



Safety recommendation no. 538

Date of the publication	30.05.2023
Number of the final report	2331
Safety deficit	<p>During a public flight demonstration, two ultralight aircraft of a triple formation collided north-east of Dittingen airfield (LSPD).</p> <p>Pilots who wish to take part in public air shows in Switzerland must, in principle, have a display authorisation in accordance with the current directive of the Federal Office of Civil Aviation (FOCA). Display authorisations were issued by the FOCA in accordance with the guidelines of the Joint Aviation Authorities (JAA) and, since February 2016, on the basis of its own DA 10.01 guideline after theoretical and practical training as well as a skill check to pilots. In many European countries, including Germany, there are no equivalent regulations and no demonstration licences are issued by the authorities of these countries. As a result, the training and flying skills regarding flight demonstration of pilots from these countries are not standardised and traceable. The FOCA allowed pilots who did not have a demonstration licence to participate in public flight demonstrations on a case-by-case basis.</p>
Safety recommendation	<p>The European Union Aviation Safety Agency (EASA) should take appropriate measures to ensure that internationally standardised guidelines are applied to public airshows in all Member States. These guidelines should define the conditions for obtaining a display authorisation, describe the theoretical and practical training as well as the verification of the pilots' knowledge and flying skills. They should also define the requirements for issuing special formation display authorisations.</p>
Addressees	EASA Europäische Agentur für Flugsicherheit
Stage of the implementation	<p>Not implemented. In a letter dated 24 August 2023, the European Union Aviation Safety Agency (EASA) announced the following:</p> <p>«The European Union Aviation Safety Agency (EASA) has assessed this safety recommendation from the perspective of both air operations and airspace requirements.</p> <p>Air Operations Requirements:</p> <p>The aircraft type involved in the subject accident is classified as falling under point 1.(e) of Annex I to Regulation (EU) 2018/1139, having a maximum take-off mass (MTOM), as recorded by the applicable State, of no more than 472.5 kg, and being a two-seater equipped with an airframe mounted total recovery parachute system. Therefore, Regulation (EU) 2018/1139 and the associated implementing rules do not apply, and operations with this type of aircraft are instead governed by national legislation. Therefore, since the aircraft involved in the subject accident is outside the scope of Regulation (EU) 2018/1139, any safety recommendation made on the basis of this accident is not subject to</p>

EASA rules and it should be addressed at national level.

Despite the fact that the aircraft involved in the subject accident is outside the scope of Regulation (EU) 2018/1139 and is therefore not subject to Commission Regulation (EU) No. 965/2012 on air operations (the Air OPS Regulation), EASA has performed a review of the referenced air operations rules to check if the relevant elements of the Safety Recommendation were covered.

Within the scope of Regulation (EU) 2018/1139, aircraft operators conducting civil flying displays are governed by the Air OPS Regulation and the associated Acceptable Means of Compliance (AMC) and Guidance Material (GM), in particular the following annexes thereof: Part-SPO (specialised operations) and Part-ORO (organisation requirements for air operations) or Part-NCO (non-commercial operations with other than complex motor-powered aircraft), depending on the nature of the operation and the aircraft used.

According to point (11) of Article 2 of the Air OPS Regulation, “‘flying display’ means any flying activity deliberately performed for the purpose of providing an exhibition or entertainment at an advertised event open to the public, including where the aircraft is used to practice for a flying display and to fly to and from the advertised event.”

According to point 4a(b) of Article 6 of the Air OPS Regulation, flying displays with other than complex motor-powered aircraft may be conducted in accordance with Part-NCO, on the condition that the remuneration or any valuable consideration given for such flights is limited to recovery of direct costs and a proportionate contribution to annual costs. In all other cases, the requirements of Part-SPO apply.

According to the air operations provisions, the operator is required to conduct a risk assessment of their operation(s) and to establish suitable mitigating measures through implementation of either standard operating procedures, for non-commercial SPO with complex motor-powered aircraft and for all commercial SPO (SPO.OP.230 and AMC1 SPO.OP.230), or checklists, for NCO (NCO.SPEC.105 and GM1 NCO.SPEC.105).

The mitigations should be tailored according to the level of exposure to the safety risks associated with the type of operation. This should include the necessary theoretical and practical flight crew training (point (c)(2) of AMC2 SPO.OP.230 and point (c) of GM1 NCO.SPEC.105).

Airspace requirements:

All airspace users shall comply with Regulation (EC) No. 551/2004 (the Airspace Regulation) and the associated Implementing Rules, which include Commission Implementing Regulation (EU) No. 923/2012, applicable since 4 December 2014, establishing Standardised European Rules of the Air (SERA) and operational provisions regarding services and procedures in air navigation (the SERA Regulation).

Any flying activity deliberately performed for the purpose of providing an exhibition or entertainment at a private event requires permission from the competent authority when operating at heights lower than the minimum heights for Visual Flight Rules (VFR) flights prescribed by point SERA.5005 (f), according to point SERA.3105 of the SERA Regulation.

Additionally, according to point SERA.3135 of the SERA Regulation, aircraft shall not be flown in formation except by pre-arrangement among the pilots-in-command of the aircraft taking part in the flight and, for formation flights in controlled airspace, in accordance with the conditions prescribed by the competent authority. These conditions shall include the following:

(a) One of the pilots-in-command shall be designated as the flight leader;

(b) The formation operates as a single aircraft regarding navigation

and position reporting;

(c) Separation between aircraft in the flight shall be the responsibility of the flight leader and the pilots-in-command of the other aircraft in the flight and shall include periods of transition when aircraft are manoeuvring to attain their own separation within the formation and during join-up and breakaway; and

(d) For State aircraft, a maximum lateral, longitudinal and vertical distance between each aircraft and the flight leader in accordance with the Chicago Convention. For other than State aircraft, a distance not exceeding 1 km (0,5 nm) laterally and longitudinally and 30 m (100 ft.) vertically from the flight leader shall be maintained by each aircraft.

EASA has therefore concluded that the current European regulatory framework applicable to formation and public demonstration flights ensures an adequate level of safety and addresses all elements emanating from the safety recommendation. These provisions may be re-enforced through national legislation which should take into consideration any specific limitations.

EASA Status: Closed – Disagreement"

EASA is of the opinion that the necessary regulations are sufficient and that the national authorities are responsible.

**Investigation report concerning
the safety recommendation**

Schlussbericht
Vorbericht
