



INTERNATIONAL NEWS AND REGULATORY UPDATES

FROM RIC PERI
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The Aircraft Electronics Association's international membership continues to grow. Currently, the AEA represents avionics businesses in more than 35 countries throughout the world. To better serve the needs of the AEA's international membership, the "International News and Regulatory Updates" section of Avionics News offers a greater focus on international regulatory activity, international industry news, and an international "Frequently Asked Questions" column to help promote standardization. If you have comments about this section, send e-mails to avionicsnews@aea.net.

Global Safety in Challenging Times: How Can We Better Achieve Harmonized Implementation?

This month's international column comes to you from Athens, Greece. Athens was the host city for this year's Europe/U.S. International Aviation Safety Conference. As in past years, this is a great forum to meet with the U.S. and

European regulatory teams as well as Canadian and Australian authorities, and for the past two years, there has been participation from ICAO.

Fundamentally, this forum reviews all of the regulatory topics worldwide that are

on the radar screen for the near term and the far term, allowing open discussion of current issues and international collaboration.

This year's conference began with the sorrow over the loss of Air France 447 on the night before the conference began. Any accident is a devastating loss; a mid-air breakup in the middle of the night cannot be imagined. The AEA offers our deepest condolences to the passengers' families for their loss.

The hot issue during this year's conference was the U.S. politics regarding the repair station oversight provisions of the FAA Reauthorization Bills. While the FAA and EASA did everything they could to be "politically correct," it is quite clear, should Congress ignore the FAA's efforts to develop relationships with the individual National Aviation Authorities of Europe and EASA, the entire industry will suffer.

The topic of safety management systems was front and center on the agenda again this year, with some disappointing presentations. In spite of EASA's previous commitment to perform a gap analysis and simply add missing elements, EASA now



Ric Peri (left), vice president of government & industry affairs for AEA, greets Elias Kokkotas, division manager for AEA member Scandinavian Avionics Greece S.A. in Athens, as part of his trip to Greece to participate in the Europe/U.S. International Aviation Safety Conference.

is promising a stand-alone SMS program like the other authorities. ICAO's briefing on the misunderstanding of ICAO's intent with system safety fell on deaf authority ears. It seems this SMS "virus" is spreading faster than the swine flu. From certification, it looks as though EASA (as well as the FAA and TCCA) are planning a revision to the advisory materials for the changed products rule (21.101), which should be available late next year.

EASA spend a significant amount of time discussing its new rulemaking structure. The AEA participated on the rule-making working group for the B-3 license and led the discussions and proposal for a B-4 license.

During the convention's regulatory session, EASA focused on its concept for better regulation of general aviation with its Part 21 European light aircraft process, simplifications to Part M and Part 66, as well as promising proportionate rules for light general aviation aircraft operations.

EASA recently accepted the regulatory responsibility for operations throughout

Europe, so now its regulatory resources are focused on bringing on the new suite of operational regulations. In addition, EASA has a new regulatory structure in the works. It is a radical change to the organizational structure of the regulations but there is very little functional change for most of AEA members.

A good amount of the panel discussions kept coming back to the concept of leased aircraft. Many of the issues we deal with on international marketing of business aircraft are very similar to the issues faced by leasing companies. The discussions raised the issue of harmonized documentation, mutually acceptable repairs and alterations, and the inconsistencies of validations from authority to authority.

For most of the topics raised during this three-day conference, there are seldom any direct solutions, but rather the basis of a long-term regulatory or harmonization project.

The panel discussion on parts raised some interesting issues, which are addressed in this month's "International

FAQ." These were not new issues; they have been raised in the past as well. Specifically discussed was the international acceptance of aircraft parts following maintenance, repair and alterations. This issue also was raised during the annual AEA Europe Meeting in May.

When a part is approved for return-to-service after maintenance, it is important to remember the return-to-service authority is based on the registry of the aircraft the part is to be installed on, not on the location of the maintenance facility. For radios in particular, there are few provisions for radios to be considered "overhauled" based on the European regulations. In addition, Europe has specific criterion for the substitution of component parts in TSO'd articles.

This year's meeting ended with some promising directions to address many of the issues raised by the industry. Both the FAA and EASA recognized the value of international commerce between the U.S. and Europe and promised to continue their efforts to improve harmonization.

UNITED STATES News & Regulatory Updates

FAA Provides Guidance to ASIs on Marking of In-Service Articles

The Federal Aviation Administration issued Notice N 8900.74, dated June 5, 2009, which provides guidance to aviation safety inspectors (maintenance and avionics) for advising operators and maintenance providers about the marking of in-service articles.

The following information is extracted from FAA Notice 9800.74; a review of the entire notice is encouraged.

Title 14 of the Code of Federal Regulations provides limited requirements for

marking certain parts and products. These requirements generally are contained in Parts 21 and 45, and they apply only to the production approval holder at the time of production. Parts not required to be marked during production also might have identification information on identification plates, tags, labels or on the actual part itself. The production approval holder or its suppliers may apply such markings.

During the normal course of operations and maintenance, some or all of this information might be missing or become illegible.

In other cases, the person maintaining the part might have added or changed marking information. The FAA has provided inconsistent information to maintenance providers about part marking

requirements associated with these in-service articles.

With the exception of Part 45, §45.13(b) through (e), which applies only to the removal, installation, changing or placement of identification information for aircraft, aircraft engines, propellers, propeller hubs and propeller blades, there are no regulations (other than life-limited parts) dealing directly with part marking of in-service articles during maintenance or alteration of articles. Therefore, this issue must be evaluated in light of general airworthiness principles.

While identification data for a component might be part of the aircraft's type design, the fact that it might be missing

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or illegible does not mean the aircraft is not airworthy when the article is continued in service or installed. The National Transportation Safety Board case law and FAA legal interpretations have concluded not every minor deviation (such as dents, scratches, pinholes of corrosion or missing screws), no matter how minor or where it is located on the aircraft, dictates the conclusion that the aircraft's design, construction or performance has been impaired by the defect to a degree the aircraft no longer conforms to its type certificate.

Existing FAA guidance for evaluating parts (such as AC 20-154, "Guide for Developing a Receiving Inspection System for Aircraft Parts and Material") recognizes part markings are only one of many factors an inspector can use to establish the airworthiness of parts for installation on type-certificate products. The current edition of Order 8130.21, "Procedures for Completion and Use of the Authorized Release Certificate, FAA Form 8130-3, Airworthiness Approval Tag," states the production approval holder may use a Form 8130-3 as a substitute means of identifying parts when the information is no longer visible on the part itself.

This practical approach to airworthiness means conformity to type design of in-service aircraft and other articles is evaluated under Part 43 and/or the maintenance and inspection portions of the applicable operating rules. The operator or maintenance provider must employ other suitable methods for determining airworthiness if the identification information is missing or illegible. Indeed, this is true regardless of whether the parts were required to be "permanently" marked at the time of manufacture.

In accordance with Part 21, §21.607(d) and § 45.15, technical standard order authorization and parts manufacturer approval articles are required to be permanently and legibly marked; therefore, part

markings should not be routinely "missing." Aviation safety inspectors (ASIs) who become aware of specific TSOA or PMA articles with consistently missing markings should forward the information to the production approval holder's Manufacturing Inspection District Office and copy the Aircraft Engineering Division (AIR-100). This information can help the production approval holder's MIDO resolve any deficiencies in either the TSO/PMA standard or the TSOA/PMA holder's design or manufacturing processes for part marking permanency.

The following guidance for ASIs concerns the absence of identification data on a part (including but not limited to PMA and TSOA articles) and the subsequent re-marking of these components:

- Part marking is not essential for determining the continued airworthiness of an in-service article, provided the operator and/or its maintenance provider can determine it conforms to its approved design and is in condition for safe operation.

- Except for §45.13(b)-(e), there are no regulations (other than life-limited parts) requiring or prohibiting re-marking of a part received with a missing or illegible identification plate, label, tag or other identifying marks.

- Except for §45.13(b)-(e), there are no regulations (other than life-limited parts) requiring or prohibiting a person performing maintenance on the part from adding identification information.

When identification data is no longer visible, the operator or maintenance provider must determine the part was produced in accordance with Part 21, and might need to investigate further to determine the article's identity and airworthiness. Frequently, airworthiness can be established by other means, including but not limited to:

- Visual and other kinds of inspections
- Operational or functional checks
- Reference to an illustrated parts catalog and/or a component maintenance manual

- Knowledge that the article received an appropriate incoming inspection and remains within the control of the same operator or maintenance provider

Even if not prohibited by §45.13(b) through (e), it is generally inadvisable to remove original identification even if it is illegible. Instead, add additional information as described below. For questions concerning replacing identification information on parts not covered by §45.13(b) through (e), the ASI should provide the following advice:

- Maintenance providers performing work for an air carrier or commercial operator under Part 145, §145.205, must follow the operator's parts identification procedures. If there are no instructions, the maintenance provider should request written guidance from the operator. The operator may authorize the repair station to follow the repair station's own identification procedure; in such cases, the operator should clearly communicate this fact.

- Encourage maintenance providers to contact the design or production approval holder to obtain re-identification information. Unless contrary to §145.205, obtaining a new identification plate, label or tag from the manufacturer and following its instructions (such as CMM/service bulletin) is an acceptable method for remarking/re-identifying the part.

- Maintenance providers may develop their own written procedures for evaluating identification information and determining whether and how to re-apply illegible or missing data or add identification information. This should include:

1. A receiving inspection noting the identification marking is missing and/or illegible.

2. The method for ensuring the article is what it purports to be.

3. The method for applying the re-identification or additional information in a manner that will not impact airworthiness.

4. The method the maintenance provider uses to document its identification information.

FREQUENTLY ASKED QUESTIONS

United States

Type Design

The following information is from FAA Order 8110.4 and 14 CFR, Part 21.

QUESTION:

My FAA inspector and I are having a disagreement as to what constitutes a change in type certificate. It is his contention any change to the type certificate is a major alteration. What constitutes a change to the type certificate?

ANSWER:

Based on your e-mail to me, your inspector is correct that the proposed alteration is a change to the type certificate. However, your inspector is wrong in that the regulations clearly have created a three-tiered level of changes to the type certificate — not one as he is proposing.

According to §21.41, a type certificate includes the type design, the operating limitations, the certificate data sheet, the applicable regulations with which the Administrator records compliance, and any other conditions or limitations prescribed for the product in this subchapter.

In addition, §21.31 defines type design to include: (a) the drawings and specifications, and a listing of those drawings and specifications, necessary to define the configuration and the design features of the product shown to comply with

the requirements of that part of this subchapter applicable to the product; (b) information on dimensions, material, and processes necessary to define the structural strength of the product; (c) the airworthiness limitations section of the Instructions for Continued Airworthiness as required by Parts 23, 25, 26, 27, 29, 31, 33 and 35 of this subchapter, or as otherwise required by the Administrator, and as specified in the applicable airworthiness criteria for special classes of aircraft defined in §21.17(b); and (d) any other data necessary to allow, by comparison, the determination of the airworthiness, noise characteristics, fuel venting and exhaust emissions (where applicable) of later products of the same type.

Because the Federal Aviation Regulations do not define an alteration, I will rely on the Webster definition. Webster defines an alteration as “the act or process of altering or the state of being altered.” The dictionary further defines the result of altering as “a modification.” A little more reading results in the definition of the verb “alter” as “to make different without changing into something else.”

So, any alteration to an aircraft that is different than the “original” design is a change to the original type design. Any alteration to an aircraft that is different than the “original” design plus any “altered” design is a change to the “current” type design. Because the type design is an element of the type certificate, any change in type design is a change to the type certificate.

In this instance, I agree with your inspector in that any change that is different than the type design is a change to the type certificate. However, his narrow interpretation that any change to the type certificate is a major alteration is totally unsupported by the FARs.

In the U.S. system, we have a three-tiered system of aircraft changes: a major change in type design, a major alteration and a minor alteration. A major change in type design is defined in 14 CFR, Part 21 Subpart D, “Changes to Type Certificates,” and major and minor alterations are defined in Part 1.

Part 21 defined changes in type design as major and minor. A major change in type design requires the applicant to submit for a supplemental type certificate (or amended TC if the applicant is the OEM). A minor change in type design is “approved in a method acceptable to the Administrator.” Minor changes in type design (Part 21) for in-service aircraft are major and minor alterations (Part 1/Part 43).

Therefore, because the regulations define three levels of change in type design for in-service aircraft, your inspector is incorrect that a change to the type certificate is automatically a major alteration. The alteration might rise to the level of a major change in type design requiring an STC, or it might not rise to the level of major alteration and, by regulation, must be a minor alteration.

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CANADA News & Regulatory Updates

Transport Canada Updates Safety Management Systems Implementation Date for all AMOs

At the recent Aircraft Certification Delegates Conference, TCCA confirmed safety management systems would be mandated for all AMOs approved under CAR 573, effective Dec. 31, 2009.

To assist small operators, including AMOs, in SMS implementation, TCCA has issued Advisory Circular 107-002, "Safety Management Systems Development Guide for Small Operators/Organizations." The AC includes appendices providing information for an organization to develop a safety management plan; occurrence report and hazard identification form; incident/accident analysis; corrective/preventive action plan; risk management worksheet; and risk matrix.

The appendix for development of a safety management plan identifies alternate approaches for both a minimal complexity — one-person operation — and a moderate complexity — five to 10-person operation. Organizations falling in between minimal and moderate complexity must review any additional SMS element expectations. The appendix also includes sample wording for a safety management plan for both minimal and moderate complexity organization.

AC 107-002 is available from TCCA at www.tc.gc.ca/CivilAviation/IMSDoc/ACs/100/107-002.htm.

Regulatory Affairs Agenda Items Set for AEA Canadian Regional Meeting

At the upcoming AEA Canada Meeting, Sept. 10-11, 2009, in Toronto, TCCA managers again will be present to discuss issues of concern to AEA membership in Canada.

The following items will be on the agenda:

- TCCA policy for re-certification of undocumented parts. It is anticipated TCCA will take steps to alleviate avionics-rated AMOs from the current requirements of CAR STD 573.02 (11) (a) and (b), and from the procedures of STD 571, Appendix H.

- TCCA/EASA Bilateral Airworthiness Treaty. TCCA will reveal the detailed provisions of this treaty, which should alleviate the current time-consuming and costly process of EASA review of TCCA STCs.

- Approval of installation of non-required equipment. TCCA has indicated it is willing to adopt the guidance described in RTCA/DO-313, "Certification Guidance for Installation of Non-Essential, Non-Required Aircraft Cabin Systems and Equipment." More information should be provided during the meeting.

- Supplemental ICAs. TCCA is expected to issue an advisory circular to replace the current MSI 53, which will reflect the new FAA policy on supplemental ICAs to be defined in a revision to Order 8110.54. It is hoped the new FAA and TCCA policies will reduce the burden to STC applicants for supplemental ICAs on simple avionics modifications.

EUROPE News & Regulatory Updates

EASA Issues Various Type Certificates, Supplemental Type Certificates

As per the second edition of EASA News, the European Aviation Safety Agency's newsletter, the agency has issued 250 type certificates, 4,000 STCs and 8,500 major changes and repairs. Among the ones issued in 2008 are aircrafts such as the Tupolev Tu-204-120CE and the Eclipse EA500.

The Tupolev is the first transport aircraft designed by an organization from the Commonwealth of Independent States receiving an EASA TC. The certification process for the TU 204-120CE began within the Joint Aviation Authorities and later was taken over by EASA.

Ongoing certification projects include the Falcon 2000LX, Boeing 787, Airbus A350, Airbus A400M, Learjet LJ85, Embraer ERJ 190-100 ECJ, B777F freighter, and Eurocopter EC175.

Joint Aviation Authorities Hand Over Reigns to EASA

On May 28, 2009, the Joint Aviation Authorities hosted its farewell event to conclude 40 years of serving European civil aviation. The official closing date was June 30, 2009.

JAA's mission to improve overall civil aviation safety by establishing uniform European rules and regulations and harmonization with parties outside of Europe will be continued by the European Aviation Safety Agency.

In his speech, Rob van Lint, deputy inspector general for the Dutch Transport and Water Management, addressed the importance of aviation safety and JAA's role in the past years. The Dutch govern-

ment said it was particularly proud of having the JAA based in The Netherlands and will continue to support the JAA Training Organization (JAA-TO), which remains in Hoofddorp.

During the event, André Auer, chief executive of JAA, performed a ceremonial handover of responsibilities to Patrick Goudou, executive director of EASA.

A majority of directors general of Civil Aviation Authorities from JAA's 43 member states took part in the event as well as leaders of other organizations, such as the FAA, ECAC, Eurocontrol, IATA and ICAO.

The JAA Training Organization will continue with training activities as a Dutch foundation and associated body of the European Civil Aviation Conference. Scheduled training courses are offered in Hoofddorp, Belgrade, London Gatwick, Vienna, Luxembourg, Singapore and Abu Dhabi.

Eurocontrol Issues Business Case for 8.22 kHz Operations

Eurocontrol issued a revised business case, implementation plan and safety assessment for the planned expansion of 8.33 kHz operation below FL195. This revised document takes into account the results of a frequency usage study, which is a key concern for general aviation and military stakeholders.

In terms of frequency demand, simulations indicate 1,500 assignments for area control center and approach services are foreseen until 2027.

The conversion to 8.33 kHz of area control center and approach services provides the highest benefits, and the conversion of tower services and aerodrome terminal information service offers local flexibility.

Given the complexity and the number of impacted aircraft, a phased implementation for 8.33 kHz below FL195 was identified to be inevitable.

FREQUENTLY ASKED QUESTIONS

International

Dual Release

QUESTION:

Can a U.S.-based EASA 145 repair station dual sign an airworthiness tag based on U.S. criteria?

ANSWER:

No. If the U.S.-based EASA 145 is signing for maintenance, repair and/or overhaul of an article on an EASA Form 1, the maintenance, repair and/or overhaul must be completed in accordance with the European standards.

There are subtle differences. For example, 14 CFR Section 43.2 prohibits any person from claiming an accessory as being overhauled unless it has been disassembled, cleaned, inspected, repaired as necessary, and reassembled using methods, techniques and practices acceptable to the Administrator. It also must be tested in accordance with approved standards and technical data, or in accordance with current standards and technical data acceptable to the Administrator, which have been developed and documented by the holder of the type certificate, supplemental type certificate or a material, part, process or appliance approval under §21.305 of this chapter.

In Europe, EASA 145 Block 12 of the EASA Form 1 can-

not claim overhauled unless the article has been restored by inspection, test and replacement in conformity with an approved manufacturing, design, maintenance or quality standard approved by the competent authority to extend the operational life of the article.

Another area in which the U.S. and Europe differ is, the FAA accepts the replacement of OEM component parts with PMA'd and TSO'd component parts as a function of overhaul and repair. In Europe, any change to a TSO'd article is a major change requiring an STC.

It is important for U.S.-based EASA 145 repair stations, when they are signing an airworthiness release for European accessories, to ensure those parts are maintained in accordance with the European standards unless superseded by the Bilateral Aviation Safety Agreement. □

Note: The AEA offers "Frequently Asked Questions" to foster greater understanding of the aviation regulations and the rules governing the industry. The AEA strives to ensure FAQs are as accurate as possible at the time of publication; however, rules change. Therefore information received from an AEA FAQ should be verified before being relied upon. This information is not meant to serve as legal advice. If you have particular legal questions, they should be directed to an attorney. The AEA disclaims any warranty for the accuracy of the information provided.