



# The View from Washington

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**W**e have been talking about the “new” 145 training program since 1999: and finally, it’s here.

Last year at the AEA regional meetings, during the annual AEA convention, and a number of times in the editorials of *Avionics News* and in specific AEA Regulatory Updates, we reviewed “what” elements were going to be required in your FAA-approved training programs. For review, they are: Indoctrination Training, Technical Training, Recurrent Training, Specialized Training and Remedial Training.

We also know the FAA considers an effective training program to be one that also contains: a needs assessments, an area of study and course definition, some method for identifying the training method, a method to identify the training sources, a method to qualifying in-house instructors, a means to measure training effectiveness, a thorough method to document training, and an interface between the training program and the work program.

So there it is in a nutshell: all of the elements of an acceptable training program. The FAA has given us “what” category of training that must be accomplished and “what” elements the training program must be built upon.

Developing your training manual is pretty straight forward. Use the template in AC 145-10. It has already been deemed an acceptable mean of compliance to FAR 145.163. Any other template must be thoroughly evaluated under the criteria of the FAA’s hand-

book bulletin which is more restrictive than the AC.

The AC provided very clear criterion on “what” your training manual and, subsequently, your training program must look like. But, unlike your repair station manual that was re-written a couple of years ago, you knew how to run a repair station, all you needed was the manual criterion.

The training program is different; it’s a new requirement which mandates not only a basic manual but also the skills and knowledge to manage a training program. The FAA, through their AC 145-10 tells you “what” a training program must contain, but doesn’t tell you “how” to run an efficient, cost-effective training program.

This is where your Association comes in. We will be doing the research for you and providing clear management tools for you to use while you implement this new required training program. Over the next few months, along with the Part 145 Training Program training that is taking place at the Regional Meetings, this monthly column will focus on the management elements of implementing a training program.

As technicians, we use manuals every day. They tell us what steps are required to perform the desired task. And although I have seen maintenance manuals that were written for the complete novice, most manuals assume some familiarity with the product and/or technology. The best manuals are those written by experienced technicians for experienced technicians.

Does this mean that a novice couldn’t read and follow a well written mainte-

nance manual and successfully complete the task? No, of course not. But it would most likely be a long and laborious process. The novice would have to learn the product, the technology, and each maintenance step at the same time. They would have to not only learn “what” to do, but also “how” best to do each step.

Anyone working in aircraft maintenance, especially in general aviation, knows that knowing “what” to do is only half of the requirement. In aircraft maintenance knowing “how” to do it is just as important.

These new training requirements are very similar. AEA, other trade associations, commercial vendors and the FAA have all provided the industry with “what” must be contained in the repair station training manual in order for it to be approved by the FAA. But just like in maintenance, that is only half of the task. The second part of that task is knowing “how” to implement and manage a cost effective and efficient training program.

The View this month will begin to focus on “how” to perform the first requirement; “a needs assessment.”

Advisory Circular 145-10 states that the “training program must ensure each employee assigned to a maintenance (including inspection), preventive maintenance, and alteration task is capable of performing the work.”

The entire training program must be centered on this purpose; that is, to “ensure each employee is capable of performing the assigned work.” So as we go through each step of the process, we must always ask ourselves, “will this

action improve the employee's ability to perform the assigned task?" If not, then the action is simply training for the sake of training and is not related to Part 145.163. To help keep this in perspective recall this simple management philosophy: for those who DON'T know and DON'T perform—you train them, for those who DO know and DON'T perform—you manage them.

The first step in "ensuring the employee is capable to perform their assigned work" is to document the work elements of the specific task; the second step is to document the employee's training, experience, and qualifications; the third step is to compare the two; and the fourth step is to fill-in the gap.

The FAA calls this process a "needs assessment."

The needs assessment reviews the repair station's training requirements in the context of its existing and future staff's capability and tasks associated with specific work assignments. The training needs assessment should identify the requirements for initial and recurrent training.

Based on its needs assessment, the repair station will determine the type and extent of training needs for the company and for individual employees. The needs assessment should be completed before you submit your training manual to the FAA for approval but it is not part of your manual. It is part of the management of your program but not part of the manual itself. Your manual will simply state that you will do a needs assessment. So over the next few months, while you are developing your manual and waiting for the FAA to approve it, use these methods to start building a baseline of job tasks.

Considering the outcome of its training needs assessment, the repair station can develop and revise its areas of study and/or courses.

Analyzing the needs of the individual tasks should be reasonably simple.

Although, the preparation work will be labor intensive, it should be a single, baseline except for the introduction of new tasks.

Keep in mind here that the requirements of FAR 145.163 and the recommendations of AC 145-10 are written to be generic and apply to ALL repair stations, including those full-service repair stations that service everything from the entire aircraft to overhauling the smallest, most complex accessory. For an avionics or instrument shop, documenting the generic tasks is very straightforward.

Document the work; perform a task analysis. A Job Task Analysis is a process to identify and determine in detail the particular job duties. The purpose of a task analysis is to gain insight into the nature of an already-existing task as it is performed. The questions asked is: "What is being done?" – this is not the time to make judgments about the appropriateness or efficiency of the procedures. Task analysis is a simple, straightforward approach which addresses what is done; it should not answer what should be done.

Identify each task. Keep the descriptions of each task as broad as reasonable but that still defines the task. Start by reviewing your Repair Station Rating; add to that any unique task from your Repair Station's Capability List, any Specialized Services you provide, any job tasks which are limited to only a few people. A great source of "what" you do is your work orders; every job should be documented there.

There are several methods that exist that may be used individually or in combination to build a baseline of job tasks. These include: review of job classification systems; incumbent interviews; supervisor interviews; expert panels; structured questionnaires; task inventories; check lists; open-ended questionnaires; observation; and, work logs.

Once you have documented the

generic and specialized tasks that are performed, you will need to identify the skills required for each task. For the generic tasks, generic skills should be adequate, for specialized tasks; obviously more specialized skills may be required.

Once the task and skill assessment has been completed, you will need to document each employee's training, experience and qualifications.

Since logbooks and records of training and experience have never been required by the FAA before, it would be reasonable for the individual technicians to build a historical log of their experiences as best that they can remember them. Any documentation that supports their experience would be beneficial but at this point the industry as a whole will need to build a complete history of each technician's technical background.

Once the employee's training, experience, and qualifications have been documented and recorded, a simple comparison between the skills required for their assigned tasks and their personal qualifications is performed. This will result in what is called a gap analysis.

A gap analysis is simply evaluating the requirements of a task and comparing that to the qualifications of the employee and determining if there is a "gap" between the two. If a gap is identified, some form of training will be required to fill the individual's qualification gap that has been identified.

Next month we will begin to look at the methods that can be used to fill the gap in qualifications.

# Regulatory Update

## United States

### Certification of an In-Seat Video System

The Federal Aviation Administration (FAA) announces the availability of final policy on certification of an in-seat video system.

This final policy was issued by the Transport Airplane Directorate on August 12, 2005.

A notice of proposed policy was published in the Federal Register on December 3, 2004 (69 FR 70303). Based on data industry presented to the FAA, in-seat video system designs have matured to the point that dedicated testing is not required per 14 CFR 25.601. This policy recommends the use of Aerospace Recommended Practice (ARP) 5475 when abuse load tests are required. This policy adds analysis or inspection as valid means of compliance in lieu of test. The FAA also clarifies questions that have arisen regarding previously released policy on this subject.

The final policy is available at: <http://airweb.faa.gov.rgl>.

### Clarification of FAA Order 8300.10 Regarding Inspection Programs Authorized Per Section 91.409(f)

Flight Standards Handbook Bulletin for Airworthiness (HBAW) 05-05 Clarification of FAA Order 8300.10 Regarding Inspection Programs Authorized Per Section 91.409(f) dated: 7-27-05

This bulletin provides correction of current guidance contained in Federal Aviation Administration (FAA) Order 8300.10, Vol. 2, Chapter 83, Evaluate Part 135 (Nine Or Less) Approved Aircraft Inspection Program. This bulletin applies to the principal maintenance inspector (PMI) with certificate management responsibilities for Title 14 of the Code of Federal Aviation Regulations

(14 CFR) Part 135, section 135.411(a)(1) certificate holders.

Through aviation safety inspector (ASI) feedback, we have identified a conflict in Chapter 83. Currently this chapter contains language that requires a Part 135 air carrier using large turbine powered aircraft subject to section 135.411(a)(1) to use an Approved Aircraft Inspection Program (AAIP). Chapter 83 states that this handbook requirement is based on a subjective observation of airplane complexity. This language conflicts with 14 CFR sections 91.409, 135.411 and 135.419 which permits these certificate holders to select a maintenance program under section 135.411(b) or an inspection program from the listed options in section 91.409(f), or an AAIP under section 135.419.

Section 135.419 also permits the FAA to require the certificate holder to use an AAIP, but only if the FAA makes a finding that the inspections required or allowed under Part 91 are not adequate to meet the requirements of Part 135. The finding of inadequacy required by section 135.419 is not addressed in Chapter 83.

Until Chapter 83 can be amended to be consistent with the regulations, the FAA instructs the ASIs to use HBAW 05-05 as their guidance to eliminate the conflict with the 8300.10 and the regulations where it requires the use of an AAIP without a finding of inadequacy.

### Transition from the Joint Aviation Authority to European Aviation Safety Agency (EASA) Part 145 Approvals for Repair Stations Located in the United States

Flight Standards Handbook Bulletin for Airworthiness (HBAW) 05-04 Transition from the Joint Aviation Authority to European Aviation Safety Agency (EASA) Part 145 Approvals for Repair Stations Located in the United States 7-20-05.

This bulletin provides updated information and guidance to aviation safety inspectors (ASI) of changes made by the European Aviation Safety Agency (EASA). This bulletin also provides ASIs with guidance to evaluate an initial/continuation/ amendment approvals to an EASA Part 145 approved organization and make a recommendation or non-recommendation for approval to EASA. The attachment is a revision of Volume 2, Chapters 167, 168, and 169 from Federal Aviation Administration (FAA) Order 8300.10, Airworthiness Inspector's Handbook. These chapters will be finalized and incorporated into the handbook in a future change.

Information on the Joint Aviation Authority's (JAA) transition to EASA is found in Flight Standards Information Bulletin for Airworthiness (FSAW) 04-02, Changes to Joint Aviation Authorities (JAA) Maintenance Requirements and Transition to European Aviation Safety Agency (EASA). The latest information regarding the transition can be found on the EASA website at <http://www.easa.eu.int/>. This transition affects both certification and surveillance of U.S. and certain European countries' Part 145 repair stations located abroad, respectively.

In September 2003, EASA officially became responsible for all previously JAA "accepted" U.S. domestic repair stations. As a result, EASA converted all U.S.-based JAR 145 "accepted" to EASA part 145 "approved" certificates. This conversion is obligatory for the FAA and U.S.-based EASA part 145 approved organizations to continue to comply with the current Bilateral Aviation Safety Agreement (BASA) and associated maintenance implementation procedures (MIP).

Guidance on EASA Part 145 approvals of U.S. repair stations is found in European Aviation Safety Agency

Guidance Material for the U.S./European Bilateral Aviation Safety Agreement (BASA) and Maintenance Implementation Procedures Guidance (MIP), referred to as MIP-G. MIP-G is on the EASA website, <http://www.easa.eu.int>, and can be found using the site's search feature by entering the term MIP-G.

Each party will continue to abide by the existing agreements, provided the United States and the European Community actively negotiate a new agreement to replace the MIPs, as called for in the EASA regulation. However, EASA rules and procedures have resulted in some administrative differences, which have required authorities and certificate holders to make minor adjustments to how they conduct business under the MIP.

Effective immediately—all ASIs with a domestic U.S. repair station certificate—responsibilities for those repair stations that also hold EASA Part 145 approvals should provide a copy of HBAW 05-04 to the appropriate repair stations.

Each ASI will ensure those repair stations are in compliance with the requirements specified in the attached revised handbook chapters. When a repair station is in compliance with the attached handbook chapters it will also be in compliance with EASA Part 145 special conditions specified in the current BASA/MIP agreements.

ASIs should require each repair station holding EASA Part 145 approvals to submit its revised EASA Part 145 supplement at least 60 days before its current EASA Part 145 continuation approval is due. The ASI should review the EASA supplement in accordance with Handbook Chapter 168 and issue FAA acceptance upon determining compliance with the guidance.

The FAA cannot issue a recommendation for initial or continuation approval without first accepting the manual supplement. Once EASA supplement requirements are met and verified, the

ASI will revise operations specifications to reflect EASA approval in accordance with the attached handbook chapters.

NOTE: Interim guidance for EASA continuation approvals were due before September 2005 as follows.

Approximately 300 EASA continuation approvals are in process or coming due between January and September 2005. The continuation approvals were based on the former JAA renewal dates. All EASA-approved repair stations were notified upon receipt of their EASA approval certificate that they were responsible to revise their former JAA supplements to EASA and EASA requirements. The transition from JAA to EASA and developing FAA guidance has caused some delays. ASIs should make every effort to review and accept the repair station EASA Part 145 supplements to the repair station manual before issuing an EASA Form 9 with a recommendation.

However, the FAA and EASA have recognized the additional workload placed on the FAA domestic inspectors. Therefore, it is acceptable to complete an EASA Form 9 with a recommendation for continuation approval based on the repair station intent and willingness to comply with the new requirements. The ASI may follow the procedures described in Chapters 167 and 168 if the manual supplement is not ready or has not been accepted by the FAA at the time the EASA Part 145 continuation approval is due.

In this situation, the ASI will complete the appropriate sections of EASA Form 9 and state in the finding section that "the EASA Part 145 supplement has not been accepted by the FAA at this time. The repair station will complete the supplement and the FAA will have the supplement accepted no later than [insert date]." The FAA recommendation date should not exceed 120 days from the date of continuation approval.

If, for any reason, the repair station fails to meet the required date specified in the finding section of the EASA Form 9 at the end of the specified timeframe, the ASI will complete an additional EASA Form 9. The ASI will include a non-recommendation specifying that the repair station failed to meet the terms of the preceding EASA Form 9. Any enforcement action taken is an EASA determination. The FAA's obligation under the agreement is to inform EASA and allow EASA to take appropriate action.

ASIs can review their respective EASA Part 145 continuation dates by going to the EASA website at [http://www.easa.eu.int/org\\_appro\\_cao\\_en.html](http://www.easa.eu.int/org_appro_cao_en.html). EASA Form 9 and Form 16 are contained in EASA MIP-G.

NOTE: The differences between the JAA supplement and EASA Part 145 supplement are minor in nature and should not be perceived as a major change to procedures. The FAA's process and procedures are similar when previously recommending a JAA JAR 145 acceptance.

Any repair station EASA Part 145 continuation approval due after September of 2005 must have its EASA repair station manual supplement FAA-accepted before a positive recommendation for continuation approval can be processed.

The repair station with EASA Part 145 approval is responsible for complying with the EASA requirements as soon as possible.

## **Canada** **Transport Canada to Issue** **Advisory Circular on Wire** **Flammability**

Transport Canada Civil Aviation (TCCA) has drafted an Advisory Circular (AC) to clarify their position on wire flammability. The issue of flammability of MIL-W-22759/16 and /18 wire was raised by TCCA in late 2004,

*Continued on following page*

## Frequently Asked Questions

The following information is from the Federal Aviation Regulations (FARs) and the Federal Communication Commission (FCC) regulations.

### QUESTION: Can an A & P install avionics? And can an IA supervise and sign-off a radio installation by an uncertificated person?

#### ANSWER:

Yes. Maybe! But they must be fully trained and qualified.

Part 65, Section 65.81 General privileges and limitations, allows a certificated mechanic to perform or supervise the maintenance, preventive maintenance or alteration of an aircraft or appliance, or a part thereof, for which he is rated.

However, section 65.81 specifically prohibits the mechanic from performing “any repair to, or alteration of, instruments.” (Remember that autopilots and other “electronic devices for automatically controlling an aircraft in flight” are instruments by definition.) And Appendix A to Part 43 defines the calibration and repair of instruments (including autopilots) as an appliance major repair.

Section 65.81 allows a mechanic to supervise other persons, however, they may not supervise the maintenance, preventive maintenance, or alteration of, or approve and return to service, any aircraft or appliance, or part thereof, for which he is rated unless they have satisfactorily performed the work concerned at an earlier date.

Section 65.81 (b) also prohibits a certificated mechanic from exercising

the privileges of his certificate and rating unless he understands the current instructions of the manufacturer, and the maintenance manuals, for the specific operation concerned.

Part 43, section 43.13 requires that each person performing maintenance, alteration, or preventive maintenance on an aircraft, engine, propeller or appliance shall use the methods, techniques, and practices prescribed in the current manufacturer’s maintenance manual or Instructions for Continued Airworthiness prepared by its manufacturer, or (if those manuals or instructions do not exist) other methods, techniques, and practices acceptable to the Administrator. The regulations do not allow a mechanic to use other methods, techniques and practices as a means to circumvent the manufacturer’s manuals and instructions.

Section 43.13 (a) also requires the mechanic to use the tools, equipment and test apparatus necessary to assure completion of the work in accordance with accepted industry practices. And then specifically requires that “if special equipment or test apparatus is recommended by the manufacturer involved, he must use that equipment or apparatus or its equivalent acceptable

to the Administrator.”

In addition to the FAA’s rules, the FCC has some requirements. Title 47 of the Code of Federal Regulations, “TELECOMMUNICATION COMMISSION”, PART 87 - AVIATION SERVICES states that a commercial radio operator license is required to repair and maintain all aircraft stations and aeronautical ground stations (including hand-carried portable units) used to communicate with aircraft.

So the answer to “Can an A & P mechanic install and/or supervise the installation of avionics equipment?” is yes, provided that they meet all of the same requirements that a technician at a repair station does for the same job.

If they do not meet the same personal and professional requirements of an avionics technician, it is the responsibility of the avionics industry to document the unqualified work and report it to your local FAA office. Keep in mind that the FAA can only monitor the individual A & P while the mechanic is performing maintenance. They do not operate from a repair station so there is no business to audit like there is for a repair station. Your help in identifying these un-safe actions is required.

*Note: AEA offers these Frequently Asked Questions (FAQs) in order to foster greater understanding of the Federal Aviation Regulations and the rules that govern our industry. AEA strives to make them as accurate as possible at the time they are written, but rules change so you should verify any information you receive from an AEA FAQ before you rely on it. AEA DISCLAIMS ANY WARRANTY FOR THE ACCURACY OF THE INFORMATION PROVIDED. This information is NOT meant to serve as legal advice – if you have particular legal questions, then these should be directed to an attorney.*

### REGULATORY UPDATE

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and discussed at their Avionics Workshop in December 2004.

TCCA’s position was that MIL-W-22759/16 and /18 wire had not been demonstrated to meet the FAR/AWM flammability requirements, e.g. FAR 25 Appendix F. The AEA position has been that these wires are identified in AC43.13-1B as acceptable for installation in all FAR 23, 25, 27 and 29 air-

craft. TCCA sought confirmation from the FAA on the issue.

At AEA’s request, the FAA performed extensive testing at their Technical Center located in Atlantic City, N.J., and re-evaluated the guidance contained in AC 43.13-1b. The published report showed that the use of MIL-W-22759 wiring was a demonstrated equivalent level of safety for Part 25 aircraft and, therefore, the FAA stands behind their guidance materials. In addition, the

Small Airplane Directorate reiterated the acceptability of the wires identified in AC 43.13-1B for use on Part 23 aircraft by issuing a Policy Memo.

TCCA has now drafted an Advisory Circular. It will state that MIL-W-22759 wiring—as identified in FAA AC 43.13-1B—is acceptable for installation on aircraft where compliance with FAR/AWM sections 23/523.1359, 25/525.869, 27/527.1365 and 29/529.1359 is required. Careful review should be taken

when certifying the installation of MIL-W-22759/16 wire (or any similar type of wiring) to ensure that it meets all installation requirements and is fit for its intended function. This policy should ensure that avionics installers do not have to obtain flammability test results for wire batches of the above wires.

The Advisory Circular will be available on the TCCA website at: <http://www.tc.gc.ca/CivilAviation/certification/guidance/513/menu.htm>

### **Helicopter Association of Canada Wins Tribunal Decision**

The Helicopter Association of Canada (HAC) recently obtained a decision from the Transportation Appeal Tribunal of Canada that Alternate Means of Compliance (AMOCs) that have been granted to an operator cannot be cancelled by TCCA without providing a reasonable delay. The Tribunal judged that an AMOC is a Canadian Aviation Document, and as such cannot be cancelled, suspended, or refused renewal without proper reasoning, notice and delay. This definition and process will also apply to waivers.

### **Civil Aviation Issues Reporting System (CAIRS)**

TCCA has recently launched the Civil Aviation Issues Reporting System (CAIRS) to expand the former process of handling complaints from stakeholders to also include concerns, compliments and suggestions for improvement. The CAIRS aims to resolve issues informally and at the lowest possible level in the organization before it becomes necessary to use an outside process, but recognizes that stakeholders always have the right to immediately access these external processes.

Details of the CAIRS, including a Guide to the Public, can be viewed at: <http://www.tc.gc.ca/CivilAviation/QualityAssurance/QA/cairs.htm>

## **Europe**

### **EASA:**

EASA amended their website to include all EASA approved Type Certificate Data Sheets. They can be found on the Certification site.

Since September 28, 2003, all changes to type certificates and the associated data sheet previously grandfathered by EASA must be approved by EASA. All data sheets unchanged since September 28, 2003, will only be available from the individual registering member state authority.

### **JAA:**

JAA will soon amend JAR-OPS1.820 ELT requirement with some related guidance material. It is issued and adopted as NPA-OPS 37.

### **EUROCAE/RTCA:**

DO-224B "Signal-in-Space Minimum Aviation System Performance Standards (MASPS) for Advanced VHF Digital Data Communications Including Compatibility with Digital Voice Techniques."

This final planned version of the VDL Mode 2 and Mode 3 MASPS consolidates previous documents. It is synchronized with ICAO SARPS and Technical Manuals for VDL Modes 2 and 3. Future updates to DO-281A, MOPS for VDL Mode 2, and DO-271C, MOPS for VDL Mode 3, will be synchronized with DO-224B.

### **EUROCONTROL**

Operation of 8.33 kHz VHF COM equipment will change soon. The procedure requires VHF communication channels to be specified in 6 and 4 digits, e.g. 118,025 specified as "ONE ONE EIGHT DECIMAL ZERO TWO FIVE," and 118,100 specified as "ONE ONE EIGHT DECIMAL ONE." Use of the term "CHANNEL" for 8.33 kHz channels is discontinued. The Agency AFN Unit has issued corre-

spondence to members of the Airspace & Navigation Team (ANT) concerning measures to apply the changes. Training/awareness material developed by EUROCONTROL's Institute of Air Navigation Services can be accessed in the form of an e-learning package from a link provided on the website of EUROCONTROL.

The procedure change and its application will be issued in Amendment 80 to ICAO Annex 10, Volume II, which is due November 24, 2005.

An Information Notice about the applicability, implementation times and areas and operational issues was issued and is available on the website: [www.eurocontrol.int/vhf833](http://www.eurocontrol.int/vhf833)

EUROCONTROL informed operators about a national deviation to the ACAS exemption policy: "Currently, the Italian Aviation Authority (Ente Nazionale Aviazione Civile - ENAC) will not approve Phase 2 Transitional Arrangements ACAS II exemptions for Commercial Air Transport (CAT) (e.g. Air Operator Certificate holders) and general aviation operators. Consequently, CAT and GA operators who are subject to a temporary ACAS II exemption under the provisions of the Phase 2 Transitional Arrangements are not authorised to operate in Italian airspace after September 30, 2005. Furthermore, the Italian Authorities will reject any direct requests for exemptions made by CAT or GA operators. (Any inquiries on this matter should be directed to ENAC and not to the ACAS support unit)." See [www.eurocontrol.int/acas](http://www.eurocontrol.int/acas).

EUROCONTROL reports some considerable backlog of applications for the Mode S Enhanced surveillance exemption policy. □