

Follow-up Action on Occurrence Report

ACCIDENT TO AERO L39C ALBATROS, G-BZVL, AT DUXFORD AIRFIELD ON 2 JUNE 2002
(BRAKE PROBLEMS LED TO AIRCRAFT OVER-RUNNING RUNWAY)

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OPERATOR : Private
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SYNOPSIS

(From AAIB Report)

The planned flight was part of a conversion course onto the L-39 aircraft. The flight included navigation and general handling exercises and was to culminate in a landing at Duxford in order to refuel. The aircraft departed from its base at North Weald with the student occupying the front seat and the instructor in the rear seat. This is the conventional seating arrangement for an instructional flight in this tandem seat aircraft. The flight proceeded uneventfully and the aircraft joined the visual circuit at Duxford where Runway 06 was in use. The reported surface wind was 140°/10 kt, the visibility was greater than 10 km, there was no significant cloud or weather and the runway surface was dry.

When the aircraft arrived at Duxford the fuel quantity was 350 kg. The student pilot flew a slightly extended downwind leg, as requested by ATC, to allow time for a light aircraft to clear from the adjacent grass runway. The instructor considered that the subsequent approach profile was satisfactory although he noted that the airspeed during the final stages of the approach was reducing through 218 km/hr (118 kt) as opposed to the briefed speed of 200 km/hr (108 kt). During the landing flare the airspeed was 210 km/hr (113 kt) and still reducing. The instructor described the touchdown as "soft" (meaning a gentle touchdown) and noted that there was a slight drift to the left in the light crosswind. He estimated that the aircraft touched down about 150 to 200 metres along the runway and various eye-witnesses confirmed this estimate. This is the normal touchdown point for this type of aircraft. After landing the instructor was not aware of any retardation so he told the student pilot to "load the nose wheel and start braking". (Braking is inhibited until a micro switch on the nose wheel oleo operates). This instruction appeared to have been followed in that the control column moved further forward, but there was still no retardation. After further instructions to the student pilot to brake the instructor took control and applied the brake lever on his control column a number of times but to no avail.

When the aircraft was approaching the far end of the runway, with its attendant raised earth embankment, the instructor decided to steer the aircraft to the right towards open, level fields. However, he was able only to turn the aircraft through about 20° to 30° before the rudder became ineffective. ATC saw the aircraft deviate from the runway and asked the pilots if they had a problem; the student pilot replied "BRAKE FAILURE". The aircraft was, by then, running across a field of light crops towards the M11. The instructor asked the student in the front seat to operate the undercarriage retraction lever. He was unable to use the corresponding lever in the rear cockpit because the mechanism had been wire locked to prevent operation of the landing gear from that position. The instructor pilot did not use the emergency brake lever nor did he instruct the student pilot to do so. Moreover, the instructor did not shut down the engine nor did he instruct the student pilot to do so.

As the aircraft reached the airfield boundary, at a speed of about 20 kt, it passed to the south of the raised earth embankment and through the wooden boundary fence. It descended onto the motorway approximately 15 feet below, slid across the northbound carriageway, struck the central crash barrier and came to rest on the southbound carriageway. The instructor pilot, who had remained in his seat, was uninjured and the engine was still running.

At about the time that the aircraft went through the wooden fence and ran down the motorway embankment, the front ejection seat fired. The instructor had not ordered the student pilot to eject nor had he warned him not to do so (since by that time the aircraft's speed was well below the minimum for safe ejection on the ground). During the ejection sequence the student pilot separated from his seat but his parachute did not have sufficient time to deploy fully before he struck the ground.

The safety pins for the ejection seat and canopy jettison mechanisms were not carried on board the aircraft. Suitable safety pins were offered and fitted by a technician based at Duxford before the aircraft was removed from the motorway.

FOLLOW UP ACTION

The three Safety Recommendations, made by the AAIB following their investigation, are reproduced below, together with the CAA's responses.

Recommendation 2003-13

The Civil Aviation Authority should review the current arrangements at Duxford Aerodrome for preventing aircraft over running onto the M11 motorway after a landing or rejected takeoff on Runway 06.

CAA Response

The CAA accepts this recommendation. In co-operation with Duxford Aerodrome, the CAA has reviewed the arrangements at Duxford Aerodrome to prevent an aircraft excursion on to the M11. The Aerodrome already meets all licensing requirements, nevertheless, the CAA has accepted the Aerodrome's proposal to reduce the runway declared distances, thus creating increased Runway End Safety Areas (RESAs) which will exceed international recommendations. The CAA is of the opinion that increased RESAs should provide additional protection against an aircraft overrun on to the M11.

CAA Status - Closed

Recommendation 2003-14

The Civil Aviation Authority should encourage L-39 Albatros operators to include the use of the Emergency wheel brakes into the training syllabus and normal operation of the aircraft type.

CAA Response

The CAA accepts this Recommendation. The CAA will in future require L-39 Albatros operators to include the use of the Emergency wheel brakes into training syllabi, for normal operation of the aeroplane, when submitted for the issue of Exemptions to allow type training.

CAA Status - Closed

Recommendation 2003-68

The Civil Aviation Authority should require operators of civil registered aircraft fitted with live ejection seats to carry the aircraft's escape systems safety pins: a. On all flights and high speed taxi tests. b. In a position where they are likely to be found and identified without assistance from the aircraft's flight or ground crews.

CAA Response

The CAA accepts this Recommendation. Operational requirements applicable to ex-military aircraft are set out in Civil Aviation Publication (CAP) 632 (Operation of 'Permit-to-Fly' Ex-Military Aircraft on the UK Register). The CAA has notified current operators of civil registered, ex-military aircraft, fitted with live ejection seats, that they are required to carry the aircraft's escape systems safety pins:

- a. On all flights and high speed taxi tests.
- b. In a position where they are likely to be found and identified without assistance from the aircraft's flight or ground crews.

This requirement will be included in a newsletter and also the next addendum to CAP 632, both to be published in December 2003.

CAA Status - Open