

**SERIOUS INCIDENT**

<b>Aircraft Type and Registration:</b>	BAe 146-300, EC-LOF	
<b>No &amp; Type of Engines:</b>	4 Allied Signal ALF502R-5 turbofan engines	
<b>Year of Manufacture:</b>	1989 (Serial no: E3150)	
<b>Date &amp; Time (UTC):</b>	19 September 2013 at 2130 hrs	
<b>Location:</b>	London Gatwick Airport	
<b>Type of Flight:</b>	Commercial Air Transport (Cargo)	
<b>Persons on Board:</b>	Crew - 2	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	None	
<b>Commander's Licence:</b>	Airline Transport Pilot's Licence	
<b>Commander's Age:</b>	52 years	
<b>Commander's Flying Experience:</b>	9,000 hours (of which 6,000 were on type) Last 90 days - 100 hours Last 28 days - 35 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

**Synopsis**

While climbing after departure from Exeter Airport, the FREIGHT DOOR UNLOCKED warning light illuminated, followed shortly afterwards by loud noises from the main cargo area. The pilots suspected that the two indications were connected and that the aircraft had suffered structural damage. The aircraft diverted to London Gatwick without further incident. The engineering investigation found two unrelated faults.

**History of the flight**

The aircraft was on a cargo flight from Exeter Airport to Liege Airport with two pilots on board. During the climb, as the aircraft was passing FL220, the FREIGHT DOOR UNLOCKED warning light illuminated on the Master Warning Panel. The crew completed the appropriate abnormal procedure.

Shortly afterwards, the pilots heard loud, intermittent and unidentified noises emanating from the main cargo area. Although there were no additional abnormal indications, the combination of the warning and the noise led the pilots to suspect that the aircraft may have suffered structural damage, so they declared an emergency to ATC and requested a diversion to the nearest suitable airport. ATC instructed the aircraft to divert to London Gatwick Airport and the aircraft landed there without further incident.

Throughout the incident the pressurisation system performed normally, although the unidentified noises continued until after the aircraft had landed.

### **Engineering investigation**

An engineering investigation found that the FREIGHT DOOR UNLOCKED warning was caused by a freight door latch proximity switch being out of adjustment. The noises were probably caused by a flexible duct in the air conditioning bay becoming detached. This duct normally connects the right air-conditioning pack to a non-return valve (NRV) on the pressure bulkhead; NRV cycling or the pipe moving around in the bay may have caused the noises. There was no indication that the two faults were connected.

### **Analysis**

The pilots were faced with two unrelated faults in succession. The freight door warning, coupled with the subsequent loud noises, led them to believe that the indications were connected and that the aircraft had suffered structural damage. The pilots, acting on this basis, carried out a successful diversion to London Gatwick Airport.