



The View from Cologne

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A look from the other side of the Atlantic

This month, I thought a “view” from the other side of the Atlantic would be timely. In May, the annual AEA Europe Meeting was greeted with a good turnout and a strong regulatory tone. The main topic: EASA. The meeting featured representation from the European Aviation Safety Agency and from the European Council of General Aviation Support (ECOGAS).

Following the AEA meeting, international aviation regulators, along with the international aviation community, came together in early June at the annual U.S./Europe International Aviation Safety Conference. Previously, this conference was known as the FAA/JAA Harmonization Conference, but with the establishment of the EASA, the harmonization of Part 25 regulations, and the growth of international interest in aviation safety by all national authorities, this conference has grown into the “International” Aviation Safety Conference.

The conference provided a forum for discussions with aviation authorities and industry representatives on current aviation issues. One of the main topics during this three-day international safety forum: EASA.

If you have heard the FAA administrator’s rhetoric on the future funding of the FAA, you know she is proposing a European-style “fees and charges” structure, which would add another level of taxes to already burdened aviation businesses. When European’s challenge their fees and charges structure, EASA is quick to point out that the

FAA’s administrator is proposing the same structure for U.S. businesses.

Add to that the Australian adoption of an EASA regulatory structure for its CASRs, as well as the Canadian adoption of a European-style safety management system, and you have an entire world aviation community seeing aviation safety through the eyes of an office building overlooking the Rhein.

So, one may ask: If the entire aviation world is emulating EASA, what can be wrong?

EASA doesn’t support 165,000 piston and 15,000 turbine general aviation aircraft. The regulations don’t support general aviation, and the fees and charges discourage general aviation safety enhancements and voluntary equipage.

This begs another question: Is safety being compromised and, along with that, the viability of businesses supporting general aviation?

What else is wrong? EASA doesn’t promote the recruitment and reasonable qualification of general aviation maintenance technicians, and it doesn’t recognize OEM and industry training for technicians. EASA regulations make it so difficult to train and qualify maintenance technicians that quality technicians are being diverted to other less bureaucratic industries.

While EASA doesn’t control the operational rules, transferring Joint Aviation Regulations (JARs) to EASA Implementing Rules (IRs) for flight operations and personnel licensing currently is in the process. Because JARs do not support bush-type flying or single-pilot, single-engine commercial

flights, it is reasonable to believe EASA again will adopt JARs without change; therefore, EASA regulations would not support bush flying or single-pilot commercial flights.

As many readers know, EASA is an agency of the European Union that has been given specific regulatory and executive authority in the field of aviation safety. Most of the regulations EASA codified originated as Joint Aviation Authorities (JAA) regulations.

The JAA is an associated body of the European Civil Aviation Conference (ECAC) representing the civil aviation regulatory authorities of a number of European states that have agreed to cooperate in developing and implementing common safety regulatory standards: the Joint Aviation Regulations. However, the regulatory standards of the JAA only were truly regulatory when adopted by the member countries, and most countries adopted JARs with individual country exceptions.

So, when EASA was established by council regulation (EC) No. 1592/2002 of the European Parliament in July 2002, EASA adopted JARs without exceptions and now applies them as Implementing Rules to all member countries of the European Union, plus a few counties that have voluntarily adopted EASA standards even though they are not members of the EU.

EASA has been given the power to carry out the certification of aeronautical products and organizations involved in their design, production and maintenance. It certifies all products from civil aviation, including general, business

and commercial aviation. This is not an authority EASA can delegate; EASA must issue each and every certification.

In general, EASA writes the regulations and each country's National Aviation Authorities (NAA) implements the regulations. While the NAA is the face of aviation, all certifications of aeronautical products and all certifications of design, production and maintenance organizations only can be issued by EASA.

Aviation is taxed differently based on the country. Some countries support the NAA though general funds similar to the FAA, while others, such as the UK, have a mandatory cost recovery for their services — a fees and charges structure similar to EASA.

As an organization, EASA is funded through general taxes the European Commission provides, with additional mandatory cost recovery for any work involving certification of products or organizations. Therefore, the buildings and support staff are funded by general taxes, while aviation businesses are paying an additional "tax" in the form of fees and charges for certification services.

The fees and charges are standardized across all the countries EASA represents without regard for geographic or economic differences, which means the developing aviation industries in Eastern Europe are forced to pay the same hourly rates as the established aviation industries in Western Europe. That's like forcing every aviation business to pay New York prices for engineering services no matter where they are located.

Although there is quite a bit of discussion regarding field approvals in the U.S., it really isn't much different than alteration data approvals elsewhere. The Federal Aviation Regulations (FARs) have a three-tiered approach to alterations. It consists of the same major and minor type design changes that exist elsewhere, but minor type design

changes are further divided into major and minor alterations.

The data sources for each alteration also are very similar. The lesser end of minor type design changes is referred to as a minor alteration, and may use acceptable data for the installation. Acceptable data ranges from FAA advisory circulars to manufacturers' installation manuals. The upper end of minor type design changes is considered a major alteration. These alterations require FAA-approved data.

Approved alteration data can be acquired from any of about 19 sources; however, the most common sources are either data approved by an FAA aviation safety inspector (ASI) (commonly referred to as a field approval) or data approved by an FAA delegate called a designated engineering representative (DER). While an ASI is an FAA employee, a DER is a private citizen who has been delegated by the FAA. To reduce its workload, the FAA has been actively discouraging field approvals and encouraging the use of private DERs.

All major type design changes made by anyone other than the original OEM require a supplemental type certificate (STC).

The European approach isn't much different. It refers to minor changes and major changes as well. Major changes require an STC, while minor changes require approved data.

Before the formation of EASA, data approval was available from the local NAA, with delegations to certificated repair stations not that uncommon. However, with the inception of EASA, all local NAA data approval authority has been withdrawn and all data approval has been mandated to go through a private industry delegated source called a DOA, or delegated organizational approval (or, in some rare instances, directly to EASA). The DOA had to pay a fee for initial certification and an annual recertification fee.

The result: exponential increases in data-approval costs for general avionics data packages.

This is the same tactic the FAA Administrator is following to reduce the Agency's workload — with the same predicted results for general aviation. The FAA has been strategically eliminating field approvals and other engineering support from the Aircraft Certification Offices and mandating delegated data approvals through DERs.

In one recent installation in Europe, when all the associated data approval costs were calculated, the data package equaled the cost of the equipment being installed. Because of the delegation requirements of EASA and the proposals of the FAA in the U.S., the cost of installing safety-enhancing technology in general aviation aircraft is expected to double.

EASA is a toddler learning to walk. The Agency has been in its permanent offices in Cologne, Germany, only since November 2004, and considering the date EASA actually became operational, it is less than three years old — not bad for such a new agency. But that doesn't mean we can disregard what we already have learned.

A standardized government-imposed fees and charges structure that charges below median wages in high-cost areas and above median wages in low-cost areas is full of problems. In any federal agency, standardization is essential.

EASA has published a standard set of regulations but relies on each National Aviation Authority to implement the rules without any direct line of accountability. While there is accountability written into the law, it is not reasonable for minor deviation to be raised to the Parliament. Therefore, EASA regulations are not being implemented in a standardized manner in each country and there is no expectation they will.

The standard for maintenance technicians is a direct derivative of the

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JARs for air carrier technicians — it just doesn't work for general aviation. Aviation maintenance is a progressive trade; a technician begins by working on small, simple aircraft and progresses throughout his or her career to larger, more complex aircraft.

If implemented in the U.S., the current EASA Part 66 standards for general aviation technicians would require every airframe and powerplant mechanic to be type-rated for each

type of the 165,000 piston and 15,000 turbine general aviation aircraft in the country. And, in order to be type-rated, the mechanic either would have to spend five years in an apprenticeship program for each aircraft type or attend an EASA-approved Part 147 certificated training program, of which there are currently none.

The "View from Cologne" is of an infant who has begun to walk, an experiment in the globalization of aviation standards and the socialization of the aviation industry.

There are many positives for which to congratulate the Agency, but there is still plenty of work to do to improve its oversight of the industry.

A parting thought: Price fixing by the government — any government — is wrong. The larger the geographic area where fees and charges apply to, the less individual economic incentives will mean to regions interested in promoting the growth of their own aviation industry. □

Regulatory Update

United States

Draft Order 8040.2, Airworthiness Directive Process for Mandatory Continuing Airworthiness Information

In the May 15, 2006 Federal Register, the Federal Aviation Administration announced the availability of and requested comments on Draft Order 8040.2, Airworthiness Directive Process for Mandatory Continuing Airworthiness Information.

The draft order describes new policy and procedures for developing and issuing FAA airworthiness directives (AD) on imported products for which the State of Design Authority issued mandatory continuing airworthiness information. The process will allow for a timelier issuance of ADs.

The FAA proposes prototyping a new process for the issuance of ADs for imported products for which the State of Design Authority issued mandatory continuing airworthiness information. In the draft order, policies and procedures are described for developing streamlined ADs issued against imported products. This streamlining will allow publishing of the ADs in a more expeditious manner, thereby

ensuring the continued safety of the flying public in a more timely fashion.

This process will continue to follow all existing AD issuance processes to meet legal, economic, Administrative Procedure Act, and Federal Register requirements.

The Aircraft Certification Directorates soon will begin issuing individual ADs to prototype the streamlined process described in the draft order. In addition to the normal request for comments pertaining to the actual AD, the FAA requests comments, views or arguments on the new process.

To view or download the draft order, visit www.faa.gov/aircraft/draft_docs. At this Web page, under "Draft Documents Open for Comment," select "Orders," then select "Proposed Orders."

Comments were due June 14, 2006; however, significant comments still should be submitted as soon as possible.

Europe

EASA

- It is of interest to maintenance facilities that EASA offers a BETA version for online access to all EU air-

worthiness directives. This new website enables visitors to search for specific ADs and to subscribe to customized e-mail alerts according to aircraft make, model and series codes.

- NPA03/2006, issued in April, proposes an amendment to the acceptable means of compliance (AMC) to Part 66 Appendix I aircraft type ratings for Part 66 aircraft maintenance licence. Part 66 AMC Appendix 1 was updated once in December 2005. This is the second amendment to the appendix.

The objective of Par 66 AMC Appendix I on aircraft type ratings for Part 66 aircraft maintenance licence is to propose a list of aircraft type ratings (aircraft/engine combinations) as a common standard throughout member states.

ECAC

It might be of interest to avionics shops working on aircraft registered in the Russian Federation that a delegation of ECAC and European Commission representatives met in Moscow with the Russian Federal Authority for Transport Oversight in February. The purpose of this meeting was to discuss the obligation to carry terrain awareness warning systems (TAWS) on aircraft under the supervision of the Russian Federal

Authority for Transport Oversight, in accordance with International Civil Aviation Organization (ICAO) specifications.

Also discussed was the required carriage of automatic emergency locator transmitters (A-ELT) on aircraft under supervision of a number of ECAC member states when flying into Russian territory.

ECAC ramp checks, carried out under the Safety Assessment of Foreign Aircraft (SAFA) program, verified some aircraft registered in the Russian Federation did not meet these requirements. ECAC and Russian Federation representatives agreed the transition period granted for the installation of TAWS would definitely end March 1, 2006, and SAFA ramp checks would be implemented accordingly.

Regarding the mandatory carriage of A-ELT, in January, ICAO suggested a postponement of the effective date of this standard until July 2008. Pending a final decision, individual ECAC/EU states could request case-by-case exemptions from the Russian Ministry of Transport for aircraft not carrying A-ELT until April 30, 2006. Thereafter, the carriage of A-ELT over Russian territory becomes mandatory without exceptions.

EUROCONTROL

Of interest to operators and their supporting retrofit facilities is that the Eurocontrol Agency has been entrusted to perform the necessary work to enable a decision on 8.33 kHz below FL195 in mid-2006. The results of the work will be used to develop a business case and a safety assessment report. Any decision concerning 8.33 kHz below FL195 will be subject to extensive consultation with all affected stakeholders.

For the airspace above FL195, the implementation for 8.33 kHz channel spacing on March 15, 2007 was agreed on earlier.

JAA

Some operators and retrofit centers might be interested to know that NPA-OPS 41, issued in March, proposes some amendments to JAR-OPS 1 that, for the first time, introduce the more common head up display — HUDLS (head up display landing systems). The proposal was triggered by the fact that the current JAR-OPS would not permit manual Cat II and IIIA approaches.

The new regulation now will introduce operational requirements, training requirements, and equipment and airframe qualification requirements directly related to HUDLS.

Furthermore, the proposal introduces enhanced vision systems (EVS). Currently, no ICAO rules govern their use. In order to gain a benefit from using EVS during instrument approaches, some form of allowance was introduced to use enhanced visual references instead of the natural view of the visual references.

RTCA/EUROCAE

DO-299 Assessment of TCAS II Aural and Display was issued in March. Since the introduction of TCAS II, opposite reactions to negative resolution advisories (RAs) regularly have been identified and have continued with TCAS II Version 7. Special Committee 147 was tasked to analyze the display configurations and aural alerts for negative RAs.

The purpose of this work was to determine whether problems exist with current display and annunciation requirements for this class of RA. This report documents results of SC-147's analysis and recommends an approach for resolving identified problems. This might be of importance for the development of future TCAS/ACAS software versions for flight manual supplements and operational guidelines. □

Frequently Asked Questions

TOPIC:

Approved Equipment

QUESTION:

§ 135.143 (b) states, “No person may operate an aircraft under this part unless the required instruments and equipment in it have been approved and are in an operable condition.” Does this mean all installation of “approved equipment” is a major alteration?

ANSWER:

No. There is no regulation that indicates that §135.143 (b) would mean the installation of approved equipment is automatically a major alteration.

First, let’s address the “approved equipment” question of §135.143 (b), then address the issue of the alteration to the aircraft (if necessary) to install the “approved equipment.”

It is clear from the plain language of the regulation that 14 C.F.R. § 135.143(b) requires “approved” instruments and equipment, but it is less clear what the FAA means when it uses the word “approved” in this context.

The “approved equipment” issue was most directly addressed by the FAA in 1980, when Sam Oroshnik, the patriarch of Eastern Aero Marine, asked whether life rafts on aircraft operating under Part 135 must be approved by the FAA and by what means the “approved equipment” must be approved. The FAA provided a well-reasoned and complete reply explaining how §135.143 fits into the regulatory picture.

The FAA responded to this question by explaining that life rafts on Part 135 aircraft do, in fact, have to be approved by the FAA. Life rafts, in this example, were required equipment on the aircraft under 14 C.F.R. § 135.167. The FAA noted the approval basis for life rafts in particular can be found in sections 14 C.F.R. §§ 23.1415(b) and

25.1415(b) in Parts 23 and 25 of the type certification rules of the Federal Aviation Regulations.

Similarly, many AEA members will find the avionics they install are required equipment (when required by appropriate regulations) that must be “approved equipment” under the regulations.

The FAA explained there are a number of ways to receive equipment approvals from the FAA. These include approval under a type certificate (TC), technical standard order authorizations (TSOAs), parts manufacturer approvals (PMAs), or any other method approved by the FAA.

This FAA guidance explains what approved equipment is; now for the question of the installation of the “approved equipment.”

14 CFR Section 135.425 requires each certificate holder to have a program covering alterations, which ensures that alterations performed by it, or by other persons, are performed under the certificate holder’s manual; that competent personnel and adequate facilities and equipment are provided for the proper performance of alterations; and that each aircraft released to service is airworthy and has been properly maintained for operation under this part.

Section 145.201 addresses the return to service of an article after an alteration for repair stations. In this section,

the FAA states a certificated repair station may not approve for return to service any article unless the alteration was performed in accordance with either approved technical data or data acceptable to the FAA.

Section 145.201 further states that the return to service of an article after a major alteration requires applicable approved technical data.

A major alteration is defined in FAR Part 1 as an alteration not listed in the aircraft, aircraft engine or propeller specifications that also meets one (or both) of the following two criteria:

- The alteration might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics or other qualities affecting airworthiness.
- The alteration is not done according to accepted practices or cannot be done by elementary operations.

Nowhere in the definition of a major alteration does the definition change for “approved equipment” or for the type of operation in which the aircraft is engaged.

So, while Section 135.143(b) does mandate required instruments and equipment be approved, there is nothing to indicate a change is needed in the normal evaluation of the affect of the alteration (installation) on the aircraft in determining whether it is major or minor.

(Note: The AEA offers these “Frequently Asked Questions” to foster greater understanding of the Federal Aviation Administration regulations and the rules governing our 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 on. 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.)