

## WHAT THE REGS SAY ABOUT USING iPADS FOR SOLE-SOURCE INFO

Electronic Flight Bags (EFBs), especially the Apple iPad, are proliferating in Phenom cockpits, and for good reasons. They are compact, reliable, easy to use, and represent super-convenient one-stop shopping for a vast array of information resources ranging from avionics manuals and aeronautical charts (VFR sectionals, IFR low- and high-altitude en routes, arrival and departure procedures, and instrument approach procedure charts, to name a few) to pilot operating handbooks and airplane flight manuals.

But in these early transition days from paper to EFBs, it has not been exactly clear on what the regulations do or do not require concerning the process of gaining regulatory approval of the electronic devices.

The general answer is that Part 91 operators (except for subpart K fractionals) can use EFBs as the single source of aeronautical information in the aircraft. What follows is some detail on what FAA regulations say on the subject, for both Part 91 and Part 135 operators.

It was written in December 2011 by the chief pilot for a U.S. charter operator, and posted on the “Pilots” forum on NBAA’s Airmail. Mike Nichols, NBAA’s vice president of Operations, Education & Economics, subsequently endorsed the posting, saying that the “information is excellent and is consistent with NBAA’s view of this issue.”

Here is what the Airmail posting said:

### **Part 91 Operators**

Part 91 Operators do not in any way shape or form (currently) need any authorization to remove paper from the cockpit and replace it with iPad EFBs.

Here is a quote directly out of FAA Order 8900.1 Vol 4 Chapter 15 Section 1, Paragraph 4-1642:

*“...The processes described in this section may also be used to determine if an EFB may be substituted for aeronautical charts and data used within aircraft operated under Title 14 of the Code of Federal Regulations (14 CFR) part 91. No written authorization is required for part 91 operators except those conducted under part 91 subpart K (91K).”*

All of our pilots carry a copy of this section of 8900.1 on their iPads in case they are ramped during a Part 91 flight (they have paperwork to show that they don’t need paperwork).

You may wish to consider the FAA’s InFO (Information for Operators) #11011 dated 5/13/11, which states on page 2:

*“Operators transitioning to a paperless cockpit should undergo an evaluation period during which the operator should carry paper backups of the material on the EFB. During this period, the operator should validate that the EFB is as available and reliable as the paper-based system being replaced. Part 91, subpart F operators must ensure compliance with 14 CFR part 91 § 91.503 at all times. All part 91 operators should also document compliance with § 91.21, Portable electronic devices.”*

### **Rapid Decompression Testing**

You don't need Rapid Decompression testing for your iPads– this applies to Part 91 AND Part 135 operators. Part 91 Operators, see the guidance above. Guidance for Part 135 Operators is found on page 16 of AC120-76A (paragraph 11 (d)) which says:

***d. Rapid Depressurization Testing.** Other environmental testing, specifically testing for rapid depressurization, may need to be performed. However, since many Class 1 and Class 2 EFBs were originally COTS electronic systems adopted for aviation use, testing done on a specific EFB model configuration may be applied to other aircraft installations and these generic environmental tests need not be duplicated. It is the responsibility of the operator seeking approval authorization to provide documentation that these tests have been accomplished.*

In English, it says you may have to provide test data, but you don't have to provide test data on your particular units. You can use my test data, Johns test data or, as a Jepp subscriber, you may use their data. There is no reason to RD test your iPad.

### **RMI Testing**

RMI testing may be accomplished two ways.

1. Send it out for testing in accordance with DO160(g), which is expensive
2. Do it yourself.

If you choose to do it yourself, here is the guidance:

#### **Step 1:**

From page 4 of AC120-76A, paragraph 8(a) the following applies:

*a. Class 1 EFB Hardware. Class 1 EFB hardware may:*

*....(2) Certificate holders should document EFB non-interference compliance in accordance with the guidance in the current version of AC 91.21-1, Use of Portable Electronic Devices Aboard Aircraft.*

(There are other references to this in AC120-76A)

## Step 2:

Reference page 3 of AC 91.21-1B (e) which states that:

*(e) The operation of a PED is prohibited, unless the device is specifically listed in section 91.21(b)(1) through (4). However, even if the device is an exception from the general prohibition on the use of PEDs, an operator may prohibit use of that PED. The use of all other PEDs is prohibited by regulation, unless pursuant to section 91.21(b)(5).*

In English, 91.21(b)(5) is applicable if you intend to use other PEDs not listed in (1)-(4) of the regulation (the iPad is not listed).

## Step 3:

Paragraph (b)(5) is of interest in FAR 91.21, which states:

*Sec. 91.21 - Portable electronic devices.*

*(a) Except as provided in paragraph (b) of this section, no person may operate, nor may any operator or pilot in command of an aircraft allow the operation of, any portable electronic device on any of the following U.S.-registered civil aircraft:*

*(1) Aircraft operated by a holder of an air carrier operating certificate or an operating certificate; or*

*(2) Any other aircraft while it is operated under IFR.*

*(b) Paragraph (a) of this section does not apply to--*

*(1) Portable voice recorders;*

*(2) Hearing aids;*

*(3) Heart pacemakers;*

*(4) Electric shavers; or*

*(5) Any other portable electronic device that the operator of the aircraft has determined will not cause interference with the navigation or communication system of the aircraft on which it is to be used.*

*(c) In the case of an aircraft operated by a holder of an air carrier operating certificate or an operating certificate, the determination required by paragraph (b)(5) of this section shall be made by that operator of the aircraft on which the particular device is to be used. In the case of other aircraft, the determination may be made by the pilot in command or other operator of the aircraft.*

## Step 4:

Create a procedure and or form to document what you intend to do to show your PED/iPad does not cause interference with the aircraft. Work with your POI to insure it is acceptable to him or her and then test for interference.

The bottom line is:

You don't need Jeppesen (although if you use a JeppFD subscription it will replace all the paper Jeppesen products in your aircraft).

You don't need Foreflight (although it is a good program with well thought out capabilities and the NOS charts make a great backup set of charts)

You don't need FltPlan.com (but it is another well thought out app that a lot of pilots really like).

You don't need RD testing for your iPads and you can do the EMI testing yourself.

**And personally, I would question whether RD testing an iPad is even a "best practice." There is nothing that an iPad is going to do for you between FL510 and 15000 feet in a 6,000-20,000 fpm descent during a Rapid Decompression situation. iPads work at 15,000 feet—even after they have failed an RD test.**

**The reality is that you will be looking for your glasses, a heading, an altitude, and the nearest airport from the controller. An iPad will be the least effective way to find any of that information in an emergency situation.**

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