



1. Applicability

All Australian registered aircraft.

2. Purpose

This Bulletin is to provide information on the airworthiness requirements of Electronic Flight Bags (EFB).

3. References

- JAA Leaflet No 36 Approval of Electronic Flight Bags
- FAA AC 120-64 Operational use and modifications of electronic checklists
- FAA AC 120-76A Guidelines for the certification, airworthiness, and operational approval of electronic flight bag computing devices
- FAA AC 120-78 Acceptance and use of electronic signatures, electronic recordkeeping systems, and electronic manuals
- FAA Order 8000.79 Use of electronic technology and storage data
- FAA Order 8110.54 Instructions for continued airworthiness – responsibilities, requirements and contents
- FAA Notice N 8900.17 Electronic Flight Bag Used in Aircraft Operated under Part 91

4. Background

With the advent of inexpensive and reliable commercial off the shelf (COTS) laptop computers many people and organisations now utilise this equipment to undertake and manage the growing quantity of documentation, checklists and the range of forms required to operate and maintain an aircraft. An EFB may be used in conjunction with traditional hardcopy documents or to ultimately replace the paper material a pilot is required to carry.

Several National Airworthiness Authorities have published guidance material detailing the procedures and limitations in supporting a laptop computer as an EFB. The material describes the type of software that may be used and what level of involvement is needed by the regulator.

Due to the wide range of applications available for an EFB the guidance offered for instructions on continued airworthiness is limited and generic in nature.

The reference documents identify an EFB as being either Class 1, 2 or 3 dependent on how it is mounted or used in the aircraft. Class 3 EFBs are



approved by the normal type certification process while Class 1 and 2 EFBs are COTs devices that must be demonstrated to CASA to reliably meet the intended EFB functions.

Software, as defined by the reference documents, as either Type A, B or C can be installed on an EFB. Type A software is simply informative documents such as pre-composed, fixed presentations of data currently in paper format. Type B software includes dynamic, interactive applications that can manipulate data.

CAR 2 – Interpretation, aircraft component means:

- (a) any part or equipment for an aircraft that, when fitted to, or provided in an aircraft may, if it is not sound or functioning correctly, affect the safety of the aircraft, its occupants or its cargo or cause the aircraft to become a danger to person or property.

5. Recommendation

An EFB with Type B software is considered to be an aircraft component when carried on board the aircraft. However, once removed from the aircraft they are no longer an aircraft component. The EFB may be repaired by a non-aviation approved organisation using data supplied by the original equipment manufacturer (OEM). An authorised repair agent approved by the OEM is recommended to repair an EFB.

As the repairs may be carried out by organisations that do not have any repair or maintenance approvals there should be procedures in place where the EFB is received back into service on the aircraft.

With the potential of latent errors as a result of using Type B software on either a Class 1 or Class 2 EFB the following steps should be considered:

- i. The persons nominated as an EFB administrator
- ii. The persons nominated as backup administrators
- iii. The procedure for validation of the software
- iv. Procedures for the control and documentation of changes made to the software or how the software interacts with the user or displays that output.
- v. The procedure (test plan) to be followed in determining that there is no interference from the unit for initial acceptance or in then event that another make/model is used in the future.
- vi. Procedures for the control, authorisation, and updating of any software or data bases included or used within the operational programs. This includes the provision to aircraft records on a regular basis



- vii. Procedures for the control and tracking of the serial numbers (may be operator unique serial numbers) on and off the aircraft. This includes the provision to aircraft records on a regular basis.
- viii. Procedures for notifying defect or errors to the EFB administrator and the maintenance of an issues register
- ix. Procedures for ensuring that the maintenance controller is advised of all issues within the issues register to ensure notification to CASA of a major or reportable defect
- x. Operator training on the use of an EFB and reversionary process in the event of EFB failure.

The process that controls the acceptance back into service of an EFB should be detailed in the operations and airworthiness manuals.

As a laptop computer being used as an EFB is an aircraft component it should not be used as a personal or business computer and rigorous configuration management should be maintained.

6. Enquiries

Enquiries with regard to the content of this Airworthiness Bulletin should be made via the direct link e-mail address:

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