The Dutch Safety Board

Occurrence no: **2004078** **Classification:** **Accident**

FACTUAL INFORMATION

Date of the occurrence:	24 May 2004	Cockpit crew:	1
Place of the occurrence:	Den Helder Airport	Flight experience:	8030 hours of which
Aircraft registration:	ES-YLL		357 hours on type
Aircraft model:	L-39 Albatros	Passengers:	1
Aircraft type:	Single engine jet	Injuries:	None
Type of flight:	Ferry	Lighting conditions:	Daylight
Phase of operation:	Take-off		
Damage to aircraft:	Serious		

The flight and the accident

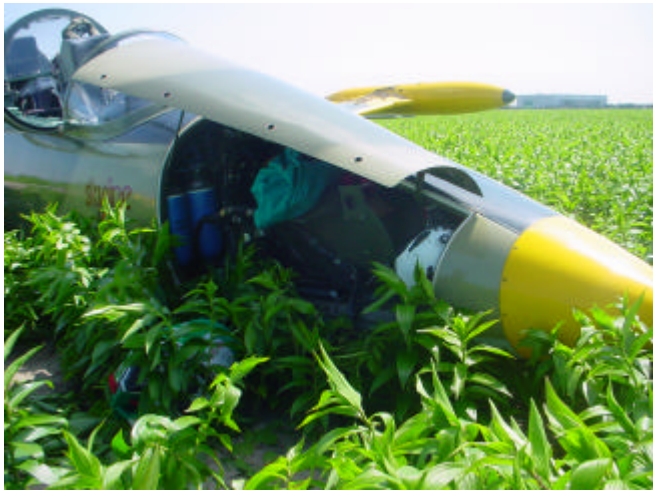
The ES-YLL is a single engine jet of the L-39 Albatros model. The aircraft was located at Den Helder Airport and belonged to a Dutch company. The Royal Navy had hired this aircraft for it to be deployed for a military exercise. In view of this exercise, the aircraft was to carry out a ferry flight from Den Helder Airport to Groningen Airport Eelde. On board were the pilot flying and a passenger. Prior to the flight the pilot flying had stored the luggage in the aircraft's nose compartment.
Shortly after the plane had taken off from runway 22, the pilot saw something flying past in a flash. After that there was a 'thump' from the engine. According to the pilot, the engine made the noise of a compressor stall. He saw that the right-hand hatch was slightly ajar and that another object fell from it. The pilot then decided to land on the runway again, though he knew that the length of the runway was not sufficient to bring the aircraft to a standstill. After the landing, the pilot braked as hard as he could. After that, the aircraft continued, via the end of the runway, through the grass behind the runway threshold. The pilot succeeded in getting the aircraft past two ditches located behind the runway, after which the aircraft came to a standstill in a field with flower bulbs outside the airfield. The pilot flying and the passenger were able to leave the aircraft uninjured. The aircraft was seriously damaged.

The end of the runway with the ES-YLL after the accident

Investigation & Analysis

In its nose, the L-39 Albatros has a compartment that used to be filled with aircraft equipment at the time the aircraft was used for military training purposes. This space is closed off by access panels on both sides. These hatches hinge upwards and are closed off by locking screws, so-called 'quick fasteners'. These locking screws have to be turned with a quarter turn, after which they are fastened.

The fastening has been designed to be opened and locked by maintenance staff by means of a screwdriver in order to carry out maintenance activities to the equipment. Closing the hatches and fastening the locking screws adequately requires a certain amount of care.
Part of the equipment had been removed from the L-39 Albatros aircraft, thus creating a space in which luggage could be stored. It follows from information received from the Estonian aviation authorities that this space is solely intended as space for aircraft equipment and is not meant to be used as luggage space. The owner of the aircraft was not aware of this.



The open hatch after the accident

The pilot flying stated the had put the luggage in the nose and had closed the right-hand hatch after that. He stated he had turned the four locking screws with a quarter turn, until it was impossible to turn any more. For him, this was a sign that the hatch was closed well. He did not check this by feeling the hatch. Upon investigation after the accident it became apparent that the right-hand hatch was not shut. Moreover, it appeared that an item of clothing, a coat, had been sucked from the space into the engine through the right-hand air intake and partly closed the front side of the compressor. A second item from the compartment, a bag, was found on the runway.
Upon further investigation in the hangar, it became apparent that the fastening functioned well. Provided the four locking screws fell in the recesses and were turned with a quarter turn, the latch could no longer be opened. It took a certain degree of force and dexterity to make sure the screws fell into the recesses and to subsequently turn them. It is possible to turn these locking screws with a quarter turn without them falling in the fastening and therefore not closing the hatch. This only becomes apparent upon a manual verification to check whether the hatch has indeed been closed.
It appeared that it had already happened twice that the company carried out a flight while one of the hatches was not closed. However, this had had no consequences for those flights. In the meantime the company has installed a warning system that indicates when a hatch has not been closed (well). In 2003, a similar accident occurred in the USA, and the pilot died in it.
Although this aircraft was initially a military training aircraft, an Estonian certificate of airworthiness had been issued for this aircraft. The only restriction pursuant to said certificate was that the aircraft was not allowed to participate in commercial air transport. As the aircraft was not registered in the Dutch aircraft register and was not mentioned on any certificate of the Dutch company issued by the Ministry of Transport, Public Works and Water Management, there was no supervision on the aircraft and the way it was operated by the Dutch authorities. The prescribed maintenance and inspections of the aircraft took place in Estonia and were verified by the Estonian authorities.

The accident occurred because the right-hand hatch was not shut, because of which after the start a coat was sucked into the luggage space and got into the right-hand air intake at the compressor's front side. This prevented the engine from supplying enough power. After the emergency landing it became apparent that the remaining runway length was insufficient to bring the aircraft to standstill in time.

Note: This report has been published in the English and Dutch language. If there are differences in interpretation the Dutch text prevails.