



## Electronic Flight Bag (EFB)

Is an electronic information management device that helps the flight crew to perform flight management tasks more easily and efficiently with less paper.

**EFB** devices can display a variety of aviation data and allows to perform basic calculations.

### Hardware classes

#### Class I

**Class I EFB** Systems may be used on the ground and during flight as a source of supplemental information.

**Class I EFB** Systems are generally Commercial-Off-The-Shelf (COTS) –based portable computer systems used for aircraft operations, which are not attached to an aircraft mounting device.

#### Class II

**Class II EFB** may be used to display flight critical pre-composed information such as charts or approach plates for navigation. Required flight information should always be presented during critical phases of flight.

**Class II EFB** systems are COTS based portable computer systems, which are connected to an aircraft mounting device, and can be considered as a controlled Portable Electronic Device (PED). Additionally the system can be interconnected with non-essential avionics.

#### Class III

**Class III EFB** systems may include all Class 1 and Class II EFB hosted applications which provide aircraft, engine and component systems health monitoring and in-depth interactive information that may be used for situational awareness or navigation. This systems are considered aircraft systems, which provide extensive information which may be used for communication, navigation and/or surveillance. Class III EFB systems are fix installed equipment. This equipment must meet a limited number of requirements (i.e RTCA DO-160E). For the software of a Class III EFB installation compliance requirements are necessary (i.e. DO-178B).



#### Class III Advantages

- Reduce paper in the cockpit, which decreases weight and cuts down clutter (about 5-10 kg)
- Reduce cost and workload required to update documents
- Send flight reports quickly and effectively, allowing issues to be addressed more rapidly
- Reduce fuel and maintenance costs by using accurate take-off and landing calculations
- Improve safety with onboard performance calculations
- Increase payload with real-time performance calculations
- Improve routing decisions by accessing real-time weather information

# What's new?

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## Electronic Flight Bag (EFB)

### Technical Validation / Certification

#### **Class I Certification Steps:**

Only a certified power source and Electromagnetic Interference Test are required. This will be provided in accordance with a Minor Change Approval by Gate V aircraft maintenance GmbH.

#### **Class II Certification Steps:**

Additionally to certification steps as of the Class I EFB's, a Class II EFB System requires an airworthiness approval. The EFB system units and mountings installation must be considered. The EFB Data Connectivity should be validated and verified to ensure non-interference and isolation from aircraft systems. Due to the fact that the EFB can be connected to an aircraft mounting device, a Structural Load Analysis is necessary. The Aircraft Flight Manual should contain any limitations affecting the use of the EFB system e.g., a statement that a particular function is not intended as a primary navigation reference.

#### **Class III Certification Steps:**

A Class III EFB requires an airworthiness approval and a human factor assessment should be conducted, which contains an evaluation of the interaction between the human and the EFB system. An Operational Risk Analysis shall be issued to comply with the applicable requirements (i.e. JAA TGL 36).

#### **Vendors for EFB's**

DAC, Universal, L3 Communications, Bendix King,...

Interested in  
certification and installation?

e-mail us at  
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or call our  
Engineering Team  
at

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