospace market. Key products include those for avionics systems, inflight entertainment system installations, cabin reconfigurations and more.

The Angelus Corporation, operating under two divisions, joined IAMA in February of 2020. “Having worked with several of IAMA’s founding members before the alliance’s launch, members of our organization were already quite familiar with the team’s wealth of knowledge and integrity,” Beech explained. “Sometimes rightly, but often incorrectly, the aviation industry has developed a perception that STCs may not be of the same quality as OEM service bulletins. STCs are one of Angelus’s core products and our experience demonstrates that they are most

certainly a viable alternative. We share IAMA's goal to elevate STCs and their overall quality. This type of advocacy, which has been a long time coming, is what made joining IAMA a natural step for us."

"CertifyNation and The Angelus Corporation are committed to working with IAMA on the development of an industry standard for STCs," Beech notes. "Part of this is our recognition of the need to instill in the aerospace market, confidence that STCs are reasonable solutions for aircraft retrofits and modifications."

Learn more about CertifyNation and The Angelus Corporation at www.certifynation.com or www.theangeluscorp.com

ENGAGE WITH US

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

- IAMA IVTT 02 Connectivity Modifications: Challenges in Prototyping and De-Modification |21 April 2021 - 3PM UTC+1|
- China Inflight Connectivity Technology Conference, ICT2021 |12 - 13 May 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!](#)