



FOCA AltMoC

Alternative Means of Compliance

Digital Logbook dLog

Scope	Digital Logbook acceptable by FOCA
Applies to	All Swiss Licence holders
Valid from	9 February 2021

Business object	041.202-23/4/3
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Released by	SB AFS / 9 February 2021
Distribution	Internal/External

This document is an

Alternative Means of Compliance (AltMoC) issued by FOCA



according to

Commission Regulation (EU) No 1178/2011 (Air Crew), FCL.050

Commission Implementing Regulation (EU) 2020/357 (Part-BFCL), BFCL.050

Commission Implementing Regulation (EU) 2020/358 (Part-SFCL), SFCL.050

Log of Revision (LoR)

Date	Issue	Revision	Highlight of Revision
07.07.2020	1	0	First Issue
04.02.2021	1	1	Specification of the conditions for acceptance of a digital logbook Precision of the process to obtain an approval Several minor corrections and clarifications

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0 Introduction

By issuing this AltMoC, FOCA aims to establish and make publicly available the forms and manners of recording of flight time acceptable by FOCA.

0.1 Terms and Conditions

The use of the male **gender** should be understood to include male and female persons.

The most frequent **abbreviations** used by the **EASA** are listed here: easa.europa.eu/abbreviations.

When used throughout the AltMoC the terms such as «shall, must, will, may, should, could, etc.» shall have the meaning as defined in the [English Style Guide](#) of the European Commission.

The term “Part-FCL” and reference to FCL.050 and AMC1 FCL.050 is used for conciseness. It is to be understood as the combination of the relevant part of the recent versions of Part-FCL, Part-SFCL and Part-BFCL.

0.2 Legal References

Commission Regulation (EU) No 1178/2011:

- FCL.050 Recording of flight time
- AMC1 FCL.050
- SFCL.050 Recording of flight time
- AMC1 SFCL.050
- BFCL.050 Recording of flight time
- AMC1 BFCL.050

0.3 Purpose of this AltMoC

The purpose of this AltMoC is to establish circumstances under which a digital logbook is acceptable to be used to log and submit flight time solely in electronical format.

In Annex I to ED Decision 2020/005/R, the new AMC1 FCL.050 foresees the possibility to make logbook entries in electronical format. Requirements that need to be fulfilled in order to keep the recording of flight time completely digital without printing, signing and carrying them along in a paper version are not foreseen and are thus subject to this AltMoC.

It intends to establish the form and manner of a digital logbook acceptable to FOCA.

0.4 Scope

This AltMoC deals with the requirements of a digital Logbook in order to ensure integrity.

1 Logbook Formats Acceptable by FOCA

Pursuant to FCL.050, a pilot shall keep a reliable record of all hours flown. The competent authority shall establish the form and manner that is acceptable.

FOCA as competent authority establishes the following forms and manners of a pilot's logbook to be acceptable:

- paper version in the format as established in AMC1 FCL.050
- electronical version (if the logbook is required by the authority, the electronic logbook must be printed in a format as established in AMC1 FCL.050, individually signed page per page and sent by mail)
- digital logbook (when accepted by FOCA, all data can be sent to FOCA as an electronic file).

2 Conditions for Acceptance of a Digital Logbook

A digital logbook (in this text also "tool") may be used to log flight time electronically and generate experience records (exports / print outs) for the attention of the competent authority.

The following conditions shall be fulfilled before FOCA approves a digital logbook:

2.1 Basic Requirements

1. A copy of all data shall be stored in at least one location outside of portable devices, e.g. on a secure server.
2. All data shall be recoverable in case all portable devices of the pilot are lost or stolen, especially in the case of an accident.
3. User identity shall be verified at the least through a confirmed email address. Their basic data (forenames, surnames, date of birth, licence number, address) shall be saved in the user account and included in exports / print outs.
4. The following aircraft categories shall be supported with their specific properties as defined in Part-FCL: aeroplane, helicopter, sailplane, balloon.
5. Flight entries and FSTD (Flight Simulation Training Device) session entries shall be supported with their specific properties as defined or implicitly required in Part-FCL.

2.2 Format of the Record and Supported Values

1. All data relevant to the evaluation of licence and endorsement eligibility according to Part-FCL as well as national Swiss attachments shall be tracked electronically in a way that can be processed and evaluated digitally.
2. The format of record shall include at least the properties (table columns/fields) defined in Part-FCL. The properties for sailplanes and balloons shall be adapted and adjusted for these categories.
3. Additional entry attributes shall be tracked electronically in a way fulfilling position 1 in this list. As a minimum the following attributes shall be supported: skill test; proficiency check; operator proficiency check; operator line check; language proficiency check; refresher training; training flight; familiarization; difference training; ZFTT; aerobatic privilege; launch privilege; cloud flying privilege; course completed; instruction training course; demonstration of the ability to instruct; solo; cross country; series of flights; towing; low visibility landing (including type); sea landings; mountain landings for aeroplanes (including ski or wheels) and, if applicable, helicopter operations HESLO1-4 and HEC1-2 including number of cycles, as used in Helicopter Pilot Training (https://www.bazl.admin.ch/dam/bazl/en/dokumente/Fachleute/Flugverkehr/Flugoperationen/flugbetriebe1/f_helikopter/pilot_training_heslo_hec.pdf.download.pdf/Pilot_Training_HESLO_and_HEC.pdf).

4. Pilot functions required for licence and endorsement eligibility according to Part-FCL shall be supported: PIC/PICUS/SPIC, Dual, Copi, Instructor on pilot seat/on jump seat/supervising/as examiner.
5. Special properties for sailplanes like the launch method shall be supported.
6. Special support shall be provided for TMGs and powered gliders which can be logged in the categories aeroplanes or sailplanes as specified in Part-FCL.
7. Time of day entry shall be possible in both UTC and local time, with default UTC. Any exports / print outs shall indicate clearly if an entry is made in local time.

2.3 Integrity of the Record

1. Any values, entered by the user, imported or calculated by the tool, shall be validated to be of the correct type and in the correct range (e.g. correct dates; times of day; durations). Data shall be saved in structured data stores with corresponding data formats and not just as text (with the exception of pure text values like PIC name, remark, etc.).
2. Aircraft shall be selectable from a common database either provided or supervised by the provider. The aircraft properties shall include as a minimum its registration, model, ICAO designator, variant (where applicable), pilot mode certification (where applicable), engine type and number, hot-air balloon group. Several entries for the same registration shall be supported, in case a registration is reused or the variant is changed during the lifetime of the aircraft. The same shall apply for FSTD, including the type of device (FNPT, FFS, etc. including level).
3. Airports shall be selectable from a common database either provided or supervised by the provider. Only valid ICAO codes for airports or a no location indicator shall be selectable. If no location indicator is specified the name of the landing aerodrome or place shall be entered in a free text field.
4. Flight time as well as all other time values (single pilot, multi pilot; single engine, multi engine; pilot function; operational conditions; etc.) shall be calculated automatically.
5. The automatically calculated time values may not be editable for the user with the exceptions provided by Part-FCL (series of flights; relief pilot; etc.). Such edits shall only be allowed when the corresponding attribute (see above) is applied to the entry. The modified value may only reduce the automatically calculated value.
6. All data shall pass a rigorous plausibility, completeness and correctness validation on entry by the user; import from external sources e.g. files; and on saving in the data store. Even manual entry on data store level e.g. on a server may not allow the entry of incorrect or inconsistent data.
7. Any alternation of values relevant to the experience of the pilot shall be traceable (change log). The tool shall prevent the user from editing or tampering with the change log. The change log shall be an integral part of any exports / print outs. An exception of this rule is allowed for a period of 48 hours after the initial entry is made.

2.4 Entry Signatures

1. Entries shall be signable by instructors, examiners, ATO/DTO, HOT, airports and other parties for the confirmation of fulfilled requirements, passed tests and checks, completed courses, etc.
2. Both single and multiple entries shall be signable at once.
3. Supported signature formats shall be:
 - a. signing on a device screen and saving the signature as an image; or
 - b. any format accepted officially by the Swiss Federation, when such are defined.The tool shall be prepared to add support for new formats, shall the Swiss Federation introduce the official support of such.
4. The tool shall prevent the user from tampering with the signature.
5. Any alternation of values relevant to the experience of the pilot shall invalidate the attached signature automatically.

6. Entries requiring but missing a signature (skill test, proficiency check, etc.) shall be clearly indicated on any exports / print outs.

2.5 Exports / Print Outs Presented to FOCA or its Representatives

1. The complete experience of the pilot as well as periods relevant for revalidation of licences or endorsements shall be exportable in a printable format.
2. The export / print out shall include as a minimum:
 - a. the data defined in AMC1 FCL.050;
 - b. any applied attributes according to Format of the Record and Supported Values;
 - c. any signatures according to Entry Signatures; and
 - d. a complete change log according to Integrity of the Record.
3. These exports / print outs may be attached to the corresponding form and handed in to FOCA when pilot experience has to be validated, e.g. for new licence/endorsement or endorsement revalidation.

3 Digital Logbooks Accepted by FOCA

A list of all digital logbooks accepted by FOCA is published on FOCA website.

All tools listed therein can be used by Swiss licence holders without further approval.

Tools that are not on this list need prior FOCA approval. The requests can be sent to pel-inspector@bazl.admin.ch. In order for a tool to be approved, its correct functioning according to **Fehler! Verweisquelle konnte nicht gefunden werden.** shall be tested by FOCA or by a consulting company appointed by FOCA. FOCA may require periodical reviews of the code and correctness of the tool operation, also to be conducted directly by FOCA or by a consulting company appointed by it. All costs concerning the test and approval shall be carried by the tool provider.