GAMA 11-47

July 13th 2011
Jessica Mills-McLaughlin (jessica.ctr.mclaughlin@faa.gov)
1625 K Street NW Suite 300
Washington DC, 20006

Dear Mrs. Mills-McLaughlin:

The Aircraft Owners and Pilots Association (AOPA) and the General Aviation Manufacturers Association (GAMA) appreciate the opportunity to review and provide comment to AC 120-76B, *Guidelines for the Certification, Airworthiness, and Operational Use of Electronic Flight Bags EFB*.

AOPA/GAMA believes that electronic flight bag technology will be a critical tool to enable many expected NextGen capabilities at an affordable cost however, this proposed guidance material will limit much of that potential because of short-sited perspective. The simple change in title and throughout the document from the term "operational approval" to "operational use" has tremendous implication in that this document would now apply to electronic flight bags which are not being utilized where an operational approval is required.

Further AOPA/GAMA is concerned about the broad applicability of this guidance material to both commercial and non-commercial operations. In some sections the guidance is limited to §91(f), (k), §121, 125, 129 and 135 while in other areas the guidance makes broad statements that implicate all of §91. In light of the FAA's NextGen goals, AOPA/GAMA believes this guidance material should be reconsidered to facilitate broad EFB use especially in the part 91/91(f) communities where equipment cost is critical. AOPA/GAMA believes the FAA needs to make significant changes to the contents of this proposed AC to ensure it only applies to §91(k), 121, 125, 129, and 135. AOPA/GAMA's concerns are further reinforced by the draft AC's repeated use of confusing definitions, limitations, training requirements, implications, and vague wording which confuse the differences between commercial operators and private use.

AOPA/GAMA recommends the FAA change all directive type verbiage (such as "must") within this AC to comply with the instructions contained in 8900.1 Volume 1, Chapter 1, Section 1, paragraph 1-5, "Directive and Guidance Information", which instructs the FAA to use "should" or "may" in guidance documents. Further instructions for the FAA to follow are contained in FAA Order 1320.46C which prohibits the use of guidance material to establish a requirement.

AOPA/GAMA believes that attempting to impose testing requirements on "off the shelf" electronics which host EFB applications (such as charts and plates) at the individual operator level is a tremendous waste of resources. Many applications which can be hosted on an EFB simply don't require such a level of scrutiny. There are many certified installations which rely on non-aviation standards such as those of Underwriter's Laboratory (UL) to facilitate the use of items which are not primarily designed for aviation (see FAA commercial parts regulation for example). It is unacceptable for the FAA to propose that the same device must be put through a series of tests by every individual operator. AOPA/GAMA requests that the FAA re-evaluate this position and provide more reasonable and efficient means to assure EFB equipment has an appropriate level of reliability based upon the applications which will be hosted. AOPA/GAMA doubts that the paper materials currently utilized today can meet the level of scrutiny being proposed for EFBs.

GAMA believes some applications on EFBs may enable capabilities for which the reliability of the device needs to be particularly understood. For example applications that display own ship position for operational credit (ADS-B in trail or RNAV guidance) it would be appropriate for the FAA to assure that the hardware and software are appropriately qualified either as a Class 3 EFB or perhaps through some kind of operator qualification process for a Class 1 or 2 device. Such qualification

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would be appropriate when a pilot would be relying on the device for active information and tactical decisions (such as in the case of a moving map display). In any case AOPA/GAMA believes there is a difference between devices which host static maps and approach plates and devices which create information which will be used by the pilot as a primary reference for an operation. In cases where a pilot wishes to have a handheld GPS device for situational awareness purposes, no such device qualification should be required. This has been a general principal that the FAA has embraced over the past decade and this guidance should include this concept as well.

In general, this guidance appears to have been released for public comment before it had adequately been reviewed internally as it contains many contradicting and misleading statements as well as repetitive guidance in different locations. Because of the multitude of concerns with this AC, AOPA/GAMA requests that once the FAA dispositions these comments, the FAA makes a new draft available for public comment prior to final issuance of the guidance. In addition to the broader concerns expressed above, AOPA/GAMA would like to provide the following detailed comments.

Paragraph 1 - Purpose

AOPA/GAMA is concerned that the purpose of this proposed guidance inappropriately encompasses all types of operations and not just those which require operational approval. As referenced in the first sentence, "This joint Flight Standards Service (AFS) and Aircraft Certification Service (AIR) advisory circular (AC) sets forth and acceptable means, but not the only means, for all operators conducting flight operations under Title 14 of the Code of Federal Regulations (14CFR) part 91, 121, 125, 129, or 135 to obtain authorization for the operational use of Electronic Flight Bags (EFB)." This scope encompasses commercial and noncommercial operators as a result of the title change from "operational approval" to "operational use". Because of this subtle change, it is incumbent upon the FAA to review the entire AC to ensure that anywhere Part 91 or "all operators" is mentioned, the scope is limited to §91(k), 121, 125, 129, or 135.

An example of the conflicting direction within the draft guidance material is the second sentence of paragraph 1 which states, "This guidance material applies to operators of large and turbine-powered multiengine and fractional ownership aircraft operating under part 91 subpart F and part 91 subpart K (part K)...". Although this AC suggests the guidance material applies only to operators of large and turbine-powered multiengine and fractional ownership aircraft operating under part 91 subpart f and part 91 subpart k, throughout the document there are examples where the document applies to "all operations" or variations thereof.

AOPA/GAMA recommends the FAA rewrite the first sentence to read "This joint Flight Standards Service (AFS) and Aircraft Certification Service (AIR) advisory circular (AC) sets forth and acceptable means, but not the only means, for ~~all~~ operators conducting flight operations under Title 14 of the Code of Federal Regulations (14CFR) part 91 (k), 121, 125, 129, or 135 to obtain authorization for the operational use of Electronic Flight Bags (EFB)." Additionally the FAA must review the remainder of the proposed document to address this issue which exists throughout.

AOPA/GAMA recommends the FAA add the statements
"This AC is not mandatory and is not a regulation. This AC describes an acceptable means, but not the only means, to comply with applicable regulations.

"This AC provides guidance information intended for new approvals. This AC is not intended to modify, change or cancel existing approvals. "

Paragraph 4 – Definitions

AOPA/GAMA is concerned with the repeated use of many ambiguous and misleading terms within this AC which results in guidance that confuses the differences between commercial operators and general aviation use.

To prevent confusion, AOPA/GAMA strongly recommends that the FAA provide separate definitions for attached, mounted, stowed, and installed (in the definition section of this AC) that clearly describe the differences between terms and provide specific examples of each to provide further clarity.

Subparagraph c.
AOPA/GAMA is concerned with the use of a standard or guidance document being used as a regulatory means to "approve" software. RTCA/DO-178B is not a regulation and was not subjected to the rulemaking process. There is no regulation concerning the approval of software, D0-178B is one acceptable means of approving software to meet xx.1302/1309 requirements.

Subparagraph d.
This section states: "(EFBs) they must be secured or stowed during critical phases of flight". This statement is not supported in the requirements of §91, 125 or 129 but rather only §121 and 135 which have rules governing a sterile cockpit environment during critical phases of flight.

AOPA/GAMA believes that the use of EFB during approach phase is one of the key functions of the device and because there will be some kind of device assurance by following this guidance material the FAA should consider expanding the use of these devices below 10,000 feet for such flight phases as approach and landing (approach plates).

AOPA/GAMA suggests the FAA harmonize the definition of Class 1 EFB hardware from existing FAA policy. The FAA should include the same definition of Class 1 EFB hardware as exists in AC 91-78 paragraph 8(a) which states:
"Class 1 EFB that it:
(1) Is not dependent upon a dedicated aircraft power source or input from navigation equipment to provide display functionality, except it may connect to aircraft power through a certificated power source, e.g. cigar lighter;
(2) Is not attached to an aircraft mounting device; and,
(3) Is not connected with or receives data from any aircraft system"

Subparagraph g.
The draft guidance proposes a definition of critical phases of flight for EFBs which is the same as that utilized for generic portable electronic devices which are used by passengers: "Critical Phases of Flight – Includes all ground operations involving taxi, takeoff, and landing, and all other flight operations conducted below 10,000 feet, except cruise flight." AOPA/GAMA is extremely concerned that treating an EFB which is to be used by the flight crew as a typical PED will severely limit the potential for these devices. This is an example of a short-sighted policy which negates the safety benefits which were intended by AC 20-159 (display of own ship position on an EFB during taxi) which was "fast tracked" by the FAA to assure accidents such as that experienced by Comair Flight 5191 in Lexington, KY would not happen again. As an example of the confusion included throughout this draft document, subparagraph l.(2) states: "EFBs with authorized EFB functions may be used in all phases of flight in accordance with the requirements of Order 8900.1 and/or this AC."

AOPA/GAMA suggests that qualified electronic flight bags not be classified as generic portable electronic devices that are utilized by passengers but instead the FAA permits reasonable use during taxi, departure, cruise, approach etc. This section should be re-written to assure the definition of critical phases of flight for an EFB allows for the reasonable use of EFBs during various phases of flight such as taxi, departure, cruise and approach. The FAA should assure that this is a common theme throughout the document and any contradictory statements are corrected.

Subparagraph h.
The draft definition of an EFB is too broad as it can apply to many installed electronic devices such as Primary Flight Displays or Multifunction Flight Displays. Further a requirement that an EFB host Type A or Type B software applications fails to capture a device that has software that was completely qualified to DO-178. Further, because an AC can not set a new requirement, it is not appropriate for the AC to "require" EFBs to host Type A or B software (See Order 1320.46C). A further

problem with the proposed definition is that it defines an EFB as something that is primarily designed for flight deck use. As covered elsewhere in the draft, most of the hardware which will host EFB applications will not be primarily intended for aviation. If the FAA intends to address tablet devices (iPad, iPhone, Laptops, etc) which host type A, B, or C software applications, this definition should be clarified, otherwise the guidance document is wholly un-useful and should not be published.

AOPA/GAMA believes the definition of an EFB must capture the concept of portable devices used by the flight crew in the operation of an aircraft (or potentially the preparation and post flight recordkeeping) but not devices used by non-crewmembers. For example an iPad hosting Type B EFB software applications for the crew is an EFB while an iPad in the passenger area is a generic Portable Electronic Device no matter the software installed.

Subparagraph i.

The proposed definition of "Hosted Application" does not address "Type C" software applications which do have an approval associated with them. The FAA needs to develop a more accurate definition of a hosted application.

Subparagraph k.

"Mounting Device - these may include arm-mounted, kneeboard, cradle, clip, docking stations, etc. These mounts may require quick disconnect for egress." Arm-mounted, kneeboard, and clips are described in Order 8900.1 Volume 4, chapter 15 page 2 as class I hardware and therefore they are not "mounting devices". AOPA/GAMA believes this definition imposes additional limitations on items not traditionally covered by FAA approval.

AOPA/GAMA recommends the FAA remove arm-mounted, kneeboard, and clip examples from the definition of a mounting device to eliminate any confusion or contradiction with FAA accepted past practice.

Subparagraph l.

The proposed definition, as written, would limit methods of compliance to only those contained in this guidance, which is not something that an AC is permitted to do: "There are two types of PEDs and two methods of compliance with these regulations." Advisory Circulars provide one means (but not the only means) of showing compliance to regulations. AOPA/GAMA suggests the FAA re-word the last sentence from subparagraph (l) to read "Compliance can be demonstrated by:"

Subparagraph l.(1)

The method of compliance as contained in AC 91-21.1B are recommendations that are applicable to passengers (not to flight crew) to inform passengers of permissible times, conditions, and limitations when various PEDs may be used. It is appropriate for the FAA to distinguish a PED from an EFB however this point is lost because it is not carried throughout the document. AOPA/GAMA suggests this section be clarified to indicate that PEDs are different than EFBs for a number of reasons, not the least of which being utilization by flight crew.

Subparagraph l.(2)

FAA Orders are not methods of compliance for industry to utilize but rather they are requirements for FAA personnel to follow when determining compliance to regulations. Applicants or operators are legally obligated to comply with regulations and directives, while policy can provide clarification of regulation and guidance can provide acceptable methods of compliance. Applicants or operators are not obligated to follow orders nor are FAA orders written for applicants or operators. AOPA/GAMA agrees that much of the information in order 8900.1 is illustrative of acceptable methods of compliance and therefore AOPA/GAMA suggests the FAA include the method (thought text rather than reference) of Order 8900.1 in this AC so it is available to the applicant.

Subparagraph n., o., p.

The classification of EFB software applications where C has the highest level of "assurance" while A is of the least critical nature is contrary to the conventions of RTCA DO-178 where class A software is of the highest level. Because these issues

generally involve software aspects it would be wise to avoid confusion by using a different convention for EFB application software.

Subparagraph p.
There is no regulation concerning the approval of software, DO-178B is one acceptable means of approving software to meet xx.1302/1309 requirements. AOPA/GAMA suggests the FAA indicate that type C software applications are those that are FAA compliant through demonstration to RTCA standard DO-178B (note: version C is now current) or other acceptable means.

Paragraph 6 - Background

Subparagraph a.
This background paragraph has basis in applying this draft guidance to all operations except for part 91 VFR operations. In one sentence the guidance states: "Except for part 91 subpart F and k, aircraft operated in VFR under part 91 require no EFB authorization or compliance with this AC… For all aircraft, other than part 91, operating under VFR, PED regulatory compliance is required. PED regulatory methods for compliance are addressed in this AC and AC 91.21-1." AOPA/GAMA is very concerned that this draft guidance now encompasses all operating parts (now all of part 91) which will have a very negative impact on NextGen and the safety benefits that a rational and cost effective approach to EFB use could realize. AOPA/GAMA suggests this paragraph be re-written to address only part 91 k, 121, 125, 129 and 135 operations. Further, the FAA must permit the use of EFB devices during various phases of flight as discussed above. Any discussion of PEDs should be limited to passenger devices that will not be classified as EFBs and therefore not a major issue in this guidance.

Subparagraph b
AOPA/GAMA recommends the FAA remove this paragraph and add it to the definition of EFB section.

Paragraph 7 - Applicability

The applicability section of FAA guidance should include the applicability of the subject guidance. In this case, it appears the applicability section provides motivation for the use of EFBs. AOPA/GAMA recommends the FAA include a proper applicability such as: "This guidance document applies to part 91k, 121, 125, 129 and 135 operations that utilize an electronic flight bag in lieu of traditional information sources such as paper or cockpit display".

Paragraph 8 - Scope

This section clarifies that the display of own ship position on Class 1 or Class 2 EFBs is prohibited in flight. Handheld GPS devices which display own ship position have been used for decades (handheld GPS devices). While perhaps such devices cannot be used for operational credit, it would be inappropriate to utilize a guidance document to prohibit these devices altogether. Handheld GPS devices, when utilized for additional situational awareness, are a great safety enhancement to certified equipment. Obviously, this kind of unqualified equipment cannot be utilized as a primary means of navigation.

Because of the relevant past practice that the FAA has accepted, such a drastic change would have to be accomplished through a rulemaking activity to assure considerations such as cost/benefit (RegFlex) and small business impact are considered. Further, the definition of a Class 2 EFB in this guidance includes attachment to an antenna which most often includes a satellite antenna (GPS position and XM data). AOPA/GAMA believes the FAA must rectify its position throughout this draft material.

Paragraph 9 - EFB Classification For Airworthiness Certification and Authorization For Use

This section states that all EFB applications must be current and up-to-date. As it is possible that an EFB will host many non-required applications, this section should require that any EFB applications that an operator will rely upon for the conduct of the flight must be current and up-to-date (as up-to-date as the paper they replace).

Subparagraph a.

This section states that class I EFBs must be viewable during critical phases of flight. It is possible that an operator will not utilize an EFB during "critical phases of flight" and in that case the device does not need to be mounted in a viewable location. AOPA/GAMA suggests the FAA rectify this by assuring the device is secured and viewable when it is in use during critical phases of flight. Note, this section directly contradicts previous sections that prohibit PEDs during critical phases of flight and those which define an EFB as a type of EFB. AOPA/GAMA suggests the FAA assure those previous sections are corrected.

Subparagraph b.

This section repeats discussion about portability not requiring tools three times, once is sufficient. As with the previous subparagraph, the EFB need only be viable/usable during periods where the crew intends to use it. Finally the last sentence would prohibit the crew stowing a class 2 EFB when it is not being used on a particular flight (not accessible to the flight crew). AOPA/GAMA suggests the FAA rectify these issues

Subparagraph b.(3)

There is not an efficient avenue for demonstrating compliance to DO-160 outside of the part 21 environment and the definition of a class 2 EFB is one which has no FAA approval. AOPA/GAMA suggests the FAA accept commonly utilized standards for consumer electronic hardware such as a UL listing (see FAA commercial parts rule).

Subparagraph b.(5)

It is unreasonable to require an administrative procedure for a class 2 EFB being placed in a mount or removed from a mount when it requires no tools to do so. AOPA/GAMA recommends the FAA remove this provision.

Subparagraph b.(7)

Because a class 2 EFB is not an FAA approved article, there is no FAA project for which FAA aircraft certification can become involved in a human factors evaluation, nor is there a certification basis for which to base such an evaluation on. A class 2 EFB is a non-approved device with approved installation devices. Guidance for the proper evaluation of the installed aspects has been proposed and should not be included in this AC which relates to the device use.

Subparagraph d., e.

This section requires that an operator determine the failure modes of and EFB system when a type A application is being hosted. As only a class 3 EFB will have any FAA approval, including this kind of backdoor approach to requiring certification like activity is not appropriate for all EFBs. AOPA/GAMA recommends the FAA determine a smarter and more appropriate avenue to assure proper function and reliability for these non-FAA approved devices and software.

Subparagraph e. (1)

This subparagraph states "Type B application software does not require compliance with RTCA/DO-178B." How can this be when subparagraph 9.e states "Malfunction of a Type B application is limited to a hazard level defined as no greater than a minor failure condition classification for all flight phases and have no adverse effect on the completion of the flight operation"?

- TSO-C165 ¶ 3.b indicates an AMMD that displays own-ship position is a minor failure condition but TSO-C165 also requires DO-178B (and AC 20-159 does not provide relief from DO-178B).
- Similarly, ¶ 9.e.(6) of this AC states "Data link EFB functions may display approved or unapproved sources of weather." Per TSO-C157 ¶ 3.b, FIS-B weather products are "advisory information only" yet per TSO-C157 ¶ 3.c, such display requires equipment to be designed to meet a minor failure condition and TSO-C157 requires DO-178B.

- Additionally, ¶ 9.e.(8) includes the statement "Algorithms may have the ability to interpolate data but must not extrapolate and therefore must be tested and proven accurate by the manufacturer or operator to represent the AFM (or Rotorcraft Flight Manual (RFM)) approved data." Similarly, ¶ 9.e.(9) includes the statement that "These algorithms have to be tested and verified to meet existing FAA-approved AFM performance data" and ¶ 9.e.(11) includes substantial discussion of validation testing, traceability to the paper AFM approved data, testing of sufficient data points, etc. The requirement that the algorithms "must be tested and proven accurate", "algorithms have to be tested and verified", as well as traceability to system requirements (i.e., the paper AFM approved data) are all concepts that are entirely consistent with what DO-178B Level D compliance requires.

AOPA/GAMA believes type B EFB software which displays in flight information such as traffic, terrain, or moving map where operational credit will be gained should comply with DO-178B Level D for minor failure conditions because installed MFD equipment providing the same function requires DO-178B Level D compliance. If Type B EFB doesn't have to comply with DO-178B Level D, has the FAA shown that the alternatives proposed in this paragraph meet the guidance in AC 20-171, Alternatives to RTCA/DO-178B for Software in Airborne Systems and Equipment? If so, is it available to industry so that it can be used as an example of an acceptable alternative approach? Is FAA looking into how installed MFDs can be allowed to reduce their certification efforts by not requiring DO-178B for the same applications?

Paragraph 10 - EFB Hardware Considerations

Subparagraph a.

This section would require a determination of common mode failure which is not possible with consumer electronics which will not be controlled through aviation production requirements. AOPA/GAMA recommends the FAA determine a smarter and more appropriate avenue to assure proper function and reliability for these non-FAA approved devices and software.

Subparagraph e.

AOPA/GAMA requests that the FAA delete the statement starting with "There are other regulations that may apply to the use of lithium batteries…" and continuing to the end of the paragraph as they are considerations intended for lithium battery used by passengers on board aircraft.

Subparagraph f.

There is no regulation concerning the approval of software, DO-178B is one acceptable means of approving software to meet xx.1302/1309 requirements. AOPA/GAMA suggests the FAA indicate that type C software applications are those that are FAA compliant through demonstration to RTCA standard DO-178B (note: version C is now current) or other acceptable means.

Subparagraph f (d)

Requiring non-aviation devices to comply with an aviation standard such as RTCA DO-311 is not conducive to assuring that EFB devices will remain cost effective. Additionally, such compliance in this class of equipment is unnecessary. AOPA/GAMA suggests the FAA remove this proposed requirement.

Subparagraph f.(1), g.

AOPA/GAMA recommends the FAA change all directing type verbiage such as "must" within this AC to comply with the instruction contained in 8900.1 Volume 1, Chapter 1, Section 1, paragraph 1-5 "Directive and Guidance Information" which instructs the FAA to use "should" or "may" in guidance documents.

Subparagraph i.

Subparagraphs 1 and 2 are not a requirement and not the only method for testing. The FAA should re-word these paragraphs accordingly so as not to imply these are not required and not the only methods.

Subparagraph i.(1)
"…testing contained in subparagraphs 10k and l…" If the FAA is referencing AC 120-76b, subparagraph 10 does not go past (i). AOPA/GAMA recommends referencing the correct location.

Subparagraph i.(4)(a)
Since the environmental tests were previously recommended in AC 120-76a for those seeking "operational approval," the new guidelines imposed by the "operational use" now have a greater impact on operators not typically subjected to this kind of testing. Also, the costs associated with this kind of testing are unrealistic for most 91 operations and some 135 operations.

Subparagraph i.(4)(b)
"Rapid decompression testing must comply with RTCA Do-160 guidelines for rapid decompression testing up to the maximum operating altitude of the aircraft win which the EFB is to be used."
AOPA/GAMA is concerned that the FAA is using guidance material to create a regulatory requirement as RTCA/DO-160 is not a regulation and was not subjected to rulemaking procedures.

Subparagraph j
The FAA should clarify that section J applies to non-installed EFB mounting devices. Installed mounting devices will be addressed by AC 20-EFB.

Subparagraph j(2)
AOPA/GAMA recommends the FAA re-word the guidance for viewing angle to indicate that a large viewing angle may be an issue (approaching 180 degrees) as a 90 degree viewing angle is optimal for most electronic devices.

Subparagraph j(3)
"The mount must be installed in accordance with applicable airworthiness regulations." AOPA/GAMA requests the FAA delete this statement as this statement will now preclude the use of Class 1 EFB's. There are other ways to secure a mount, as describe previously in this AC, that don't require installation.

Subparagraph k
Why must an area be designated specifically for an EFB when we don't designate stowage for other carry on equipment? AOPA/GAMA requests the FAA delete this paragraph as it contradicts itself and doesn't provide useful information. AOPA/GAMA requests that the FAA either remove its only example of properly stowed (reference paragraph 10(k) inside compartments of pilots flight kit), or provide additional examples so as not to restrict to just a single example.

Paragraph 11- EFB System Design Considerations
The original verbiage from AC 120-76a did not consider the different types of PEDs that are utilized today. There are now numerous differences in generic PEDS (iPhone, iPad, laptops, etc.) especially in regards to all of the requirements contained in the paragraph 11, requesting that they all be similar is beyond FAA control. Applying the requirements of paragraph 11 to an of the shelf device negates the cost effectiveness of EFBs and therefore won't permit the potential safety and NextGen benefits of EFB use. Therefore AOPA/GAMA recommends the FAA remove paragraph 11 in its entirety.

Subparagraph j.
"An evaluation of EFB intended functions should include a qualitative assessment of incremental pilot workload, as well as pilot system interfaces and their safety implications." AOPA/GAMA believes that because of the broader scope that this AC now imposes, these evaluations are unnecessarily excessive for Part 91 operators.

Paragraph 12 - Authorization Process

Subparagraph a

"In order for a PED to be considered an EFB, its functions must conform to the guidance in this AC." As AC's are not intended to provide regulatory requirements, they are also not mandatory. Industry is not obligated to conform to the guidance in this AC.

Subparagraph c

AOPA/GAMA is concerned with the excessive requirements this entire section imposes. Many of these policies and procedures only account for larger type operations and don't adequately consider smaller operators.

Subparagraph c(7)

Not all operations currently require the development of a PPM and should not be required as a result of PED usage.

Subparagraph l.(1) & m.(3)

With regard to the mention of the FAA/Industry Training Standards (FITS), AOPA/GAMA is very concerned that they are discussed in a new advisory circular as a means for training as it could be inferred that in order to use an EFB this training is a requirement. FITS was a research program which helped develop certain concepts for training and has been used by manufacturers to develop guidance on how to train to use equipment. The training standards, however, were never intended to in any way be mandated for an operator in order to use a piece of equipment.

Over the past couple of years, industry has worked with the FAA to evolve the FITS-tenants into agency handbook and guidance material as appropriate. Over time, industry believes that the FITS terminology should be phased out of all agency documents as the FITS-tenants have already been incorporated where and when appropriate. GAMA recommends the two references to FITS be removed from the AC as it is not appropriate to reference in this context.

Subparagraph l(1)

AOPA/GAMA is concerned with the implication of all operations as stated in this subparagraph, "…to part 91 operations." AOPA/GAMA requests that the FAA review the entire AC to ensure that anywhere Part 91 or "all operators" is mentioned, the scope is limited to §91(k), 121, 125, 129, or 135.

The development of a FITS program is not a reasonable expectation of a manufacturer such as Apple, Motorola, Dell, etc.. Further, the FITS program ineffectiveness is currently under review by the FAA and industry.

Subparagraph k.

The FAA should clarify that only in the event of an accident will the NTSB and FAA be able to retrieve the EFB or PED and its information. Legislation only supports the NTSB confiscating equipment in the case of an accident.

Subparagraph m(3)

AOPA/GAMA believes the FAA needs to make significant changes to the contents of this proposed AC to ensure it only applies to §91(k), 121, 125, 129, and 135.

Subparagraph p

AN ICA is a regulatory required document developed by the design approval holder and therefore is not applicable to an EFB in this context (EFBs do not have an airworthiness approval). AOPA/GAMA recommends the FAA re-title this subparagraph to "maintenance guidance".

Subparagraph t(2)

As this subparagraph is under "Paragraph 12 Authorization Process", non-certificated operators are not required to seek authorization for operational approval. Contrary to what is stated in subparagraph b, non-certificated operators are NOT required to meet the "requirements" of subparagraph 12c. No existing part 91 regulation supports such a position. AOPA/GAMA recommends the FAA delete this paragraph in its entirety.

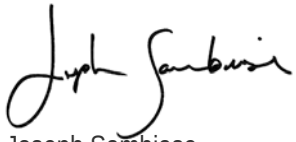
Appendices

AOPA/GAMA is concerned with the FAAs changes to the examples of Type A and B applications. As added to the examples of type B EFB applications in Appendix 2, the first four bullet points (AFM, AFMS, F/A manual, Approved electronic signature) have been removed and no longer acceptable features for a Type A application. The FAA has already established an acceptable means of compliance in AC 120-76A with the regulations, and because the regulations haven't changed, the FAA cannot invalidate the previously acceptable methods of compliance.

Please contact AOPA/GAMA if you have any questions to the comments we have provided (jsambiase@GAMA.aero or kristine.hartzell@aopa.org).

Respectfully,

Kristine Hartzell
Manager, Regulatory Affairs
Aircraft Owners and Pilots Association



Joseph Sambiase
Manager, Airworthiness & Maintenance
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AOPA - With a membership base of more than 400,000 pilots and aviation enthusiasts in the United States, AOPA is the largest, most influential aviation association in the world. AOPA has achieved its prominent position through effective advocacy, enlightened leadership, technical competence, and hard work. Providing member services that range from representation at the federal, state, and local levels to legal services, advice, and other assistance, AOPA has built a service organization that far exceeds any other in the aviation community.

GAMA - GAMA represents the world's leading manufacturers of fixed-wing general aviation airplanes, engines, avionics, and components. In addition to building nearly all of the general aviation airplanes flying worldwide today, GAMA member companies also operate fleets of airplanes, fixed-based operations, pilot / technician training centers, and maintenance facilities worldwide. Our companies provide high-quality jobs for 150,000 Americans.