



Safety recommendation no. 12

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Safety deficit	<p>On 27 April 2015, approximately 300 meters north of the Zweisimmen Airfield (LSTZ), the Comco Ikarus C 42, registered as HB-WAS, collided with the terrain due to a loss of engine power experienced at a low height during a simulated engine failure involving a 180° turn.</p> <p>The accident happened during an annual proficiency check that was compulsory within the flying club. On board of the aircraft were a pilot and a flight instructor, who sustained serious and minor injuries respectively. The aircraft was destroyed.</p> <p>In the C 42 aircraft type, two throttle levers are used to control the engine power. These throttle levers are each located centrally in front of each seat and can be folded down sideways towards the respective cockpit door to allow an easy entry and exit of the aircraft. The design of this system does not provide a mechanical stop for the throttle control when in 'idle' position. When the throttle lever is completely pulled backwards, the silver screw head is located approximately 5 millimetres in front of the pilot's seat.</p> <p>In accordance with the engine manufacturer's installation manual, there should be a mechanical stop for the throttle lever on the airframe side, which can be synchronised with the idle stops of the two carburettors once the throttle cable has been installed. A test demonstrated that, by exceeding the carburettors' mechanical idle stops by only a few millimetres, it is possible for the engine to spontaneously stop.</p>
Safety recommendation	<p>Topic: Design of the system for controlling engine power in the Comco Ikarus C 42 aircraft type</p> <p>Target group: General aviation pilots and flight instructors, manufacturers, flight schools, maintenance companies and the Federal Office of Civil Aviation (FOCA)</p> <p>There was no indication of pre-existing technical faults that could have caused or influenced the accident. In particular, the technical examination of the engine did not reveal any evidence that could explain the engine stoppage.</p> <p>It cannot be ruled out that, in order to correct the angle of descent, which was too steep, the crew of HB-WAS adjusted the throttle too abruptly and the engine subsequently stopped. It should be noted, however, that this phenomenon is rarely observed with this engine type.</p> <p>The design of the system for controlling engine power in the Comco Ikarus C 42 aircraft type is not equipped with a mechanical stop for the 'idle' throttle position on the cockpit side. It is therefore possible that, by unintentionally pulling the throttle back fully to the front edge of the seat, the carburettor's mechanical stops can be exceeded. Subsequently, as was demonstrated in tests, the engine spontaneously stops. A mechanical stop in the cockpit, as is</p>

considered necessary by the engine manufacturer, would eliminate this problem.

In particular, operators of this type of aircraft should raise awareness among their pilots regarding this and make the consequential potential risks a subject of discussion.

Addressees	BAZL Bundesamt für Zivilluftfahrt
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Investigation report concerning the safety recommendation	<u>Vorbericht</u> <u>Schlussbericht</u>
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