



Safety recommendation no. 561

Date of the publication	22.12.2020
Number of the final report	2370
Safety deficit	<p>The safety investigation has revealed that the implementation of legal requirements by both the supervisory authority and the air operator for operations with historic aircraft was primarily formal in nature. Many of the processes described in the manuals represented the operational requirements to a limited extent only. In particular, only partial provisions had been made for the relevant risks of visual flight rules operations involving annex II aircraft, as specified in European Regulation 216/2008 (equivalent to today's annex I aircraft, as specified in European Regulation 2018/1139). Overall, regulation proved to be complex and not well adapted to the actual needs of flight operations. Regardless of the organisational form, the level of safety required for air operations involving passengers should be guaranteed. A consultation on possible safety recommendations has shown that a solution needs to be sought at national level. As the legislative process is likely to take some time, a two-step approach is recommended.</p>
Safety recommendation	<p>The Federal Office of Civil Aviation should ensure that rules are adapted to air operations with passengers on aircraft referred to in annex I of European Regulation 2018/1139 and that these effectively address the risks specific to such operations.</p>
Addressees	BAZL Bundesamt für Zivilluftfahrt; BAZL Bundesamt für Zivilluftfahrt; BAZL Bundesamt für Zivilluftfahrt
Stage of the implementation	<p>Partially implemented. The FOCA is in partial agreement with Safety Recommendation No 561. Since the new EASA basic regulation came into force (Regulation (EU) 2018/1139, in force for Switzerland since 1 September 2019), it is no longer possible to use aircraft without a certificate of airworthiness under European law (so-called 'non-EASA aircraft', including in particular historic aircraft) in commercial air transport operations under EU regulations. Commercial use of such aircraft will also not be possible in future on the basis of Swiss domestic law.</p> <p>On 19 October 2020, the FOCA management decided to introduce the following restrictions and accompanying measures:</p> <ul style="list-style-type: none">• Passenger restriction on aircraft in the special category 'Historic': In future, a maximum of nine occupants, of which a maximum of six are passengers, may be carried on these aircraft;• Ban on commercial operations under national law for non-EASA aircraft in orphan status and non-EASA aircraft in the special category 'Historic';• Duty to inform: For paid (non-commercial) flights with aircraft in the special category 'Historic' (as well as the other special categories listed in the DETEC Ordinance on the Airworthiness of Aircraft [AAwO; SR 748.215], in part also for commercial flights), passengers must be informed of the details of the aircraft's certification details

before departure. In addition, signage near the passenger door must indicate the aircraft's status.

- Changes to certification status: Only restricted certificates of airworthiness are now issued for non-EASA aircraft registered in Switzerland in 'orphan' status, and only national permits to fly are issued for non-EASA aircraft registered in Switzerland in the special category 'Historic'. These permits do not meet the requirements of ICAO Annex 8 and therefore no longer automatically entitle the holder to operate flights abroad.
- The FOCA also intends to apply the passenger restriction (max. nine occupants of which max. six passengers) to foreign aircraft in the special category 'Historic'.

Where necessary, application of the measures agreed by the FOCA management will be included in the related legislation. Draft legislation relating to flight technology for non-EASA aircraft was already being drawn up before the HB-HOT accident on 4 August 2018. The initial intention was to revise the AAwO and its annexes (subcategories Ecolight, Ultralight, Historic, Self-Constructed, Limited, Experimental, Restricted) in line with the 'safety continuum'. Already at this stage, the plan was to take account of the risks posed by the various aircraft in the legislation. In addition to changes to the AAwO and its annexes, amendments are being made to the DETEC Ordinance on Aircraft Manufacturers, SR 748.127.5, the DETEC Ordinance on Aircraft Maintenance Companies, SR 748.127.4 and the DETEC Ordinance on Aircraft Maintenance Staff, SR 748.127.2. Following the accident, the draft legislation now also focuses on the implementation of the resulting measures.

During the drafting of the legislative amendments, the specific features of the various annexes are being taken into account and a distinction drawn between individual aircraft mentioned in a given annex. For example, historic aircraft are divided into four risk classes. An aircraft is assigned to a subclass on the basis of its mass and speed and the typical scenario in which it operates. A certain degree of schematisation is unavoidable. The following classes are envisaged:

- Class I: Gliders, motor gliders and balloons.
- Class II: Single- and multi-engine aircraft with a piston engine or aircraft with a turboprop engine up to 2,730kg MTOM.
- Class III: Single- and multi-engine aircraft with piston/turboprop engines between 2,730kg and 5,700kg MTOM and helicopters up to a maximum of 3,175kg MTOM.
- Class IV: Aircraft over 5,700kg MTOM or turbo-jet powered, and helicopters over 3,175kg MTOM.

With increasing risk, stricter maintenance regulations must be observed in order to take effective account of the specific risks for passengers and also third parties on the ground. The passenger restriction for aircraft in the special category 'Historic' is likely to be included in Annex 3 of the AAwO. In the case of foreign aircraft, no amendment to the legal basis is necessary. The restriction can be implemented when a special licence for the use of Swiss airspace (Art. 2 para. 1 let. e AviA) is issued. The ban on commercial operations and the obligation to provide information will be added to Art. 100 para. 3 and Art. 101 of the Civil Aviation Ordinance (CAO; SR 748.01). The amendment to the bases for certification for aircraft in 'orphan' status appears in Art. 10b para. 1 AAwO (for aircraft in the special category 'Historic', various risk-based standards are included in the AAwO [or its annexes] [e.g. with regard to maintenance]).

Partially implemented. The FOCA is...

... as well as the duty to inform shall be included in the Civil Aviation Ordinance (CAO; SR 748.01) as an addition to Articles 100

paragraph 3 and 101. The amendment of the airworthiness certification basis for orphan aircraft is made in Article 10b paragraph 1 AAwO (for aircraft in the special 'historic' category, various risk-based standards are included in the AAwO [or its annexes] [e.g. regarding maintenance]).

In a letter dated 18 August 2022, the FOCA pointed out that amendments to the relevant air traffic regulations had been initiated in order to implement the planned measures. In a first package, the following amendments will be made:

Restriction on number of persons

The restriction on the number of persons on aircraft in the special 'Historic' category (in future, a maximum of only 9 persons, no more than 6 of whom may be passengers, may be carried on these aircraft) is stipulated in Annex 3 to the AAwO (subcategory 'historic'). An addition is planned with the following text under number 4 'Operational restrictions':

A maximum of 9 persons, no more than 6 of whom are passengers, may be carried.

The office consultation on this issue was concluded on 22 April 2022. No substantive inputs or proposals for change emerged from the office consultation. The amendment will come into force in autumn 2022.

Ban on commercial operation of historic aircraft at national level, obligation to inform passengers and requirements for club flights

The CAO must be amended in order to implement the ban on commercial flights at national level, and to introduce the obligation to inform passengers about the specifics of the certification of the aircraft used. Furthermore, Article 100 CAO is supplemented to the effect that the FOCA's existing standard practice on club membership is now set out at ordinance level. The background to this is that paid flights (payment is higher than the cost of aircraft rental, fuel and airfield and air traffic control charges) are only considered non-commercial if they are open to a specific group of people. The aim of the 30-day waiting period is to avoid circumvention of the requirement to restrict flights to a specific group of persons by means of ad hoc memberships.

The CAO is amended as follows:

Art. 100 para. 1bis and 3

If the carrier is a club, members of the club shall be deemed to belong to a particular group if they have been members for more than 30 days.

In the case of non-commercial flights for which a fee is paid, passengers must be made aware of the private nature of the flight and the associated consequences with regard to insurance cover before departure. If aircraft belonging to a special category are used, passengers shall also be informed of the particularities of the certification of the aircraft in question.

Art. 101 Restrictions on aircraft used for commercial purposes

The following aircraft may not be used for commercial passenger transport:

- a. aircraft in the special 'historic' category; and
- b. aircraft in the standard category which are not regulated at European level and which currently

do not have a type certificate holder.

The office consultation relating to these amendments was also concluded on 22 April 2022.

No substantive inputs or proposals for change emerged from the office consultation. The changes will come into force in autumn 2022.

The restriction on the number of persons carried (maximum 9 persons, no more than 6 of whom may be passengers) also applies to foreign aircraft in the special 'Historic' category. See the information on the FOCA website on foreign aircraft in the special categories available at: Foreign Aircraft that belong to special categories (admin.ch)

For further information on the planned amendments regarding the ban on commercial flights, restriction on the number of persons, the obligation to provide information, as well as requirements for club flights, see the explanatory notes on the partial revision of the Civil Aviation Ordinance and the DETEC Ordinance on the Airworthiness of Aircraft - Amendment of the operational provisions on the use of historic aircraft.

The second package includes, firstly, the creation of the four risk classes already described already in the opinion of 21.04.2021 (graded according to weight and type of propulsion unit) and the significant tightening of the maintenance regulations for Classes III and IV (obligation to have work carried out in maintenance facilities). Secondly, operation according to instrument flight rules shall be prohibited.

Thirdly, it is intended to restrict new entries in the Swiss aircraft register.

The current dynamic age limit is to be abolished and the static age limit for historic aircraft of European aviation law adopted. As a result, aircraft types that were initially certified after 1 January 1955 can never become 'historic' in terms of the aviation legislation. Furthermore, it is intended that aircraft with a maximum take-off weight of over 5700 kg or with jet propulsion may no longer be registered, nor may replicas. Further restrictions are under discussion.

As far as the status of this project is concerned, we can report that the work is well advanced. The changes entail a partial revision of the AAwo and its annexes as well as other ordinances affecting maintenance and continuing airworthiness. Final adjustments and consolidations are currently being made to the drafts. The next step is to carry out a preliminary consultation with the Federal Office of Justice and to conduct a stakeholder involvement procedure. Entry into force is expected by the end of 2023.

A follow-up statement on the implementation of the measures is planned for August 2023.

**Investigation report concerning
the safety recommendation**

Final report
Schlussbericht
Rapport final
Rapporto finale
